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Kontakt/Contact
ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics
Düsternbrooker Weg 120
24105 Kiel (Germany)
E-Mail: *rights[at]zbw.eu*
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ASEF OUTLOOK REPORT 2016/2017



CONNECTIVITY: FACTS AND PERSPECTIVES

Volume II: Connecting Asia and Europe

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ASEF OUTLOOK REPORT 2016/2017

CONNECTIVITY: FACTS AND PERSPECTIVES

Volume II: Connecting Asia and Europe

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PREFACE

In today's inter-dependent and inter-linked world, connectivity is gaining growing importance at national, regional, inter-regional, and global levels. This trend is especially evident in Asia and Europe which, over 2,000 years ago, were connected by the ancient Silk Road. Various initiatives have been launched in recent years within, and between, the two regions to promote connectivity in multiple dimensions, ranging from infrastructure and trade to digital and human connectivity. Among them are the Master Plan on ASEAN Connectivity, the EU's Trans-European Networks, China's "One Belt, One Road" Initiative, and others.

Indeed, with the rapidly growing flow of goods, services, capital, information and personnel between Asia and Europe, connectivity has not only become a buzzword, but an emerging area for cooperation between the two regions. At the 10th Asia-Europe Meeting (ASEM) Summit (ASEM10) in 2014 in Milan, Italy, Asian and European leaders *"underscored the significance of connectivity between the two regions to economic prosperity and sustainable development and to promoting free and seamless movement of people, trade, investment, energy, information, knowledge and ideas, and greater institutional linkages."*[1]

At the 3rd ASEM Transport Ministers' Meeting (ASEM TMM3) in April 2015 in Riga, Latvia, the ASEM partners committed themselves to strengthening transport connectivity between Asia and Europe, with an emphasis on the development of multimodal transport corridors to connect the two continents.[2]

The 11th ASEM Summit (ASEM11), which will be held in July 2016 in Ulaanbaatar, Mongolia, has chosen *20 Years of ASEM: Partnership for Future through Connectivity* as its theme. The outcome of ASEM11 will undoubtedly further enhance the public awareness of connectivity, and usher in new opportunities for potential cooperation between Asia and Europe.

As ASEM's only inter-governmental institution mandated to foster mutual understanding, and to strengthen the ties between Asia and Europe, the Asia-Europe Foundation (ASEF) has actively promoted people-to-people connectivity between the two regions since its inception in 1997. Against the new backdrop, ASEF endeavours to facilitate ASEM-wide dialogue and cooperation on connectivity by engaging with multi-sectoral stakeholders, particularly civil society, from both regions in open discussions on the topic. On the occasion of ASEM's 20th anniversary and ASEM11, ASEF dedicates one of its flagship publications, the *ASEF Outlook Report 2016/2017*, to the topic of Asia-Europe connectivity.

1 Chair's Statement of the 10th ASEM Summit (ASEM10), "Responsible Partnership for Sustainable Growth and Security", available at http://www.aseminfoboard.org/sites/default/files/documents/2014_-_ASEM10_-_Chair_Statement.pdf.

2 "Declaration of the 3rd ASEM Transport Ministers' Meeting (ASEM TMM3) on the Development of Euro-Asian Multimodal Transport Connectivity", available at http://www.aseminfoboard.org/events/3rd-asem-transport-ministers-meeting-asem-tmm3.

Launched in 2012, the biennial *ASEF Outlook Report* has sought to reflect the latest trends in Asia-Europe relations, from both an Asian and European perspective. The third edition of the ASEF *Outlook Report* features an overview and analysis of both the hard and soft aspects of connectivity in the Asia-Europe context. A group of scholars and experts from ASEM countries has contributed the content. Similar to the previous two editions, the *ASEF Outlook Report 2016/2017* consists of two volumes; Volume I presents data illustrating the status of Asia-Europe connectivity in various spheres, and Volume II is devoted to qualitative research papers on the past, present, and future development of Asia-Europe connectivity.

In short, the *ASEF Outlook Report 2016/2017* attempts to explore two questions that are highly relevant to the ASEM process. First, where do Asia and Europe stand in terms of connectivity? Second, what can ASEM do to advance Asia-Europe connectivity? ASEF hopes that this publication can enrich and add value to the ongoing discussions among the ASEM stakeholders on Asia-Europe connectivity, and provide a useful reference point for ASEM policy makers.

On behalf of ASEF, I sincerely thank His Excellency, Mr PUREVSUREN Lundeg, Foreign Minister of Mongolia, for contributing the foreword to this *ASEF Outlook Report*. My gratitude also goes to the authors and my colleagues at ASEF for their valuable contribution to this publication.



Ambassador ZHANG Yan
Executive Director
Asia-Europe Foundation (ASEF)

FOREWORD

As the Foreign Minister of Mongolia, the host country of the 11th Asia-Europe Meeting Summit (ASEM11), it gives me great pleasure to address the readers of the Asia-Europe Foundation's ASEF Outlook Report 2016/2017. In today's increasingly complex world, dialogue is needed more than ever. This is the reason why Mongolia joined ASEM and decided to organise the next Summit in Ulaanbaatar in order to make our nation's own modest contribution to the ASEM process.

As a Mongolian, I am truly pleased that the ASEM Summit will take place in Mongolia for the first time, in a nation that both geographically and historically has been a bridge between the two oldest continents. As the former Prime Minister of Italy Mario Monti said: *"The first free trade zone was established by the Mongol Empire."* There is plenty of recorded historical evidence to support his statement. It was during the Yuan dynasty, established by the Mongols, when the famous Venetian merchant Marco Polo, accompanied by his fellow brothers, discovered Asia for the Europeans. It was during those days when the Mongol horse, *Urtuu*, or the horse relay system of Asia and Europe truly and efficiently connected the vast lands ranging from the Pacific Ocean to the shores of the Black and Adriatic seas. Historians today argue that the speed and efficiency of the Mongol horse relay system of the 13th century is equivalent to the 21st century Internet.

One cannot talk about ASEM without touching upon the concept of connectivity that has become the buzzword of ASEM meetings. Mongolia approaches this concept in its broadest interpretation. Connectivity in the ASEM framework encompasses not only tangible or physical infrastructure links between the two continents, which include rail, highway, air and maritime routes, but also much wider links ranging from cultural, educational, spiritual and even philosophical interaction between Asia and Europe. Despite some harsh, critical views on Asia-Europe connections nowadays, the achievements in this regard should not be undervalued and belittled. Compared to 20 years ago, Asia and Europe enjoy a much greater degree of connectivity thanks to conscious and intentional efforts made by ASEM partners.

From the beginning, the ASEM process aspired towards building a platform for information dialogue, and this has been reaffirmed at a number of ASEM meetings, mostly recently at the *12th ASEM Foreign Ministers' Meeting* (ASEM FMM12, 5-6 November 2015, Luxembourg) and the *ASEM Symposium on the Future Direction of ASEM* (30 March 2015, Bangkok, Thailand).

The challenge lies in how to strike the right balance. We need to try to keep ASEM as a platform for informal dialogue, yet at the same time seek productivity and beneficial results. ASEM is not a negotiating body, nor should it be, as its mandate is not to tackle particular and concrete issues. As an informal platform of dialogue, ASEM's value may lie in the fact that the issues that are not appropriate to be discussed or debated at other international forums, can be considered.

ASEM should be a platform of dialogue, not only between governments, but also between business communities, civil society, academia, youth and other stakeholders from Asia and Europe. We are truly pleased to see the continuation of ASEM-related meetings and activities involving various groups from both continents and applaud the role played by ASEF in this regard. Mongolia also supports ASEM's principle of consensus and inclusiveness, and believes that these principles must be safeguarded and continued.

Mongolia believes that informal dialogue and the free exchange of views are the most important values of the ASEM process. In this context, the format of retreat sessions has gained even greater importance. There are enough international public forums where world leaders and other stakeholders meet; however these forums often lack the space to provide opportunities for meaningful dialogue.

Indeed, Mongolia would like to see ASEM used as a stepping stone that could ultimately lead to solving the world's most pressing issues and, in particular, the issues of primary importance between Asia and Europe such as climate change, disaster reduction and risk management, sustainable development, and water administration. Certainly, both sides need to see tangible outcomes from ASEM meetings. However, it is impossible to achieve widely acceptable results without the prior exchange of opinions. Some argue that meetings without concrete results may potentially marginalise the ASEM process, as was the case with some other international public forums. Mongolia is equally aware of this concern and will strive to do its utmost to host a successful 2016 ASEM Summit.

The ASEM process rests firmly on three pillars: political, economic, and cultural. Mongolia values these three pillars and also wishes to preserve their equality and importance. A platform of dialogue based on unequal footing across these three pillars risks derailing the entire process. In light of this, Mongolia would like to preserve ASEM in its present form, while seeking results wherever possible.

ASEM is a platform for dialogue between two very different continents. In Europe, the continent's integration process has gained serious momentum, despite occasional and temporary setbacks. Asian nations have faced a similar process, but as a whole the Asian continent has a fairly long way to go. This, in turn, has an impact on Asian-European dialogue, giving its critics the ammunition to criticise ASEM's perceived deficiencies. However, the last 20 years of ASEM has produced successes that outweigh ASEM's alleged failures.

This year ASEM will celebrate its 20th anniversary. As the chair of the ASEM working group for the 20th anniversary celebrations, Mongolia suggests that the celebratory activities take place in all ASEM countries as it is a common celebration for all its partners. The highlight of ASEM's 20th anniversary falls on its 11th Summit in Ulaanbaatar and we are working on a special programme to celebrate this momentous occasion.

On the more substantive side of the 20th anniversary celebrations, it is a perfect time to reflect on the achievements and lessons from the past two decades and seek to project the future. In this regard, we value highly the results of the Bangkok seminar on the *Future Direction of ASEM* and the study on the same subject commissioned by the European Union. As we celebrate the 20th anniversary of ASEM, Mongolia is looking forward to its further expansion. As the next host for the ASEM Summit, Mongolia actively participates in the ASEM-related activities. In May of 2015, Mongolia successfully organised a seminar on renewable energy. In 2016, Mongolia will host and organise a series of meetings and events under the ASEM umbrella leading up to the Summit.

I would like to conclude this article by saying that preparations for the 11th ASEM Summit in July 2016 are in full swing. We are determined to do our utmost to make this event special. We are looking forward to welcoming you in Mongolia this year.

Bayarlalaa.[1]



Mr PUREVSUREN Lundeg
Foreign Minister of Mongolia

1 "Thank you" in Mongolian.

List of Abbreviations and Acronyms

10+1	ASEAN Plus China
APEC	Asia-Pacific Economic Cooperation
ADB	Asian Development Bank
AGMHP	ASEAN-German Mini Hydro Project
AIIB	Asian Infrastructure Investment Bank
APAEC	ASEAN Plan for Energy Cooperation
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
ASEF	Asia-Europe Foundation
ASEM LLL Hub	ASEM Education and Research Hub for Lifelong Learning
ASEM ME	Asia-Europe Meeting of the Ministers for Education
ASEM TMM3	3rd ASEM Transport Ministers' Meeting
ASEM	Asia-Europe Meeting
BCIM	Bangladesh – China – India – Myanmar
CARIFORUM	Forum of the Caribbean Group of African, Caribbean and Pacific States
CCI	Cultural and creative industries
CEM	Clean Energy Ministerial
CERC	Clean Energy Research Center
CES	International Consumer Electronics Show
DAAD	German Academic Exchange Service (Deutscher Akademischer Austauschdienst)
DCI	Development Cooperation Instrument
DCIM	Datacentre infrastructure management
DJF	Dutch Journalism Fund
DG ENERG	Directorate General for Energy
DNS	Domain Name System
EAEC	European Atomic Energy Community (or Euratom)
EAEF	EC-ASEAN Energy Facility
EC	European Commission
EEAS	European External Action Service
EHEA	European Higher Education Area
EHEF	European Higher Education Fairs
EIC	East India Company
EITI	Extractive Industries Transparency Initiative
EIU	Economist Intelligence Unit
EPEG	Euro-Persia Express Gateway
EU	European Union
EU SHARE	European Union Support to Higher Education in the ASEAN Region
FCO	Foreign and Commonwealth Office
FDI	Foreign direct investment
FEU	Forty-foot Equivalent Unit
FTA	Free Trade Agreement
GATT	General Agreement on Tariffs and Trade
GCI	DHL Global Connectedness Index

GDP	Gross domestic product
GHG	Greenhouse gases
GVC	Global value chain
IANA	Internet Assigned Numbers Authority
ICAIS	International Charging Arrangements for Internet Services
ICANN	Internet Corporation for Assigned Names and Numbers
ICCPR	International Covenant on Civil and Political Rights
ICT	Information and communications technology
IEA	International Energy Agency
IFACCA	International Federation of Arts Councils and Agencies
IG	Internet Governance
IGF	Internet Governance Forum
ILO	International Labour Organization
IMF	International Monetary Fund
IoT	Internet of Things
IP	Intellectual Property
IP	Internet Protocol
IPHE	International Partnership for the Hydrogen and Fuel Cells in the Economy
IPR	Intellectual property rights
ISP	Internet service provider
ITER	International Thermonuclear Experimental Reactor
ITU	International Telecommunication Union
LNG	Liquefied Natural Gas
LOR	Learning Object Repositories
LPI	Logistics Performance Index
LRE	Learning Resource Exchange
LSCI	Liner Shipping Connectivity Index
LULUCF	Land Use, Land-Use Change and Forestry
MEF	Major Economics Forum
MERS	Middle East respiratory syndrome
MFA	Ministry of Foreign Affairs
MGI	Maastricht Globalisation Index
MHP	Mini Hydro Power
MIT OCW	Massachusetts Institute of Technology OpenCourseWare
MIT	Massachusetts Institute of Technology
MOOC	Massive Open Online Course
MOST	Ministry of Science and Technology
MOU	Memorandum of Understanding
MPAC	Master Plan on ASEAN Connectivity
NATO	North Atlantic Treaty Organization
NGL	Natural Gas Liquid
NGO	Non-governmental organisation
NSI	Northern Sea Route
OEA	Open Education Area
OECD	Organisation for Economic Co-operation and Development
OEI	Open Education Ideas

OER	Open Educational Resources
OIFC	Overseas Indian Facilitation Centre
PAJ Europe	Performing Arts Japan Programme for Europe
PDSF	Policy Dialogues Support Facility
PPP	Public Private Partnership
R&D	Research and Development
RD&D	Research, Development and Demonstration
READI	Regional EU-ASEAN Dialogue Instrument
RES	Renewable Energy Systems
RIR	Internet registry
ROTACS	Russian Optical Trans-Arctic Submarine Cable System
RSS	Rich Site Summary
SARS	Severe acute respiratory syndrome
SCO	Shanghai Cooperation Organization
SEZ	Special Economic Zone
SME	Small and Medium Enterprises
SOM	Senior Officials' Meeting
SOME	Senior Officials' Meeting on Energy
TAGP	Trans-ASEAN Gas Pipeline
TASIM	Trans-Eurasian Information Super Highway
TCP	Transmission Control Protocol
TEA	Trans Europe-Asia
TEU	Twenty-foot Equivalent Unit
TLD	Top-level domain
TRIPS	Trade-related aspects of intellectual property rights
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UPOU	University of the Philippines Open University
USSR	Union of Soviet Socialist Republics
VAT	Value-added tax
VOC	Vereenigde Oost-Indische Compagnie (Dutch East India Company)
WCIT	World Conference on International Telecommunications
WIPO	World Intellectual Property Organization
WSIS	World Summit on the Information Society
WTO	World Trade Organization
WWW	World Wide Web

EXECUTIVE SUMMARY

This Volume II of *ASEF Outlook Report 2016/2017, CONNECTIVITY: Facts and Perspectives* presents different aspects of connectivity under five main areas: measuring connectivity; digital connectivity; the economics of connectivity; connectivity in the media and culture; and connectivity in education. This selection is also in line with ASEF's thematic scope of work.

The *Volume II: Connecting Asia and Europe* begins with questioning what should be measured to assess the level of connectedness. In Chapter 1.1, ***Are We That Globally Connected? Lessons from the Many Connectivity Indices***, **Yvonne GUO** and **Thierry SCHWARZ** pursue the question by reviewing nine existing connectivity indices developed by leading business organisations, research institutes and think tanks. Besides general trends across the indices, their analysis reveals some substantial gaps in methodologies, as well as in our perception and interpretation of connectivity. The authors argue that a significant shortcoming of the connectivity indices is their failure to address the negative outcomes of connectivity, such as base international emissions of greenhouse gases, systemic financial and monetary crises, epidemics, exploitation of migrant workers, as well as losses in cultural diversity and biodiversity. The chapter concludes with suggestions for an index measuring sustainable connectivity that includes both positive and negative effects of connectivity.

The new digital technologies drive global social and economic developments at a different pace, with different dimensions, from development in the pre-Internet era. Diplomacy is one of the areas that not only benefits from connections facilitated by the Internet, but also faces new types of risks derived from technological advancement. In Chapter 2.1, ***From Harmonising Cyberpolicies to Promoting Twiplomacy: How Diplomacy Can Strengthen Asia-Europe's Digital Connectivity***, **Jovan KURBALIJA** presents an analysis of the digital connectivity between Asia and Europe, as seen from a diplomatic perspective. He first addresses the continued relevance of geoeconomics and geopolitics in the Internet age and analyses the impact of the Internet on political, social, and economic developments in Asia and Europe in particular. Then the chapter examines digital policy and Internet governance issues with rich data that show how different policy issues are tackled on diplomatic agendas. As "twiplomacy" is selected in the title of this chapter, the author provides examples of the use of web and social media communications by diplomatic services and other governmental institutions. Despite existing and potential repercussions from the misuse of social media by those involved in foreign affairs, the author encourages diplomats to use it effectively and strategically, as it has the potential to become an important channel of communication with the public. Kurbalija's chapter provides a balanced analysis of the opportunities and risks for diplomacy in the Internet era. It also indicates how digital diplomacy can contribute to economic, social and overall development, both in Asia and Europe, and between the two continents.

Among initiatives implemented in the ASEM process, *TEIN (Trans-Eurasia Information Network)* has made a significant contribution to increasing information exchanges and research collaborations between Asia and Europe. The network was launched at the 3rd Asia-Europe Meeting Summit (ASEM3) in October 2000 in Seoul, Korea. It provides dedicated high-capacity Internet connectivity for research and education communities across the two regions, with financial support from the European Union and TEIN partners. TEIN's primary target group is the National Research and Education Network (NREN) that connects all major research and educational institutions in each beneficiary country. In his chapter, ***Trans-Eurasia Information Network (TEIN): Connecting Asia-Europe Through High-Speed Networks for Research and Education***, **ByungKyu KIM** of TEIN* Cooperation Center (TEIN*CC), which manages the current 4th project phase, introduces the project's scope and uses case studies from a diverse range of disciplines, including telemedicine, health and disease, earth and ocean observation, food security, e-science, education and e-learning, e-culture, and future Internet. The author addresses the lack of local Internet and network infrastructures in the least developed countries as a major challenge to extending TEIN links. He stresses the need to widen cooperation with international organisations beyond the EU, and to fund research and education Internet networks in developing countries.

The next four chapters turn to an economic aspect of connectivity. In the Riga Declaration adopted at the 3rd ASEM Transport Ministers' Meeting (ASEM TMM3) in April 2015 on the *Development of Euro-Asia Multimodal Transport Connectivity*, ASEM leaders and experts emphasised innovation of logistics and transport services for improving connectivity between Asia and Europe. As an attempt to put forward ideas and insights for developing such innovative solutions, **Lauri OJALA**'s chapter, ***Logistics Performance Index (LPI): Implications for Logistics Connectivity of ASEM Partners***, based on The World Bank's LPI report, garners data to show how central and significant ASEM countries are to the global logistics networks. He analyses the factors affecting a country's level of economic development and its logistics performance, including not only a sound physical infrastructure and good quality services but also: economic size; geography, e.g. landlocked or small island states; governance, e.g. managing conflict situations or transitional periods between regimes; and consistency in country's trade logistics action plans. He does this by examining where ASEM partners stand across several indices compiled by international organisations and the logistics industry. Ojala reveals that ASEM partners, as a whole, show substantial economic, connectivity, and logistics achievements, but there are countries at both ends of the spectrum in their level of connectedness to world markets, container shipping networks, and logistics performance. Taking this into account, the author concludes with policy options for areas of improvement, which can be applied to different economic development status.

The Belt and Road Initiative, which was proposed by the Chinese government in 2013, is more than a modern adaptation of the Silk Road. **CUI Hongjian** provides a comprehensive overview of the Initiative, which aims to increase trade, promote financial cooperation, and construct an infrastructure network across Asia, Europe and Africa. In this chapter, ***The Belt and Road Initiative and Its Impact on Asia-Europe Connectivity***, the author puts the spotlight on the main goal of the Initiative, which is to improve intra- and inter-regional cooperation, using full connectivity as the core approach to achieving such a goal. Apart from building trade and an infrastructure network, the Initiative set five priorities to reach full connectivity: policy coordination; facilities connectivity; unimpeded trade; financial integration; and people-to-people bonds. According to Cui, the Initiative has already produced several tangible results, such as: promoting strategic bilateral and multilateral coordination with partner countries; creating financial instruments supporting the Initiative; constructing infrastructure networks including railways, highways, ports, electricity and pipelines, especially in Southeast Asia and Central Asia; and establishing an economic and trade cooperation zone. The author adds further that the Belt and Road Initiative is in line with the EU's European Strategic Investment Plan, and that China and its partner countries in Europe have strengthened their ties through several cooperation frameworks. As the Initiative has a significant impact on the international community in both economic development and governance, the author addresses the challenges and risks it faces, including geopolitical tensions, uncertainties of sustainable investment, efficiency of participating countries, and natural and man-made security risks. Lastly, the author encourages ASEM and ASEF to play a more active role by getting involved in discussions around the Belt and Road Initiative and fully utilising their platforms for promoting regional cooperation.

The next chapter focuses on energy connectivity and cooperation between Asia and Europe. **Margareth SEMBIRING** explains in her chapter, ***Energy Security and Connectivity in Asia and Europe***, that energy trade between Asia and Europe, except for the Russian Federation, is virtually non-existent and that this is partly the reason for the absence of energy infrastructure connectivity between the two regions. However, ASEM partners have established some level of soft connectivity through energy dialogues, memoranda of understanding, institutional capacity building and other means of cooperation in various bilateral, inter-regional, and multilateral settings. To illustrate the common energy challenges that Asia and Europe are currently facing, the author also elaborates on global and regional projections of oil, natural gas, coal, and renewable energy demands to 2030. The chapter introduces the EU and ASEAN, as well as countries including China, India, Japan, Korea and Kazakhstan as key actors in energy cooperation between Asia and Europe. These regional organisations and countries take different approaches in policy and markets, depending on the areas in which they have common needs and how to address their priorities. By assessing the status of the development and progress of the connectivity framework, as set out at the 1st ASEM Ministerial Conference on Energy Security in 2009, Sembiring recommends: organising the 2nd ASEM Ministerial Conference on Energy Security; engaging more Asian ASEM partners in energy cooperation with the EU; establishing a policy framework to promote and commercialise Asia-Europe research outcomes; and keeping the hard connectivity option open, while strengthening soft connectivity.

At the closing session of the Asia-Europe Business Forum (AEBF) on 16 October 2014 in Milan, Italy, which was held alongside the 10th ASEM Summit, Herman Van Rompuy, former President of the European Council, stated the European Union's support for people-to-people connectivity, as well as physical and institutional connectivity. **Oscar F. PICAZO**'s chapter, ***People-To-People Tourism: Initiatives and Challenges in Enhancing Travel, with a Focus on ASEAN***, pays particular attention to this. The author begins with how the interconnection of countries in business, trade and investment, as well as electronic networking, has enhanced people-to-people (PTP) tourism. Likewise, the ASEAN-EU relationship has been significantly strengthened due to an increase in trade, foreign direct investment, and tourism, and both regions share bright prospects for an increase in tourism, particularly in the number of visits, revenues and jobs created. The author also sets out the constraints in promoting PTP tourism in ASEAN, mainly related to visa regulations and policies that are not standardised across the region. In order to enhance PTP tourism, Picazo proposes, among many things: a single, common visa for ASEAN and non-ASEAN nationals respectively; a region-wide e-visa programme; standardised educational and professional qualifications; and more research on PTP tourism.

The International Data Corporation (IDC) estimates that 3.2 billion people will have access to the Internet in 2016, and more than 2 billion will be using mobile devices for that purpose. In light of this, **Stephen RAE** shows the relationship between online innovation and the media in his chapter, ***Interesting Times: Digital Media and Interconnectivity Between Asia and Europe***. He highlights the extent of digital disruption in media, including the challenges to monetisation of mobile content and opportunities for growth in both Asia and Europe. In this time of uncertainty, he weighs up the power of great journalism against the ability of tech companies to capture audiences' attention at scale. He concludes with suggestions for areas where Asia and Europe can foster cooperation, including; a more unified and transparent approach to infrastructure; improved media plurality; protection of niche media outlets; greater interaction and sharing of learnings between distribution platforms; and strengthened links media organisations across Asia and Europe.

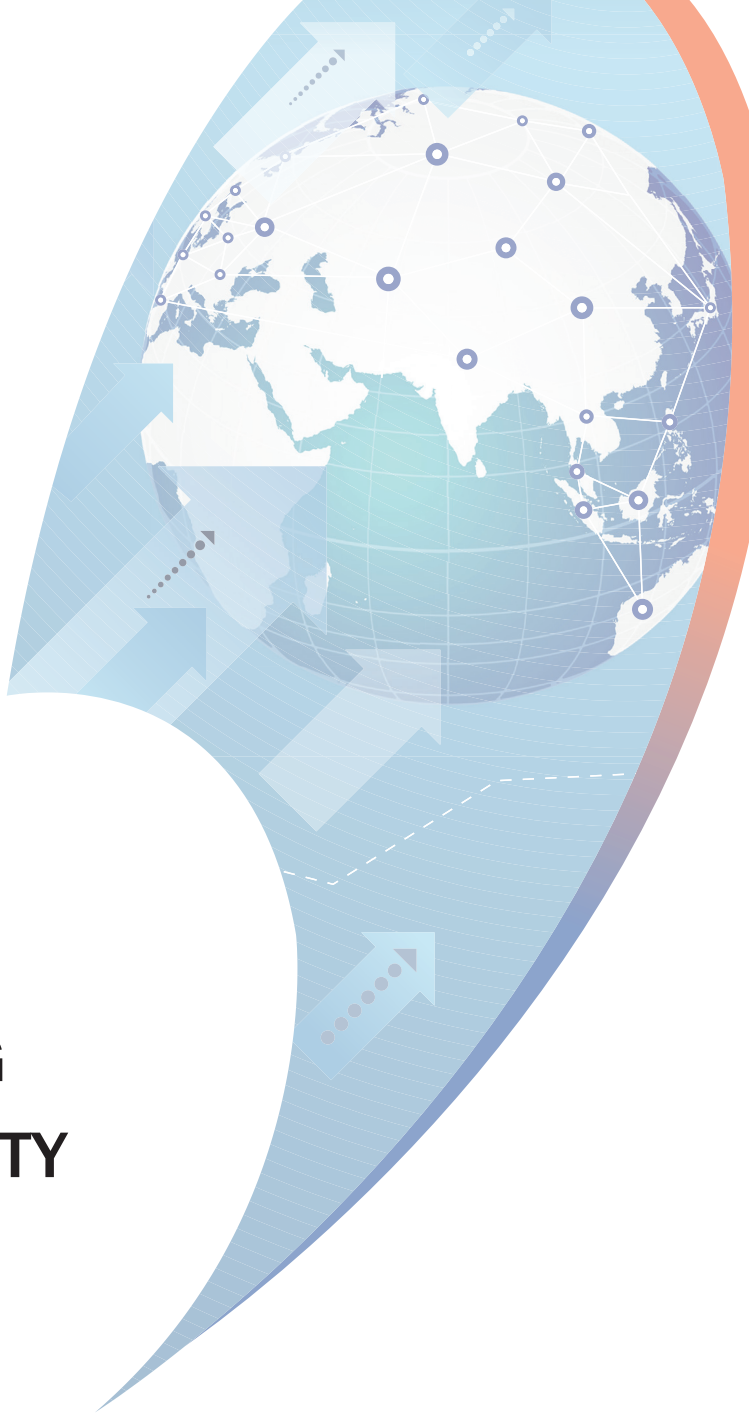
Modern means of transportation and the Internet have driven a significant shift in cultural production, distribution and participation. While this has fostered cultural cooperation and exchanges, **Nina OBULJEN KORŽINEK** questions in her chapter, ***How to Promote the Diversity of Cultural Expressions?***, whether enhanced connectivity has enabled access to more diverse cultural content. The author presents some policy and projects, at a national, regional and international level, which attempt to tackle the unequal and unbalanced exchange of cultural goods and services, in line with the 2005 UNESCO *Convention on the Protection and Promotion of the Diversity of Cultural Expressions.* She also highlights new interventions to promote diverse cultural content. The author commends ASEM and ASEF for their endeavours to promote diversity of cultural expressions and their encouragement for member countries to ratify the 2005 Convention, and collaboration among European and Asian countries in implementing the Convention. She also points out their efforts to: improve data collection and the promotion of data exchange between Europe and Asia; monitor the impact of existing policies and instruments; develop new policies and instruments, at national and regional/international levels; and monitor the impact of international trade and other agreements on arts and culture.

The next two chapters discuss the connected histories of Asia and Europe. In ***Images of Asian Countries in Western Societies from the 19th to the 21st Century***, **Sophie ROCHEFORT-GUILLOUET** helps readers understand how the relationship evolved from curiosity and anxiety to admiration, by providing rich historical and cultural references. Beginning with the first planisphere by Matteo Ricci, the author shows how Europeans' knowledge of Asia mostly came through the early cross-continental travellers who trod the silk, spice and trade roads. Eventually, Western powers diversified their trade routes and a clearer and more accurate picture of Asia evolved. Throughout the 19th century and into the early 20th century, the majority of the images portraying Asia that appeared in the European media, as well as many cultural products, such as cartoons, paintings, and literature, were negative. At the end of the 19th century, however, Europe also developed an admiration for Asia, mainly inspired by the continent's artistic works. As parts of Asia achieved dramatic economic development in the late 20th century, the continent projected another image to Europe, one that is still relevant today. The author concludes by comparing two paintings by Belgian and Japanese painters, which show a contrast as well as a synthesis between Western and Eastern culture.

The next chapter takes readers on a journey through the 500-year connection between Europe and Southeast Asia. In this chapter, ***Connecting Through Colonisation?***, **Jean-Louis MARGOLIN** argues that the colonial order could be described as a co-production between Westerners and some Asians, albeit an unequal and unsustainable one. This chapter explains that societies played an autonomous role, and that individuals, groups, and sometimes communities, did not necessarily act as Westerners or Asians, following instead their own interests, beliefs, and aspirations. Deploying 12 arguments, the author contests the traditional, linear, state-based vision of the Euro-Southeast Asian connection, and offers an alternative. The arguments include: the fragility of the European conquests in Southeast Asia, including the slowness of the process, governance failures and shortcomings, culminating in a swift, final crumbling of power; the twin, inbuilt weaknesses of the colonial system which were a lack of human resources, and a dearth of financial means; the questionable notion of an East-West divide; and the reciprocal interaction between Asia and Europe. Elaborating on the interplay between colonisation, modernisation and connectivity, the author suggests that, as both colonisation and decolonisation are fading into the mists of history, especially for younger generations, a sober assessment of the results of colonisation can now be made. He stresses a deepening of a multifaceted connectivity as a positive aspect of colonial times.

The final two chapters focus on academic mobility and open education which contribute to enhancing connectivity between Asia and Europe. In her chapter, ***Academic Mobility for Enhancing Asia-Europe Connectivity: Why and How?***, **Que Anh DANG** asserts that education policy-making is a value-laden process. The author emphasises that policies for academic mobility should be devised in such a way that promotes the core values, namely democratic equality, social mobility and social efficiency. Dang provides a brief historical account of Asia-Europe academic exchange, analyses the current policies of the ASEM Education Process, and identifies the challenges to academic mobility, such as motivation, funding, academic standards, language, recognition of foreign qualifications, social and cultural barriers, immigration regulations, tenure contracts of mobile staff, and the brain drain. She convincingly argues that 'brain circulation' is a more relevant concept, where mobile populations offer a richer contribution to the social, cultural and economic development of the multiple countries with which they identify. The chapter concludes with recommendations which include: making regulations to encourage universities to create joint programmes with short-term mobility; giving extra support and mobility opportunities to teacher education students and researchers in those subject areas that require a high level of technology and a big investment in research facilities; offering more mobility opportunities to students in the Technical and Vocational Education and Training (TVET) sector; and integrating technology into educational delivery methods and increasing access, e.g. Massive Open Online Courses (MOOCs).

The last chapter, ***Towards an Open Education Area Between Asia and Europe***, explores how ASEM can promote sharing of open educational resources (OER) and academic collaboration at policy, organisational and individual levels. **Jan M. PAWLOWSKI** and **Juvy Lizette M. GERVACIO** begin by defining open education and OER, setting out the different resources and forms of collaborations available, and describing several learning object repositories available in Europe and Asia. The authors present detailed recommendations to address the barriers to open education and cross-border collaboration, through the creation of a common open education area between Asia and Europe. For ASEM partners, they call for the provision of governmental support; the development of strategies that include a commitment to resources and incentives; and the broadening of current bi-lateral and multi-lateral relations. They also recommend encouraging the open licensing of educational materials that are produced with public funds; developing an adaptation of OER in a range of languages and cultural contexts; and promoting research on OER. Finally, Pawlowski and Gervacio encourage researchers, educators, and students to: participate in various conferences and training programmes to share their experiences of using OER; make use of research findings of OER; and build networks with those who have similar requirements and needs. They suggest they should also develop tools to adapt OER to different contexts, such as making them available in different languages; and develop a pool of OER experts to provide capacity building to organisations and individuals.



SECTION 1

MEASURING CONNECTIVITY

1.1. Are We That Globally Connected? Lessons from the Many Connectivity Indices

Yvonne GUO, Thierry SCHWARZ

Abstract

- What happened to globalisation and why has it been replaced by connectivity?
- Which are the most connected countries in Asia and Europe?
- What do we actually measure when we measure connectivity?
- Why, in most connectivity indices, do small and rich countries look better connected than larger ones?
- Is the progress towards more connectivity an inexorable trend?
- Are higher levels of connectivity necessarily contributing to the well-being of the world?
- And what if we could develop a Sustainable Connectivity Index for Asia and Europe?

Those are some of the questions addressed by this paper.

1. Connectivity vs. globalisation

Connectivity has become the new buzzword in international meetings. ASEM, APEC, ASEAN, the G20, and the EU have all placed connectivity on their agenda, if not on the top of it. The Chair's statement at the 10th *ASEM Summit* in Milan (2014)[1] mentioned "connectivity" nine times. Connectivity was also the main topic of the 12th *ASEM Foreign Ministers Meeting* that took place in November 2015 in Luxembourg.

APEC developed a *Connectivity Blueprint for 2015-2025* whose main aspiration is "to reach a seamlessly and comprehensively connected and integrated Asia-Pacific through the pillars of Physical Connectivity, Institutional Connectivity and People-to-People Connectivity".[2] Moreover, ASEAN has its *Master Plan on Connectivity*[3], while the EU has its own digital plan and all kinds of projects to connect the EU to the rest of the world. And the revival of the Silk Road by Chinese authorities is marketed as the ultimate connectivity project linking Asia to Europe.

But what has happened to the previous buzzword: globalisation? Now connectivity is in, and globalisation is out. Why has connectivity replaced globalisation? The reason is simple: while connectivity is a technical, value-neutral term, globalisation, for its critics, has become a politically-loaded, ideological concept associated with the ills of the liberal paradigm. While connectivity is about pipes, grids, networks, infrastructure and equipment, and does not dictate what is circulating between connected countries, globalisation is as much about values, culture and identity as about the intensity of connections.

1 "Responsible Partnership for Sustainable Growth and Security, 10th ASEM Summit (ASEM10), Final Chair's Statement." *ASEM InfoBoard*, 17 October, 2014. http://www.aseminfoboard.org/sites/default/files/documents/2014_-_ASEM10_-_Chair_Statement.pdf.

2 "APEC Connectivity Blueprint for 2015-2025." *Asia-Pacific Economic Cooperation*. http://www.apec.org/Meeting-Papers/Leaders-Declarations/2014/2014_aelm/2014_aelm_annexd.aspx.

3 "Master Plan on ASEAN Connectivity." *Ministry of Foreign Affairs of the Kingdom of Thailand*, 24 October 2009. http://www.mfa.go.th/asean/contents/files/asean-media-center-20121203-182010-779067.pdf.

Globalisation is opposed by individuals, groups and regimes that do not believe in universal values, or are opposed to global convergence for economic, environmental or cultural reasons. Strangely enough, no-one seems to oppose connectivity, although if one looks a little closer there is not much difference between the two. After all, in the broadest sense, globalisation can be defined as the growing interconnectedness and interrelatedness of all aspects of society.[4]



Source: (left) Labour protestors with banner, 30 November, 1999. Photo by Peter Yates, (right) Wikipedia, Matthew Kavanagh

The concepts of connectivity and globalisation, of course, have not escaped the trend of quantification and ranking that has been an increasingly popular social science research methodology in recent years. Interestingly, most indices do not make a distinction between globalisation and connectivity: while connectivity indices tell us how globalised we are, globalisation indices tell us how connected we are. In this paper we will therefore look at indices measuring connectivity and globalisation, because one measures the other, and vice-versa. The following table shows the 20 most connected countries or cities from nine recent connectivity or globalisation indices.

4 Andrew Jones. *Dictionary of Globalization*. Polity, 2006.

2. The 20 most connected countries and cities

Table 1: 20 most connected countries or cities based on nine globalisation and connectivity indices (2012-2016)[5]

	EY Globalisation Index (2012)	The Connectivity Scorecard for Innovation-driven economies (2013)	Maastricht Globalisation Index (2014)	DHL Global Connectedness (2014)	The Economist ICT Globalisation Index (2014)	Huawei Global Connectivity Index (2015)	ETH Zurich KOF Index of Globalisation (2016)	McKinsey Global Institute Connectedness Index (2016)[6]	A.T. Kearney Index Of Global Cities (2015)
1	Hong Kong	Denmark	Belgium	Netherlands	United Kingdom	USA	Netherlands	Singapore	New York
2	Singapore	Sweden	Netherlands	Ireland	Netherlands	Sweden	Ireland	Netherlands	London
3	Ireland	USA	Switzerland	Singapore	Germany	Singapore	Belgium	USA	Paris
4	Belgium	Netherlands	United Kingdom	Belgium	USA	Switzerland	Austria	Germany	Tokyo
5	Switzerland	Finland	Austria	Luxembourg	France	United Kingdom	Switzerland	Ireland	Hong Kong
6	Netherlands	United Kingdom	Germany	Switzerland	Canada	Netherlands	Singapore	United Kingdom	Los Angeles
7	Sweden	Norway	Ireland	United Kingdom	Australia	Denmark	Denmark	China	Chicago
8	Denmark	Singapore	Sweden	Denmark	Taiwan	Korea	Sweden	France	Singapore
9	Hungary	Germany	Malaysia	Germany	Japan	Japan	Hungary	Belgium	Beijing
10	United Kingdom	Australia	France	Sweden	Spain	Norway	Canada	Saudi Arabia	Washington
11	Germany	Belgium	Norway	Hong Kong	Italy	Germany	Finland	UAE	Seoul
12	Slovak Rep	Canada	Jordan	UAE	China	Australia	Portugal	Switzerland	Brussels
13	Finland	Japan	Denmark	Korea	India	Belgium	Norway	Canada	Toronto
14	France	France	Israel	France	Turkey	France	Cyprus	Russia	Moscow
15	Canada	Austria	Spain	Norway	Brazil	New Zealand	Spain	Spain	Sydney
16	Israel	Korea	Italy	Israel	Viet Nam	Canada	Slovakia	Korea	Madrid
17	Taiwan	UAE	Saudi Arabia	Hungary	Mexico	Spain	Czech Rep	Italy	Berlin
18	Czech Republic	Ireland	Portugal	Taiwan	Nigeria	Italy	Luxembourg	Sweden	Vienna
19	Austria	Spain	Czech Rep	Thailand	Russia Federation	Portugal	France	Austria	Melbourne
20	Spain	New Zealand	Slovenia	Austria	South Africa	Chile	United Kingdom	Malaysia	Buenos Aires

**** Note: In this article, Hong Kong refers to the Hong Kong Special Administrative Region (SAR) of China and Taiwan to the Taiwan Province of China.***

5 The indices above represent only a sample of relevant indices. Many more indices exist, including the Logistics Performance Index (LPI), which is presented in volume 1 as well as volume 2 of this publication.

6 China, which ranked only at the 25th place in the 2014 McKinsey index, surged to the 7th in the 2016 index. At the same time, Hong Kong SAR which was number two in 2014 does not appear any longer in the 2016 index; it seems that, for the 2016 edition of its index, McKinsey has incorporated the data for Hong Kong SAR into the Chinese ones.

Table 2: Index of the 20 most cited countries and cities in 9 selected globalisation/connectivity indices

	Index of the 20 most cited countries and cities in globalisation/connectivity indices (among the top 20 countries and cities)
Mentioned in 9 out of the 9 indices	France (including Paris)
	United Kingdom (including London)
Mentioned in 8 out of the 9 indices	Belgium (including Brussels)
	Germany (including Berlin)
	Netherlands
	USA (including New York, Los Angeles, Chicago, Washington)
Mentioned in 7 out of the 9 indices	Australia (including Sydney)
	Canada (including Toronto)
	Denmark
	Singapore
	Spain (including Madrid)
	Sweden
Mentioned in 6 out of the 9 indices	Austria (including Vienna)
	Ireland
	Switzerland
Mentioned in 5 out of the 9 indices	Norway
Mentioned in 4 of the 9 indices	Hong Kong SAR
	Italy
	Japan (including Tokyo)
	Korea (including Seoul)

This rather unscientific compilation mixes different years, methodologies and units of analyses (countries and cities), and does not take into account their relative positions in the rankings. It is merely an indication of the most often mentioned countries or cities; it shows that the most connected countries are small and rich and the majority of them are European. Interestingly, except for the USA and Canada, they are all ASEM countries.[7]

7 In order to have a pure ASEM index we would have to add the ASEM countries next in line: Hungary, Portugal and the Russian Federation (including Moscow).

This paper will outline the main lessons drawn from an analysis of the nine indices before discussing their methodology and limitations. They can be summarised in five statements: first, the world is getting more and more connected; second, small and rich countries are better connected than large and less-developed ones; third, we are less globally connected than we think; fourth, there is nothing inevitable in the connectivity process; and fifth, indices do not help to distinguish "good" connectivity from "bad".

3. The world is getting more and more connected, but what are we really measuring when we measure connectivity?

This is the first (and not very surprising) observation. But what are the different indices actually measuring, what are their proxies for connectivity or globalisation? After all, indices are constructed by the inherently subjective choices of researchers regarding *what* to measure and *how* to measure it. For example, which unit of analysis should be used: cities or countries? Should connectivity be measured in economic or social terms? Is connectivity necessarily positive, and if not, how can its costs, such as pollution or trafficking, be computed? Moreover, indices are not created equal. They use very different methodologies and are the result of a mix of various metrics. What are indices made of?

3.1. The way connectivity is measured depends on the subjective view of the indices' designers

As for any type of index, the main issue with the connectivity indices is that the hypotheses supporting their design predetermine the conclusion. Connectivity indices are based on the subjective view of the designers of the index; depending on the choice of components, and on the substitutability and weighting of these components, one will end up with very different results. There is no single correct way to construct a connectivity/globalisation index. Different methods can work as long as they are consistent, and might yield different results, depending on the choices with respect to indicators and the aggregation methodology.[8]

8 Lukas Figge and Pim Martens. "Globalisation Continues: The Maastricht Globalisation Index Revisited and Updated." *Globalizations* 11, no. 6 (2 November 2014): 875–93. doi:10.1080/14747731.2014.887389.

Indicator choices reflect an institution or a person's perception of what he or she thinks are the most important aspects. These are influenced by their perspectives and worldviews.[9] Indices' authors see their own country or city more globalised than the others, or they use criteria that favour their own country or city. The *KOF Index of Globalisation* by KOF Swiss Economic Institute ranks Switzerland number nine with a strong performance on political globalisation, which may come as a surprise for a neutral country. The *Maastricht Global Index*, a Netherlands-based index, ranks Belgium and the Netherlands in the top three. The *Economist ICT Index*, developed by a UK-based magazine and commissioned by Huawei, a Chinese company, ranks the UK number one and China number nine. A.T. Kearney, a New York-based firm, ranks New York as the most connected city worldwide. The six European indices count between seven and nine European countries among top ten. Five of them rank European countries in the first two places, whereas all the non-European indices count a non-European country among the top two. It is no coincidence that France stands at the top of the rankings of the most cited countries since one of the co-writers of this article is a French citizen. In most cases, it is not because the authors of indices are under pressure to make their own country or city look good, it is just that they tend to value more what makes the place where they live more connected, hence what makes them feel personally more connected.

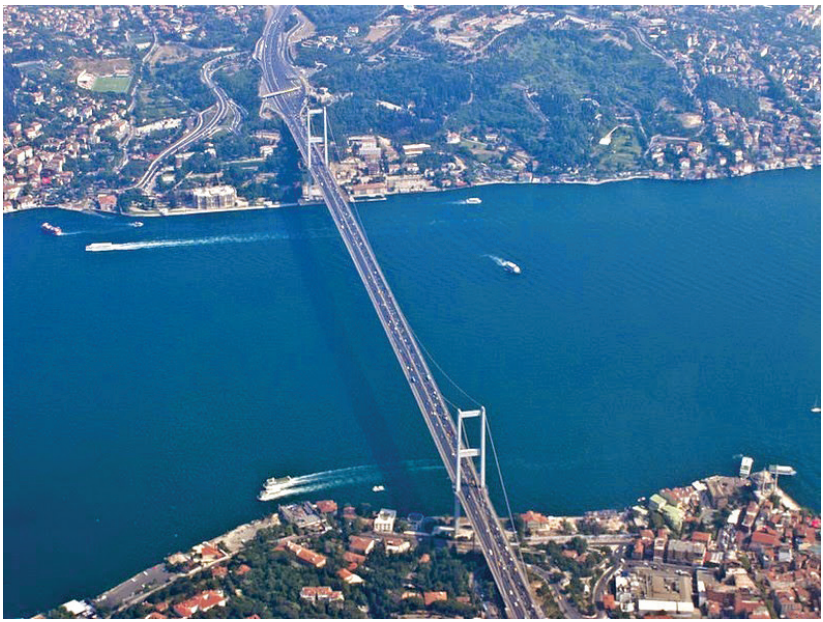
3.2. Indices, by construction, assume that anything can be substituted by something else

Since all indices aggregate all kinds of data, a poor performance on one metric can be compensated by a good one on something totally unrelated. For example, a higher level of trade can make up for the lack of access to foreign culture, and a higher number of migrants can make up for a smaller number of Internet users. Some countries are doing well in connectivity indices just because of their very high volume of trade, but at the same time they can be closed to any foreign influence.

9 Pim Martens. "Globalisation Index.". http://pimmartens.info/research/globalisation-index/.

3.3. What is the right unit of analysis: city or country?

Firstly, what should be the unit of analysis for an index on connectivity? Should it be the nation state, regions, cities or even individuals? Some experts argue that there is probably more to be learnt from the ranking of cities than from the ranking of countries, unless the countries have the size of a city. There have long been cross-border economic processes such as flows of capital, labour, goods, raw materials and tourists. But, to a large extent, these took place within the interstate system. This has changed rather dramatically over the last decade as a result of deregulation, the opening up of national economies to foreign firms, the ascendance of information technologies and the associated increase in the mobility of capital. The nation state as a spatial unit has been weakened, whereas global cities have re-emerged as the key unit, as in the pre-nation state times. As noted by a well-known analysts of connectivity, Saskia Sassen, "Globalisation has made the sub-national level more important. Global cities are now the key nodes of global operational space for both economic and cultural processes".[10]



Istanbul, the city that lies in two continents

Source: Carlos Delgado; CC-BY-SA

10 Saskia Sassen. "Rise of the Niche Global City." *The Straits Times*. http://www.straitstimes.com/opinion/rise-of-the-niche-global-city.

3.4. Should indices be mostly economy, technology or socially-driven?

All the indices are made up of a mix of economic, political, cultural, social, technological, and – in one case – environmental components. However, economic or business components tend to have a higher weight in indices. Globalisation and connectivity indices have been mostly constructed and used by economists and businesses, with some exceptions. This, of course, should not come as a surprise, given the central role of quantitative work in this field and given the fact that businesses are the main sponsors and clients for this type of work. But it has a significant impact on the choice of domains and indicators included.[11] When they are not mostly economy- or business-driven, indices are focused on technology. The absence of environmental and social metrics in most connectivity indices is surprising, not to say shocking.

3.5. Connectivity indices can be very basic or highly sophisticated

There are significant variations in the amount of data used by indices. DHL's index for instance is based on "one million data points", while A.T. Kearney's has only 26 components and ICT's has only 14. Great variations also exist in the number of countries (or cities) covered. The *ICT Globalisation Index* covers only 20 countries, while the McKinsey index covers 195.

The components vary in nature, from purely quantitative to questionably qualitative. The DHL, McKinsey, and Maastricht indices are based only on hard data. Other indices are based partially on qualitative assessments (freedom of expression, quality of universities, hidden tariff barriers), or are based, in part, on surveys of perceptions and even on extremely fragile projections.

The treatment of the data also varies, from basic arithmetic to sophisticated data treatment. For example, the DHL index looks at the depth of international interactions and at the breadth of geographic distribution and directionality (outward and inward). The McKinsey index assesses the connectedness of each country on two dimensions: flow intensity (as a percentage of GDP or population) and flow share (as a percentage of total flows).

Finally, some indices adjust for country size, such as the McKinsey and KOF indices. Other indices, which do not, tend to favour small countries.

3.6. Indices can be more or less transparent

Some indices, such as the DHL, McKinsey, Maastricht, or KOF indices, are transparent on authors, sources and methodology. Others are not (EY, A.T. Kearney, The Economist, and Huawei) and it is impossible for the reader to check where the data came from and how they were aggregated.

11 Lukas Figge and Pim Martens. "Globalisation Continues: The Maastricht Globalisation Index Revisited and Updated." *Globalizations* 11, no. 6 (2 November 2014): 875–93. doi:10.1080/14747731.2014.887389.

3.7. Many indices are based on other indices that are just mirroring and self-reinforcing each other

Several indices rely on other indices, or are based themselves on very fragile surveys. Instead of providing a fresh view on connectivity, they act as self-reinforcing mirrors.

The brief discussion on methodology in this section has highlighted several caveats to the indices. Despite these caveats, some general trends may be derived; these trends will be discussed in the following section.

4. Most dimensions of connectivity tend to increase again after stalling following the 2008 financial crisis

4.1. Trade and services flows are growing at a slower pace

The latest McKinsey report shows that traditional flows of goods, services, and finance have flattened after the 2008 crisis: "For two decades, the world's trade in goods grew roughly twice as fast as global GDP. After a sharp decline due to the crisis and short-lived rebound, however, the goods trade has been growing more slowly than world GDP in recent years. Some of this decline is cyclical; weak demand and plummeting prices for commodities account for nearly three-quarters of the decline in trade. But trade in both finished and intermediate manufactured goods has also declined, thanks to several structural forces. The makers of many finished goods are beginning to place less importance on labour costs and more on speed to market and non-labour costs. As a result, some production is moving closer to end consumers. Trade is also declining for many intermediate goods such as chemicals, paper, textile fabrics, and communications and electrical equipment. This suggests that global value chains may be shortening, at least in part because of the cost of managing complex, lengthy supply chains. In the decade ahead, the global goods trade may continue to decline relative to world GDP".[12]

4.2. Financial flows are still below their 2007 level

Cross-border financial flows – which include lending, foreign direct investment (FDI), and purchases of equities and bonds – grew from USD 0.5 trillion in 1980 (4.1 % of global GDP) to USD 11.9 trillion in 2007 (20.7 % of global GDP). But 2007 proved to be the height of a global credit bubble. Since then financial flows have fallen to less than half their previous value (USD 5.2 trillion in 2014); they are only one-third as high relative to global GDP. A decline in cross-border lending accounts for the majority of the overall drop in financial flows and may reflect a return to long-term trend. But other types of portfolio investment and FDI have also fallen, raising concerns about financing for emerging markets.[13]

12 McKinsey Global Institute. Digital Globalization, March 2016, http://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/digital-globalization-the-new-era-of-global-flows

13 Ibid.

4.3. Internet traffic continues to explode

While global flows of trade and finance have lost momentum, the volume of data being transmitted across borders has surged, creating an intricate web that connects countries, companies, and individuals.

According to the Huawei index, online traffic grew from 84 petabytes[14] a month in 2000 to 40,000 petabytes a month in 2012, a 500-fold increase. The world has 2.8 billion mobile broadband subscribers and in 2015, 150 billion apps were downloaded and global e-commerce transactions represented USD 17,900 billion.[15]

14 petabyte: a unit of information equal to one thousand million million (10^{15}) or, strictly, 2^{50} bytes

15 "Global Connectivity Index 2015." Huawei. http://www.huawei.com/minisite/gci/en/huawei-global-connectivity-index-2015-whitepaper-en.pdf.

4.4. Flows of people were not affected by the crisis

McKinsey observes that all types of people flows across borders are growing faster than the global population. Roughly a quarter of a billion people, or 3.4 % of the world's population, lived outside the country of their birth in 2013, compared with 120 million, or 2.7 % of the global population, in 1980.

Other people have been forced from their homelands by conflict. After a decade of slight decline, the number of refugees worldwide jumped from 16.7 million in 2013 to 19.5 million in 2014 – a spike that worsened in 2015 with the escalation of the Syrian refugee crisis.[16]

The number of international tourist arrivals hit 1.1 billion in 2014, continuing a trend of steady growth. Additionally, OECD statistics show that some 4.5 million international students travelled abroad to study in 2012.[17]



International students at Model ASEM Singapore 2015

Source: Asia-Europe Foundation (ASEF)

16 *UNHCR global trends report: World at war*, UN High Commissioner on Refugees, June 2015. Note that this number does not include the 38.2 million people who are internally displaced by war and persecution, nor the 1.8 million people who are awaiting the outcome of asylum claims. Both of these numbers are up sharply from 2013.

17 "World Tourism Organization." http://www2.unwto.org/.

5. Small, rich European countries are better connected than large, less-developed Asian ones

The level of connectedness is predetermined by the size and the development level of each country. The DHL index shows that GDP per capita, remoteness and, to a much lesser extent, population can explain more than 68% of the variation among countries' global connectedness scores. Speaking a common language with other major economies and direct access to the sea are also associated with higher global connectedness scores.[18]

Connectivity is positively correlated to the wealth of countries, but negatively correlated to their sizes. Japan, China and the USA performed poorly, but Tokyo, Beijing and American cities performed well. Therefore, eliminating the impact of the size of the country, as is done in McKinsey's index, helps avoid the situation in which large, diversified economies appear less connected to global activity because flows are a relatively small part of overall GDP.[19] Countries such as the USA, Germany, China or the Russian Federation fare very well in McKinsey's index of connectedness.

5.1. Europe is better connected than Asia

Generally, European countries tend to be significantly more integrated than Asian countries. In the DHL index, nine of the top ten most connected countries are located in Europe, while in the Maastricht index all the top ten countries are European. This can be attributed firstly to high levels of proximity to large economies. Europe is the region where countries average the lowest remoteness. And while two of the top ten countries (Switzerland and Luxembourg) are landlocked, their excellent physical and institutional infrastructure connects them to world markets. [20] As discussed previously, the unit of analysis makes a significant difference. If cities are chosen as the unit of analysis, there are only two European cities out of the top ten.

Although Europe's colonial history could also be a factor for European dominance across the indices, it is also possible that the indices are measuring regional integration, which is probably deeper and more extensive in Europe than anywhere else. Thus the connectivity rankings may not just be measuring globalisation, but also regionalisation.[21]

18 "DHL Global Connectedness Index 2014." *DHL*. http://www.dhl.com/en/about_us/logistics_insights/studies_research/global_connectedness_index/global_connectedness_index.html#.VoO5iFLnXst.

19 "Global flows in a digital age: How trade, finance, people, and data connect the world economy." *McKinsey & Company*. http://www.mckinsey.com/insights/globalization/global_flows_in_a_digital_age.

20 "DHL Global Connectedness Index 2014." *DHL*. http://www.dhl.com/en/about_us/logistics_insights/studies_research/global_connectedness_index/global_connectedness_index.html#.VoO5iFLnXst.

21 Pim Martens and Raza Mohsin. "An Updated Maastricht Globalisation Index." *International Centre for Integrated Assessment and Sustainable Development (ICIS), University of Maastricht*. http://www.maastrichtuniversity.nl/web/file?uuid=3ba881b9-fa32-46d6-a299-2ab3576accd6&owner=7e093b13-5e7f-48d8-beee-ba405d054c8c.

5.2. Asian countries' connectivity is increasing fastest

According to the *DHL Global Connectedness Index 2014*, the world's economic centre of gravity is shifting eastward, and emerging economies are witnessing bigger connectedness gains than advanced economies.[22] Before 2010, most international flows were between advanced economies, but currently they mostly involve emerging countries. It is particularly significant that the ten countries where global connectedness increased the most from 2011 to 2013 are all emerging economies. Moreover, the top five outperformers in the DHL report are Malaysia, Viet Nam, Cambodia, Hong Kong SAR and Singapore. Malaysia jumped ten places and is now the ninth most globalised country.[23] The Huawei index ranks the Philippines and Indonesia as the two best performing countries in the "beginners" category. Six out of the 11 "beginners" are Asian countries.[24]

Asian cities also perform well in A.T. Kearney's ranking of 125 cities. Tokyo and Hong Kong SAR rank fourth and fifth respectively. Beijing is in ninth position, due to a growing number of international organisations, inhabitants with tertiary degrees, and improvements in the scores of its universities. Shanghai has also maintained its position in the top 25, due to its scores in business activity and human capital. The top three fastest improving cities in the index are in India: Kolkata, Mumbai and Bangalore, followed by Ho Chi Minh City.[25]



The most globalised ASEM cities (from top left in clockwise direction): London, Paris, Hong Kong SAR, Tokyo

Source: (London) BBC. Photo by Hemis/Alamy, (Paris) The Guardian. Photo by Alamy, (Hong Kong SAR) South China Morning Post. Photo by Nora Tam, (Tokyo) CNBC. Photo by Tomohiro Ohsumi/Bloomberg/Getty Images

22 "DHL Global Connectedness Index 2014." *DHL*. http://www.dhl.com/en/about_us/logistics_insights/studies_research/global_connectedness_index/global_connectedness_index.html#.VoO5iFLnXst.

23 Lukas Figge and Pim Martens. "Globalisation Continues: The Maastricht Globalisation Index Revisited and Updated." *Globalizations* 11, no. 6 (2 November 2014): 875–93. doi:10.1080/14747731.2014.887389.

24 Other 4 best performing Asian countries in the beginners category for GCI are India, Viet Nam, Bangladesh and Pakistan.

25 "A.T. Kearney Global Cities 2015 – News Release." https://www.atkearney.com/news-media/news-releases/news-release/-/asset_publisher/000IL7Jc67KL/content/a-t-kearney-global-cities-2015/10192#sthash.R2CZGPPX.dpuf.

6. We are much less globally connected than we think

6.1. The connectivity gap

Although, according to the World Bank, "among the poorest 20% of households, nearly seven out of ten have a mobile phone"[26], global connectivity is, in fact, reserved to a small elite. Significant connectivity gaps between poor and rich countries remain: none of the 16 largest populated countries (65% of the worldwide population) are part of the most connected countries.

6.2. Our connections are mostly domestic

Significant increases in "macro-connectivity" must be tempered with the fact that most personal connections are domestic and that higher connectivity is often associated at the personal level with isolationist views and identitarian closure. Maybe a "parochial index" would be as useful as connectivity indices. In *Track Connectedness Today, Deliver Better Tomorrow*, Pankaj Ghemawat warns against overestimating the extent of global connectivity. "We cannot simply take for granted that future generations will enjoy the benefits of a more connected planet," he argues. "The world is less global than is commonly presumed. An understanding of the extent of globalisation today is a prerequisite for an informed position about whether it should be increased or scaled back, and yet hard facts about how connected the world really is seldom enter into the heated debates that take place on this topic. To cite just a few examples; only 2% of telephone calls are international, immigrants make up only 3% of the world's population, and foreign direct investment (FDI) comprises only 10% of gross fixed investment around the world. Business executives tend to overestimate these and other measures of globalisation by three times or more: commonplace notions of globalisation are far off base, and it is fair to call it 'globaloney'."[27]

The *DHL Global Connectedness Index* provides many examples that increased connectivity often takes place within national borders. For example, it shows that people primarily use the Internet to communicate domestically rather than internationally. The international share of Internet traffic on a global basis is estimated at roughly 17%, and the explosive growth of international Internet bandwidth has not been accompanied by a similar rise in the international share of Internet traffic. Email exchanges on Yahoo Mail are also significantly more intense among users who are culturally and geographically close. Similar trends exist in social network traffic – only 16% of Facebook friends are located across national borders.[28]

26 "World Development Report 2016: Digital Dividends." http://www.worldbank.org/en/publication/wdr2016.

27 Ghemawat, Pankaj. "Globalization– Global Connectedness Index: We're Not As Connected As We Think– Global Connectedness Really Matters." *BizShifts-Trends*. http://bizshifts-trends.com/2013/01/03/globalization-global-connectedness-index-were-not-as-connected-as-we-think-global-connectedness-matters/.

28 "DHL Global Connectedness Index 2014." *DHL*. http://www.dhl.com/en/about_us/logistics_insights/studies_research/global_connectedness_index/global_connectedness_index.html#.VoO5iFLnXst.

International phone calls are still a rarity. Although the depth of international telephone call minutes increased significantly from 2005 to 2012, the international share of total telephone calling minutes is roughly 2% over standard telephone lines and 3-4% including calls placed over the Internet. The average person only exchanges just about 2.5 hours of conversation content internationally per year.[29] Similarly, the translation of books into foreign languages remains limited. Only 3% of the books published in the USA and the UK are translated from foreign languages. Although the percentage of translated books is higher in non-English speaking countries, e.g. 14% in France and 8% in Germany[30], it remains extremely low at the global level. And despite of the significant increase of international education, only 2% of university students are enrolled abroad.[31]

Similarly, only 26% of television news coverage around the world relates to foreign stories. Excluding a home country's foreign affairs, the number is probably closer to the mid-teens. Moreover, international traffic on foreign news websites is low, comprising 1% of the total page views of news websites in Germany, 2% in France, 5% in the United Kingdom, and 0.1% in China.[32] Additionally, in China, foreign films and TV channels are subject to strict quotas[33] and access to Facebook, Twitter and Google is curtailed, implying that higher connectivity does not necessarily translate into a wider opening to the rest of the world.

One last element that does not figure in indices but shows the limitations in terms of people-to-people connectivity is the limited number of people in some large Asian countries that have a passport. According to China's Ministry of Public Security, there were 38 million Chinese citizens who held a passport in 2012 – less than 3% of Chinese population.[34] In India, only 50 million people had a passport in 2012, which is only 4% of the Indian population[35]. Comparatively, in most European countries, about 70% of the total populations have a passport.

The above statistics show that despite increases in connectivity facilitated by technological advances, many activities and people-to-people interactions still take place domestically rather than internationally – in other words, the depth of global connectivity still remains limited. There remains great potential for cross-border connections, both economic and cultural, and globalisation is not as pervasive as its detractors often claim[36] or as the authors of some of the indices would like to make us believe.

29 Ibid.
30 Ghemawat, Pankaj. "Chapter 4, Depth Index of Globalisation 2013." *Depth Index of Globalisation 2013*. http://www.ghemawat.com/Dig/Files/DIG_2013_Chapter_4.pdf.
31 "DHL Global Connectedness Index 2014." *DHL*. http://www.dhl.com/en/about_us/logistics_insights/studies_research/global_connectedness_index/global_connectedness_index.html#.VoO5iFLnXst.
32 Ibid.
33 "China Retains Grip on Foreign Film Quota - BBC News." http://www.bbc.com/news/entertainment-arts-26152190.
34 "Fingerprint-Storing Passports Issued." *China Daily*, 16 May 2012. http://www.chinadaily.com.cn/china/2012-05/16/content_15302399.htm.
35 "50 Million Indians Have Passports." *Zee News*, 1 February 2012. http://zeenews.india.com/news/nation/50-million-indians-have-passports_756161.html.
36 "DHL Global Connectedness Index 2014." *DHL*. http://www.dhl.com/en/about_us/logistics_insights/studies_research/global_connectedness_index/global_connectedness_index.html#.VoO5iFLnXst.

7. There is nothing inexorable in the connectivity process

Connectivity goes through ups and downs. Indices give a snapshot of the current situation but lack a historical perspective, although to be fair, they are not designed to provide a long-term view. Seen from a longer time scale, there is nothing inexorable in the connectivity process. Chase-Dunn et al. note that trade globalisation increased until 1880, then decreased until 1905, increased again until 1914, decreased during the First World War, increased until 1929, decreased until the end of the Second World War, and has grown since.[37] The emergence of the nation state as the predominant unit of political organisation on the international scene has reduced connectivity levels compared to the epoch of the large empires, the Renaissance and even the ancient world.

From a historical perspective, the economic integration of different regions of the world is not a new phenomenon. 2,000 years ago, the Romans unified their vast empire with an extensive transportation network, language, legal system and currency, leading increased trade flows and economic development across the Roman Empire.[38] It was much easier and safer to drive a chariot from Wales or Brittany to Damascus at the time of the Emperor Hadrian (117 to 138 CE) than it is now by car.

37 Christopher Chase-Dunn, Kawano Yukio and Benjamin D. Brewer. "Trade Globalization since 1795: Waves of Integration in the World-System." American Sociological Review 65, no. 1 (2000): 77–95. doi:10.2307/2657290.

38 "Part 1: Development of the Global Economy – The Risks and Opportunities from Globalisation." *The Treasury – New Zealand*. http://www.treasury.govt.nz/publications/research-policy/wp/2007/07-05/03.htm/#ref1.

Figure 1: Network of roads in the Ancient Roman world



Source: Network of Roads in the Roman Empire. Bible History Online.[39]

The same could be said of the Chinese sphere of influence or of the Mongol, Moghul and Ottoman Empires, and many more. The disintegration of these empires triggered a shrinking of globalisation that lasted for several centuries for some regions.

The establishment of colonies throughout the world by European powers started a new wave of globalisation, with European religions and languages spreading worldwide. Global economic integration took place rapidly between 1815 and 1914, due to technological advances and massive trade increases between Europe and its colonies.[40] This also spurred huge increases in transnational labour migration – three million migrants per year in the early 20th century. In the late 1800s, total emigrants over a decade accounted for 14% of the Irish population, one in ten Norwegians, and 7% of the populations of both Sweden and the United Kingdom.[41] The level of migration today is quite low (3%) compared to what we have witnessed in the past, for example in the 19th century or immediately following the Second World War.

39 Network of Roads in the Roman Empire. *Bible History Online*. http://www.bible-history.com/maps/ancient-roads-in-israel.html.

40 Ibid., 38

41 "DHL Global Connectedness Index 2014." *DHL*. http://www.dhl.com/en/about_us/logistics_insights/studies_research/global_connectedness_index/global_connectedness_index.html#.VoO5iFLnXst.

Connectivity is also subject to brutal reversals. The First World War and the period between the two world wars are the best examples of such reversals: world exports during the period 1870-1913 were five times higher than between 1913 and 1950; between the two world wars, trade protectionism and rising tariffs were the norm.[42] It was only after the Second World War, with the creation of the International Monetary Fund (IMF), the World Bank and General Agreement on Tariffs and Trade (GATT) that tariffs fell worldwide and world trade increased significantly.[43]

However, connectivity was not truly global yet since the creation of the Iron Curtain also meant that a significant part of Europe, as well as Communist regimes in Asia, were isolated from the rest of the world. Their citizens were not allowed to travel or communicate with people beyond the Iron Curtain. Berlin was cut in two in 1961 and the two parts did not connect for the following 30 years. Korea was split in two in 1945 and the two sides are still "heavily disconnected".



The Berlin Wall and the DMZ

Source: (left) Chatelaine. Photo by Robert Lackenbach/Time Life Pictures/Getty Images, (right) Photo by Henrik Ishihara

Thus, we cannot take rising connectivity for granted. Going by historical trends, it is entirely possible that the current trend of rising connectivity may be reversed at any point in the future.

42 "Part 1: Development of the Global Economy – The Risks and Opportunities from Globalisation." *The Treasury – New Zealand*. http://www.treasury.govt.nz/publications/research-policy/wp/2007/07-05/03.htm/#ref1.
43 Ibid.

8. Connectivity comes with many negative impacts often neglected in indices

A significant shortcoming of the connectivity indices is their failure to address the negative outcomes of connectivity, such as pollution of the oceans, emissions of greenhouse gases (GHG), systemic financial and monetary crises, epidemics, tax evasion, exploitation of migrant workers, increasing inequality, as well as the losses in cultural diversity and biodiversity. The *Maastricht Globalisation Index* is the only index that reflects the environmental impact of connectivity, through the ecological footprint of trade as a percentage of domestic biocapacity.[44]

8.1. The risk of pandemics

An example of a negative effect of connectivity is the obvious link between connectivity and epidemics. In the 14th century, the Black Death epidemic travelled along the Silk Road and in merchant ships from Central Asia to the Mediterranean and Europe, killing 30-60% of Europe's total population. It took three centuries for the world population to recover to pre-plague levels. Similarly, the Spanish flu pandemic in 1918, that killed more people than died in the First World War, has been attributed to large population movements during the war, with soldiers, sailors and displaced civilian travellers spreading the disease. And in the last decade, several waves of epidemics, including SARS, MERS, Ebola and Zika, have demonstrated how easily, in a connected world, a few cases in a remote country can reach any part of the world in a matter of hours.[45]

8.2. Financial instability

Many links have been drawn between connectivity and global financial instability. The 2008 financial crisis was an illustration of how the bankruptcy of one bank in the USA, Lehman Brothers, could spread to the rest of the world, causing banks to fail and world GDP to fall. Financial globalisation caused the crisis to be much deeper and wider in scale and impact that it would otherwise have been. The same processes of financial globalisation were already present during the Asian financial crisis of 1997-1998, when the collapse of the Thai baht had repercussions throughout Asia, even in countries with relatively healthy economies.

8.3. Increasing inequality

Much research over the last decade has focused on how trade and financial globalisation, combined with technological developments, has been shown to increase income and wealth inequality in both advanced and emerging economies. Summarising lessons from a decade of reforms in the 1990s, the World Bank notes that "the distributive effects of trade liberalisation are diverse, and not always pro-poor. Even in instances where trade policy has reduced poverty, there are still distributive issues."[46]

44 Pim Martens. "Globalisation Index | Pim Martens." http://pimmartens.info/research/globalisation-index/.
45 Lars Boemer and Battista Severgnini. "Epidemic Trade." *EHES Working Papers in Economic History*, no. 24 (September 2012). http://www.fek.lu.se/media/ekh/seminarie-paper/paper94.pdf.
46 Roberto Zagha, Nankani T. Gobind and World Bank. *Economic Growth in the 1990s: Learning from a Decade of Reform*. World Bank Publications, 2005.

The World Bank has partly attributed this higher level of inequality to the rise of digital technologies. Despite their ability to raise productivity and enhance overall welfare, they also tend to diminish the share of labour in national income.[47]

A recent Oxfam report revealed that the 62 richest billionaires in the world owned as much wealth as the poorest 50% of the world's population. Despite an increase in the global population, the wealth of the poorest 50% decreased by 41% between 2010 and 2015, while that of the richest 62 persons increased by USD 500 billion.[48]



Source: (left) Stuff.co.nz, (right) Gooddiscussion.com

Global competition tends to align the salary of less qualified individuals to the less paid worldwide, while aligning the salary of the best qualified individuals with the best paid worldwide. This wage gap between top and bottom earners is also aggravated by the rise in non-standard forms of employment.

8.4. Loss of cultural diversity

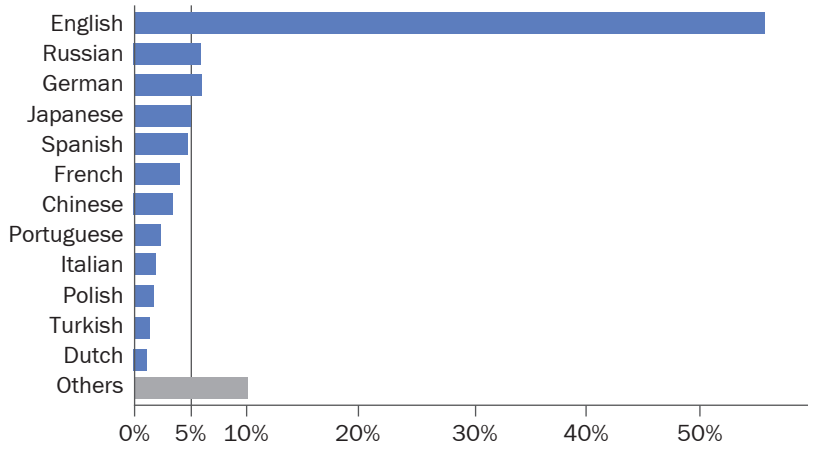
Connectivity reinforces the weight of a very limited number of languages

Far from encouraging cultural diversity, connectivity may indeed threaten it, by encouraging the use of a limited number of languages at the expense of others. The main language of connectivity is English and all other languages rank very far behind. The connectivity rankings are dominated by countries and cities where English is the first language, or widely spoken as a second language. To have a chance to be well known, or just to make sure that others will pay attention, one has to communicate in English. Concurring data shows that 60% of websites are in English.

47 "World Development Report 2016: Digital Dividends." http://www.worldbank.org/en/publication/wdr2016.

48 "Richest 62 People as Wealthy as Half of World's Population, Says Oxfam." *The Guardian.* http://www.theguardian.com/business/2016/jan/18/richest-62-billionaires-wealthy-half-world-population-combined.

Figure 2: Content languages for websites as of 12 March 2014



Source: Usage of content languages for websites. W3Techs.com.[49]

Most exchanges on the Internet are carried out in English although there are four times more Chinese native speakers than English native speakers. Some of the most widely-spoken languages, such as Chinese, Spanish, Hindi and Arabic, are almost non-existent on the web, except for domestic use, and play a very limited role in global connectivity.[50]

International fame depends more on the language used than on the size and wealth of the country of origin

According to the *MIT Technology Review*, a language's centrality, defined as both the number and the strength of its connections, is a better predictor of the global fame of its speakers than either the population or the wealth of the countries in which it is spoken.[51] For example, scholars have found that the structure of these three global language networks (derived from Wikipedia, Twitter and book translations) is centred on English as a global hub and around a handful of intermediate hub languages, which include Spanish, German, French, Russian, Portuguese and Chinese.[52] Their findings suggest that English is by far the most globally influential language, and since it is the hub of many connections, it is easier for English speakers than speakers of other languages to become globally famous. It could be seen as a positive development since it gives a chance for anyone to become famous, irrespective of origin. But proponents of cultural diversity[53] will regret that one can be globally heard, only if he/she expresses himself/herself in English.

49 "Usage of content languages for websites." *W3Techs.com*. http://w3techs.com/technologies/overview/content_language/all.
50 Ibid.
51 Larry Hardesty. "The Power of Language." *MIT Technology Review*, 18 February 2015. http://www.technologyreview.com/article/534881/watch-your-language/.
52 Shahar Ronen, Bruno Gonçalves, Kevin Z. Hu, Alessandro Vespignani, Steven Pinker and César A. Hidalgo. "Links That Speak: The Global Language Network and Its Association with Global Fame." *Proceedings of the National Academy of Sciences of the United States of America* 111, no. 52 (December 30, 2014): E5616. doi:10.1073/pnas.1410931111.
53 See paper by Nina Obuljen Koržinek, *"How to Promote the Diversity of Cultural Expressions?"*, in this publication.

9. Towards a *Sustainable Connectivity Index*?

Is connectivity good or bad? And to what extent do indices contribute to the debate? Firstly, connectivity is promoted by most index publishers as an engine of economic growth; they see growth as the main benefit of connectivity. Thus, the better a country's ranking, the better its ability to capture some of that growth. For example, the McKinsey index states that flows add between USD 250 billion and USD 450 billion to global growth annually, and that countries with a larger number of connections in the global network of flows increase their GDP growth by up to 40% more than less connected countries do.[54] The Economist's *ICT Globalisation Index* has calculated a link between the extent of ICT sector globalisation and GDP per capita at a correlation of 0.78, suggesting that richer countries have more globalised ICT sectors, or that open ICT policies contribute to higher GDP. It concludes that "every country has untapped possibilities to benefit from more connectedness, and potential gains can reach trillions of dollars."[55]

But what if the gains of some countries were made at the expense of others? Or, at the expense of other factors not measured by indices? What if higher connectivity did not contribute to the improvement of the sustainability of the world?

According to the authors of the Maastricht index: "Connectedness can be good in the sense that it makes a system more resilient, if the other systems to which it is connected are also more resilient. However, if the overall system, which could be said to be global capitalism, has certain undesirable properties, then this translates also to less desirable properties in the sub-system."[56] Connectivity allows the transfer of the pressures and impacts of production and consumption to distant socio-economic and ecological systems. Although countries may achieve good results in terms of connectivity as shown in the indices, they might do so to the disadvantage of other countries if they externalise their social and environmental costs.

But how does one account for the negative externalities of connectivity, such as labour exploitation, pollution or the negative impacts of monetary and financial policies? Such externalisation can even be domestic, in the case of countries treating their foreign workers differently from local workers. When the connectivity of one country contributes to the destruction of public goods, does it deserve to do well in the rankings? To take an example, a country can do very well in the rankings because of its level of trade/GDP; but if that same country makes the rest of the world pay for its good performance through high CO_2 emissions or exploitation of cheap foreign labour, what is the global benefit? If a tax haven does well in connectivity because it is a large financial centre, it is at the same time depriving other countries of fiscal resources. How does one measure that global impact?

54 "Global flows in a digital age: How trade, finance, people, and data connect the world economy." *McKinsey & Company*. http://www.mckinsey.com/insights/globalization/global_flows_in_a_digital_age.

55 "The ICT Globalisation Index." *The Economist*. http://going-global.economist.com/en/2014/06/10/ict%E5%85%A8%E7%90%83%E5%8C%96%E6%8C%87%E6%95%B0-2/.

56 Lukas Figge and Pim Martens. "Globalisation Continues: The Maastricht Globalisation Index Revisited and Updated." *Globalizations* 11, no. 6 (2 November 2014): 875–93. doi:10.1080/14747731.2014.887389.

In the view of the authors of this paper, an ideal connectivity index should include more dimensions of the effects of connectivity – both positive and negative. On the negative side, it would include minus points for countries whose connectivity is, to some extent, based on elements such as: trading in weapons; trading and investments in fossil fuels; emissions of GHG (domestic or international); ocean pollution or any pollutants that impact the rest of the world; opaque financial regimes; high levels of inequality; unfair treatment of migrants; restriction to access to foreign media or foreign culture; or countries more likely to be the source of epidemics, or those in a position to trigger global financial or monetary crises.

It would be an index measuring sustainable connectivity, rather than connectivity itself. Perhaps an ASEM index of sustainable connectivity should be developed. The authors of this paper would be happy to contribute to such an endeavour (see Annex II for a more detailed presentation on the Sustainable Connectivity Index).

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Annex I: Evaluation of indices – Methodological observations

Table 3: Metrics or components used by indices to assess levels of connectivity and/or globalisation

Categories	Sub-components
Political	- Number of embassies - Membership in international organisations - Major think-tanks - International organisations in the city or organisations with international reach - Number of political conferences or international conferences - Participation in UN Security Council Missions - International Treaties - Military (trade in arms) - Violence level
Economy: Trade (Goods and services), Finance, Business	- Movements of goods, capital and services, trade as a share of GDP, share of main trading partners, trade in R&D intensive goods, trade in capital intensive goods, trade in labour intensive goods, trade in natural resources and commodities, trade in knowledge intensive services, labour intensive services - Trade openness, tariffs and non-tariff barriers, ease of trading cross-borders, hidden import barriers, mean tariff rate - Current account restrictions - FDI stocks, FDI flows, portfolio equity stocks, portfolio equity flows - Debt/loans - Headquarters of major global corporations, location of top business service firms - Value of city's capital market - Flow of goods through ports and airports, flight capacity - Income payment to foreign nationals, transfers (as % of GDP), current transfers - Government policy towards foreign investment, investment protection scheme, domestic favouritism, expropriation risk, openness to foreign Investment in the ICT sector - State control ownership
Social, People, Human Capital	- Foreign born population, net migration rate - Tourists - Hiring of foreign nationals - International students - Quality of universities - Number of international schools - Number of residents with university degree - Number of McDonald's - Number of IKEA stores

Culture, Media, Information	- Number of major sporting events - Number of museums - Performing arts venues - Diverse culinary establishments - Number of sister cities - Openness to foreign culture - Trade in printed publications - Accessibility to major TV news channels - Number of international news bureau - Freedom of expression - Trade in creative goods and services
Environment	- Ecological footprint
Technology Information	- Foreign investment and ownership in the ICT sector - Internet users, international Internet bandwidth or users - Telephone calls - Internet presence of the city - Television per 1,000 people - R&D globalisation - Strength of ICT environment - Telecommunications revenue - International letters - Trade in ICT, ICT sector imports and exports as a % of overall trade, openness to ICT trade, foreign investment and ownership in the ICT sector, strength of ICT environment, ICT spending, Internet of Things (IoT) spending - Telco investment - Cloud service provider - App downloads - Datacentres servers - Affordability of fixed and mobile broadband - Download speed - IT workforce

Table 4: Methodology and analysis of different indices[57]

	Indicators and Methodology	Analysis
EY Globalisation Index	- 43% trade and finance - In total, 30% is based on purely qualitative and subjective appreciation made by analysts working for the Economist Intelligence Unit (EIU).	- Exchange of technology and exchange of ideas are in the same headline and as a matter of fact there is no indicator for exchange of ideas. - Cultural integration is 66% based on criteria that have nothing to do with culture and 33% based on a purely subjective assessment by EIU staff. - For reasons not easy to understand, the size of international fixed telephone traffic is an indication of cultural integration, but the number of Internet subscribers and broadband subscription is an indication of the intensity of the exchange of ideas. - Movement of labour cannot be only based on net migration rate and current transfers; the way migrants are treated in the receiving country should be also taken into account. - Compliance with international rules should be an indicator of globalisation/connectivity. - No political dimension - Not a very interesting index; discontinued after 2012

57 The methodology of the Connectivity Scorecard, which is not publicly available, is not discussed in this chapter.

Maastricht Globalisation Index (MGI)	The MGI combines economic, socio-cultural and ecological dimensions, split in five domains: **Political Domain:** absolute number of in-country embassies; membership of international organisations, organised violence (measures the involvement of a country's military–industrial complex with the rest of the world). **Economic Domain:** trade as a share of GDP, gross Foreign Direct Investment (FDI) stocks as a share of GDP (net private capital flows (as a percentage of GDP). **Social and Cultural Domain:** The international migrant stock is used as an indicator for the outcomes of cross-border migration of the last generation, as well as tourism, defined as the sum of international inbound and outbound tourists per capita. **Technological Domain:** the share of a country's population that uses the internet; mobile cellular descriptions per 100 people. **Environmental Domain:** the ecological footprint of trade (exports and imports) as a share of national biocapacity; inclusion of biocapacity (*Global Footprint Network, 2014*) to measure the environmental dimensions of trade.	**Integrated, pluralistic approach** - This well-designed, convincing index comes with two unique features: 1) the logarithmic transformation of indicators, to neutralise the impact of sets of indicators that have strongly skewed distribution; and 2) the incorporation of the ecological footprint of imports and exports as a share of biocapacity to assess environmental impact. - The MGI represents a real effort to improve on existing indices, which focus on the economic dimension of globalisation. - It is also interesting to note that this Netherlands-based index ranks Belgium and the Netherlands in the top three.

DHL Global Connectedness Index	**Economy/Business** weighted 70% (35% for trade, 35% for FDI and portfolio equity stocks and flows). **Information** weighted 15% (based on International Internet bandwidth, telephone calls, trade in printed publications). **People** weighted 15% (based on foreign born population, tourism and international students).	- Unlike other indices, it measures the depth and breadth of connectivity. - Captures more data because it considers the origins and destinations of international movements and tracks inwards and outwards flows separately (1 million data points over nine years). - Hard data only, no enablers - Transparency of methodology and source - Liberal economic indicators, e.g. "labour freedom" is presented as a measure of connectedness without taking into account labour standards and protections.
The Economist ICT Globalisation Index	**Openness to ICT Trade**: number of trade barriers and amount of ICT-sector imports and exports as a percentage of overall trade. **Openness to Foreign Investment in the ICT Sector**: overall policy environment for foreign investment, number of cross-border mergers and acquisitions, foreign ownership of ICT companies, restrictions on foreign ownership. **R&D Globalisation:** R&D spending, appeal as an R&D location, quality and availability of technology skills and patent filings. **Strength of the ICT Environment**: Internet, mobile and broadband penetration, ICT usage and spending.	- This index is more limited in scope; it focuses only on Information and Communication Technology (ICT). Most criteria are largely subjective (e.g. number of trade barriers), based on evaluations made by the authors of the index. - It tends to favour large exporters of ICT equipment (China, Viet Nam, and India), which may not be very open and connected countries. - Its methodology lacks transparency, and is extremely liberal economy oriented, with a surprisingly good performance by the UK (it is a UK-based index).

Huawei Global Connectivity Index	38 variables divided across 4 cornerstones of connectivity (supply, demand, experience, potential) and five enablers (cloud, Internet of Things (IoT), big data, broadband, datacentres) **Supply:** Bandwidth, telecom investment, cloud service provider, IoT spending, ICT market, 3G coverage, fibre optic, analytics spending, quality of service, datacentre spending **Demand:** Fixed broadband, mobile broadband, mobile devices, app downloads, e-commerce, cloud migration, data for analytics, IoT installed base, server installed base **Experience:** Fixed broadband affordability, mobile broadband affordability, broadband download speed, latency, customer service, social participation, e-government, IoT analytics, data centre infrastructure management (DCIM) **Potential:** ICT patents, IT workforce, R&D expenditures, software developers, market potential	- 50 countries only - Many qualitative components or enablers are based on surveys or perceptions, or even based on market potential. - Limited information on methodology and sources - More an index of domestic connectivity than global connectivity

ETH Zürich KOF Index of Globalisation	Made up of three dimensions: economic, social and political **A. Economic Globalisation [36%]** i) Actual flows (50%) ▪ Trade (percent of GDP) (22%) ▪ Foreign direct investment, stocks (percent of GDP) (27%) ▪ Portfolio investment (percent of GDP) (24%) ▪ Income payments to foreign nationals (percent of GDP) (27%) ii) Restrictions (50%) ▪ Hidden import barriers (24%) ▪ Mean tariff rate (28%) ▪ Taxes on international trade (percent of current revenue) (26%) ▪ Capital account restrictions (23%) **B. Social Globalisation [38%]** i) Data on personal contact (33%) ▪ Telephone traffic (25%) ▪ Transfers (percent of GDP) (3%) ▪ International tourism (26%) ▪ Foreign population (percent of total population) (21%) ▪ International letters (per capita) (25%) ii) Data on information flows (35%) ▪ Internet users (per 1,000 people) (36%) ▪ Television (per 1,000 people) (38%) ▪ Trade in newspapers (percent of GDP) (26%) iii) Data on cultural proximity (32%) ▪ Number of McDonald's restaurants (per capita) (44%) ▪ Number of IKEA stores (per capita) (44%) ▪ Trade in books (percent of GDP) (11%) **C. Political Globalisation [26%]** ▪ Embassies in-country (25%) ▪ Membership of international organisations (27%) ▪ Participation in UN Security Council missions (22%) ▪ International treaties (26%)	A subjective part: Hidden tariff rate, capital account restriction. A questionable part: number of McDonald's and IKEA stores as a sign of cultural proximity. Questionable relevance of some criteria: international letters per capita are very dated; also trade in newspapers is slightly dated, trade in books is also becoming dated. Criteria for political globalisation very narrow. Not very convincing. Ranks Ireland as the most connected country mostly because of its openness to FDI, low taxes for foreign investors (we could take into account the negative externalities generated by Ireland being a tax haven).

McKinsey Global Institute Global Flows	22 main components divided into 5 headlines: Goods, Services, Financial, People, Data and Communication	- Covers all countries over the past decade - Inflows and outflows for each country and, wherever possible, for each country individually - Connectedness of each country assessed on two dimensions: flow intensity and flow share - Only hard data - Sources indicated for each data and methodology available
A.T. Kearney Global Cities Index	Ranks metropolitan areas according to 25 metrics across five dimensions: **Business activity** (30%): headquarters of global major corporations, locations of top business services firms, value of a city capital market, number of international conferences and flow of goods through ports and airports **Human capital** (30%): size of foreign born population, quality of universities, number of international schools, international students' population, number of residents with university degrees **Information exchange** (15%): accessibility to major television news channels, Internet presence measured by the robustness of results when searching for the city name in major languages, number of international news bureau, freedom of expression, and broadband subscriber rate **Cultural experience** (15%): number of major sporting events, number of museums, performing arts venues, diverse culinary establishments, number of international travellers, number of sister city relationship **Political engagement** (10%): number of embassies and consulates, major think tanks, international organisations and local institutions with local reach that reside in the city, number of political conferences	- A convincing index precisely because it focuses on cities, not on countries. The size and population effect thus plays a smaller role. - Broad variety of criteria, but many are extremely subjective, or based on other rankings that might also be questionable, or lack transparency. - The index notes that "a panel of academic experts and corporate executives informed and tested the global rankings" but provides no details on who they are. - It is business and elite education oriented. - Interesting to note that this US-based organisation ranks New York as the most connected city.

Annex II: Sustainable Connectivity Index

Concept

The proposed *Sustainable Connectivity Index* questions the assumption underpinning all indices analysed in this chapter: that the more connected a country is, the better off that country. However, this ignores the fact that connectivity often comes with trade-offs. What if the connectivity of one country is achieved at the expense of other countries, or at the expense of the rest of the world?

A country can do very well in the connectivity indices, while at the same time contribute to the deterioration of the world's well-being; in other words, it can make others pay for the negative externalities of its high connectivity.

For example, a country may have a high ratio of international trade/GDP (which will cause it to be ranked highly), but if it exports mostly weapons and fossil fuels, what is the benefit for the rest of the world? That should count as negative contribution to connectivity, not a positive one.

Similarly, a country can do very well connectivity-wise because it is a large financial centre, but if it is a tax haven, or a safe haven for money launderers, then again the impact on connectivity should be negative, not positive. Moreover, the size of the foreign population is taken into accounts in all connectivity indices: the more foreigners you welcome, the more connected you are. But what if the foreign population is heavily discriminated against, or has limited access to the local system of social protection and fewer rights than locals? Should the exploitation of cheap labour count as better connectivity?

A sustainable connectivity index would be different from the usual connectivity/globalisation index in four ways:

- It would assess connectivity performance through the three dimensions of sustainability: economic, social (in the broader sense) and environmental, giving the same weight to each dimension.
- It would be made of positive and negative elements. In other words, positive points would be given for connectivity which has a beneficial or neutral impact on other countries and negative points for connectivity which has a detrimental impact on others.
- It would take into account metrics that are not taken into account in the existing indices e.g. environmental performance, volume of official development assistance, number of asylum seekers admitted, the sustainability disclosure of stock markets.
- Countries are not necessarily the most pertinent unit of analysis as cities make as much sense as countries; the new index will incorporate the ranking of cities into the ranking of countries.

Methodology

The sustainable connectivity index could be made of a mix of the following components, under economic, social and environmental categories:

- Economic
- ICT
- Political
- Socio-demographics, circulation of people
- Media
- Cultural/educational
- Environmental

The chart below is for illustrative purposes only; it aims at providing an overview of how an *Index of Sustainable Connectivity* could be developed.

Table 5: Sustainable Connectivity Index

Category	Component	Measures
Economic (1/3)	Movements of goods and services (40%)	- International trade and services (depth) - International trade and services (breadth) - Openness to imports from developing countries - Export of fossil fuels - Export of military equipment - Flow of goods through ports and airports - Flight capacity - Shipping capacity - Road, railways for international transport - Overall logistics performance - Headquarters of major global corporations and top business service firms - Compliance with international sanitary standards - Branding and international recognition
	Finance (30%)	- Movements of capital - Size of capital markets - Portfolio equity stocks, portfolio equity flows - FDI stocks, FDI flows (inflows and outflows) - Remittances (inflows and outflows) - Transparency and compliance with ethical rules of financial markets and banking sector - International use of currency - Propensity to be a source of systemic financial risks
	Tourism (10%)	- Tourists (inflows and outflows) - Attractiveness as a tourist destination (including dollars spent) - Contribution to sustainability of international tourism

Economic (1/3)	ICT (20%)	- Trade in ICT - ICT investment - Internet users, international internet bandwidth - Cloud service providers - App downloads - Datacentre servers - Affordability of fixed and mobile broadband - Download speed - IT workforce - Cybersecurity/source of cross-border cybercrime
Social (1/3)	Political (25%)	- Number of embassies (hosted and abroad) - Membership of international organisations - International organisations in the country or organisations with international reach - Participation in UN Security Council - Participation in UN Security Council missions - International conferences hosted - Contribution to official development assistance - Contribution to funding of international organisations
	People (25%)	- Foreign born population and natives born with at least one foreign parent - Compliance with ILO and other international standards on employment of migrants - Compliance with International Health Regulations (2005) - Inequality level (income and wealth) - Size of diaspora - Number of asylum seekers hosted - Number of refugees generated - Number of passport holders - Number of countries accessible without visa - Global connectivity index of cities
	Culture, education, research (25%)	- International students (inflows and outflows) - R&D globalisation - Number of international schools - Centrality of language - Openness to foreign culture (imported movies, books translated, access to religions, etc.) - Major think tanks hosted - International audience of scientific and cultural publications - Exports of creative goods and services - Number and attractiveness of major museums and performing art venues - Attractiveness of sports scene and number of major sporting events hosted

Social (1/3)	Media (25%)	- Access to foreign media (TV channels, newspapers, etc.) - Number of international news bureaus hosted - International audience of home news agencies, TV channels, newspapers and magazines
Environment (1/3)		- Ecological footprint of exports - Cross-border pollutions: o GHG emissions, domestic and international (after land use, land use change and forestry (LULUCF)), historical and yearly basis o Contribution to ocean, water stream pollution o Contribution to loss of biodiversity o Exports of hazardous waste



SECTION 2

DIGITAL CONNECTIVITY

2.1. From Harmonising Cyberpolicies to Promoting Twiplomacy: How Diplomacy Can Strengthen Asia-Europe's Digital Connectivity

Jovan KURBALIJA[1]

Abstract

Together Asia and Europe accommodate more than two billion Internet users, which accounts for about two-thirds of the global user base, and this number is still growing. With the ever-expanding number of users, the Internet drives global social and economic developments; social media is central to the lives of many Asians and Europeans and e-commerce is facilitating international and inter-regional economic linkages. At the same time, with the heightened dependence on the Internet, the risks of cyber threats have exponentially grown. How can Asian and European diplomats capture the benefits of the Internet-facilitated connections, while cooperating to ensure cybersecurity?

This chapter provides an analysis of the digital connectivity between Asia and Europe, seen from a diplomatic perspective. After the introductory remarks, the first section addresses digital geoeconomics and geopolitics and provides an analysis of the impact of the Internet on the fast-changing political, social, and economic environment for diplomatic activities.

The second section outlines the ways in which Asia and Europe deal with digital policy issues as an important pre-condition for more intensive digital connectivity. In particular, the analysis focuses on how the two regions address the main digital policy challenges, including the regulation of the Internet infrastructure, privacy and data governance, cybersecurity, and content policy.

1 The research was conducted with the help of Ms Barbara Rosen Jacobson, Research Assistant at DiploFoundation. Data-analysis was provided by Dr Goran Milovanovic, Data Scientist at DiploFoundation.

The last section deals with the use of the Internet for public diplomacy, both in Asia and in Europe, as well as between the two continents.[2] Ultimately, diplomacy in Asia and Europe can, and should, play an important role in strengthening the digital connectivity between these two continents. This can be done by capturing the opportunities of the Internet as a force for economic growth and cooperation, by harmonising policy and regulatory frameworks, and by using social media effectively to promote understanding and trust between, and within, the regions.

1. Introduction: The intertwined history of diplomacy and technology

Innovations in information and communication technology (ICT) – including the telegraph, radio, and telephone – have always affected diplomacy. Each invention created a dynamic interplay between continuity of the main functions of diplomacy, i.e. negotiations, the peaceful settlement of disputes, and change in the way in which diplomatic functions are performed, namely through the use of new tools.

The most relevant historical period in which the interplay between communication technology and diplomacy can be identified falls between the Vienna Congress (1815) and the First World War (1914). During this period, structural developments took place in both communication and diplomacy. The telegraph, telephone and radio became part of everyday life, gradually integrating into global telecommunication networks. At the same time, diplomacy transformed from ad hoc meetings into an organised system consisting of diplomatic services, international organisations, and regular international gatherings. The Internet is the latest phase in this historical interplay[3], which was described by one diplomat in the following way: "Diplomacy has always been Darwinian; we must evolve or die."[4]

The impact of the Internet on modern society is immense. It accounts for over 20% of GDP growth in the world's largest economies.[5] With more than three billion users worldwide, every third person on this planet is connected to the Internet. It is also the stage for criminal activities with 1.5 million victims of cybercrime every day.[6] The digitalisation process has influenced the access to information and knowledge; Facebook and other social media networks have brought a new phase in the communication revolution. For example, with the big book scanning projects[7], most English language books will soon be available online. The Internet has become vital to the functioning of our society. Integral to all aspects of our daily lives, it has become the backbone of the global economy.

2 This article is based on a conceptual approach, focusing on the impact of the Internet on a) the geo-political and geo-economic environment of diplomatic activities, b) the emergence of new Internet-driven topics on diplomatic agendas, and c) the use of new digital tools by diplomats. For a comprehensive survey of this methodology you can consult: Jovan Kurbalija, 'The Impact of the Internet and ICT on Contemporary Diplomacy' in Pauline Kerr and Geoffrey Wiseman (eds) *Diplomacy in Globalizing World Theories and Practices* (Oxford University Press 2012).

3 For more information consult *Evolution of technology and diplomacy*, a series of webinars on interplay between communication technology and diplomacy conducted in 2013 by Dr Jovan Kurbalija. http://www.diplomacy.edu/2013/evolution.

4 Tom Fletcher, "Our man in Beirut strips down to 140 characters," *The World Today* 68, no. 6 (December 2012). https://www.chathamhouse.org/publications/twt/archive/view/187839#.

5 Pascal-Emmanuel Gobry, "The Internet is 20% of economic growth," *Business Insider*, 24 May 2011. http://www.businessinsider.com/mckinsey-report-internet-economy-2011-5?IR=T.

6 Willie Jones, "This Week in Cybercrime: Cybercrime's Industrial Revolution," *IEEE Spectrum*, 30 June 2013. http://spectrum.ieee.org/riskfactor/telecom/security/this-week-in-cybercrime-cybercrimes-industrial-revolution.

7 Google Books, "Google Books Library Project – An enhanced card catalog of the world's books". http://www.google.nl/googlebooks/library/.

In the long history of diplomacy, we can identify two key pillars of diplomacy: information and communication.[8] The core relevance of communication and information to diplomacy, and developments affecting both of them in the Internet era, set the stage for this study on the influence of the Internet on diplomacy in the context of digital connectivity between Asia and Europe.

Research on the impact of the Internet on diplomacy (as on overall society) is in its formative stage. Its terminology is gradually being developed. The impact of the Internet on diplomacy is very often described as e-, virtual, cyber and digital diplomacy.

Yet while these prefixes describe the same phenomenon – the Internet – we tend to use e- for commerce, cyber for crime and war, digital for development divides and virtual for Internet spaces. Usage patterns are starting to emerge. In everyday language, the choice of prefixes e-/virtual/cyber/digital might be casual, but in Internet politics, the use of prefixes has begun to have more meaning and relevance.

The etymology of the word cyber goes back to the Ancient Greek, meaning of governing (*kubernete*). The cover of Norbert Weiner's book *Cybernetics*, which deals with information-driven governance, introduced the word to our time.[9] In 1984, William Gibson introduced the word cyberspace in his science-fiction novel *Neuromancer*.[10] The use of the prefix cyber grew parallel to the Internet. In the late 1990s, almost anything related to the Internet was cyber: cybercommunity, cyberlaw, cybersex, cybercrime, cyberculture, etc. In the early 2000s, cyber gradually disappeared from general use, yet it remained alive in security terminology. This is most likely because of the 2001 *Council of Europe Convention on Cybercrime*, which is still the only international treaty in the field of Internet security.[11] Today, the US has its *Cyberspace Strategy*; the International Telecommunication Union (ITU) has its *Global Cybersecurity Agenda*[12] and the North Atlantic Treaty Organization (NATO) has its *Cyber defence policy*[13], as well as a *Cyber Defence Centre of Excellence* in Estonia.[14]

8 "Communication is to diplomacy as blood is to the human body. Whenever communication ceases, the body of international politics, the process of diplomacy, is dead, and the result is violent conflict or atrophy." Tran van Dinh, *Communication and Diplomacy in a Changing World* (Norwood, NJ: Ablex, 1987).

9 Norbert Wiener (1965) *Cybernetics or Control and Communication in the Animal and the Machine* (Cambridge, MA: MIT Press).

10 William Gibson (1984) *Neuromancer* (New York, NY: Ace Books).

11 Council of Europe (2001) *Convention on Cybercrime*. http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=185&CM=8&DF=01/11/2011&CL=ENG.

12 International Telecommunications Union (no date), "Global Cybersecurity Agenda," http://www.itu.int/osg/csd/cybersecurity/gca/.

13 North Atlantic Treaty Organization (no date), "NATO and cyber defence." http://www.nato.int/cps/en/SID-12A1F016-A72FF943/natolive/topics_78170.htm.

14 CCDCOE (no date), *NATO Cooperative Cyber Defence Centre of Excellence*. http://www.ccdcoe.org/.

The prefix 'e-' is an abbreviation of electronic. Its first and most important use is through e-commerce, as a description of the early commercialisation of the Internet. In the EU's Lisbon Agenda (2000)[15], e- was the most frequently used prefix. It was also the main prefix in the declarations of the World Summit on the Information Society (WSIS) (Geneva 2003 and Tunis 2005). The implementation of the WSIS declaration is centred on action lines that include e-government, e-business, e-learning, e-health, e-employment, e-agriculture, and e-science. The prefix is not as present as it used to be and even the EU has abandoned e- recently, perhaps trying to distance itself from the failed Lisbon Agenda.

Digital refers to 1 and 0 – the two digits that form the basis of ICT and Internet developments. Ultimately, these two digits are the starting point of all software and programmes. In the past, digital was mainly used in development circles to describe the digital divide. In the last few years, however, digital has started to conquer the Internet's linguistic space. The EU has a Digital Agenda for Europe[16], the United Kingdom and the USA use the term digital diplomacy[17], although the USA maintains the prefix cyber in its *International Strategy for Cyberspace*.[18]

15 European Commission, "Lisbon Strategy – towards a green and innovative economy," 8 March 2010. http://ec.europa.eu/archives/growthandjobs_2009/.

16 European Commission (no date), Digital agenda for Europe. http://ec.europa.eu/digital-agenda/.

17 Foreign & Commonwealth Office (no date), *Foreign Commonwealth Office Digital Diplomacy*. http://blogs.fco.gov.uk/digitaldiplomacy/.

18 Howard A. Schmidt (2011) *Launching the US International Strategy for Cyberspace*. http://www.whitehouse.gov/blog/2011/05/16/launching-us-international-strategy-cyberspace?utm_source=related.

Methodology

In order to examine the digital linkages within, and between, Asia and Europe, this paper looks into the impact of the Internet on geopolitics and geoeconomics, the degree of harmonisation of digital policies in European and Asian countries and the opportunities for diplomats, provided by the Internet, to connect to the public in Asia and Europe.

The analyses provided in the paper are partly based on a review of literary sources, reports and statistics, as well as by DiploFoundation's own data analysis on digital policy and on the role of the Internet in public diplomacy. The relevance of different issues in digital policy (e.g. e-commerce, encryption and cybersecurity) for separate countries has been measured by using the *Internet Governance (IG) Media Text Corpus*, which compiles more than 50,000 online news reports from 2015. Using a quantitative analysis, we were able to compute the importance of IG issues for European and Asian countries by aggregating the number of times the countries and issues were mentioned together in the same source. More information about the *IG Media Text Corpus* and the analysis can be found in Annex I.

Furthermore, to better understand the connection between the Internet and public diplomacy in Asia and Europe, we measured the degree to which European and Asian ministries of foreign affairs (MFAs) had a social media and web presence. Examining whether these MFAs operate web pages and accounts on Facebook, Twitter, Flickr and YouTube, we established not only which MFAs are particularly active, but also which social media tools are popular among Asians or Europeans. Furthermore, the analysis elucidated the languages that are used on MFA's online platforms. A more comprehensive summary of results can be found in Annex II.

2. Digital geopolitics and geoeconomics in Asia and Europe

Diplomacy does not exist in a vacuum. It is influenced by its particular social, political and economic context, both internationally and domestically. For example, a few decades ago, the promotion of the interests of the US automobile industry abroad was a high priority of US diplomacy. Nowadays, Internet industries are receiving increasingly more attention from US diplomats, in both bilateral and multilateral negotiations. Such examples of the Internet's impact on diplomacy can be cited for most states and sectors of society.

Historically speaking, each epoch has its defining technology that determines economic, social, and political successes. In the past, possession of land, access to raw materials and possession of industrial technology were the defining technologies. The Internet, as the defining technology of today, influences both traditional geopolitics, centred on the question of national security, and, increasingly, geoeconomics, defined as the promotion of national interests through economic means. As Grosse argues: "geoeconomics is becoming increasingly more important for state policies in the age of globalisation and the changing international order."[19]

19 Thomas G. Grosse, "Geoeconomic Relations between the EU and China: The Lessons from the EU Weapon Embargo and From Galileo," *Geopolitics* 19, no. 1 (2014): 40-65.

2.1. The Internet's effects on interaction capacity and interdependence

The core of the discussion on connectivity, including digital connectivity, relates to interaction capacity and interdependence.[20] Barry Buzan and Richard Little[21] highlight the following three factors that influence interaction capacity:

- Geographical factors – topography of terrain, which facilitates or prevents physical movements;
- Physical technologies – availability of transportation and communication technologies;
- Social technologies – shared ideas, common languages, systems of shared rules and institutions.

The Internet has considerably influenced two of the three factors mentioned above: physical technologies, as the Internet facilitates the exchange of information, and social technologies, as the Internet has developed a common communication space with shared rules and procedures. Today, e-mail, social media and other services have empowered individuals to easily communicate with people from other countries and continents. This heightened intensity of communication has generated more contact and greater interdependence.

The level of interdependence directly determines the position and function of diplomacy. It is generally perceived that more interdependence leads to a more frequent use of diplomacy as a tool for managing international relations and solving potential conflict. This high economic and social interdependence puts limitations on the use of military power, and therefore generates a greater need for peaceful ways to settle disputes, a need that is filled by diplomacy. For Asia and Europe, digital interdependence could contribute towards a more frequent use of diplomacy in settling disputes both within two regions, and between countries from the two regions.

In addition, growing digital interdependence has blurred the traditional division between national and international communication spaces. As was indicated in Keohane and Nye's analysis, growing interdependence is leading to an increasing number of traditionally domestic issues that will become relevant to foreign policy.[22] This aspect should influence both Asian and European diplomacy and the design of future ASEF projects.

20 For a more detailed explanation on the importance of interaction capacity for the functioning of the world system, consult Bull (1997, p. 11); Reynolds (1994, p. 195); and Waltz (1979, p. 95).

21 Barry Buzan and Richard Little (2000) *International Systems in World History: Remaking the Study of International Relations* (Oxford: Oxford University Press), pp. 82-83.

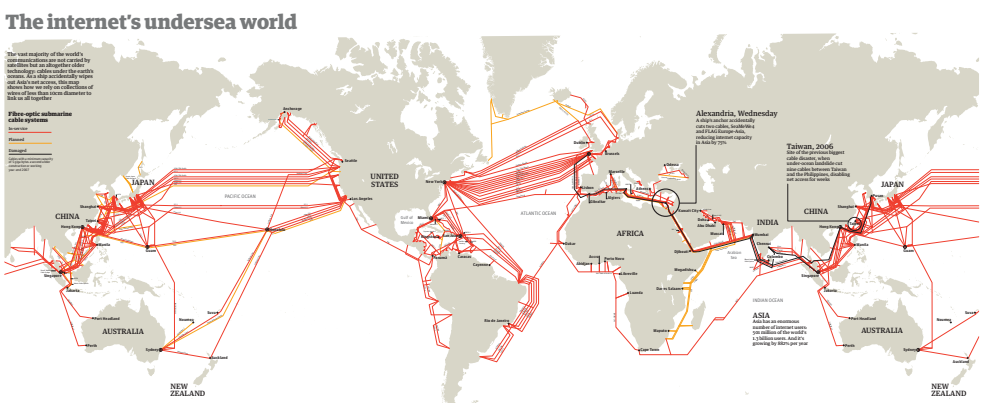
22 Robert O. Keohane and Joseph S. Nye (1972) *Transnational Relations and World Politics* (Cambridge, MA: Harvard University Press).

2.2. The continued relevance of geography in the Internet era

Geography is essential for diplomacy. Diplomats aim to contribute to the growth, well-being and protection of their national territories. The introduction of the Internet generated the idea of the end of geography[23], and consequently, the end of diplomacy, a profession that heavily depends on territorial boundaries. The end of geography view was inspired by our online experience as Internet users in accessing distant Internet resources, or communicating easily over long geographical distances. But, in many respects, this assumption of the end of geography has been misleading in evaluating the overall impact of the Internet on geography. As a matter of fact, the Internet has strengthened the relevance of geography in many respects. Through geo-location, we are more anchored in geography than ever before. For example, our mobile phones trace our physical movements. Geography matters in the way Internet data flow via cables, where data are stored, and how Internet data are used for commercial purposes.

2.2.1. Internet cable geography

Figure 1: Map of the world's major Internet submarine cables



Source: Thumbnail from the Guardian, 2009

More than 90% of all global Internet traffic flows through submarine cables, which physically largely follow the old geographical routes used by telegraph cables since the 19th century (see Figure 1). Submarine Internet cables reach land in a few Internet traffic hubs. Most Latin American cables reach land in Miami. In Asia, the key Internet traffic hubs are Singapore and Hong Kong SAR. Other key points for Internet traffic include Amsterdam, New York and San Francisco. The most vulnerable points for the Internet cables and traffic continue to be traditionally strategic hotspots, including the Straits of Luzon, Hormuz and Malacca, as well as the Suez Canal.

23 For end of geography arguments, please consult *The Death of Distance: How the Communications Revolution Is Changing Our Lives*, by Frances Cairncross (Harvard Business School Press, 1997). Opposite arguments are provided in the book: *The Revenge of Geography: What the Map Tells Us About Coming Conflicts and the Battle Against Fate,* by Robert D. Kaplan (New York, NY: Random House, 2013).

In digital connectivity between Asia and Europe, geography matters as well. For example, 95% of the Internet traffic between Asia and Europe passes via Egypt, similar to maritime transports that use the Suez Canal as a shortcut.

Table 1: Survey of the data capacity of submarine Internet cables globally (in Terabytes per Second (TBps))

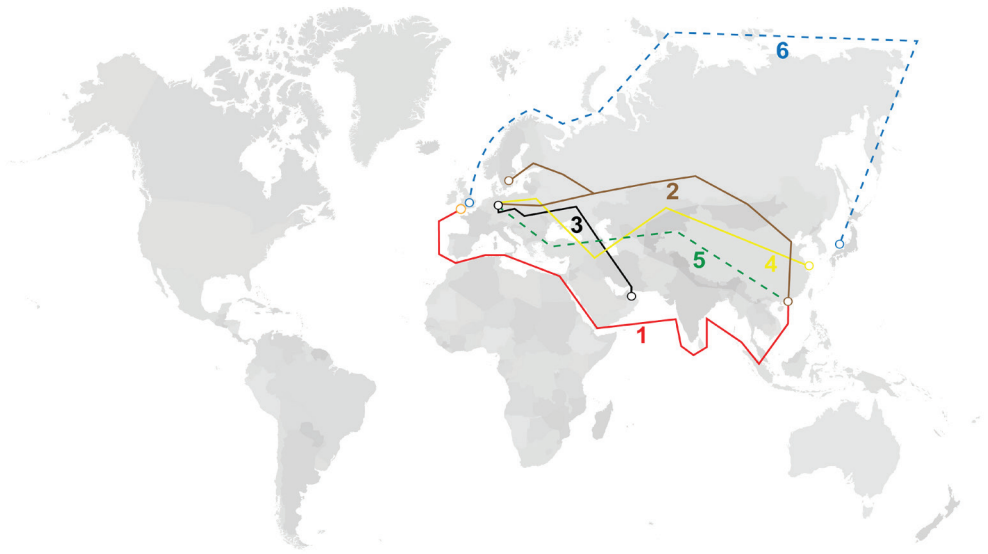
Region	Capacity (in TBps)
Transatlantic	23
Transpacific	20
Pan-East Asian	17
South Asia & the Middle East	12
North & South America	9
Australia & New Zealand	5
Sub-Saharan	2
Total	**87**

Source: Terabit Consulting, 2014

In 2013, Europe managed approximately 28% of the international Internet bandwidth in Asia, while 40% of the traffic went to the USA, and the rest of the Asian traffic was mainly intra-Asian bandwidth between countries. The European share in Asian Internet traffic has risen from 21% in 2009 to 28% in 2013. This trend is likely to continue if risks are addressed and growth opportunities are realised.

2.2.2.Submarine vs. terrestrial Internet cables

Figure 2: Map of existing and planned Internet cable routes connecting Asia and Europe

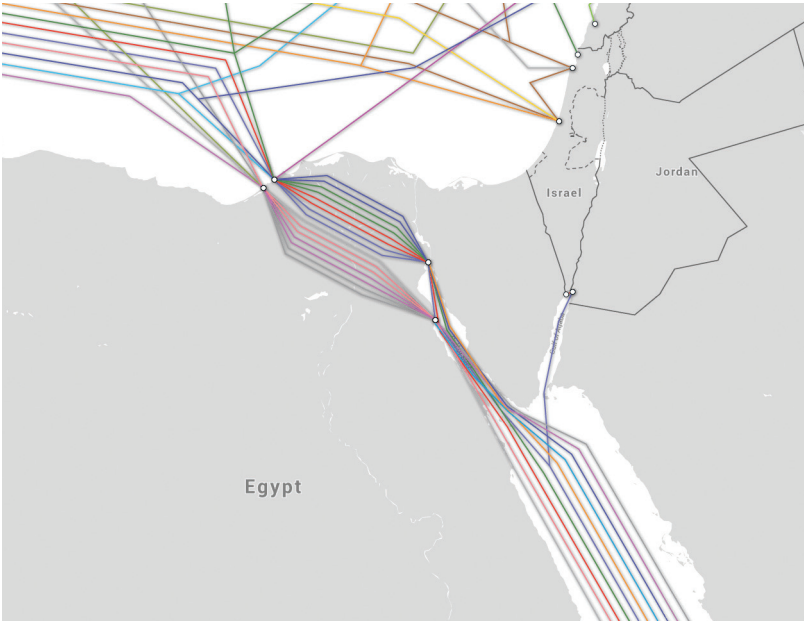


Source: DiploFoundation

Table 2: Existing and planned Internet cable routes connecting Asia and Europe

Existing Internet cables	Planned Internet cables
Route 1: The main route for submarine cables that currently carries 95% of the Internet traffic between Asia and Europe. On European side, the main starting points of these cables are located in the United Kingdom and France. They go through the Suez Canal (Egypt) and Red Sea towards India (Mumbai and Chennai) and continue towards Singapore, where Internet traffic goes into two directions: towards the south (Indonesia and Australia) and the north (Hong Kong SAR). Currently, there are 15 cables going through this route.	**Route 5**: Trans-Eurasian Information Super Highway (TASIM) was proposed in 2008 by Azerbaijan. It includes partners from China (China Telecom), Kazakhstan (KazTranscom), Russian Federation (Rostelecom) and Turkey (TürkTelekom). TASIM cables should provide fast Internet connection to Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.
Route 2: Trans Europe-Asia (TEA) fibre optic connects, as end points, Stockholm and Frankfurt on the European side and Hong Kong SAR on Asian side. TEA is operated by Rostelcom (Russian Federation) and China Telecom (China). TEA is particularly important in providing the Internet to Mongolia and Kazakhstan.	**Route 6**: The Russian Optical Trans-Arctic Submarine Cable System (ROTACS) project was officially approved by the Russian Minister of Communication and Media in 2011. End points of ROTACS should include Bude (UK) and Tokyo (Japan). The cable should traverse Norway and the Russian Federation.
Route 3: Euro-Persia Express Gateway (EPEG) connects Frankfurt and Oman via Eastern Europe, Russian Federation, Azerbaijan, and Iran. In Oman EPEG connects to the main submarine cables on Route 1.	
Route 4: The Trans Asia-Europe (TAE) network includes a wide range of national backbones. TAE connects Frankfurt (Germany) and Shanghai (China) at its ends points. It passes through many countries of Eastern Europe and Central Asia.	

Figure 3: The Suez Canal as a hotspot for Internet-cable traffic



Source: Thumbnail from TeleGeography, 2016

Since most Internet traffic currently flows through submarine cables (route 1), the installation of new terrestrial Internet cables is often seen as an important step towards diversifying Internet traffic between Asia and Europe, for the following reasons.

First, new terrestrial cables can defuse the current risk of a high concentration of Internet traffic in only a few geographical points, in particular in Egypt (see Figure 3). Submarine cables are exposed to a wide range of risks from anchors (often the cause of cuts of Internet cables in Egypt and the Malacca Strait); earthquakes (e.g. the cut of cables near the Taiwan Province of China in 2006, and in Japan in 2011) and sabotage (three divers were arrested when they tried to cut an Internet cable near Alexandria, Egypt).[24] Political instability in Egypt and the broader Middle East region has added to the vulnerability of Internet cables and overall digital traffic between Asia and Europe.

24 BBC News, "Egypt arrests as undersea internet cable cut off Alexandria," *BBC News,* 27 March 2013. http://www.bbc.com/news/world-middle-east-21963100.

Second, terrestrial cables can provide shorter routes and faster Internet. High-speed Internet connections over long distances are essential for high frequency training. Sometimes a difference of one millisecond can affect transactions worth up to USD 100 million a year.[25] Fast Internet, and the need for high speed trading, converge geographically in Frankfurt and Hong Kong SAR, which are both key points in the Euro-Asia Internet networks and hosts of big stock exchanges. A search for the shortest possible geographical route for the Internet traffic between these two places inspired projects for laying cables via the Arctic, which could shorten the distance from London to Tokyo from more than 22,000 km to 15,000 km (see Route 6 in Figure 2).[26]

Third, terrestrial cables provide an opportunity for increasing the connectivity and development of landlocked countries in Central Asia. For some countries, the geographical remoteness of access to the sea creates a major obstacle in achieving better Internet connectivity. Stronger Internet bandwidth could increase economic growth and foster new industries such as the hosting of data servers.

Fourth, terrestrial cables are cheaper to develop and maintain than submarine cables. According to one Korean study, the cost for laying one kilometre of terrestrial cable is USD 58,000 while submarine cable costs USD 135,000.[27] In addition, the cost could be further reduced by using railway trenches and the electrical power grid for laying fibre-optic cables. Very often such infrastructure systems already have fibre-optic cables being used for the management of railway signalling or the management of power grid systems. It is also faster and cheaper to repair terrestrial cables. The damage to terrestrial cables is usually repaired in one day, with an average cost of USD 5,000, while the repair of submarine cable may take up to 20 days, for a cost of USD 500,000.

These reasons led towards a growing interest in the development of terrestrial cables, which are now viewed as a viable option for diversifying Internet traffic carriage between Asia and Europe. Figure 2 shows that the main terrestrial link is currently provided by the Transit Europe-Asia (TEA) Terrestrial Cable Network, which follows the Tea Road from China and Japan, through the Russian Federation and into the Baltics.[28] Another existing cable that provides partial terrestrial connection between two continents is the Europe-Persia Express Gateway (EPEG), which links Germany to Oman via the Russian Federation and Iran. In Oman, EPEG is linked to the cables leading towards Asia. By using a mix of terrestrial and submarine cables the Internet traffic is diversified from the high concentration of cables in Egypt. It is interesting that the EPEG was developed in a time of sanctions against Iran and very turbulent political relations between the European Union and the Russian Federation.

25 Nadège Rolland, "A Fiber-Optic Silk Road," *The Diplomat*, 2 April 2015. http://thediplomat.com/2015/04/a-fiber-optic-silk-road/.

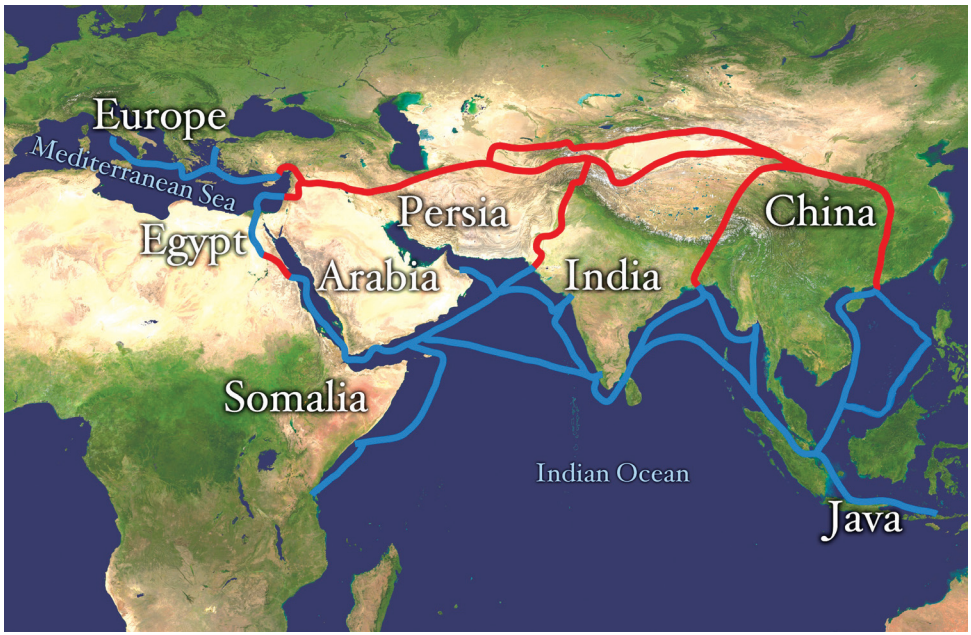
26 OECD, "International Cables, Gateways, Backhaul and International Exchange Points," *OECD Digital Economy Papers*, No. 232 (2014). http://dx.doi.org/10.1787/5jz8m9jf3wkl-en. p. 22.

27 Ko Ki-young, "Case study – Korea: Opportunities for BB Connectivity in APAC," *UNESCAP,* 24 September 2013. http://ebac.unescap.org/sites/default/files/Case%20Study%20-%20Korea_0.pdf.

28 TEA, 'About the project,' http://teacable.com/en.

More terrestrial link cables are in the planning phase. The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and the Asian Development Bank (ADB) have been promoting a digital component of the Asian Highway, a transcontinental transport infrastructure project that spans 141,000 km, from Japan to Turkey.[29] Furthermore, the Trans-Eurasian Information Super Highway (TASIM) is planning to connect Eastern Europe and Central Asia, further diversifying the data flow between the two continents. The project aims to "enhance the speed of the connection with the Eastern Asian partners and to improve the resiliency of the Internet," and, in the process, improve regional cooperation in Central Asia.[30]

Figure 4: The One Belt – One Road initiative that includes the Digital Silk Road project



Source: Wikimedia Commons

29 UN Economic and Social Commission for Asia and the Pacific, "Discussion Paper Series on Problems and Challenges in Transit Connectivity Routes and International Gateways in Asia," *Discussion Paper series,* 2014/1. http://www.unescap.org/sites/default/files/Discussion%20Paper-Transit-Connectivity_0.pdf.

30 Matteo Verda, *Trans-Eurasian Information Super Highway*. (Baku: TASIM, 2014).

Digital aspects also feature prominently in the One Belt – One Road initiative, which includes the Digital Silk Road project.[31] Digital connection could benefit from transportation and energy infrastructural projects, which will include laying fibre-optics cables along railroads and energy pipelines.

All planed terrestrial cable projects, and the Digital Silk Road in particular, might alter the balance towards terrestrial versus submarine cables. For the first time in history, they could generate a shift in the major international communication channels from the sea to the land. Ever since the first telegraph cables were laid in the 19th century, most international electronic communication has followed the maritime rim around Eurasian land mass (UK – Gibraltar – Suez – Aden – Bombay – Singapore).

In the short term, this shift could address some immediate problems, such as overcoming vulnerability by the high concentration of Internet traffic in Egypt and introducing faster Internet for high frequency trading. In the long term, the shift towards overland Internet communication could have far-reaching impacts on geoeconomics and geopolitics in Asia and Europe. Namely, this shift could create new economic and development opportunities for landlocked Eurasian countries.

3. The Internet as a new topic on diplomatic agendas

The Internet has also emerged as a topic on the diplomatic agenda, negotiated by diplomats and other actors regionally and globally. This section focuses on digital policy and Internet governance issues, which are essential for the effective cooperation between Asia and Europe in the digital realm. Harmonised digital regulation impacts the way in which digital connectivity is maintained at the level of technical infrastructure, standardisation and data exchanges. Growth in e-commerce depends on these harmonised digital regulations as well.

The Internet has only recently emerged on the global policy agenda following a general trend of extending diplomatic agendas, which accelerated after the Second World War. David D. Newsom explained this process in the following way:

> "For most of the twentieth century, the international diplomatic agenda has consisted of questions of political and economic relations between nation-states – the traditional subjects of diplomacy. After the Second World War new diplomatic issues arose, spurred by the technical advances in nuclear energy and electronics."[32]

31 The term Digital Silk Road is used informally as an umbrella concept that encompasses various cooperation projects between Asia and Europe in the digital field; See: Liu Jia and Gao Shuang, "Digital Silk Road to span Eurasia," *China Daily Europe*, 10 July 2015. http://europe.chinadaily.com.cn/epaper/2015-07/10/content_21241323.htm; and Zhao Huanxin, "Web companies asked to support 'digital Silk Road,' *China Daily Europe*, 8 September 2015. http://www.chinadaily.com.cn/business/2015chinaarabforum/2015-09/08/content_21823475.htm.
The Digital Silk Road is part of the initiative 'One Belt – One Road' (yidai-yilu), which consists of the land-based Silk Road Economic Belt that should cross the continent and the Maritime Silk Road connecting China to the maritime regions of Southeast Asia, South Asia, the Middle East, East Africa and the Mediterranean (Arase, 2015, p. 25). The overall project is planned to cross 60 countries with a total population of 4.4 billion people, which accounts for 63% of the world's population (Tsao, 2015, p. 11).

32 David D. Newsom, "The new diplomatic agenda: Are governments ready?" *International Affairs* 65, no. 1 (Winter 1988-1989): 29.

The growing social, economic and political impact of the Internet on modern society has brought the question of Internet governance into sharper focus. Who exactly governs the Internet? Who are the actors most likely to influence its future development? How will future policies evolve on connectivity, commerce, content, funding, security and other issues central to our emerging information society? These are some of the key questions that need to be addressed within the framework of Internet governance.

Internet governance was placed on the global diplomatic agenda during the World Summit on the Information Society (WSIS), which was organised around two main summits: one in Geneva in 2003 and the other in Tunis in 2005. In Tunis, WSIS decided to establish the Internet Governance Forum (IGF), which has been the main global body in the field of Internet governance since then. The IGF is a unique global policy body because it is open to equal participation of all main stakeholders (government, business sector and civil society).

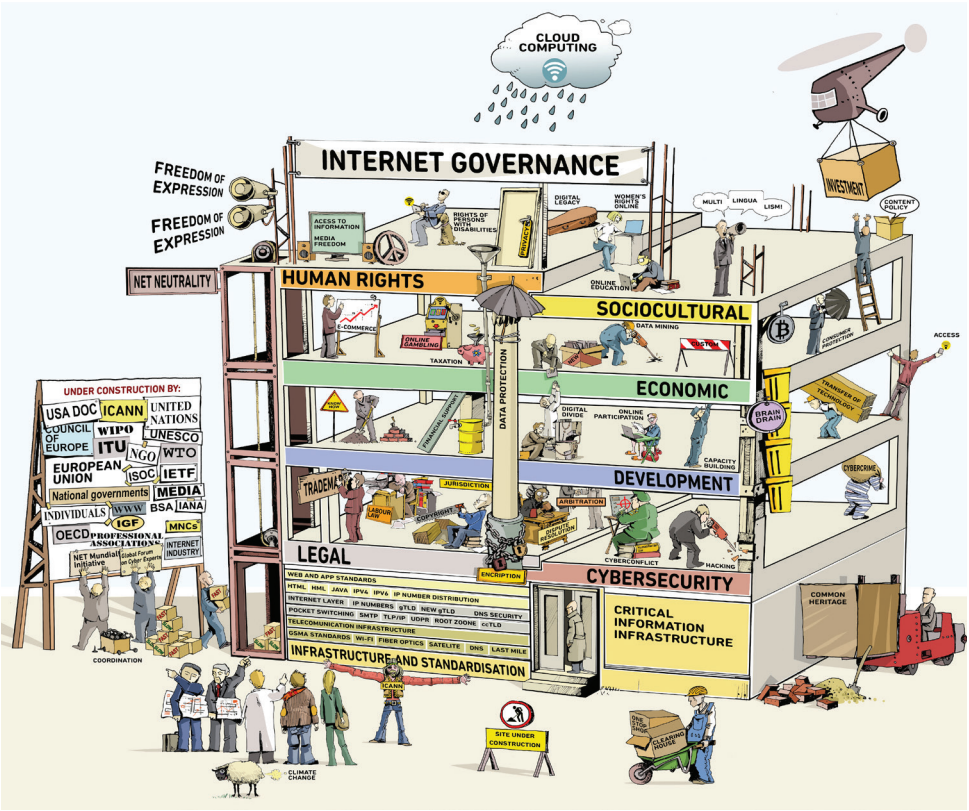
The importance of effective digital policy and Internet governance as pre-conditions for digital growth and development was highlighted by the World Bank's *World Development Report 2016: Digital Dividends.* According to the report, infrastructural access will not be sufficient, and countries will "need to work on the analogue complements."[33]

Internet governance covers a wide set of issues, which can be divided into the following seven baskets[34]: infrastructure and standardisation; security; human rights; legal; economic; development; and sociocultural. This seven-basket classification of Internet governance is metaphorically presented through the image of a building under construction, which also reflects the formative phase of the global regime of Internet governance.

33 The World Bank, *World Development Report 2016 : Digital Dividends* (Washington, DC: The World Bank, 2016).

34 The term 'baskets' was introduced in diplomatic practice during the Organization for Security and Co-operation in Europe (OSCE) negotiations. It is used in the Internet governance taxonomy in order to describe cluster of IG issues.

Figure 5: The Internet Governance 'Building Under Construction'

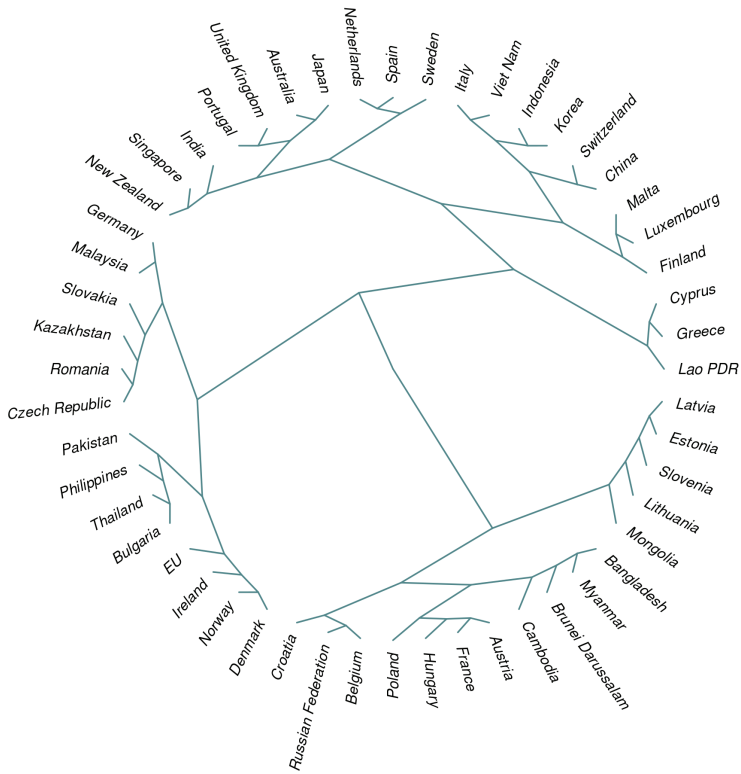


Source: DiploFoundation

3.1. Asian and European digital policy positions: from diversity to harmonisation?

Asian and European countries' positions on digital policy and Internet governance are mostly characterised by a large degree of diversity. There is as much diversity between the regions as there is among the digital policy issues themselves, which range from technical issues to economic and cultural topics.

Figure 6: Hierarchical cluster analysis showing the similarity between countries when mentioned in the IG Media Text Corpus

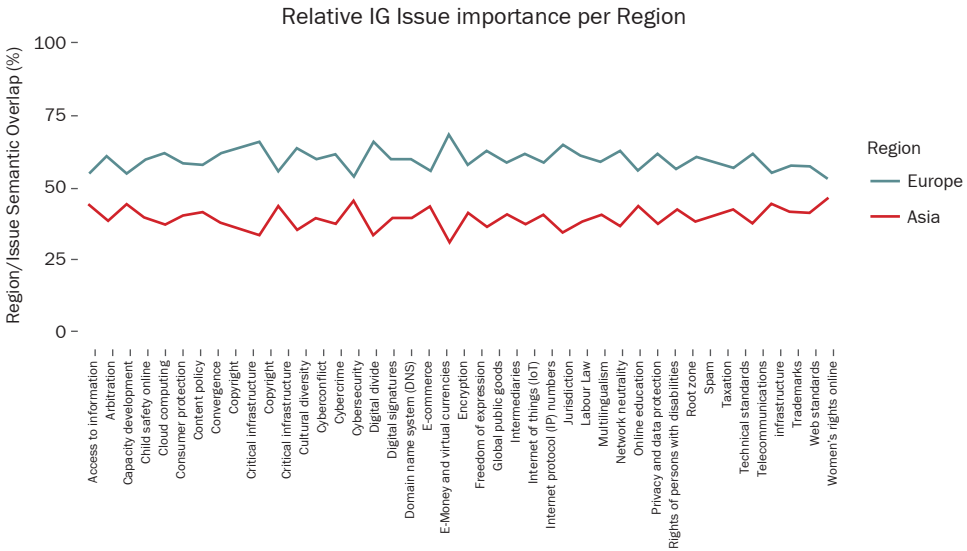


Source: DiploFoundation

The hierarchical cluster analysis of the IG Media Text Corpus (Figure 6) shows some similarities across the regions. For example, it puts in proximity countries like Italy, Viet Nam, Indonesia and Korea, and in another branch Cyprus, Greece and the Lao PDR.

High diversity of policy views provides a possibility for variable geometry engagement, where countries across two regions could gather around issues of major concern or similarities in positions.

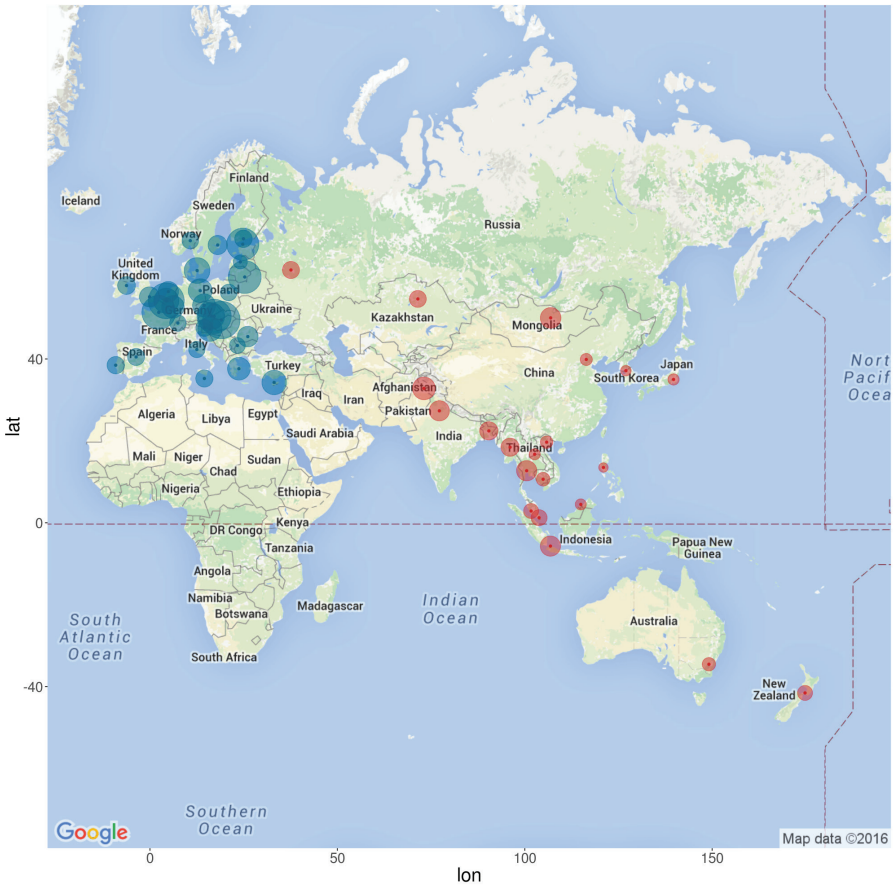
Figure 7: Relative importance of IG Issues per region (Importance per region representing the existence of the semantic overlap between the mentioning of a country from that region and the relevance of some particular IG issue in online media)



Source: DiploFoundation

Figure 7 shows the relative importance of policy issues in both regions. Encryption has high importance in Europe (69%), mainly due to the current debate on the Internet and anti-terrorist measures. Security agencies see strong encryption used by Internet companies and users as an obstacle in gathering information in their fight against terrorism. Public discussions on encryption are much less prominent in Asia (31%).

Figure 8: Encryption (Europe – 69% and Asia – 31% in the IG Media Text Corpus)



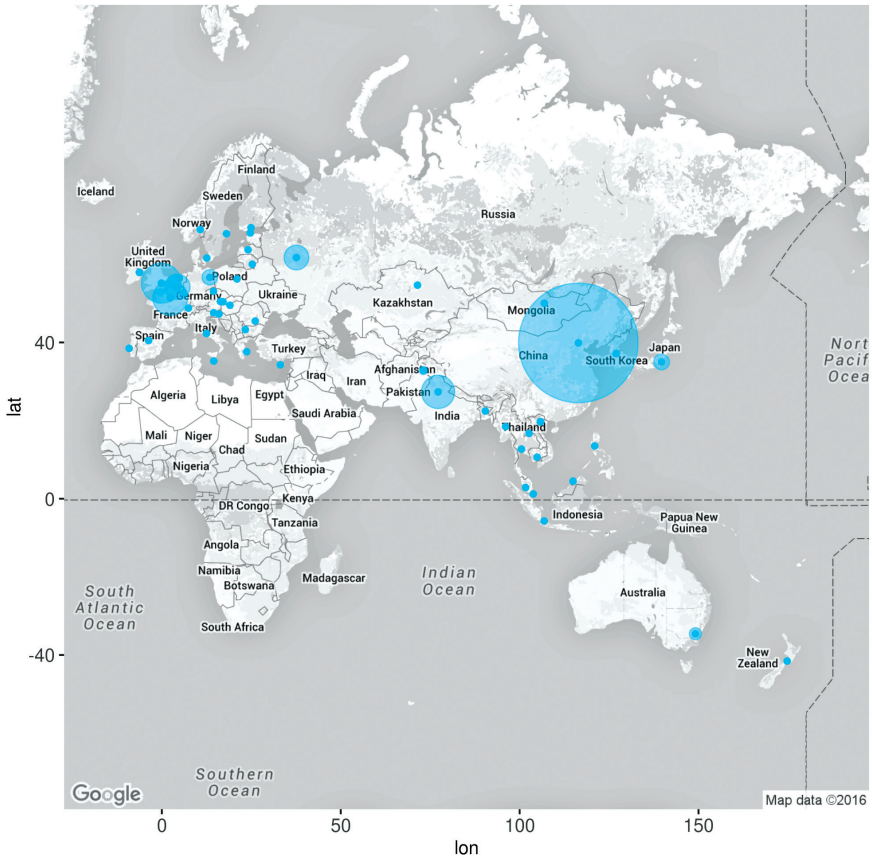
Source: DiploFoundation

In digital politics there is a practical need to involve the technical community, business and civil society in addition to governments. This led to the development of different forms of multi-stakeholder participation in Asia and Europe. Asian countries are more prone toward a leading role for governments, and the use of multilateral diplomacy for addressing digital policy issues. European and Organisation for Economic Co-operation and Development (OECD) countries are more inclined toward a new type of multi-stakeholder governance which involves the equal participation of government, the business sector, civil society and the technical community, such as is used in the Internet Corporation for of Assigned Names and Numbers (ICANN). These two different approaches toward multi-stakeholder participation are sometimes a cause of tension between some Asian and European countries.

3.2. Positions of Asian and European countries on specific digital policy issues

The analysis of the specific digital policy issues is supported by data mining studies of the IG Media Text Corpus. For example, the illustration in Figure 9 shows that China has the most extensive media coverage of digital policy issues, followed by France and the United Kingdom.[35]

Figure 9: Country presence in IG Media Corpus (52,892 documents)



Source: DiploFoundation

35 The indicators on the maps that will be used in this section point to capital cities. Sizes of shaded areas are proportional to the number of times the respective country was mentioned in the IG Media Text Corpus.

3.2.1. Infrastructure and standardisation

The infrastructure and standardisation basket incorporates the basic issues related to the running of the Internet. A multi-layered approach is often used to describe the operation of computer networks. All the elements that make up the Internet can be divided into three layers: the telecommunications infrastructure (e.g. cables, satellites); technical standards (e.g. TCP/IP) and content standards (e.g. HTML, XML).

The first layer – the telecommunication infrastructure – comprises all the physical facilities capable of transporting Internet traffic, such as copper wire, fibre optics and cables. This also includes non-physical media such as satellite, microwave and Wi-Fi. In the policy framework, there is a major division between Asian and European countries. Most Asian countries signed the amendment of the International Telecommunication Regulation (ITR) adopted at the World Conference on International Telecommunications (WCIT) (2012, Dubai), while European countries and most member states of OECD refused to sign the amendment, mainly due to the stated risk that some provisions opened possibilities for a stronger role of the government in managing the Internet.

As of the beginning of 2015, when the ITR amendments came into force, there are two telecommunication policy regimes: the 1998 regulation followed by mainly OECD countries and the 2012 amendments followed by mainly developing countries. Fortunately, due to the limited number of changes introduced by the ITRs in 2012, this double system has not affected the general functioning of telecommunications at the global level. Yet Asian and European countries, together with other actors, should address this inherent regulatory instability in global telecommunication regulations.

The existence of Internet infrastructure is a pre-condition for the Internet's functioning, but the Internet really came into being due to the second layer, which is defined by technical standards, and most importantly the Transmission Control Protocol/Internet Protocol – TCP/IP (hereafter Internet protocol/IP). In simple terms, each computer, or other device connected to the Internet, must have a unique IP number. The system for the distribution of IP numbers is hierarchically organised. On the top is the Internet Assigned Numbers Authority (IANA) – a subsidiary of the Internet Corporation for Assigned Names and Numbers (ICANN), which distributes blocks of IP numbers to the five regional Internet registries (RIRs). In turn, these are distributed to national registries, smaller Internet service providers (ISPs), companies and individuals. In Europe IP numbers are distributed mainly by technical and business companies, while in Asia governments have more prominent role in this field.

The growing economic and social importance of the Internet, as well as ever increasing Internet traffic, are imposing more and more pressure on the current version 4 (IPv4) and incentives to upgrade towards version 6 (IPv6). Asia reached the final IPv4 address block in April 2011[36] and Europe in September 2012.[37] The new version of IPv6 provides sufficient Internet numbers for the future growth of the Internet. IPv6 also provides a more robust security of the Internet. The transition towards IPv6 requires financial investment as well as regulatory changes.

The Domain Name System (DNS) handles Internet addresses (such as www.google.com) and converts them into IP numbers. The DNS consists of root servers, top-level domain (TLD) servers and a large number of DNS servers located around the world. Since the DNS facilitates identities on the Internet, it is of high policy importance. One of the main controversies surrounding the DNS involves the ultimate authority of the US government over root servers, the top tier of the hierarchically organised DNS. This authority is implemented by ICANN, a legal entity incorporated in California, USA. Asian and European countries have had a similar position on the need to internationalise the management of the DNS. The US government initiated the process of ICANN's internationalisation in 2014. It is likely to be completed in September 2016.

Infrastructural access is a precondition for the dimensions of digital connectivity within and between Europe and Asia. In absolute terms, Asia has the highest number of Internet users, with China and India topping the list. In Asia-Pacific alone, almost 1.7 billion people are connected to the Internet, and this number is still growing at 12% a year, since Internet penetration is still relatively low (about 40%). Europe has an estimated 616 million people connected to the web, and this number will only increase at about 4% a year (Internet penetration is approximately 75%).[38] The immense popularity of the Internet in Asian countries is evident when looking at the average number of hours they spend on the Internet per day, by PC use. In a global ranking, many Asian countries top the list, with the Philippines (2), Thailand (4), Indonesia (6), Viet Nam (8) and Malaysia (9) in the top ten. The first European country is Poland on number 12.[39]

36 See: APNIC, "APNIC IPv4 Address Pool Reaches Final/8," *APNIC*, 15 April 2011. https://www.apnic.net/publications/news/2011/final-8.
37 See: RIPE NCC, "IPv4 Exhaustion," *RIPE NCC*, 14 September 2012. https://www.ripe.net/publications/ipv6-info-centre/about-ipv6/ipv4-exhaustion.
38 We Are Social, "Digital in 2016," 27 January 2016. http://wearesocial.sg/blog/2016/01/digital-2016/.
39 Ibid., slide 25.

3.2.2.Cybersecurity

Cybersecurity is another area of high relevance in both Asia and Europe. The high dependence of modern society on the Internet makes the Internet part of the critical societal infrastructure. While both Asian and European countries have cybersecurity high on their policy agendas, there are differences related to the type of cybersecurity challenges faced by the two regions, as well as differing views on how these threats should be addressed. For example, in Asia cyber attacks follow political tensions, such as those in the South China Sea or between India and Pakistan. In Europe, cybersecurity efforts mainly focus on the fight against terrorism and cybercrime.

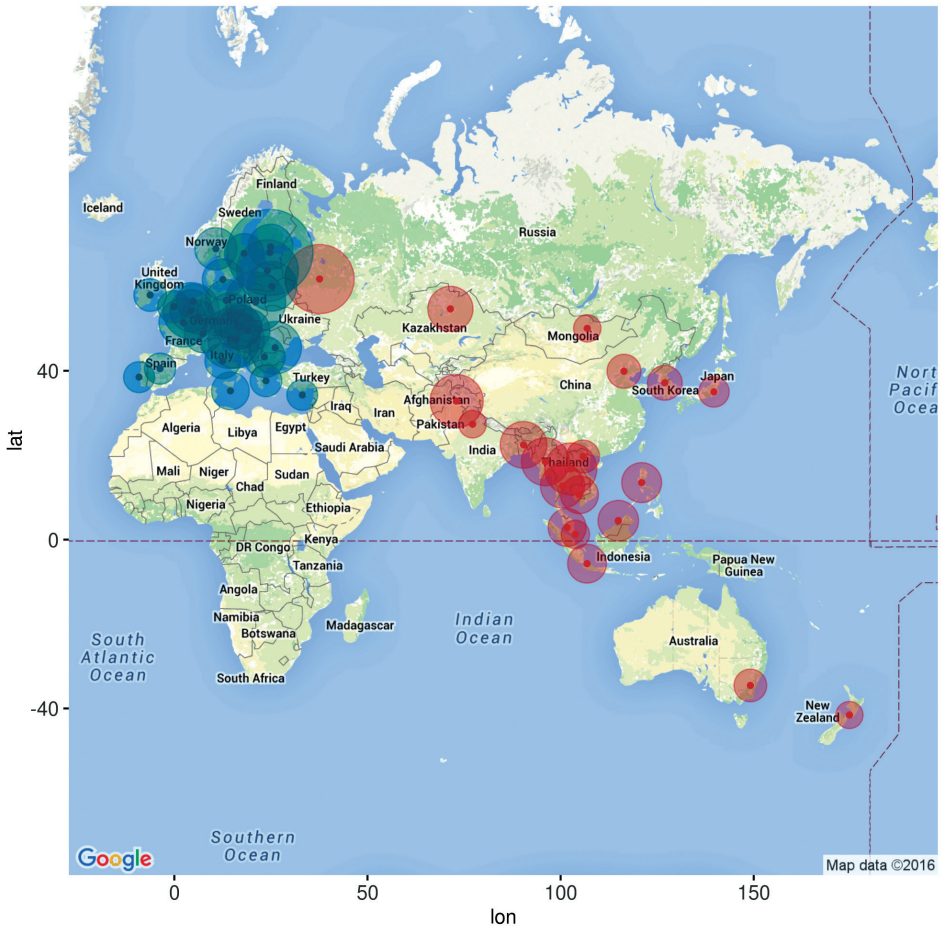
There is a terminological difference related to the term cybersecurity between countries in the two regions. This has resulted in conceptual differences in dealing with cybersecurity. China, the Russian Federation and other core members of the Shanghai Cooperation Council[40] opt for information security, which implies a broader understanding of the Internet security and involves, for example, banning the use of the Internet that could affect social and political stability. European countries follow a narrower definition of cybersecurity, mainly covering the security of the Internet infrastructure. Countries from both regions cooperate in the UN Group of Government Experts, where they have managed to find common ground on several issues, including the principle that existing international law applies online.

Among Asian and European countries, there are different levels of cybersecurity capacity. The *Global Cybersecurity Index*, developed by the ITU and ABI research, ranks the level of commitment to cybersecurity of different countries. European countries rank relatively well, with nine countries in the top 20, and with few states among the lowest-scoring countries. However, in Asia-Pacific there is extensive disparity. Whereas Australia (3), Malaysia (4), Japan (12), Korea (13) and Singapore (19) have high scores, there are also many Asian countries among the lowest scoring states, especially small and island states.[41] Capacity building in cybersecurity among Asian, or between European and Asian states, could be an area in which ASEM/ASEF could play an important role.

40 Core members of the Shanghai Cooperation Council include: China, Kazakhstan, Kyrgyzstan, Tajikistan, Russia and Uzbekistan.

41 Allied Business Intelligence (ABI) Research & International Telecommunication Union (ITU), *Global Cybersecurity Index* (ITU: Geneva, 2014).

Figure 10: Cybersecurity (Europe – 62% and Asia – 38% in the IG Media Text Corpus)



Source: DiploFoundation

In the field of cybercrime European countries are parties of the Council of Europe's *Convention on Cybercrime*, which remains the main international legal instrument in this field. This convention was adopted by non-European countries as well, including the USA, Australia, Japan and Sri Lanka. In the field of cybercrime, a high degree of harmonisation of rules has emerged, as the substantive norms of the Council of Europe *Convention on Cybercrime* have influenced many national and regional regulations in Asia and in other parts of the world.[42]

42 For critical views of the *Convention on Cybercrime* expressing the concern of civil society and human rights activists, see Chris Bailey, "The International Convention on Cybercrime," *The Association for Progressive Communications*, 6 May 2002. http://rights.apc.org/privacy/treaties_icc_bailey.shtml; and American Civil Liberties Union, "International Cybercrime Treaty," *ACLU* (no date). https://www.aclu.org/international-cybercrime-treaty.

3.2.3.Intellectual property rights (IPR)

The area concerning the protection of copyright and other intellectual property rights (IPR) on the Internet used to be an area of divergence, with Asia having a more relaxed approach to the protection of IPR than Europe. Nowadays there is more convergence, with the increasing level of protection of IPR in Asia. This development can mainly be subscribed to multilateral regimes, including the World Intellectual Property Organization (WIPO), which manages the traditional IPR regime, and the World Trade Organisation (WTO), which is in charge of trade-related aspects of intellectual property rights (TRIPS).

The IPR field saw further convergence by the decision of the G20 meeting in Antalya (15-16 November 2015): "that no country should conduct or support ICT-enabled theft of intellectual property, including trade secrets or other confidential business information, with the intent of providing competitive advantages to companies or commercial sectors."[43] This policy convergence is likely to extend to countries beyond the G20, including Asian and European countries.

3.2.4.Data protection and privacy

Data is considered to be the oil of the modern economy. Data governance has various aspects, including technology, security, human rights and economics. Data governance has come into sharper focus on the part of the international community after the Snowden revelations.[44]

Privacy and data protection are two interrelated Internet governance issues. Data protection is a legal mechanism that ensures privacy. Privacy is usually defined as the right of any citizen to control his or her own personal information, and to make relevant decisions about this information, i.e. to keep or disclose information. Privacy is a fundamental human right, recognised in the Universal Declaration of Human Rights (UDHR), the International Covenant on Civil and Political Rights (ICCPR) and in many other international and regional human rights conventions.

43 "G20 Leaders' Communiqué," Antalya Summit, 15-16 November 2015. http://pm.gc.ca/eng/news/2015/11/16/g20-leaders-communique.

44 Edward Snowden is a former employee of the US Central Intelligence Agency (CIA), who leaked classified information from the National Security Agency (NSA) in 2013. The information contained details about numerous surveillance programmes, many of which were run by the NSA. The revelations sparked a global debate concerning the balance between national security and data protection.

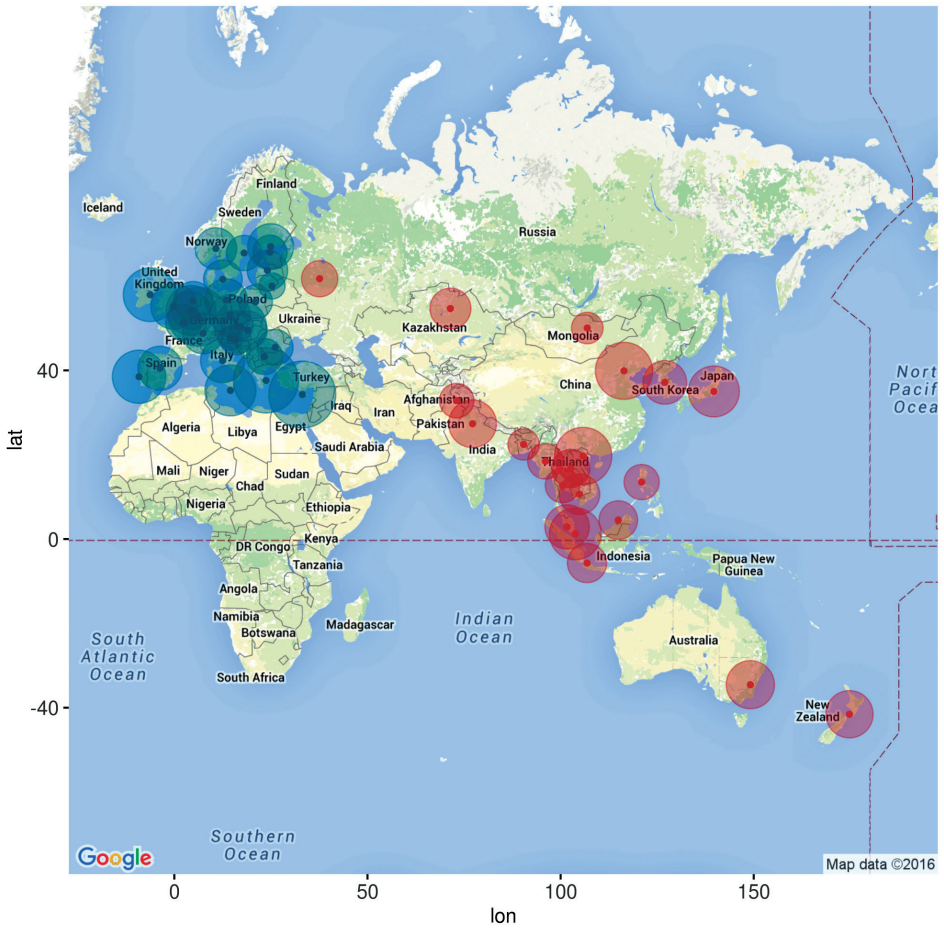
National cultures and lifestyles influence the practice of privacy. In Europe privacy is generally perceived as more important than in Asia. However, in Asian countries, a new business model based on monetising data has sharpened the focus on data governance as an e-commerce issue. As a consequence, over the last few years, Asia has become increasingly privacy aware. For example, 83% of Indian Internet users have become more concerned about digital privacy than one year ago, as of November 2014, followed by 73% of Korean users, 72% of users in Hong Kong SAR, and 64% of Chinese users.[45] Privacy awareness has been mirrored by privacy regulation in the Asia Pacific region, which has seen a sharp increase.[46] By 2014 comprehensive data privacy regimes were established in Japan, Korea, Malaysia, the Philippines and Singapore, often with the aim of sustaining their continuous e-commerce growth. China and India have adopted legislation with similar provisions for data protection.[47]

In addition, the cloud economy, related to the competition for hosting data centres, will create a new dynamism between Asian and European countries. The traditional approach that less regulation of data and privacy should attract more data centres is being challenged with the growing pressure on privacy and data protection. For example Germany and Switzerland, which have a high degree of privacy and data protection, have, at the same time, experienced a sharp increase in data storage business over the last few years. Central Asian countries may experience a rise in data storage business due to their access to a strong Internet infrastructure (the Digital Silk Road) and elements conducive to big data-storage facilities, such as a dry and cold climate and access to cheap electricity.

45 Statista, "APAC increasing digital privacy concern by country 2015," http://www.statista.com/statistics/459005/apac-digital-privacy-concern-growth-country/.
46 Hogan Lovells, Data Privacy Regulation Comes of Age in Asia (London: Hogan Lovells, 2014). http://www.hldataprotection.com/files/2014/11/Data-Privacy-Regulation-Comes-of-Age-in-Asia.pdf. p. 1.
47 Ibid., p. 1.

3.2.5.E-commerce and digital economy

Figure 11: E-commerce (Europe - 60% and Asia - 40% in the IG Media Text Corpus)



Source: DiploFoundation

The Internet has been one of the main engines of economic growth in Asia. As a result, Asian countries place a lot of emphasis on creating a policy environment that will support innovation and boost the digital sector. The creation of such an environment has included the establishment of laws on intellectual property, digital signatures and consumer protection and has resulted in the fast growth of e-commerce in most Asian countries.

Europe has long been lagging behind in the field of e-commerce, although this has recently started to change with the Juncker Commission[48], which took the establishment of the Digital Single Market as one of the EU's highest priorities.

E-commerce in both Asia and Europe is either local, or directed toward the USA as a major e-commerce power. Asia and Europe can increase e-commerce exchanges significantly.

3.2.6.Content policy

Content policy is one of the most politically controversial digital policy issues. It is often addressed from the angles of human rights (freedom of expression and the right to communicate), governance (content control) and technology (tools for content control). Discussions usually focus on three groups of content:

- Content that has a global consensus for its control, including child pornography, justifications of genocide and the incitement to, or organisation of, terrorist acts, all prohibited by international law *(ius cogens)*.[49]
- Content that is sensitive for particular countries, regions or ethnic groups due to their particular religious and/or cultural values. Globalised online communication poses challenges for local, cultural and religious values in many societies. Most content control in Middle Eastern and Asian countries is conducted on the basis of the protection of specific cultural values. This often means that access to pornographic and gambling websites is blocked.[50]
- Political censorship on the Internet. The yearly-published *Freedom on the Net Report* ranks the degree of Internet freedom of different countries. The 2015 edition has found that freedom on the net has diminished for the "fifth consecutive year as more governments censored information of public interest".[51]

While both Asian and European countries agree about filtering content that promotes, for example, child pornography online, there are differences when it comes to other aspects of content policy. The question of freedom of speech online is often an area of disagreement between some European and Asian countries.

48 Current European Commission headed by Jean-Claude Juncker and a team of Commissioners in office since 1 November 2014

49 Timothy Zick, "Congress, the Internet, and the Intractable Pornography Problem: The Child Online Protection Act of 1998," *Creighton Law Review* 32 (1999): 1147, 1153, 1201.

50 Jenna F. Karadbil, "Note: Casinos of the next millennium: a look into the proposed ban on internet gambling," *Arizona Journal of International and Comparative Law* 17 (2000): 413-439.

51 Freedom House (2015) *Freedom on the Net 2015* (Washington, DC: Freedom House). https://freedomhouse.org/report/freedom-net/freedom-net-2015.

3.2.7.Multilingualism

The Internet tends to predominantly promote the world's biggest languages, with 54% of all content written in English, 6% in Russian and German and 5% in Japanese and Spanish. All other languages account for less than 5%.[52] As identified by Yvonne Guo and Thierry Schwarz in this publication, digital connectivity reinforces the importance of some of the dominant languages at the expense of others.

Asia and Europe share a sensitivity to cultural diversity and multilingualism. For example, Asia is home to 3,500 different spoken languages. Both Asian and European countries have been strong promoters of multilingualism on the Internet. In some areas, such as internationalised domain names, these efforts resulted in ICANN's support for multilingual domain names. Both continents, and ASEF in particular, could further strengthen efforts towards a multilingual Internet.

52 W3Techs, "Usage of content languages for websites," 12 February 2016. http://w3techs.com/technologies/overview/content_language/all.

4. Public diplomacy in a digital environment and the advent of e-diplomats

This section analyses the impact of the Internet on public diplomacy[53] activities in Asia and Europe, providing examples of the use of web and social media communications by diplomatic services and other governmental institutions.

4.1. Internet and changing context for public diplomacy

The Internet has created a new context for public diplomacy characterised by, among others:

- the rapid availability of information to public everywhere, where governments are too often behind the game, and certainly behind the 24/7 news media (both traditional and new media)
- the abundance of visual information
- the virtually infinite quantity of information available with the expansion of the World Wide Web (WWW)
- the transformation of the Web from a one-to-one source of information into a multidirectional forum for interactive debate

The amount of information available, and the speed with which it reaches an average user, has increased dramatically. Most major broadcasters, from the BBC and CNN to Al Jazeera and Radio China International, have introduced webcasting to enable live access via the Internet to TV and radio news programmes and documentaries. To compete with the 24-hour news coverage provided by broadcast media, the print media have been obliged to introduce electronic versions of their publications, available to the online reader many hours in advance of their own printed copies. And thanks to social media, ordinary Internet users have also become reporters, providing live coverage 24/7.

53 The term 'public diplomacy', first introduced by Dean Edmund Gullion of the Fletcher School of Diplomacy in 1965, has gained prominence in the foreign policy field in the last 10-15 years. A large number of articles dealing with this subject, and institutions specialising in public diplomacy, are signs of such prominence. However, the meaning of the term is not always consistently understood. It is generally agreed that public diplomacy refers to activities aimed at influencing the public, understanding their attitudes to foreign policy activities, and shaping their views on these issues to the advantage of a nation which carries out public diplomacy activities. At the same time, there is disagreement as to whether public diplomacy refers only to activities directed at foreign nationals (this view is dominant in the USA and the UK), or at a domestic audience as well (this approach is characteristic of Canada and South Africa).

The trend toward instant and abundant information about different events at home and abroad is just part of the story. Another, probably more important, part has to do with the changing role of end users, who have become both consumers and providers of information. The balance has shifted from a one-to-one or one-to-many relationship between the information provider and the consumer, to a many-to-many interactive experience.[54] Thanks to mobile providers, the feedback loop has become even shorter. As the problems of limited mobile bandwidth are being solved, the stream of user-generated multimedia content – mostly photos and videos – is growing stronger. Broadcasters are opening up to two-way communication with their followers: CNN offers a regular spot for I-witness reports[55] and photos and videos from its viewers and Al Jazeera launched its own citizenship journalism upload portal[56] "seeking eyewitness news reports from its vast international audience." Users are invited, and have come to expect, the possibility of providing immediate comments online, on the news, in blogs and on social networking sites.

The challenges for diplomats have multiplied with the advances in technology since 1995, when David Pearce, cited by Stephen Livingston, wrote: "Policies can no longer be presented to the public in abstract. They are constantly measured against images on television – images that are instantly available, around the clock and around the globe."[57] Diplomats are now competing with instant news, visual and graphic, and can be caught unprepared by rapidly breaking stories.

This analysis maps the way Asian and European countries have been using the Internet's tools for their public diplomacy activities.

4.2. Websites

For many countries, the development of websites has been the first step in developing a presence on the Internet. Websites are mainly used for the dissemination of information about foreign policy. Typically, these websites contain information on foreign policy, the organisation of the MFA (including diplomatic missions) and consular and travel information. MFA websites have become increasingly integrated with Twitter, YouTube and other social media tools.

All ministries of foreign affairs of ASEM partners have websites, although their level of interactivity differs. All 51 surveyed MFA websites maintain a news (or an updates) section. However, the use of an RSS news feed (an important technology for sharing updated information) is not widespread.

Most MFA websites are bilingual, containing a version in English and in the national language of the country. The following two figures represent the distribution of languages in which the MFA websites provide content in Europe and Asia, respectively:

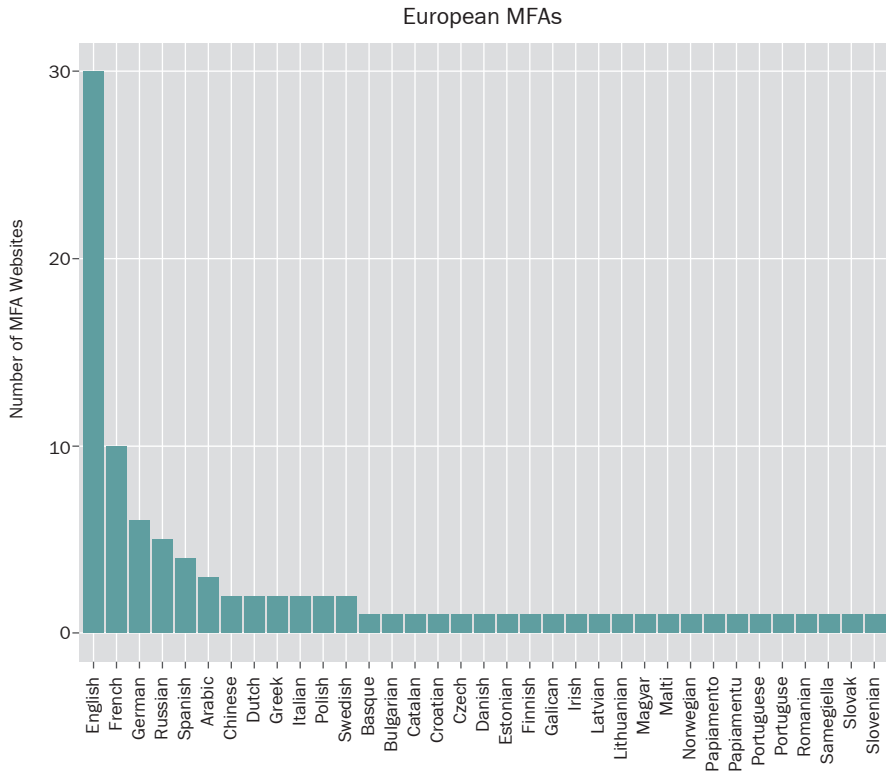
54 Daryl Copeland, "Connectivity and Networks Rule: Virtuality, Public Diplomacy and the Foreign Ministry," *CPD Blog*, 26 November 2008. http://uscpublicdiplomacy.org/index.php/newswire/cpdblog_detail/connectivity_and_networks_rule_virtuality_public_diplomacy_and_the_for/.

55 CNN, *CNN iReport*. http://edition.cnn.com/specials/opinions/cnnireport.

56 Al Jazeera, *Sharek*. http://sharek.aljazeera.net.

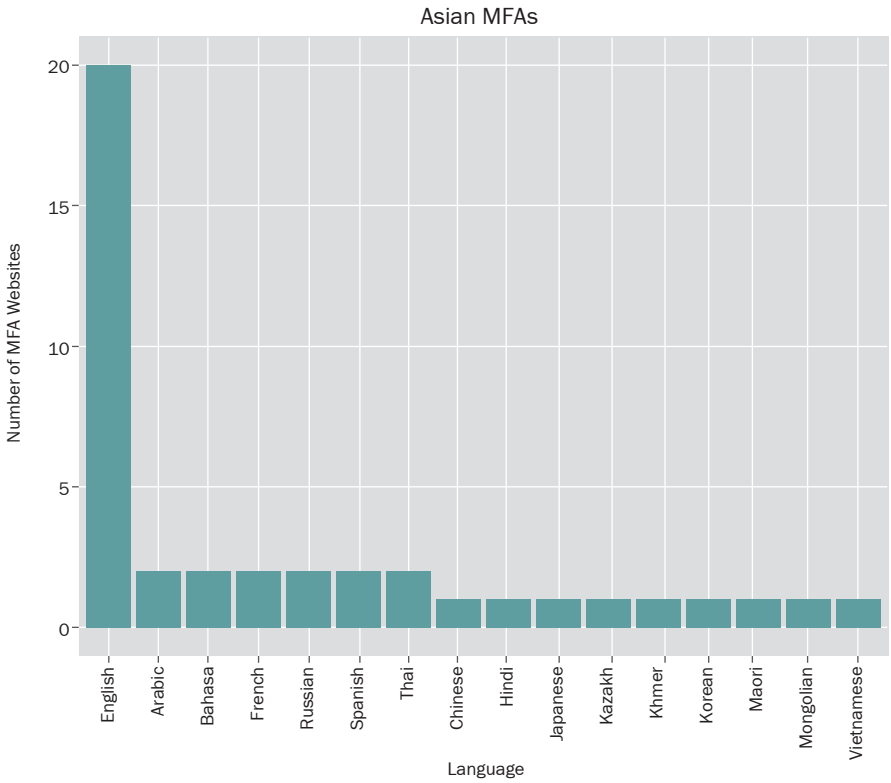
57 Stephen Livingston (2002) "The New Media and Transparency: What are the Consequences for Diplomacy?," in *Cyber-diplomacy: Managing Foreign Policy in the Twenty-first Century*, edited by E. H. Potter (Montreal: McGill-Queen's University Press), pp. 110-127.

Figure 12: Languages in which content of European MFA websites is provided



Source: DiploFoundation

Figure 13: Languages in which content of Asian MFA websites is provided



Source: DiploFoundation

The analysis of the websites furthermore shows that only ten countries have an information page on ASEM. When it comes to the coverage of both continents, nine MFA websites from Asia have a page dedicated to Europe, and nine European MFA websites maintain a dedicated page on Asia.

4.3. Social media

Social media has become overwhelmingly popular in both Europe and Asia. Southeast Asia is the region with most social media users (together more than a billion), whereas Europe is estimated to host about 400 million social media users. Penetration of social media is similar and accounts for approximately 40% in both regions.[58] The Philippines is globally most active on social media, with users spending an average of 3.7 hours a day on social media. Italy, at number 14, is the highest-ranked European country, with an average of two hours per day spent on social media.[59]

Social media channels (e.g. blogs) do not need to have large audiences in order to play an important role in politics, both domestic and international, due to their influence as agenda-setters in the information environment. Drezner and Farrell suggest that:

> "Increasingly, journalists and pundits take their cues about what matters in the world from weblogs. For salient topics in global affairs, the blogosphere functions as a rare combination of distributed expertise, real-time collective response to breaking news and public-opinion barometer."[60]

According to Drezner and Farrell, news and information are filtered upstream from lesser-known blogs to more popular ones. Eventually some topics reach the summit of the blogosphere – the pages of a few prominent blogs with hundreds of thousands of readers. From there, the information is often picked up by mainstream media, decision-makers in government and other political actors. Even when blogs are not as good as major news channels at providing breaking news or detailed analyses, they may help promote a story that would otherwise be ignored by the press, or keep it alive long after it disappears from the mainstream news agenda.

In addition to being an information channel, social media is also a powerful organisational tool. Groups, from movie star fans to environmentalists, to diaspora communities and to terrorists, use Facebook and other social networks to plan and coordinate their activities on a global scale.

The impact of social media on social organisation is mainly anecdotal. The term Facebook revolution was coined to describe the use of social networks during the Arab Spring.[61] The initial hype of the impact of social media was followed by more realistic analyses expressing the view that the overall impact of social media during the Arab Spring has been overstated.[62]

58 We Are Social, "Digital in 2016," 27 February 2016, slide 33.
59 Ibid., slide 37.
60 Daniel W. Drezner and Henry Farrell, "Web of Influence," *Foreign Policy*, 29 October 2009. http://foreignpolicy.com/2009/10/26/web-of-influence/.
61 Raymond Schillinger, "Social Media and the Arab Spring: What Have We Learned?" *Huffington Post*, 20 September 2011. http://www.huffingtonpost.com/raymond-schillinger/arab-spring-social-media_b_970165.html.
62 Anita Singh, "Ways With Words: Role of Twitter and Facebook in Arab Spring uprising 'overstated', says Hisham Matar," *The Telegraph*, 11 July 2011. http://www.telegraph.co.uk/culture/books/ways-with-words/8629294/Ways-With-Words-role-of-Twitter-and-Facebook-in-Arab-Spring-uprising-overstated-says-Hisham-Matar.html.

Another campaign that was often quoted in analyses of the impact of social media on social movements is the *Bring Back Our Girls* Twitter campaign, following the Boko Haram kidnapping of Nigerian schoolgirls.[63] This campaign rapidly went viral, thanks in part to Michelle Obama's retweet, publicised the girls' misfortune and provided an outlet for public expressions of outrage and sympathy, but sadly has had neither influence on the abductors, nor on government action.

Although the impact of social media varies, it is clear that it has become an important factor in politics, both domestic and international. The Internet has spurred the creation of thousands of virtual networks, which share and discuss views on everything from climate change to world trade. It has become an affordable and instant means of communication with mass audiences. Non-governmental organisations (NGOs), lobby groups and protest groups are successfully harnessing the power of the Internet to promote their own interests, to exchange opinions and information, to offer alternative interpretations to official positions and to conduct lobbying campaigns.

The existence of large diaspora communities around the world has led to the creation of Internet groups allowing expatriate nationals to connect to both their homelands and to each other. Members range from business representatives to migrant workers and political exiles. These communities are a force in their own right, with views and opinions about their countries of origin. Some may be in a position to influence official opinion in their countries of residence, or are skilled enough to attract media interest. Facebook is particularly popular among diaspora communities as a tool for communicating with the home country. It is widely used by diaspora communities from the Philippines and other Asian countries. Online diaspora communities have created new possibilities for ministries of foreign affairs to engage with them on consular and promotional activities.

4.4. The Good, the Bad and the Ugly – How MFAs (Mis)use Social Media

Government institutions, including MFAs, are rarely among the early adopters of new technologies, with the notable exception of military technologies. The Internet is similar in that respect. Although, by now, most government institutions have some sort of web presence, and numerous e-government initiatives have been launched around the world, there are relatively few examples of the government sector fully using the potential of new communication technologies. When communicating with the public at home and abroad, many foreign ministries are still in the broadcast age.

Nevertheless, examples of smart use of the Internet – and particularly social media – by governments are growing. Some governments are developing virtual networks with their diaspora, for example India's Overseas Indian Facilitation Centre (OIFC)[64], which aims primarily to empower the Indian diaspora abroad, but also to create a connection between communities abroad and public institutions at home.

63 BringBackOurGirls (BBOG_Nigeria), "276 #ChibokGirls abducted on 14 April 2014. 57 escaped. 219 are still missing. #BringBackOurGirls NOW & ALIVE! info@bringbackourgirls.ng," Twitter account, https://twitter.com/hashtag/bringbackourgirls.

64 http://www.oifc.in/.

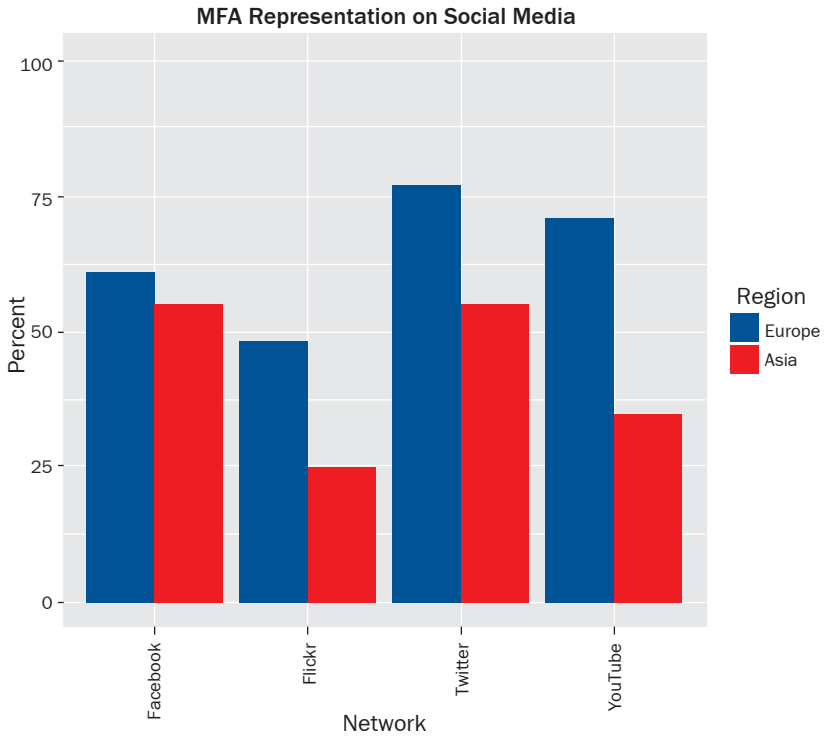
The majority of foreign ministries, starting with the US Department of State, have also begun to experiment with social media. On 4 February 2009, shortly after the first Obama administration took office, the then US Secretary of State Hillary Clinton, said: "We are, in my view, wasting time, wasting money, wasting opportunities because we are not prepared to communicate effectively with what is out there in the business world and the private world".[65] Accordingly one of her priorities was to revamp the digital diplomacy of the State Department as part of the broader *21st Century Statecraft* campaign. Today the US State Department is one of the leaders in e-diplomacy, with its digital assets including a YouTube channel, a Flickr profile, an official Facebook page, audio and video podcasts distributed via iTunes and its own wiki Diplopedia and social network Corridor.[66]

Our survey (see Figure 15) shows the wide range of the use of social media tools among ASEM countries. European countries are more inclined towards using social media tools. Twitter is especially popular among the diplomatic services of European countries. Asian and European countries use Facebook almost equally, which is probably related to the high level of popularity of Facebook in Asia. The major difference exists in the use of YouTube, which is utilised by European countries in their public diplomacy activities significantly more often. The use of other platforms such as Pinterest, Google+ and Instagram is marginal among ASEM partners.

65 Matthew Lee, "Hillary Clinton, e-diplomat, embraces new media," *USA Today*, 23 March 2009. http://usatoday30.usatoday.com/news/washington/2009-03-23-clinton-digital_N.htm.

66 Fergus Hanson, "Revolution @State: The Spread of Ediplomacy," Lowy Institute for International Policy, March 2012, http://lowyinstitute.richmedia-server.com/docs/Hanson_Revolution-at-State.pdf.

Figure 14: The social media use of ASEM MFAs



Source: DiploFoundation

However, when engaging with European and Asian social media dynamics, one should bear in mind an important difference. Even though the number of social media users in Asia is much higher than in Europe, they might not constitute a balanced representation of Asian society, due to the limited Internet penetration in the region. As digital divides usually follow the lines of existing socio-economic cleavages, social media might over-represent men, the wealthy and the urban populations, while potentially excluding women, the poor and rural citizens. For example, the gap between male and female users in Asia-Pacific is estimated to be 17.6%, whereas this number is about 8% in Europe.[67]

67 International Telecommunications Union, *Measuring the Information Society 2015* (Geneva: ITU, 2015), p. 8.

On all four surveyed social media platforms, the percentage of MFAs represented on the respective platform are higher in Europe than in Asia. Asian MFAs are more frequently represented on Facebook than on YouTube, while the situation is reversed in Europe, where Twitter is the most frequently used social media platform, and where Facebook is of relatively little importance. In Europe, YouTube is more frequently used for diplomatic representation than Facebook, and the video-streaming platform has almost reached Twitter's number one position.

The Indian Foreign Ministry, too, is becoming a leader in digital diplomacy and it has even published its own online pamphlet, *Indian Diplomacy at Work*.[68]

Today there is a multitude of digital and social media tools that an institution can use for internal and public communication, and we will now further elucidate the digital tools provided by Twitter, blogs, Facebook and Wikipedia.[69]

4.4.1.Twitter

Usually classified as a microblog, Twitter entries are short (140 characters) and often include links to relevant files; at the same time microblogs are typically updated more often than traditional blogs – often several, to a dozen times, per day. Twitter users create a circle of followers (which is not necessarily reciprocal: one user can follow the other without them following the other back). This allows for a high level of interaction, such as re-tweeting interesting posts by others, responding to them and mentioning other users in posts.

The specific value of Twitter for public diplomats lies in sounding out the opinions of the community on various issues, engaging in discussions to present and explain positions and identifying articles and readings on particular topics of interest, through following posts tagged with hashtags, e.g. #ediplomacy.[70]

68 Indian Diplomacy, *Indian Diplomacy at Work*, http://issuu.com/indiandiplomacy/docs/digital_diplomacy_english_b8e5741f3dd1c2.

69 A practical guide to the most popular social media tools, designed for diplomats, is Antonio Deruda, *The Digital Diplomacy Handbook: How to Use Social Media to Engage with Global Audiences* (CreateSpace Independent Publishing Platform, 2015).

70 To learn more, we recommend *Twitter for Diplomats* (Malta: DiploFoundation, 2013), a short online book by Italian diplomat, Andreas Sandre.

Currently more than three-quarters of world leaders have a Twitter account. All 45 European governments have an official Twitter presence. In Asia, 76% of governments are on Twitter. US President Barack Obama (@BarackObama) is the most followed world leader, with over 70 million followers. In Europe Pope Francis is the second most followed world leader with close to 20 million followers on his nine different @Pontifex accounts. Indian Prime Minister Narendra Modi (@narendramodi) with over 10 million followers and Turkish Prime Minister Recep Tayyip Erdogan (@RT_Erdogan) with six million followers are among the top five most followed world leaders. Queen Rania of Jordan (@QueenRania), Russian Prime Minister Dmitry Medvedev (@MedvedevRussia & @MedvedevRussiae) and HH Sheikh Mohammed of Dubai (@HHShkMohd) are all in the top 10 list of most followed leaders, and have more than three million followers each. Among the most followed MFA heads on Twitter are Sushma Swaraj of India (@sushmaswaraj) with over 4.6 million followers and Abdullah bin Zayed of the United Arab Emirates (@ABZayed) at around 1.6 million followers.[71]

4.4.2.Facebook

Facebook is primarily a personal social media platform, used to connect with friends and share updates (photos, event invitations, music, interesting readings and links, etc.). However increasingly it is also used for professional outreach. By creating institutional or public personal profiles, pages, interest groups or events, diplomatic institutions can gather visitors interested in their work, organise and share content and engage efficiently with their communities.

With 1.59 billion monthly active users[72], Facebook is becoming a key tool for public diplomacy. Some diplomatic Facebook accounts, such as the US Embassy in Jakarta, with close to 635,000 followers, are highly successful. A sample of other foreign ministries with Facebook pages shows that countries as diverse as Greece, Finland, France, Japan, Korea, the Philippines, Romania and Spain have taken up the opportunity. Facebook is widely used for support of consular activities and contacts with diaspora.

4.4.3.Blogs

Since their emergence in the late 1990s, blogs have become immensely popular. An estimate from late 2013 says there are over 150 million blogs, with two new blogs being created every second.[73] Simply defined, blogs are an online self-publishing tool. Bloggers post short entries regularly, to deliver information on a wide range of topics, and to invite response in the form of comments from readers. Blogs usually aim to foster interaction between the author and readers, who may be a specific group or the general public.

71 Twiplomacy, “Twiplomacy Study 2014 – Update,” 26 November 2014. http://twiplomacy.com/blog/twiplomacy-study-2014-update/.
72 Statistics as of 31 December 2015, Facebook Newsroom, http://newsroom.fb.com/company-info/.
73 Brandon Gaille, “How Many Blogs are on the Internet,” WP Virtuoso, 20 November 2013. http://www.wpvirtuoso.com/how-many-blogs-are-on-the-internet.

The UK Foreign and Commonwealth Office (FCO) is among the leaders in diplomatic blogging, with a focus on public diplomacy and individual views. Over 100 of its officials and diplomats – including ministers and ambassadors – blog regularly from all over the globe. "We want our blogs to be personal, real time, integrated with other things we're doing, responsive to comments, and written for particular (sometime niche) audiences".[74] The French MFA uses blogs in a very effective way by explaining the MFA's e-diplomacy activities, including a training in digital diplomacy for French diplomats, in a humorous blog posting.[75]

Blogging by diplomats raises questions about the relationship between the expression of professional and personal views on social media. Although the history of diplomatic blogging is fairly short, there are already a few examples of diplomatic conflicts directly associated with the use of personal elements in blogs by diplomats. For example, Jan Pronk, the UN Envoy in Sudan, was expelled from the country following the comments he made in his personal blog.[76] During the summer of 2006, Pronk's doubts about the effectiveness of the Darfur peace process and his criticisms of both the Sudanese government and the rebels were picked up by mainstream media. Three days after a further critical posting on his blog in August 2006, Pronk was declared *persona non grata* by the Sudanese government and given three days to leave the country. The UN offered him no official backing.

Former UK Ambassador Oliver Miles is critical of diplomatic blogging, arguing that ambassadors should not try to replace journalists: He says: "Their [Ambassadors'] job is to advise their governments on policy [...] to carry out policy and on occasion to advocate and promote it publicly; and to provide a discreet and reliable channel of communication between governments." Blogging, he claims, does not support these aims. On the contrary, diplomatic blogging is bound to be risky, as in order to attract readers a blog has to be a bit spicy, whereas diplomatic communication is typically cautious and bland, for good reason.[77]

Despite doubts and risks such as these, many major MFAs, including the US State Department and the UK FCO, continue to encourage their officials to blog.

4.4.4.Wikipedia

Wikipedia – the free, online, collaboratively written encyclopaedia – offers some very interesting opportunities for public diplomacy, in particular for enhancing a country's image. Wikipedia is the seventh most visited website worldwide. Wikipedia is a primary source of information about the history, geography, politics, institutions, and international relations of different countries worldwide. It is often the first source users turn to when they want to learn something about another country.

74 Foreign & Commonwealth Office, (no date), *Foreign Commonwealth Office Digital Diplomacy*. http://blogs.fco.gov.uk/digitaldiplomacy/.
75 Anne Chounet-Cambas, "Hands on digital diplomacy," *Carnets Diplomatiques*, 21 February 2014. http://blog.diplomatie.gouv.fr/Hands-on-digital-diplomacy?lang=fr.
76 Jan Pronk, http://www.janpronk.nl.
77 Oliver Miles, "Stop the blogging ambassadors," *The Guardian*, 12 July 2010. http://www.theguardian.com/commentisfree/2010/jul/12/lebanon-israel.

The creation of articles on Wikipedia is a very interesting process. All articles are written by volunteers, and any Internet user can become an editor. This does not mean, however, that anything can be published on Wikipedia as the organisation maintains strict policies and guidelines. One of them is verifiability where all information included in an article should be supported by verifiable sources such as books, published academic works or media news. Another important policy is a neutral point of view, which means that all views about a particular topic should be fairly represented.

Due to its wide use, Wikipedia can be a powerful tool for public diplomacy. Creating new articles on Wikipedia, or improving existing ones, should be part of MFAs' public diplomacy strategy. Nevertheless, in the context of Asia-Europe, Wikipedia does not accurately reflect linguistic diversity. English is the most frequently used language with more than five million Wikipedia articles, followed by Swedish, Cebuano, German, Dutch and French – mostly European languages – whereas a very limited number of articles are available in Asian languages, especially when compared to the size of their populations.[78]

4.5. Challenges for MFAs

The culture of interactivity and transparency embodied in blogs and other social media is very different from the more closed and hierarchical culture of traditional diplomacy. Frederick Jones, former editor of the official State Department blog, puts it quite straightforwardly in the following quote: "A lot of diplomacy has to be conducted behind closed doors. The challenge we face is striking a balance between having informed and interesting comments and giving diplomacy the space it needs. Diplomacy is not transparent by nature. Blogs are."[79]

What kind of balance may be found between these two cultures? While many authors are doubtful about the applicability of social media to diplomacy, and public diplomacy as part of it, others suggest that the Internet culture of openness, interactivity and two-way communication may transform the very way public diplomacy operates. Former US Under Secretary of State for Public Diplomacy James K. Glassman described this upcoming change as "public diplomacy 2.0.". According to Glassman, the State Department "would like to see the government as a facilitator and convener… What we want to do is encourage a conversation in which we are part." This means supporting online activities by anti-violence, anti-extremist organisations, especially in troubled regions, without necessarily preaching the US story to them. The implementation may fall short, but the ideology behind such initiatives is revolutionary: to cede control of information, to build an open channel for criticism and alternative points of view. According to Josh Fouts: "Government has always been driven by an effort to control information, but to be part of this conversation inherent in Internet culture is to let go of control of information and roll with it."[80]

78 Kristen V. Brown, 'Unless you speak English, the Internet doesn't care about you,' *Fusion*, 18 February 2016. http://fusion.net/story/270135/the-english-speaking-web-creates-digital-ghettos/.
79 Matthew Lee, "State Department launches diplomacy blog," *USA Today*, 25 September 2007. http://usatoday30.usatoday.com/tech/news/2007-09-25-state-department-blog_N.htm.
80 Amy Harder, "Clinton State Department looks to boost online presence," *Nextgov*, 11 February 2009. http://www.nextgov.com/nextgov/ng_20090211_9513.php.

Another concern with regard to e-diplomacy as part of public diplomacy has to do with measuring the results of such activities. It is well known in the business world that social media marketing does not immediately lead to increased sales – it is more effective at less measurable tasks like building awareness, increasing customer loyalty and improving reputations. Many foreign ministries find it challenging to ensure funding for public diplomacy in circumstances where the impact of public diplomacy cannot be easily measured and presented to a broader public.

5. Conclusion

Diplomacy in Asia and Europe can, and should, play an important role in strengthening digital connectivity between these two continents.

First, Asian and European diplomats have to be prepared to work in fast-changing geopolitical and geoeconomic spaces where the Internet is becoming the defining technology of modern society. In the Asia-Europe context, digital technologies should foster interdependence as a way to improve relations, reduce the use of force and solve conflicts through peaceful means.

Second, to increase digital connectivity the two continents should harmonise their policy and regulatory frameworks. This includes setting technical standards for Internet development, regulating e-commerce, consumer protection and dispute resolution, among others.

Third, diplomats should start using social media effectively in building understanding and trust between the two continents. Despite all the risks associated with the use of social media tools, if used strategically they may become an important channel of communication with foreign publics.

Glossary

Content policy: the deliberate restriction of online content in order to protect vulnerable communities and cultural values, to divert security threats and radicalisation, or to limit political opposition. The latter use of content restriction often coincides with violations of the right to freedom of expression.

Council of Europe Convention on Cybercrime: signed in 2001, this is currently the only international treaty in the field of Internet security. The convention has also been adopted by non-European countries and has caused international harmonisation of cybersecurity rules.

Cybercrime (computer crime) refers to any crime that involves a computer and a network, where the computers may or may not have played an instrumental part in the commission of a crime.

Cybersecurity: measures taken to protect a computer or computer system (as on the Internet) against unauthorised access or attack (www.merriam-webster.com)

Cybersovereignty: governments' exclusive control over their national cyberspace, often coinciding with restrictions for foreign content and applications and the promotion of domestic Internet companies.

Data governance: the construction of a regulatory regime related to the digital movement and storage of data. It is highly related to data protection and privacy.

Digital centralisation: challenging the assumption that the Internet is decentralised, digital centralisation points towards the limited number of cables through which the Internet is carried, which can ultimately cause security risks and tensions between countries.

Digital interdependence: the increased level of interdependence between countries, caused by information and communication technologies. It is believed to increase the incentives for peaceful dispute resolution and to blur the traditional division between national and international communication spaces.

Digital Silk Road: part of the One Belt - One Road initiative aimed at connecting China to the Eurasian landmass through different infrastructural projects, including strengthening the digital links on the Eurasian territory.

Diplomatic blogging: the use of the blogosphere by diplomats and ministry of foreign affairs officials.

Domain Name System (DNS) handles Internet addresses (such as www.google.com) and converts them to IP numbers (a simplified scheme of this process is presented in the illustrations). The DNS consists of root servers, top-level domain (TLD) servers, and a large number of DNS servers located around the world.

E-commerce: the use of information and communication technologies for the trade in products or services.

E-diplomacy: the use of information and communication technologies for diplomatic objectives.

Encryption: the scrambling of electronic documents and communication into an unreadable format that can be read only through the use of encryption software.

Geoeconomics: the promotion of national interest through economic means.

Geopolitics: a way of viewing politics by assessing how it is affected by geographic factors.

Guidelines on Protection of Privacy and Transborder Flows of Personal Data: adopted on 23 September 1980, continues to represent international consensus on general guidance concerning the collection and management of personal information. By setting out core principles, the guidelines play a major role in assisting governments, business and consumer representatives in their efforts to protect privacy and personal data, and in obviating unnecessary restrictions to trans-border data flows, both on and off line (http://www.oecd.org).

Information and communication technologies (ICTs): umbrella term covering technologies that allow for communication and access to information using telecommunications.

Information security: a broad conception of cybersecurity that allows for taking measures in cyberspace to create social and political stability.

Intellectual property rights (IPR) are temporary grants of monopoly intended to give economic incentives for innovative activity. IPR exist in the form of patents, copyrights and trademarks (http://dret.net/glossary/ipr).

Interaction capacity: the possibilities for transportation and communication between different social systems, largely dependent on physical and social technologies.

Internet Corporation for Assigned Names and Numbers (ICANN) was formed in 1998. It is a not-for-profit, public-benefit corporation with participants from all over the world dedicated to keeping the Internet secure, stable and interoperable. It promotes competition and develops policy on the Internet's unique identifiers. ICANN does not control content on the Internet. It cannot stop spam and it doesn't deal with access to the Internet. But through its coordination role of the Internet's naming system, it does have an important impact on the expansion and evolution of the Internet (www.icann.org).

Internet governance is the development and application by governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures and programmes that shape the evolution and use of the Internet.

Internet Governance Forum (IGF) is run by the IGF Secretariat. Its purpose is to support the United Nations Secretary-General in carrying out the mandate from the World Summit on the Information Society (WSIS) with regard to convening a new forum for multi-stakeholder policy dialogue, the Internet Governance Forum (IGF). The site provides an interactive, collaborative space where all stakeholders can air their views and exchange ideas.

Internet Protocol (IP): unique numeric addresses that all computers connected to the Internet must have. As no two computers can have the same IP number, IP numbers are a scarce resource.

Many-to-many communication: form of communication in which each user can contribute and receive information, allowing for dynamic forms of online interaction. It has largely been facilitated by social media platforms.

Multilingualism: the promotion of online content that is accessible in multiple languages.

Public diplomacy: diplomatic activities aimed at influencing the public, understanding their attitudes to foreign policy activities and shaping their views on these issues to the advantage of the country conducting the activities.

Public diplomacy 2.0: the use of the Internet to conduct public diplomacy, often using social media channels, to engage directly with foreign and domestic publics and enhance the interactive character of public diplomacy.

Social media: an umbrella concept encompassing online communication channels dedicated to user-generated content and many-to-many interaction.

Telecommunications infrastructure: all facilities capable of transporting digital signals, such as copper wire, fibre-optics and cables, but also microwave and Wi-Fi.

Twiplomacy: the use of Twitter for diplomatic activities.

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Annex I. Data analysis on Internet and new policy issues on the diplomatic agenda[81]

Data set: the IG Media Text Corpus (52,892 online news and reports from 2015)

Diplo Text-Analytics Framework (DTAF) was used to:

- map the IG specific keywords (more than 2,000 specific terms from the DiploFoundation's IG Terminological Model) onto the documents in the IG Media Text Corpus;
- project the previously developed statistical model of Internet Governance Forum 2006-14 session transcripts onto the documents in the IG Media Text Corpus;
- project Dr Kurbalija's Internet Governance Taxonomy onto the documents in the Corpus;
- recognise mentions of Asian and Europe countries in the IG Media Text Corpus;
- correlate information on country mentions and importance of various IG Issues from the Taxonomy in the Corpus.

Results:

- typical IG Issues are described via semantic topics (i.e. "contexts": lists of IG specific terms, with each term receiving a specific importance weight in each IG Issue);
- correlation between the pattern of country mentions in the Corpus and the pattern of IG Issues in the corpus;
- the recognition of typical IG contexts in which a particular country tends to occur in online media.

81 For more information about the IG Media Text Corpus, please contact DiploFoundation at diplo@diplomacy.edu

Annex II. Summary of ASEM Partners' web presence[82]

Country	Web	ASEM	Asia/Eur[83]	Languages	PD[84]	Projects & exhibitions	Twitter	Facebook	Flickr	YouTube	News	RSS
Australia	Yes	Yes		English	Yes		Yes		Yes	Yes	Yes	
Austria	Yes		Yes	English, German		Yes	Yes	Yes	Yes	Yes	Yes	yes
Bangladesh	Yes			English							Yes	
Belgium	Yes		Yes	English, German, French, Dutch			Yes	Yes	Yes	Yes	Yes	yes
Brunei Darussalam	Yes	Yes		English	Yes						Yes	
Bulgaria	Yes	Yes		English, Bulgarian			Yes	Yes	Yes	Yes	Yes	
Cambodia	Yes			English, Khmer				Yes			Yes	
China	Yes		Yes	English, French, Spanish, Chinese, Arabic, Russian							Yes	
Croatia	Yes			English, Croatian			Yes	Yes	Yes	Yes	Yes	
Cyprus	Yes			English, Greek							Yes	
Czech Republic	Yes	Yes		English, Czech	Yes	Yes	Yes				Yes	
Denmark	Yes		Yes	English, Danish			Yes			Yes	Yes	yes
Estonia	Yes			English, Estonian, Russian			Yes	Yes	Yes		Yes	
Finland	Yes		Yes	English, Finnish, Swedish			Yes	Yes		Yes	Yes	yes
France	Yes		Yes	English, French, Spanish, Chinese, Arabic, German		Yes	Yes	Yes	Yes	Yes	Yes	yes
Germany	Yes		Yes	English, German, French, Spanish, Chinese, Arabic, Russian, Portuguese		Yes	Yes	Yes		Yes	Yes	yes
Greece	Yes			English, French, Greek		Yes	Yes	Yes	Yes	Yes	Yes	yes
Hungary	Yes			English, Magyar				Yes		Yes	Yes	yes
India	Yes			English, French, Spanish, Arabic, Hindi			Yes	Yes	Yes	Yes	Yes	yes
Indonesia	Yes	Yes		English, Bahasa		Yes	Yes	Yes		Yes	Yes	
Ireland	Yes			English, Irish			Yes			Yes	Yes	
Italy	Yes		Yes	English, Italian , Arabic		Yes	Yes		Yes	Yes	Yes	
Japan	Yes	Yes	Yes	English Japanese	Yes		Yes	Yes	Yes	Yes	Yes	
Korea	Yes	Yes	Yes	English, Korean		Yes	Yes	Yes			Yes	Yes

82 Websites of Ministry of Foreign Affairs for 51 ASEM Partners and organisational web sites for the ASEAN Secretariat and the European Union
83 Pages on Asia (in Europe) and on Europe (in Asia)
84 Pages on public diplomacy

Country	Web	ASEM	Asia/Eur[83]	Languages	PD[84]	Projects & exhibitions	Twitter	Facebook	Flickr	YouTube	News	RSS
Kazakhstan	Yes		Yes	English, Russian, Kazakh			Yes	Yes	Yes	Yes	Yes	
Lao PDR	Yes			English, Thai							Yes	
Latvia	Yes		Yes	English, Latvian, Russian			Yes	Yes	Yes	Yes	Yes	
Lithuania	Yes			English, French, Russian, Polish, Lithuanian			Yes	Yes	Yes	Yes	Yes	yes
Luxembourg	Yes			French							Yes	
Malaysia	Yes		Yes	English, Bahasa	Yes			Yes	Yes	Yes	Yes	yes
Malta	Yes			English, Maltese				Yes			Yes	
Mongolia	Yes		Yes	English, Mongolian	Yes		Yes	Yes			Yes	
Myanmar	Yes			English							Yes	
Netherlands	Yes		Yes	English, Dutch, Papiamento, Papiamentu			Yes				Yes	yes
New Zealand	Yes		Yes	English, Maori		Yes					Yes	yes
Norway	Yes			English, Norwegian, Samegiella			Yes		Yes		Yes	yes
Pakistan	Yes			English	Yes		Yes	Yes			Yes	
Philippines	Yes			English			Yes	Yes			Yes	
Poland	Yes		Yes	English, Polish	Yes	Yes	Yes		Yes	Yes	Yes	
Portugal	Yes			English, Portuguese							Yes	
Romania	Yes	Yes	Yes	English, French, Romanian	Yes	Yes	Yes	Yes	Yes	Yes	Yes	yes
Russian Federation	Yes			English, French, German, Spanish, Russian			Yes	Yes	Yes	Yes	Yes	
Singapore	Yes	Yes	Yes	English			Yes				Yes	
Slovakia	Yes			English, Slovak				Yes		Yes	Yes	
Slovenia	Yes	Yes		English, Slovenian			Yes	Yes		Yes	Yes	yes
Spain	Yes		Yes	English, French, Spanish, Catalan, Basque, Galician			Yes	Yes		Yes	Yes	
Sweden	Yes		Yes	English , Swedish			Yes				Yes	yes
Switzerland	Yes		Yes	English, French, German, Italian		Yes				Yes	Yes	
Thailand	Yes		Yes	English, Thai			Yes	Yes		Yes	Yes	
United Kingdom	Yes		Yes	English			Yes	Yes	Yes	Yes	Yes	yes
Viet Nam	Yes			English, Vietnamese		Yes					Yes	

2.2. Trans-Eurasia Information Network (TEIN): Connecting Asia-Europe Through High-Speed Networks for Research and Education

ByungKyu KIM[1]

Abstract

This article introduces an overview of the Trans-Eurasia Information Network (TEIN) projects and collaborative research and education activities through TEIN since 2000. It shows future challenges which have to be solved in the next phase of TEIN. It intends to provide all the projects' stakeholders with comprehensive information to help facilitate their understanding of the projects.

Introduction

The TEIN initiative was launched at the 3rd Asia-Europe Meeting Summit (ASEM3) in October 2000 in Seoul, Korea. It has since been one of the most successful ASEM initiatives to connect information and communications technology (ICT) infrastructures between Asia and Europe. It contributes to the enhancement and diversification of research exchanges and cooperation through more effective, faster and powerful dedicated Internet connections between two regions, as well as among Asian countries. TEIN has helped bridge the digital divide in Asia and delivered opportunities and benefits to people both in Asia and Europe, by acting as a catalyst for the development of research networking in developing countries.[2] It extends the geographical reach of the network and promotes digital inclusion and regional cohesion, so creating more equal access to cutting-edge network resources.

1 Dr ByungKyu Kim, Executive Officer of TEIN* Cooperation Center, would like to thank all representatives, engineers, and researchers, who have worked for either domestic or international TEIN projects from the TEIN partners' countries, and EC officers, TEIN4 evaluators, and colleagues from GEANT for providing the numerous discussions and presentation materials.

2 Developing countries in Asia (excluding China) on the DAC List of ODA Recipients Effective as at 1 January 2015 for reporting on 2014, 2015 and 2016 flows. http://www.oecd.org/dac/stats/daclist.htm.

TEIN has contributed to the UN Millennium Development Goals (MDGs)[3] by promoting collaborative research on applications of broad societal benefit and establishing dedicated high-capacity Internet links between research and education (R&E) organisations in Asia and Europe, connecting Asia Pacific researchers and educators with their counterparts in Europe via GÉANT[4] networks.

The primary target group of the TEIN project is the National Research and Education Network (NREN) of each beneficiary country. The NREN typically connects all major research and educational institutions in each country, and is therefore centrally placed for reaching out to a wider network of research and education organisations. TEIN has had a catalytic effect on national research and education network development in all the beneficiary partner countries, and allowed them to participate in demonstration and application projects alongside the non-beneficiary countries. All the beneficiary countries acknowledge that TEIN projects have stimulated their national projects. TEIN has high visibility within the region, as seen by the range of applications using the TEIN network, which has broadened from health and education to environmental and scientific fields.

The TEIN Initiative started with a Paris-Seoul connection in December 2001, and the 2nd phase of TEIN (TEIN2) links were established in January 2006. TEIN2 represented a dramatic leap in ambition and coverage, involving nine Asian partners, of which six were significant beneficiaries of European Commission financing: China, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam. Three Asian partners – Japan, Korea and Singapore – participated at their own cost and in some cases also made in-kind or financial contributions to TEIN2. Australia was also connected at its own cost. Leaders at ASEM6 (September 2006, Helsinki) acknowledged[5] the important role of TEIN2 in extending connectivity between Asia and Europe for research and education, and supported its application into broader areas. Also, at ASEM7 (October 2008, Beijing), ASEM leaders recognised the success of the TEIN project in fostering research collaboration between all ASEM partners, welcomed the launch of TEIN3 and renewed their commitment to its long-term sustainability.

TEIN3 has been further developed. It has extended to South Asia and the number of Asian partners has grown to 18: Australia, Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Japan, Korea, the Lao PDR, Malaysia, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand and Viet Nam. Both TEIN2 and TEIN3 were managed an EU organisation, *GÉANT (formerly DANTE)*, cooperating with Asian partners.

3 E-Learning contributed to goal 2 (universal education) and e-health to goals 4, 5 and 6 (child health, maternal health and combat HIV/AIDS, malaria and other diseases). Millennium Development Goals, United Nations. http://www.un.org/millenniumgoals.

4 GÉANT. http://www.geant.org/.

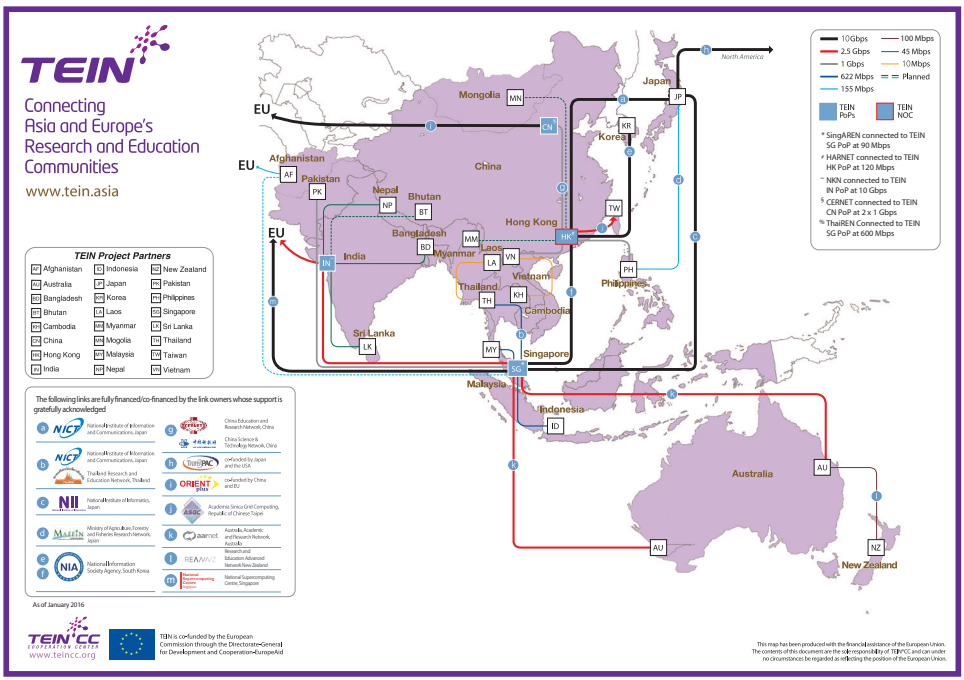
5 TEIN2 (no date) *TEIN2 receives endorsement from Asian and European leaders*. http://tein2.archive.dante.net/server/show/nav.1756.html.

At ASEM8 in October 2010 in Brussels, in the Chair's Statement[6], the leaders endorsed the next phase of TEIN (TEIN4) and the establishment of the TEIN* Cooperation Center (TEIN*CC).[7] The TEIN4 project is funded by the European Union (EU), Korea and NREN partners. A major change in the TEIN4 project was the operation and management of the project, which is by TEIN*CC, a local organisation. On 4 May 2012, TEIN*CC was officially launched at its office in Seoul. TEIN*CC is hosted by Korea, with financial contributions from participating ASEM partners. Figure 1 shows the TEIN4 network map, which has the greatest bandwidth capacity and most pervasive network in the region. It should be noted that TEIN projects initiated the establishment of NRENs in each beneficiary Asian country.

6 8th Asia-Europe Meeting – Chair's Statement. Article 79. "Leaders recognized the important role played by the Trans-Eurasian Information Network (TEIN) project in increasing direct internet connectivity among research and education in Asia and between Asia and Europe. They welcomed the planned launch of its 4th phase and the establishment of a Cooperation Center hosted by the Republic of Korea with financial contributions from participating ASEM partners." http://aseminfoboard.org/sites/default/files/documents/2010_-_ASEM8_-_Chairmans_Statement.pdf.

7 TEIN*CC. http://www.teincc.org/teincc/index.do.

Figure 1: TEIN-4 backbone topology (high capacity data internet links) (as of January 2016)



The focus of TEIN4 is to increase the usage of the network by user communities, through greater promotion of the network, and to include a broad range of sectors for research and other non-commercial applications in fields, such as food security, health, earth and ocean observation related to natural disasters, government, education and training, and cultural heritage, with an emphasis on applications of broad societal benefit. This supports the move towards achieving the Sustainable Development Goals (SDGs) as well as the MDGs, including key challenge SDG 9.5 and cross-cutting SDG 9.b.[8]

8 SDG 9 – Build resilient infrastructure, promote sustainable industrialisation and foster innovation; Target 9.5 – Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending; Target 9.b – Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities. United Nations (2015) Sustainable Development Goals. http://www.un.org/sustainabledevelopment/sustainable-development-goals/.

Governments in Asia have long recognised the importance of IT and research to the future of the region. They initiated a number of major initiatives, both nationally and regionally, to build the infrastructure required to allow researchers and educators to work in a collaborative global environment. A critical infrastructure component is the network connectivity to the global research and education community. This led to the formation of NREN in the region, made up of the individual NRENs listed below, and their approximately 7,000 member universities/higher education institutions who are considered affiliated entities.

Table 1: National Research and Education Networks (NRENs) in Asia

Least Developed Countries (LDCs) and Regions	
Afghanistan	Afghanistan Research and Education Network (AfgREN)
Bangladesh	University Grants Commission (UGC)/Bangladesh Research and Education Network (BdREN)
Bhutan	Department of Information Technology and Telecom (DIT&T)/ Druk Research and Education Network (DrukREN)
Cambodia	Institute of Technology of Cambodia (ITC)/Cambodia Research and Education Network (CamREN)
Lao PDR	Lao Education and Research Network (LERNet)
Myanmar	Myanmar Research and Education Network (mmREN)
Nepal	Nepal Research and Education Network (NREN)
Lower Middle Income Countries and Regions	
India	National Knowledge Network (NKN)
Indonesia	Institut Teknologi Bandung (ITB)/INdonesian HighER Education NeTwork (INHERENT)
Mongolia	Mongolian Research and Education Network (ErdemNet)
Pakistan	Pakistan Education and Research Network (PERN)
Philippines	Advanced Science and Technology Institute (ASTI)/ Philippine Research, Education and Government Information Network (PREGINet)
Sri Lanka	Lanka Education and Research Network (LEARN)
Viet Nam	National Agency for Science and Technology Information (NASATI)/ Vietnamese Research and Education Network (VinaREN)
Upper Middle Income Countries and Regions	
China	China Education and Research Network (CERNet), China Science and Technology Network (CSTNet)
Malaysia	Malaysian Research and Education Network (MyREN)
Thailand	Thailand Research Education Network Association (ThaiREN)

Developed countries and Regions	
Australia	Australia's Academic and Research Network (AARNet)
Hong Kong SAR	Hong Kong Academic and Research Network (HARNet)
Japan	National Institute of Information and Communications (NICT), National Institute of Informatics (NII), Ministry of Agriculture, Forestry and Fisheries Research Network (MAFFIN)
Korea	National Information Society Agency (NIA)/Korea advanced Research Network (KOREN), Korea Institute of Science and Technology Information (KISTI)/Korea Research Environment Open NETwork (KREONET)
New Zealand	Research and Education Advanced Network NZ Ltd. (REANNZ)
Singapore	Singapore Advanced Research & Education Network (SingAREN)

Accordingly, TEIN has played a pivotal role in building the e-infrastructure in the beneficiary countries, and has contributed to the reduction of information inequality in Asia, as well as between Asia and Europe.

The EU contribution has been about EUR 21 million under TEIN2 and TEIN3. Under the TEIN4 project, which runs from April 2012 to November 2016, the EU will contribute a further EUR 8 million of the total eligible costs, estimated at EUR 16 million. The total EU contribution to TEIN of EUR 29 million is a significant investment. The Korean Ministry of Science, ICT and Future Planning (MSIP) has been very supportive of the TEIN projects. Under TEIN4, MSIP contributes EUR 2,160,000 in cash to cover the TEIN*CC (Seoul) staff salaries and costs, while Seoul Metropolitan City provides the TEIN*CC offices. Additionally, non-beneficiary countries and regions, such as Australia, China, Hong Kong SAR, Japan, Korea, New Zealand, Singapore, contribute the cost of their country's TEIN backbone[9] and access links.

GÉANT in Europe, Internet2[10] in North America, and RedCLARA[11] in Latin America have similar roles to TEIN*CC, but the TEIN model of cooperative governance is unique to the Asia region, and together with APAN[12], TEIN has built the research and education networks described previously, and facilitated cooperative e-infrastructure in each country, and globally.

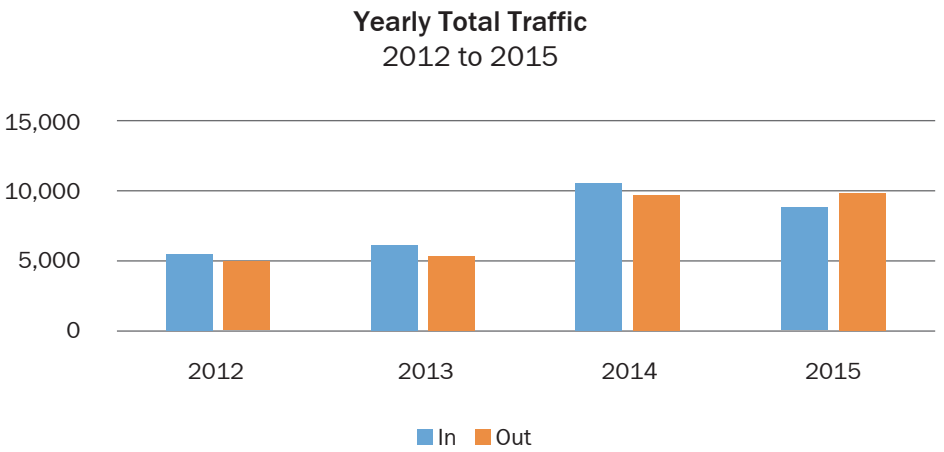
9 The current TEIN backbone networks consist of Singapore-Europe (10Gbps), Singapore-Mumbai-Europe (2.5Gbps), and Beijing-Europe (10Gbps) for transit to Europe, and Hong Kong-Singapore (10Gbps), Tokyo-Hong Kong (10Gbps), and Tokyo-Singapore (10Gbps) for transit to Asia, and Tokyo-US (100Gbps) for transit to the USA.
10 Internet2. http://www.internet2.edu/.
11 RedCLARA. http://www.redclara.net/index.php/en/.
12 Asia Pacific Advanced Network (APAN). https://www.apan.net/.

Major achievement

1. Utilisation of network infrastructure

The network infrastructure has been upgraded to provide higher capacity links within Asia, and with Europe, and has been extended to other Asian countries. As of January 2016, TEIN4 expanded to physically connect 20 Asia countries among 23 partners. TEIN is the largest regional research and education network connecting Asian countries. There are two main Asia-Europe routes connecting TEIN4 countries and Europe. These are 2.5Gbps[13] links between Europe–India–Singapore, directly funded by the TEIN4 project, and the Europe–Beijing link funded by the ORIENTplus[14] project.

Figure 2: Total (in-bound, out-bound) TEIN traffic usages at each TEIN-PoP (Beijing, Hong Kong SAR, Singapore, Mumbai) during the period of 2012-2015



Unit: Terabyte

Year	2012	2013	2014	2015
In	*5,437*	*6,044*	*10,494*	*8,815*
Out	*4,868*	*5,296*	*9,696*	*9,871*
Total	***10,305***	***11,340***	***20,190***	***18,686***

13 Link was 2.5Gbps by the end of 2015, and will be upgraded as 10Gbps in 2016.

14 The ORIENTplus project is jointly funded by China and the EU, and operates a high capacity data communication link between the pan-European GÉANT backbone network and Chinese research and education networks.

The total traffic volume has gradually risen about 80%, compared to that of 2012. Network usage has increased in TEIN4[15] because of the various research activities within Asia and with Europe,

2. Activities and applications

TEIN provides advanced connectivity for researchers, academics and students across the Asia-Pacific region, allowing them to engage in global collaborative researches and education projects.

With powerful network links in place, scientists across Asia-Pacific can participate in world-class research projects in areas such as telemedicine, climatology, and crop research. TEIN also enables regional scientists to respond to global challenges, such as food sustainability and climate change, while addressing local concerns.

Advanced connectivity supports cost-effective and time-saving e-learning initiatives, making education more flexible and accessible across the region.

Many of the applications using TEIN network are of high societal impact, thus bringing tangible benefits to the general population, rather than solely serving the scientific community.

TEIN*CC surveyed[16] each of NREN's research activities and collated 45 TEIN based activities. Advanced countries usually applied leading-edge technologies based on 10G connections, and shared their know-how with developing countries. Developing countries focused on building the base infrastructure and training people to manage the new services.

15 More partners, the Taiwan Province of China (2.5 Gbps) and Bangladesh (45 Mbps), participated in TEIN and existing partners upgraded their links. Australia (622 Mbps→2.5G bps), Pakistan and Viet Nam (155 Mbps→1G bps), Thailand (310→600 Mbps) and Hong Kong SAR (90→150 Mbps) upgraded their links for international activities. Link outages on the backbone, and re-routed NREN's link based on bandwidth limitation toward EU resulted in 8% reduced traffic volume in 2015.

16 The NREN survey was conducted in March to May 2015 by using questionnaires sent from TEIN*CC to each NREN partner.

Figure 3: Statistics of TEIN4 Activities survey (2012 to 2015)

Category	Cases	Category	Cases
Telemedicine	3	Education & e-Learning	2
Health & Disease	3	e-Culture	2
Earth & Ocean Observation	8	Future Internet	9
Food Security	2	Cloud Technology	2
e-Science	9	Network Technologies	5

In addition to these cases, TEIN supported engineering training, and application workshops and research projects for promoting and stimulating local and international collaboration. From 2012 to 2015, the TEIN project supported 39 application workshops and HRD training events in various countries.

More than 70% of the topics at these events were network-related technologies, which promote each NREN partner's capacity to build and operate their own infrastructure. These can be categorised as: Future Internet; cloud technology; monitoring with PerfSONAR[17]; identification; network operation; campus network design and building; and security.

The range of research activities across the TEIN networks can be illustrated with the following eight case studies.[18]

2.1. Telemedicine

2.1.1.Spreading best surgical practice across Asia-Pacific

Communications technology has radically transformed the healthcare industry in the Asian region, with advanced remote diagnosis and enhanced international collaboration. TEIN assists trainee surgeons throughout Asia-Pacific to adopt complex clinical techniques, such as endoscopic surgery, by supporting interactive tele-surgical training. Advanced connectivity permits high-quality streaming of live surgery events in an operating theatre, in near-real time, to a remote classroom. This facilitates the spread, and scaling up, of best practice, benefiting physicians and surgeons in developing countries, and saving many lives. Telemedicine allows surgical professionals to learn complex clinical techniques from leading global experts through interactive remote trainings.

17 PerfSONAR is an infrastructure that monitors network performance, making it easier to solve end-to-end performance problems on paths crossing several networks. It contains a set of services delivering performance measurements in a federated environment. PerfSONAR has been developed through an international collaboration led by Internet2, ESnet, RNP, and GEANT. https://fasterdata.es.net/performance-testing/perfsonar/.

18 TEIN4. http://www.tein.asia/tein4/index.do.

2.1.2.Collaboration between doctors and engineers

Recent advances in medical technology require closer cooperation than ever between doctors and network engineers in hospitals. By offering good technical training and workshops for engineers in hospitals, patients will ultimately benefit from medical standardisation with better healthcare services. Moreover, building a strong social network between medical professionals and engineers lays a firm foundation for further collaborations, which will benefit society with better medical services.

2.1.3.Case study

In Asia, two groups that are working to overcome these issues are the Telemedicine Development Center of Asia (TEMDEC), led by the pioneering Kyushu University Hospital in Japan, and the Medical Tele-Collaboration (MTC), led by Seoul National University Bundang Hospital (SNUBH) in Korea.



By combining the fast and stable network connections provided by TEIN and Digital Video Transport System (DVTS) equipment, which runs on a standard PC, TEMDEC carries out high-quality, live streaming of surgery and consultations from operating rooms to remote sites. This allows medical professionals across the region to adopt complex clinical techniques, such as endoscopic surgery, which benefits local patients. The MTC project runs regular live surgery, tele-education and teleconference sessions across the Asia-Pacific region.

2.2. Health and disease

2.2.1.Research collaboration to combat and prevent global disease

In recent years, the international community has seen rapidly growing, global epidemics of infectious diseases such as Dengue fever and Ebola, and these pose a serious threat to the entire world. The TEIN project contributed to the improvement of global public health by promoting joint workshops between medical communities to allow clinicians from different countries to better collaborate, and to deepen their understanding of cases in different regions, as well as to share expertise on national disease control strategies. Furthermore, TEIN provides remote participation to reach out to a broader audience and supports high quality image and file sharing for in-depth studies and case discussion. Discussions are underway to help develop a digital platform of data exchange and a regional outbreak prediction model.

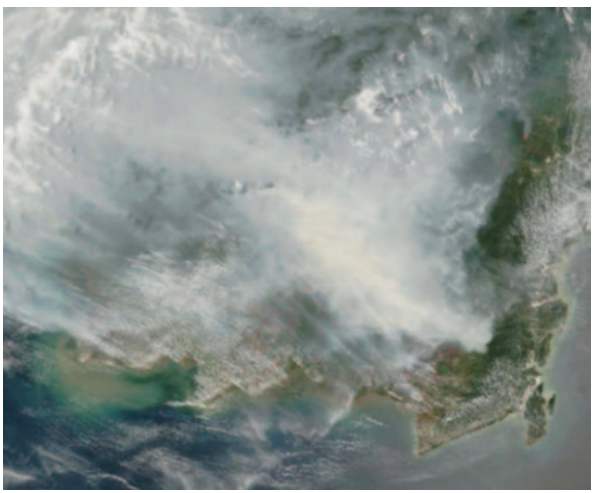
2.2.2.Related event



At the 37th Asia Pacific Advanced Networking (APAN) meeting in January 2014 in Bandung, Indonesia, the first successful joint APAN-TEIN dengue fever workshop was held, with a second dedicated event taking place at the 38th APAN meeting in March 2015 in Fukuoka, Japan. The workshop attracted over 20 attendees, including clinicians and researchers from within the multi-disciplinary dengue fever community, public health officials, and NREN representatives from across the Asia-Pacific region, Europe and Africa. The workshop provided a forum to take stock of developments since the Bandung meeting, to share experiences and discuss best practices, and mobilise a community dedicated to helping combat the spread of this devastating disease. In the run-up to the workshop the participants had the opportunity to join colleagues and network professionals in a series of videoconferences to share relevant expertise.

2.3. Earth and ocean observation

2.3.1.Predicting the climate is more important than ever

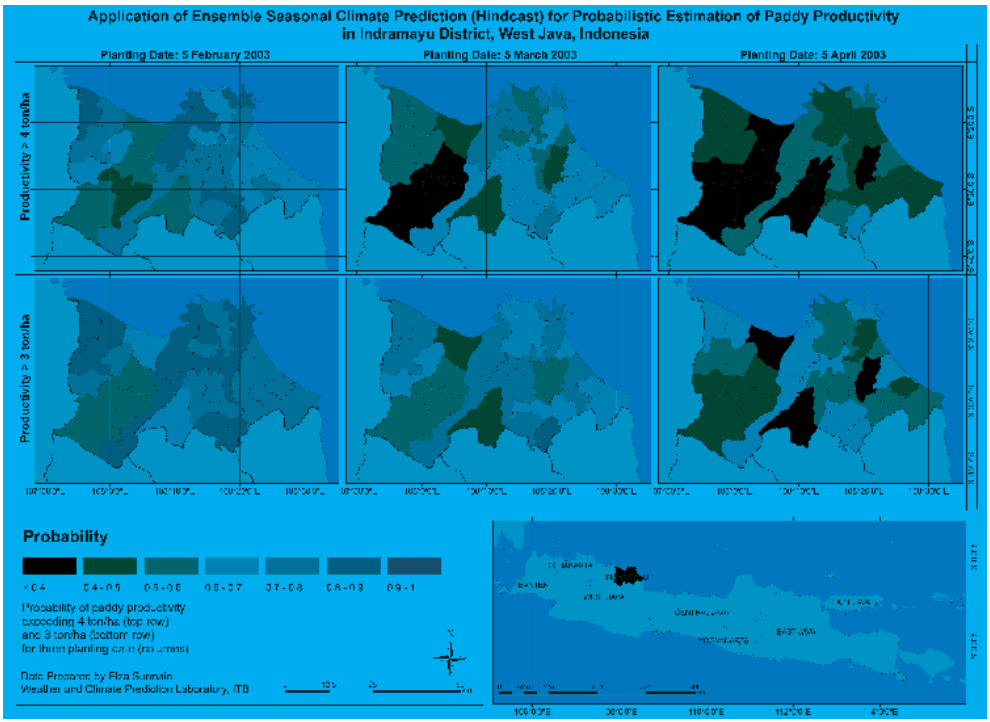


Climate information is becoming an increasingly important element in social and economic decision making. Although the long-term impact of global warming on the climate is still being debated, increased climate variability and extreme weather events pose real threats to human security. This is especially true in the Asia-Pacific region, where the capability to predict and prevent these events is relatively insufficient due to poor technical infrastructure.

Using the TEIN networks, researchers can predict climate and weather changes by operating cloud computing systems and facilitating real-time data exchange, which has brought about technological innovation. This allows climate prediction at local level, without the need for expensive computing resources on the ground. By promoting various application activities in earth and ocean observation, people in remote rural areas can also benefit from high resolution regional climate prediction systems, which provide faster and more accurate forecasts at minimal cost.

2.3.2.Case study: Climate prediction

High quality climate prediction can be produced only through complex global climate simulation, and the further processing of the output produced by these computer models. The technology is constantly increasing in power and effectiveness, and it is now possible to produce global seasonal predictions up to six months ahead. Some of the required infrastructure with full global capacity is already in place. For example, the APEC Climate Center in Busan, Korea, collects and publishes global seasonal prediction information. But insufficient spatial information means that the output cannot be directly used for such applications as the early warning of hydro-meteorological disasters, or for agricultural planning. In order to make the information more useful, the predictions have to be downscaled into regional domains, and the results further analysed with impact modelling tools to provide estimates of local flood hazard levels, crop yields, energy production, and so on.



2.4. Food Security



With the world's population estimated to reach some 9.6 billion by the middle of this century, five billion people are expected to rely on rice for their food and livelihoods. Growing more rice with less land and water is a must, if the world is to meet the food demand of a growing population. By providing high-capacity network connectivity, as well as dataset storage, TEIN allows scientists and researchers from across the world to join forces to facilitate data-intensive, collaborative crop research, thereby helping farmers increase rice production and sustain their livelihoods. TEIN supports researchers to share and exchange data at any time, and from any location, and conduct time- and cost-effective videoconferences for further study and discussion.

2.4.1.Case study: ASTI and IRRI working together

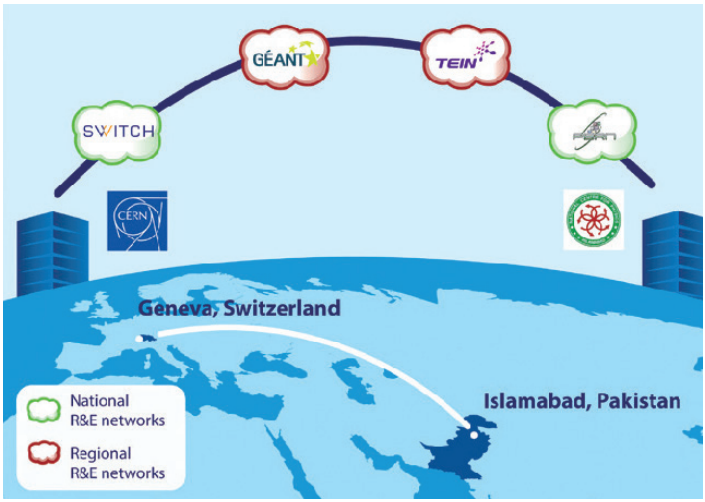
In the forefront of the efforts on food security is the 3,000 Rice Genomes Project (3KRGP), a collaborative project involving the International Rice Research Institute (IRRI), the Chinese Academy of Agricultural Sciences and the Beijing Genomics Institute Shenzhen. The objective of the project is to sequence 3,024 rice varieties from a range of countries. The dataset emerging from this work will be an important resource for scientists working on food security for the world's growing population. Analysing the dataset will lead directly to the improvement of rice varieties, vital to most Asian countries where rice is a staple food. To facilitate this work, IRRI and its collaborators are making the 3KRGP dataset publicly available to scientists and researchers at no cost. It can already be accessed on Amazon Web Services, as well as through the Computing and Archiving Research Environment facility (CoARE), hosted at the Advanced Science and Technology Institute (ASTI) in the Philippines.

ASTI and IRRI collaborate on access to CoARE, a high-performance computing facility, which holds the 3KRGP dataset. ASTI provides network and storage service infrastructure to IRRI to establish a public rice genomic database for the combined 3KRGP variant dataset, and to enable large data exchanges among IRRI and its collaborators. This dataset can be remotely accessed by researchers and scientists, via the TEIN link, as downloadable files using iRODS, an open-source data management platform designed to handle massive amounts of data.

2.5. e-Science

Dedicated high-capacity networks to serve research and education communities, such as TEIN in the Asia-Pacific region, are essential to underpin global collaboration among scientists and researchers, enabling the sharing of petabytes of data created during scientific experiments, and allowing physicists to work together, regardless of their location. TEIN facilitates collaborative research in a diverse range of subjects in natural science: particle physics such as Large Hadron Collider (LHC), nuclear fusion; crystal structures; computational lenses; and grid computing.
The LHC generates over 30 petabytes of data every year. This requires the power of high speed networks, working together, to distribute it around the globe to enable scientists to collaborate on its analysis. Research networks are also vital to educate graduate students and to help grow the physics community. This benefits the entire region and creates a foundation for future growth and scientific excellence.

2.5.1.Case study: Globalising high energy physics



The scale of the LHC research spans the world, involving thousands of researchers in different countries who collaborate to build the infrastructure and analyse the enormous volume of data that the LHC's experiments produce. Research networks, such as the Pakistan Education and Research Network (PERN), TEIN in Asia-Pacific, and GÉANT in Europe, are central to this collaboration. Pakistan is a leading member of the global particle physics research community, and boasts a Nobel Prize winner among its researchers. It has been heavily involved in the LHC, with scientists working together with their counterparts at CERN on the initiatives such as Compact Muon Solenoid (CMS), ALICE and ATLAS experiments. Pakistan has built mechanical components for the ATLAS experiment and a team of Pakistani engineers and technicians is working in the LHC tunnel, helping to increase performance further for future experiments.

Additionally, young and aspiring physicists at the NCP in Pakistan are heavily involved in the analysis of LHC experimental data and the discovery of the Higgs Boson. This participation in global collaboration is helping to accelerate the training of Pakistani research scientists, by enabling graduate students to connect with the worldwide scientific community and work together with other scientists on the challenging questions, without the need to leave Pakistan.

2.6. Education and e-learning

This provides a very personal and experiential opportunity to learn about diversity within, and between, countries in Asia. Distance learning (e-learning) is fast growing in Asia. Many Asian NRENs have considerable experience in this area and plan to further increase domestic and cross-border distance learning programmes. The high quality, low latency performance of networks such as TEIN are critical to improve the high quality of courses and help bridge the digital divide in Asian partners.

2.6.1.Underpinning collaborations in education

TEIN also focuses on further developments in e-learning by identifying, assessing (including through feasibility studies), and scaling-up collaborations in developing countries across Asia. Interest areas include capacity building programmes for e-learning service providers, open discussions on issues such as credit exchange, management systems for e-learning courses, and quality assurance.

2.6.2.Case Study: Asia ConneXions

TEIN Asia ConneXions is a language and cultural exchange programme led by the University of New England (in Armidale, Australia), where schools in Australia and Asia partner with each other to establish cultural and language exchanges to foster understanding between students and teachers. Asia ConneXions leverages high speed networks to connect Australian schools with schools in China, Korea and Japan via high definition videoconferencing. Schools connected to Australia's Academic and Reseacrh Netwotk (AARNet) are well positioned to use R&E infrastructure to participate in this programme, with an increasing number joining for weekly or fortnightly videoconferencing sessions with Asian schools.



2.7. e-Culture

Although TEIN was originally established as a gateway for collaboration among scientists and academic institutions, its advanced connectivity can also serve as a foundation for fostering an entirely new way of collaboration for a wide variety of cultural projects, so building bridges between different cultures. For instance, cyber performance has become a reality, thanks to a mix of sophisticated software, systematic co-ordination and interconnected, high-capacity information networks such as TEIN and GÉANT. Cyber performance is a live theatrical performance in which remote participants work together, in real time, through the Internet, using platforms such as chat applications, or purpose-built, multiuser, real-time collaborative software. Furthermore, e-Culture has already been adopted across a wide range of cultural applications: saving fragile cultural artefacts by digitising and archiving for future retrieval; conserving heritage with digital archives and repositories; providing accessible online resources such as e-libraries and e-museums; creating entirely new forms of media; and disseminating best-practice digitisation strategies.

Figure 4: Immersive interactive 3D projections for virtual tour



2.7.1. Case study: Cyber performance between communities[19]

Participants at the Asia Pacific Advanced Networks (APAN) meeting in February 2012 experienced a performance very different from the norm. Sitting in front of a giant screen in a conference centre in Thailand, they watched a live dance performance. But the dancers and musicians were not in Thailand, or even together in one place. They were in three separate locations across the globe – in Brazil, Spain and Korea. The three live performances were being streamed in real time to Thailand, where they were brought together and synchronised to give one seamless show.

19 For more information, please refer to *Dancing across Oceans*. http://archive.apan.net/meetings/Nantou2014/Sessions/eCulture/cyber-performance-vinaren_nguyen-hong-van.pdf.

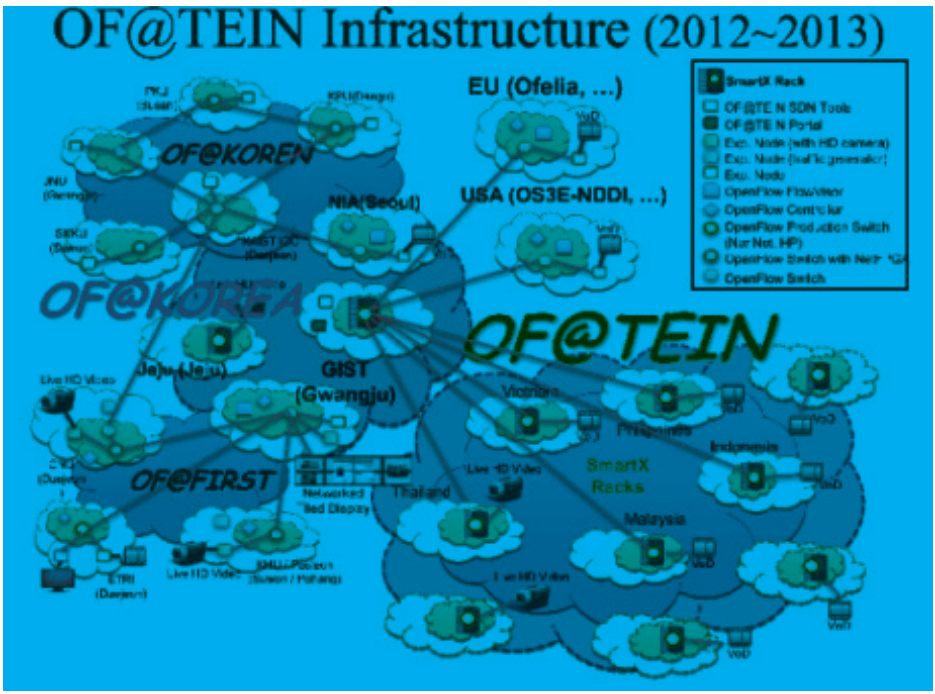
Three groups of dancers and musicians, and several different organisations – in three continents – collaborated to bring the live performance to an audience sitting in an auditorium in Chiang Mai, Thailand. The performers were in Barcelona (Spain), Salvador (Brazil), and Daejeon (Korea). The venues were connected through a lattice of high-speed IP networks (all at least 100 Mbps), with three streams of data being delivered to the endpoint in Chiang Mai.

2.8. Future Internet and new technologies

As information technology continues to provide a catalyst for many dramatic developments, there have been several initiatives to explore the next generation of networks, known as the Future Internet. TEIN supports the work of researchers and engineers to develop new technology that will make networks compatible, more reliable, and sustainable. These activities include software defined network (SDN), cloud computing, open mobile network, ultra high definition television (UHD), transmission experiments, and contents-sharing-based IPTV platforms.

2.8.1.Case Study: OpenFlow enabled SDN testbed over TEIN

The OF@TEIN collaboration project started in 2012 through collaboration with the NREN members[20] in Southeast Asia. A unique SmartX Rack, with OpenFlow switching and remote management functions, was first designed by GIST. As part of the OF@TEIN network installation, the SmartX Racks were installed at seven OF@TEIN sites, and connected to enable OpenFlow-enabled SDN experiments. Lastly, to better utilise OF@TEIN infrastructure, several SDN tools were designed and developed to support the experiments, and management of the OF@TEIN testbed.



20 Viet Nam – Hanoi University of Science and Technology (HUST); Philippines – Advanced Science and Technology Institute (ASTI); Thailand – Chulalongkorn University; Indonesia – Institut Teknologi Bandung (ITB); and Malaysia – University of Malaya.

2.8.2.Case Study: UHD transmission experiment

Japan's National Institute of Information and Communications Technology (NICT), operating JGN-X, built a network system for 8K/4K uncompressed IP multicast streaming to multiple locations between Tokyo-Osaka-Hokuriku. Ultra-high definition video was shot at the Sapporo Snow Festival and areas nearby Sapporo. NICT conducted the experiment with UHD video with the Kanagawa Institute of Technology (KAIT) and other institutes, and proofed accurate performance in transmission of multiple qualities from HD compressed (30 Mbps) to 4K and 8K uncompressed (24 Gbps) to multiple locations. NICT also showed a 4K video international transmission at the Next-generation TV and Ultra-high-speed Network Seminar on 6 February 2015 in Bangkok, Thailand. TEIN network links from Japan to Thailand, and 100G backbone in JGN-X were used for this demo.

Challenges

Asia is the largest, and most populous, continent in the world, with a very broad cultural diversity and socio-economic status, and most of the least developed countries (LDCs) in Asia still need a lot of support from developed countries. Even though TEIN4 has endeavoured to connect international TEIN links to such countries, Afghanistan, Myanmar, Bhutan, and Mongolia[21] are still not directly connected with research and education networks. Moreover, the LDC countries have not even established local Internet and network infrastructures, and so do not have e-infrastructures, such as telemedicine, e-learning, and knowledge based IT infrastructures. It is expected the next phase of TEIN will have to solve those problems, cooperating with the EU, the UN, the North Atlantic Treaty Organization (NATO), the World Bank, the Asia Development Bank (ADB), and other relevant international organisations.

Conclusions

TEIN4 continues to offer a significant contribution to the EU's development policy, and to TEIN4 Asian member countries, as can be evidenced in its contribution to meeting some MDGs and SDGs. For the same reasons, TEIN4 is highly relevant to partner countries' development policies, both in its focus of broadening the range of collaborations enabled by the TEIN network, and in further building the human capacity of the TEIN4 beneficiary NRENs.

The Chair's Statement of the 10th ASEM Summit (October 2014, Milan), *Responsible Partnership for Sustainable Growth and Security,* recognises the progress made in TEIN and the role of TEIN*CC. ASEM leaders also reiterated their further support for the project's implementation and underlined the opportunity to leverage the e-infrastructure developed under TEIN for new Asia-Europe projects. Prospects for further EU funding of TEIN are therefore good, as it is supported at the highest level. This is important because the beneficiary NREN partners, particularly the least developed country group, and even the lower middle income and low income countries group still need EU financial support and help in the short to medium term.

21 Mongolia is categorised as "Lower Middle Income Countries and Territories".

The *Europe 2020 Strategy* sets objectives for the growth of the EU by 2020, and includes the Digital Agenda for Europe as one of its seven flagship initiatives.[22] High-capacity and high-performance research and education Internet networks are part of the Digital Agenda. It aims to empower researchers with easy, and controlled, online access to facilities, resources and collaboration tools, providing them with the power of ICT for computing, connectivity, data storage and access to virtual research environments.[23]

The Digital Agenda proposes to better exploit the potential of information and communication technologies (ICTs) in order to foster innovation, economic growth and progress.[24] By funding R&E Internet networks in developing countries, the EU recognises the role of research and education networks in the transformation of developing economies into knowledge societies.

E-infrastructures define a global cooperation model being developed by research and education network organisations, usually via high-speed fibre optical backbone connections. The EU's development aid funding of high-speed, high capacity Internet networks for research and education in Asia, Central Asia, China, the Mediterranean rim, Africa, Latin America and the Caribbean is a driver for the global connectivity of R&E communities, and integration to Europe's flagship GÉANT infrastructure.[25]

As part of Horizon 2020[26], there are also funding opportunities reserved for developing countries. However, the participation of universities from developing countries is extremely low, due in part to inadequate Internet connectivity to allow virtual collaboration. Further development of TEIN is complementary to enabling, and promoting, the collaboration of Asian universities in Horizon 2020 projects.

22 "EUROPE 2020 A strategy for smart, sustainable and inclusive growth", COM(2010) 2020 final, Brussels, 3 March 2010

23 Under the e-Infrastructures' activity of the Digital Agenda

24 "A Digital Agenda for Europe" Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM (2010) 245 final, Brussels, 19 May 2010.
The seven pillars of the Digital Agenda are: Achieving the digital single market, Enhancing interoperability and standards, Strengthening online trust and security, Promoting fast and ultra fast Internet access for all, Investing in research and innovation, Promoting digital literacy, skills and inclusion, and ICT-enabled benefits for EU society.

25 The EU funds dedicated high-speed, high-capacity Internet networks for research and education in Europe (GÉANT), Asia (Trans-Eurasia Information Network, TEIN), Central Asia (CAREN), China (ORIENTplus), the Eastern Mediterranean rim EUMEDCONNECT, Africa (AfricaConnect), Latin America(ALICE2 now RedCLARA) and the Caribbean (C@ribNET). To date, the EU has contributed about EUR 100 million to the regional networks (excluding GÉANT).

26 Horizon 2020 is a EUR 80 billion European research funding programme of duration 2014 to 2020.

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SECTION 3

ECONOMICS OF CONNECTIVITY

3.1. Logistics Performance Index (LPI): Implications for Logistics Connectivity of ASEM Partners

Lauri OJALA

1. Abstract

This chapter looks at connectivity in trade logistics, where international transport of goods takes place in complex networks of hubs such as seaports and routes like railways. It aims to highlight the importance of logistics performance and connectivity in a world trade context, especially in relation to ASEM countries.

The connectivity of a country, or a logistics centre, is usually defined as how central it is on relevant networks. Connectivity reflects geography and the global structure of logistics networks, but location specific trade transaction costs, due to supply chain inefficiencies, may increase economic distance and therefore reduce connectivity.

Understanding the components of trade logistics performance and the importance of connectivity can help countries improve their competitiveness. Not surprisingly, many recent policy processes in Asia and Europe which aim to facilitate trade and improve logistics performance are described as connectivity.

The World Bank's Logistics Performance Index and related indicators are used to illustrate the importance of connectivity and logistics performance for ASEM countries. The level of logistics performance, and connectedness to markets and logistics networks varies a lot. This calls for very different policy making measures, some of which are exemplified in this paper.

2. Introduction

In the mathematical graph theory, connectivity is a basic concept asking for the minimum number of, for example, nodes or edges that need to be removed to disconnect the remaining nodes from each other. Therefore, connectivity is an important measure of the robustness of a network. Connectivity is closely related to all kinds of network flow problems, including the flow of goods in world trade.

Recently, in a trade logistics context, many policy packages promoting improvement in logistics and facilitation of trade and transportation have been labelled as connectivity. For example, ASEAN published its *Master Plan on ASEAN Connectivity* in 2010, with a substantial emphasis on transport connectivity in view of ASEAN integration[1], The Asia-Pacific Economic Cooperation (APEC) has a supply chain connectivity initiative[2], Indonesia set up a connectivity programme, along with a group of countries in Central America and the Caribbean.[3]

The connectivity issue was also addressed at the 3rd ASEM Transport Ministers' Meeting (ASEM TMM3), themed, *Development of Euro-Asia Multimodal Transport Linkages – Status Quo and Blueprints for the Future*, held on 29-30 April 2015 in Riga, Latvia.[4] Several transport and logistics initiatives have also been presented by ASEM governments.[5]

Notwithstanding the relevance and coherence of the ultimate policies, the concept remains often intuitive and loosely defined. There is a risk that connectivity becomes a catchphrase with a loose relation to concepts such as trade facilitation and logistics; there appears, therefore, to be a need to clarify the concept.[6]

The context of this paper is trade logistics, i.e. the flow of goods between companies. International transport of goods takes place on complex networks comprising nodes, i.e. hubs such as seaports or airports, and edges, i.e. spokes such as routes or shipping lines.

Connectivity of a country, or of a port or airport, is usually defined as how central this location is on those networks. In part, connectivity reflects geography and the global structure of transport and logistics networks. On the other hand, location specific trade transaction costs, due to supply chain inefficiencies increase economic distance and reduce connectivity. Therefore, policies that increase logistics performance also tend to improve connectivity, notwithstanding network geography or topography.

This chapter aims to highlight the importance of logistics performance and connectivity in a world trade context, especially in relation to ASEM countries. Understanding the components of trade logistics performance and the importance of trade connectivity can help countries, as well as regions, to improve their efficiency and competitiveness vis-à-vis their peers.

1 ASEAN 2010 and ASEAN 2015
2 APEC 2013
3 See also OECD 2014
4 ASEM Transport Ministers' Meetings (ASEM TMMs); see also ASEM InfoBoard at: http://aseminfoboard.org.
5 ASEM Initiatives by ASEM partners related to transportation and logistics; see website at: http://aseminfoboard.org.
6 See e.g. Arvis and Shepherd 2011 and Arvis 2013

Much of the treatment is based on The World Bank's *Logistics Performance Index* (LPI), also known as the *Connecting to Compete* report. The LPI provides a useful tool to compare trade logistics across more than 160 countries, and has been published in 2007, 2010, 2012 and 2014.[7]

Other related indicators on trade logistics and connectivity referred to in this paper include the United Nations Conference on Trade and Development (UNCTAD) *Liner Shipping Connectivity Index* (LSCI) and the *DHL Global Connectedness Index* (GCI). Together with the LPI, these are used to exemplify the importance of connectivity and logistics performance in trade, particularly in relation to ASEM countries.

3. Setting the scene: Connectivity in trade logistics

3.1. Basic tenets of demand and supply of logistics services and connectivity

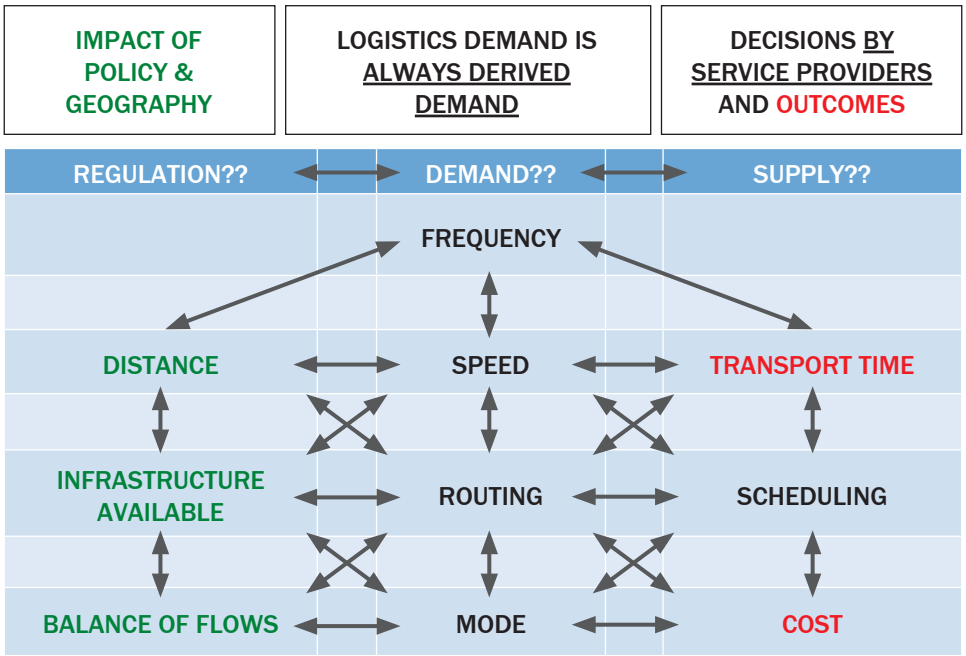
To understand the connectivity issue in a logistics context, a few clarifications and examples may be useful. Here, logistics means all types of transport, warehousing and related IT, financial, legal, commercial and technical services that are needed to provide the services required by shippers or customers.

First, it is important to understand that the demand for logistics services is always derived from the needs of shippers, i.e. between sellers and buyers of merchandise. Unlike passenger transport, where some part of traffic demand is generated by leisure, nobody transports or warehouses commercial goods just for the fun of it.

Second, providing logistics services profitably to match the underlying demands of time, direction, volume and price is a complicated task. The level of complexity is compounded by the need to comply with an extensive regulatory framework for safety, technical, social and environmental issues. Figure 1 illustrates some of these interconnected issues and key decision elements, mainly from the service providers' perspective.

7 Arvis et al. 2007, 2010, 2012, and 2014. Http://lpi.worldbank.org/.

Figure 1: A simplified illustration of the complexity of interconnected variables in logistics where service providers try to match the supply of services to demand in e.g. cargo volume and type, delivery time window, points of origin and destination, route and transport mode/vehicle



Third, due to the imbalance in demand by type of cargo, trading direction, volume and the most suitable transport mode (container vs. bulk transport), the logistics connectivity between two locations is not equal in both directions. In other words, the price, frequency and/or capacity from location A to location B is not always the same as from B to A.

These directional differences can be very substantial for a number of reasons. Countries exporting mainly raw materials such as ores, crude oil or unprocessed crops may have well developed logistics infrastructure and related service provision for such bulk cargoes, but may have severe bottlenecks in providing competitive unitised services for container and/or road haulage.

Another example of directional imbalance is the flow of loaded containers from the manufacturing bases in East or Southeast Asia to European and North American markets. There are far fewer loaded containers moving in the opposite direction, but the empty units need to be returned to exporting bases sooner or later. As a result, until early 2015, a typical freight cost for a 40 feet container (FEU) from China to Europe was about one and a half to twice the rates from Europe to China. The container markets between Asia and Europe and North America have been very volatile. Since early 2015 the freight rates have almost halved due to the significantly lower exports from China.[8]

3.2. The importance of connectivity and logistics performance revisited

Well-functioning logistics, both domestically and internationally, is a necessary precondition of national competitiveness.[9] Global production networks, alternatively called global value chains (GVCs), depend on transport operations. This dependency affects a wide array of value added activities along supply chains, from suppliers of raw materials to the end user, as well as the recycling of materials.[10]

Physical, administrative and informal restrictions are big obstacles to the movement of goods and to international trade. Removing these barriers would have a greater impact on economic growth and competitiveness than removing tariffs. According to a recent estimate based on an econometric model using world trade data from 2007 as a baseline[11], the combined impact of improving border administration, and upgrading transport and communications infrastructure would increase global gross domestic product (GDP) by 4.7%, six times more than what would result from a complete and global elimination of tariffs.

Logistics systems can be considered as a production factor and as one of the key determinants of facility location decisions. Transport infrastructure has a significant impact on the productivity and the cost structure of private firms, and empirical studies show that foreign direct investment is more attracted to areas where transportation systems are more efficient.

In other words, well-functioning trade logistics, and related trade and transport facilitation efforts, are at the core of stimulating economic development. There is also a strong reciprocity between the two, as trade and transport facilitation fosters logistics performance, while better logistics support growth, enhance competitiveness and enable investments.[12]

To move products to market efficiently and reliably, countries need to reduce trading costs and adopt policies to support trade, and in this way, help improve trade competitiveness. It follows therefore that a sustained improvement requires policymakers and businesses to implement comprehensive reforms.

8 China Containerized Freight Index at: http://www1.chineseshipping.com.cn/en/indices/ccfinew.jsp.
9 Arvis et al. 2014
10 See also e.g. OECD 2014, OECD, WTO and World Bank 2014, Moïsé and Sorescu 2015
11 Ferrantino et al. 2013
12 See also Limao and Venables 2001, Hummels 2001, Korinek and Sourdin 2009 and 2011, Hausman et al. 2013, and Martí et al. 2014, and for competitiveness-related indicators: World Economic Forum 2014 and 2014, and The World Bank 2015

3.3. Logistics Performance Index (LPI)

The LPI has two main parts: the International LPI, where more than 160 countries are benchmarked against each other, and the Domestic LPI, which provides an insight on a set of logistics conditions within each country.

The International LPI looks at six dimensions that capture the most important aspects of a country's trade logistics performance, where each dimension is rated on a five point scale[13]:

1) Customs: efficiency of the customs clearance process
2) Infrastructure: quality of trade and transport related infrastructure
3) International shipments: ease of arranging competitively priced shipments
4) Logistics quality: competence and quality of logistics services
5) Tracking and tracing: ability to track and trace consignments
6) Timeliness: frequency with which shipments reach the consignee within the scheduled or expected time

The Domestic LPI provides information on particular aspects within respondents' country of work, including imports and exports, lead times, supply chain costs, customs clearances and the percentage of shipments subjected to physical inspection.

The overall index is calculated by analysing the six dimensions listed above. None of these independently guarantee a good level of logistics performance, and their inclusion is subject to empirical studies and extensive interviews carried out with specialists in international freight transport.

Allowing for comparisons of up to 166 countries[14], the LPI is used by both policymakers and businesses to identify challenges and opportunities related to a country's transport infrastructure, logistics competence and availability of tools and resources for efficient management of their supply chains.

Targets for an LPI score or rank have started to show up in the strategic development plans of a number of economies and regions. Shortly after publication of the 2007 LPI report, Indonesian government officials launched a public-private dialogue on transport and logistics issues. This process led to the preparation of an action plan focusing on trade costs in its major ports, and the particular challenges faced by a country made up of more than 10,000 islands. Although a number of issues still remain to be resolved, these initial reforms helped to improve the country's LPI rank from 75th in 2010 to 59th in 2012, and to 53rd in 2014.

The compilation of the index is primarily through an online survey that of around 1,000 professionals in international freight forwarding. It is important to know that the evaluations come from respondents outside the country being evaluated, so the responses reflect a country's logistics friendliness as it is perceived by logistics professionals from abroad.

13 Arvis et al. 2014
14 As shown in the aggregated 2007-2014 Appendix 4 of the 2014 edition

It is equally important to understand that the LPI relies on the freight forwarders' perception of performance, along the six objective dimensions. As such it remains a subjective, rather than a wholly objective, assessment of logistics performance.

The LPI is a survey, and as such the methodology is subject to sampling error and anchoring bias (the act of basing a judgment on a familiar reference point). Benchmarking countries in their geographical or economical reference set may create a perception of inferior or superior performance; a country in a successful anchoring group may be perceived as performing worse than another with a similar performance because of their different reference sets.

Countries at similar performance levels may have substantially different ranks, especially in the middle income ranges. To account for these methodological issues, LPI scores are calculated with 80% confidence intervals over the standard error of LPI scores across all respondents.[15] The confidence intervals also determine whether a change in score or a difference between two scores is statistically significant.

Countries that have been evaluated by a small number of respondents, such as Sweden, Norway, Bahrain and New Zealand, tend to have large confidence intervals between upper and lower bounds of LPI scores. These may translate into approximately 20 rank places between the upper and lower rank bounds. For example, Finland's decline from 3rd rank in 2012 to rank 24 in 2014 remains within the confidence intervals of these two years, therefore it is not significant statistically and cannot be interpreted as a valid change in its logistics performance.

Hence the LPI scores, and in particular the LPI ranks, need to be interpreted with caution as they provide rough indications on questions such as "how easy/difficult", or "what issues". It does not provide ready answers to questions often posed by policymakers such as how or why. In short, the LPI is an overall and rough metric of country level supply chain efficiency. It provides an idea of where a country stands and a broad indication of any problem areas. But the LPI is not a diagnostic tool. It needs to be supported by specific tools designed to perform that function.

15 Arvis et al. 2014

3.4. UNCTAD's Liner Shipping Connectivity Index (LSCI)

Since 2004, the UNCTAD LSCI has provided an indicator of each coastal country's access to the global container shipping network, i.e. to the network of regular maritime transport services for containerised cargo.[16]

The LSCI is generated from five components that capture the deployment of container ships by liner shipping companies to a country's ports:

(a) the number of ships
(b) their total container-carrying capacity
(c) the number of companies providing services with their own operated ships
(d) the number of services provided
(e) the size, in twenty-foot equivalent units (TEUs) of the largest ship deployed

The country with the highest LSCI scores in 2015 is China, followed by Singapore, Hong Kong SAR, Korea, Malaysia and Germany. The best connected countries in Africa are Morocco, Egypt and South Africa, reflecting their geographical position at the corners of the continent.

In Latin America, Panama has the highest LSCI, benefiting from its canal and its location at the crossroads of main East–West and North–South routes, followed by Mexico, Colombia and Brazil. The ten economies with the lowest LSCI are all island States, reflecting their low trade volumes and remoteness.

The LSCI score of a country is not only determined by its trade volume, but increasingly by its position, i.e. its degree of connectivity within the global liner shipping network. The relevance of hubs becomes evident where there is a high level of connectivity despite a relative low level of trade; examples are Jamaica, Morocco, Panama and Sri Lanka. The centrality of these countries in the global network is of high relevance for the regions in which they are located, as these points offer a high level of connectivity beyond the traditional direct connectivity.

The underlying information for the LSCI comprises only container shipping data. Countries that rely predominantly on ro-ro-shipping (short, sea liner shipping with loading trucks and trailers on wheels) typically receive low scores, even when their shipping operations are well developed. Examples of such countries are Estonia, Finland, Ireland and Norway.

16 The complete time series is published in electronic format at UNCTADstat; UNCTAD 2015a: at http://stats.unctad.org/lsci; see also UNCTAD 2015b

3.5. DHL Global Connectedness Index (GCI)

The *DHL Global Connectedness Index* (GCI) index is composed of a large number of existing globalisation indicators on the movement of goods (trade), people, investments and information. It uses data from sources such as the United Nations, the World Bank, the International Monetary Fund (IMF), OECD, and the World Trade Organisation (WTO).[17]

The GCI looks at the depth of international interactions in trade, people, investments and information; their geographic distribution (breadth) and their directionality (outward versus inward). Depth measures countries' international flows relative to the size of their domestic economies. Breadth measures how closely a country's distribution of international flows across its partner countries matches the global distribution of the same type of flows.

The GCI indicates that breadth of global connectedness is declining because advanced economies have not kept up with the big shift of economic activity to emerging economies. Their breadth is declining while that of emerging economies is increasing, albeit from lower levels. The leading countries in terms of breadth include the United Kingdom, the USA and the Netherlands.

Apart from the extent to which globalisation is affecting different economies and traders, the GCI also underlines the importance of free and open global markets to companies directly involved in transport and logistics.

The GCI also provides ways for analysing and identifying policies that countries can employ to increase the depth of their global connectedness. One of the key findings in the GCI is that policies designed to improve countries' domestic business environments can sometimes do even more to deepen their connectedness than policies that focus specifically on easing international interactions.

4. Key actors and actions

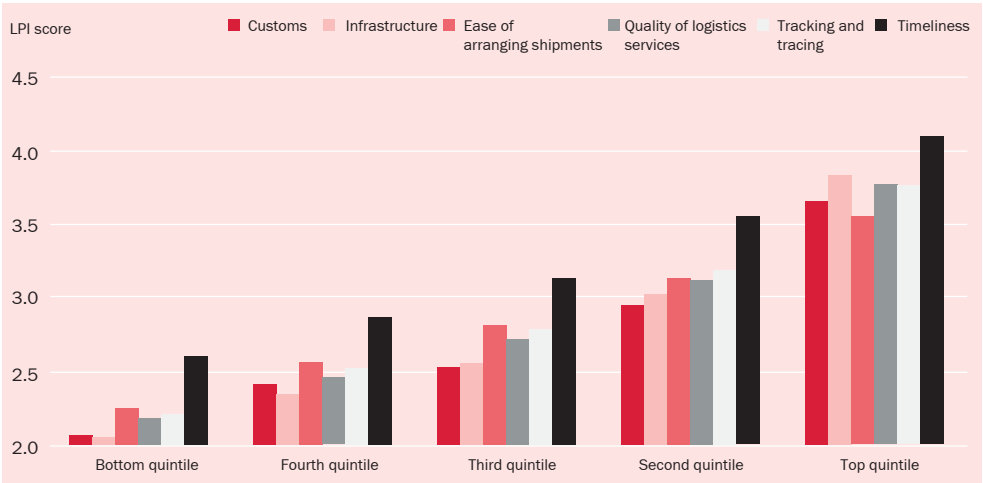
4.1. Countries' level of economic development and their logistics performance

Previous LPI reports proposed a typology consisting of four broad groups of countries, based on how friendly their logistics environments are, whereas the 2014 LPI report uses quintiles for the same purpose (see Figure 2). Most in need of attention are countries with governance challenges, e.g. post conflict countries and fragile states; but also those challenged by their economic size or geography in their connectivity to global markets such as landlocked, developing countries and small island states.

In these countries, overdue and unresolved implementation challenges such as regional transport links in Africa, remain crucial for future progress, as most regions have basic connective infrastructure in place.

17 Ghemawat and Altman 2014

Figure 2: LPI 2014 component scores, by LPI quintile of 160 economies



Source: Arvis et al. 2014, Connecting to Compete, The World Bank

There is also a growing need for consistent trade logistics action plans in countries where complexity is higher, such as in most middle income countries. Reforms involving many stakeholders are often slow to implement, and can also be reversed by governance weaknesses, especially in an unstable political situation. More detailed and accurate data for policymaking is also needed. For instance, the trade facilitation concept of trade single windows requires the alignment of several government agencies. This takes time but can be implemented in even the least developed countries, as shown by the example of the Lao PDR. Ultimately, countries that have successfully introduced major changes have combined regulatory reform with investment planning, inter-agency coordination and incentives for operators.[18]

LPI findings also show that good physical infrastructure alone is not a sufficient condition for success; well-functioning and good quality services are needed, too.[19] At the same time, improved physical infrastructure has played a key role in assuring basic connectivity and access to gateways for all developed, and for most developing, countries. This is also consistent with trends observed in the LPI since 2007.

LPI results indicate that countries have been more successful in delivering quality in certain types of infrastructure, with ICT infrastructure quality regarded as the highest across all respondents. Here the gap between lowest and highest performers has narrowed the most. On the other hand, rail infrastructure tends to inspire general dissatisfaction, whereas ratings for other types of infrastructure vary by region.

18 See also Reis and Farole 2012
19 Arvis et al. 2014

Infrastructure services are delivered by logistics providers operating under very different environments globally. Usually the quality of the services they provide is better perceived than the quality of the corresponding infrastructure they operate. This divide between services and infrastructure quality is stronger in air and maritime transport. Railroads, again, continue to have low ratings almost everywhere. Low income countries tend to score poorly on road freight services, despite this area attracting more policy attention recently.

Acceptable levels of service can be achieved where the infrastructure is less than ideal. However, differences in service quality can be substantial where there are similar levels of infrastructure quality. This suggests that even good physical hardware does not guarantee, or replace, operational excellence, which is required to achieve the highest levels of logistics performance.

4.2. The importance of logistics quality and reliability

The LPI findings show that the quality of logistics services is also driving trade logistics performance in emerging and richer economies. In high performing countries, manufactures and traders already outsource logistics to third party providers and focus on their core business, while managing more complex supply chains. For mid-ranking countries, typically in the upper and lower middle income range, the development of services such as third party logistics provision, trucking and forwarding, involve complex policy agendas with few success stories so far.

In addition to the quality issues referred to, reliability of operations is also a major concern for traders and logistics providers, with the predictability of supply chains becoming ever more important. Efficient border crossing is essential in eliminating avoidable delays and enhancing predictability in the clearance process. Coordination among relevant government agencies will play a major role in these efforts, including the need to introduce best practices in automation and risk management.

According to LPI findings from 2007 until 2014, customs agencies tended to obtain higher LPI ratings than other related agencies, such as sanitary and phytosanitary control agencies, and those enforcing standards, e.g. product safety, absence of harmful substances and conformance to dual use rules.

More generally, logistics performance is strongly associated with the reliability of supply chains and the predictability of services. Supply chains are becoming more and more complex, as they often span many countries. Comprehensive reforms and long term commitments from policymakers and private stakeholders will be essential to keep up with short to medium term changes.

Concerns about the sustainability of supply chains are growing among shippers and logistics providers. In the LPI 2014, about 37% of respondents shipping to OECD countries recognised a demand for environmentally friendly logistics solutions, compared with just 10% for low income destinations. Governments will need to make long term policy changes that improve and maintain the competitiveness of these services, consistent with the fast changing industry practices in this realm, as they adapt to cope with those new requirements.[20]

20 Arvis et al. 2014

4.3. Key findings of the 2014 Global Connectedness Index (GCI)

The GCI looks at four main types of connections between countries: the movement of goods (trade), people, investments and information. Of these four types of flow, it seems that merchandise trade is the most balanced of the interactions tracked on the 2014 GCI index, with imbalances on non-trade interactions ranging from two to five times higher. Over the 2005-2013 period, imbalances increased across most types of interactions.

Some of the other key findings in the 2014 report include the following[21]:

- Global connectedness started to deepen again in 2013 after its recovery stalled in 2012. Nonetheless, trade growth is sluggish, capital flows have yet to recover to pre-crisis levels and the overall depth of global connectedness remains quite limited. This implies there are trillions of dollars in potential gains to be made from boosting it.

- Advanced economies have not kept up with the big shift of economic activity to emerging economies. This leads to declining breadth of global connectedness. Counteracting this trend would require more companies in advanced economies to boost their capacity to tap into faraway growth.

- Emerging economies are reshaping global connectedness and are now involved in the majority of international interactions. The ten countries where global connectedness increased the most from 2011 to 2013 are all emerging economies. However, emerging economies still lag far behind in their integration into international capital, information and people flows.

- A decades-long trend toward trade regionalisation has gone into reverse. In fact every type of trade, capital, information and people flow measured on the DHL Global Connectedness Index stretched out over greater distances in 2013 than in 2005.

- Europe is the world's most globally connected region, with nine of the ten most connected countries. European countries average the highest scores on trade and people flows, and North America is the leading region on capital and information flows.

- Southeast Asian economies stand out for their high depth scores relative to what one would expect, given structural characteristics such as their size and level of economic development. The top five outperforming economies were Malaysia, Viet Nam, Cambodia, Hong Kong SAR, and Singapore.

- The directionality of flows provides important guidance to policymakers, in both the public and the private spheres. Its relevance is enhanced by the fact that imbalances in the majority of international flows have grown over time.

- The biggest threats to globalisation may come from policy fumbles or protectionist interventions, rather than macroeconomic fundamentals.

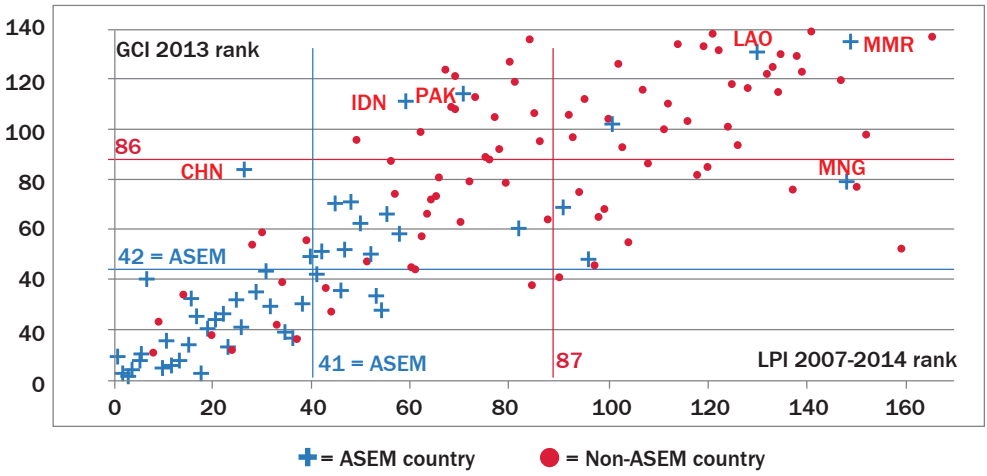
21 Ghemawat and Altman 2014

4.4. Empirical evidence on the connection between connectivity and logistics performance

As shown in Figure 3, there is a strong correlation between a country's LPI and GCI ranks. There is also a substantial difference between the rankings of ASEM and non-ASEM countries, as highlighted by their average LPI and GCI rankings: 41 and 42 for ASEM countries; and 87 and 86 for non-ASEM countries.

The ASEM partners that could be regarded as outliers in the upper right-hand corner of Figure 3 include Myanmar (149;135), the Lao PDR (130;131) and Mongolia (148;79). In addition China, Indonesia and Pakistan have received low CGI rankings, compared to their high to medium level LPI rankings.

Figure 3: Countries' ranks in the LPI 2007-2014 (weighted average; x-axis) and in the DHL Global Connectedness Index GCI 2014; 134 countries included in both indicators.



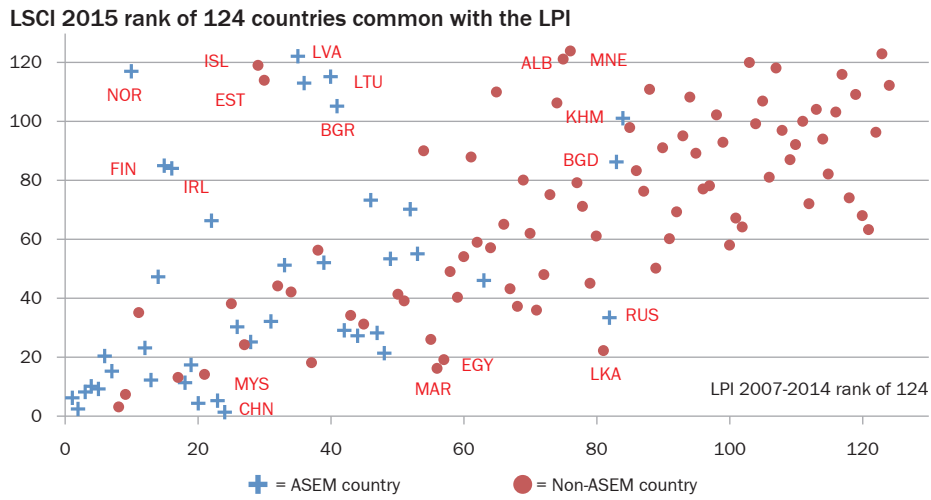
Sources: Arvis et al. 2014, Connecting to Compete, LPI Appendix 4, The World Bank; and for GCI: Ghemawat and Altman, 2014

Figure 4 shows countries' LPI and LSCI ranks, which are normalised from 1 to 124 to include only those countries that are included in both indicators. This means that their numerical values are not the same as in the original indexes.

Here one can also spot a substantial difference between the rankings of ASEM and non-ASEM countries. The averages (which are not shown in Figure 4 due to overlapping legends and data points) for LPI and LSCI rankings out of 124 are 31 and 45 for ASEM countries and 78 and 71 for non-ASEM countries.

The countries in the upper left-hand corner with rather good LPI values, but poor LSCI rankings, are coastal countries that rely heavily on ro-ro shipping, which the LSCI does not cover. The other ASEM partners that could be regarded as outliers in Figure 4 are the Russian Federation (82;33), Bangladesh (83;86) and Cambodia (84;101) with their normalised LPI and LSCI rankings.

Figure 4: Countries' normalised ranks in the LPI 2007-2014 (weighted average; x-axis) and in UNCTAD's Liner Shipping Connection Index LSCI 2015; 124 countries included in both indicators; ranks are here from 1 to 124, as land-locked countries have been omitted



Sources: Arvis et al. 2014, Connecting to Compete, LPI Appendix 4, The World Bank; and for LSCI 2015: UNCTAD 2015

While correlation does not equal causality, it is easy to see from the LPI, GCI and LSCI indicators that ASEM countries, as a whole, possess a substantial economic, connectivity and logistics prowess vis-à-vis non-ASEM countries.

These three indicators do not provide explicit guidance on new, or tentative, routes between Asia and Europe, such as the plan to increase rail freight services between the two continents. These plans are explained in more detail elsewhere in this report.

Another, more hypothetical, connection between Asia and Europe which has received some attention is the prospect of the opening up of the so-called Northern Sea Route (NSR) in the Arctic Sea. However, more pragmatic assessments of the shipping capacity that can operate in (partly) ice-infested waters, and the true length of the navigational period along the NSR, indicate that the route will only have a marginal impact between the two continents, even by year 2050.[22]

To sum up, ASEM comprises countries at both ends of the spectrum of connectedness to world markets and container shipping networks, as well as logistics performance. This means that policymaking and initiatives at the extreme ends of those continuums, or in between, will be very different. A tentative list of such measures, organised according to the six dimensions of the LPI, is given in Table 1.

Table 1: Tentative checklist of policy actions and associated LPI components, with an indication of their applicability from to low income to high-income countries

Efficiency of the clearance process	- Improve border facilities. - Simplify and shorten border crossing procedures. - Reduce corruption and unofficial payments in customs clearance. - Coordinate activities of customs and other border agencies. - Increase utilisation of computerised and automated clearance systems. - Promote cross-border cooperation in monitoring and clearing cargo. - Introduce a single point of entry for information used in clearing cargo. - Introduce risk management programmes to expedite clearance. - Improve trade security (e.g. scanners, secure supply chains).	**Low-income** ↓ **High-income**

22 Kiiski 2014, 2015

Quality of trade and transport related infrastructure	- Develop and manage domestic freight corridors. - Develop and manage international freight corridors. - Upgrade existing transport links. - Support private sector participation in transport infrastructure provision. - Develop logistics hubs (e.g. distribution centres; intermodal facilities). - Improve planning of logistics facilities in urban areas. - Introduce commercial management in port and airport operations. - Improve accessibility of rural areas. - Develop sufficient hinterland connections and parking space for urban ports. - Establish dry ports and inland clearance facilities.	**Low-income** ↓ **High-income**
Ease of arranging competitively priced shipments	- Reduce market entry and exit barriers in the logistics sector, including foreign direct investment (FDI). - Improve telecommunications services to support logistics. - Facilitate the movement of goods within a country (e.g. tax incentives). - Stimulate multi-modal transport where appropriate. - Simplify trade and infrastructure tariffs. - Reduce the number of controlled commodities and certification requirements. - Create incentives to support investments in logistics services.	**Low-income** ↓ **High-income**

Competence and quality of logistics services	- Create incentives to upgrade transport fleet. - Allow increased scale of logistics service providers (mergers and acquisitions). - Encourage integration of logistics services for trade and distribution. - Develop, implement and support training programmes for logistics industry. - Promote development of mechanisms for industry self-regulation. - Allow introduction of new technologies for tracking and security. - Support higher education in areas of logistics and transportation. - Introduce modern supply chain management techniques.	**Low-income** ↓ **High-income**
Ability to track and trace consignments	- Improve telecommunications services to support logistics. - Promote utilisation of state of the art tracking and monitoring systems. - Introduce online systems for real time clearance monitoring. - Introduce e-government services and e-signatures for government approvals. - Develop public information platforms for sharing trade and logistics data.	**Low-income** ↓ **High-income**
Timeliness of shipments in reaching destination within the scheduled or expected delivery time	- Simplify/avoid operations which cause delays in transportation. - Decrease variability of transport and handling times. - Decrease waiting times in border crossings. - Shorten operations required for border crossings. - Improve management of handling operations in ports. - Increase efficiency of logistics operations by novel management practices.	**Low-income** ↓ **High-income**

Source: Celebi, Ojala and Kauppila 2015

5. Conclusion

Logistics performance is strongly associated with the reliability of supply chains and the predictablity of service delivery available to producers and exporters. Supply chains are only as strong as their weakest links. For firms and traders operating internationally, these supply chains tend to become increasingly complex, often spanning many countries. At the same time the ability to connect effectively to world markets remains critical to national competitiveness.

Similarly, connectivity is a complex concept in a trade context, made up of a number of geographical, economic, political, social, environmental and operational issues. It is also a concept where the public and the private sector contribute, as well as domestic and international actors.

Container freight rates between Asia and Europe provide a vivid example how volatile logistics markets can be. The rates have almost halved from early 2015 until early 2016. Hence changes in the underlying demand for shipping may dramatically affect the logistics services market. This is also the case if there is a lot of overcapacity.

Comprehensive reforms and long-term commitments from policymakers and private stakeholders will be essential for both improved connectivity and logistics performance. Here, the Logistics Performance Index, together with other available indicators of connectedness, connectivity and competitiveness provide a valuable reference base to better understand key trade logistics and connectivity impediments worldwide.

The potential for ASEM partners to identify, initiate and implement reforms to improve their connectivity and logistics posture varies. Given the heterogeneous composition of ASEM countries, there is no uniform approach that can be applied across all partners. But the tentative list of actions or areas of improvement shown in Table 1 is a useful guideline on where to start, or to continue on the journey which has already begun.

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3.2. The Belt and Road Initiative and Its Impact on Asia-Europe Connectivity

CUI Hongjian

Abstract

The Belt and Road Initiative, put forward by the Chinese government, is providing new impetus and practical paths for intra- and inter-regional connectivity. By proposing full connectivity in policy coordination, facilities, unimpeded trade, financial integration and a people-to-people bond as its five cooperation priorities, the initiative aims to strengthen regional cooperation through more substantial, convenient and profitable connectivity, especially among the ASEM partners.

As a plan with a long-term goal, the Belt and Road Initiative has achieved some early wins on strategy integration, mechanism construction, facilities project integration and implementation between China and countries along the Belt and Road route, some of which are ASEM partners.

Undoubtedly, however, the initiative faces enormous challenges of geopolitical suspicion, economic uncertainty and security risks. So it is necessary for ASEM partners to connect deeply with existing regional cooperation mechanisms such as ASEAN and ASEM, to promote mutual trust and avoid competition by integrating with other countries in development strategies and initiatives. ASEM partners should also activate existing projects, including the Trans-Asian Railway[1] and the Euro-Asia Continent Bridge[2] to avoid the waste of resources and the duplication of mechanisms and projects. While geopolitical and security challenges in some countries and regions require a great deal of attention, some could be tackled by promoting soft connectivity, through the removal of bottlenecks in financial, services and standard systems.

The relationship between Asia and Europe is at its most critical juncture since ASEM was established 20 years ago. A new type of more equal and pragmatic cooperation is now urgently required to cope with the huge challenges ahead, especially considering the crises in and out of Europe, and the continued challenge of sustainable growth in Asia.

1 Trans-Asian Railway, Economic and Social Commission for Asia and the Pacific, United Nations, http://www.unescap.org/our-work/transport/trans-asian-railway.
2 Eurasian Land Bridge, https://en.wikipedia.org/wiki/Eurasian_Land_Bridge.

To strengthen intra- and inter-regional connectivity has become the main goal of Asia-Europe cooperation although it was only recently accepted as a key issue of regional development. A new type of cooperation between Asia and Europe requires a closer and deeper connectivity, alongside a recognition that the current situation is difficult to manage. But as long as we persist in the right direction and keep the spirit of openness, inclusiveness and win-win cooperation, Asia-Europe connectivity can bring real benefits for both regions.

1. Improving the regional cooperation as the main goal of the Belt and Road Initiative

The *Belt and Road Initiative*, first proposed by Chinese leaders during their visits abroad in 2013, has strong implications as a comprehensive development strategy. During his visit to Kazakhstan and Indonesia in 2013, Chinese President Xi Jinping announced the *Silk Road Economic Belt* initiative and the *21st Century Maritime Silk Road*.[3] At the China-ASEAN Expo in 2013, Chinese Premier Li Keqiang also emphasised the need to develop the *Maritime Silk Road* oriented toward ASEAN. After extensive discussions on planning and practice lasting more than a year, the Chinese government released an official document *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road*[4] in March 2015.

The main goal of the Initiative is to improve sub-regional and regional cooperation. This is based on an assessment of the complex and profound changes underway across the globe. These include the slow recovery of the global economy, uneven global development, major adjustments to the international trade and investment landscape and rules and many countries still facing big challenges to their development.

According to its official document, the Initiative will focus on regional cooperation by "promoting orderly and free flow of economic factors, highly efficient allocation of resources and deep integration of markets; encouraging the countries along the *Belt and Road* to achieve economic policy coordination and carry out broader and more in-depth regional cooperation of higher standards; and jointly creating an open, inclusive and balanced regional economic cooperation architecture that benefits all".[5]

As the Initiative runs through the continents of Asia, Europe and Africa, it also aims to herald a "renaissance" of the ancient Silk Road. As the joint release says: "The Belt and Road [connects] the vibrant East Asia economic circle at one end and developed European economic circle at the other, and encompassing countries with huge potential for economic development.

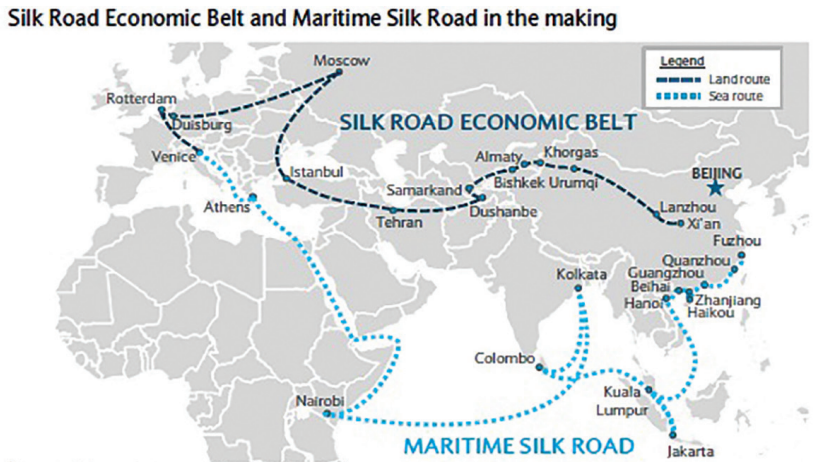
3 Xi Jinping, *Promoting the friendship between people for a better future,* speech at Nazarbayev University, Astana, 7 September 2013. http://paper.people.com.cn/rmrb/html/2013-09/08/nw.D110000renmrb_20130908_1-03.htm. Xi Jinping, *China is willing to work with ASEAN countries to build "Marine silk road" of the 21st century,* speech at Indonesian Parliament, Jakarta, 3 October 2013. http://news.xinhuanet.com/world/2013-10/03/c_125482056.htm

4 Xinhua News Agency: *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road*, 28 March 2015. http://news.xinhuanet.com/world/2015-03/28/c_1114793986.htm.

5 Ibid.

"The Silk Road Economic Belt focuses on bringing together China, Central Asia, Russia and Europe (the Baltic); linking China with the Persian Gulf and the Mediterranean Sea through Central Asia and West Asia; and connecting China with Southeast Asia, South Asia and the Indian Ocean. The 21st Century Maritime Silk Road is designed to go from China's coast to Europe through the South China Sea and the Indian Ocean in one route, and from China's coast through the South China Sea to the South Pacific in the other."[6]

Figure 1: Roadmap of the Belt and Road Initiative[7]



Source: xinhuanet.com, and Barclays Research

According to Jacob Stokes, the Initiative will include six geographic areas, covering almost every concern and external demand of the Chinese economy as follows:

1) Europe is the end point of the land route. China hopes to become a strong technological partner of Europe.
2) Central Asia: Here China will be the aid giver and provide the funds for the development of Chinese Special Economic Zones (SEZs).
3) Middle East: This is part of China's energy security strategy and also important as a market.
4) East Asia: This region's trade and manufacturing is already closely integrated with China's.
5) Africa has become a market, a source of raw materials and a major investment destination for China. China has invested heavily in infrastructure development here.
6) South Asia: China has invested heavily in rail and road linkages with Pakistan; Sri Lanka and the Maldives are already a part of China's maritime route; India and Bangladesh are part of the BCIM[8] that has already been officially signed by all concerned governments.[9]

6 Ibid., 4.
7 Chandran, N. (2014) *'New Silk Road' highlights China's two-speed reform*. CNBC. 27 November. Retrieved from http://www.cnbc.com/2014/11/17/new-silk-road-highlights-chinas-two-speed-reform.html.
8 Bangladesh–China–India–Myanmar (BCIM) Economic Corridor
9 Jacob Stokes (2015) *Beijing Looks West for Eurasian Integration*. Foreign Affairs https://www.foreignaffairs.com/articles/asia/2015-04-19/chinas-road-rules.
See also *First Silk Road Cities Cooperation Forum brings fruit in Venice.* Xinhua Finance 24 July 2015, http://en.xinfinance.com/html/OBAOR/International%20Cooperation/2015/121364.shtml.

On the basis of its geographical vision, the Initiative covers almost all ASEM partners and ASEM itself is one of main existing mechanisms that will be used to implement the Initiative.

There is no official definition of "the countries along the Belt and Road" and the Chinese government has emphasised that the scope of the Initiative is not fixed. So far, nearly 70 countries along the Belt and Road route have responded positively to the Initiative, and are therefore considered as main implementing partners. These include almost all ASEM partners: ten ASEAN member states; most of the 28 EU member states; the Russian Federation; Korea and Mongolia in East Asia; India, Pakistan and Bangladesh in South Asia; and Kazakhstan in Central Asia.

As the most mature regional cooperation mechanism between Asia and Europe, with the largest number of members, ASEM will undoubtedly play a unique and important role in the Initiative. According to the Initiative, China is ready to "enhance the role of multilateral cooperation mechanisms in Asia, make full use of existing mechanisms such as the Shanghai Cooperation Organization (SCO), ASEAN Plus China (10+1), Asia-Pacific Economic Cooperation (APEC), Asia-Europe Meeting (ASEM), [...] to strengthen communication with relevant countries, and attract more countries and regions to participate in the Initiative".[10]

2. Full connectivity as the core approach to improve regional cooperation

Full connectivity is a key element of the Belt and Road Initiative, as it aims: "to promote the connectivity of Asian, European and African continents and their adjacent seas, establish and strengthen partnerships among the countries along the Belt and Road, set up all-dimensional, multi-tiered and composite connectivity networks, and realise diversified, independent, balanced and sustainable development in these countries".[11]

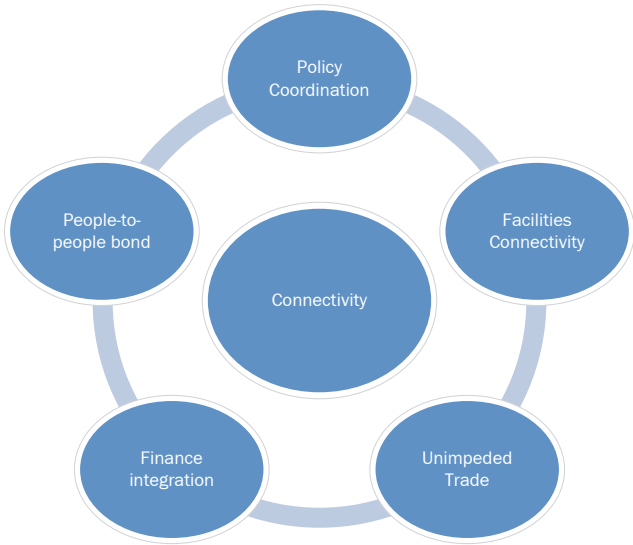
Using the experience gained from ASEAN, including the *Master Plan on ASEAN Connectivity (MPAC)*[12], the Initiative has set five priorities: policy; facilities; trade; finance; and people-to-people, in order to achieve full connectivity.

10 Xinhua News Agency, *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road*, 28 March 2015, http://news.xinhuanet.com/world/2015-03/28/c_1114793986.htm.

11 Ibid.

12 *Ha Noi Declaration on the Adoption of the Master Plan on ASEAN Connectivity*, December 2010, https://www.usasean.org/system/files/downloads/MPAC.pdf.

Figure 2: Connectivity and its approaches in the Initiative



The goal, functions and approaches for each priority are as follows:

Figure 3: Policy coordination

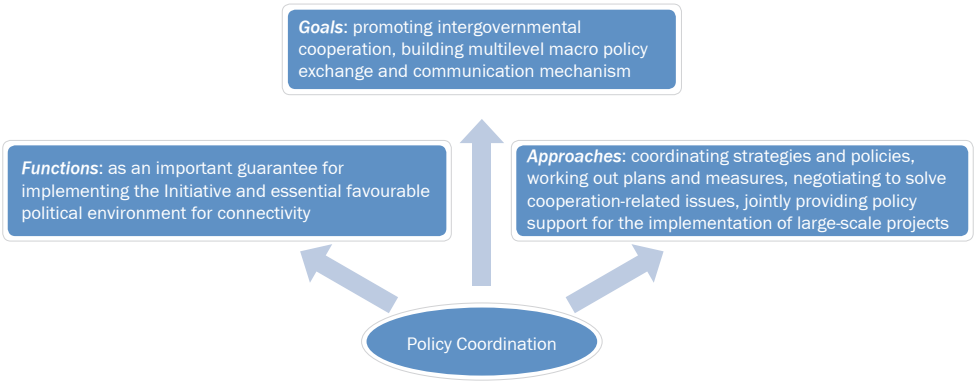


Figure 4: Facilities connectivity

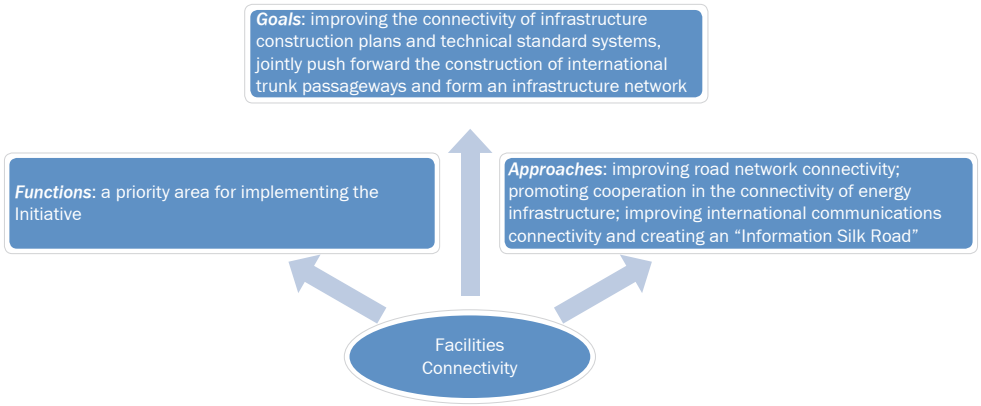


Figure 5: Unimpeded trade

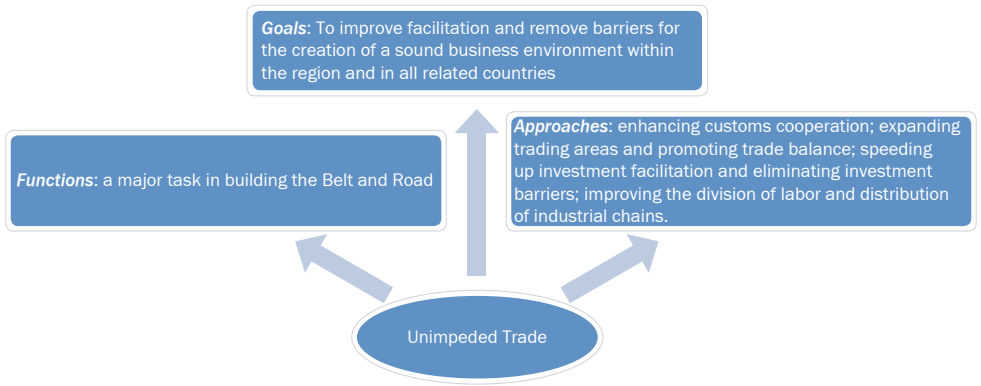


Figure 6: Finance integration

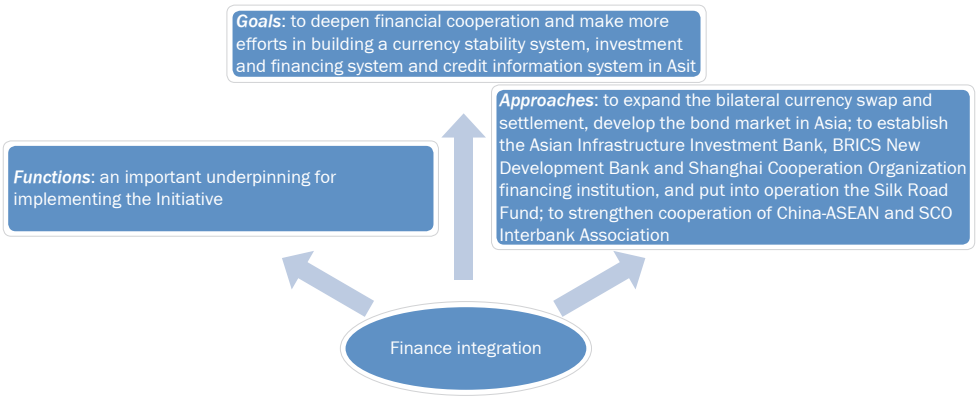
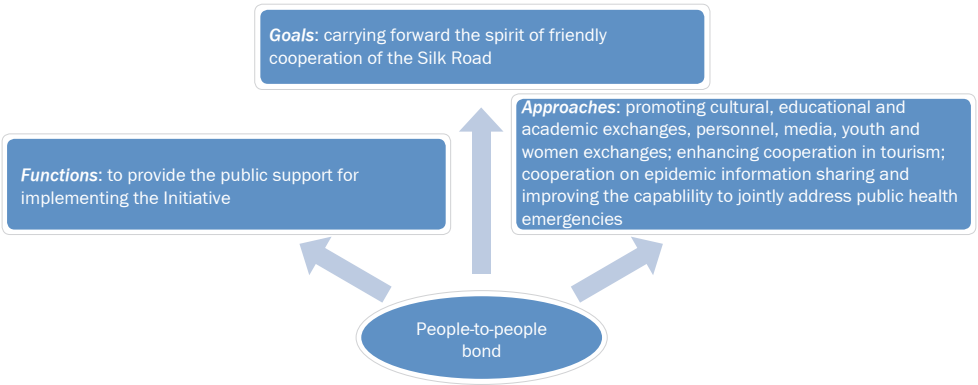


Figure 7: People-to-people bond



The Initiative is trying to adapt to the changes brought about by globalisation and develop a complete system of policy logic to cover all areas of connectivity. Policy coordination aims at creating and providing a favourable political environment for the implementation of projects; the priority is for projects which reflect China's industrial structure, characteristics and advantages.

Facilities connectivity will promote other areas of connectivity, such as investment, logistics and industrial cooperation. Unimpeded trade flow is the main task of the Initiative to take full advantage of the results of the other areas of connectivity. Financial integration and investment promotion will provide support for facilities and trade connectivity, while a healthy people-to-people bond is designed to shape public opinion and provide the social basis for a sustainable connectivity. The bond is also an embodiment of the "harmonious world" view advocated by China.

The Initiative not only accepted the physical, institutional and people-to-people connectivity raised by the MPAC[13], but also designed the five approaches to make this approach more comprehensive and networked. As the Chinese leader emphasised, it is an "open system full of vitality and collective wisdoms".[14]

3. The practice of the Initiative and "early harvests" in connectivity

3.1. Enhancing the intra-Asia connectivity

As the Belt and Road Initiative traces its origins to Asia, China gives top priority to connectivity with its Asian neighbours. The Initiative framework sets out how China will promote intra-Asia connectivity through strategic integration, mechanism construction and facilities connectivity.

3.1.1.Strategic integration

2015 saw evidence of policy and strategy integration in Asian connectivity. In Northeast Asia, China and Korea agreed to promote the integration between the Belt and Road Initiative and the Eurasian Initiative; Mongolia agreed to linking Silk Road and its Prairie Road programme[15]; China, the Russian Federation and Mongolia reached an important consensus on constructing a corridor of economy and signed a tri-party cooperation agreement for a roadmap of medium-term development.

In Southeast Asia, Indonesia and China agreed to speed up the development of bilateral strategic coordination; China and Viet Nam intensified their consultations on the cooperation between the Belt and Road Initiative and the Two Corridors and One Circle strategy[16]; Singapore and China discussed the potential of cooperating in other countries. to explore the market of the third party in the framework of the Initiative.

As well as the bilateral coordination with its Asian neighbours, China has also invested in existing multilateral regional mechanisms such as APEC, ASEM and SCO. China has strengthened its support to MPAC, in the framework of ASEM, and will also take the opportunity of hosting the G20 summit in 2016 to promote connectivity.

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13 Ibid., 12.

14 President Xi Jinping' speech at the *Dialogue on Strengthening Connectivity Partnership* at APEC Meeting, Beijing, 8 November 2014, http://news.xinhuanet.com/2014-11/08/c_127192119.htm.

15 According to Mongolia media, based on its geographical advantage in between Europe and Asia, the Mongolian government proposed a Prairie Road programme in September 2014 to develop its economy by promoting transport and trade. The Prairie Road programme is composed of five projects with a total investment of about USD 50 billion, including a 997 kilometres highway connection between China and the Russian Federation; 1,100 kilometres electrical wiring, extended across the Mongolian railway, gas pipelines and oil pipelines. Ulaanbaatar Post, 24 September 2014, http://china.huanqiu.com/News/mofcom/2014-09/5153109.html.

16 As early as 2004, China and Viet Nam governments proposed a joint communiqué "to discuss the feasibility of building the "Kunming – Laojie – Hanoi – Hai Phong – Quang Ninh" and "Nanning – Liangshan – Hanoi – Hai Phong – Quang Ninh" economic corridors and the Beibu Bay economic rim. http://www.fmprc.gov.cn/mfa_eng/wjb_663304/zzjg_663340/yzs_663350/gjlb_663354/2792_663578/2793_663580/t163759.shtml.
Two countries reaffirmed "to strengthen the linking of development strategies between the two countries, and promote the linking between Belt and Road Initiative and Two Corridors and One Circle in another joint communiqué during Mr Xi's visit to Hanoi in November 2015. http://www.fmprc.gov.cn/web/gjhdq_676201/gj_676203/yz_676205/1206_677292/1207_677304/t1312772.shtml.

3.1.2.Mechanism construction

Promoting Asian connectivity by mechanism construction, particularly financial mechanism innovation, is a highlight of the Initiative's practice. The Silk Road Fund and the Asian Infrastructure Investment Bank (AIIB) are the financial instruments that support the Initiative.

Silk Road Fund

During the APEC meeting in 2014, China announced an investment of USD 40 billion to establish the Silk Road Fund. This development investment fund is dedicated to providing financing services for the Initiative, and provides long construction and payback periods for transportation and public facilities; energy and resources projects(oil and gas, new energy and power grid); equipment manufacture; basic industries; and cooperation in the financial industry (offshore banking, mergers, acquisitions and other financial services).[17] The Initiative's first project was signed in April 2015 by the Three Gorges Group of China, Pakistan Private Power and the infrastructure committee on jointly developing the hydropower station in Pakistan.[18]

Asian Infrastructure Investment Bank (AIIB)

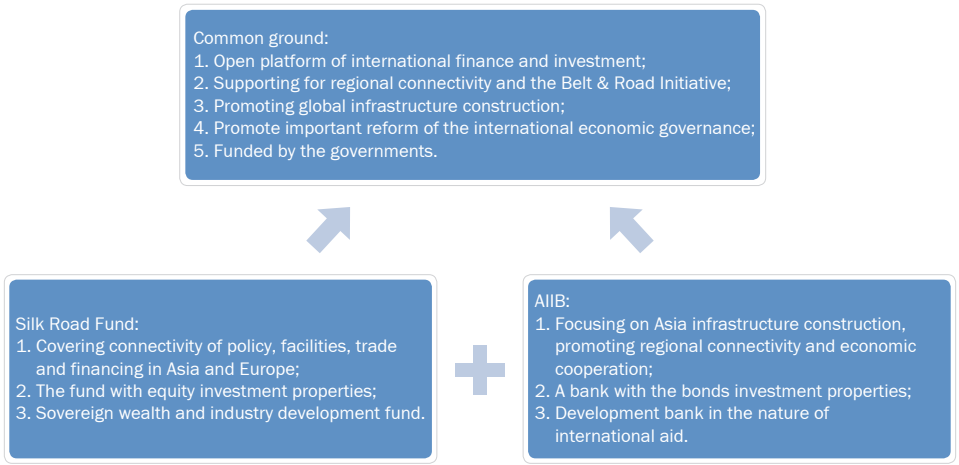
The newly opened AIIB is an intergovernmental multilateral development bank with authorised capital of USD 100 billion. AIIB's main objective is to help member states develop high quality and low cost infrastructure projects, promote South-South and South-North cooperation and provide "new power to improve global governance".[19] There are 36 ASEM partners among 57 founding members of AIIB.

17 Si Xin Bo, *The Silk Road Fund to boost 'the Belt and Road' infrastructure connectivity and interconnection*, 25 December 2015. http://magazine.caijing.com.cn/20151225/4040666.shtml. The author is the Deputy General Manager of Silk Road Fund Company ltd.

18 Chen, J. (2015) Silk Road Fund makes first investment. *China Daily*. 22 April. Retrieved from http://europe.chinadaily.com.cn/business/2015-04/22/content_20501261.htm.

19 President Xi Jingping's speech at the opening ceremony of AIIB, 16 January 2016. http://news.xinhuanet.com/fortune/2016-01/16/c_1117796389.htm.

Figure 8: Common goal and different roles of the Silk Road Fund and AIIB[20]



20 Lou Ji wei: *China temporarily do not consider the financial support to investment banks*, 16 January 2016. http://world.huanqiu.com/hot/2016-01/8393134.html. Mr Lou is the Minister of Finance of China and the President of the Council, AIIB. Pan Xun, The similarities and differences between AIIB and the Silk Road Fund, Silk Road Journal, April 2015. http://www.21ccom.net/articles/world/zlwj/20150423123927_all.html.

3.1.3.Facilities connectivity

Figure 9: Five pathways and six economic corridors



- China-Mongolia-Russia pathway and economic corridor
- New Eurasian Land Bridge pathway and economic corridor
- China Central and West Asia pathway and economic corridor
- China-Pakistan and Bangladesh-China-India-Myanmar economic corridor
- China-Indochina pathway and economic corridor
- Maritime Silk Road and economic corridor

Sources: kxt.com. http://k1600.com/archives/4987.html

Construction of five pathways and six economic corridors

A series of infrastructure projects, including railways, highways, ports, electricity, pipelines and industrial parks have been built to form the six economic corridors along the five pathways from China to the Russian Federation, New Eurasian Land Bridge, Central and West Asia, Indochina and the Maritime Silk Road. Southeast Asia, Central Asia and China-Pakistan have benefited from more "early harvest" projects, due to their unique geographical advantage and traditional cooperation with China. A priority for the Initiative in Southeast Asia is the speedy construction of Trans-Asian rail network. China and Indonesia signed an agreement for a new high speed rail project in October 2015. Railway construction will start soon in the Lao PDR and Thailand, and the planning for the Viet Nam railway line is underway. China will also invest more in the Mekong River sub-region and the Pan Beibu Gulf Cooperation Framework[21] to further promote China-ASEAN connectivity, which has given new impetus to bilateral cooperation.

Economic and trade cooperation zone construction

The development of an economic and trade cooperation zone, with transport connectivity, will help develop industry, trade and investment in the Belt and Road Initiative area. China has built 118 economic and trade cooperation zones in 50 countries around the world, with 77 of them in 23 countries along the Belt and Road. Most of them are located in ASEM partner countries, including Kazakhstan in Central Asia, India and Pakistan in South Asia, the Russian Federation, Hungary and Romania in Europe, and most member states of ASEAN.

3.2. To promote interconnectivity with Europe

The development of Asia-Europe cooperation is considered as major driver to develop and sustain the Initiative. China is actively supporting connectivity with Europe by integrating strategies and promoting facilities connectivity.

3.2.1.Policy coordination and strategy integration

The promotion of policy coordination and strategic integration, within the framework of the Initiative, is China's key policy towards Europe. The EU has decided to link with the Initiative and its European Strategic Investment Plan, and is discussing the establishment of a joint China-EU investment fund. China and the UK have been discussing the potential of cooperation between the Belt and Road Initiative, British infrastructure reconstruction plan and its economic centre project in Northern England. A coordination mechanism between the *Made in China 2025* strategy and the *German Industry 4.0* plan has been established. China has upgraded its cooperation with 16 Central and Eastern European countries through the 16+1 cooperation framework, and signed a Memorandum of Understanding (MOU) with six countries in this region to co-operate on the Initiative.

21 *China Targets Beibu Gulf as Next Development Driver*, China Daily, 21 July 2006. http://www.china.org.cn/english/2006/Jul/175470.htm.
Xinhua News Agency, *Maritime Silk Road brings new opportunities to China, ASEAN*, 16 May 2014, http://en.people.cn/90883/8628912.html.

Central and East European countries are the gateway into Europe geographically and geo-economically for China. At the 4th summit of leaders from China and Central and Eastern European countries in November 2015, all parties agreed to enhance connectivity cooperation, and agreed priorities. They are: speeding up the construction of the Hungary-Serbia cross-border railway and the China-Europe Land and Sea Transport Express; establishing the 16+1 Transportation and Infrastructure Cooperation Association and the Logistics Cooperation Association; strengthening customs clearance cooperation and better information sharing and exchange.[22] A more strategic achievement was the decision of 16 European countries to cooperate with China on a harbour cooperation project in the Adriatic, Baltic and Black Seas.

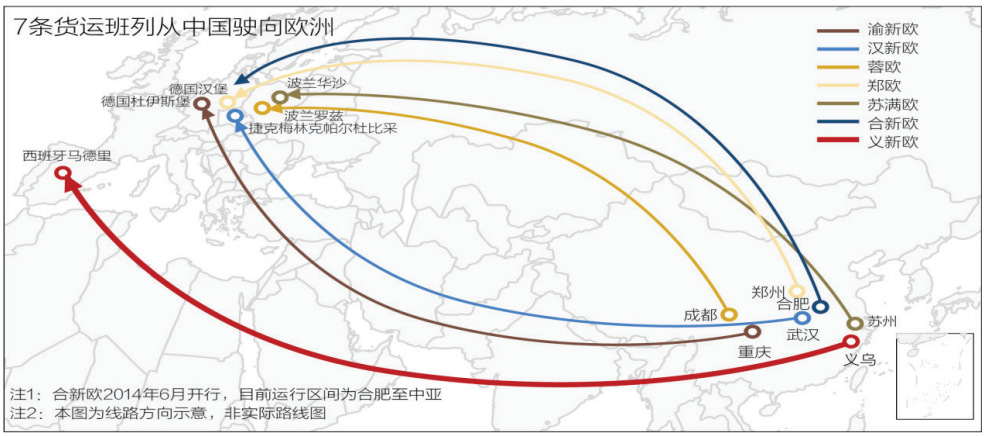
3.2.2.Facilities and transport connectivity

As has been reported, the promotion and development of facilities, in particular, the transport connectivity between China and Europe is the top priority for the Initiative. It aims to: "set up coordination mechanisms in terms of railway transport and port customs clearance for the China-Europe corridor, cultivate the brand of 'China-Europe freight trains'".[23] By 2015, there were seven lines of China-Europe freight trains connecting cities in the Southeast, eastern coastal and inland areas of China with Kazakhstan in Central Asia and the Russian Federation, and Belarus, Poland, the Czech Republic, Germany, France and Spain in Europe. The longest line, Yi-Xin-Europe, which connects Yi Wu, the commodity production and sales centre in Eastern China, and Madrid in Spain, was operational from 2014. This line is 13,100 km long and goes through six provinces (autonomous regions) in China and eight countries, seven of which are ASEM partners.

22 China Xinhua News Agency: *Medium-term planning on China - Central and Eastern European countries cooperation,* 25 November 2015. http://news.xinhuanet.com/2015-11/25/c_128464366.htm.

23 Xinhua News Agency:*Vision and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road*, 28 March 2015. http://news.xinhuanet.com/world/2015-03/28/c_1114793986.htm.

Figure 10: Seven lines of China-Europe freight trains



- Yu-Xin-Europe line: connecting Chong Qing in southwest China and Duisburg in Germanyvia Kazakhstan, the Russian Federation, Belarus and Poland
- Han-Xin-Europe line: connecting Wu Han in central-south China and Poland, the Czech republic Via Kazakhstan, the Russian Federation and Belarus
- Rong-Europe line: connecting Cheng Du in southwest of China and Lodz in Poland via Kazakhstan, the Russian Federation and Belarus
- Zheng-Europeline: connecting Zheng Zhou in central north China and Hamburg in Germany via Kazakhstan, the Russian Federation, Belarus and Poland
- Su-Man-Europeline: connecting Su Zhou in eastern China and Warsaw in Poland via the Russian Federation and Belarus
- He-Xin-Europe line: connecting He Fei in central China and Hamburg in Germany via Kazakhstan, the Russian Federation, Belarus and Poland
- Yi-Xin-Europe line: connecting Yi Wu in eastern China and Madrid in Spain via Kazakhstan, the Russian Federation, Belarus, Poland, Germany and France

Source: yicai.com. http://www.yicai.com/news/2014/11/4042033.html.

Another proposed China-Europe facility connectivity is to restart the construction of the Third Eurasian Continental Bridge, which will start from Chinese eastern coastal area and go across the entire Eurasia continent via Kazakhstan, Kyrgyzstan, Uzbekistan, the Russian Federation, Ukraine, Hungary, Austria, Germany, France, and finally to the Netherlands. Once it is put into practice, it would be the largest transportation connectivity project of the Silk Road.

4. The risks and challenges facing the Initiative

The practice of policy coordination and facilities connectivity in the Initiative's framework promotes the development of the trade and investment. In 2015 alone, the bilateral trade volume between China and countries along the Belt and Road reached nearly USD 900 billion, and accounted for 25.4% of the China's total foreign trade during this period. The investment from these countries in China grew by 18% and the actual investment value went up 14%, while Chinese direct investment in 49 countries along the Belt and Road increased by 36.7%.[24]

It is necessary, however, to develop a risk assessment for the Belt and Road Initiative, given it is such a long-term and large scale strategy, with so many countries and regions involved. It has also elicited a strong response from not only China's neighbouring countries and regions, but the entire international community. The challenges and risks are mainly from geopolitical suspicion, economic uncertainty and security risks. If these challenges are not recognised and addressed properly, implementation will be affected and the goal of full connectivity will be difficult to achieve.

4.1. Geopolitical suspicion poses obstacles to cooperation and connectivity

Despite reshaping the geoeconomic landscape of the Initiative, doubts remain that China is trying to realise its geopolitical objectives through the Belt and Road Initiative. Those suspicions about the Initiative's geopolitical ambition mixed with the complicated relations between China and its neighbours such as Japan, the USA and the Philippines. The Initiative undoubtedly will impact the public opinion negatively in these countries along the Belt and Road and undermine these countries' enthusiasm of participating in the Initiative.

Japan's response to the Initiative is an example. There are already territorial disputes and security tensions between China and Japan, and the main aim of the Initiative, "bearing the geopolitical and economic competition from China" has dominated Japan's perception of it.[25] As the Initiative develops there is an increasing possibility Japan will join it at some point in the future, but the absence of the second biggest economy in Asia, and an important member of the ASEM, remains a major barrier to the full connectivity the Initiative is seeking to achieve.

24 The data is from the regular press conference of the Ministry of Commerce of China held in December of 2015. http://www.scio.gov.cn/xwfbh/gbwxwfbh/xwfbh/swb/Document/1457552/1457552.htm.

25 The Japanese government seldom showed its official position on the Initiative, but Chinese collected the opinions of Japanese scholars and businessmen, see "How does Japan look at the Belt and Road Initiative", The First Financial Daily, 11 August 2015. http://news.sohu.com/20150811/n418549544.shtml.

4.2. Economic uncertainty affects the cooperation efficiency

According to the Initiative, the priority for achieving full connectivity is investment in infrastructure, but one of the potential risks is low returns on that investment and the uncertainties of its sustainability. It is recognised that long-term, sustained and large scale investment in infrastructure is one of the most successful characteristics of China's rapid economic growth over the past 30 years. Although the return on investment is very low, the Chinese government's focus on infrastructure has not only benefited the public good, but has helped local government reap the benefit of value added land deals. This has allowed China to sustain significant infrastructure construction related investment. But China's ambition to introduce this success in domestic infrastructure construction to international cooperation, has still to be verified through practice.

Another risk, related to economic uncertainty, is the differences between China and other countries along the Belt and Road in terms of government efficiency, economic structures and social environment. This raises the question of how to establish a feasible business pattern of cooperation between China and its partners. China's recent economic growth is, in part, due to the role that the government plays as the main investment body, with state-owned enterprises acting as the main project practitioner. But the introduction of this model to other countries will need to take into account factors such as the efficiency and the stability of governments, consistency of policy and the role of private enterprise as the main investors. Otherwise, there could be problems, as experienced recently in Myanmar and Sri Lanka where opposition from local people forced a railway project of USD 20 billion between China and Myanmar to be suspended. Also, the implementation of an investment agreement between China and Sri Lanka proved challenging because of policy inconsistencies.[26]

26 James McBride, *Building New Silk Road*, 25 May 2015. Council of Foreign Relations, USA, http://www.cfr.org/asia-and-pacific/building-new-silk-road/p36573.

4.3. Security risks will raise the cost of connectivity and destroy the basis of cooperation

The regions along the Belt and Road are full of geopolitical conflict zones with traditional and non-traditional security challenges. It means that the implementation of full connectivity will face potential security risks in project facilities, personnel and investment. Territorial disputes and historical rivalries have led to security challenges between countries in the Asia-Pacific region. Other hotspots include the continued instability in North Africa and the threat of terrorism and the migrant crisis in the Arabian Sea, the Mediterranean and Northwest India. Europe's security situation is also deteriorating. In addition, environmental security, infectious diseases and natural disasters are also security challenges to the Initiative.

Security risks pose a deeper and longer term challenge to full connectivity by undermining the mutual trust between countries and the people-to-people bond. According to a survey carried out by a Chinese pollster in 18 countries along the Belt and Road, the attitude of local people to the Initiative is related closely to the security concerns in their country. For example, the divergence with China on the South China Sea issue, leads Indonesia people to show a lack of trust in the Initiative, while people in Viet Nam displayed strong negative emotions towards the Initiative because of the island dispute between China and their country.[27]

Conclusion and recommendation

The Belt and Road Initiative's rational judgement of current regional and global challenges has led it to prioritise connectivity; this fits with the development strategies of most countries in Asia and Europe. The Initiative is characterised by principles of openness, inclusiveness and cooperation, and has had some early wins. Even though the Initiative is still in its early stages, and there are many political, security and economic challenges ahead, ASEM partners have enough reasons to give more attention to the Initiative.

The Initiative is an important platform to improve Asia-Europe cooperation and ASEM has the ability and opportunity to integrate its connectivity goals. To achieve this, the recommendations are as follows:

- ASEM partners, especially those along the Belt and Road route, should be involved more deeply in the Initiative's debates and policy reviews. If the majority of partners agree that promoting Asia-Europe connectivity is a practical solution to development, ASEM should regard the proposal of full connectivity as a common goal, and not be obsessed with questions about whether China has other motivations. The forthcoming ASEM Summit in Mongolia would be a good opportunity for ASEM partners to influence the Initiative.

27 Horizon Group, *The attitude of Countries along the Belt and Road towards the Initiative,* http://www.ccpit.org/Contents/Channel_3430/2015/0825/483638/content_483638.htm.

- Drawing upon the lessons of ASEAN's MPAC, and according to its own understanding of the direction of cooperation, China proposed a broader definition of connectivity in the Belt and Road Initiative. Its logic is: policy coordination provides a favourable political environment for connectivity; facilities connectivity can improve the economic environment and enhance industrial cooperation; financial cooperation can provide support and services for the liberalisation of trade and investment, as well as infrastructure construction. This logic and experience could be used to influence future intra-Asian connectivity.

- The Initiative should integrate with ASEAN's MPAC, and the connectivity and cooperation strategies of other Asian countries. Meanwhile, through the ASEM platform, China should also integrate its connectivity with Europe into the Asia-Europe interconnectivity, including sharing opportunities, building institutions, exchanging experiences and the provision of public goods. In this regard, the Silk Road Fund and AIIB should play a more active role.

- ASEF should play a more active role to encourage discussions and research among academics, NGOs and businesses in ASEM partner countries. For instance, scholars and other stakeholders in member countries could develop academic modules on how to promote the five pillars of connectivity, and put forward ideas on how to develop them. This will help ASEM partners to better understand the environment the Initiative is working in and the challenges it faces, as well as help partners express their concerns better.

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3.3. Energy Security and Connectivity in Asia and Europe

Margareth SEMBIRING

Abstract

Asia and Europe are facing similar challenges in meeting their energy needs. By 2040, more than a half of increasing global energy demand will take place in developing Asia, and imports will play a significantly greater role in meeting growing energy needs. Likewise in Europe, energy imports are projected to make up more than 70% of Europe's total energy needs by 2030. Ensuring affordable, reliable, and accessible energy supplies sits at the heart of energy security concerns in Asia and Europe.

Energy connectivity, both in the form of hard connectivity such as infrastructure inter-connectedness, and soft connectivity such as dialogues and capacity building, facilitates the attainment of energy security. Hard energy connectivity, except between the Russian Federation and Europe, is non-existent due to the near-absent energy trade between Asia and Europe. However, existing energy cooperation between Asia-Europe Meeting (ASEM) partners in various bilateral, inter-regional, and multilateral settings have already established some level of energy connectivity between the two regions.

Regardless of such progress, more can be done to further strengthen Asia-Europe energy relations and enable them to be more impactful in achieving inclusive growth and sustainable development. Some recommendations include: organising a *2nd ASEM Ministerial Conference on Energy Security*; engaging more Asian ASEM partners in energy cooperation with their counterparts in Europe, particularly the European Union (EU); establishing a policy framework to promote and commercialise Asia-Europe research outcomes; and keeping hard connectivity options open while strengthening soft connectivity.

Introduction

The International Energy Agency (IEA) defines energy security as: "the uninterrupted availability of energy sources at an affordable price."[1] According to this definition, affordability, reliability and accessibility are the central elements of energy security. Energy is a key issue in Asia-Europe relations. Mutual interests in ensuring energy security, particularly in the face of increasing reliance on energy imports, underpin the energy cooperation between the two regions. As energy is closely related to emissions, concerns over the environment have gained much traction in the energy security discourse. Energy efficiency, clean energy and renewable energy have therefore become an integral part of energy relations between Asia and Europe.

Energy connectivity facilitates the attainment of affordable, reliable, and accessible energy sources. It is often associated with infrastructural inter-connectedness, including cross-border power grids and pipelines. At a glance, such connectivity between Asia and Europe seems rather tenuous as the large geographical distance hinders the establishment of integrated energy infrastructure. While such limitation is acknowledged, the definition of connectivity used in this study is not confined within infrastructural connectivity. Existing energy cooperation between the two regions provides a platform for soft connectivity, including sharing of information on policies and the exchange of best practices, to be forged and fostered.

Against this backdrop, the paper aims to examine the extent of energy connectivity between Asia and Europe. This study particularly looks at the energy cooperation between the EU and the Association of Southeast Asian Nations (ASEAN) and some select countries such as China, Japan, India, Korea, and Kazakhstan. While it would be ideal to include all ASEM partners in the assessment, the choice of countries in this study is based on the existing energy relations that the EU has with its Asian counterparts.

The first chapter looks at the recent developments in the energy sector, and provides an overview of global and regional projections of oil, natural gas, coal and renewable energy demands to 2030. It shows the common energy challenges that Asia and Europe are currently facing. The second chapter examines the past and current energy cooperation between the EU and ASEAN, China, Japan, India, Korea and Kazakhstan. It discusses the EU external energy policy upon which its engagements with Asian countries are based. It also looks at the *ASEAN Connectivity Plan* and examines the direction that ASEAN takes in establishing its energy relations with its European counterparts. This chapter further investigates the energy initiatives within ASEM and uses its energy connectivity framework as the basis of analysis.

Based on the analysis, the concluding chapter lays out the different ways to enhance Asia-Europe energy connectivity. It highlights the possible measures to improve existing energy cooperation, and identifies potential areas to further strengthen energy connectivity.

1 International Energy Agency (IEA) "What is Energy Security." http://www.iea.org/topics/energysecurity/subtopics/whatisenergysecurity/.

Setting the scene

Global energy demand is set to increase by 37% by 2040 and 60% of this increase will take place in rapidly-developing Asia.[2] The primary energy demand in Asia and the Pacific is set to increase at 2.1% annually between 2010 and 2035.[3] In Asia and the Pacific, although the demand for coal is projected to decrease, it will remain the dominant energy source, at 42.1% in 2035. Oil will be the second largest energy source and make up 23.6% of the total primary energy demand. The demand for gas will grow at the fastest rate, at 3.9% per annum, while nuclear is projected to increase at 3.5% per year. Imports will play an increasingly greater role in meeting growing needs for coal, oil and natural gas. Among renewable energy sources, hydro power is set to experience the fastest growth at 2.9% per year, while other types, such as non-commercial biomass, including wood and animal waste, geothermal, wind and solar will grow at a relatively slower rate of 1.3% per annum.

The energy demand situation is different in the EU. Here growing energy demand is not so much of a concern, as energy need is projected to remain relatively unchanged.[4] Despite a stable energy demand, reliance on energy imports is set to increase. Europe is already the world's biggest energy importer with more than 80% of its oil requirements, and more than 60% of its gas consumption being met by imports.[5] Similarly, about 42% of its solid fuel demand and 40% of its nuclear fuel are imported.[6] Given the same trend, EU energy imports are projected to make up more than 70% of EU total energy needs by 2030.[7]

2 IEA (2014) *World energy outlook 2014: Executive summary*. Paris: International Energy Agency.
3 ADB (2013) *Energy outlook for Asia and the Pacific*. Mandaluyong City, Philippines: Asian Development Bank.
4 EC (2014) *Commission staff working document – In-depth study of European Energy Security - Accompanying the document: Communication from the Commission to the Council and the European Parliament: European energy security strategy*, https://ec.europa.eu/energy/sites/ener/files/documents/20140528_energy_security_study_0.pdf.
5 EC (2011) *Commission staff working document – Key facts and figures on the external dimension of the EU energy policy - Accompanying document to the: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Security of energy supply and international cooperation – "The EU Energy Policy: Engaging with Partners beyond Our Borders*, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2011:1022:FIN:EN:PDF.
6 EC (2014) *Commission staff working document – In-depth study of European Energy Security - Accompanying the document: Communication from the Commission to the Council and the European Parliament: European energy security strategy*, https://ec.europa.eu/energy/sites/ener/files/documents/20140528_energy_security_study_0.pdf.
7 EC (2011)

The EU reliance on the Russian Federation for gas supply, which accounts for 39% of its total gas imports[8], is by far the EU's biggest energy security concern. Figure 1 shows the map of Russian company Gazprom's existing and proposed gas pipelines in 2006.

Figure 1: Gazprom's existing and proposed pipelines in 2006[9]

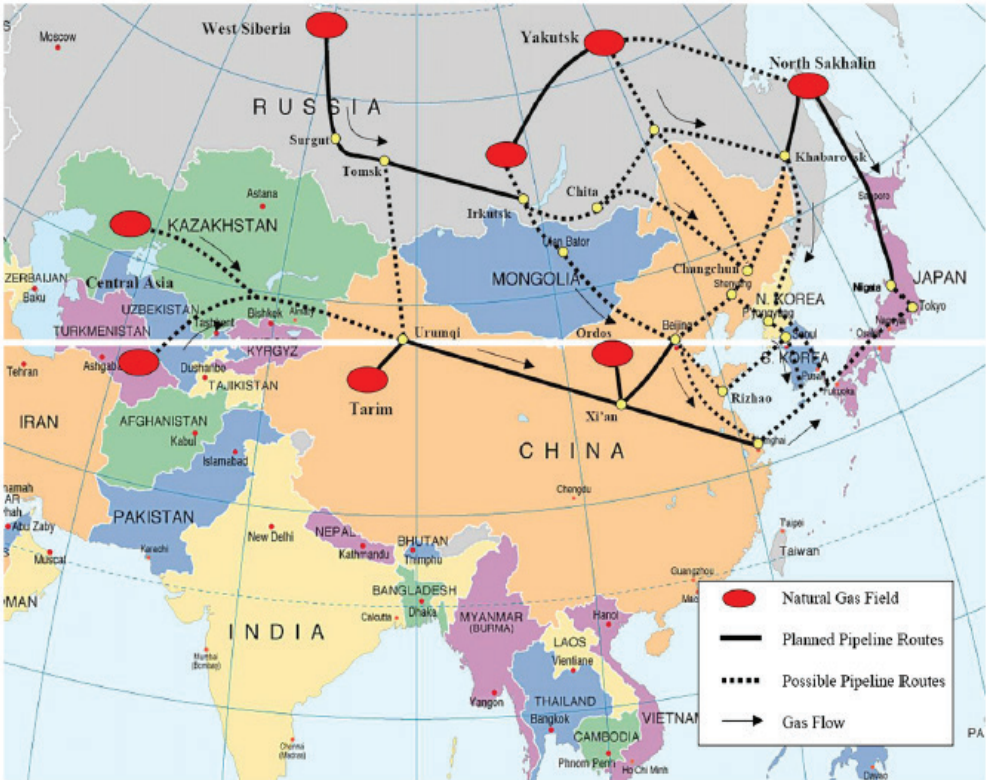


8 EC (2014)

9 Ericson, R. E. (2009) 'Eurasian Natural Gas Pipelines: The Political Economy of Network Interdependence', *Eurasian Geography and Economics*, 50(1), p. 31.

The Russian Federation is indeed a dominant natural gas supplier, and not only in Europe. The Russian Federation is also expanding its influence in Northeast Asia's gas supply to China, Japan, Korea, Turkmenistan, and Kazakhstan as seen in Figure 2.

Figure 2: Several proposed international natural gas pipeline routes to Northeast Asia[10]

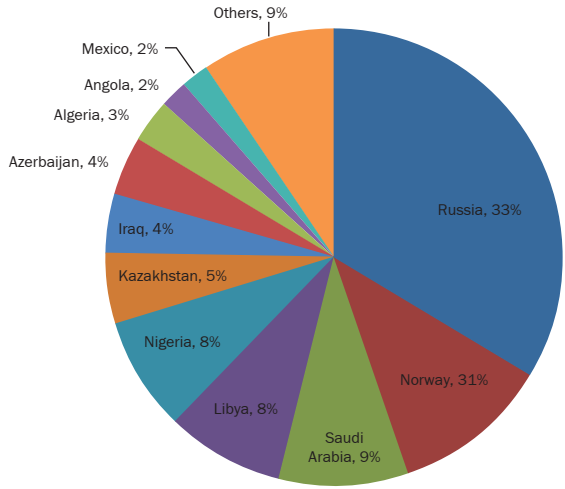


Although the EU is the world's third largest coal-consuming region after China and North America, the EU is more resilient against coal shortages than natural gas supply disruptions. This is because coal import dependency is lower compared to natural gas and the sources of coal import are more diversified globally.[11] Both coal and natural gas imports will increase until 2030, whereas oil import volumes will decrease.

The following diagrams illustrate EU energy import dependence by showing the origins of its crude oil and Natural Gas Liquid (NGL), natural gas, and coal sources.

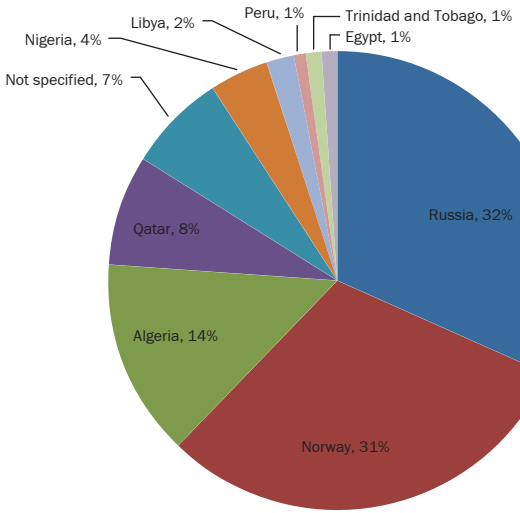
10 Von Hippel, D. et al. (2011) 'Northeast Asia Regional Energy Infrastructure Proposals', Energy Policy, 39(11), p. 6858.
11 EC (2014)

Figure 3: Extra-EU imports of crude oil and NGL, share of main trading partners in energy terms, 2012



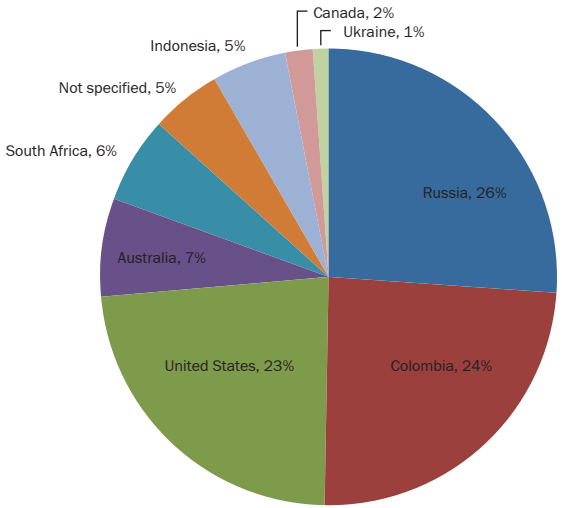
Source: "Eurostat, energy" adopted from "EC (2014) Commission staff working document – In-depth study of European Energy Security, - Accompanying the document: Communication from the Commission to the Council and the European Parliament: European energy security strategy, p. 32"

Figure 4: Extra-EU imports of natural gas, share of main trading partners in energy terms, 2012



Source: Ibid. p. 45

Figure 5: Extra-EU imports of solid fuels, share of main trading partners in energy terms, 2012

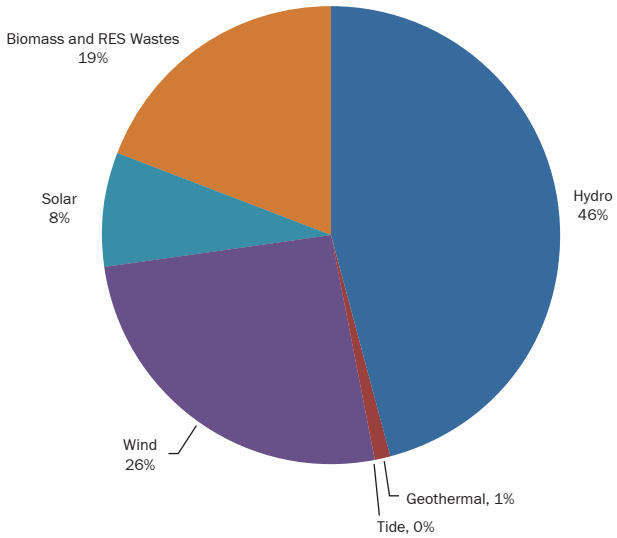


Source: Ibid. p. 66

Despite being the world's biggest energy importer, the EU has made a significant stride in developing its renewable energy sources. In 2012, 44% of the world's renewable electricity, excluding hydro, was generated in the EU.[12] Including hydro-generated electricity would increase the figure further as hydro was the largest renewable energy source, producing about 46% of total renewable electricity generation in Europe. Although wind, biomass and Renewable Energy Systems (RES) - wastes and solar - only accounted for 26%, 19% and 8% of total renewable power generation respectively, their growth over the years has been remarkable. Solar registered an impressive growth of more than 50% between 2011 and 2012, wind grew 14% and biomass and waste 12% during the same period. The following diagram shows the share of renewable energy sources in electricity generation.

12 EC (2014)

Figure 6: EU gross electricity generation of renewables by source, 2012



Source: Ibid. p. 82

State of energy trade between Asia and Europe

Within ASEM, the Russian Federation belongs to the Asia grouping. Since energy cooperation and connectivity between the EU and the Russian Federation is well-known and well-established, this paper focuses on examining energy relations between the EU and Asian ASEM partners, other than the Russian Federation.

Although increasing energy imports are the common feature in Asia and Europe, the overall energy trade between the two regions is almost negligible. Dent observes that: "while each region sources imported energy fuels from similar partners (i.e. Middle East states), they do not source from each other in any substantive way."[13]

This is evidenced in the volume of trade in electricity, coal, crude oil, Liquefied Natural Gas (LNG), electricity and natural gas between EU and ASEAN. In 2014, EU's coal purchase from ASEAN made up only about 2.5% of its total coal imports.[14] For LNG, EU imports from ASEAN amounted to 1.7% of its total LNG imports. There was virtually no trade in crude oil, natural gas (both in liquid and gas forms) and electricity between the two regions.

13 Dent, C. M. "Asia and Europe: Meeting Future Energy Security Challenges." In *The Asia-Europe Meeting: Contributing to a New Global Governance Architecture: The Eighth ASEM Summit in Brussels (2010)*, edited by S. Bersick and P. van der Velde. Amsterdam: Amsterdam University Press, 2011, p. 136.

14 Trade Map, http://www.trademap.org/.

Similarly, ASEAN energy imports from the EU were negligible, except for ASEAN's LNG imports from EU, which amounted to 5.3% of ASEAN total LNG imports. Energy trade volumes with countries such as China and India were equally low, except for EU crude oil purchases from Kazakhstan, which stood at 7.0% of its total crude oil imports in 2014.[15] The geographical distance, a preference for existing suppliers and differing trade regulations are partly the reasons for low energy trade volumes between the two regions.

Table 1: EU-28 imports of various energy products from ASEAN in comparison to EU-28 imports from world (Unit: US Dollar thousand, value in year 2014)

Products	EU-28's imports from ASEAN	EU-28's imports from world	%EU-28's imports from ASEAN
Electrical Energy	0	18,953,570	0
Coal; briquettes, ovoids & similar solid fuels manufactured from coal	541,305	21,676,164	2.5%
Crude petroleum oil	2	398,423,122	0
Natural gas, liquefied	0	15,724,166	0
Natural gas in gaseous state	0	127,071,523	0

Source: Trade Map

Table 2: EU-28 imports of various energy products from China, India, Kazakhstan in comparison to EU-28 from the world (Unit: US Dollar thousand, value in year 2014)

Products	EU-28's imports from China	EU-28's imports from India	EU-28's imports from Kazakhstan	EU's imports from world
Electrical Energy	1	0	0	18,953,570
Coal; briquettes, ovoids & similar solid fuels manufactured from coal	39,736	66	69,146	21,676,164
Crude petroleum oil	2	0	27,906,232	398,423,122
Natural gas, liquefied	0	0	0	15,724,166
Natural gas in gaseous state	0	0	0	127,071,523

Source: Trade Map

15 Ibid.

Table 3: ASEAN imports of various energy products from EU-28 in comparison to ASEAN imports from world Unit: US Dollar thousand, value in year 2014

Products	ASEAN imports from the EU-28	ASEAN imports from world	%ASEAN imports from EU-28
Electrical Energy	0	1,022,186	0
Coal; briquettes, ovoids & similar solid fuels manufactured from coal	5,145	4,506,928	0.1%
Crude petroleum oil	122,921	95,251,095	0.1%
Natural gas, liquefied	206,350	3,869,612	5.3%
Natural gas in gaseous state	29	9,181,715	0

Source: Trade Map

As connectivity is normally associated with integrated infrastructure, transportation and logistics networks, the near-absence of energy trade between Asia and Europe limits the hard infrastructure connectivity between the two regions. Connectivity however, goes beyond hard connectivity, as it also entails soft aspects such as cooperation in policies, strategies, customs, regulatory systems, personnel and institutional capacity building, as well as trans-boundary cooperation. In this regard, to a certain extent energy connectivity between the two regions has been established, as energy cooperation has been in place for decades.

Key actors and actions

Energy cooperation between Asia and Europe is grounded on shared needs, to ensure energy supply in an environmentally-sustainable way. The main actors in terms of creating energy connectivity between Asia and Europe are the EU, ASEAN and countries such as China, Japan, Korea and Kazakhstan. The official energy relationships between the EU and these Asian countries provide the basis for energy connectivity analysis in this study.

The EU

At an inter-regional level, there are two different approaches to energy between the EU and ASEAN. The EU views its energy cooperation with extra-regional partners as a strategic matter. This is evidenced in a number of relevant documents outlining its external energy policy. Energy cooperation at regional and European level, and its engagement with external parties, is part of the overarching *European Energy Security Strategy*. This aims to develop and diversify energy mixes as well as to reduce energy consumption and develop infrastructure that will improve the flexibility of the EU's energy systems.[16]

16 EC (2014)

In 1996 the European Commission launched the *Europe-Asia Cooperation Strategy for Energy*. In 2011 *The EU Energy Policy: Engaging with Partners beyond Our Borders* set out a comprehensive policy on its external energy engagement. The document was accompanied by a working paper detailing the external dimension of the EU's energy policy. This focused on energy supply and international cooperation. International cooperation, in terms of energy dialogues and memoranda of understanding, are identified explicitly as means of addressing EU energy needs.

However, the importance of energy goes beyond the EU own energy needs, as energy also serves as an avenue for the EU's external assistance programmes. Between 2007 and 2011, the EU spent about EUR 1.77 billion on energy-related financial assistance. About 5.7% of the total assistance was on the Development Cooperation Instrument (DCI) in Asia. As energy assistance is set to remain one of the EU's development policy priorities[17], the opportunities to forge closer energy cooperation and connectivity between Europe and developing Asia remain.

A report from the European Commission to the European Parliament, the Council of Ministers and the European Economic and Social Committee[18], on energy supply and international cooperation highlights that the external energy strategy introduced in 2011 has pushed the development and the deployment of indigenous renewable energy sources, the improvement of energy efficiency, the diversification of external energy sources, supplies and routes and the maintenance of cooperation with existing suppliers. Central to the EU's engagement with partner countries are issues relating to energy security, sustainable energy policy, promotion of renewable energy and energy efficiency and technology research and innovation efforts. Additionally, the EU also promotes transparent, competitive and liquid global energy markets, and advocates for the principles of non-discrimination and market access in trade and investment.

The EU's commitment to energy cooperation is also grounded on its 2011 *Agenda for Change*. This states that the EU should: "offer technology, expertise, and development funding, and focus on three challenges namely price volatility and energy security; climate change including access to low carbon technologies; and access to secure, affordable, clean and sustainable energy services."[19]

The EU takes its external energy policy seriously. In 2012 the European Commission established the Strategic Group for International Energy Cooperation which comprises of member states' Energy and Foreign Affairs Ministries and the European External Action Service (EEAS). The Strategic Group has established dialogues with China, Ukraine, the Southern Mediterranean, the US and the Eastern Partnership. While EU external engagement is mostly forged with its immediate neighbours, the presence of external energy policy provides the framework for the EU to expand its energy cooperation and connectivity with its Asian partners.

17 EC (2011)

18 EC (2013) *Report from the Commission to the European Parliament, the Council and the European Economic and Social Committee – Implementation of the Communication on Security of Energy Supply and International Cooperation and of the Energy Council Conclusions of November 2011*, http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52013DC0638.

19 EC (2013)

ASEAN

The approach to international energy cooperation is rather different in ASEAN. Unlike the EU, ASEAN has no special document specifying a strategic approach to its external energy engagement. The main element of regional energy cooperation, as outlined in the *ASEAN Plan for Energy Cooperation (APAEC) 2010-2015*, is the region's own energy development whereas international engagement plays a supporting role to the regional development efforts.

Indeed, from the ASEAN perspective, developing its own energy capacity is of immediate concern. The direction that ASEAN takes to addressing regional energy security includes:

- narrowing the development gap
- improving energy access
- facilitating economic integration
- securing foreign direct investment and private sector involvement
- building capacity and upgrading human resources
- developing and implementing transparent legal, regulatory and technical frameworks to enable open and flexible energy trade across borders, and
- expanding energy mix and supply sources by maximising energy source potential in the region, exploring and developing frontier areas, developing and researching on fossil fuels and renewable energy sources, and expanding energy efficiency and conservation.

The central emphasis of ASEAN's energy development are the ASEAN Power Grid, Trans-ASEAN Gas Pipeline, coal and clean coal technology, renewable energy, energy efficiency and conservation, regional energy and planning and civilian nuclear energy. Its engagement with external parties is also built to support these priorities.

ASEAN defines connectivity as physical (transport, Information and Communication Technology (ICT), energy); institutional (trade liberalisation and facilitation, investment and services liberalisation and facilitation; mutual recognition agreements/arrangements; regional transport agreements; cross-border procedures; capacity building programmes and people-to-people (education and culture, tourism) connectivity.[20]

In relation to energy, a priority is harmonising standards to address the technical and legal challenges surrounding the ASEAN Power Grid and Trans-ASEAN Gas Pipeline (TAGP) projects. ASEAN is also working towards the establishment of infrastructure for LNG transportation as Malaysia, Singapore, and Thailand are building their LNG terminals. At this junction, it is evident that ASEAN connectivity tends to be inward-looking, as it focuses on building connectivity among its member states. It is not surprising, therefore, that the type of energy cooperation that ASEAN has with extra-regional entities, including the EU, is mostly for funding and capacity building purposes.

20 Asian (2011) *Master Plan on ASEAN Community*. Jakarta: ASEAN Secretariat.

The EU's involvement in the ASEAN energy sector, for example, has been ongoing for close to three decades. The EC-ASEAN Energy Facility (EAEF) programme was established to ensure sufficient energy supply to ASEAN countries and also indirectly to Europe; to enhance economic exchanges between the two regions, address environmental issues at local and global level and assist the implementation of APAEC 1999-2004 and APAEC 2004-2009. Within the EAEF, the EU had been giving financial assistance to numerous energy-related projects in ASEAN. The EAEF was the main avenue for the EU-ASEAN energy engagement under the APAEC framework, and as the EAEF programme has ended in 2007, the Senior Officials Meeting on Energy (SOME)-EU Consultations has now taken over to facilitate the implementation of the APAEC 2010-2015.

On a bilateral level, ASEAN has established energy relations with Germany and Switzerland. The ASEAN-German Mini Hydro Project (AGMHP) was implemented in Cambodia, the Lao PDR and Viet Nam, with the purpose of improving the pre-conditions for sustainable use of mini-hydropower (MHP) sources. Similarly, Switzerland is interested in assisting regional programmes for mini-hydro power development.

ASEAN energy ministers have recently adopted the APAEC 2016-2025. Similar to the preceding APAEC, the theme of the latest APAEC remains centred on energy connectivity and market integration. In this regard, ASEAN international energy engagement is likely to continue to play a supporting role to regional energy development efforts.

EU-China

EU-China energy cooperation began in the early 1980s and is among the "most long-lived aspects of bilateral dialogues between China and the member states of the European Economic Community."[21]

The EU and China's relatively strong energy relations are evidenced in the existence of a number of instruments such as:

- Energy dialogues;
- Memoranda of understanding;
- EU-China Partnership on Climate Change;
- Agreement on nuclear research; and
- Science and technology cooperation agreement.

China is also a member or a signee of[22]:

- The Energy Charter Treaty (observer status);
- The World Trade Organisation (WTO);
- The non-proliferation treaty; and
- The International Thermonuclear Experimental Reactor (ITER) agreement.

21 Zha, D. (2015) 'Energy security in China-European Union relations: Framing further efforts of collaboration', *Contemporary Politics*, 21(3), p. 316.
22 EC (2011)

Other avenues for energy cooperation include[23]:

- The EU-China High Level Meeting;
- the EC-China Biannual Energy Conference between EC Directorate General for Energy (DG ENER) and the Chinese Ministry of Science and Technology (MOST);
- The EC-China Dialogue on Energy and Transport Strategies;
- The EU-China Energy Dialogue;
- The EU-China Clean Energy Centre;
- The EU-China Partnership on Urbanisation;
- The Bilateral Cooperation Framework on Energy Performance and Quality in the Construction Sector between the EC and the Chinese Ministry of Housing and Urban-Rural Development;
- Annual EU-China Summits;
- EU-China Policy Dialogues Support Facility (PDSF);
- The Research and Development Cooperation Agreement between China and European Atomic Energy Community (EAEC or Euratom) on the Peaceful Uses of Nuclear Energy and Nuclear Safety; and
- The network of energy-related professionals in Europe and China.

The EU-China Innovation Cooperation Dialogue also supports energy cooperation. The signing of China-EU Energy Security Joint Statement in 2012 further signified a deeper energy strategic partnership between the EU and China.

At a working level joint activities are ongoing in electricity regulation, gas market development, long-term planning, global energy governance, and nuclear safety. Having signed the Research and Development Cooperation Agreement on the Peaceful Uses of Nuclear Energy and Nuclear Safety, China is currently working on another agreement with Euratom to further strengthen their cooperation.

EU-China energy relations are the strongest between the two regions. Therefore, examining their cooperation would provide an insight into opportunities for strengthening energy connectivity, as well as the challenges.

EU-Japan

The energy cooperation between the EU and Japan is taking place on multiple fronts, including Energy Dialogues and Action Plan for EU-Japan Cooperation; a broader approach agreement on fusion research; science and technology cooperation agreement and the Energy Charter Treaty (signatory); WTO; the non-proliferation treaty and the ITER agreement.[24]

The EU and Japan are joining their efforts to create a liquid and flexible global gas market. Other areas of cooperation include electricity market reform and nuclear safety and emergency management.

23 Zha, D. (2015)
24 Ibid.

EU-India

Energy relations between the EU and India are relatively strong with the presence of Energy Dialogues; the EU-India Strategic Partnership Joint Action Plan; a pending Free Trade Agreement (FTA); a pending agreement on nuclear research; an agreement on fusion research, science and technology cooperation; WTO and the ITER agreement.[25]

In 2012, a joint declaration on enhanced energy cooperation was adopted during the EU-India Summit. It highlighted areas such as clean coal production and utilisation; energy efficiency in products and buildings; smart grids and renewable energy. Other means of energy engagement include the EU-India Energy Panel and the Indo-European partnership.

EU-Kazakhstan

Energy cooperation between the EU and Kazakhstan is well established. Kazakhstan is a signatory to the Energy Charter Treaty and its energy engagements with the EU encompass Energy Dialogues; a memorandum of understanding; the Baku instrument; agreements on nuclear safety and fusion research; WTO (pending) and the non-proliferation treaty.[26]

EU-Korea

Energy cooperation also exists between the EU and Korea in the form of FTA; an agreement on fusion research; the Energy Charter Treaty (observer); WTO; the non-proliferation treaty and ITER agreement.

The Asia-Europe Meeting (ASEM)

ASEM is the primary cooperation platform between Asian and European countries, and energy is part of the discussion topics. The *1st ASEM Ministerial Conference on Energy Security* in 2009 outlined common principles for improving energy security: diversifying energy resources; suppliers and transportation routes; upscaling energy efficiency; extending the use of renewable and clean energy technologies; integrating energy markets; and strengthening regional cooperation. The conference emphasised the need for information exchanges, and identified areas of cooperation through which connectivity between Europe and Asia can be further strengthened. These include:

- Sharing of information on policies, regulation and support schemes aimed at building a more stable, transparent and secure global energy market
- Cooperation on developing new technologies and promoting green growth
- Improving energy efficiency
- Promoting and increasing investments in renewable energy

25 Ibid.
26 Zha, D. (2015)

The importance of connectivity, including the free and seamless movement of energy, was highlighted in the *Chair's Statement* of the *10th ASEM Summit* in 2014. Hard connectivity, such as infrastructure and transportation system, as well as soft connectivity, such as trade regulations, were identified. Similar to the *1st ASEM Ministerial Meeting on Energy Security,* energy issues discussed at this meeting included the diversification of energy sources and routes, energy efficiency, the advancement of renewable energy sources and low carbon technologies.

As a derivative of the leaders' statements, energy is featured in the *ASEM Work Programme 2014-2016*. Some relevant activities include the *ASEM Think Tank Symposium on Connectivity,* the *ASEM Roundtable on Energy Efficiency in Green Buildings*, and the *ASEM Seminar/ Workshop on Renewable Energy*. Additionally, some tangible areas of cooperation were formed and some ASEM partners have expressed their interest to participate as follows:

- Renewable Energy: Mitigation, Adaptation, Financing, and Technological Innovations (India, Philippines, Greece, Lithuania, Brunei Darussalam, Hungary, Spain, Mongolia, New Zealand, Cyprus). In the *12th ASEM Foreign Minister's Meeting (ASEM FMM12)* in November 2015, ASEM partners showing an interest in this topic were: Austria, Brunei Darussalam, Cyprus, Finland, Greece, Hungary, India, Lithuania, Mongolia, New Zealand, Philippines, Spain, Thailand.

- Energy Efficiency Technologies (India, Denmark, Lithuania, Brunei Darussalam, Hungary, Spain, Mongolia, Pakistan, China, Korea, Russian Federation, Cyprus, Bangladesh). At *ASEM-FMM12*, participating ASEM partners showing interest in this topic were: Bangladesh, Brunei Darussalam, China, Cyprus, Denmark, Finland, Hungary, India, Korea, Lithuania, Mongolia, Pakistan, Russian Federation, Spain, Thailand.

- Nuclear Safety (Indonesia, Lithuania)

ASEM Meetings and Initiatives 2015-2017 also include some energy-related events including the *ASEM Seminar on Cooperation in Science, Technology and Innovation for Sustainable Development*, the *ASEM Seminar on Renewable Energy*, the *4th ASEM Seminar on Nuclear Safety*, and the *2nd Seminar for the Establishment of the ASEM Centre on Science, Technology and Innovation.*

Along similar lines, the *12th ASEM Foreign Ministers' Meeting* in November 2015, emphasised the need to increase connectivity between Asia and Europe, with the aim of "supporting strong, sustainable and inclusive economic growth and to increasing trade, investment, the movement of people, energy, information, knowledge and ideas, as well as to deepening of institutional linkages between the two regions."[27] It highlighted the importance of strengthening coordination and furthering tangible activities between the two regions. The exchange of best practice, experiences, knowledge, expertise, technology transfers and information on capacity-building activities were again identified as important means to connectivity.

27 "Working Together for a Sustainable and Secure Future." Chair's Statement of the 12th ASEM Foreign Ministers' Meeting. 5-6 November 2015, Luxembourg. http://aseminfoboard.org/sites/default/files/documents/2014_-_ASEM10_-_Chair_Statement.pdf.

ASEM perceives market integration as an inseparable element of connectivity. Creating an open and competitive market characterised by an easy flow of inter-regional trade and investment; the absence of trade-distorting and protectionist measures including non-tariff barriers and customs cooperation, are all seen as a means to enhance connectivity. While they may apply to most market mechanisms, the low energy trade volumes between Asia and Europe may render energy market integration irrelevant for now. However such ideas could become important when energy trades between the two regions pick up.

Assessment of existing energy cooperation and connectivity

The various energy policies in the EU and ASEAN, as well as the energy agenda outlined in ASEM meetings, show that ensuring energy security in terms of adequate energy supply and environmentally-friendly energy development, is at the heart of Asia-Europe energy cooperation. Referring to the connectivity framework which the *1st ASEM Ministerial Conference on Energy Security* set out in 2009, assessment of the extent of connectivity in the existing energy cooperation can be done in the following points:

**** Sharing of information on policies, regulation and support schemes aimed at building more stable, transparent, and secure global energy market***

The EU working with the Chinese State Council in crafting China's new comprehensive energy law is an example of this connectivity between China and the EU.[28] A similar cooperation has been taking place between the EU and ASEAN through the *Regional EU-ASEAN Dialogue Instrument (READI) on Energy* which aims at preparing and implementing mutually beneficial policies, programmes and activities, particularly to advance low-carbon economies. The EU is assisting ASEAN in developing draft policy, plan of actions and a regulatory framework, through exchanges of energy policy information, formulation and initiatives.

**** Cooperation on developing new technologies and promoting green growth***

In China, the EU has been involved in providing technical assistance, joint research and energy development programmes.[29] Similarly in ASEAN, READI also supports the implementation of APAEC 2010-2015, including research and development in clean energy production. Between the EU and India, cooperation for clean coal production and utilisation is in place.

28 Zha, D. (2015)
29 Ibid.

**** Improving energy efficiency through exchanges of information on energy efficiency measures and on stimulating investments in energy efficiency***

Most of the cooperation between the EU and Asian ASEM partners are on energy efficiency. The EU-China Clean Energy Centre, for example, works on low-carbon and a more energy-efficient economy. READI also supports the implementation of APAEC 2010-2015 including energy efficiency and conservation. The EU, together with Japan, Australia, China, Korea, and India, provides financial assistance for APAEC programmes on coal and clean coal technology, energy efficiency and conservation, as well as renewable energy and regional energy policy and planning.[30] EU-India energy relations also include energy efficiency in products and buildings.

**** Promoting and increasing investments in renewable energy through technology transfer, deployment and dissemination of advanced and environmentally-sound energy technologies***

As well as energy efficiency, renewable energy cooperation between Europe and Asia is flourishing. Smart grids and renewable energy are featured in EU-India energy relations. In early 2015, the EU Business Avenues trade mission brought European SMEs to promote energy efficient technologies in Southeast Asia.[31] READI also supports the use of renewable energy in ASEAN and *EU-China Clean Energy* works on renewable energy sources. Additionally, exchanges and workshops between EU and Chinese officials, industry representatives and academic experts on issues of clean coal, renewable energy, grid integration and smart grids have been taking place.

Numerous activities relating to the exchange of information, policy dialogues, capacity building, energy efficiency and renewable energy are on-going within the ASEM platform. Outside ASEM, there are other multilateral platforms where energy-related issues are being addressed. Examples include the Clean Energy Ministerial (CEM) where China, India, Indonesia and Japan are members; the International Partnership for the Hydrogen and Fuel Cells in the Economy (IPHE) in which Japan, China, and India are members; ITER where Japan, China, Korea and India are members; G8 where Japan is member; G20 where China, India, Indonesia, Japan, Korea are member; the International Energy Agency (IEA) where Japan is member; the Extractive Industries Transparency Initiative (EITI) where Japan is member and the Major Economies Forum (MEF) where India, Indonesia, Japan, and Korea are members.

At this junction, it is evident that the existing cooperation between European and Asian ASEM has been in line with the concept of connectivity formulated by ASEM. Although geographical distance, different national capacities, political regimes, available resources, among others, pose a challenge in establishing infrastructural connectivity, soft connectivity including dialogues, policy formulation, and capacity building has already taken shape.

30 ASEAN (2010) *ASEAN Plan of Action for Energy Cooperation 2010-2015,* http://www.asean.org/archive/22675.pdf.

31 "Firmer Ties between EU and ASEAN on Clean Technology." Eco-Business, 2 July 2015, http://www.eco-business.com/news/firmer-ties-between-eu-and-asean-on-clean-technology/.

The extent of connectivity could further be evaluated from the different modes of cooperation. As EU-China energy relations are the strongest, their cooperation models would provide a good reference for analysis and lessons learned for other countries. The *Concept Note on China-EU Energy Cooperation Roadmap 2020* notes that policy dialogues between the EU and China are key engagement and exchange mechanisms, but are often lagging in implementation.[32] Lack of resources hinders the dialogues to become fully operational so practical results often cannot be effectively delivered.

Capacity building in terms of policy formulation, industry regulation, construction and consumption, grid integration, and energy efficiency standards are having real impacts and are mutually beneficial for both parties. However, they need to be better organised and followed up more closely.

Scientific research is a very active area of cooperation; however the EU programmes often change their participation conditions and affect the research itself. There is a need therefore to establish research institutions, led by experts from both regions instead of solely from either side.

Technological demonstration projects are practical and result-oriented undertakings; however, they often lack implementation as it is difficult to make them bankable and financially viable for commercial purposes. There are also different understandings on the nature of the cooperation, with the European entities being more interested in business opportunities, while China is more focused on technology development.

Market development projects have shown some progress in market development cooperation and business involvement. However the EU finds it difficult to enter the Chinese market.

The latest type of cooperation is **city twinning** where cities from both regions work together for common goals. There are 12 city pairings under the *EU-China Urbanisation Partnership* framework and 700 city twinnings have been established.[33] There are practical outcomes out of their cooperation, but further opportunities need to be worked on.

As much of the existing cooperation between the EU and Asian ASEM partners is very similar to that between the EU and China, the analysis of the success and challenges in their energy cooperation can provide lessons learned for others to strengthen their cooperation and connectivity.

32 EC2 (2015) *Concept Note on China-EU Energy Cooperation Roadmap 2020*, Europe-China Clean Energy Centre, Beijing: EC2, http://documents.rec.org/publications/EC2_roadmap_2020_EN_web.pdf.

33 Delegation of the European Union to China, "The EU-China Partnership on Sustainable Urbanisation: "Better City Better Life" http://eeas.europa.eu/delegations/china/eu_china/sustainable_urbanisation/sustainable_urbanisation.htm.

Conclusions and recommendations

Energy connectivity between Asia and Europe, particularly in capacity building, sharing of expertise, information and best practices, and the development of renewable energy and energy efficiency, has been established through various existing energy cooperation. Bilateral energy cooperation between the EU and China, Japan, India, Kazakhstan, and Korea, inter-regional energy cooperation between the EU and ASEAN, as well as various energy-related meetings and workshops under the auspices of ASEM have linked both regions, primarily in terms of soft connectivity. The lack of energy trade between Europe and Asia (except the Russian Federation) results in the absence of hard connectivity between the two regions. While soft connectivity has been established, more can be done to further strengthen Europe-Asia energy relations to enable them to be more impactful in achieving inclusive growth and sustainable development.

**** Organising the 2nd ASEM Ministerial Conference on Energy Security***

At the inter-regional level, the EU external energy policy and the *ASEAN Plan for Energy Cooperation* provide the framework for energy connectivity to be enhanced. At a multilateral level, ASEM is an important platform for energy connectivity to flourish. In this regard, it is important for ASEM to organise the *2nd ASEM Ministerial Conference on Energy Security* following the first and only one in 2009. In the face of common challenges, such as increasing reliance on energy imports in both regions, the second Conference shall bring together again all the energy ministers of ASEM partners and enable them to discuss possible ways to enhance energy connectivity between Asia and Europe.

**** Engaging more Asian ASEM Partners in energy cooperation with the EU***

Engaging more Asian ASEM partners in energy cooperation with the EU will open more avenues to enhance Asia-Europe energy connectivity. The types of energy cooperation between the EU and China, such as city twinning, scientific research and market development projects can be adopted by other countries to forge stronger energy connectivity. Strengthening business-to-business ties, including small and medium sized enterprises, would also enhance energy connectivity. Establishing energy cooperation between Asian and European regions sharing similar characteristics, as seen in the water cooperation between the Mekong and Danube regions, can be explored to strengthen energy connectivity.

**** Establishing policy framework to promote and commercialise Asia-Europe research outcomes***

Information sharing on energy policies, regulation, support schemes, exchange of best practices and expertise and joint scientific cooperation are sure ways of establishing connectivity. The numerous energy-related events within ASEM also provide excellent platforms for people-to-people links and exchanges of information. Strong commitment is needed however, to go beyond the capacity-building phase and make such initiatives more impactful.

The promotion and commercialisation of Asia-Europe research outcomes needs to be supported by sustainable funding and other support mechanisms. The International Energy Agency (IEA) identifies good practices in Research, Development and Demonstration (RD&D) policy as follows[34]:

1) Coherent energy RD&D strategy and priorities
2) Adequate government RD&D funding and policy support
3) Co-ordinated energy RD&D governance
4) Strong collaborative approach, engaging industry through public private partnerships (PPPs)
5) Effective RD&D monitoring and evaluation
6) Strategic international collaboration

Although this framework is primarily designed as a guideline for national-level energy RD&D policy, ASEM partners may refer to these good practices to create a conducive policy environment to promote and commercialise the outcomes of collaborative research between European and Asian ASEM partners. Establishing a common policy aimed at promoting joint research products is indeed a challenging undertaking due to varying national priorities, perspectives and capacity.

Additionally, ASEM partners can look into the lessons learned from the US-China Clean Energy Research Center (CERC) which concludes, that in order for joint R&D co-operation to be commercially viable, high-level government support, flexible arrangements for allocation of Intellectual Property (IP) and access to market are needed to incentivise the private sector and attract the needed intellectual capital and financial resources.[35] The experience of IEA Implementing Agreements (IAs) also shows that industry involvement within the collaborative research projects and adequate government funding are critical in pushing the research outcomes to the market.[36] The ASEM partners therefore need to take these various lessons into consideration and accordingly craft an enabling policy for the commercialisation and promotion of joint research outcomes.

**** Keeping hard connectivity option open while strengthening soft connectivity***

Although establishing hard connectivity in the form of infrastructure, logistics and transportation between Asia and Europe may not be directly relevant at present, keeping such option open would further prepare both regions from the ever-changing landscape of the energy sector, including the global rise of shale gas, the interest in nuclear energy in Southeast Asia, the growing usage of natural gas and the fluctuating crude oil price. Strengthening existing soft connectivity, while exploring possible avenues to establish hard connectivity, therefore, is the way forward for both European and Asian ASEM partners.

34 Chiavari, J. and Tam, C. (2011) *Good Practice Policy Framework for Energy Technology Research, Development and Demonstration (RD&D)*. Paris: International Energy Agency. https://www.iea.org/publications/freepublications/publication/good_practice_policy.pdf, p. 12.
35 Chiavari, J. and Tam, C. (2011), p. 53.
36 Ibid., p. 56.

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3.4. People-To-People Tourism: Initiatives and Challenges in Enhancing Travel, with a Focus on ASEAN

Oscar F. PICAZO

Abstract

This paper reviews the current status, issues and prospects of people-to-people (PTP) tourism between member states of the Association of Southeast Asian Nations (ASEAN) and Europe. Following the introduction in Section 1, Section 2 sets the scene by providing the rationale for increasing PTP tourism, identifying the key segments and trends in PTP tourism, and documenting the benefits and challenges of expanding PTP tourism, focusing on visa facilitation. Section 3 provides recommendations to enhance PTP tourism and the key requirements to achieve this. Section 4 provides the conclusions.

1. Introduction

Europe and Asia are major areas of economic growth, opportunity and innovation. Forecasts indicate that trade and investment, as well as education, research and development (R&D), and cooperation in diverse fields, whether at bilateral or multilateral levels or at official or in a personal capacity, will continue to grow between the two regions.[1] Maximising the flow of goods, services, people and ideas will therefore require measures to enhance contact and connectivity between the two continents.

At the closing session of the Asia-Europe Business Forum (AEBF) on 16 October 2014 in Milan, alongside the 10th ASEM Summit, Herman Van Rompuy, former President of the European Council, stated that the EU supports a broad-based concept of connectivity in its three dimensions: physical (transport, energy, digital); institutional (rules-based governance); and people-to-people (youth, education, research, tourism, and civil society).[2] The special interest of this paper is on PTP tourism.

1 Kandekar, Gauri (2014) *Mapping EU-ASEAN Relations*. Brussels and Madrid: FRIDE and GORA Asia-Europe.
2 Van Rompuy, Herman (2014) Speech at the Closing Session of the Asia-Europe Business Forum, 16 October, Milan, Italy.

Two mutually reinforcing developments over the past three decades have engendered connectivity and people-to-people (PTP) tourism. The first is globalisation, the interconnection of countries in business, trade, investment and travel. Globalisation is the result of the fall in the costs of, and barriers to, doing business across countries. The reduction in costs is primarily the result of the information technology (IT) revolution that began in the 1980s, with the large-scale adoption of personal computers, and continued in the 1990s with the explosion in Internet use. The IT revolution has lowered communications costs, especially over long distances, and has allowed the diffusion of information, ideas and knowledge across the world. More importantly, the IT revolution created networks of people interacting together frequently, at speed, and in a greater numbers than ever before.

The second development pushing PTP tourism is electronic networking. The sociologist John Urry has observed that social life across the world is increasingly networked and conducted at a distance, but that travel is necessary to maintain relationships.[3] These networked relationships have mushroomed following the proliferation of IT and electronic communication devices. In some ways, these technologies and devices substitute for travel through, say, teleconferencing and virtual travel. But in other ways, they also increase travel because the resulting social networks depend on intermittent, occasional meetings to function properly. According to Urry, "these moments of physical co-presence and face-to-face conversation are crucial to patterns of social life that occur at a distance, whether for business, leisure, family life, politics, pleasure or friendship." Because of this need for physical meetings, virtual travel is not expected to substitute for physical travel in the future; on the contrary, as social life becomes more networked, it is expected to engender more physical travel.

This paper will specifically focus on the following travel reasons: (a) business, trade, and investment; (b) higher education; (c) R&D; (d) security management and crime prevention; (e) response to epidemics, disaster, and calamities by both governmental and nongovernmental teams; and (f) medical treatment.

In all of these categories, speed is important, particularly in disaster response, security management and the apprehension of criminals, and the response to epidemic outbreaks. Time is also important for cross-border students who need to meet the academic calendar, and medical tourists who have appointments with their doctors or hospitals. Business people and traders need to seize commercial opportunities which can be hindered by onerous entry and exit requirements and delayed procedures.

Frequency of travel is also a hallmark of PTP tourism. Foreign students and researchers have to go home during vacations and will travel back to their host countries to resume their studies or research. Disaster response often involves the same teams, moving from one disaster or epidemic to another. The increasing regionalisation of the ASEAN economy is likely to result in a greater frequency of commercial travel, as happened in the EU. Facilitating the swift and efficient travel of these highly mobile people will make them more effective in their work.

3 Urry, John (2003) *Social Networks, Travel, and Talk*. British Journal of Sociology, 54 (2): 155-176.

Improving PTP tourism between ASEAN and Europe requires both long- and short-term measures. The long-term measures are: addressing economic discrepancies within, and across, countries that lead to imbalances in tourist arrivals; the construction of airports and other transport infrastructure; and the adoption of more open skies policies. ASEAN countries are dealing with these challenges in a number of ways: ambitious infrastructure programmes in both urban and rural areas where tourist sites are located; inclusive tourism programmes (e.g. the promotion of home-stays and community-managed tourism enterprises); and policy reforms in aviation and shipping, often with the support of European partners. A less obvious, but equally important, area is short-term, quick-win measures which have a sizeable impact on expanding PTP connectivity. These involve reforms in entry and visa arrangements, which many studies have found yield a significant increase in PTP connectivity, even with the existing shortcomings in infrastructure. In other words, despite completing gleaming new airports, PTP connectivity cannot expand significantly if visa formalities remain difficult. These unrealised benefits of visa facilitation provide the rationale for this chapter.

2. Recent developments and stakeholders in PTP tourism

2.1. Rationale for increasing PTP tourism between ASEAN and Europe

Statistics relating to goods trade, services trade, foreign direct investments, and tourism show a sizeable and expanding relationship between ASEAN and the EU.

- **Total trade** – The EU's trade in goods with ASEAN has rebounded after the decrease in 2009 following the global financial and economic crisis. Combining trade in goods and services, ASEAN as a whole represents the EU's third largest trading partner, after the USA and China, with more than EUR 235 billion of trade in goods and services in 2013. Similarly, the EU is ASEAN's third largest trading partner, after China and Japan, accounting for around 13% of ASEAN trade. If all of Asia is taken into account, the EU remains the continent's largest trading partner, accounting for EUR 863 billion in trade, representing 60% of total global trade in 2011.[4]

- **Foreign direct investments** – The EU is also the largest investor in ASEAN countries. EU companies have invested an average of EUR 14.8 billion annually in the region between 2006 and 2013.[5]

4 Kandekar, Gauri (2014) *Mapping EU-ASEAN Relations*. Brussels and Madrid: FRIDE and AGORA Asia-Europe.
5 www.ec.europa.eu/trade/policy/countries-and-regions/regions/asean.

- **Tourism** – Both Europe and Asia remain as major tourist destinations. In 2014, Europe attracted a total of 561.8 million tourists from all over the world, accounting for 51.4% of global tourist arrivals.[6] The Asia-Pacific region attracted 263.3 million tourists, accounting for 23.2% of total tourist arrivals. Tourist arrivals in Asia-Pacific have grown by a hefty 6.1% over the period 2005-14, while the increase in tourist arrivals in Europe has slowed to 2.8% during the same period, lower than the global rise of 3.8%. ASEAN, as a region, attracted 105.1 million tourists in 2014, 9.3 million (or 8.8% of total) of which came from 28 member states of the EU. The country of origin of tourists to ASEAN is not available, but based on Thai data[7], the three major sources of EU tourists in Thailand are the UK, Germany and France.

These positive trends in trade and foreign direct investment between ASEAN and Europe means that travel between the two regions is likely to be significant. Social scientists such as John Urry[8] have argued that even with increasing electronic networking, physical travel would be necessary, indeed even increase, to maintain business, social, educational, and other relationships. Thus, removing obstacles to, and expediting, physical travel is a key strategy in widening the relationship between ASEAN and Europe.

2.2. Depth and breadth of international interactions between Asia and Europe

Global connectedness is defined in the *DHL Global Connectedness Index* study as "the depth and breadth of a country's integration with the rest of the world as manifested by its participation in international flows of products and services, capital, information, and people."[9]

Depth measures how much of an economy's activities or flows are international versus domestic, by comparing the size of its international flows with relevant measures of its domestic activity (e.g. exports compared to GDP).

Breadth looks at how broadly the international component of a given type of activity is distributed across countries. For instance, in the Bahamas the number of inbound tourists per capita is high, but more than 80% of those tourists come from the USA. This means that while its depth of inbound tourism is high, its breadth is limited. Calculated by region, East Asia and the Pacific had the third largest level of global connectedness after Europe and North America, with balanced strength across both depth and breadth.

6 UNWTO (2015) UNWTO Tourism Highlights.
7 www.asean.org/storage/2015/11/tourism.
8 Urry, John (2003) *Social Networks, Travel, and Talk*. British Journal of Sociology, 54(2): 155-176.
9 Ghemawat, Pankaj and Altman, Steven A. (2014) *DHL Global Connectedness Index 2014: Analyzing Global Flows and Their Power to Increase Prosperity. DHL.*

2.3. Key segments and trends in PTP tourism

- **Business, trade and investment** – Trade between the EU and ASEAN is poised to expand even more as ASEAN evolves into an economic community, just as the EU did, albeit in different forms. The region's commerce is expected to grow faster in the rest of this decade for a number of reasons: the elimination of tariff protection; the low and decreasing tariffs by ASEAN countries; falling trade costs, particularly in intra-regional trade; the services trade which has outpaced that of the goods trade; and increasing involvement of ASEAN countries in such service export sectors as information and communication technology (primarily business process outsourcing), higher education and medical tourism. As the EU commercial interests are involved in many of these areas, a major connectivity goal should be the facilitation of travel in the region for the EU and ASEAN business people, traders and investors.

- **Educational cooperation** – Educational cooperation is expected to expand as part of the ASEAN Economic Community. The cooperation has two thrusts: (i) intra-ASEAN cooperation, the benefits of which include cultural enrichment, increased multi-lingual skills and proficiency, and achieving higher-status qualifications and competitive positions; and (ii) cooperation between ASEAN and the EU for citizens in the ten Southeast Asian countries to enjoy studying in any of 28 EU member states. As the per capita income level in ASEAN countries increases, so the number of students opting to study outside their countries is expected to increase, especially to obtain graduate degrees.

- **R&D cooperation** – Economic growth has to be underpinned with technological advancement and diffusion, but this requires more R&D activity to increase technological capacity. This can be achieved through more intensive alliances and networks among scientists, both within ASEAN and between the ASEAN region and the EU. The factors that affect the growth of science and technology cooperation are related to the diffusion of scientific capacity, the intellectual and social organisation of science and scientists and their interconnectedness. An important goal for both ASEAN and the EU should be to facilitate interconnectedness by enhancing both Internet connectivity and face-to-face encounters of scientists and science administrators, through meetings, symposia and conferences.

- **Security management and crime prevention** – While the reduction of tariffs across a region can reduce smuggling, regionalism can also increase incidences of crime through the opening up of trade, travel and exchange which permits criminals, terrorists, and victims of human trafficking to move in and out of borders more easily.[10] Among ASEAN member states, cooperative mechanisms relating to security management are still relatively weak. A 1992 decision to set up a shared criminal intelligence database was not implemented until the electronic ASEAN Data System came into existence in 2007, and even then Myanmar and Lao PDR have not yet been included. Cross-regional security management and crime prevention, involving the relevant ASEAN and EU agencies, are even less developed. Connectivity is particularly important in this area to allow security and crime-prevention personnel to share information leads easily and quickly across countries and regions.

- **Response to epidemics, disasters and calamities** – Human migration, and the increasing trade in goods and services, contribute to increased cross-border transmission of diseases, both animal and human. The rising volume of cargo movement from seaports to countries inland also increases the risk of both cross-border and within-border transmission of infection. Given the extent of air and sea travel today, infection can jump from one port to another quickly. Natural disasters in Southeast Asia have become more intense, causing devastating consequences, particularly over the past decade. The intensity of recent global and regional emergencies require greater connectivity between regional institutions (the EU and ASEAN), member countries, relevant institutions, and professionals to respond more quickly.

- **Medical tourism** – The ASEAN region has emerged as a major destination for medical tourists, the leading countries being Thailand, Singapore, Malaysia and the Philippines. Based on most recent data available, it is estimated that: 1.2 million medical tourists go to Thailand every year; 600,000 to Singapore; 350,000 to Malaysia; and 80,000 to the Philippines.[11] These figures could be much higher now because the Western countries, from which most of the ASEAN medical tourists originate, have rebounded from the financial crisis of 2008.

10 Gordon, Sandy (2009) *Regionalism and Cross-Border Cooperation Against Crime and Terrorism in the Asia-Pacific.* Security Challenges, vol. 5, no. 4, pp. 75-102.

11 Picazo, Oscar F. (2013) *Medical Tourism in the Philippines: Industry Profile, Benchmarking, and SWOT Analysis.* Philippine Institute for Development Studies.

Forecasts of global demand for medical tourism show that it will continue to grow over the next few years due to a positive combination of factors. The high medical costs in OECD countries are unlikely to reduce in the near future, with the more stringent regulatory requirements of health system reforms anticipated for the USA and EU member states possibly lead to costs escalating. Also, the populations of OECD countries are ageing and will require more intensive use of medical care. The disease burden of the world has dramatically shifted to non-communicable and chronic diseases, necessitating greater hospitalisation. Some procedures that, in the past, could only be done in OECD countries, are now available in emerging economies as well, especially in the four leading countries in medical tourism as listed above. Treatment here is of comparable quality to the medical tourist's home country, but comes at a lower cost, even adding the cost of travel. Lastly, lower transport costs, coupled with the convenience that the Internet has brought, have made it affordable for many people to travel for holidays, homecomings, health care and wellbeing and increasingly for combined purposes. In the future, these economic, demographic, epidemiologic, technological, and social factors will make medical tourism a strong driving force for ASEAN and EU interconnectivity.

3. Enhancing PTP tourism in Asia and Europe: benefits, opportunities and challenges

3.1. Benefits of PTP tourism

As shown above, the prospects for travel between ASEAN and Europe are very positive, both at the aggregate (macro) level and for each of the key segments included in PTP travel. While there is no available data on more specific segments, economic and social factors indicate that travel and connectivity will expand apace. This greater need for travel between the two regions for business, crime prevention, disaster response, education, R&D and medical tourism requires speedier processing of entry and exit requirements (visas). Otherwise, there will be such a backlog of visa applications that the process becomes an obstacle to travel, thwarting the benefits of connectivity.

Visa applications are a necessary government formality in tourism. They are generally perceived as an imposition of bureaucracy, creating long queues, complicated forms and other protracted procedures which can deter potential tourists from visiting destinations. Hence, to increase tourism and improve accessibility to travel, there is a need to deliver quality, reliable and functional visa processing[12] in both ASEAN and the EU.

12 UNWTO (2013) Visa Facilitation: Stimulating Economic Growth and Development Through Tourism. Madrid, Spain.

Benefits to ASEAN – According to a study of member countries of the Asia-Pacific Economic Cooperation (APEC), which includes the ten ASEAN countries, the benefits of improving visa policies and processes can be significant[13,14]:

- Increase in visits – 38 million to 57 million more tourist arrivals can be gained by 2016, representing between 9% and 13% of baseline forecast under current visa policies.
- Revenues – Tourist arrivals under the improved visa scenario could generate revenues of between USD 62 billion and USD 89 billion during the forecast period, an increase of 9% to 14%.
- Jobs – New jobs directly created by the surge in tourists, following visa facilitation, ranges from one million to 1.4 million, gaining between 2% to 3% more jobs than the baseline forecast for 2016.

Benefits to Europe – No comparable study is available for ASEAN citizens travelling to Europe. However, a World Travel and Tourism Council (WTTC) study[15] on G20 countries, which includes most of the EU countries, showed that in 2011 the number of international tourists requiring visas to the region was about 50 million, representing 15% of EU tourist arrivals. Among ASEAN countries, Indonesia is the most affected. Another study of the EU, using six emerging economies that are roughly comparable in per capita income to ASEAN (China, India, the Russian Federation, Saudi Arabia, South Africa and Ukraine), showed that by easing the current visa regime the following economic benefits can be expected[16]:

- Increase in visits – Between 30% and 60% more visitors could be expected in the next five years, or a total of 13 to 14 million travellers.
- Revenues – Over five years this could mean as much as EUR 120-130 billion in total direct tourist spending.
- Jobs – Between 1.2 million and 1.3 million in new jobs in tourism and related sectors

13 WTTC (2013a) The Comparative Impact of Travel and Tourism: Benchmarking Against Other Economic Sectors. London, United Kingdom: World Travel and Tourism Council.

14 WTTC (2013b) The Impact of Visa Facilitation in APEC Economies. Report prepared for the APEC High Level Policy Dialogue, 1-2 October, Bali, Indonesia.

15 WTTC (2012) The Impact of Visa Facilitation on Job Creation in the G20 Economies. Report prepared for the 4th T20 Ministers Meeting, 15-16 May, Mexico City, Mexico.

16 European Commission (2012) Study on the Economic Impact of Short Stay Visa Facilitation on the Tourism Industry and on the Overall Economies of EU Member State Being Part of the Schengen Area. Brussels: European Commission, DG Enterprise.

3.2. Challenges of PTP tourism

Despite significant improvement in facilitating connectivity and travel between ASEAN and EU regions, and within ASEAN, there continue to be significant constraints. The first set of challenges relate to further visa facilitation, defined as the easing and simplification of visa regulations and policies by receiving countries to increase tourist inflow and gain competitive advantage over other tourist destinations. The World Trade Organisation (WTO) considers visa facilitation as a precursor to strong regional integration and economic growth.

ASEAN visa facilitation does not compare too badly to the rest of the world. However, there is still a lot that needs to be done. First, in general, significant travel barriers remain for all travellers, including departure and entry taxes, visa and passport fees, regulation of entry, and exit permits.

Second, even among ASEAN nationals, visas are not yet standardised (or non-aligned). Current visa policies in the region are still "inadequate, inefficient, [...] and are thus acknowledged to be an obstacle to tourism growth".[17] Salter lists common obstacles such as visa processing delays, multiple document requirements and high taxes imposed on tourists.[18] Other challenges to a swift and hassle-free visa process are manual visa processing, e.g. in Myanmar, the requirement of personal appearances in embassies, and the lack of a one-stop venue for visa information in ASEAN member states.

Third, although ASEAN nationals are technically supposed to be visa free when traveling around ASEAN, it was only in January 2014 that Myanmar finalised bilateral agreements on this with its ASEAN neighbours.

Fourth, ASEAN has not developed a visa for frequently traveling categories of tourists, such as those included in the PTP mobility groups above. There are two issues involved in this; how to standardise the PTP categories of travellers across ASEAN and the EU so that there is a common definition, and how to formulate mutual recognition procedures of these categories of travellers.

In educational cooperation, one obstacle is that visa requirements and visa systems among ASEAN countries do not accommodate students, unlike in the USA and the UK where they have student visas. In most ASEAN countries, students have to renew their visas every year. Thailand wants to introduce student visas, and those visas should allow foreign students to remain in Thailand until they graduate, as is the current practice in the USA and the UK, rather than annual renewals. ASEAN countries need to adjust their visa requirements and systems to facilitate students looking for opportunities in the region.[19]

17 UNWTO (2013) Visa Facilitation: Stimulating Economic Growth and Development Through Tourism. Madrid, Spain.
18 Salter, Ray (2012). *Business Growth Opportunities in the New APEC Economy*. A report for the APEC Economic Secretariat, Wellington, New Zealand.
19 Khaopa, Wannapa (2013). *Phongthep Backs Student Visas, with Longer Stay Till Graduation*. The Nation, Hanoi, Viet Nam, 25 March. http://www.nationmultimedia.com/national/Phongthep-backs-student-visas-with-longer-stay-til-30202640.html.

In the area of R&D cooperation, the EU-ASEAN Dialogue has discussed crafting policies for international science and technology cooperation within ASEAN. Initial findings have emphasised two constraints in R&D cooperation. First is the lack of ASEAN scientists' awareness of, and a dearth of available information on, international funding opportunities and access to scientific networks. This is particularly true among scientists in less developed ASEAN member countries. Second is the asymmetry of interests in science and technology cooperation between ASEAN and non-ASEAN scientists. ASEAN scientists aspire to work in long-term projects with follow-up, while non-ASEAN scientists see the region as a place for short-term research opportunities and projects.

As in the other PTP tourism categories, ASEAN citizens working in the area of security and crime prevention no longer need a visa to travel within ASEAN. However, they do need visa extensions in case they need to stay longer in the country, and they certainly need work permits if they decide to seek employment.

ASEAN countries affected by major epidemics and disasters often resort to requesting relief assistance from the international community, including EU countries. A quick response is often hampered however by problems with visas and travel restrictions. Disaster personnel are often granted entry on tourist or other temporary visas, which can cause subsequent problems with renewal and efforts to obtain work permits. Customs formalities are also a frequent problem, with relief goods held up for long periods of time waiting for clearance. The recognition of domestic legal status is another common problem, particularly for NGOs and foreign Red Cross and Red Crescent societies. The processes are often too slow or too difficult to negotiate in emergency settings. Unregistered organisations face various problems, including opening bank accounts, hiring staff, obtaining visas for workers, and tax exemption.

The UN's World Tourism Organisation (UNWTO) warns that unless there is a convergence of systems for visa processing and policy in ASEAN, and more widely by APEC, then the differential between efficient border systems and the less efficient ones will grow. As travellers become used to low-transaction, cost-efficient systems and processes in other countries, they will be less receptive to restrictive or difficult visa processes or delays. In a highly competitive global tourism market, this will impact negatively on those economies with poor practices.

For Europe, the key instrument for PTP tourism is the Schengen visa. The Schengen area is a highly desirable destination for target markets, including ASEAN and many countries in Asia. In 2010, visa procedures across the Schengen area were harmonised, but research shows that this has constricted access for a significant number of tourists and business travellers.[20] For instance, it is estimated that in 2012, as many as 6.6 million potential travellers from six target markets (China, India, the Russian Federation, Saudi Arabia, South Africa, and Ukraine) were lost due to the Schengen area visa regime. This loss translates to EUR 5.5 billion in direct contribution to GDP and 113,000 jobs in the tourism industry. This leads to 34.8 million travellers lost over five years.

20 European Commission (2013) Study on the Economic Impact of Short Stay Visa Facilitation on the Tourism Industry and on Overall Economies of EU Member States Being Part of the Schengen Area. Brussels: European Commission, DG Enterprise and Industry.

Applicants in the target market countries see the current Schengen visa practices as cumbersome, complicated and time-consuming, mainly because the harmonisation intended by the visa code has not been fully achieved. Late visa bookings also seem to be a pervasive problem. A deterrent factor, particular for leisure travellers, is the estimated one month it can take to acquire a Schengen visa: "From the traveller's perspective, all the steps involved in a regular application procedure [...] adds up to a very time-consuming process. Thus, it is not so much the time spent by the consulate on processing the visa application that constitutes an issue, as it is the time invested in the process as a whole".[21] The requirement to meet in person at the consulate, and the type and nature of the supporting documents required, including translations, add to the length of the application process.

What are travellers' preferred solutions to these problems? According to the same EU-commissioned study[22], answers include: (i) visas on arrival and visa-free travel would completely eliminate the problem of long processing time, but these are currently not deemed feasible from a legal and security perspective; (ii) multiple-entry visas would facilitate subsequent entries to the Schengen area; (iii) visas with longer validity would provide more flexibility in terms of travel dates; and (iv) facilitation measures including online application and less documentary requirements would also help in reducing the time of visa approval.

3.3. Initiatives and opportunities of PTP tourism

According to UNWTO (2015), Southeast Asia and other emerging economies have been more amenable than advanced countries to visa openness. In ASEAN, the easing of travel policies and regulations and clearer stipulations of visa regulations has contributed to increased tourism demand. Notable examples of this are the multilateral agreements that mutually exempt all, or certain categories, of travellers from the visa requirement:

- The **APEC Business Travel Card (ABTC)**, established in 1997, is a tangible success of the APEC Mobility Group. It provides fast and efficient business travel within the region to facilitate free and open trade and investment. The ABTC allows business travellers three years of pre-cleared, short-term multiple entries to any APEC member country. ABTC also provides the holder with expedited immigration processing on arrival via fast-track entry and exit through special APEC lanes at major airports in participating economies.[23]

- The **ASEAN Travel Agreement** allows nationals from member countries visa-free travel for business, leisure, and short-term education.

- **Indonesia's Visa on Arrival** is given on arrival to travellers from more than 60 countries and regions, regardless of purpose. The visa is issued in 15 airports and 21 seaports with a duration of seven days (USD 10 fee) to 30 days (USD 25 fee), with a 30-day extension.[24]

21 Ibid.
22 Ibid.
23 APEC (2014) The APEC Business Travel Card. http://www.apec.org/about-us/about-apec/business-resources/apec-business-travel-card.aspx
24 WTTC (2012) The Impact of Visa Facilitation on Job Creation in the G20 Economies. Report prepared for the 4th T20 Ministers Meeting, 15-16 May, Mexico City.

According to the APEC Tourism Working Group, there remain several areas of opportunity in visa facilitation. There is still no blanket visa policy among the 21 member economies for individual travellers, perhaps because of the marked diversity among first world members versus developing country members. In addition, the APEC case studies in visa facilitation in ASEAN also show successful collaboration among various governmental branches in each country and across the region as a whole. These include progressive approaches to implement new visa policies.

4. Recommendations to promote PTP tourism

To enhance PTP tourism between Asia and Europe, assistance and support in several areas will be required.

4.1. Policy support

The UNWTO and WTTC recommend the establishment of regional agreements for PTP connectivity. Towards this end the following are the key areas:

- **Common single visa for ASEAN nationals** – One of the main objectives of the 2015 ASEAN Economic Community is to develop ASEAN citizens' acceptance of a shared regional identity. To do this, ASEAN has heightened PTP contact by making travel easier within the region through visa-free arrangements. While some countries have lagged behind, this is going to be achieved soon for short-term travel within the region.

- **Standardising educational and professional qualifications** – There have also been efforts involving educational exchanges and incorporating ASEAN studies in each member country's educational curricula.[25] There is also a lot of effort ongoing to standardise a number of professions across the region, through educational reform and mutual recognition arrangements. Once this work is done, ASEAN countries then need to agree how ASEAN citizens can move within the region to work.

- **Common single visa for non-ASEAN nationals** – ASEAN has to make sure that each member has commonality concerning the nationalities that are granted visa facilitation, such as visas on arrival.

25 Amador, Julio III and Joyce Teodoro (2014). *A United Region: The ASEAN Community 2015.* Rappler. http://www.rappler.com/world/specials/47239-asean-community-2015-overview.

4.2. Operational support

The priorities in this area are the following:

- **Improvement of the delivery of information and facilitation of current visa processes** – Accessible information on visa requirements, procedures and conditions, guarantee increased tourist arrivals. Potential tourists tend to steer away from countries that require multiple documents and immigration offices with too much bureaucracy. The provision of immediate visa information in reliable avenues, such as embassy websites and in several languages, will encourage tourists to travel.

- **Standardisation of visa regulations** – Visa regulations and procedures are not standardised among ASEAN countries. The number of travel days permitted per visa among ASEAN members varies. A Filipino traveling to Viet Nam is allotted 21 days while Indonesians, Laotians, Malaysians, Singaporeans and Thais are provided 30 days. Moreover, there is no standard reference and definition for the different types of visas across ASEAN nations. What is termed by one as a "short-stay visa" may cover a tourist or a business purpose, e.g. meetings or conferences.

- **Provision of differentiated treatment for key market segments** – This is an area that needs further discussion. ASEAN rules must distinguish between one-off visit versus frequent or repeated visits, with the latter being given more ease of access, depending on the purpose of the travel as set out in the six categories earlier.

- **Implementation of e-visa programmes** – This will not only lead to a faster and more efficient service, but will also streamline visa processing, which some countries, such as Myanmar, and the Lao PDR still perform manually. The introduction of an e-visa system across the region will reduce the bottlenecks such as stamped or sticker visas, personal interviews and long queues at embassies. These, in turn, will cut down costs, particularly for member countries with limited networks of embassies and consulates. This is deemed the best opportunity for visa facilitation.

4.3. Research support

- **More PTP tourism research on the cost-effectiveness of different approaches** – More research should be done on PTP tourism by established institutions. Research activities should include generating information on the costs and benefits of (i) traditional visa processes versus e-visa; (ii) visa-on-arrival versus visa-free situation; (iii) single-entry versus multiple-entry versus long-stay visas; and (iv) common approval visa process versus mutual recognition of visas by ASEAN member countries.

- **More research on facilitating local border traffic** – This topic has not been given much attention because of the limited land borders in the region compared to, say, the extensive land borders, and thus significant local border traffic, in Africa, North America, South America and Europe. Useful examples abound on how contiguous countries deal with local border traffic, e.g. the Norway-Russia local border traffic arrangements, strategies for water border traffic in the sea, the Mekong River and even causeways that involve local residents are also becoming more important.

- **Research on the volume and practices of PTP tourism** – No regional data currently exists to enable an analysis of patterns and trends of specific traveller flows.

4.4. Regional support

At the closing session of the Asia-Europe Business Forum (AEBF), Herman Van Rompuy[26] reiterated the EU's support for the ASEAN *Master Plan of Connectivity*. Four key actions in this master plan are relevant to further push PTP connectivity in the region.[27]

- **Implementation of progressive visa facilitation for foreign tourists visiting ASEAN** – Standardising visa requirements and regulations for non-ASEAN nationals can be achieved through: (i) formulating a common list of countries that they can give the privilege of granting a regional travel visa to; (ii) formulating standardised visa validity and extension for this regional travel visa; (iii) harmonising rules on eligibility, exemptions, documentary requirements, etc.; and (iv) learning from good practices from around the world, and to consider adopting those that are relevant to the region, and are feasible. The recent EU visa reforms are particularly useful in this regard.

- **Encouraging intra-ASEAN tourism through concerted development of tourism products** – This includes promotion of ASEAN heritage sites, cruise tourism, home stays, eco-tourism, and medical tourism.

- **Establishing an ASEAN regional mobility pool for skilled labour** – Although this action is not well-defined in the master plan, this recommendation involves increasing the number of professions covered under the existing mutual recognition agreements. It could also involve new cadres such as security and crime prevention personnel, disaster and epidemic response personnel, and R&D personnel in highly technical fields.

- **Strengthening the social services network to improve social welfare in the region** – Particular attention should be given to the ageing population, mobile population (particularly migrant workers), and persons with disabilities, as these groups seem to have the least protection at present.

26 Van Rompuy, Herman (2014) Speech at the Closing Session of the Asia-Europe Business Forum, 16 October, Milan.
27 ASEAN (no date) Master Plan on ASEAN Connectivity. Jakarta, Indonesia: ASEAN Secretariat.

5. Conclusions

Trade and foreign direct investments are growing fast between ASEAN and Europe. In keeping with this increased flow in commodities, services, and capital investments, travel is also expected to grow. While electronic networking has grown apace to support these transactions, social scientists have argued that the Internet and social media will not replace physical travel; indeed, physical travel will complement electronic networks. Thus, to support further growth in trade and investments between the two regions, travel facilitation that aims to reduce obstacles in tourist entry and exit between ASEAN and Europe is a must.

There are specific segments within tourism that, because of their nature and frequency of repeat travel, require special attention in terms of facilitating travel at speed. These include travellers for business, trade, and investment; educational cooperation; R&D cooperation; security management and crime prevention; response to epidemics and disasters; and medical tourism. Each of these segments has specific problems and bottlenecks that must be resolved.

There are significant economic benefits from travel facilitation, and these benefits are often not fully appreciated in ASEAN countries or in Europe. Authorities in both regions should be made aware of the benefits, realised in increased tourism revenues and increased job creation for tourism-related activities, so that they can advocate, or take action to remove as many obstacles as possible. In this regard, ASEM and ASEF can take on some of the tasks involved in identifying and addressing the remaining obstacles to travel between the two regions.

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SECTION 4

CONNECTIVITY IN MEDIA AND CULTURE

4.1. Interesting Times: Digital Media and Interconnectivity Between Asia and Europe

Stephen RAE

Abstract

This paper examines some of the challenges relating to the digital evolution facing the media industry in Europe and Asia. These include disruption from digital upstarts, how technology is changing what consumers want, and fitness for innovation. The chapter draws on a range of disparate sources, and aims to illustrate the social and cultural differences that exist in different markets, while uncovering the common difficulties and the potential for intercontinental cooperation and collaboration that exists.

Introduction

There is a saying "may you live in interesting times". It is purported to be an ancient Chinese proverb, which is supposed to illustrate how an easy life is hard to come by in times of upheaval. And in that light, it's entirely applicable when discussing the current state of the media in Europe and Asia. But it turns out the proverb is utterly apocryphal. Its first use was in a memoir from a British ambassador to China in 1936-37, published in 1949. This uncertain provenance, and the fact that something has been lost (or made up) in translation makes it all the more applicable when considering intercontinental media trends.

Both legacy and digital media in Asia and Europe face an uncertain future. Traditional media outlets are struggling to find a business model that works. At the same time, a new breed of media distribution agents have seized much of the control of surfacing news and entertainment content to audiences, and new start-ups are nibbling around the edges of the ecosystem of finding, consuming and sharing content.

All this has been driven by user habits being in a state of extended flux. First the arrival of the Internet destabilised how the media works. Now the growth in mobile technology is proving just as disruptive. Some see it as an aftershock of the Internet, others as the main event, after the initial desktop-based tremors.

As was always the case, legacy media outlets and state broadcasters operate in a world of traditional boundaries. But while new media outlets, social networks and messaging apps may promise an interconnected world, they too are subject to the vagaries of legislative jurisdictions, language and culture.

This then is the context for this chapter. In it, I hope to outline some of the socio-economic changes taking place in Europe and Asia, and the subsequent disruption in terms of Newsonomics. I want to show the relationship between online innovation in a broader sense and what is happening in the media, and how the two regions fundamentally differ in their approach. I also hope to show where we can learn from each other. Through collaboration on specific regional issues and by sharing learnings, we can make the times no less interesting, but slightly less challenging.

Demographic conflation

Demographic trends in Europe and Asia are converging. Increasing average incomes and decreasing levels of absolute poverty in emerging economies suggest that the middle of the income distribution curve is swelling, while in well-off countries, middle and working classes carried a comparatively heavy burden following the economic downturn. As a result, the standards of living that have characterised a middle class lifestyle for centuries are under threat.

While middle classes in Europe are nothing new, the emerging middle class in Asia has huge potential as an engine of change and growth, particularly in the largest developing countries like China and India. Historical precedents indicate that middle classes are the ones that accumulate physical and human capital.

While inequality has improved in some parts of Asia, as indicated by the Gini co-efficient and other measures, there are still many countries where the poorest members of society have the lowest shares of national income or consumption.[1] Between 1990 to 2010, Asia and the Pacific has halved extreme poverty and seen an annual rise in average per capita income of nearly 6%.[2] However, while electricity consumption over the last two decades has more than tripled in Asia, there are still wide disparities between rural and urban areas. Mobile phone subscriptions, however, have grown in all economies.[3]

As a result, the growth of a global middle class (albeit at a macro-level, and notwithstanding issues of inequality in many regions), concurrent with the proliferation of digital technology, offers new opportunities in relation to providing goods and services at scale. Media is just one industry that stands to benefit.

Digital disruption

Socio-economic upheaval has been exacerbated by the digital explosion. New technologies and the ability to access them are seen as increasingly valuable for all. Take China for example. According to PwC, the scale of China's Internet ecosystem is set to provide a platform for indigenous Chinese companies to expand and succeed in media and technology markets worldwide. The numbers behind this projected global growth? A projected 281 million fixed broadband households and 963 million mobile Internet subscribers. PwC also predicts that mobile Internet access revenue will account for 62.9% of all global Internet access revenues by 2019. Smartphone connections will grow to account for over half of all mobile phone connections by 2019.

Access to the Internet will change how consumers are entertained and informed. But it will also change how advertisers spend their budgets. Again, according to PwC's *Global Entertainment Report 2015*, Internet advertising will become the largest advertising segment globally, overtaking TV advertising by 2019. Global total broadcast TV advertising revenue will rise at a compound annual growth rate of 4.1%, reaching USD 204.07 billion. Global total Internet advertising revenue, however, is predicted to rise at a compound annual growth rate of 12.1% over the same period, growing from USD 135.42 billion in 2014 to USD 239.87 billion in 2019. The rise in over-the-top (OTT) TV viewing is a huge factor in this shift in budget allocation. Content will be viewed less and less on traditional TV networks, and more and more on digital alternatives like Netflix, YouTube or Youku. As a result, advertisers and media buyers are likely to diversify the channels they use to reach the demographics that TV used to deliver, but can no longer reach.

1 'Key Indicators for Asia and the Pacific 2013', Asian Development Bank, 2013
2 'Framework of Inclusive Growth Indicators 2013: Key Indicators for Asia and the Pacific Special Supplement', Asian Development Bank, 2013
3 Ibid.

If TV is set to take a hit, print media will continue to be challenged, according to PwC. Global newspaper revenues will continue to decline until 2019. However, PwC believes these declines will become marginal from 2017 onwards, providing the industry with some much-needed stability. And there's good news for the industry in Asia, with China and India set to become engines of expansion thanks to economic growth and increasing levels of literacy. Between them, China and India are predicted to grow from accounting for 49.7% of global average daily unit circulation print in 2014, to 57.3% by 2019.

Internet advertising will increasingly become device-agnostic. Much of this is down to the rise of wearables, and the blurring of the boundaries between phones, phablets, tablets and other devices. But it's clear that the growth in mobile devices is changing how consumers spend time consuming content for entertainment of information.

Apps are becoming increasingly important drivers of consumer behaviour. According to Flurry, Yahoo's mobile analytics firm, mobile audiences spend 86% of the time that they are active on their devices in applications. This is not good news for news media outlets as news apps account for only 3% of users' time on their devices. Compare this to the 32% of all mobile users' time that's spent on gaming, while a further 32% is spent on social networking and messaging apps.

The rise in social networking and messaging apps pose particularly difficult challenges for media outlets. From the more public social networks like Facebook, QZone and Twitter, to more personal peer-to-peer networks like WeChat, Line and WhatsApp, these channels are increasingly used to discover and distribute content among a younger generation of consumers. According to the *Reuters Digital News Report 2015*[4], 29% of people in the UK get news from Facebook on a weekly basis. That number is 23% in Germany, 35% in France and 46% in Ireland. In Japan it is 11%, though Reuters suggests the low online participation reflects a Japanese reluctance to speak about publicly about social issues.

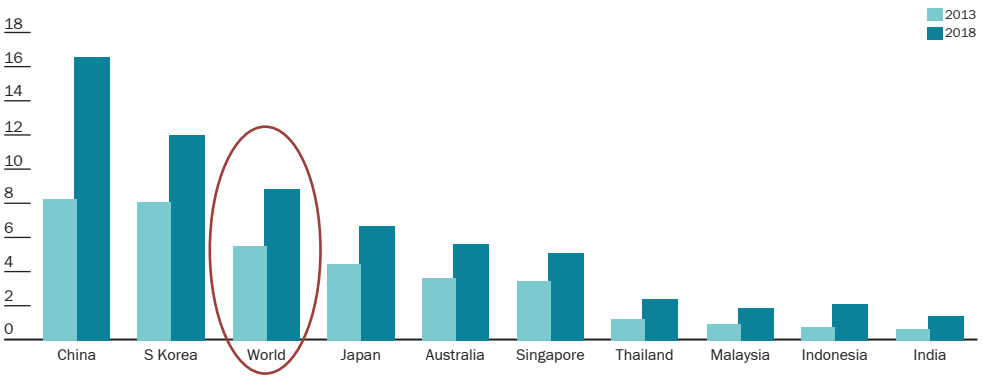
With mobile reach only set to increase, it is unclear how the scale and influence of these networks will affect the media landscape. It is worth noting that before WhatsApp was purchased by Facebook in 2014, it had attracted more than 400 million active monthly users in under five years, a milestone reached with just 50 employees. This level of reach, in this short a time, with such a small workforce is indicative of the disruptive power of digital media compared to legacy media.

4 http://www.digitalnewsreport.org.

Non-media digital disruption

Media aside, digital disruption is also driving a rise in rates of e-commerce. China is now the world's biggest e-commerce market and the rest of Asia isn't far behind. According to The Economist, Asia is "re-writing the rules of distribution and retail".[5] In 2013, China surpassed the USA in terms of value of e-commerce; more than 8% (USD 295 billion) of all retail sales in China were conducted online. And these figures are set to grow and grow. By 2018, it is estimated that e-commerce in China will make up more than 16% of retail sales. Similar patterns are unfolding in the rest of Asia too.[6]

Figure 1: E-commerce as % of total retail sales in 2013, and forecast for 2018



Source: Euromonitor, eMarketer, Economist Intelligence Unit (chart adapted from the original report)[7]

The increased penetration of smartphones and the growth of innovative companies and services such as Naver Corp's Line and Alibaba's Alipay means more and more Asian consumers are adopting mobile and social payments.

By comparison, the online retail industry in Europe seems to be growing at a steady rate, year on year. According to deals.com, which analysed the European e-commerce industry together with the Centre for Retail Research, European e-commerce rates grew from EUR 131.61 billion in 2013 to EUR 156.28 billion in 2014. That is a growth rate of 18.4%. A similar growth rate was predicted for 2015.[8]

5 'Asia's digital disruption: How technology is driving consumer engagement in the world's most exciting markets', The Economist, 2015.
6 Sources: Euromonitor, eMarketer and Economist Intelligence Unit.
7 'Asia's digital disruption: How technology is driving consumer engagement in the world's most exciting markets', The Economist, 2015.
8 'Internationale E-Commerce-Studie 2015', deals.com, 2015.

What it means for media

The result of these trends is that consumers are increasingly going online for the products and services they need and desire. That includes news and entertainment. In particular, the growth of tiny, ubiquitous super-computers, with which we have a personal connection (i.e. smartphones) is driving the adoption of new patterns of consumption.

For media outlets, the growth of mobile phones currently presents a problem of distribution and of monetisation.

Publishers grappled with the issue of distribution and improving how consumers access content on mobile devices. The only entities trying to solve this issue at scale are the platforms with the engineering muscle and the global scale. As a result, we have seen Snapchat launch its Discover channel, allowing a handful of media partners to combine video and interactive content to reach its users. Facebook launched Instant Articles and then its Notify app, to improve the performance of news content on mobile devices and offer publishers greater potential to monetise their content on Facebook's platforms. Apple's mobile app for displaying and aggregating news, launched in Q3 of 2015, does something similar, while Twitter has launched Moments, which sees a team of editors from Twitter and publisher partners create stories by grouping tweets from reporters and users. And let's not forget Google's AMP standard, a new mobile-first approach to the web for publishers.

All are variations on a theme – mobile first news distribution channels. They present publishers with a dizzying array of options and opportunities to reach consumers. But they will reach them via a distribution channel that's not their own. The risk here is that media outlets become outsourced content providers for the tech giants who have the relationship with the consumer and who dictate the terms of engagement.

The second challenge is one of monetisation. When screens shrink, there is less room for ads. Some of the initiatives, such as Facebook Instant Articles and Apple's News app, attempt to solve this issue by offering publishers generous revenue share options. But many users still find ads a distraction, especially on smaller devices. The growth of ad blockers gives the consumer the power to opt out of ads if they wish. This is obviously of huge concern to many publishers, whose online product is supported almost entirely by advertising.

Media companies understand the art of storytelling, which will continue to be a huge driver of audience in the disruptive age. Journalists and editors have always understood the compelling nature of a good story. In many ways the journalist's craft is often the missing part of the tech companies' or the platforms' formula. It proves that a media company that can become tech-facing and harness the power of the platforms to tell stories on a mobile screen will have a future. Monetising that content will come in many different forms, varying from advertising to sponsorship. The commercial model is still evolving.

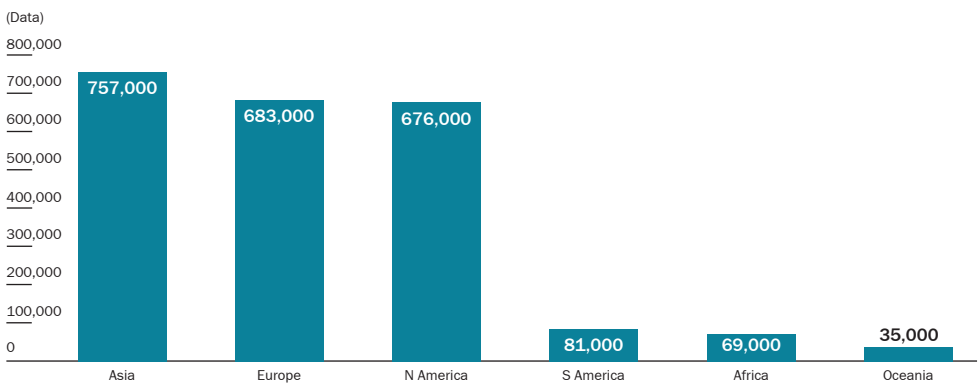
Asia takes the lead in innovation

All this digital disruption in media, and the associated industries of marketing and advertising, plus changing consumer habits, means everything is up for grabs. The likelihood is that Asia will have a firmer grasp on the future than Europe. The combination of the world's fastest-growing consumer markets, a speedier adoption of new technology and the companies and capital which will drive innovation, give Asia the edge when it comes to understanding the implications for increasingly connected consumers.

As outlined in The Economist's report on Asia's digital disruption, Asia accounted for 57% of the global population in 2014, with 58% of its mobile phone subscriptions and 53% of its Internet users. Asia also has the fastest-growing regional economy in the world, accounting for 26% of global private consumption in 2014. By 2019, the Economist predicts that rate will be 31%.[9]

The Economist points out that it is not just scale that makes Asia special. The region also has a critical mass of technology manufacturers. In 2014, Asia's top ten smartphone brands accounted for 69% of global handset sales. One-third of the world's 2.3 million app developers are based in Asia. In 2013, Asia could boast 757,000 application developers. By comparison, Europe had 683,000 developers.[10]

Figure 2: Number of application developers by region, 2013



Source: Vision Mobile (chart adapted from the original report)[11]

9 'Asia's digital disruption: How technology is driving consumer engagement in the world's most exciting markets', The Economist, 2015.
10 Ibid.
11 Ibid.

While many of Asia's consumers may not be as wealthy as their European counterparts, this does not hold back innovation. Chances are, according to The Economist, that this is actually spurring on innovation. Some countries, for example, are bypassing earlier stages of digital technology, for example leapfrogging fixed line communications and moving straight to mobile Internet. The low number of bank accounts is driving mobile phone carriers, and others, to come up with payment solutions that do not depend on traditional banking.

By contrast Europe is proving far less innovative. Consumer Electronics Association President, Gary Shapiro, recently noted that Europe had plenty of innovative ideas and entrepreneurial companies, but lacks a culture of innovation. By disincentivising workforce flexibility and taxing success, potential innovation in Europe is held back, he says.

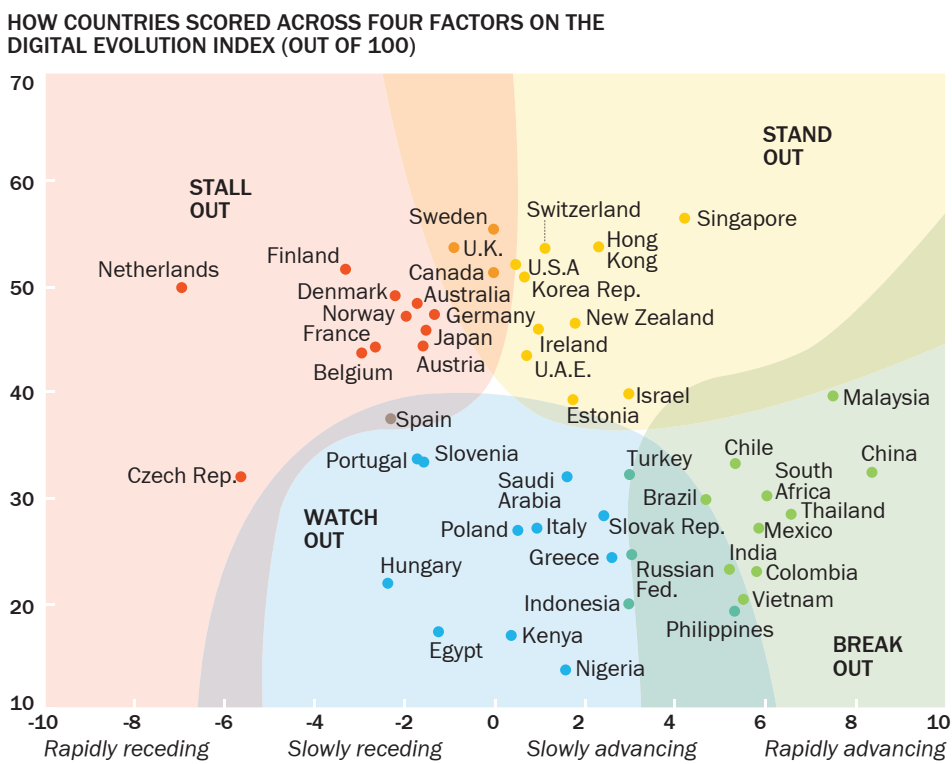
> "... a culture of innovation requires a welcoming atmosphere for new, game-changing business models. That means easy access to capital and encouraging angel investors to take risks on new companies. Universities and entrepreneurs should be able to work together, and the formation of new businesses should be simple and easy.
>
> "Entrepreneur is a French word – but so is bureaucracy. The EC's position stands in stark contrast to European innovation and the new ways of thinking we see every year through Europe's growing presence on the show floor at CES (International Consumer Electronics Show).
>
> "This year, more than 100 companies from France, and another 90 companies from the UK and Germany, exhibited cutting-edge technology at CES, from commercial drones to driverless cars to the latest in wearables. This creativity and diversity prove that Europe is home to innovators – it just needs to give them the right atmosphere to grow and prosper.
>
> "The European proposal to target and inhibit successful internet companies is the worst possible strategy to encourage domestic European innovation. It will infuriate EU consumers and make Europe look stodgy, weak and incapable of encouraging merit based innovation. The EC must pull this proposal and focus instead on remedying its own impediments to innovation."[12]

12 https://euobserver.com/opinion/128804.

Tufts University's *Digital Evolution Index* compares countries on their "readiness for a digital economy". Based on the performance of countries from 2008 to 2013, they assigned countries to four trajectories.

1) Stand Out countries have shown high levels of digital development in the past and continue to remain on an upward trajectory.
2) Stall Out countries have achieved a high level of evolution in the past but are losing momentum.
3) Break Out countries have the potential to develop strong digital economies and have the potential to become Stand Out countries in the future.
4) Watch Out countries face significant opportunities and challenges, with low scores on both current level and upward motion of their Digital Evolution Index.

Figure 3: Countries are building digital capacity at uneven rates: a group of 50 countries reveals four main areas of digital readiness



Source: Digital Evolution Index, The Fletcher School at Tufts University[13]

13 https://hbr.org/2015/02/where-the-digital-economy-is-moving-the-fastest.

Most European countries are stalling out, according to Tufts, although Japan is in the same boat. The solution is to ape the companies that are standing out – by doubling down on innovation, attracting younger talent and finding commercial opportunities beyond domestic borders.

The EU's latest effort to address the innovative deficit and the downward spiral of its member states' digital economies is the creation of a *Digital Single Market* as part of an overall Europe 2020 initiative. Jean-Claude Juncker has announced the initiative can generate up to EUR 250 billion of additional growth in Europe, create hundreds of thousands of jobs and foster a vibrant knowledge-based society. What needs to be done? A lot. Common European data protection rules are required, as are telecoms legislation reforms, copyright reforms and streamlined consumer rules for online and digital purchases.[14]

Compared to the unfettered innovation, speed of digital adoption and capital investment happening in Asia, it smacks of a bureaucracy, as opposed to creativity.

The result is that Europe has much to learn from Asia. European media companies – whether communication tools, publishers, marketers or new types of enterprises – should look to the East for inspiration and guidance.

What is at stake?

It is clear from this economic and commercial analysis that the ongoing disruption in the media space is a source of uncertainty. As such there are many things at stake, from journalistic values to commercial viability. First and foremost is the ongoing viability of legacy publishers who have a track record of chronicling current affairs across Europe and Asia. The rise of alternative sources of news, the colonisation of distribution by technology companies and the inability, to date, of legacy publishers to hit on a sustainable business model means societies across Europe and Asia are at risk of losing companies that have a history of performing a valuable social function.

At a macro level the media as a whole is at risk of losing its platform independence. Media companies already seem to have lost the battle for distribution channels to technology companies. Online media brands are now heavily reliant on others to push their news and content to make sure it reaches the largest audience. What next once consumers stop having a direct relationship with media brands?

Media plurality may also be at stake. With commercial uncertainty remaining in the short to medium term, economies of scale are becoming increasingly vital for survival. As a result there has been increasing consolidation of media holdings. Charter and Time Warner Cable, Verizon and AOL, Re/Code and Vox Media have all merged in one form or another. This trend is being replicated in other markets. In Germany, Axel Springer has been acquiring online publications and service providers since 2006.

14 'A Digital Single Market Strategy for Europe', Communication from the commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the regions, European Commission, 2015.

Current trends

Undoubtedly, the following current trends will continue, at least in the short term:

- Consumers' media consumption habits will continue to migrate to mobile devices, while the rise of ad-blockers will make monetisation of this mobile content more challenging.
- Public service broadcasters in open economies will come under increasing pressure, as they struggle to adapt to budgetary challenges and changes in media consumption.
- The content distribution channels such as Facebook, Google and WeChat will continue to eclipse media outlets.
- There will be an increase in platforms with the ability to create and curate news, and so content from users will grow in importance.

The Dutch Journalism Fund (DJF) recently produced a report that offered four different scenarios on how journalism could evolve and what the journalistic landscape might look like by 2025.[15]

The first scenario called *The Wisdom of the Crowd*, predicts a world where journalistic start-ups have crushed traditional industry and the sharing economy prevails. Intermediaries like Apple and Facebook are no longer in the driving seat, possibly due to their failure to protect user privacy. In their place, an online DIY culture, funded by crowdsourcing, has flourished. New initiatives appear and disappear rapidly, and journalists operate as information gatherers, overseers and community managers. Issues such as the use of personal data and the accountability of algorithms have become matters of national importance.

The least optimistic scenario is called *A Handful of Apples*. It presents a vision where giant technology companies, such as Apple, control and set the agenda. The news is personalised and is served algorithmically to users. Traditional news organisations are in decline, but a cohort of die-hards raise the importance of independent journalism and the quality of news coverage and pluralism. The majority of news outlets, however, treat the public as a collection of consumers who need to be catered for, rather than as citizens who should be informed for the sake of a democratic process.

Another vision for 2025, called *The Shire,* posits a world where the unbridled self-promotion and online narcissism of the Facebook era has given way to online groups of like-minded communities. An increase in civic initiatives and grassroots organisations, coupled with government cuts, means citizens take more responsibility and create platforms for the exchange of products and services. Legacy outlets still persist, but many stations, TV programmes and journalists are seen as belonging to the establishment.

Finally *Darwin's Game* is the title given to the most optimistic prediction. In this vision of the future, once-authoritative institutions – such as legacy media outlets - reinvent themselves and regain the trust of their original audience. They embrace transparency and accessibility.

15 "What's New(s): Scenarios for the Future of Journalism", Dutch Journalism Fund, 2015.

Regardless of which scenario, or cocktail of scenarios, comes to pass, René van Zanten, Managing Director of DFJ says:

> "Digital natives do not only understand the new world of media and information better. They also are more prepared to adjust, to adapt, to change, to throw everything overboard and start something new. As we say: culture eats strategy for breakfast. Sometimes newsrooms are filled with people who dream of what used to be. Our study shows that these newsrooms will be vanished in 2025. In order to survive, the 'old world' will have to embrace the 'new world', or more practically work together with start-ups."[16]

Obstacles to fostering connectivity

Technology may provide a sense of virtual immediacy between regions that are separated by massive continents and multiple time zones, but the real and persistent barriers of language, culture and distance remain.

There are also issues of infrastructure. Physically, the web is a connection of wires and cables on the ground or under the sea bed. The Internet backbone, which refers to the principal data routes between large, interconnected computer networks and core routers, are hosted by commercial companies, governments, academic institutions and others. Internet service providers, often Tier 1 networks, participate in Internet backbone traffic by privately negotiated interconnection agreements, primarily governed by the principle of settlement-free peering, meaning that neither party pays the other in association with the exchange of traffic; instead, each derives and retains revenue from its own customers.

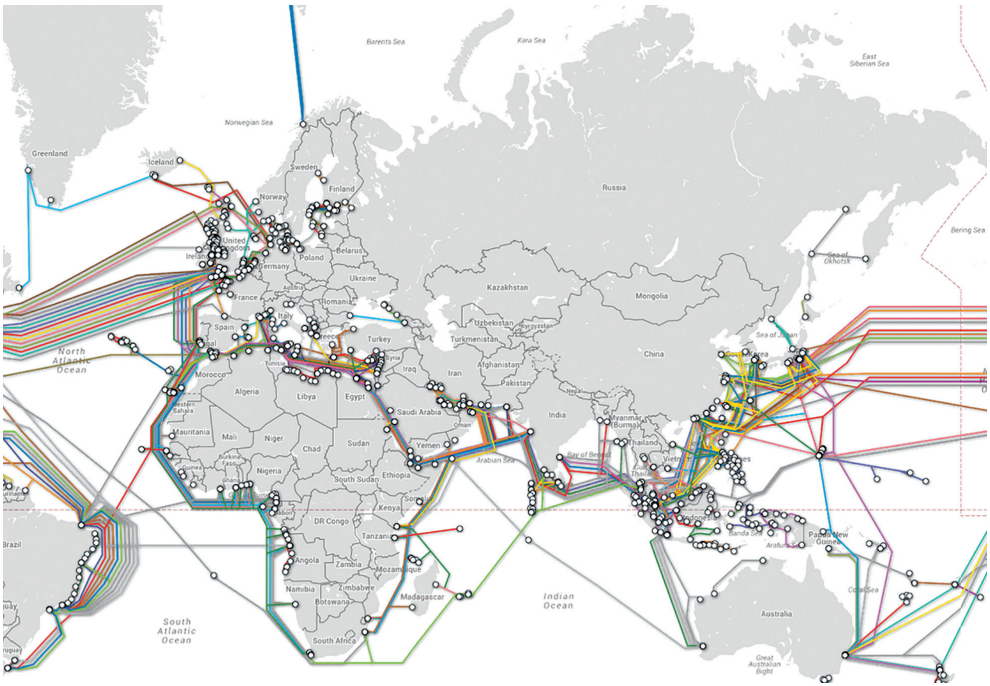
One downside to this approach is that countries underserved by Internet backbones must pay the full cost of connecting to an Internet exchange point in a different country, very often the USA. This is referred to as the *International Charging Arrangements for Internet Services (ICAIS)*. Advocates of this approach argue that Internet interconnection should work like international telephone interconnections, with each party paying half the cost. Countries with liberalised telecommunications and open markets, where competition between backbone providers occurs, tend to oppose ICAIS.[17]

Potential global instability is also a threat. European/Asian interconnectivity is more reliant on undersea, rather than overland routes, for reasons of seismic and geo-political uncertainty. TeleGeography's Submarine cable map, which shows international and US domestic submarine cables with a maximum upgradeable capacity of at least 5 Gbps, neatly illustrates the infrastructure issues and how they relate to distance, topography and international political instability.

16 Sunday Independent, 'Going Dutch: can the Netherlands predict the future of journalism?', 28 June 2015.

17 For more detail peering and transit, see Ars Technica's 'How the 'Net works: an introduction to peering and transit', http://arstechnica.com/features/2008/09/peering-and-transit/.

Figure 4: Submarine Cable Map



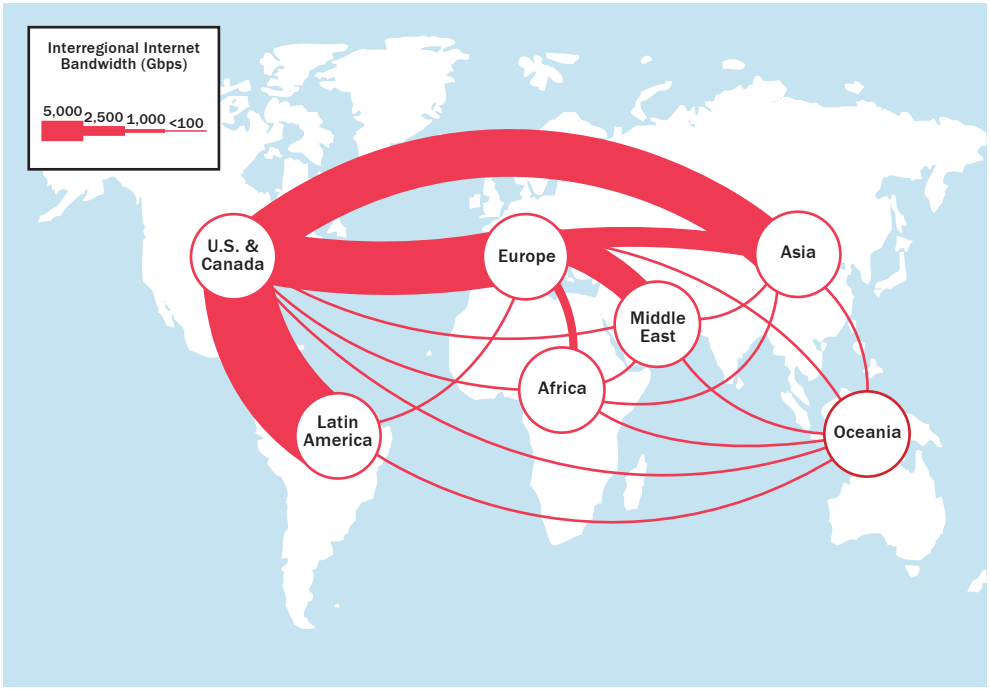
Source: TeleGeography[18]

There is a huge reliance on undersea cabling for interconnectivity as most commercial operators opt for laying undersea cable rather than going overland. So even though sharks have been known to gnaw on undersea Internet cables, this is a risk that's far easier to mitigate against compared to the rise of extremist movements, tribal infighting or operating in countries that have perceived high levels of corruption.

TeleGeography notes in its most recent *Global Internet Geography Report* that Asia and Europe have their inter-regional capacity spread over several routes and maintain considerable levels of intra-regional capacity, but lag behind North America and South America, and North America and Europe in terms of inter-regional bandwidth.

18 "Submarine Cable Map" by TeleGeography is licensed under CC BY-NC-ND 3.0. Source: http://www.submarinecablemap.com/.

Figure 5: Inter-Regional Internet Bandwidth, 2015



Source: TeleGeography[19]

Key actors and actions

In an era where online platforms can generate millions of users in a matter of months, and in a sphere where telecoms giants, internet giants, plucky start-ups, media moguls, legacy publishers and governments across two continents are all players, giving an overview of key actors and actions would be exhaustive and unhelpful.

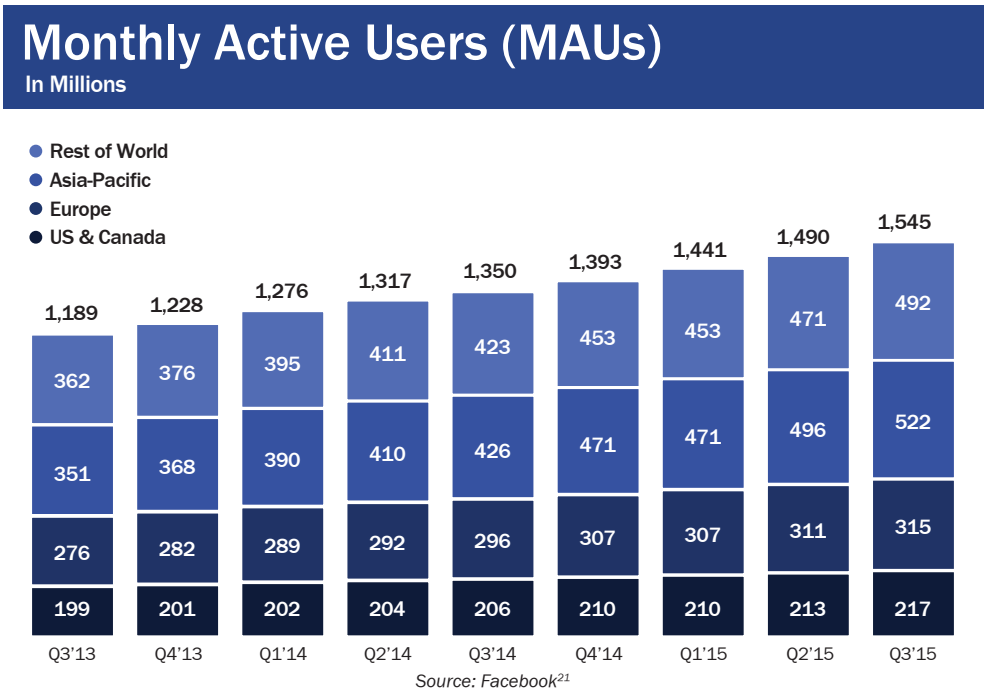
Therefore, I am going to focus on the largest platform, Facebook, and a particularly extreme example of how it is not just colonising users' attention and replacing traditional media outlets, but also fulfilling the traditional role of the media.

It goes without saying that Facebook is big. It now has 1.5 billion monthly active users. About half a billion of these are in Asia, compared to over 300 million are in Europe.[20]

19 TeleGeography , "Global Internet Geography Executive Summary," https://www.telegeography.com/page_attachments/products/website/research-services/global-internet-geography/0006/2619/GIG_Executive_Summary.pdf.

20 Facebook, "Facebook Q3 2015 Results," http://files.shareholder.com/downloads/AMDA-NJ5DZ/661423100x0x859098/DC6C9112-AFF6-4E76-9168-7DBA0D5FFDAB/FB_Q3_15_Earnings_Slides_FINAL.pdf.

Figure 6: Monthly active users of Facebook between Q3 2013 and Q3 2015



Source: Facebook[21]

As well as reach and commercial growth, Facebook is trying to bring affordable Internet access to less developed countries through its *Internet.org* programme. In Asia, this has been rolled out in India, the Philippines, Indonesia and Bangladesh. However, the programme is not without controversy. In April 2015, several partners of the Indian *Internet.org* programme quit due to what they claimed was Facebook's violation of net neutrality principles.

However the example of Facebook's growth in importance in Myanmar shows the social network's power to appropriate many of the roles typically fulfilled by the media. Facebook does not provide statistics on its user base in Myanmar, but the number of registered users has been estimated at 6.4 million out of a population of 50 million. Facebook's Messenger app is also popular. Its security and privacy settings are critical in this regard as Myanmar has a history of government surveillance.

Facebook's importance is underlined by who is using it and how. Before the recent elections, Aung San Suu Kyi held a press conference, which the state-run media did not attend, but millions watched on Facebook. When former President Thein Sein subsequently conceded victory to National League for Democracy, he did it on Facebook. When the army did likewise, they also chose Facebook as their megaphone of choice.

21 Ibid.

Facebook's strategic importance relates to the speed of digital evolution Myanmar has undergone in recent years. The country only recently issued its first mobile phone licenses. This, coupled with a deluge of cheap Chinese handsets, has empowered the population to adopt digital channels of communication, jumping straight from an anachronistic landline network to a 21st century mobile Internet. David Madden of Phandeeyar, a non-profit group that tries to harness technology for social causes, said Myanmar is the "first country this size to come online via smartphones."[22]

This is where Facebook comes in. It arrived in Myanmar around the same time as the previous regime was dismantling its system of censorship and issuing mobile phone licenses. When Burmese people refer to the internet they often mean Facebook as the social media network dominates online activity.

But while Facebook aided the political opposition, and allowed freer distribution of ideas and discourse, previously the work of a functioning free media, the social network may now be preventing the development of more open internet platforms. This led Jeanne Bourgault, President of Internews, to write in the Guardian in 2013:

> "A nation of Facebook friends isn't a bad thing. But it is time for Burmese media, netizens and government officials to break free of the walled garden and venture farther into the internet, exploring and experimenting, building businesses and letting creativity flourish."[23]

The examples of Facebook's expansion and subsequent growth in importance in Myanmar and India illustrate the need for some form of regulation. This regulation is less about media plurality, in the traditional sense; instead the requirement relates to ensuring that certain portals and platforms aren't controlling how citizens access the internet in such a way that constricts opportunity and promotes homogeneity, whether deliberately or unwittingly.

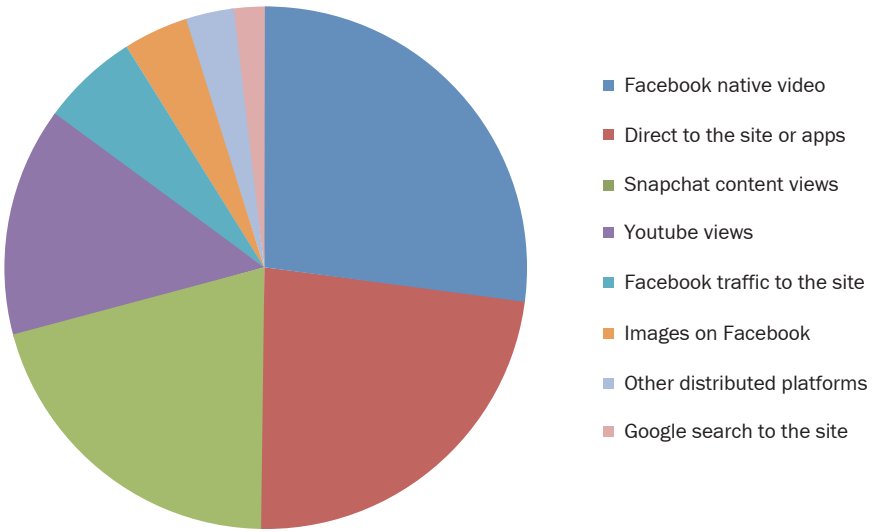
How media is changing?

We have undoubtedly entered a global marketplace where boundaries have been blurred. Legacy media outlets and state broadcasters operate in a world of traditional and well-understood commercial and linguistic borders. And while new media outlets, social networks and messaging apps may promise an interconnected world, most are subject to the vagaries of legislative jurisdictions, language and culture. Many publishers like Business Insider, BuzzFeed, The Guardian and others are trying to build global brands, alongside the bigger distribution platforms such as Facebook, YouTube, WhatsApp, and Snapchat.

22 http://foreignpolicy.com/2015/11/13/burma-gives-a-big-thumbs-up-to-facebook/.
23 http://www.theguardian.com/global-development-professionals-network/2013/aug/21/letters-facebook-monopoloy-limits-progress-burma.

The most immediate and obvious change therefore, is how the consumer is now the driving force of media. They wear their brand loyalties like a badge, sharing the content that they enjoy. They have a wide range of platforms on which they discover and consume content. Nowhere is this more evident than in a recent interview with BuzzFeed's Jonah Peretti in September 2015 where he revealed the breakdown of the site's global audience – only 23% of the audience came directly to the BuzzFeed site or used its apps.[24] A further 8% were referred back to the site via search or social channels. The majority of their content is consumed off-site. Strong media brands of the future need to be cognisant of this shifting pattern of content consumption and figure out how to monetise their content off-site.

Figure 7: BuzzFeed Audience Breakdown[25]



The growth in consumer-driven content consumption and discovery was interrogated in recent research by the BBC World Service.[26] It aimed to find out how young, predominantly online audiences engage with news and how this process differs from region to region. The study took place in the first half of 2015 and included qualitative, quantitative and desk research across several countries in Asia, Africa, Europe and Latin America.

They found chat apps, in particular WhatsApp, were growing in importance, with 77% of respondents using WhatsApp, and even though more used Facebook (91%), respondents said that WhatsApp was the service they would miss the most if it were not there.

24 Source: from data provided in http://recode.net/2015/09/16/this-week-on-recode-decode-ceo-jonah-peretti-explains-how-buzzfeed-won-the-internet/.
25 Ibid.
26 Sunday Independent, 6 December, 2015. 'Producing news for a young global audience.'

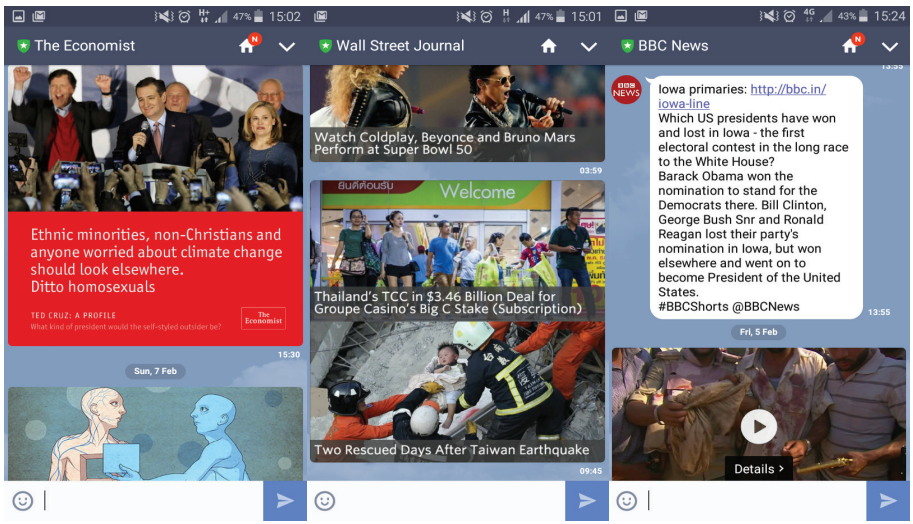
The research also found that 16 to 24 year-olds were much more likely to check WhatsApp than Twitter as soon as they woke up in the morning. The research raised questions about whether WhatsApp could function as a news discovery channel, as it is designed for private peer discussions.

The research also highlighted that this new type of audience often needs context and background for the information it consumes. The study showed that 43% of under 35s agreed that, although there is much news around, they still do not feel they clearly understand most issues. Interestingly the research also found that that 64% of under 35s want news to provide solutions to problems, not just news that tells them about certain issues. This demand for narratives that suggest solutions was higher in emerging markets.

It is important to note that messaging apps are not just for young people. They can also function as distribution channels for what, typically, would be referred to as more serious or worthy content. This is clearly seen by tracking the publishers who are now using the Japanese messaging app Line as a distribution channel. In recent months, The Economist has joined the BBC, Wall Street Journal as well as BuzzFeed and Taylor Swift in using Line. The Economist's content is in English and Line users in Europe, the USA, Canada, Saudi Arabia, Myanmar, Korea, Hong Kong SAR, the UK, Cambodia and Pakistan can access it.

Like other publishers, The Economist is using the chat app to make its content more visually compelling to users, although, some publishers are better than others in this regard (see screenshots). Line also allows publishers to use its native push notifications feature to publish breaking news pieces or daily updates. The Economist has stated that it plans to use Line's interactive features to introduce live Q&As with its journalists in the future.

(Left to right) Screengrabs of The Economist, Wall Street Journal and BBC News channels in Line



Conclusion

The most pressing need is for some clarity around the commercial model for media outlets in the digital age. But this is not an issue that can be forced.

As outlined, there are regional issues around connectivity, culture, media censorship and more. There is no one size fits all approach to these issues. There are many areas where the Asia and Europe regions can work more closely:

- a more unified and transparent approach to infrastructure
- improved media plurality and to prove the socio-economic benefits of same
- protection of niche media outlets in the short to medium term, especially those that specialise in interpretation/investigation
- greater interaction and sharing of learnings between distribution platforms like WhatsApp, Line and WeChat and media outlets
- greater links between Asian and European media organisations
- greater links between Asian and European investors in media
- collaboration with publishers and advertisers to provide guidelines on data storage and ad-tech

The above list may look fairly daunting, so it is worth reminding ourselves why it is important. What is the benefit of increased digital and media interconnectivity?

The Internet is a general purpose technology. This means it can affect an entire economy by impacting on pre-existing economic and social structures. Historical examples include the steam engine, electricity, electronics, mechanisation and the automobile. The Internet offers the potential to link us all to reservoirs of knowledge, and also to each other to unlock economic and social potential that would have seemed unimaginable to previous generations. But the introduction of a new, general purpose technology to an economy may decrease productivity before its full potential is realised and overall productivity increases. It takes time to learn new skills, readjust the workforce and create sustainable business models.

As we struggle to adapt, our understanding of the Internet's potential has shifted from a communications platform to a network that supports all manner of transactions, be they social, commercial, or financial. As a result the traditional approach of measuring Internet access and connectivity can denigrate the true potential of digital connectivity. This shift was neatly put by The Association of Southeast Asian Nations' (ASEAN) *Master Plan on ASEAN Connectivity* from 2014.

> "ICT infrastructure is fundamental to supporting trade, facilitating investments and enlarging markets through its ability to facilitate information exchange, to connect people, to support delivery of services and to reduce the cost of business and trade-related transactions. ICT infrastructure is broadly defined to include fixed, mobile, and satellite communication networks and the Internet as well as the software supporting the development and operation of these communication networks."[27]

27 http://www.asean.org/storage/images/ASEAN_RTK_2014/4_Master_Plan_on_ASEAN_Connectivity.pdf.

It seems the potential benefits of a few wires run deep, and they may transform all manner of sectors. McKinsey released an analysis of the potential of government digitisation in 2015.[28] It found that public sector digitisation could result in a release of up to USD 1 trillion in economic value worldwide, through improved cost and operational performance.

The media has an opportunity – perhaps even an obligation – to champion digital transformation and to husband other sectors and industries through some of the pitfalls and cul-de-sacs that it has uncovered in its struggles to date to adapt to the internet age.

The media itself is in a disrupted state and will continue to be disrupted for some time to come. Legacy media companies, however, have an advantage over the platforms and tech companies in their knowledge of storytelling and content, i.e. journalism. Media companies, which become disruptive themselves by harnessing their storytelling powers and the verification model of the traditional print model, will thrive.

28 http://www.mckinsey.com/insights/business_technology/public_sector_digitization_the_trillion_dollar_challenge.

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4.2. How to Promote the Diversity of Cultural Expressions?

Nina OBULJEN KORŽINEK

Abstract

In celebrating the 10th anniversary of the adoption of the 2005 UNESCO *Convention on the Protection and Promotion of the Diversity of Cultural Expressions*, this chapter presents some of the activities that were directly, or indirectly, put in place around the implementation of the Convention. In this short overview, we look at some data and indicators pointing to the specific situations in Asia and Europe, as well as to some projects and programmes that were put in place to foster closer relations between artists and cultural professionals from the Asia-Europe Meeting (ASEM) countries.

Introduction

Historically, artists and creators have always been in contact across borders, regions and continents, learning and being inspired by new cultures and experiences. If we look at the early connections between Asia and Europe, one cannot but immediately think of the Silk Route. This network was, as early as the second century BCE, fostering trade relations and providing a channel for the exchange of cultural experiences, transmitting knowledge and artistic achievements. Many traces of these early interactions can be found in both Asian and European cultural memory, contributing to the cultural diversity of countries and regions along the historic route.

In today's world, the dusty and uncertain roads or months-long sea journeys have been replaced by modern means of transportation and the Internet. We are witnessing the intensity of cultural and other exchanges between regions, countries and continents, multiplied to an unprecedented scale. The shift of cultural production, distribution and participation to digital platforms has made connections and exchanges more dynamic, yet also more difficult to grasp and measure as many developments happen outside formal, traceable channels. Artists and creators often do not use established production companies or registered distribution platforms.

Even if we are better connected than ever before in the history of mankind, does it mean that we have access to more diverse cultural content, or that we know more about each other? Are we using the opportunities brought by new technologies to develop open and democratic societies in which respect for the "other" is built on the knowledge and experience gained through exchanges of diverse cultural content?

Having these questions in mind, this chapter will address a concern about unequal and unbalanced exchange of cultural goods and services, and present policy and projects support to the implementation of the 2005 UNESCO *Convention on the Protection and Promotion of the Diversity of Cultural Expressions*, as well as new interventions to promote diverse cultural content.

Connected by global cultural giants

While it is true that globalisation and digital technologies have enabled new and open channels of communication, at the same time there is a threat to the diversity of cultural expressions due to unequal and unbalanced exchanges of cultural goods and services around the world, such as films, books, music, paintings or design. There are a handful of global cultural giants who control a large share of global cultural production, distribution, exhibition and promotion worldwide and who dominate global cultural markets. The diversity of platforms and networks for distribution is being reduced to a small number of services, e.g. YouTube, Amazon and Netflix. The share of these large players in the global distribution of digital cultural content is growing every year. The choices made by the owners and managers of these big distribution services have a profound impact on global cultural markets. It is particularly challenging for developing countries, as well economically weaker countries and countries with smaller populations to sustain and foster their own creation, production and distribution, and ensure sufficient levels of production in their own languages, when faced with the global influx of mass-produced cultural products. This limits their ability to exchange and share their own stories, music and other forms of creative expressions with others.

If we cannot have access to diverse information and cultural content, this limits individual choices and forces us to consider whether we really are benefiting from all the opportunities that the development of contemporary communications brings. In addition, the limited space available for local cultural products in national markets restricts the potential for developing cultural and creative industries (CCI)[1] which have the potential to significantly contribute to national economies.

The recently published study *Cultural times: The first global map of cultural and creative industries*[2] offers an up-to-date description of the key performances of the cultural markets around the world. According to this study, the Asia-Pacific region is the world's biggest CCI market, generating USD 743 billion of revenue (33% of global CCI sales) and 12.7 million jobs (43% of CCI jobs worldwide). Europe is the second-largest CCI market, accounting for USD 709 billion of revenue (32% of the global total) and 77 million jobs (26% of all CCI jobs). North America comes third with 28% of global revenue and 16% of total jobs, yet if we look at the markets for audio-visual products and services, both in the Asia-Pacific region and Europe, they are dominated by the movies and music created in the USA, or produced and distributed by US-based companies. While almost each and every child around the world knows about the famous Disney characters and their stories, they might never have seen one single cartoon, or read a single book, written in the language of a neighbouring country.

1 UNESCO defines cultural and creative industries (CCI) as activities "whose principal purpose is production or reproduction, promotion, distribution or commercialization of goods, services and activities of a cultural, artistic or heritage-related nature". CCI includes advertising, architecture, book, gaming, music, move, newspapers and magazines, performing arts, radio, TV and visual arts.

2 http://www.ey.com/Publication/vwLUAssets/ey-cultural-times-2015/$FILE/ey-cultural-times-2015.pdf.

Table 1: Exports of cultural goods by region from 2004 to 2013

Region	Exports (in millions US$)				
	2004	2005	2006	2007	2008
Arab States	642.1	1,368.7	889.0	2,990.5	5,046.6
Caribbean	13.6	32.1	65.9	38.4	53.0
Central Asia and Eastern Europe	1,684.8	2,059.8	2,257.6	2,894.5	3,200.8
Latin America	2,222.1	2,356.9	3,358.8	4,378.8	5,025.2
North America and Europe	74,838.4	81,490.9	89,551.4	100,412.6	109,520.3
Pacific	667.3	673.4	781.7	837.3	851.5
South and East Asia	28,095.4	31,672.1	37,212.9	42,213.1	48,302.0
Sub-Saharan Africa	279.2	326.6	424.4	634.5	582.5
World	**108,443**	**119,980**	**134,519**	**154,400**	**172,582**

Exports (in millions US$)					Region
2009	2010	2011	2012	2013	
1,192.5	1,115.7	1,307.5	1,413.1	1,651.2	Arab States
41.5	32.2	28.0	55.4	39.9	Caribbean
2,337.5	2,702.4	3,328.7	4,266.9	5,725.7	Central Asia and Eastern Europe
3,870.0	3,247.8	3,239.5	2,397.1	2,644.4	Latin America
88,979.3	95,949.5	106, 154.7	103,516.9	104,438.2	North America and Europe
714.1	791.1	1,230.2	1,085.8	961.5	Pacific
51,826.3	61,450.3	84,454.2	100,931.0	96,762.0	South and East Asia
281.8	384.2	422.3	426.6	574.7	Sub-Saharan Africa
149,243	**165,673**	**200,165**	**214,093**	**212,798**	**World**

Source: UNESCO Institute for Statistics[3]

3 UNESCO Institute for Statistics, The Globalisation of Culture Trade: A Shift in Cultural Consumption – International Flows of Cultural Goods and Services 2004-2013, http://www.uis.unesco.org/culture/Documents/international-flows-cultural-goods-report-en.pdf.

Table 2: Imports of cultural goods by region from 2004 to 2013

Region	Imports (in millions US$)				
	2004	2005	2006	2007	2008
Arab States	1,221.9	5,359.7	2,075.0	7,627.3	9,133.0
Caribbean	152.3	297.8	309.2	290.9	389.7
Central Asia and Eastern Europe	1,549.6	1,880.3	2,170.6	3,037.6	3,854.9
Latin America	2,962.1	3,476.6	4,766.4	6,272.1	7,583.7
North America and Europe	81,978.3	88,202.6	96,111.5	115,566.5	120,869.8
Pacific	2,700.1	2,772.0	2,861.8	3,505.5	4,003.1
South and East Asia	19,322.4	21,918.2	25,324.1	31,731.9	34,464.3
Sub-Saharan Africa	876.7	1,129.2	1,542.6	1,491.1	1,579.0
World	**110,763.5**	**125,036.5**	**135,161.3**	**169,522.9**	**181,877.7**

Imports (in millions US$)					Region
2009	2010	2011	2012	2013	
1,630.0	2,600.9	2,452.8	2,602.9	5,056.2	Arab States
276.5	310.6	280.3	257.0	252.2	Caribbean
3,030.0	3,306.1	3,801.4	3,923.4	4,590.5	Central Asia and Eastern Europe
6,493.6	6,441.9	6,927.2	5,876.5	5,790.2	Latin America
96,738.7	106,233.8	112,526.0	105,489.7	103,876.5	North America and Europe
3,635.6	3,794.9	4,088.1	3,737.5	3,402.5	Pacific
28,386.8	34,080.4	41,377.4	49,470.1	43,881.2	South and East Asia
1,439.6	1,646.2	1,772.6	1,502.5	1,467.5	Sub-Saharan Africa
141,631.3	**158,414.8**	**173,225.7**	**172,859.7**	**168,316.9**	**World**

Source: UNESCO Institute for Statistics[4]

Even if the cultural and creative industries in the ASEM countries are at the forefront in terms of revenues and jobs, the cultural content available to, and consumed by, their citizens does not reflect the rich diversity of potentially available products across the region. And this is, with some exceptions, the case with cultural markets around the world.

4 Ibid.

Table 3: The origin of top ten countries of all feature films exhibited, ranked by admissions (top five respective Asian and European ASEM countries)

Country	Rank	Country of origin of feature films exhibited	Number of admissions	Market share (%)
Japan				
	1	**Japan**	**117,685,000,000**	**60.6%**
		All other countries	76,552,000,000	39.4%
		Total	**194,237,000,000**	
Korea				
	1	**Korea**	**127,108,547**	**59.6%**
	2	USA	75,295,539	35.3%
	3	Japan	1,796,488	0.8%
	4	China	675,799	0.3%
		All other countries	8,447,850	4.0%
		Total	**213,324,223**	
Australia				
	1	USA	72,200,000	88.0%
	2	United Kingdom	3,600,000	4.4%
	3	**Australia**	**2,900,000**	**3.5%**
	4	India	700,000	0.9%
	5	France	700,000	0.9%
		All other countries	1,900,000	2.3%
		Total	**82,000,000**	
Malaysia				
	1	China	8,230,000	13.5%
	2	**Malaysia**	**8,080,000**	**13.2%**
	3	India	2,150,000	3.5%
	4	Indonesia	1,000	0.0%
		All other countries	42,559,000	69.7%
		Total	**61,020,000**	

Country	Rank	Country of origin of feature films exhibited	Number of admissions	Market share (%)
Philippines				
	1	USA	25,550,000	65.8%
	2	**Philippines**	**11,820,000**	**30.4%**
	3	New Zealand	710,000	1.8%
	4	Canada	640,000	1.6%
	5	Japan	50,000	0.1%
		All other countries	50,000	0.1%
		Total	**38,820,000**	
United Kingdom				
	1	USA	839,200,000	72.7%
	2	**United Kingdom**	**255,600,000**	**22.2%**
	3	Spain	23,000,000	2.0%
	4	India	16,100,000	1.4%
	5	France	4,000,000	0.3%
		All other countries	15,800,000	1.4%
		Total	**1,153,700,000**	
France				
	1	USA	103,563,373	54.2%
	2	**France**	**64,518,871**	**33.8%**
	3	United Kingdom	8,428,471	4.4%
	4	Canada	2,455,099	1.3%
	5	Australia	1,581,773	0.8%
		All other countries	10,372,376	5.4%
		Total	**190,919,963**	
Italy				
	1	USA	51,635,405	53.0%
	2	**Italy**	**29,243,720**	**30.0%**
	3	United Kingdom	4,629,014	4.8%
	4	France	3,165,114	3.3%
	5	Spain	1,594,312	1.6%
		All other countries	7,113,007	7.3%
		Total	**97,380,572**	

Country	Rank	Country of origin of feature films exhibited	Number of admissions	Market share (%)
Spain				
	1	USA	54,795,336	69.6%
	2	**Spain**	**11,013,096**	**14.0%**
	3	United Kingdom	4,631,815	5.9%
	4	Germany	979,530	1.2%
	5	France	969,985	1.2%
		All other countries	6,300,745	8.0%
		Total	**78,690,507**	
Poland				
	1	USA	21,762,572	58.9%
	2	**Poland**	**7,107,711**	**19.2%**
	3	France	1,130,789	3.1%
	4	Spain	1,027,481	2.8%
	5	United Kingdom	1,024,810	2.8%
		All other countries	4,921,309	13.3%
		Total	**36,974,672**	

Source: UNESCO Institute for Statistics Feature Film Statistics Database, 2015[5]

Such trends are not only important for cultural and creative industry players, but have an impact on society that goes well beyond measuring available economic indicators. If we cannot guarantee our citizens the right to participate in, and have access to, the variety of artistic expressions from different parts of the world, their choices are significantly reduced. This could represent a threat to democracy, since a rich diversity of voices and images is essential for democratic discourse.[6]

5 UNESCO Institute for Statistics Feature Film Statistics Database, The Origin of Top 10 Countries of All Feature Films Exhibited, Ranked by Admissions, http://www.uis.unesco.org/Culture/Pages/movie-statistics.aspx.
6 Obuljen, Smiers (2006)

Global and regional movements for protection and promotion of cultural diversity

A large group of countries determined, some 15 years ago, to look for an adequate response to the global challenges and threats to a balanced exchange of cultural content. They joined forces with the civil society to promote a movement in favour of cultural diversity.

They advocated the adoption of an international, legally binding instrument that would create a responsibility and obligation for governments to introduce adequate policies and measures, and work together to address the challenges of imbalanced cultural exchanges. The aim was to build solidarity and consensus about the need to foster new forms of international cultural cooperation. This movement resulted in the adoption of the *Convention on the Protection and Promotion of the Diversity of Cultural Expressions*[7] agreed by UNESCO member states in 2005.

Out of 51 ASEM partners, excluding the European Union (EU) and the Association of Southeast Asian Nations (ASEAN) Secretariat, 40 have ratified the Convention. This represents around 79% of ASEM's membership. The EU, as a regional economic union, has ratified the Convention as well as its member states. This is because the Convention covers areas where the EU shares competences with its members, or has exclusive competence, e.g. intellectual property rights, international cooperation for development, the free movement of people, and trade policies and negotiations.

According to the study, *The increasing role of the EU's culture, education and science diplomacy in Asia*[8], the 2005 Convention serves as a general framework for the EU's external relations policy on culture, including trade and development cooperation.[9] The Ministers of Culture of the Asia region also reiterated their support for the implementation of the Convention when they signed the *Dhaka Declaration on the Diversity of Cultural Expressions* in May 2012.[10] The guiding principles of the Convention can also be found in a number of programmes and initiatives implemented by the Asia-Europe Foundation (ASEF), an institution established by ASEM to facilitate, among others cultural exchanges and collaboration. The current agenda of the ASEM Culture Ministers' Meeting refers also to the future of information and communications technologies, creative industries, and the creative economy.[11]

Furthermore, at the 10th ASEM Summit held in Milan, Italy in 2014, the leaders condemned all forms of incitement to hatred and intolerance, including xenophobia, religious hatred, and violence. It is precisely in this context that they stressed the importance of respect for, and understanding of, cultural and religious diversity, and of promoting tolerance, respect, dialogue, and cooperation among different cultures, civilisations, and peoples.[12] These principles and ideas are at the very heart of any reflection on the importance of cultural diversity.

7 http://en.unesco.org/creativity/convention.
8 http://www.europarl.europa.eu/RegData/etudes/IDAN/2015/549050/EXPO_IDA(2015)549050_EN.pdf.
9 Vandewalle (2015)
10 http://www.unescobkk.org/news/article/dhaka-declaration-asia-pacific-affirms-the-power-of-cultural-expressions/.
11 http://www.aseminfoboard.org/events/1st-preparatory-som-7th-asem-culture-ministers-meeting-asem-cmm7.
12 http://www.aseminfoboard.org/sites/default/files/documents/2014_-_ASEM10_-_Chair_Statement.pdf.

Strengthening the right and ability of countries to implement cultural policies and instruments

At a national level, countries have, for decades, adopted cultural policy measures to support the cultural value chain, which includes creation, production, distribution, and enjoyment. The intensity of the involvement, and the type of cultural policy implemented, depends very much on the general approaches and systems applied in each individual country. The 2005 Convention understands cultural policies in a broader sense, and takes into account the transversal nature of policies and mechanisms. In other words, any policy, in any field, that has the potential to impact on the cultural value chain should take account of the key principles of the Convention.

Countries strive to create favourable conditions for the protection and promotion of cultural diversity, using a range of interventions. The policies and measures aimed at nurturing creativity include: those that provide direct support to artists and their creative work, such as direct financial and/or fiscal support to artists and their associations; legislation on the arts and culture in general, including the status of the artist; training and incubator schemes for young artists and/or female artists; support for artists' mobility, particularly in a regional or sub-regional context; and support for the better use of copyright mechanisms.

The production related measures include: direct funding for the production of domestic cultural content, including tax reliefs and/or other incentives; support for the creation and functioning of production infrastructures and entities such as cultural industry companies or networks; promotion of market access, both national and international, as well as the development of public/private partnerships; schemes that collect levies on the revenues of public and private cultural industries to reinvest back into national productions; or different co-production schemes.

The distribution measures include: local or national schemes to build distribution and/or marketing capacity in different fields of artistic or cultural production, as well as schemes to boost individual entrepreneurship and talent development in culture; development of local distribution mechanisms, including the creation of physical infrastructure for arts and culture delivery; content quotas; measures to promote the export of cultural goods; media policies, including the promotion of public service media and of diversity; support to, or organisation of, promotional events, etc.

The policies and measures to promote access to diverse cultural expressions have traditionally been constructed around the goal of increasing people's participation in cultural life as a means of enhancing their overall quality of life. Examples of policies and measures include: promoting cultural and media literacy; promoting access to, and participation in, cultural life for people belonging to minorities, indigenous peoples, young people, and women; promoting the access and participation of the socially disadvantaged, disabled, the elderly, and people living in rural areas; enhancing cultural education; lowering price barriers to the access of cultural goods through measures such as reduced or zero-rated value-added tax (VAT), as well as other measures to facilitate cultural imports.

These measures are all introduced to support the creation of cultural markets and to remedy the deficiencies. The policies need to take into account both the cultural and the economic aspects of cultural goods and services. It is evident today that, without different types of interventions and support schemes, the majority of countries would find it extremely difficult to sustain even minimal production, and to offer their citizens access to diverse cultural content.

However, not all countries have equally developed and elaborated national cultural policies, or have put in place adequate support mechanisms and/or the necessary institutional frameworks. Traditionally, the European countries have been at the forefront, both in terms of introducing and implementing complex cultural policy systems, as well as in measuring impact through systematic collection of information, data, and statistics. The European countries have a longer tradition of cultural policymaking and research, and there is more data available through different regional monitoring tools, such as the European Audiovisual Observatory and Eurostat, the statistical office of the European Union.

In recent years, ASEF has engaged in the sharing of good practice and methodology, for example through the WorldCP-International Database of Cultural Policies project.[13] The Compendium of Cultural Policies and Trends in Europe[14] was established by the ERICarts Institute and the Council of Europe. It collects information from the 48 member states of the Council of Europe (broader than the EU). It is currently the only systemic mechanism for reporting and monitoring cultural policy issues. Inspired by the success of the Compendium project, the International Federation of Arts Councils and Agencies (IFACCA) launched the WorldCP-International Database of Cultural Policies[15] project, based on the Compendium's methodology. It aims to produce and update cultural policy profiles at the international level.

IFACCA's key partner in developing WorldCP-Asia is ASEF, which coordinates and administers the project, including funding pilot country profiles, liaison with Asian governments, and fostering dialogue, networking, and exchange of knowledge and methodology through expert meetings and online platforms. This initiative has been recognised by UNESCO's recent Re-shaping Cultural Policies Report[16] as a good information and monitoring system. It includes cooperation between independent experts and government agencies responsible for art and culture who work together to prepare the country profiles.

The UNESCO Expert Facility project is another example of a project conceived with the aim of implementing the 2005 Convention. The project offers assistance and support to developing countries for the development of cultural policies and strategies as well as strengthening of good governance in the field of culture.

13 http://ifacca.org/en/what-we-do/knowledge-analysis-2/worldcp/.
14 http://www.culturalpolicies.net.
15 http://www.worldcp.org/.
16 Re-shaping Cultural Policies – A Decade Promoting the Diversity of Cultural Expressions for Development (2005) Convention Global Report (UNESCO, 2015), p. 30; http://unesdoc.unesco.org/images/0024/002428/242866E.pdf.

The Expert Facility consists of a pool of 40 international experts who participate in capacity building, particularly in those countries that do not have well-established cultural policies and strategies. The Expert Facility was established through an earlier, EU-funded project, and has developed a number of projects and interventions, for example a technical assistance programme in Cambodia.

The technical assistance programme in Cambodia[17], put in place between 2012 and 2014, included support for two international experts who delivered training and capacity building and supported the drafting of a new cultural policy document which focused on integrated cultural industry development. The project consisted of targeted activities, including: the empowerment of cultural production and dissemination to enable creative industries development (aimed at raising awareness on the social and economic importance of arts and culture); continuous professional development in arts and culture (aiming to increase the number of artists, cultural managers and consumers, notably through increased educational possibilities); and the development of recommendations aimed at further developing key areas of the cultural policy, such as cultural data, copyright issues, and artistic training.

New interventions for promoting diverse cultural content

Today, the traditional instruments of cultural diplomacy are being replaced by new types of interventions such as: granting preferential treatment for cultural goods and services, including the promotion of mobility of artists and cultural professionals; co-productions in film, performing arts and other disciplines; funds for book translations; and international trade agreements containing references or special protocols referring to trade of cultural goods and services.

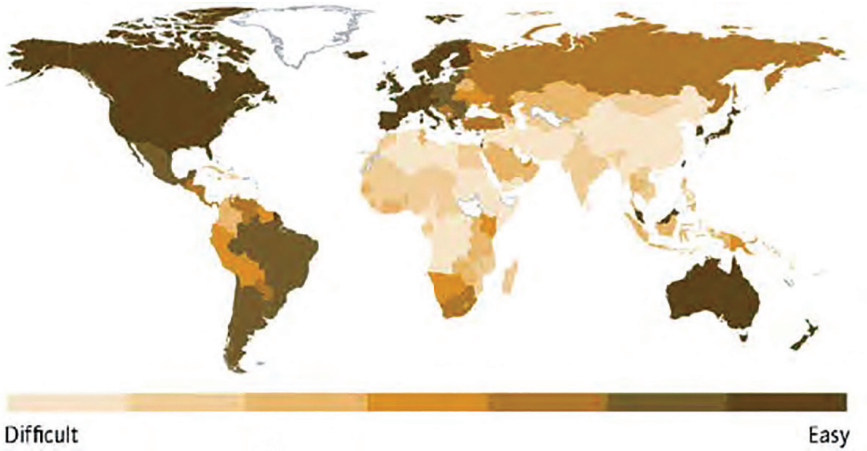
Without such interventions and incentives it would be difficult for many artists and cultural professionals to reach audiences outside their national borders, or to find markets for their cultural products and services. It is not realistic to expect that markets alone, based solely on supply and demand logic, can create conditions in which diverse cultural contents will be made available. Without different support mechanisms, many artists would never be able to travel, and many stories would never be recorded or shown.

Mobility of artists and cultural professionals

The mobility of artists and cultural professionals is one of the key prerequisites for achieving and maintaining a heterogeneous world of ideas, values and views.[18]

17 http://unesdoc.unesco.org/images/0022/002246/224630E.pdf.
18 van Graan, Sanan (2015:105)

Image 1: Ease of travel (without obtaining a visa) for nationals



Source: Map created by UNESCO[19] based on data from Henlye and Partners, 2015[20]

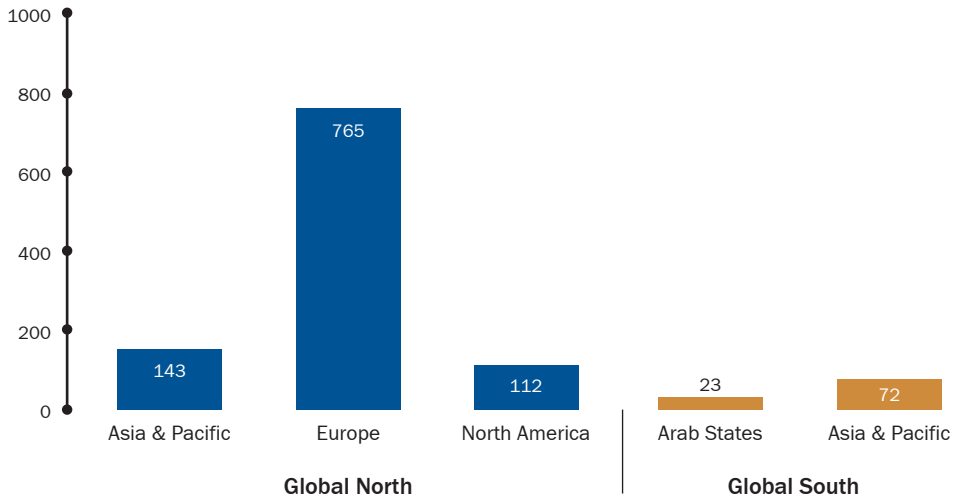
There are many obstacles to mobility including a lack of funding, but also increasingly there are constraints in terms of security, economics and politics. Too often, even renowned artists can be denied a visa for participating in a festival or a book launch, just because they come from a developing country, or one that is believed to represent a threat of economic or illegal immigration. While the immigration authorities look at these issues in the context of their work to prevent illegal migration or reduce the number of possible asylum seekers, the limitation to the free movement of artists and cultural professionals represents an impediment to fostering the creativity and diversity of cultural expressions.

Both Europe and the Asia-Pacific region have recognised the importance of mobility. To date EU countries have provided by far the largest number of public and private funding sources for mobility, but Asian countries are now introducing different funding mechanisms. Typical support measures include: project and production grants; artists/writers in residence programmes; event participation grants; scholarships and postgraduate training courses; travel grants; research grants; touring incentives for groups; market development grants; and support for the participation of professionals in transnational networks.

19 UNESCO, 2005 Convention Global Report, Re-shaping Cultural Policies (2015) http://unesdoc.unesco.org/images/0024/002428/242866E.pdf.

20 The Henley & Partners, Visa Restrictions Index (2015) https://www.henleyglobal.com/files/download/HP/hvri/HP%20Visa%20Restrictions%20Index%20151001.pdf.

Figure 1: Number of public and private funding sources for the mobility and development of artists by region



Source: Figure created by UNESCO[21] based on data from On the Move, 2015[22]

ASEF's *Creative Encounters: Cultural Partnerships between Asia and Europe* facilitates innovative collaborations between artists and cultural professionals from Asia and Europe. This programme promotes greater mobility of artists between Asia and Europe and supports more opportunities for face-to-face dialogue, exchange and co-creation in different disciplines including film, literature, new media, and performing and visual arts.

Granting preferential treatment

The 2005 Convention has introduced an innovative concept for cultural policy-making. According to Article 16 of the Convention, developed countries shall facilitate cultural exchanges with developing countries by granting, through the appropriate institutional and legal frameworks, preferential treatment to artists and other cultural professionals and practitioners, as well as cultural goods and services from developing countries. Borrowing the term from trade policy jargon shows how intertwined cultural policy is with other policies, and how dependent cultural markets are on the broader systems of regulation and governance.

21 UNESCO, 2005 Convention Global Report, Re-shaping Cultural Policies (2015) http://unesdoc.unesco.org/images/0024/002428/242866E.pdf.
22 http://on-the-move.org/.

As well as support mechanisms for mobility, countries grant preferential treatment through different institutional and organisational frameworks such as: building the capacity of cultural enterprises and organisations to promote the economic and trade dimension of the sector (covering specific support and assistance schemes for the distribution and dissemination of cultural goods and services, such as co-production and co-distribution agreements); programmes to support the participation in cultural and trade events; and special fiscal measures and incentives, including tax credits and double taxation avoidance agreements.

The Eurimages programme, established in 1989 by the European Cinema Support Fund has, to date, supported 1,726 European co-productions, worth approximately EUR 518 million.[23] Eurimages extends its work beyond the EU, through its cooperation with third countries. There are also other international and regional co-production schemes, and individual countries are now signing co-production bilateral agreements. The UNESCO Report[24] on the implementation of Article 16 of the 2005 Convention cites a cinematographic co-production agreement signed by New Zealand and India (2011) and China (2010) among others.

Co-production is one of the most effective mechanisms for counterbalancing the negative trend in the distribution of films. The local co-producers get easier access to markets, at least in those countries which participated in the co-production, as well as access to film festivals which can often bring new opportunities beyond the usual, often limited, distribution channels.

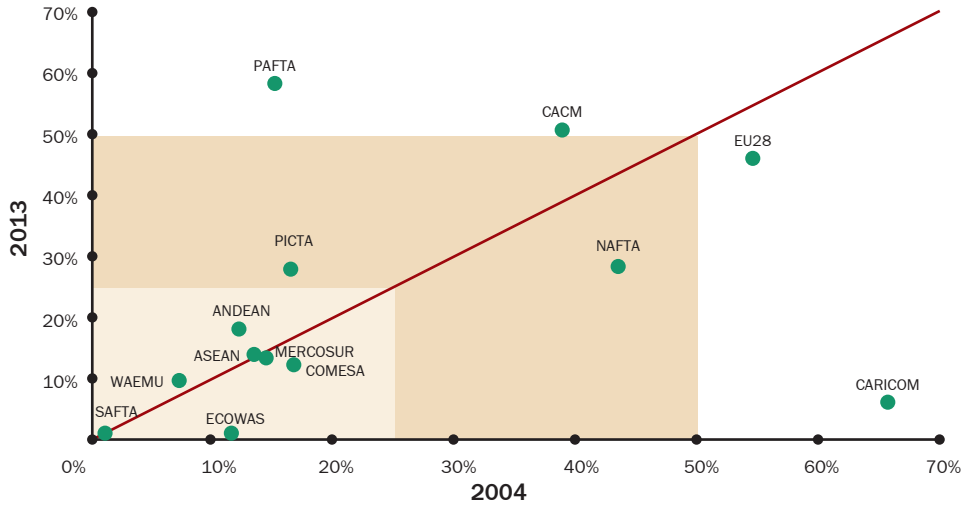
Co-production mechanisms and support schemes also exist for other art and cultural disciplines, in particular for the performing arts. The 2011 study by IETM, the international network for contemporary performing arts[25], gives an overview of the co-productions in dance, theatre, music, opera, and multimedia between Europe and Asia. It lists 30 examples of co-productions between two or more Asian and European countries in the past ten years. The study also offers an overview of different organisations supporting co-productions, including ASEF, EU-Japan Fest Japan Committee, Korea-Finland or Korea-UK Connection, Performing Arts Japan Programme for Europe (PAJ Europe), Saison Foundation, and Arts Network Asia.[26]

Promoting special treatment of culture in international trade agreements

One of the key goals of the 2005 Convention was to ensure special treatment of culture in international trade negotiations, as it is evident that market rules alone cannot provide for the diverse offer of cultural content. The Convention invites parties to promote its objectives and principles in other international forums, as well as to take into account the objectives and principles of the Convention when making commitments and signing agreements, including bilateral and multilateral trade agreements.

23 http://www.coe.int/t/dg4/eurimages/history/coproduction/default_en.asp.
24 UNESCO, 2005 Convention Global Report, Re-shaping Cultural Policies (2015) http://unesdoc.unesco.org/images/0024/002428/242866E.pdf.
25 https://www.ietm.org/sites/default/files/international_coprod_manual.pdf.
26 For data on the origin of the top ten co-producing countries ranked by number of feature films by UNESCO Institute for Statistics Feature Film Statistics Database (2013), please refer to volume I of this publication.

Figure 2: Cultural trade among members of Free Trade Agreements in 2004 and 2013



Source: Figure created by UNESCO[27] based on data from UN Comtrade, DESA/UNSD[28], 2015

Since the adoption of the Convention, new developments in international trade negotiations have been made at the regional and bilateral levels, while there have been no significant changes on the multilateral level. A recently published UNESCO study[29] identified a total of 38 bilateral and regional trade agreements that have been concluded since the Convention was adopted. Out of 97 states party to these agreements, a majority (81), including the EU, were also party to the Convention.

The approach promoted by the EU, which includes an annex to trade agreements in the form of a cultural cooperation protocol, is considered to be a good practice example for the implementation of the 2005 Convention.

The EU includes the Protocols on Cultural Cooperation in its Economic Partnership Agreements and the first one was signed with the Forum of the Caribbean Group of African, Caribbean and Pacific States (CARIFORUM). It also includes free trade agreements, such as the one signed with the Republic of Korea, and the agreement establishing an association with Central America.

27 UNESCO, 2005 Convention Global Report, Re-shaping Cultural Policies (2015) http://unesdoc.unesco.org/images/0024/002428/242866E.pdf.
28 UN Department of Economic and Social Affairs (DESA)/ United Nations Statistics Division (UNSD)
29 Guevrèmont, Véronique, Otasevic, Ivana (2014) Rapport sur la mise en oeuvre des articles 16 et 21 de la Convention sur la protection et la promotion de la diversité des expressions culturelles dans les accords commerciaux bilatéraux et régionaux conclus depuis 2005. Partie I et II.

At the moment, the EU's cultural cooperation protocols are the only good practice example where a protocol annexed to a trade agreement includes provisions for the implementation of the Article 16 and the Article 21 of the Convention.

Finding the right balance between the economic and cultural aspects of the trade in cultural goods and services remains the most challenging task. In the situations where the trade logic would simply tend to erase all support mechanisms and measures, the described cultural policies come in place to remedy the deficiencies of the markets and to ensure the principles of openness and balance. The challenges are getting more complex, however, with the shift to digital production, distribution and participation on digital platforms. These are, by their very nature, transnational and are difficult to regulate with traditional cultural policy instruments.

Conclusions and recommendations

There are several areas where the greater involvement of ASEM, through strengthening policy-related activities, and ASEF, through the development and implementation of projects and programmes, is expected to:

- encourage ratification of the 2005 Convention and collaboration among European and Asian countries in implementing the Convention
- improve data collection and promote data exchange between Europe and Asia
- monitor the impact of existing policies and instruments
- develop new policies and instruments (at national and regional/international levels)
  - establish new and further develop existing mechanisms for the support of mobility
  - invest in co-productions, book translations and similar support schemes that will facilitate production and distribution of cultural goods and services
- monitor the impact of international trade and other agreements on arts and culture

When assessing the impact of connectivity, one has to look beyond new technological achievements and economic indicators. Understanding the concept of connectivity in the context of culture and cultural exchanges can probably best be described through the concept of the diversity of cultural expression.

Even if economic and trade interests usually prevail over cultural aspects, it is important not to forget that the promotion and protection of the diversity of cultural expression requires both aspects to be treated with equal importance.

In recent years, many initiatives have emerged at national, regional and international levels, all with the aim of promoting interventions that are beneficial to cultural diversity and contribute to closer cooperation, and a better understanding of each other's cultures.

Whatever the future brings in technological development and new frameworks for the production, distribution and access to cultural content, it will remain necessary to sustain existing schemes and mechanisms to support the diversity of cultural expressions, and to introduce new ones.

Markets alone cannot support such diversity, and will not provide equal opportunities for cultural goods and services at either regional or international level.

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4.3. Image of Asian Countries in Western Societies from the 19th to the 21st Century

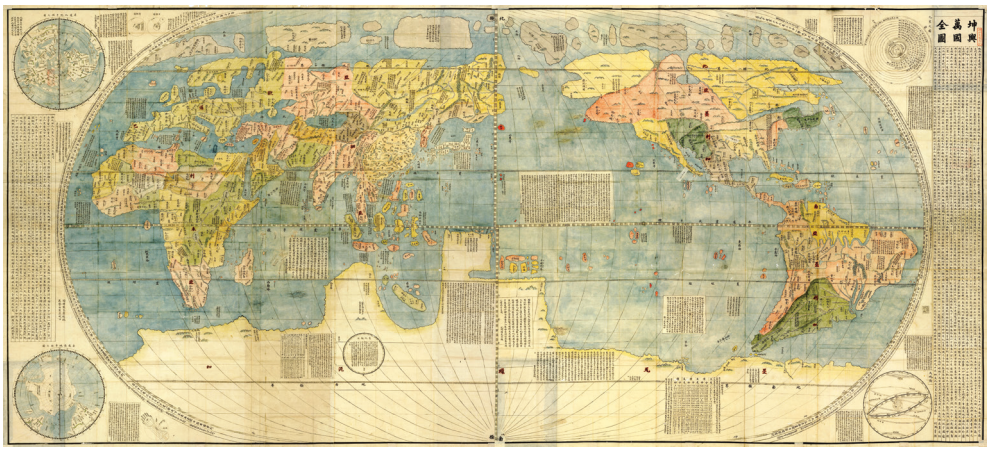
Sophie ROCHEFORT-GUILLOUET

Fascination, apprehension and misunderstandings

The connected histories of Asia and Europe are as rich as they are complex, based over centuries on reciprocal fascination and some apprehension. If we are to understand this ambiguity, and how things evolved from curiosity and anxiety towards the unknown Orient to admiration for Eastern countries which are now challenging the west economically and culturally, we need to trace the origins of some stereotypes.

We have to analyse how they were abandoned, and then replaced by a deeper understanding of the cultural heritage of these nations, and of their potential for innovation and influence. The Western world developed, and cherished, an idea of a lavish mystery surrounding Asia, a faraway, strange continent producing goods that were unheard of. It is fascinating to compare maps surveyed by Europeans until the 18th century, where Europe is seated in a corner as a Queen welcoming Asia, Africa and America as tributary consorts presenting her with cornucopias, to the first planisphere designed by the Jesuit polymath Matteo Ricci (1552-1610). He places *Zhong Guo*, China, in the centre of the discovered world, changing the perspective and acknowledging a fifth cardinal direction.

Image 1: Unattributed, very detailed, two-page coloured edition (circa 1604), copy of the 1602 map Kunyu Wanguo Quantu by Matteo Ricci at the request of the Wanli Emperor



Source: Wikimedia Commons

At the same time, knowledge gathered through travellers' logs, missionaries' letters, merchants' stories and all kind of adventurers' tales, made Asia real to European scholars and commoners alike. There is an early story[1], maybe too beautiful to be true, that nonetheless shows the discrepancy between Western and Eastern cultures, but also how this attitude was somehow irrelevant and possibly easy to bridge.

On his way to India, Alexander the Great reached the Indus River. His army was exhausted and his faithful hoplites were afraid of the marvels or beasts which might lurk at the borders of the world. The king of Macedonia walked briskly to the bank, wondering whether they should cross the river, or turn back to the civilisation they knew. He met a yogi, one of the kind of people the Greeks would call Gymnosophists. He was thin, almost naked, dirty with dust, barely breathing, motionless. The strange man asked the warrior what he was aiming for, and the young hero replied that he was on his way to conquer the universe. No less, no more.

"What about you, wise man, seated so quietly? What is your occupation, so still and quiet?" The yogi answered back that he was contemplating the absolute nothingness. The end of the story tells us they looked at each other and burst out laughing.

This chapter will address that question of mixed feelings and see how, over the past two centuries, relationships have evolved. In the first part, we will focus on the roots of the opposition and negative image built in a colonial context and at a time of European centrism in international connections and interactions. Then we will study the steps and progress towards promoting a balanced relationship, through intellectual and artistic movements, individuals' attitudes and collective political projects.

1 Arrian of Nicomedia, *History of the Diadochi*.

Silk, spices and trade roads

Asia is, from antiquity to modern times, a place of luxury goods and beautiful arts and crafts. Orient in French is not only the direction for the sun to rise, but also the noun used for the iridescent beauty of a pearl. The first contact between Europe and Asia is documented by the Greeks, such as Megasthenes, ambassador for King Nikator, a Hellenistic Seleucid sovereign at the Maurya court in Pataliputra, in his *Indika*, a lost work quoted by later historians and geographers – and by the Romans who knew about the Far East, but could only make conjectures about silk.

This fabulous product, so much in demand and fashionable in Rome, was brought from Asia Minor where it had arrived by caravan from China. No wonder the German geographer, Paul Wilhelm Ferdinand von Richthofen (1833-1905), who coined the Silk Road's mythical name in 1877, focused on that well-kept secret. The Romans were puzzled. Pliny the Elder believed silk was a type of down growing on tree leaves in remote countries.[2]

Image 2: Caravan on the Silk Road (1380) by Cresques Abraham



Source: Wikimedia Commons

2 *Natural History*, VI, 54.

What is more, Stoics like the philosopher Seneca (*Declamatio*, I) and Patricians in the Senate, disapproved of the wearing of silk cloth. They first considered that this translucent fabric was too indecent for Roman matrons and citizens to wear, and that only courtesans should adorn themselves with such shameful garments (*serica*). Propertius and Martial expressed a similar opinion: wearing silk was an indication of immorality in women, and attractive only to effeminate men. Suetonius[3] considered Nero as depraved because the emperor enjoyed wearing silk robes in public (*synthesinam indutus*).

Secondly, as affluent Romans spent more and more on luxury wares from Asia, this lavish way of dressing impacted the silver monetary balance of the Republic, and then of the Empire, generating a deficit. Moral and fiscal defenders had a common interest in banning silk through three separate Senatorial edicts, but in vain.

The Latin vocabulary reflects the mystery of silk and the remoteness of the Chinese Empire: *Ser - seris*, m (Σηρ in Greek): *Seres*, people living in the oriental part of India; *Sericum negotium*: trade with the Seres, *id est* silk trade[4]; *Sera* (Σηρα-in Greek): Sera, Capital town of this nation[5]; *Sericeus;* made of silk.[6] These examples show how the product was associated with the country whence it came, and yet about which so little was known.

Xian, Dunhuang, Kashgar, the Tarim basin Buddhist kingdoms, Samarkand, Taxila, on the southern Indian branch, Antioch and Constantinople are the most celebrated and documented places on the Silk Roads. They linked China and India to central Asia, Persia and the Byzantine Empire during the heyday of the terrestrial trade routes under the Tang dynasty. The region of South Hindu Kush and Karakorum Ranges (today's Pakistan and Afghanistan) was, by the 5th century BCE, already a "crossroads" region, because of its proximity with the Persian Empire, the Indian kingdoms and the Greeks in the Gandhara Valley Hellenic settlements.

The first interest for Han Wudi in 139 BCE was to secure a war alliance and to have "heavenly horses" to repel the Northern Invaders (*Xiongnu*). Diplomat Zhangqian is considered as the founder of the Silk Road. He was the leader of the first expedition to the Ferghana valley under the Han Dynasty. Trade developed onwards quickly into China. Commodities such as gold, ivory, exotic animals and plants were imported to China, and China exported silk, ceramics, jade, bronze objects, lacquer and iron.

During the European High Middle Ages, this trade allowed the transfer of major technologies such as paper, wood printing, gunpowder, astrolabe and compasses from the East to the West. Christianity (Nestorians at first), then Islam, spread to the East, following the path of merchants whereas pilgrims such as Faxian (in 399 CE) and Xuanzang (in 629 CE) went south to India to collect Sanskrit manuscripts and to visit holy places of Buddhism. Marco Polo was later amazed at the beauty of Cathay and the luxury of the Yuan emperor Kublai Khan's residency, a nomadic version of a palace, in Khanbalik. His *Book of the Marvels of the World,* circa 1300, provided food for thought, as well as food for dreams to generations of European scholars and explorers.

3 *Life of Emperor Nero*, 51.
4 Seneca, *Epistolae*, 90, 13.
5 Ammianus Marcellinus, *Historia,* 23, 6.
6 Florus, *Epitomae* 3, 11.

It is important to keep this in mind because the present revival of the Silk Road, a symbol of both a glorious past and a promising future, is a priority for China's political and diplomatic agendas. Under Xi Jinping's presidency, the New Silk Road project aims to promote a major new East-West oriented trade axis, and to secure an energy supply for the Chinese expanding economy. The integration of Central Asia is also at stake.

The following centuries saw shifts in the relationships between Europe and Asia. In the late Middle Ages pepper, cinnamon, cardamom, saffron, clover and nutmeg were in demand, and around 1,000 tons of pepper and 1,000 tons of other spices were imported annually. The fall of Constantinople in 1453 was a turning point in the decline of the Silk Road and the catalyst for maritime trade routes. Western merchants would not pay taxes to Muslim intermediaries on the Silk Road, and would not let the Venetians have the monopoly of, and all the profits from, the spice trade.

Portuguese Prince Enrique the Navigator sponsored the expeditions leading to the circumnavigation of Africa and in 1488 Bartolommeo Diaz passed the Cape of Good Hope. In 1499, Vasco de Gama reached the Malabar Coast. Alfonso de Albuquerque (1453–1515) allowed the Portuguese to take control of the sea routes to India. In 1506, he took the island of Socotra in the mouth of the Red Sea and, in 1507, took Ormuz.

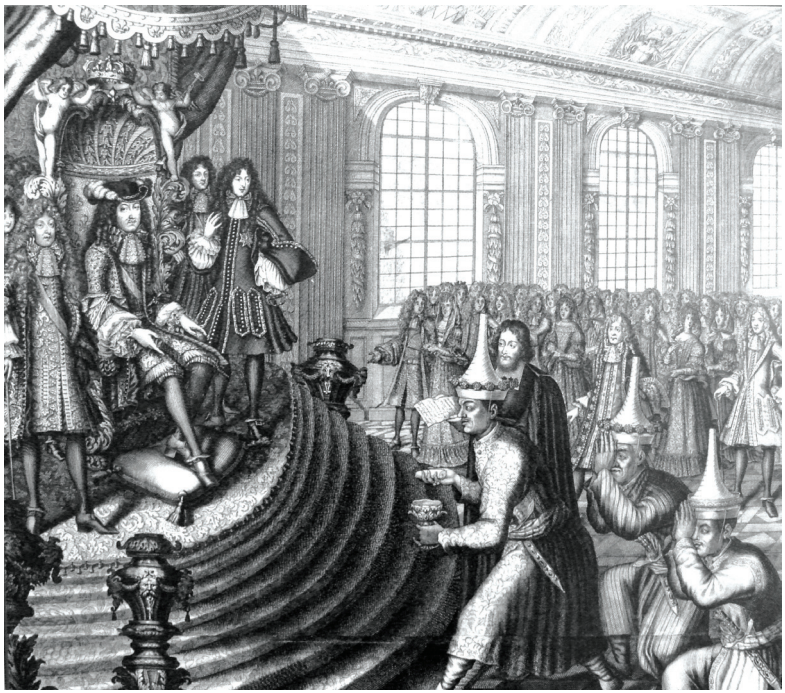
He became Viceroy of the Indies and took Goa in India in 1510 and Malacca in 1511. The Portuguese could now trade directly with Siam, China and the Moluccas. After 1600, the Vereenigde Oost-Indische Compagnie or Dutch East India Company (VOC) and the East India Company (EIC), along with the late coming and less successful Chartered Compagnie des Indes Orientales or French East India Company, took the lead.

Louis XIV established links with King Narai of Siam and welcomed an embassy in Versailles, exchanging presents worth a fortune. In 1686, the Siamese Ambassadors presented the Sun King with "two large pieces of wallpaper with a perspective. On one, all birds from China can be seen, on the other, all the flowers."[7]

These travels and encounters were to be the prelude to a rampant colonisation which would target India, the Indonesian archipelago, the Philippines and the Chinese coast.

7 "Deux grandes feuilles de papier mural, tout en perspective, sur l'une figurent toutes les sortes d'oiseaux de la Chine, sur l'autre les fleurs." (documents from the Rixheim wallpapers Museum, France)

Image 3: Siamese embassy to Louis XIV led by Kosa Pan in 1686, by Nicolas III de Larmessin



Source: Wikimedia Commons

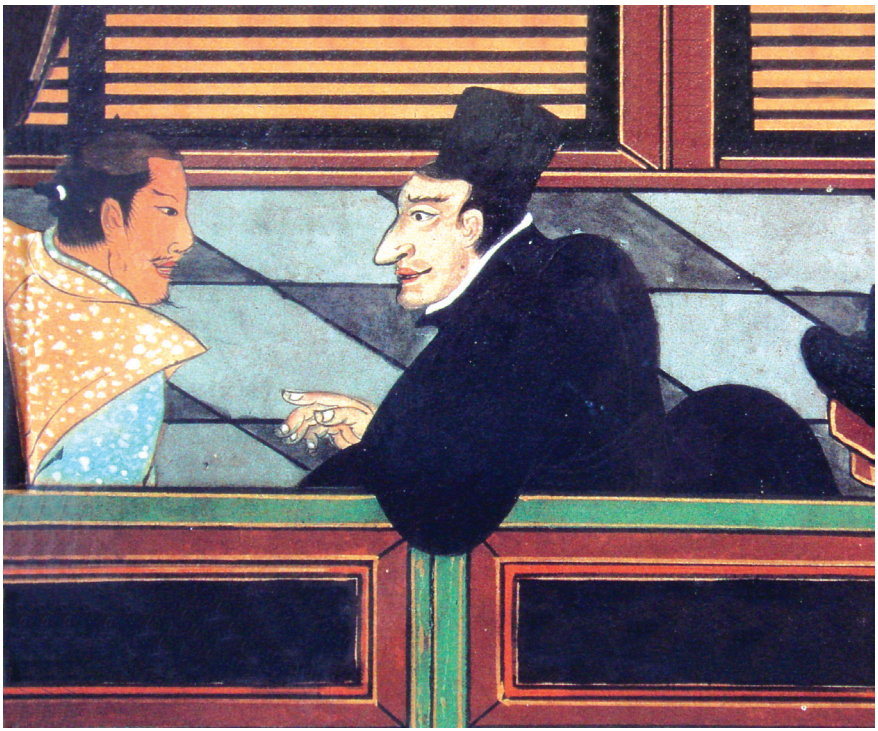
Europeans would indeed discover the riches of India, China, and Japan, naming this last country Cipango. The need for luxury and exotic goods fuelled more commercial ambitions, which also triggered opposition. In 1635, Tokugawa Ieyasu[8] enforced a strict ban on sea access. The military government, or Bakufu[9], closed Japan to all foreign influences, allowing only the Dutch to trade with Japanese merchants on the artificial island of Dejima, in the middle of Nagasaki Bay. The 10th Article[10] refers to the fact that "Samurai [were] not permitted to purchase any goods originating from foreign ships directly from Chinese merchants in Nagasaki". The seclusion would only come to an end with Commodore Peary's expedition, which in 1853 forcibly opened up Japan, and was the catalyst for the Meiji imperial Restoration. The black ships *(Kurofune*) were depicted as monsters, preying over the Country of the Gods.

8 "One of the most significant figures in Japanese history, Ieyasu was a warrior, statesman and founder of the Tokugawa dynasty of shoguns." See more for Tokugawa Ieyasu (1542-1616) at BBC, http://www.bbc.co.uk/history/historic_figures/ieyasu_tokugawa.shtml.

9 The Sakoku policy – closed country policy – was enforced mostly at the beginning of the Tokugawa shogunate through a number of edicts taken from 1633 to 1639 and remained effective until 1853 when Commodore Matthew Perry secured the opening of Japan to Western trade. See *The Sakoku Edicts and the Politics of Tokugawa Hegemony* by Michael S. Laver, Cambria Press, 2011.

10 There are 17 articles in the Sakoku edicts of 1635 regulating the very limited interactions between Japanese people and Westerners. Overseas travels were also prohibited. This policy was different from the Ming Dynasty Sea ban (Haijin) which intended to cub piracy and control maritime trade tightly. See *The Sakoku Edicts and the Politics of Tokugawa Hegemony* by Michael S. Laver, Cambria Press, 2011.

Image 4: A Jesuit with a samurai, Japanese print, circa 1600



Source: Wikimedia Commons

The taste for *Chinoiseries* began to develop in the West: a golden and green tea house in Potsdam, a collection of the finest china in Schonbrunn, a pagoda in Kew garden, *scenes de genre* by Tiepolo or Pillement. Wallpaper depicting mandarin ducks, paper screens and fans, vases, ivory carvings and lacquer wares were imported in bulk. The products were made according to European tastes, and sold only by the authorised *Hong* Chinese merchant class in a few ports.

Image 5: The Chinese tea pavilion in the Sanssouci Palace in Potsdam, Germany, by Johann Gottfried Büring (1755-1764)



Source: Wikimedia Commons (Image by Gryffindor, licensed under CC BY-SA 3.0)

A refined way of life was synonymous with Oriental art and crafts in the 18th century. In 1754 Madame de Pompadour[11] bought "four Indian wall paper panels, extremely beautiful, costing 266 pounds."[12] The demand became so strong that German, British and French manufacturers started to reproduce Chinese-inspired items, from porcelain (Meissen and Sèvres) to boxes and wood panels.

Boucher[13] designed ten landscapes with Chinese characters, with a fashionable range of topics – the wedding, the tea house, the hunting scene, the Chinese garden. The images represented bore little relation to the reality of China. The Enlightenment artists relied on illustrations and objects; some aspects were far-fetched, such as the hairstyles on the exotic paintings, the mandatory fans and palm trees, the colourful birds and the obligatory and numerous porcelain vases.

11 Madame de Pompadour was a member of the French court and the official chief mistress of Louis XV from 1745 until her death.

12 "Quatre panneaux en papier des Indes, très beaux, pour 266 livres."

13 François Boucher (1703 – 1770) is a French painter and also a proponent of Rococo taste, known for his idyllic and voluptuous paintings on classical themes.

Image 6: The Audience of the Chinese Emperor (circa 1742) by François Boucher



Source: Musée des Beaux-Arts et d'Archéologie de Besançon

Who are the Barbarians?

A major change resulted from this prosperous trade. The Western countries, on their way to the first industrial revolution, needed more raw materials and outlets. The image of Asian people also evolved. In the 17th century, Matteo Ricci, who was living in Beijing, believed that he had to become a European mandarin in order to convert Chinese scholars. He considered Chinese people to be intelligent and learned, and thought that culture was the best way to understand them. He impressed the Chinese by his knowledge or "memory palace".

Voltaire, in the Age of Enlightenment, praised the Chinese regime as excellent, the Celestial Emperor as an enlightened despot, and the philosophy and cult as admirable because it was devoid of all kinds of religious fanatism. He relied on de Halde's *Geographical, historical, chronological, political and physical description of the Chinese Empire and Chinese Tartary,* a book published in 1735.[14] He is also said to have had a portrait of Confucius in his house. Montesquieu and Quesnay[15] argued over the idea and value of despotism in China, in keeping with social and economic issues. From an Eastern point of view, the "Barbarians" then were the Europeans, as evidenced by British Embassy diplomats coming to Qing Qianlong's court without being invited, claiming that trade should be free and with lesser taxes and that diplomats and missionaries should be welcomed.

Lord Macartney, a plenipotentiary envoy sent by King George III of England in 1793, knew little of etiquette and protocol and vexed the Manchu Emperor. He received a rebuke and his presents were scorned; in turn he despised the jade carvings presented to him. Qing Qianlong dismissed the envoy with a harsh letter to the King of England, mistaking him for some kind of tributary ruler to whom he would be, just this once, benevolent.

The British had asked for "diplomats, ports, extraterritoriality, Christianity", but what started as a prestige expedition turned into a diplomatic failure, and would contribute to reducing China to semi-colonial status as the diplomatic misunderstanding led to another kind of diplomacy – opium smuggling and the outbreak of Sino British wars. European cartoons at the time showed China as a pie, of which each European country and America asked for a piece.

14 *Description géographique, historique, chronologique, politique et physique de l'Empire de la Chine et de la Tartarie Chinoise*.

15 François Quesnay is an economist of the Physiocratic school. He is known for publishing the *Tableau* économique (or Economic Table) in 1758.

Image 7: Lord Macartney Embassy to China (1793). Macartney's first meeting with Qianlong. Author: William Alexander



Source: Wikimedia Commons

Image 8: The Approach of the Emperor of China to His Tent in Tartary to Receive the British Ambassador (1793) by William Alexander

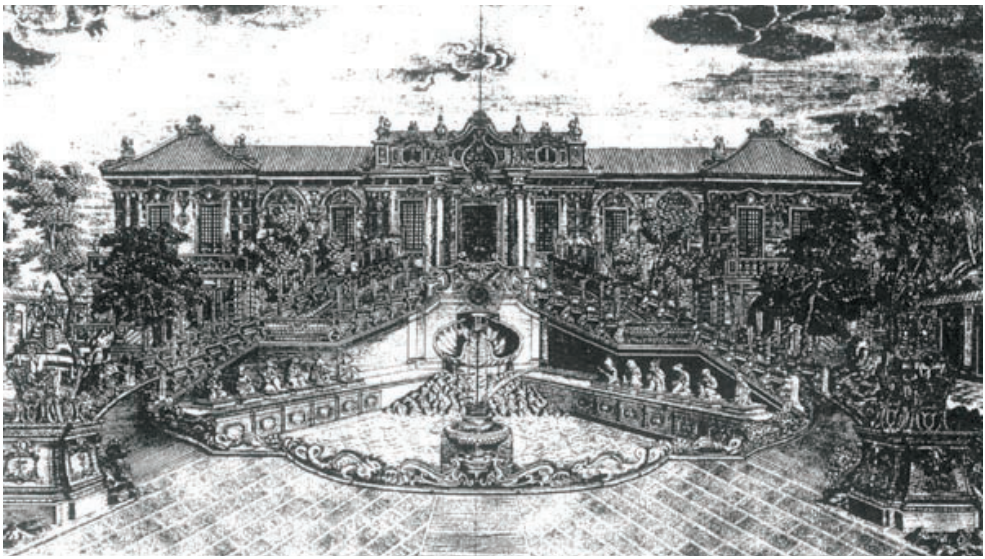


Source: Wikimedia Commons

On 25 November 1861, Victor Hugo wrote to Captain Butler, a military neighbour of his in Guernsey, who had asked him his opinion on the 1860 joint Anglo French expedition to China. He wrote: "There was in a remote part of the world a real marvel, it was named the Summer Palace. There are two principles in art: one is based on ideas and produced European art and the other on chimeras which produced oriental art. The Summer Palace was the exact counterpart of the Parthenon as far as these two principles are concerned. [...] We do consider ourselves as civilized and the Chinese as barbarians; well this is what Civilisation then did to Barbary. In the eyes of future generations, the French and the British will be considered as thieves. [...] I do hope that a day will come when we will send back to China the stolen booty."[16]

16 *Actes et paroles II, Pendant l'exil* (Acts and words II, during the exile, Letter to Captain Butler, 1870-76)

Image 9: Drawing of formal European gardens and pavilion in the Xiyang Lou (Western mansions) section



Source: Wikimedia Commons

Charles Gordon (1833-1885) was a British officer during the Beijing looting of 1860. He wrote: "We went out, and, after pillaging it, burned the whole place, destroying in a vandal-like manner most valuable property which [could] not be replaced for four millions. We got upward of £48 apiece prize money…I have done well. The [local] people are very civil, but I think the grandees hate us, as they must after what we did [to] the Palace. You can scarcely imagine the beauty and magnificence of the places we burnt. It made one's heart sore to burn them; in fact, these places were so large, and we were so pressed for time, that we could not plunder them carefully. Quantities of gold ornaments were burnt, considered as brass. It was wretchedly demoralising work for an army".

This testimony helps understand how the destruction of the Summer Palace remains a symbol and scar today. In recent years, Chinese business people have bid the highest in auctions to buy back some of the treasures of the Summer Palace. One of the most significant projects is the collection of all 12 animal heads of the Chinese Zodiac clock fountain that was destroyed during the pillage.

This is a highly emblematic artefact, as the bronze heads were part of a complex astronomical clock, designed and built by a Jesuit Michel Benoist (1715-1774), a priest, engineer, scholar and translator at the Qing court. The clock was a perfect syncretism of European and Chinese culture and skills, yet even it was not spared.

Some scars are difficult to heal but positive actions can be soothing. In 1866, under the Joseon dynasty, a French fleet attacked Korea after the execution of Catholic priests and launched an expedition on Ganghwa Island which resulted in the taking away of 287 Royal manuscripts from a monastery. This place hosted a branch of the Royal library, the *Oegyujanggak*, including a selection of illustrated pages and books of protocol. These files are considered as a national treasure and are now displayed at the National Museum of Korea.

This "theft" was a contentious subject between the two countries until an agreement was found in 2010. French legislation made it impossible to return the treasures to the Korean government with full ownership, instead they were returned on a lease basis, to be renewed formally every five years. This cultural and political action was made possible because of constant cooperation between scholars and officials.

Image 10: The first batch of the 297 volumes of Korea's ancient Royal protocols being returned from France, arriving at Incheon International Airport on 14 April 2011



Source: YonhapNews

The Boxer Uprising in 1900 and the siege of the Western embassies led to violence often described as atrocious in Europe. Newspaper journalists and cartoonists depicted Chinese fighters as evil murderers and merciless arsonists. The far-fetched idea of Asian ferocity appeared in collective morbid fantasies, based on popular stories such the alleged Chinese art of torture and sadistic death penalties, the humiliating punishment of cangue (or *mu jia*, a portable version of the stocks worn around the neck), girls' foot binding and infanticide.

Ignorance also led to misunderstandings, such as the widespread myth in Europe of the cruelty of Chinese dignitaries as symbolised by their long nails, when in fact they were a sign of their intellectual work.

In 1934, the French comic strip author Hergé, creator of Tintin, was open about the effect of the clichés: "It was at the time of The Blue Lotus that I discovered a new world. For me up to then, China was peopled by a vague, slit-eyed people who were very cruel, who would eat swallows› nests, wear pig-tails and throw children into rivers. […] I was then influenced by the pictures and stories of the Boxers' uprising, where the accent was always on the cruelty of the yellow people, and this made a deep impact."

Tintin, the reporter, and his new friend Tchang laughed out loud after discussing and comparing the many stereotypes their contemporaries shared about each other's country.

Le jardin des supplices (The Torture Garden), a novel published in 1899 by Octave Mirbeau is, on one level, an oneiric journey into a violent and colourful China, a country of predation, lust and pain, and on a second level a vindication for the rights of colonised people. In 1901, a French cartoonist posed two versions of "barbarie" and "civilisation" by drawing a Chinese rebel killing a European soldier next to a European soldier killing a Chinese man.

Image 11: Barbarie. Civilisation, Le Cri de Paris, No. 1900 (10 July 1899), Hermann-Paul



Source: The Online Hermann-Paul Project, A French Artist and Print Maker[17]

17 http://www.hermann-paul.org/catalog-item/109.006/.

A yellow threat?

The "yellow threat" was soon to be theorised. Japan had managed to secure its independence with the Meiji Restoration and renegotiation of the Kanagawa Treaty. After the last Shogun stepped down, the Imperial regime with the Tenno Mutsuhito (1852-1912) promoted a catch-up policy at all costs with Western powers. The *sonno joi* doctrine, advocated before the expulsion of the "Southern devils" (Western foreigners) was often illustrated with an o-sumō-san (Sumo wrestler).

"Revere the Emperor, expel the barbarians" had been a conservative political slogan, but the Japanese rulers, after choosing to modernise the country, were looking abroad for expertise. The nation's pride and the sacrifices needed to catch up with Europe were reflected in the many nicknames celebrating the achievements of the new rising power, such as the "Eastern Great Britain" and the "beehive of Asia".

A Diplomat in Japan by Ernest Satow (1843-1929) reflects this time of drastic changes, the transition from a *Sakoku* world (a "country in chains") to modernity. The Italian-British photographer Felice Beato (1832-1909), along the Tokaido, captured the Japanese spirit of the Edo era in its last glow.[18] The success of this modernisation process was described later by Albrecht Fürst von Urach (1903-1969). He wrote: "The rise of Japan to a world power during the past 80 years is the greatest miracle in world history. The mighty empires of antiquity, the major political institutions of the Middle Ages and the early modern era, the Spanish Empire, the British Empire, all needed centuries to achieve their full strength. Japan's rise has been meteoric. After only 80 years, it is one of the few great powers that determine the fate of the world." This ominous prophecy was not yet a threat in 1900.

18 For pictures of Asian countries in the early years of the XX century: Foundation Albert Kahn, Les archives de la Terre. http://albert-kahn.hauts-de-seine.fr.

Image 12: Sumo wrestler throwing a foreigner at Yokohama, expressing the Sonnō jōi sentiment, 1861



Source: Wikimedia Commons

Nonetheless, in 1905, after a previous victory in 1894 over China and the signing of the Shimonoseki treaty, Japan's new Dreadnought fleet defeated the Russian Tsarist navy in the Tsushima battle. The German Emperor Wilhelm II stigmatised "*the yellow threat*", (*peril jaune* or *gelbe Gefahr)* in 1895. The USA introduced restrictions in immigration through quotas, notably in 1882, with the Chinese Exclusion Act.

In the same year, a German print showed the Archangel Michael warning European nations (in the guise of Marianne, Germania, Britannia) about the menacing and overwhelming Asia, which was embodied by a Buddha appearing as a silhouette in the landscape.[19] This was an allegory of the growing European anxiety about an expanding Asia and a militarised Japan in particular. The caption reads: "Peoples of Europe guard your dearest goods." In 1905, *Le Temps*, a French newspaper, urged its readers to boycott Japanese products in retaliation. Nevertheless, some Western intellectuals, such as Anatole France, pointed out that Asian nations had in fact experienced the "white threat" for a long time.[20]

19 *"Völker Europas, wahrt eure heiligsten Güter"* (Peoples of Europe, guard your dearest goods), an illustration also known as the *Knackfuss painting*.

20 Anatole France, *Sur la Pierre Blanche*, 1903. "Les armées des grandes puissances asiatiques n'ont pas emporté à Tokyo et à Pékin les tableaux du Louvre et la vaisselle de l'Élysée."

Image 13: Saint Michael warning the European Nations, German Print inspired by a sketch by Emperor Wilhelm II



Source: Wikimedia Commons

Image 14: "China – the cake of kings and... of emperors". An illustration from supplement to Le Petit Journal (1898) by Henri Meyer



Source: Wikimedia Commons

We find an echo of these worries in *The Unparalleled Invasion* by Jack London, published in 1914. London, envisioning a revival of China, anticipates the return to China of Manchuria and the Taiwan Province of China, and growth in population that Western powers would regard as a threat. This collective fear in the early 20th century was later embodied by the evil Fu Manchu[21] character by Rohmer, and the Galactic Emperor Ming the Merciless in the Flash Gordon pulp series[22], and later by the enigmatic Doctor No in the James Bond saga.

21 Dr Fu Manchu is a fictional character introduced in a series of novels by British author Sax Rohmer.
22 Ming the Merciless is a character who first appeared in the *Flash Gordon* comic strip in 1934.

Admiration and animosity

Yet, at the end of the 19th century Europe had discovered the art of Ukiyo-e[23] the beautiful images of the "Floating World" which led to a fascination for Japan. The print masters became famous, amateurs started to collect them, giving high praise to Harunobu, Hiroshige and Hokusai. Van Gogh practised and copied views from the masters. Monet decorated his house in Giverny with numerous prints and they were an inspiration for his artistic experiments.

The *Japonisme* movement in Europe is a blend of Oriental themes and techniques, coupled with Western traditions. The result is often surprising and eerie. Asai Ryōi, in 1661, gave this definition of Ukiyo-e style: "Living only for the moment, turning our full attention to the pleasures of the moon, the snow, the cherry blossoms and the maple leaves; singing songs, drinking wine, diverting ourselves in just floating, floating; [...] refusing to be disheartened, like a gourd floating along with the river current: this is what we call the floating world".

Lafcadio Hearn (1850-1904), an Irish-born writer symbolised this fascination. His editor wrote: "He is almost as Japanese as haiku. Both are an art form, an institution in Japan. Haiku is indigenous to the nation; Hearn became a Japanese citizen and married Japanese, taking the name, Yakumo Koizumi."

The incipit of Hearn's essay, *My first day in Orient,* published in 1900, is eloquent: "Elfish everything seems; for everything as well as everybody is small, and queer, and mysterious: the little houses under their blue roofs, the little shop-fronts hung with blue and the smiling little people in their blue costumes. The illusion is only broken by the occasional passing of a tall foreigner, and by diverse shop-signs bearing announcements in absurd attempts at English. Nevertheless such discords only serve to emphasise reality; they never materially lessen the fascination of the funny little streets."

Fascination is also the key word to describe the feelings of Westerners towards India, its millenary civilisation, a patchwork of languages, faiths and customs. Mark Twain, and later many German philosophers, would praise the Indian civilisation. He wrote: "India is the cradle of the human race, the birthplace of human speech, the mother of history, the grandmother of legend, and the great grand-mother of tradition. Our most valuable and most instructive materials in the history of man are treasured up in India only". This appreciation had been enhanced by the linguists and philologists who believed that Sanskrit could be an archaic mother tongue to mankind.

Sir William Jones, competitor to Champollion for the deciphering of the Rosetta stone, wrote: "The Sanskrit language, whatever be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident; so strong, indeed, that no philologer could examine them all three, without believing them to have sprung from some common source, which, perhaps, no longer exists."[24]

23 "Pictures of the Floating World", an artistic genre that flourished in Japan from the 17th through 19th centuries.

24 On 2 February 1786, Sir William Jones, a British scholar who studied oriental languages and literature, delivered this lecture in Calcutta entitled "The Third Anniversary Discourse, on the Hindus".

Yet, the British Raj also faced customs that could not fit the European code of values and conducts. The Suttee – the Hindu ritual burning of widows on the funeral pyre of their husbands – is probably the most shocking ceremony the Europeans faced. This practise was banned several times, in 1798, 1829 and in Jaipur in 1846. In Bali, such self-sacrifice would provide a *casus belli* to the Dutch. They invaded the Indonesian Island, leading to a Puputan or collective suicide of the Rajah and his followers to avoid servitude.

Image 15: The Rajah of Buleleng, in Bali, killing himself with 400 followers, in 1849 collective suicide against the Dutch. Le Petit Journal, 1849



Source: Wikimedia Commons

The Suttee inspired dramatic paintings and drawings, as well as a famous episode in the popular French novelist Jules Verne's 1872 novel, *Le Tour du Monde en Quatre-vingts Jours (Around the world in Eighty Days*). Phileas Fogg, the British adventurer and his faithful French servant Passepartout, save Mrs Aouda, a young woman about to be burnt alive. Rudyard Kipling, born in Bombay, wrote of his birthplace: "Mother of Cities to me, / For I was born in her gate, / Between the palms and the sea, / Where the world-end steamers wait." He was educated in Great Britain and hoped for a conciliation: "Oh, East is East and West is West, and never the twain shall meet / Till Earth and Sky stand presently at God's great Judgment Seat/But there is neither East nor West, Border, nor Breed, nor Birth / When two strong men stand face to face / Though they come from the ends of the earth!" (*The Ballad of East and West*).

In 1889, for Queen Victoria's Jubilee, he presented her with his controversial poem dedicated to the "white men taking their burdens, who would go and work for the profit of natives in colonies: [...] for the sullen newly caught people, half children and half devils."

As in other Asian countries, rebellion led to fright and repression. The Great Mutiny or Sepoy rebellion which took place in 1857 was a succession of massacres (Cawnpore and Lucknow) and violent retaliations to prevent further opposition. The British Crown took over the East India Company's earlier domination and organised the administration of the 'jewel in the crown' and the draining of resources, until the beginning of the independence movement and the actions of Gandhi.

"The British Lion's Vengeance on the Bengal Tiger" is an allegory depicting the revenge taken by the British, who also forced the last Mughal Emperor into exile in Burma.[25] A powerful lion standing for Albion bravely attacks a sly tiger (the personification of India), which was about to feast on a woman and her baby. E. M. Forster summed up the ambiguity of this relationship in *A Passage to India* (1924)[26], with the turbulent friendship of a British college headmaster and an Indian Muslim physician.

He wrote: "India a nation! What an apotheosis! Last comer to the drab 19th-century sisterhood! Waddling in, at this hour of the world, to take her seat!" Fielding, a British professor, mocked again, and Aziz, an Indian medical doctor, danced this way and that in an awful rage, not knowing what to do, and cried: "Down with the English anyhow. That's certain. Clear out, you fellows, double quick, I say. We may hate one another, but we hate you most...If it's fifty-five hundred years we shall be rid of you, yes, we shall drive every blasted Englishman into the sea, and then "— he rode against him furiously —" and then, "he concluded, half kissing him, "you and I shall be friends. "" These striking lines are the conclusive ones of the novel, anticipating the fights for freedom to come until independence in 1947.

25 *Punch*, No. 33, 22 August 1857
26 The novel was adapted by David Lean into a film in 1984, http://www.imdb.com/title/tt0087892/.

Image 16: The British Lion's Vengeance on the Bengal Tiger, Punch Magazine, 33 (22 August 1857): 76-77



Source: Wikimedia Commons

Dreaming of a fantasised Orient

Westerners dreamed of Asia but often this dream land did not fit the Eastern realities. There are numerous examples, including European opera that dealt with Asian stories. *Madama Butterfly* is one of the most celebrated operas by Puccini, first performed in 1904, in Milan. Cio-Cio-San is a Japanese girl "temporarily" married to Pinkerton, who goes on to desert her and return to his American wife. Butterfly had renounced her family and traditions in a very romantic and unlikely way (Kikou-San or Madame Chrysanthème by Pierre Loti is not so generous a young person). Forlorn and mad with despair, she kills herself ritually with her father's sword bearing the motto: "Who cannot live with honour must die with honour." The considerations about honour and love are assessed through the European codes.

It is the same pattern we find in *Lakmé*.[27] Two worlds meet, but cannot mix. This opera reflects the Oriental ambience so much in vogue at the turn of the century, yet it also conveys many of the fantasy clichés about India. The fashion for exoticism is the reason for the tremendous success of the play. What is the plot? Gerald is a passionate British officer and Lakmé the timid daughter of a Brahmin high priest. The lovers do not stand a chance, with duty, honour, grief and love tearing them apart until the tragic finale. Having lost Gerald's love, Lakmé, unable to survive dishonour, kills herself by eating a beautiful, but poisonous, datura flower.

27 French opera by Leo Delibes staged in 1883.

Even in mythical drama, cruelty and exoticism are at work. *Turandot* by Puccini was first performed in 1926, with conductor Arturo Toscanini. The plot takes place in China yet the story is a Persian one and Turan is the name of a Buddhist kingdom once under the domination of Persia. The counsellors are purposely named Ping, Pang and Pong and the traditions are depicted faithfully: white garments are for mourning, red ones are for wedding. Turandot is a beautiful and cruel princess, asking pretenders to find answers to riddles (*Tre enigmi m'hai proposto)* and having them executed when they cannot answer. A prince, Calaf, son of Timur, will put an end to that curse and marry the once reluctant, now in love, princess.

The recent performing of *Turandot* in the Forbidden City in Beijing in 1999 was a reconciliation event and the long expected homecoming of a mythic opera. We go a step further with *The Land of Smiles* (*Das Land des Lächelns*), a romantic operetta in three acts by Franz Lehár, set in Vienna and China in 1912. The intrigue is based on misunderstandings and a cultural gap. The play implies that Chinese people always smile, whatever fate has in store for them. Countess Lisa marries Sou-Chong, a Chinese prince, and returns with him to live at his court. She refuses to listen to the warnings of her family and friends, but once in China, she is unable to come to terms with the way of life including the reality of polygamy, and resents being as a prisoner locked in the palace. Princess Mi also becomes attached to a Viennese diplomat, but their match is not possible. The noble Sou-Chong mourns as his beloved and estranged wife Lisa returns to Austria. The prince will nonetheless not show his tortured sadness, and keeps on smiling. Many features call to mind the future musical and movie, *The King and I*, set at the Siamese court and depicting the cultural shock between a British schoolmistress and the king.

Asia and Its economic dragons: back to reality

Pierre Loti described in 1887 his arrival in Nagasaki, the expected beauty and the disappointment that followed: "When we reached Nagasaki, it came as a disillusion to our sight: surrounded by green mountains, it was a town of no interest. Docks, steamers from all around the world, flags of foreign navy, liners as everywhere, black fumes, quays with warehouses and factories. Nothing different in reality, from the average port anywhere, the very same things everywhere. [...] A day will come when the Earth will be a very boring place to live on, the day every place will look like any other. That day, you won't even have the possibility to travel for a change of scene and a little entertainment."[28] The differences between eastern and western landscapes and places were already slightly blurred, fading away, and the very idea of an exotic Asia was about to become a myth. This sad prediction did not prove right and diversity is still a major incentive to discover different cultures.

Napoléon Bonaparte once said: "China is a sleeping giant. Let her sleep, for when she wakes she will move the world." He read the memoirs of Lord Macartney on the doomed Embassy in 1816, while in exile in Saint Helena, where he dedicated much time to reflect on geopolitics. He was proved right. The image of a powerful dragon in a deep slumber was a key reference for Alain Peyrefitte when he published his celebrated book, *Quand la Chine s'éveillera* in 1973.

28 *Madame Chrysanthème,* 1887.

In the 1970s, the "little dragons" referred to by the press metamorphosed quickly into fast developing Asian countries and the regions of the Taiwan Province of China (*yǎzhōu sì xiǎo lóng),* Hong Kong SAR, Singapore and Korea. Today, young tigers have joined them: Indonesia, Malaysia, the Philippines and Thailand. This expansion triggered another Western reaction; the fear of Asia as a rising economic superpower, first with Japan and then with mainland China. A shift from the Atlantic Ocean to the Pacific Rim had been anticipated since the international recognition of Japan as a prominent challenger to Western industrial powers in the 1970s.

The delocalisation of factories to Asia, the scale of the American bonds retained by the Bank of China as a result of the trade deficit, the steadily rising results in education and the scientific proficiency of Asian countries, are often described as a threat to bearish European economies. Asian competition is indeed providing dull perspectives for declining western nations, which for a long period of time benefited from their head starts during the First and Second Industrial Revolutions.

Asia and Europe mirroring each other

Let us conclude with two amazing paintings: one is called *the Japanese Mask*, an oil canvas by Alfred Stevens (1823-1906) and the second is *The Piano,* painted by Nakamura Daizaburo in 1926. The former depicts two young Victorian-era girls from the gentry. They sit quietly on a sofa and look at a mask from the No theatre tradition. The yellowish mask is puzzling, as the young ladies are attracted to it, although it is a grinning, rather frightening image. They obviously do not understand the meaning of the mask, but seem spellbound. The latter is one of a four-panel screen on silk. It shows a young Japanese woman dressed in a traditional kimono with an obi. She sits at a grand concert piano and is about to play. The aesthetic style recalls Japanese print style, but a modern electric lamp provides a soft light to the scene. The contrast is astonishing, but promising of a synthesis to come between Western and Eastern traditions.

Image 17: The Japanese Mask (circa 1877) by Alfred Stevens



Source: Wikimedia Commons

Image 18: The Piano (1926) painted by Nakamura Daizaburo



Source: Tumblr

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4.4. Connecting Through Colonisation?

Jean-Louis MARGOLIN

Abstract

The 500-year connection between Europe and Southeast Asia has often been told as the story of a slow takeover, then a short apex, followed by a quick demise of European hegemony. However, things were not so linear, or homogenous. Until at least the end of the 18th century, the ability of most Asian societies to master their own destiny remained, by and large, intact. For Westerners, entering Asian networks and accommodating Asian states was a more rewarding strategy than confronting them. In Southeast Asia, Europeans fought against each other with more force than against Asians. Actually, cultural and religious cross-fertilisation, as well as cross-breeding, had been a major phenomenon from as early as the 16th century. Individuals did not act necessarily as Westerners or Asians, and could even sometimes forget their nationality, and Western societies have often been more deeply transformed by Asia than the reverse.

The balance of power did evolve a great deal during the century of large-scale colonisation, from 1850 to 1950. Nevertheless, even then, European influence remained fairly limited as colonial policies were often contradictory, and constantly lacking the necessary funding. Behind the mask of European rule, several indigenous groups improved their status, and made themselves indispensable. The colonial order could be described as a co-production between Westerners and some Asians, albeit an unequal and unsustainable one.

Introduction: the necessity of complexity

The 500th anniversary of the first major encounter between Southeast Asians and Europeans, the storming of the great city-state of Malacca (*Melaka*) by the Portuguese fleet of Afonso d'Albuquerque in 1511, went wholly unnoticed. That violent episode was the beginning of five centuries of permanent connection, fortunately often more peaceful, between the two most distant extremities of the Eurasian landmass. This paper will not attempt to categorise the various facets of this connection as good or bad, a rather vain exercise for any historian conscious of the complexity of the past. Instead, the issue to be developed is a simple one: how strong, or weak, has the Euro-Southeast Asian relationship been during this half-millennium?

The answer, however, is not simple in any way. The all too common presentation of this period divides it into three phases: (i) a slow capture of Southeast Asia by Europe; (ii) a shorter colonial domination of the whole region, Thailand excepted; and (iii) an even shorter liberation process. That description is not wholly mistaken, but it oversimplifies the story, and overemphasises conflicts that were only a part, albeit a significant one, of a much richer and more complex connection. Furthermore, it exaggerates the ability of Europeans to dominate Southeast Asians, and neglects the many cases of intermixing between them.

This paper intends to give a different picture. Actually, cultural and religious cross-fertilisation, as well as cross-breeding, was a major phenomenon from as early as the 16th century. Societies played an autonomous role, and what took place at that level was often much more interesting and fruitful than what happened at the state level. Individuals did not act necessarily as Westerners or Asians, and could even sometimes forget their nationality. They followed their own personal interests, beliefs, and aspirations. This was particularly true before the 1850s, when the wholesale seizure of Southeast Asia by European powers was triggered. Over 500 years, connectivity has taken a bewildering array of forms, with interstate relations being just one of them.

This paper is, in many ways, a follow-up to the author's recent book, co-written with Claude Markovits.[1] It is based on a set of questions that should reveal progressively how to address the issue of long-term connectivity between Europe and Southeast Asia. I shall start with the traditional, linear, state-based vision, which the rest of the paper will attempt to contest and replace.

The second part raises some initial, very empirical doubts about the validity of the initial vision. Then follow 12 arguments that will shape, step by step, a new vision. The first three arguments emphasise the fragility of European conquests in Southeast Asia, including the slowness of the process, the failures, the shortcomings of the control, and the swiftness of the final crumbling of power. The next two arguments focus on the twin, inbuilt weakness of the colonial system which were a lack of human resource and a dearth of financial means. Then three arguments attempt to deconstruct the assumed distinction between Europeans and Asians, i.e. Europeans were divided, between, and inside, nations, and the early growth of crossbreeding, in spiritual as much as in corporeal connections, questions the very notion of an East-West divide.

1 Margolin, Jean-Louis, and Markovits, Claude (2015) *Les Indes et l'Europe: Histoires connectées, XVe-XXIe siècle*. Paris: Gallimard-Folio Histoire.

Three more arguments develop that essential question: in the end, who had been using whom? I shall demonstrate that Europeans, acting in their own interests, nevertheless did strengthen some Asian trading groups, especially the Chinese. They also accelerated the consolidation of some major Asian polities, and reinforced indigenous churches and ideologies. The last argument wonders if the Southeast Asian influence over Europe could have been as strong as the European influence on Southeast Asia. The conclusion focuses on the interplay between colonisation, modernisation, and connectivity.

1. The traditional vision: the overwhelming power of Europeans

There are several good arguments in favour of the idea of a strong colonisation by Europe in Southeast Asia. Firstly, its long duration. The first territory in the region to be overtaken by a European power, Portugal, was Malacca in 1511. Almost 500 years later, the last territory to be abandoned by Europeans, again by Portugal, was Timor-Leste, or East Timor, in 1975 (or 2002 when Timor-Leste became an independent country).

Secondly, the European colonial domain was then extended to the whole of Southeast Asia, except for what was Siam, today's Thailand. The third point is that almost all European colonial powers have been involved in Southeast Asia, including the British, the Dutch, the French, the Spaniards, and the Portuguese. The Germans were not far away in the north-eastern part of New Guinea and in the Marianas islands, which were German territories until 1914. Every European colonial power, except for Italy and Belgium, came to Southeast Asia.

Fourth, today, one can find very visible effects of colonisation. In Singapore and Malaysia, for example, a strong British influence is demonstrated by: the status of English language; the way justice is administered; how parliament works; and the cities' architecture and planning. In the Philippines, people still have Spanish names, and fill Roman Catholic churches. In the major cities of Viet Nam, the French baguette as well as the Vache qui rit (Laughing Cow) soft cheese are ubiquitous at breakfast time.

2. Three doubts, one caveat

At the same time, colonial ties loosened quickly following independence, without much regret from either side. Today, China, the USA or Japan are much more influential in most of Southeast Asia than their European counterparts, even when taken together.

Furthermore, it should be emphasised that, although European colonisation in Asia lasted almost 500 years, if one considers specific locations, on a local rather than a regional basis, one is led to the conclusion that for 80% or 90% of the areas colonised in Southeast Asia, the duration of colonisation was much shorter. In most cases, it was less than a long lifespan; a person born just before colonisation in these areas, and who lived for 80 or 90 years, could have died in an independent country.

Another point is that what prevailed in Southeast Asia was a fairly weak example of colonisation, where areas were more often protectorates, with power shared between the indigenous authorities and foreign protector, rather than full-blown colonies. Indochina for example, was made up of five territories, with southern Viet Nam, then called Cochinchina, the only French colony. The situation was more or less the same in what is now Indonesia. Outside Java, few territories were directly administrated by the Netherlands. In Myanmar, only the central part of the country was fully controlled by the British, while the rest remained much more autonomous. This poses the question of whether the effectiveness of European colonial domination was more apparent than real?

It should be acknowledged that there were two very contrasting phases during the five centuries of European presence. Until around 1850, for more than three centuries, the European sphere of direct domination in Southeast Asia was geographically and demographically limited. After the mid-19th century, the capacity of European powers and colonists to impose their will was much stronger, even if it only lasted until the momentous coming of the Japanese army in 1941-42.

The rest of this paper will develop 12 arguments in favour of the idea of a weak colonial system that nevertheless was characterised by rich and intricate exchanges between people from afar and Southeast Asian communities. To sum up these arguments, and to allude to a modern concept in international relations, what I aim to do is to develop a theory of the failed colonial state and at the same time, displace the focus from the political sphere to the societal one.

3. The slow, limited and short-lived European domination of Southeast Asia

Was colonial conquest very progressive, or very slow? In the mid-18th century, after 250 years of European presence in Southeast Asia, only limited areas were actually dominated by Europe: Malacca and its port; the Moluccas archipelago in Eastern Indonesia; the western part of Java; and the northern and central parts of the Philippines. Outside these areas, there were only a handful of colonial trading posts in port cities, a few coastal enclaves, and a few small islands under European control. In 1750, the territories administered by Europeans in Southeast Asia could be estimated to have between two and three million inhabitants, with around 600,000 belonging to the Dutch, and most of the rest in the Spanish Philippines, although at the time the Southeast Asian region probably had a population of 25 to 30 million.

Furthermore, the biggest and most active cities, including the economically important ones, were not in Western colonies. In the 17th and 18th centuries, Ayutthaya (before the Burmese invasion) was probably the leading city, followed by Pegu in Burma, Hanoi in Viet Nam, and Mataram in Central Java. Dutch Batavia, or Malacca, and Spanish Manila were smaller.

The great leap forward of European domination took place very late, mostly during the last quarter of the 19th century and the first years of the 20th century. The hardest and most devastating colonial war, both for the local population and for the colonial army, was waged in Aceh, at the northern tip of Sumatra. It took 30 years, from 1873 to 1904, for the Dutch to overcome the stubborn resistance. The British conquest of Upper Burma in the late 1880s happened at the same time as the very difficult French conquest of Tonkin, the northern part of Viet Nam.

Even as late as the 1900s, there was still heavy or sporadic fighting in Bali, Flores, Sulawesi and Borneo between the Dutch and local chieftains. The European conquest of Southeast Asia was only completed just before the outbreak of the First World War in 1914. When the Japanese army came to the region in 1941-42, it took just a few months for it to capture what had taken Europe 400 years. The reality for most colonised territories was that Western domination only lasted some 30 to 60 years.

The second argument is that Europe was not, in any way, predestined to dominate Southeast Asia. It was not an easy task to take over the region. There were many setbacks, any of which could have led to the failure of any hope of European hegemony. It took the Spaniards more than three centuries to overcome the armed opposition of the people in the far South of the Philippines, even though Manila had been founded by the Spaniards in 1571, and the Muslim polities surrendered only a few years before the end of Spanish rule in 1898.

Economic colonisation suffered similar failures. Although the Dutch were a prominent power in Southeast Asia during the 17th and 18th centuries, they failed to impose a monopoly on some of the most valuable of colonial products, such as Sumatra's pepper. The local sultans constantly cheated them through smuggling, with British traders their most common accomplices.

The resources available to the European powers increased significantly during the latter part of the 19th century. The 1,300-strong expeditionary force, sent by France to Siam in 1688, was, at the time, an enormous European army. But in 1885, when the French attacked Tonkin, they were able to field some 30,000 soldiers, the same as the British in Upper Burma at that time. Nevertheless, in those parts of Southeast Asia considered unimportant, the effectiveness of Western domination remained problematic. On the large Boloven plateau, in Southern Laos, a revolt lasted from 1901 until 1936, and initially the French were almost expelled from the area. The sultan of Jambi (Sumatra), deposed by the Dutch in 1859, took refuge in the hills (*ulu*), and controlled the area until 1907.

Lawless zones in many mountains, swamps, jungles and upper segments of rivers lasted until the First World War, or later. Piracy, smuggling, counterfeit currency, and arms trafficking, even the slave trade, diminished only around 1900, when the colonial police forces became more efficient. Until then, it was common for commercial ships to be attacked by pirates, even a few miles off Singapore harbour.

The third argument is that in the latter phase of the colonial period, the decolonisation of Southeast Asia by Western powers took place with a surprising ease – with the exception of the bitter and prolonged France-Indochina War (1946-54), and the Dutch-British-Indonesian war of 1945-49. The most striking fact is that the French shied away from using the main force of their army, with its expeditionary force made up of mostly colonial units from Africa and the Foreign Legion, which was largely German at the time. A few years earlier, in 1942, the Japanese had been able to take over the whole of colonial Southeast Asia, with a very small number of troops, and with limited actual fighting. The Malays, astounded, exclaimed: "*Orang puteh lari!*" (the white people flee away). If their colonial domains were so meaningful to the Europeans, why did they deploy so few men, and so little money, to retain their Southeast Asian colonies?

4. The weak colonial state

The fourth argument stresses the weakness of the European presence in Southeast. To impose one's rule, the first requirement is to have sufficient human resources. Earlier, I mentioned the strength of some late 19th century military ventures, but once the war was finished, the new colonial territories were left with very small military, or police, forces. In 1915, the garrison of Singapore was only a few hundred strong. Consequently, when an Indian regiment of the British forces mutinied, with the help of German Navy war prisoners, they almost captured the city in just a few hours. The revolt was only crushed with the support of crews from Japanese ships, as Japan was then an ally of the British. Effectively, the Japanese took back Singapore for the British.

The picture for civil administration is very similar. In 1931, Cambodia had only 28 French civil servants, two or three for each province. In the Netherlands Indies, a much more populated colony, with around 60 million people at the time, there were exactly 277 Dutch civil servants in 1900. Of course, many more local auxiliaries, including Dutch citizens, should be added, but they had no decision-making powers. Colonial rule could only survive if enough Asians participated. It would be far-fetched to pretend that colonial domination did not exist, but it was Asians themselves, through a huge army of junior civil servants, soldiers and business associates, that made the colonial machine work.

Much earlier, in 1687, at the peak of its power, the famous Dutch East India Company (VOC), had only 11,500 employees, scattered between Ormuz (in today's Iran) and Nagasaki in Japan, with the vast majority being sailors and soldiers. Western communities in Asia were miniscule, even at their peak just before the Second World War. In 1940, they represented between 0.1% and 0.4% of the general population. Of course, in some towns, especially the capital cities, the percentage could be significantly higher. However, even in such heavily Westernised cities as Singapore or Batavia (present-day Jakarta), people classified as Europeans or Westerners never reached more than 1.5% of the population. This included not only the British or Dutch (a definition in itself covering many mixed race people), but also other Europeans, Americans and even Japanese. In 1940, there were 42,000 Europeans in the whole of French Indochina, then 25-million strong.

One reason for the weakness of the European presence, especially until the late 19th century, was the mortality rate. In 18th century Batavia, the life expectancy of arriving Europeans was six months, whatever their age. It meant that, after six months, half were dead, with the majority dying from malaria. After they survived these six initial months, they had a good chance of surviving ten years or more, but were often very much weakened by recurrent bouts of the disease. The main malaria epidemic in Batavia lasted 60 years.

Europeans who went to the colonies, especially in the earlier periods, were fairly unusual people, often outcasts. Many wanted to flee their home country because they were facing imprisonment, or because they were in conflict with their families, or because they were desperately poor. You had to be in terrible circumstances, or even a bit crazy, to do something so suicidal. This resulted in an all-too common, get-rich-quick, culture with the inevitable consequences: greed, dishonesty, corruption, lawlessness, and violence.

The fifth argument is the constant lack of financial resources available to colonial governments. It was almost 'mission impossible' to consolidate the primary aim of colonies, namely making money for their masters, with the desire to promote education, health services, and general welfare, what the French called their mission civilisatrice, (civilising mission). A further complication came from the European colonists themselves. The majority of them were less concerned about spreading Christianity or Western civilisation, than about living a luxury life, acquiring slaves, before the abolition of slavery, and getting concubines and mistresses, although most of them never realised their financial dreams.

Colonial governments and concerned individuals conceived many development projects for improving infrastructure, education and health. But from Paris, London or The Hague almost always came back the same answer: "No money!" Colonial history is a cemetery of white elephants. It is only in the very last period of colonisation, between 1930 and 1950, that the situation changed somewhat. Investment in education, especially, increased significantly, if only as a response to the pressure of the growing nationalist movements. The colonies started to function a little better, more like modernised countries, just before they disappeared for good, first through the Japanese conquest, and then through independence. It was an exemplary case of too little, too late.

5. Deconstructing the East/West divide

The sixth argument suggests that the notion of European should be deconstructed. One should not forget that, during the colonial period, the worst, and most constant, enemies for Europeans were other Europeans. European countries were often at war, and these wars spilled over into Asia. Europeans did not shy away from alliances with Asian princes to better attack or fend off other Europeans. In 1606, Portuguese Malacca was besieged by the coalition of the Dutch and the Johor Sultanate. In the 1880s, rumours of an imminent French-Burmese treaty triggered the British intervention.

Christianity was not a factor of unity. Before the 19th century, the main enemies for a Roman Catholic were not Muslims, even less the Buddhists but Protestants, and vice versa. Europeans were never much at ease with Muslims, as Islam was repeatedly used as a war cry against them. In Batavia, for example, the indigenous Javanese were not allowed to live inside the city walls. However, Europeans never seriously attempted to stop the spread of Islam in Southeast Asia. As early as 1556, the Jesuit missionary Luis Frois complained that Muslim preachers could travel more easily, and spread their faith faster, in the Indonesian archipelago by using Portuguese ships, whose captains only cared for the passage fee.

Europeans in Southeast Asia were never part of a monolithic culture. Some played a prominent role in the development of protests against colonial rule, such as the Indo-Dutch author Multatuli (Eduard Douwes Dekker), whose novel *Max Havelaar*, published in 1860, had a strong enough impact to change the colonial policy of the Netherlands. Even among colonial officials, it would be wrong to underestimate the ability of some to make the colony their second homeland, and even their first. In the 1900s, Dumoutier, the director of education in Tonkin, Viet Nam, so much admired the Sino-Vietnamese culture that he strived to change as little as possible of the traditional way of teaching. He cultivated an idealised vision of Confucianism, which, according to him, represented a recourse to the shortcomings of Western modernity. This approach could be defined as a type of reverse acculturation, less rare than one might think. The great figures in the history of France were also indigenised to some extent. Vietnamese history textbooks of the inter-war years showed Joan of Arc, Bishop Alexandre de Rhodes (the inventor of *quoc ngu*, the Romanised Vietnamese script), and the revolutionary army organiser Lazare Carnot, as all exemplifying the Asian ancestral virtues of loyalty, fidelity, modesty, eagerness for study, and benevolence.

The seventh argument is the challenge of differentiating between who is European and who is Asian. For example, from the late 16th century, many European mercenaries, mostly Portuguese at first, worked for various Asian powers, especially during the wars between Siam and Burma. It should also be remembered that, until the late 19th century, the Europeans in Asia were almost all male. Most of them took Asian women as their concubine or wife. They customarily used these women to extend their local network, or to carry out trade in local markets. There soon appeared a new population of “Black Portuguese”, mixed race people, often with Indian or African, as well as European, ancestors. They kept their Christian faith as well as some customs, dishes, and words derived from Portugal, and considered themselves genuinely Portuguese. In 18th-century Ayutthaya, where they occupied a neighbourhood, the French and British merchants did not consider them Europeans, and even despised them. Until the late 19th century, religious affiliation was considered more meaningful than bloodline or skin colour. It was a lot easier for an Asian Christian of the appropriate denomination to become the wife of a European, or a soldier in the colonial army.

In the Dutch Indies, most citizens of the Netherlands were mestizos, born in the archipelago, and they made up a good part of the elite. The role of intermediaries or go-betweens, indigenous people who were more or less Westernised, is of particular importance, because it was their swing towards the anti-colonial camp that finally tipped the balance in favour of independence. These men, and women, would have wanted to be recognised as equal, but they could never overcome the racial barrier erected by the colonists to protect them from competition.

All this underlines how appropriate it would be to introduce the notion of multiple identity, which is quite common now in Europe. A person often has to endure complicated trajectories in his or her life, conditioned by birth, location, religious affiliation, as well as occupation, sensibility, opportunity, education, sexual orientation, age, and so on. It is actually very common to have different identities at the same time.

Singapore offers fascinating examples of this notion. In 1900, the Chinese elite formed the Straits Chinese British Association, which was nicknamed the King's Chinese. They were members of several official institutions, such as the Legislative Council, or were nominated Justices of the Peace. During the First World War, they offered an aeroplane to the British army. At the same time, they maintained a strong connection with China. Thus, when a Chinese consulate was established in Singapore in 1877, they bought honorific Mandarin titles for themselves and even for their ancestors, to increase their prestige, as traders were traditionally despised in China.

The life story of Lim Boon Keng, the first Singaporean Chinese to get a degree in medicine from Edinburgh University in 1892, speaks volumes. He was a Christian, but simultaneously he spearheaded the Confucianist revival movement in his Fujianese home town. He was especially active in building and financing modern Chinese schools there.

The example of the indigenous people from Pondicherry (South India), a French territory since the 17th century, is interesting too. Most of them were not French citizens, but French subjects, and so there was a huge gap between them and the resident Europeans. They were allowed to vote, but in a separate electoral college. But when some of them moved to Cochinchina (southern Viet Nam), usually to work as junior civil servants, they were assimilated as Europeans, and so could vote in the same electoral college.

The eighth argument notes that European goals and strategies were full of contradictions. In the Dutch East India Company, there were two centres of power: the 17 Gentlemen in Amsterdam and the Indies Council in Batavia, in theory its subordinate. The main business, around 1750, was in tea, with a lot of competition between the Dutch and the British. It was therefore in Amsterdam's interest to import tea produced in southern China by the fastest shortest sea route. However, that meant disrupting the flow of Chinese junks sailing to Batavia, which brought goods and workers essential to the prosperity of the Dutch in Java.

Much later, just before the First World War, rubber was fast becoming the most valuable commodity exported by Southeast Asia, and the first producer was Malaya. The location of the main rubber market had to be decided. Should it be London where the world price would be fixed, and where the future prices on the upcoming production would be traded, or Singapore? The British in Singapore, with the support of other local business interests including other Westerners and the Singapore Chinese, fought against the British in London in what developed into a harsh commercial war.

6. Who has been using whom, or the irony of history?

The ninth argument asks 'Who has been using whom?' Evidence abounds that the Westerners did not always have the upper hand in Southeast Asia. When the powerful VOC dealt with significant Asian powers, not only China or Japan, but also Burma or Siam, it had to accept draconian conditions in order to trade. These included buying commodities at prices that included huge royalties, strict quotas and various prohibitions. Monopoly trade was for the Asian sovereign, not for the VOC. Consequently, several trading posts became unprofitable, and without hope of redress, the VOC ultimately had to leave, from Burma in 1679, and from Siam in 1767.

For a long time, it has been argued by many that the compradores, a Portuguese word describing Asian merchants closely associated with Europeans, were submissive collaborators of Western imperialism. It is now admitted that they were often at least as rich and powerful as their European counterparts, and that they played an essential historical role, as they were the true interface between the West and Asia. Occasionally, even at the high noon of European power in the late 19th century, they felt strong enough to chase away, or marginalise, foreign competitors from important sectors of the colonial economy. The Europeans had to associate with Asians because they lacked the money, territorial knowledge, and workforce to manage the mines and plantations.

The all-important export industry of sugarcane was introduced in Java in the early 18th century, around Batavia. It was completely dominated by Chinese businessmen, who in 1710 owned 79 of the 84 sugar factories. The VOC needed to make some profit in the industry, and ultimately got so scared of the growing role and numbers of Chinese in the sector, that in 1740, Governor Valkenier sponsored a terrible massacre of Batavia Chinese. Just a few years later, the VOC had to implore the Chinese traders to come back, as Batavia trade had ground to a standstill.

In 1775, around 60% of the sea trade in Java was controlled by Asian traders, most of them Chinese, and also many Arabs. A century later, rice was by far the biggest export of French Indochina. Most of the trade, from the collection in villages to export trade to Southern China, belonged to the Chinese from Cholon, the sister city of Saigon, in Cochinchina.

It leads some historians to raise a provocative question: could it be said that a version of an overseas Chinese economic empire developed under the guise, and protection, of European flags? It is not just a metaphoric image. Around 1900, some Southeast Asian Chinese traders raised the British flag when they were in Chinese waters, as a protection against the harsh ways of the local dignitaries of the Qing Dynasty.

The tenth argument suggests that most commonly, Europeans acted to reinforce the major Asian powers, at least from the 16th to the 18th century. The Europeans felt vulnerable, and therefore wanted to befriend those indigenous states that could be considered the most efficient and most promising, even if it meant contributing to the creation of a formidable adversary for the future. They sent missionaries and embassies to these states, and the resulting alliance treaties played in favour of the rising Asian powers, as well as contributed to the simplification of the political map of Southeast Asia, to the detriment of smaller, more isolated states. The behaviour of European mercenaries was similar, as they sold their services to the richer, more stable polities. During this phase Westerners did not try to divide and rule.

This approach was less obvious in the 19th and 20th centuries, as Europeans felt much stronger. The new phase was introduced by an unprecedented event, when, in 1812, the British stormed the Mataram court in Central Java. This was something that the Dutch had never dared to do, even as the Mataram rulers repeatedly tore apart signed treaties, and massacred a Dutch garrison in 1686. Nevertheless, the Europeans had much to offer to some traditional elites. Before the British imposed protectorates all over Malaya in the late 19th century, the Malay sultans enjoyed almost unlimited power. However, their life expectancy was often limited to three to five years, as most of the sultans ended up murdered by people from their own, extended family, or by their close associates. Their power became more limited with the British, but their life expectancy on the throne made a big jump to 30 or 50 years. What is best: to be all powerful, but only for a few years, or to be less powerful, but still very rich, for 50 years? The answer is, of course, subjective, but the question deserves to be asked. At least one present-day country, Cambodia, was probably saved from oblivion by French colonisation. It was on the verge of being split between Siam and Viet Nam in the mid-19th century, but for its own selfish interests, France allowed Cambodia to survive.

The eleventh argument is that the Europeans, in their colonies, were less enthusiastic supporters of Christianity and the spread of Western culture, preferring to reshuffle indigenous religions and revamp, or wholly invent, new national ideologies. To consolidate Cambodia, and of course their domination over it, the French strove to separate the Cambodian Buddhist church, the Sangha, from the Thai Sangha. Until then, most learned Cambodian monks had gone to Bangkok to further their studies and acquire prestige. From the 1930s, however, newly 'nationalised' Buddhism was at the forefront of the fight for Cambodian independence.

Viet Nam, for its part, was traditionally very strongly connected to China, linguistically, ideologically and in the accepted version of history. The French did their best to cut off that connection: they supported the rise of *quoc ngu* over Chinese script; they taught Vietnamese history in schools, with no more tales of Chinese dynasties; and they sponsored the rediscovery of national, preferably anti-Chinese, heroes such as the Trung sisters, all the more suitable as they could be assimilated to Vietnamese equivalents of the French heroine Joan of Arc.

In Malaya, Richard Windstedt, an important colonial administrator who was wholly devoted to the glory of the British Empire, published the first significant *History of Malaya* in 1935, a book still influential among Malays.

The most effective way of analysing the colonial societies is to see them as joint productions between Westerners and locals. Thus Malay intellectuals were quick to adopt the notion of race introduced by the British, so as to redefine and strengthen their own identity. Until about 1860, *bangsa Melayu* had meant those who descended from some of the royal lineages of Sumatra. However, after a lively press debate between 1888 and 1894 to determine whether the Jawi Peranakan (Malay peninsula Muslims of Indian origin) might, or might not be, considered as Malays, the term took on a distinctly national flavour, and a progressively racial one.

The main difference with the British prototype of race was that Malays asserted the centrality of Islam. In both versions, however, the assumption of the concatenation between language and ethnicity was very strong, although Malay language had developed as a lingua franca between diverse groups of people. There was also a Malay-British consensus to leave the Indians and the Chinese on the political margins, something which would have serious political consequences for the unity of the future Malaysia.

Knowledge and concepts developed in the European colonial context could even be accommodated by the intellectuals of a colony to describe, and glorify, their country's past. The Cambodian protectorate (1863-1953) is a particularly good example of this phenomenon in relation to France.

There is much evidence of this, including the Khmer dancers sketched by Auguste Rodin, and the life-size reproductions of Angkor Vat, and other ancient monuments, that were the highlight of several exhibitions organised in France. The revival of a nation's glorious past, now supposedly adrift, presented a justification for French imperialism.

Inspired by these colonial, some would say, orientalist, myths, a national Buddhist culture developed from the early 20th century. The language was purified and schools were thoroughly renovated, as a result of an acceptance of a modernity that originated in France, and in the worship of a Cambodian nation that, for the first time, defined for itself its territory, borders and enemies. It was not an acculturation, or a graft, and even much less a gesture of submission, or an act of resistance. Rather it was the meeting of two dynamics, that of the West in search of dreams and greatness, with that of a small nation in search of its identity and revival. Each one had its set of ideational tools, and also its own political and economic aspirations.

This construction, simultaneously common and conflictual, was for Cambodians neither intentional, nor planned nor merely consented. Asians often had to deal with situations they did not want, and one can find here the fundamental inequality between colonisers and colonised.

The relationship between the colonialists and the indigenous population was much more ambiguous than what was asserted by both the colonial narrative, i.e. the civilised white man tending to the uneducated indigenous with a fatherly hand, and the anticolonial discourse where colonists imposed an unprecedented system of oppression, exploitation, and loss of cultural identity on helpless natives.

7. Cultural and human exchanges: Europe under Southeast Asian influence

Finally the twelfth argument asks what has been more decisive, in the long run: the action of Europe on Southeast Asia, or the retroaction of Southeast Asia over Europe, and the West? For a long time, the answer would have seemed so obvious that the question itself could have been perceived as strange, if not stupid.

Admittedly, Southeast Asia has been less influential in Europe than India or China. No Southeast Asian thinker has ever been admired and discussed by Western philosophers. Until recently, very few Southeast Asian books have been translated into Western languages. There is no local equivalent of chinoiserie or japonisme; there was no integration of Javanese, Siamese or Vietnamese architectural or decorative patterns into European classical architecture and art de vivre.

However, the importance of spices, most of which were imported from the Moluccas or Sumatra, to European trade and cuisine for many centuries, should not be overlooked. Belatedly, in the late 19th to early 20th centuries, Southeast Asian aesthetics became much more prominent, through the *Angkor craze* in France, or through *Bali mania* in the Netherlands.

French composer Claude Debussy was so impressed by a Javanese gamelan orchestra he heard at the Paris 1889 international exhibition, that he used it in his research aimed at a renewal of European music. More generally, Indochina was considered as the pearl of the French colonial empire. Malaya was the "dollar arsenal of the British empire"[2], and, of course, Indonesia was by far the biggest territory of the Dutch overseas domains; some 4% of the Netherlands citizens were living there in 1941.

Colonial troops, and contract colonial workers, played a wholly unexpected, as well as considerable, role in the First World War and at a lesser level, the Second World War. The French recruited nearly 100,000 Vietnamese, soldiers and workers, for the home country. The British used mostly Indian troops, as well as around 100,000 Chinese workers, many of them on French soil. The majority of American soldiers fighting in the Philippines in 1942 against the Japanese were actually Filipinos.

Finally, after independence, a huge number of Southeast Asians, including many mestizos, left for Europe, most of them to their former colonial masters' countries. South Moluccans left after the crushing of their hopes of autonomy in 1950. Eurasians, with Dutch citizenship, were expelled from Indonesia in 1958. Over 100,000 South Vietnamese, Cambodians and Laotians left their home country for Europe after the 1975 Communist victory. In the last 70 years, many more Southeast Asians have gone to live in the West than Westerners went to Southeast Asia in the preceding four centuries.

2 Title of a broadcast on British Malaya Broadcasting Corporation (BMBC) radio station in Singapore by Professor T. H. Silcock , on 22 January 1940.

Conclusion: Colonisation, modernisation, connectivity

What if Europe had not colonised Southeast Asia? Would Southeast Asian history have been completely different? Considering the Asian countries that Europe did not colonise, such as Japan, China, Iran and Siam, could it be said that they changed less than the colonies, over the same period, or that their polity and economy were less modernised? Comparing Myanmar and Thailand, two countries with many similarities before the mid-19th century, it is difficult to decide which one changed most in colonial time.

In truth, the effects of colonisation are very difficult to distinguish from the effects of Westernisation. Just as, in earlier centuries, the vehicle of modernisation could have been Indianisation, Sinicisation, or Islamisation. Westernisation itself did not necessarily pass through colonisation. In Viet Nam, the first mass conversions to Christianity took place in the 17th century, and Father Alexandre de Rhodes gave birth to *quoc ngu* long before the first French soldier set foot on Vietnamese soil.

Did colonisation at least accelerate the modernisation process? The answer is not in any way evident. The relative success, or failure, of modernisation in a country is not connected to the length of colonial domination, or to cultural proximity, or to the intensity of colonial suppression. It actually worked best in small or medium-size new territories, largely devoid of a vast indigenous population, and where the majority of inhabitants soon became immigrants, places such as Singapore, Hong Kong, West Malaya and Northeast Sumatra.

The human configuration there was closer to contemporary California, Argentina or Australia, than to more settled countries such as China, India or Viet Nam. On the other hand, in bigger, more populated countries, with ancient and active indigenous merchant groups, the impact of colonisation was more limited, or even negative. The cosmopolitanism of a society could actually be reduced through the exclusion of competitors, Asian or European. The strong Southeast Asian tradition of free trade could be undermined at least for a time, by the new colonial masters, who, for example, imposed new, hefty trading fees on Asian traders, as well as various monopolies. Manufacturing industry was sacrificed to the production and commerce of commodities, or to short-term financial speculations. The majority ethnic or religious groups were the victims of distrust, for political reasons, and were largely excluded from the most modern and profitable economic sectors. These countries, such as Japan or Siam, could possibly have become modernised, or even Westernised, earlier, and with less internal tensions, if they had not been colonised.

If European colonisation was so full of failures, then should we replace the word colonisation with occupation, as for example South Koreans do today regarding Japanese colonial domination? What they stress is that the Japanese wanted only to exploit and oppress Korea, not transform it. I shall not enter the debate on Korea, but, in Southeast Asia I do think that there was a real will to reform and transform the colonial societies. Those colonial administrators and metropolitan ministers who talked about their mission civilisatrice, their ethical policy, as in the Netherlands, or to quote Rudyard Kipling, the “white man's burden”, should be taken seriously.

The problem is that colonies almost never had the means of delivering these grand policies. However, the educational legacy of colonisation has been significant, if tardy and limited. The effect on today's foreign language abilities is visible, especially in the former British or American colonies. The political and institutional legacies are also important. Essential notions such as civil society, rule of law, political plurality, press freedom, secularism, and independence of justice, came to Asia with colonisation, even if the colonial governments and elites did not always respect their own principles.

As both colonisation and decolonisation start to fade away into an already distant past, especially for younger generations, the results of the long European presence in Southeast Asia may be assessed in a more sober way. Colonial times appear to be less detestable than simply mediocre, as so few of their promises were actually fulfilled. However, something positive could remain from them: a deepening of a multifaceted connectivity.

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SECTION 5

CONNECTIVITY THROUGH EDUCATION

5.1. Academic Mobility for Enhancing Asia-Europe Connectivity: Why and How?

Que Anh DANG

Abstract

Academic mobility can contribute greatly to Asia-Europe connectivity in various sectors. The friendship and intellectual capacity created by mobile students and scholars are the key factors to strengthen cultural, scientific, economic and diplomatic ties among ASEM countries. In order to yield such benefits of both intra-regional and inter-regional mobility, and to minimise the adverse effects, ASEM needs innovative policy solutions. This paper argues that education policy-making is value-laden in the sense that values pervade policy processes and policy contents, while values are also justifications for a policy and criteria for evaluating its implementation. Democratic equality, social mobility, and social efficiency are seen as the common values that guide education policies. Academic mobility is understood essentially as a process of individuals' self-formation and self-cultivation, which impacts on productivity, innovation, and social transformation, including reforming and improving education systems. Academic mobility is a way to achieving social mobility that ought to yield benefits, not only for deserving individuals, but also to society as a whole.

The history of Asia-Europe academic exchange, and current ASEM policies, demonstrate that cross-border academic mobility encompasses different political, economic, and cultural/intellectual interests at regional, national, institutional, and individual levels. This necessitates ASEM education policymakers to work across sectors and consider a variety of inter-related factors that influence patterns of academic mobility, including domestic education provision, economics, demographics, labour market requirements, and immigration policies. It is proposed that ASEM education policies should strike a balance between educational, social, and economic values of mobility to enhance Asia-Europe connectivity in the long term.

1. Academic mobility and Asia-Europe connectivity

> *"What does ASEM mean for people in everyday life?*
> *One of the best examples is the ASEM-DUO Fellowship Programme, which aims at exchanging students, scholars and professors between Asia and Europe. Exchanging of students is a brilliant way to ensure greater understanding between our regions across cultural, social, historic and religious differences."*
> *(The Danish Prime Minister's Opening Speech at the 4th ASEM Summit, 2002)*

There is a call for reciprocal educational exchange to promote cultural understanding and peace-making in this opening speech. International student mobility has, inter alia, been a means of broadening one's horizon, enhancing respect for other cultures, reducing prejudice, and correcting stereotypes. In his speech, alongside these humanistic values, the Danish Prime Minister, Anders Fogh Rasmussen, also firmly believed in the economic impact of cross-border education. He highlighted that "human resources development, educational exchange and lifelong learning can be utilised to reap the benefits of globalisation and address its adverse consequences" and, in turn, "economic growth can result in overall progress in the social sphere and thus might help counter some of the root causes of intolerance and extremism".

The decade after this speech has seen more students travelling beyond their national borders to seek international education, and cross-cultural experience, to enhance their social mobility and life chances. In 2012, there were 4.5 million students (up from 2.1 million in 2000) studying outside their country of citizenship and 53% were from Asia.[1] Governments and universities also view the movement of students as a new opportunity[2], so they work together to develop various policies to promote international academic mobility. The European Erasmus student exchange scheme is a successful example. Between 1987 and 2013, over three million students, from more than 4,000 European higher education institutions, participated in Erasmus mobility.[3] In these contexts, Asia and Europe have forged a high-level strategic inter-regional educational partnership called the ASEM Education Process and envisaged an ASEM education area to increase knowledge exchange and academic mobility among the current 51 partners.[4] With the inauguration of the biennial Asia-Europe Meeting of the Ministers for Education (ASEM ME) in 2008, academic mobility has been brought into the heart of inter-regional strategies to enhance economic, political, and cultural connectivity.

The European Union (EU) has implemented regional integration, whereas the Asian countries have invested effort in strengthening regional connectivity. The term regional connectivity has become a policy discourse in Asia and it frequently refers to the creation of regional hard and soft infrastructure to facilitate the flow of goods, services, people, and knowledge.[5]

1 OECD, 2014
2 Rizvi and Lingard, 2010
3 The Erasmus Impact Study, http://ec.europa.eu/education/library/study/2014/erasmus-impact_en.pdf.
4 ASEM ME5, 2015
5 Bhattacharya, 2010

The regional institutions, such as the Association of Southeast Asian Nations (ASEAN), Asia-Pacific Economic Cooperation (APEC), Asia Development Bank (ADB), the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP[6]), develop various master plans for regional connectivity, which aim at enhancing physical connectivity (transportation), institutional connectivity (rules and regulations) and people-to-people connectivity (knowledge and culture). Samples are the Master Plan on ASEAN Connectivity[7] and APEC Connectivity Blueprint for 2015-2025.[8]

Unlike the EU, ASEM is not a result of an integration process, rather a conglomerate of connectivity in many sectors. Asia-Europe connectivity, has become a popular headline for many forums and appeared in the ASEM Summit chair's statements with different meanings evolving over the years.

Connectivity was used for the first time in the 2006 Summit statement to denote the inter-regional, high-speed Internet connectivity for research and education.[9] The 2010 Summit emphasised connectivity via interactions between the people of Europe and Asia, whereas the 2012 Summit highlighted the economic outcomes of intra- and inter-regional connectivity in transport infrastructure. At the 2014 Summit, connectivity became a keyword with various meanings and expanded scope ranging from financial, economic, trade, investment and energy to institutional linkages, information, knowledge, people, think tanks and the academic community. There is also a plan to establish an ASEM working group on connectivity.[10] Although the meaning is rather vague, there seems to be positive connotations in every usage of the word. Overall, connectivity is seen as bringing about competitive advantages for all those connected.

This chapter explores ASEM higher education and research connectivity through academic mobility and its impact on individuals and education systems. The term academic mobility may entail physical mobility, virtual mobility, short-term mobility (credit mobility), degree mobility, or mobility across disciplines, and across sectors (e.g. between academia and industry for research or internship). This chapter focuses only on the cross-border academic mobility between ASEM countries, specifically, the academically motivated geographical movements of students and academics, generally in higher education, from their home institution to another to study or work (teaching and/or research) for a period of time.[11] Reviewing the history of Asia-Europe academic mobility and analysing ASEM policies, this chapter examines why academic mobility has become a priority of ASEM cooperation, what key values of academic mobility should be promoted in the ASEM Education Area, what the major challenges are, and how they may be tackled in order to enhance Asia-Europe connectivity in the long term.

6 Strengthening intraregional and interregional connectivity in Asia and the Pacific http://www.unescap.org/sites/default/files/E71_RES8E.pdf.
7 Master Plan on ASEAN Connectivity http://www.asean.org/storage/images/ASEAN_RTK_2014/4_Master_Plan_on_ASEAN_Connectivity.pdf.
8 APEC Connectivity Blueprint for 2015-2025 http://www.apec.org/Meeting-Papers/Leaders-Declarations/2014/2014_aelm/2014_aelm_annexd.aspx.
9 The Trans-Eurasia Information Network (TEIN) http://tein4.net/tein4/project/objectives.do.
10 ASEM, 2014
11 Leung, 2013

2. Education policy making: a value-laden process

Policy making can be seen as the course of action relating to the selection of goals and the definition of values that determine education practices and their consequences. Values pervade policy making processes and policy contents.[12] Values are also justifications for a policy and criteria to evaluate its implementation. Three values commonly found in education policies are democratic equality, social mobility and social efficiency, which can be useful in understanding the construction of academic mobility policies.

2.1. Democratic equality

The policies led by the value of democratic equality emphasise the need for education to facilitate the development of citizens who can participate in democratic communities. Therefore, the primary purpose of education is to educate students to realise their full potential and create citizens able to maximise personal development and responsibility for the community. The focus is more social and cultural than economic. From this perspective, academic mobility can be understood as a self-formation process in which mobile students experience changes in their behaviours of self-cultivation and self-improvement.[13] While all education can be understood as a process of personal growth, international education entails significant transformation. For example, mobility may alter one's understanding of societies and impact on political, economic and socio-cultural practices, such as changing practices both at home and host institutions, or reforming education systems. Education policies driven by this value often aim at improving pedagogies and curricula and enhancing the learning experience of international students.

2.2. Social mobility

Social mobility refers to the movement of members of a society up the social ladder of income, status and lifestyle[14] according to meritocratic principles. The compelling argument is that the selection of individuals for jobs on the basis of merit is a more efficient use of the available talent pool because jobs will be undertaken by individuals possessing the most suitable attributes. Therefore, education, including international education, is widely recognised as an effective mechanism for achieving social mobility[15] and for building a just, efficient, and stable society because of the transformation in the distribution of resources, opportunities or social status of individuals, families or groups.[16] By implication, increasing social mobility should yield benefits, not only for deserving individuals, but for society as a whole.[17]

Social mobility, often measured by the positive occupational transition of individuals, can be inter-generational mobility. For instance, children have international education experience and better career prospects than their parents, therefore the degree of (dis)advantaged inheritance from parents to their children can change. Social mobility can also be intra-generational mobility over a period of time, for example, academics use their international mobility as a springboard for career advancement.

12 Rizvi and Lingard, 2010
13 Marginson, 2014; Tran 2015
14 Hasley, 2013
15 Breen et al., 2014
16 Kaufmann et al., 2004
17 Sturgis and Buscha, 2015

However, social mobility has its own inherent dilemma as it presupposes the existence of social stratification. International academic mobility, on the one hand, facilitates social mobility and on the other, reproduces differences between people and classes because mobile individuals are equipped with social and cultural capital that can be deployed over their lifetime for social and economic enhancement.[18] Nowadays, the politics of social mobility is increasingly premised on the neoliberal theory that views markets, rather than the meritocratic principle, as the way to an efficient, fair, and competitive society.[19] Hence, academic mobility is often conceptualised as a capital which exists in different forms, such as economic, social, and cultural capital[20], which are convertible into one another.[21] Academic mobility constitutes a set of useable resources, such as economic capital (scholarships, research grants or self-investment) and/or cultural capital (competences, language skills, academic qualifications, intellectual capacity), social capital (relations, networks, membership of high-level committees), and symbolic capital (reputation, prestige, publications in high-impact journals). The acquisition of these resources gives individuals access to power or social position, and ultimately to material wealth.[22]

The education policies that view academic mobility as capital often aim to strengthen instruments, e.g. comparability tools, qualifications frameworks for recognition, credit transfer systems, and other regulations which facilitate academic mobility, but leave the process of social formation to the market. Such policies favour competition and the ability of the market to reconcile the value of equality.[23]

2.3. Social efficiency

While social mobility value focuses exclusively on individuals, the social efficiency approach requires education to contribute to organisational efficiency, economic productivity, and outcomes. Education is considered as both a public and private good, serving the social and economic development of a community, and at the same time, individual interests within a competitive labour market. Academic mobility, in this view, is often linked to policies to attract highly skilled workers for the knowledge economy of the more advanced nations.[24] Most ASEM countries devise policies that treat the impact of academic mobility not only as a personal matter, but also as an institutional, national, even supra-regional matter. Many governments and universities are involved in stimulating the global circulation of students and academics, expecting that they will have a positive effect on their universities' position in the global knowledge network.

To sum up, policies on academic mobility are value-laden, but they cannot simply be inferred from a particular value position, as these values are continuously constructed and re-constructed over time. There is always a certain level of conflict between values and in policy deliberations, while the priority of one value over others is constantly negotiated. Policymakers seek to resolve this conflict in various ways, either by trade-offs between values, by side-lining a particular value, or redefining or re-articulating its meaning in different contexts.

18 Brooks and Waters, 2010; Findlay et al., 2011
19 Brown et al., 2013
20 Bourdieu,1986
21 Brooks and Waters, 2010
22 Leung, 2013
23 Rizvi and Lingard, 2010
24 Ibid.

3. Changing rationales of Asia-Europe academic mobility

Academic mobility within, and between, Asia and Europe is not a new phenomenon, but the logic underlying international mobility has greatly varied over time.[25] An understanding of such changing rationales would be beneficial for policy evaluation and policy development.

In Asia, around the 6th and 7th centuries, Japan and Korea sent students and scholars, including many monks, to China to study and translate Buddhist texts.[26] During the Tang Dynasty, between the 7th and 10th centuries, the Chinese imperial civil service examinations, which were open to all on a meritocratic selection principle, attracted Korean scholars and students to China to study and prepare for the examinations.[27] Western scholars travelled long distances to Indian universities, not only to study arts, architecture and religion, but also the sciences and mathematics. In parallel, medieval European universities, such as Bologna, attracted students from Asia and the Middle East.[28] The rationale for international mobility has primarily been to search for new knowledge not available within the home nation.

During the colonial period from the 18th century, student mobility between Asia and Europe was mainly linked to the civilising mission, designed to develop a local elite that was loyal to the economic and political interests of the colonial powers and was able to manage local populations. The host university's role was to promote the Western ideas of modernity in meeting the political needs of the empires. The Asian graduates possessed a modernist disposition and knowledge from European universities which enabled them to maintain their position of power.[29] Universities in the French and British colonies were established from the mid-19th century onwards, and their academic staff members were recruited mainly from the motherlands and from returned graduates.[30] In this way, academic mobility serves as a social technology designed to (re)produce power, social classes, and inequality.[31]

In the post-colonial period, around the mid-20th century, academic mobility assumed a new rationale, driven by the discourses of developmentalism and nationalism.[32] First World countries provided scholarships, as part of their overseas aid programmes, for students from the newly independent countries in Asia, in order to help them in their nation-building projects. The Colombo Plan, initiated in the early 1950s within the British Commonwealth[33], was an example of such an overseas aid policy, with the aim of transferring knowledge and building the local capacity needed to develop the social, administrative, and economic infrastructure of South Asia.[34]

25 Ibid.
26 Hung and Wakabayashi, 2005
27 Kim, 2009
28 Rizvi, 2011
29 Ibid., 28
30 Kim, 2009
31 Ibid., 28
32 Rizvi and Lingard, 2010
33 The Colombo Plan, http://www.colombo-plan.org/index.php/about-cps/history/.
34 The New Colombo Programme today provides opportunities for Australian undergraduate students to undertake semester-based study and internships or mentorships in participating Indo-Pacific locations, http://dfat.gov.au/people-to-people/new-colombo-plan/scholarship-program/pages/scholarship-program.aspx.

This kind of aid programme was also crafted as a strategy in public diplomacy of the First World countries during the Cold War. In response to the former USSR's strategy to educate a large number of international students, the Colombo Plan, and other national scholarship schemes, e.g. the German Academic Exchange Service from 1950 and the Alexander von Humboldt Foundation from 1953, provided financial aid to students from Third World countries to study at First World universities. In this geopolitical context, academic mobility was a way to promote Western democracy and capitalism[35], thus exerting soft power, conceived as a means of attracting and implanting power.[36]

In the past two decades of the globalisation era, the dominant discourse of the knowledge economy has viewed academic mobility more as global trade and a source of income for some countries to compensate for state disinvestment.[37] Education is increasingly considered as an export industry, driven by the demand for academic mobility, most notably in the rapidly developing economies of Asia.[38] This demand has also enabled countries such as the USA, the UK, Canada and Australia to set themselves up as major suppliers. Countries like Singapore, Malaysia, China, Korea and Japan[39] are now seeking to develop a range of policies to enter this market.

Alongside the recruitment of international fee-paying students, many governments continue to offer scholarships, and have launched new immigration policies to attract and retain highly skilled workers.[40] National scholarship schemes[41], such as: Australia Awards; Chevening (UK); the Japan Society for the Promotion of Science Fellowships; Singapore's ASEAN scholarships; Dutch Orange Tulip Scholarship Programmes; DAAD Scholarships and Grants (Germany); the Eiffel Excellence Scholarship Programme (France); and regional scholarships schemes, such as Erasmus Mundus and Marie Skłodowska-Curie, are not confined to the developing world, but target specific countries or regions in the developed world to attract the best and brightest brains, thus establishing stronger global knowledge networks. The EU introduced the Scientific Visa in 2005 and the Blue Card in 2009 to expedite the entry of knowledge workers, many of whom are international graduates already residing in Europe.[42] These recruitment policies reflect strategic calculations made by the state, institutions, and individuals that consider the value of academic mobility mainly in economic terms, namely returns on educational investment and better employment prospects.[43]

By and large, the rationales and outcomes of academic mobility policies have shifted over time, but have always been linked to political agendas, and increasingly to the instrumental purposes of human capital development and economic maximisation.

35 Stein and de Andreotti, 2015
36 Nye, 2004
37 Ibid., 35
38 Ibid., 28
39 Countries are listed in the order of who first took on the market approach to education.
40 Geddie, 2015; Gribble and Blackmore, 2012; Mosneaga and Winther,2013
41 National scholarship schemes are presented in the chronological order.
42 Cerna and Chou, 2014
43 Rizvi, 2011

4. ASEM Education Process and academic mobility

4.1. Institutional structure, policy actors and agenda

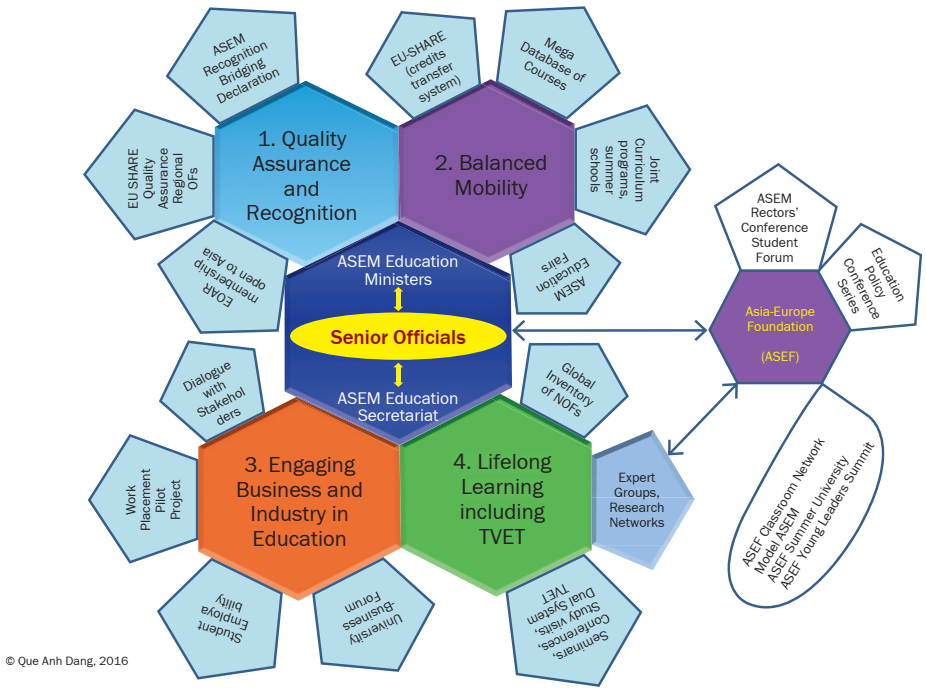
The first ASEM Summit of Heads of State and Government in 1996 set out:

"to foster exchange of students and scholars with a view to developing a better understanding of the cultures, histories and business practices of both regions."[44]

The text was crafted shortly after the end of the Cold War by the officials of foreign affairs ministries with a tone of diplomacy and rediscovery of each other. The aim of academic mobility was to create generations of students and scholars who could enhance knowledge about each other's cultures and position one region into the other.

The ASEM Education Ministers met in 2008 to forge a strategic educational partnership and start the ASEM Education Process. The institutional structure, at the time of writing, is captured in Figure 1 which depicts the governance model with a four-point agenda, key actors, projects, multi-layered interactions, and connections.

Figure 1: ASEM education agenda and actors



Source: The author's compilation, 2016

44 ASEM 1996, §19

This multi-layered structure facilitates multilateral government-to-government and bilateral partnerships, as well as networks of non-governmental stakeholders which strengthen the connections within, and between, the two regions. Figure 1 also depicts the authority patterns and the allocated tasks and responsibilities among state and non-state actors. The senior officials, and their conception of an ASEM Education Area, are at the heart of the process where the actual decision-making activities occur in practice. The senior officials not only devise the agenda for the ministers' meetings, but also prepare the chair's conclusions, the most visible and important policy document of the process, similar to the Bologna Process Communiqués. The chair's conclusions show the ministers' political viewpoints, the common goals, achievements, new initiatives, and activities. This document is discussed extensively at the Senior Officials' Meeting (SOM), translated into national languages, where required, and enacted under the leadership of the senior officials in their national contexts.

In the past seven years of developing ASEM high-level educational partnership, academic mobility has always been one of the strategic goals of ASEM education ministers, and a way to ensure the success of people.

"[T]he Ministers emphasised *the need for an area where mobility of students, teachers, researchers, ideas and knowledge would be the core common goal*. The Ministers were convinced that it would be possible to ensure that people would be equipped to operate successfully in an international and global environment by reinforcing the collaboration and mobility."[45]

This chair's statement was written in the context of Europe celebrating the achievement of the decade-long Bologna Process, resulting in an unprecedented European Higher Education Area (EHEA) for increased student mobility. As it was crafted by officials from education ministries, and backed up by the success in Europe, this policy text has an optimistic tone: "…the ministers were *convinced* that it would be possible to ensure… [that] people operate successfully". What is new in this ASEM text is the "the need for an area", a new, larger, higher education space conjoining the two regions to accelerate student mobility, and subsequently the flows of skilled labour. In this imagined common space, student mobility between Asia and Europe can be enhanced:

…" by intensifying promotional activities in both regions, appointing competent students and staff with a mobility experience as "ambassadors for mobility" in each ASEM country and organising ASEM education fairs in Asia and Europe (e.g. with EU support)".[46]

The text entails technical details of specific policy tools which champion academic mobility and introduce a business model of an ASEM education fair, which appears to resemble, and expand, the concept of the European Higher Education Fairs[47], a regional branding initiative. Although the ASEM education fair has yet to take place, the desired massive scale of academic mobility in 51 ASEM member countries would indicate the significance of an ASEM Education Area.

45 ASEM ME5, 2015, italics by the author
46 ASEM ME3, 2011
47 European Higher Education Fairs http://www.ehef.asia/fairs.

Furthermore, ASEM education ministers go on to elaborate the goal explicitly:

"Inter-regional exchange of students and staff leads to an increase in internationally trained and experienced labour force and lays the ground for new partnerships in Asia and Europe."[48]

This policy goal is driven by the social efficiency value that measures the outcome of academic mobility as an "internationally trained and experienced labour force", and indicates that such human capital can be converted into other forms of capital, i.e. the new partnerships which mobilities afford. In this way, mobility is not a simple sojourn, but rather a process of sowing seeds for longer-term partnerships and connectivity.

ASEM policy on mobility also manifests a negotiation between different values: increase labour force and develop active citizens. For example, in the same conclusions of ASEM ME4 in 2013, the Malaysian chair emphasised the development of citizens and social cohesion as an important goal of ASEM education partnership, which is to:

"contribute to the development of highly qualified and active citizens who have a strong sense of social responsibility, are open-minded and respect cultural diversity." [...]

"reiterate the importance of education and training for balanced, sustainable and inclusive growth in Asia and Europe, as well as for democracy, cultural diversity and social cohesion in both regions."[49]

The policy challenge is to strike a balance between these humanistic values and the economic view of academic mobility.

4.2. Imbalanced mobility

Another reason for the mobility topic to be high on the ASEM agenda is that it depicts asymmetrical relationships between ASEM education systems. As shown in Figure 1, the adjective balanced gives specific meaning to mobility in the ASEM context. In the past, in the mind of European and Asian leaders, balanced was about attracting more Asian students to Europe – therefore balancing the number of Asian students studying in the USA with that in Europe. In a modern ASEM context, balanced means attracting more European students to Asian universities. The two following tables illustrate the statistics of Asian[50] mobile students in Europe and North America between 2008 and 2013.

48 ASEM ME4, 2013
49 Ibid.
50 Asian students in these tables include those from other Asian countries than the current 21 Asian ASEM countries.

Table 1: Inbound internationally mobile students from Asia at tertiary education level in 30 European ASEM countries, 2008-2013

Indicator	Inbound internationally mobile students from Asia, both sexes (number)					
Time	2008	2009	2010	2011	2012	2013
Country (30 European ASEM partners)						
Austria	7,081	7,837	8,429	8,370	6,357	7,617
Belgium	53	1,556	2,798	3,653	3,993	2,523
Bulgaria	3,715	4,340	5,234	5,601	5,970	5,966
Croatia	4	6	7	3	23	n/a
Cyprus	5,395	7,392	7,632	5,975	3,907	2,364
Czech Republic	2,713	3,011	3,440	3,743	4,176	4,588
Denmark	1,370	2,245	2,801	2,353	2,137	3,296
Estonia	78	107	146	207	270	291
Finland	3,721	4,387	5,175	5,984	7,035	7,698
France	51,021	55,123	56,680	58,516	58,777	53,086
Germany	62,439	65,597	67,551	n/a	n/a	59,741
Greece	n/a	n/a	14,971	15,144	14,625	n/a
Hungary	2,657	2,689	3,286	3,666	3,805	4,550
Ireland	3,516	3,785	4,793	2,535	3,585	5,294
Italy	9,040	12,750	12,604	16,718	19,480	22,662
Latvia	293	343	319	347	518	903
Lithuania	430	356	370	372	425	541
Luxembourg	55	n/a	124	n/a	163	199
Malta	132	121	n/a	122	142	133
Netherlands	3,112	3,130	3,410	6,119	9,686	n/a
Norway	2,716	3,025	3,078	3,400	3,459	3,204
Poland	2,858	3,186	3,479	3,707	3,985	4,493
Portugal	224	330	419	647	1,011	1,170
Romania	2,251	2,179	2,653	3,118	n/a	4,122
Slovakia	810	692	655	597	552	603
Slovenia	19	51	54	76	80	83

Spain	894	1,734	2,112	2,769	3,269	3,178
Sweden	6,265	10,904	14,300	16,808	12,020	8,516
Switzerland	3,209	3,544	3,974	4,380	4,762	5,102
United Kingdom	160,715	178,513	200,865	217,911	226,481	223,159
TOTAL	**336,786**	**378,933**	**431,359**	**392,841**	**400,693**	**435,082**

Source: UNESCO Institute for Statistics, extracted in February 2016. http://data.uis.unesco.org/#

Table 2: Inbound internationally mobile students from Asia at tertiary education level in Canada and the United States, 2008-2013

Indicator	**Inbound internationally mobile students from Asia, both sexes (number)**					
Time	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Country						
Canada	44,128	52,185	57,549	59,286	76,668	n/a
United States of America	419,580	451,725	479,397	508,441	542,748	583,705
Total	**463,708**	**503,910**	**536,946**	**567,727**	619,416	**583,705**

Source: UNESCO Institute for Statistics, extracted in February 2016. http://data.uis.unesco.org/#

Although the absolute figures of Asian students in Europe and North America are still imbalanced, this is not the topic of discussion at ASEM meetings. The phrase balanced mobility expresses the ministers' other concern, which has become a recurrent theme at all of their meetings.

"[...] student mobility between both regions is notably imbalanced. Many more Asian students study in Europe than Europeans in Asia. It was felt in previous Ministerial Meetings that measures should be taken to better balance mobility flows, especially by motivating more European students to spend at least part of their studies in Asia. To this end, mobility-friendly frameworks concerning information, funding and study conditions must be further developed."[51]

51 ASEM ME4, 2013

This passage indicates the asymmetric education relation between Asia and Europe in a very subtle language. Phrases like "it was felt that" and "to better balance", suggest that the balance might be improved, but never become an absolute balance. The phrase "more European students [...] to spend at least part of their studies in Asia" indicates a modest wish for an apparent balance, and explicitly accepts the perception (also reality) that many universities in Asia are not of comparable quality to those in Europe. Also, as a senior official of Thailand's Higher Education Commission pointed out: "It would never be possible to balance flows, as Asia has a huge young population compared to Europe."[52]

Furthermore, both Europe and Asia are implementing strategies to promote intra-regional mobility, as cross-regional mobility is seen as a more complex and costly project. In Europe, the strategy paper *Mobility for Better Learning,* adopted by the EHEA ministerial conference in 2012, encourages member countries to strive for more, and better balanced, mobility inside, and outside of, the EHEA. In Asia, there is also an emerging view that encourages more Asian students to study closer to home. Regional schemes, such as ASEAN International Mobility for Students (AIMS) and the ASEAN University Network (AUN), are mainly to boost intra-regional mobility. Moreover, many countries that have traditionally sent students are now diversifying their domestic provision of higher education, and enhancing its quality, through partnerships with Western universities and, increasingly, with universities from neighbouring countries. The new educational hubs in Asia attract students from afar, and from within the region.

Table 3: Total international student enrolment in selected Asian countries

Country	2011/2012	2012/2013	2013/2014
China	328,330	356,499	377,054
Australia	245,531	247,093	269,752
Japan	137,756	135,519	139,185
Malaysia	86,923 (2010)	n/a	n/a
New Zealand	48,104	41,609	46,659

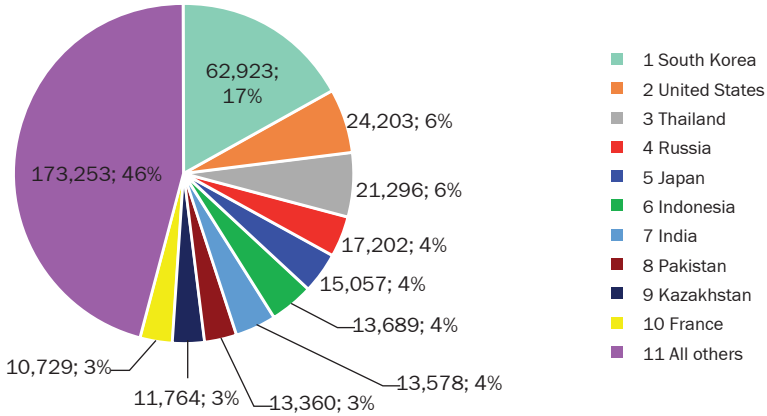
Source: Author's compilation from http://www.iie.org/Research-and-Publications/Project-Atlas

China has recruited increasing numbers of international students in recent years with roughly around 42% on full degree mobility and 58% on non-degree mobility. China has a target to reach 500,000 in 2020.[53] The majority of international students are from Asia, the USA and France as shown in Figure 2 below.

52 Thailand's presentation delivered at the 3rd ASEM Rectors' Conference at the University of Groningen, the Netherlands, September 2012. The author's direct observation at the event.

53 http://monitor.icef.com/2015/11/the-state-of-international-student-mobility-in-2015/.

Figure 2: Top 10 sending places of origin and number/percentage of international student enrolment in China 2014



Source: Author's compilation from http://www.iie.org/Services/Project-Atlas/China/International-Students-In-China

Similarly, Japan has also increased its recruitment and set a goal of hosting 300,000 international students by 2020.[54] More than 90% of them are currently from Asia, with the main sources China, Korea, Viet Nam, Nepal, the Taiwan Province of China, Indonesia, Thailand, Malaysia, and Myanmar).

In summary, Asia and Europe pursue their objectives of increasing intra-regional mobility, and in parallel promote extra-regional mobility to strengthen Asia-Europe connectivity. Balanced mobility in the ASEM context has shifted its focus to encourage more European students and scholars to Asian universities to enhance reciprocal exchange.

54 The "300000 Foreign Students Plan" http://www.studyjapan.go.jp/en/toj/toj09e.html.

4.3. Obstacles to academic mobility

Academic mobility faces a series of obstacles at different levels. These include personal motivation, funding, access, academic standards, language skills, recognition of study periods and foreign qualifications, immigration regulations and tenure contracts of staff. All impact greatly on the expansion or restriction of academic mobility. To tackle some of these obstacles, ASEM senior officials have launched different pilot projects, such as the Beijing Bridging Declaration on Recognition of Qualifications, ASEMUNDUS, which links European and Asian universities and ASEM joint degree programmes in tourism and hospitality, with a view to enhancing the curriculum and the mobility of students and teachers.

Aware of shrinking funding, a fundamental obstacle to mobility, ASEM Ministers:

"... [Re]affirmed that equal access to interregional learning experiences should be ensured through sufficient public student support and the development of mobility opportunities." [55]

At ASEM ME5 in April 2015, ASEM partners confirmed their financial commitment to support academic mobility. The European Commission offers Erasmus+ and Marie Skłodowska-Curie scholarships. The EU-funded SHARE project[56] provides technical and financial resources for enhancing ASEAN regional quality assurance, credit transfer systems, qualification frameworks and scholarships for mobility. ASEM-DUO scheme continues to offer student and professorial exchanges on a reciprocal basis. China's One Belt, One Road[57] Plan offers tens of thousands of Chinese government scholarships to students from the countries along the Belt and Road. Numerous other national scholarship schemes, and bilateral partnerships of ASEM countries, also contribute to inter-regional mobility. Furthermore, the European Research Area has launched the initiative EURAXESS – Researchers in Motion[58] to enhance research collaboration between Europe and the world. The scheme is particularly active in Asia.

55 ASEM ME4, 2013

56 EU SHARE: European Union Support to Higher Education in the ASEAN Region. http://www.share-asean.eu/

57 In March 2015, China's National Development and Reform Commission joined its ministries of foreign affairs and commerce to release an expansive blueprint for what it calls the Silk Road Economic Belt and the 21st Century Maritime Silk Road—often shortened to "One Belt, One Road". It is aimed at fostering collaboration along the historic Silk Road and maritime routes, which would pass through Southeast Asia, Middle East and East Africa, http://news.xinhuanet.com/english/china/2015-03/28/c_134105858.htm;
Policy Brief on the 'One Belt and One Road' Plan, http://www.ecfr.eu/page/-/China_analysis_belt_road.pdf;
Commentary, https://www.foreignaffairs.com/articles/asia/2015-04-19/chinas-road-rules.

58 EURAXESS – Researchers in Motion, http://ec.europa.eu/euraxess/index.cfm/links/index.

Social and cultural barriers impact greatly on mobile students and scholars. In daily life, they look to acquire personal sensibilities, engage in the local environment, build social networks and lasting friendship, and obtain new values in their country of education. However, these potential benefits of mobility should not be romanticised. In practice, mobile students and scholars encounter many contradictions and uncertainties. As outsiders, mobile students have ambiguous meanings for the host country. On one hand, they are valued and welcomed because they are seen as a source of revenue, research labour, future human capital, and international ambassadors. On the other hand, they trigger border anxiety and bureaucratic categorisation. As citizens of two national jurisdictions and with two political relationships, mobile students often cannot exercise the full rights and entitlements of citizens in either home or host country.[59] In day-to-day life, many have to cope with negative and discriminatory experiences. Even when they are welcomed in the host countries, they may quickly become categorised as a threat if their presence and their benefits endanger the entitlements and opportunities of the local people.

Other challenges have emerged in the countries which send most students abroad. According to market rules, the material and symbolic value of foreign academic qualifications also depend on scarcity[60] and the increased volume of mobility may diminish this exclusiveness and reduce the value of international credentials. Additionally, mobile students and young academics may face the situation where fast changes are happening at home while they are studying abroad, and they may be left isolated if they are not established in the local networks. Mobile students and academics do not always harvest the best of both worlds. The different national and institutional contexts in home and foreign countries may restrain their ability to engage in knowledge production and dissemination and to translate and transfer various elements of academic fields across boundaries.

5. Academic mobility and brain circulation

Academic mobility also poses challenges for governments in the sending countries. These are often developing countries, and can be anxious about losing their talent, in whom they have invested through, at least, their initial education, to more developed countries. This phenomenon is widely known as ”brain drain”. The term was coined by the British Royal Society to describe the outflow of British and European scientists to North America in the 1950s. In the 1970s, the brain drain issue came to be associated with the emigration of highly skilled individuals from developing to advanced countries.[61] Today, this pattern of a one-way flow of qualified workforce has changed to a multi-directional movement, and so requires a new understanding.

59 Marginson, 2012
60 Bourdieu, 1986
61 Liu-Farrer, 2009

The brain drain concept is based on a zero-sum thinking in which one nation's loss is another's gain. This, in turn, derives from the belief that relationships between nation-states are inevitably competitive. The brains involved are not only a resource for the nation-state but belong to it and can therefore be lost to it, or gained by-it. This assumption also sees knowledge as embodied and territorial. Knowledge is contained within the brain, therefore when the body and brain leave a particular territory the knowledge leaves too. In this view, the brains tend to be conceived in individualistic, instrumental, almost nationalistic ways, in the sense that there is a conflation of the body with the nation.[62] These assumptions are implausible, but they persist.

In today's global knowledge economy, highly skilled professionals seek better standards of living, higher salaries, better access to advanced technology, and more stable political conditions in different places worldwide.[63] This phenomenon causes dilemmas and challenges for policy makers, in both developing and developed countries. The developed countries seek to attract qualified workers for their knowledge economy, but insist on preventing the movement of low-skilled workers and refugees. Many developing countries have become reliant on the remittances sent home by emigrants, but this is not a long-term solution to their social and economic development.[64] In the globalisation era, the issue is no longer where people are physically located, but what contribution they are able to make to the social, cultural and economic development of the (multiple) countries with which they identify.[65] This new conceptual understanding of mobility is known as brain circulation, which helps broaden views on the mobility of knowledge workers for Asia-Europe connectivity.

In practice, ASEM countries introduce policies linking academic mobility and migration. For example, to minimise the reverse brain drain, some receiving countries, which offer free higher education and/or scholarships, retain a certain share of qualified foreign graduates, who may be obliged to work in the host countries for a period of time upon their graduation. This retention can be seen as compensation for the investment which has been made in international students.[66] At the same time, many sending countries have introduced policies to reduce the emigration of qualified workers by improving domestic study options with joint programmes and foreign campuses, by promoting the return of graduates, and by engaging with diaspora networks.[67]

In summary, brain circulation is the material, social, and intellectual outcome of academic mobility. The idea of circulatory movement accounts for transient flows of graduates, academics, etc. and increases the connectivity between them, their home country, and other countries with which they identify. Brain circulation offers a conceptual alternative to the blurred boundary between mobility and migration.[68]

62 Fahey and Kenway, 2010
63 Rizvi, 2005
64 Rizvi and Lingard, 2010
65 Rizvi, 2011; Welch, 2015
66 Suter and Jandl, 2008
67 Ziguras and Gribble, 2015
68 Jöns, 2009

6. Concluding thoughts

The history of Asia-Europe academic mobility over the centuries has contributed to people-to-people connectivity. The current ASEM education process aims at increasing mobility and making a more profound impact on Asia-Europe connectivity across various sectors. This is premised on the belief that the friendships, social connections and intellectual capacity created by mobile students and scholars can bind them together, thus rejuvenating scientific, cultural, economic, and diplomatic connectivity among ASEM countries. In order to reap such benefits, efforts should be made to devise effective policies and implementation plans for maximising mobility opportunities and minimising adverse effects.

Based on the analysis in previous sections, there seem to be two policy streams in the ASEM education process. The European ASEM countries continue to promote intra-regional mobility, but increasingly encourage their students to study outside Europe, especially in Asia. The introduction of Erasmus+, Marie Skłodowska-Curie scholarships, and portable financial support (grants or loans) and the emergence of the ASEM Education Area, with an extended list of Asian countries to choose from, are seen as regional policy instruments to increase extra-regional mobility. The Asian ASEM countries, whose students continue to be attracted by Europe, are making an effort to promote intra-regional mobility within Asia. In this context, cross-regional mobility will require innovative policy solutions. Governments can play an important role in at least the following areas:

- Making regulations and/or providing incentives for universities to create joint curriculum programmes with short-term mobility. This will increase access and affordability for students.

- Giving extra support and encouragement to students in certain subject areas. From the perspective of democratic equality, teacher education students should be encouraged to study abroad given their future role and long-term contribution to the internationalisation of education. Also, mobility opportunity should be created for the students in those specialised fields that require a critical mass of students, high level of technology, and massive investment in research facilities in order to develop quality educational provision and centres of excellence. From the perspective of social efficiency, the mobility of doctoral candidates is especially relevant, as their research, even when conducted abroad, can meet the needs of their country of origin.

- More mobility opportunities should be offered to students, teachers and trainers in the Technical and Vocational Education and Training (TVET) sector in ASEM countries.

- At ASEM ME5, the ministers of education discussed the collaborative options of integrating technology into educational delivery methods, e.g. Massive Open Online Courses (MOOCs), to change the conventional physical mobility mode of study, and to widen access for unconventional students, such as those in employment, older students, those with family commitments, or those from a lower socio-economic background.

There is no shortage of policy ideas, but the challenge is how they can be turned into policies and actions. Perhaps a special ASEM expert working group on mobility could be set up. With

experience and expertise from both Asia and Europe, such a group could critically review the current initiatives in all the ASEM ME chair's conclusions, utilise research on mobility, and propose priorities to concentrate resources on a few viable projects in a coordinated manner.

Finally, it is evident, through the ASEM policy review process, that academic mobility manifests a complex negotiation between different political, economic, and intellectual/cultural agendas. This necessitates education policymakers to work across sectors, and consider a variety of inter-related factors that influence patterns of academic mobility. These include domestic capacity, economics, demographics, labour market requirements, and immigration policies. Given the diversity and disparity among ASEM countries and their education systems, the ASEM higher education process should prioritise collaboration and innovation for intellectual advancement and equity, rather than paving the way for gaining bigger market shares of international students.

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5.2. Towards an Open Education Area Between Asia and Europe

Jan M. PAWLOWSKI, Juvy Lizette M. GERVACIO

Abstract

Open Education is an important trend to improve education on all levels. Re-using, sharing and the collaborative development of Open Educational Resources and Practices can lead to new fruitful collaborations. The key question is how to utilise Open Education for promoting educational collaborations between Europe and Asia. While some countries have successfully adopted national strategies and policies to improve their educational systems, the potential for collaboration has not been exploited.

The main goals of this paper are to: (i) introduce Open Education; and (ii) to develop recommendations to improve educational collaboration between Asian and European countries. The main idea is to establish an Asian-European Open Education Area (OEA). For this purpose, we propose recommendations on three levels; policy; organisational; and individual. We study how Open Education and Open Educational Resources can contribute to more intense collaborations. We conclude with recommendations for policy makers and researchers. We provide key recommendations on a policy, as well as operational level, to achieve the goal of better educational collaborations between Asia and Europe.

Introduction: explaining open education

Open Education comprises all activities with the goal of creating better access and quality of education by using openly available resources and practices in education on all levels.[1] Open Education and in particular Open Educational Resources (OER) are a promising approach to reduce cost and increase access to education on a global scale.[2]

As a starting point, it is necessary to clarify the concept of OER. According to our understanding, an OER is any digital object which can be freely accessed, modified and (re)used for educational purposes, using an open license. This broad definition includes a variety of different products: learning objects such as simulations or animations; software tools like wikis or authoring systems; electronic textbooks and lesson plans or experiences shared. Using open licenses such as Creative Commons or GNU Public License is essential for re-use. The main aspect is that the OER is usable to improve education.

As the definition includes a variety of possible artefacts, it is necessary to understand which of these can contribute towards Open Education. The following classification shows the broad range of artefacts as well as parallels to other initiatives[3]:

- **Resources:** Currently, the main research field is how to make learning objects (specific digital objects created for learning purposes) available and reusable. This includes multimedia documents, simulations but also simple HTML web resources.
- **Articles, textbooks and digital equivalents:** This class of resources contains typical items provided by libraries, such as articles, papers, books or journals. When freely available, this class of objects relates to the concept of open access.[4,5]
- **Software tools** are used for different purposes, such as producing/authoring learning resources, but also for communication and collaboration. Objects of this class are usually referenced as open source or free software.[6]
- **Instructional/didactical designs and experiences:** Educators are highly dependent on planning and designing their learning experiences successfully. This class of resources includes access to instructional designs, didactical planning such as lesson plans, case studies or curricula. It also includes one of the most valuable resources: sharing experiences about materials and lessons between colleagues. This class of objects is also called Open Educational Practices.[7]

1 Cf. Mulder & Janssen (2013)
2 UNESCO, "Forum on the impact of open courseware for higher education in developing countries: Final report," 1-3 July 2002
3 Henri Pirkkalainen, Jussi P. P. Jokinen, Jan M. Pawlowski and Thomas Ritcher, "Overcoming Cultural Distance in Social OER Environments,' in *CSEDU 2014; Proceedings of the 6th International Conference on Computer Supported Education,* Barcelona, Spain, 1-3 April 2014, pp. 15-24.
4 Bo-Christer Björk (2004) "Open access to scientific publications – an analysis of the barriers of change," *Information Research* 9, no. 2, http://www.informationr.net/ir/9-2/paper170.html.
5 Charles W. Bailey (2005) *Open Access Bibliography: Liberating with E-Prints and Open Access Journals* (Washington, DC: Association of Research Libraries.
6 Eric S. Raymond, *The Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary* (Sebastopol, CA: O'Reilly Media, 1999).
7 Ulf-Daniel Ehlers, "Extending the territory: From open educational resources to open educational practices," *Journal of Open, Flexible, and Distance Learning* 15, no 2 (2011): 1-10, https://www.editlib.org/p/147891/article_147891.pdf.

- **Open Educational Ideas (OEI)** denote concepts, ideas and innovations which are in an initial stage.[8] OEI are thus early-stage artefacts such as prototypes, sketches, brainstorming or generally unfinished OER.

The range of artefacts allows different forms of collaborations which might be fruitful, amongst them:

- Sharing and re-using learning materials, curricula and practices would be beneficial to save development costs for high quality materials, but also for better alignment and comparability of curricula;
- Collaborative courses to increase students' international exposure and experiences;
- Better transition between educational systems in different countries to increase mobility as well as enhance transnational education;
- Better understanding of learning and teaching practices amongst teachers.

There are many possible benefits; OER might increase the quality of, and access to, education on both continents. However, sharing of resources and collaboration has not been fully explored by Asia-Europe Meeting (ASEM) countries. It will therefore be necessary to work actively towards better connectivity and provide the framework to share OER and help educate the next generation of Asian-European students.

Learning object repositories and initiatives

The most intuitive way to find resources seems to be to access them through a search engine like Google. However searching this way might be a painful process, as most results are not specific for educational settings. Most initiatives provide their materials in Learning Object Repositories (LOR) which provide access to educational resources. Most of them have stored a variety of information about the materials -metadata. Users can search for specific materials by categories such as subject, age group or context. This more specific search might lead to more specific results.

8 Henri Pirkkalainen and Jan M. Pawlowski, "Collaborating on ideas: Tackling barriers to open education," in *World Conference on educational media, hypermedia and telecommunications,* 23 June 2014, Tampere, Finland.

Several communities provide OER for different purposes, subjects and regions.[9,10] The Massachusetts Institute of Technology OpenCourseWare (MIT OCW) project[11] in the USA, and several US universities make their content freely available. In Europe a variety of universities have formed communities to share and distribute content. One major initiative is the Open Content initiative OpenLearn[12] by the Open University UK. The Global Learning Objects Brokering Exchange (GLOBE) initiative[13] also provides access to a variety of resources in globally distributed repositories. Other initiatives, which mainly provide learning object repositories (LORs) to share OER, are Multimedia Educational Resource for Learning and Online Teaching (MERLOT) II[14], OER Commons[15] as well as Advance Learning Interactive Systems Online (ALISON).[16]

There are specific communities based on the region, educational level or topic:

- Open Education Europa[17] is a community and resource collection for all kind of OER including Massive Open Online Courses (MOOCs), papers and learning objects. It is currently the main access point for Open Education in Europe;
- The main repository for schools in Europe is currently the Learning Resource Exchange (LRE)[18] by European Schoolnet. This initiative supported by European ministries of education provides access to a variety of materials in different forms;
- Idea sharing and collaborative development is supported through an Idea Space[19] which aims to bringing educators together towards common course and OER development;
- OER Asia[20] is one of the main repositories for the Asian context where research studies, knowledge resources and good practices about Open Education Resources in the Asian Region are shared and discussed.

9 Gajaraj Dhanarajan and Ishan Sudeera Abeywardena, *Higher education and open educational resources in Asia: an overview* (Vancouver, BC: Commonwealth of Learning, 2013), PDF E-book, 3-18, https://oerknowledgecloud.org/content/higher-education-and-open-educational-resources-asia-overview.

10 Jonathan Castaño Muñoz, Christine Redecker, Riina Vuorikari and Yves Punie (2013) "Open Education 2030; Planning the future of adult learning in Europe," *The Journal of Open, Flexible and Distance Learning*, 28, no. 3: 171-186, http://www.tandfonline.com/doi/full/10.1080/02680513.2013.871199.

11 MIT Open Courseware, http://ocw.mit.edu/.

12 OpenLearn, http://www.open.edu/openlearn/.

13 Global Learning Objects Brokering Exchange, http://www.globe-info.org/.

14 Merlot II, http://www.merlot.org/.

15 OER Commons, http://www.oercommons.org/.

16 Alison, http://www.alison.com.

17 Open Education Europa, http://www.openeducationeuropa.eu.

18 Learning Resource Exchange, http://lreforschools.eun.org/.

19 Idea-space, http://idea-space.eu/.

20 OER Asia, http://www.oerasia.org/.

The following table gives a short description of the contents available in those selected repositories.

Repository	Description	Website	Countries/ regions involved*	Nature of sharing	Courses offered
Open Education Europa	The main goal of the Open Education Europa portal is to offer access to all existing European Open Education Resources in different languages in order to be able to present them to learners, teachers and researchers. Open Education Europa is a dynamic platform, built with the latest cutting-edge open-source technology, offering tools for communicating, sharing and discussing. The portal is structured in three main sections: The Find, Share and In-depth Section.[21]	http://www.openeducationeuropa.eu/	EU countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom Non-EU: Belarus, former Yugoslav Republic of Macedonia Iceland, Norway, Russian Federation, Serbia, Switzerland, Turkey	Copyright notice as stated in the website: Reproduction is authorised, provided the source is acknowledged, save where otherwise stated. Where prior permission must be obtained for the reproduction or use of textual and multimedia information (sound, images, software, etc.), such permission shall cancel the above-mentioned general permission and shall clearly indicate any restrictions on use.[22]	There are approximately 800 courses offered, ranging from the field of science and technology, social sciences and humanities to applied sciences, business, mathematics and statistics, natural sciences and arts.

21 Open Education Europa, "About this Portal," http://www.openeducationeuropa.eu/en/about_this_portal.
22 Open Education Europa, "Legal Notice," http://www.openeducationeuropa.eu/en/page_legal_notice.

Repository	Description	Website	Countries/ regions involved*	Nature of sharing	Courses offered
Learning Resource Exchange	The Learning Resource Exchange (LRE) from European Schoolnet (EUN) is a service that enables schools to find educational content from many different countries and providers. It was developed in order to provide Ministries of Education with access to a network of learning content repositories and associated tools that allow them to more easily exchange high quality learning resources that 'travel well' and can be used by teachers in different countries.[23]	http://lreforschools.eun.org/	Austria, Belgium, Czech Republic, Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Lithuania, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, United Kingdom, USA	Copyright Notice as stated in the website: The vast majority of LRE content is provided under a Creative Commons license, an internationally recognised scheme that helps define the spectrum of possibilities between full copyright (all rights reserved) and the public domain (where no rights at all are reserved).	There are no courses offered in the website. The website is a repository of learning materials – usually with educational contents for teaching.

23 Learning Resource Exchange, "About," http://lreforschools.eun.org/web/guest/about.

Repository	Description	Website	Countries/ regions involved*	Nature of sharing	Courses offered
Idea Space	This platform is a place to find others to connect to, and work together, on open education, from the very beginning when bouncing around ideas, to the final outcome – whether this is an open course, open textbook or anything else that helps to open up education.[24]	http://idea-space.eu	Finland Germany Greece Lithuania	Each OER has an indicated license agreement	There are no courses offered in the website. Rather, users are encouraged to share their ideas related to Open Education. Files shared in the website are mostly OER
OER Asia	OER Asia is an Asian forum to share information, opinions, research studies and knowledge resources. In addition it shares guidelines and toolkits on good practices on and about Open Education Resources in the Asian region.[25]	https:// oerasia.org	Bangladesh China Taiwan Province of China India Korea Malaysia Thailand	There is a copyright and licensing toolkit uploaded in the website	There are no courses offered in the website. It is a repository of Open Educational Resources that are categorised based on the institution offer, or for a specific purpose (e.g. Every Stock Photo – a search engine for free photos)

** Countries in grey are non-ASEM partners.*

Although there are many global initiatives, there are no connected activities between Asia and Europe on a national or regional level. There are some specific institutional collaborations, but no systematic initiatives aim at promoting and realising Asian-European collaboration regarding Open Education.

24 Idea-space, "Welcome to idea space," http://idea-space.eu/.
25 Open Educational Resources Asia, "About Us," https://oerasia.org/index.php?option=com_content&view=article&id=3&Itemid=4.

Barriers and interventions to open education and collaboration

The amount and variety of educational materials is huge. However, many barriers still exist[26], especially when re-using and sharing across borders.[27] Several studies discuss these barriers[28,29], such as:

- Lack of policies on a national level;
- Lack of organisational support;
- Lack of resources for sustaining services, content and infrastructures;
- Lack of time for production and localisation of OER;
- Lack of business models;
- Lack of knowledge and awareness of learning object repositories;
- Open content does not fit the scope of the course, or matching the resources to own curricula is problematic;
- Availability in other languages than English; and
- Cultural fit.

Dhanarajan and Abeywardena[30] focus on technical and attitudinal barriers in the Asian context:

- needing technical support to search and find digital resources;
- locating and clearing copyright;
- setting up technical infrastructure (computers, connections);
- installing appropriate software; evaluating the quality of resources;
- integrating resources into learning management systems;
- using learning management systems.
- apprehension about the quality of the digital resources, the context of their creation and the appropriateness of the resources to buttress the curriculum; and
- lack of confidence in learners' skills to use digital resources and anxieties over issues relating to plagiarism.

Dhanarajan and Abeywardena also added that low awareness amongst teachers and policy makers about OER is another impediment that hinders the maximisation of its potential. Both play a critical role in the acceptance and integration of resources in teaching.

These barriers need to be tackled on different levels, from policy level by governments to the operational level by developers, teachers, users and other stakeholders.

26 Henri Pirkkalainen and Jan Pawlowski (2013) "Global Social Knowledge Management: From Barriers to the Selection of Social Tools," *Electronic Journal of Knowledge Management 11,* no. 1, pp. 3-17, http://www.ejkm.com/issue/download.html?idArticle=379.

27 Pirkkalainen et al,*Overcoming Cultural Distance.*

28 Thomas Ritcher, Alan Bruce, Tore Hoel, Elina Megalou, Thomas Kretschmer, Ildiko Mazar, Sofoklis Sotiriou and Christian M. Stracke, "Barriers against open educational resources and possible solutions: teachers perspectives and recommendations," in *EDEN Conference,* Oslo, Norway, 12-15 June 2013.

29 Henri Pirkkalainen and Jan M. Pawlowski, Collaborating on ideas.

30 Gajaraj Dhanarajan and Ishan Sudeera Abeywardena (2013) *Higher Education and Open Educational Resources in Asia.*

The Asian-European open education area: policy and operational recommendations

There have been many OER developments, including Europe and Asia[31] but no long-term collaborations have been established to increase collaborations and connectivity between these continents. Based on our current studies, we will show successful collaboration strategies and approaches towards harnessing the full potentials of Open Education. We show a pathway towards a common Open Education Area (OEA) between Asia and Europe as a tool to connect educational systems, institutions and individuals.

As a basis, we use the recommendations of the *UNESCO Paris Declaration* (2012)[32] which, until now, is the only global consensus document promoting Open Education and the recommendations by Pawlowski and Hoel (2012).[33] The *UNESCO Paris Declaration* as a global effort has shown the potential of OER for global education. The declaration has given policy recommendations which have – until now – only been implemented in a few countries, such as the Philippines and Lithuania.

Recommendations in 2012 Paris Open Educational Resources (OER) Declaration

1. Foster awareness and use of OER
2. Facilitate enabling environments for use of Information and Communication Technologies (ICT)
3. Reinforce the development of strategies and policies on OER
4. Promote the understanding and use of open licensing frameworks
5. Support capacity building for the sustainable development of quality learning materials
6. Foster strategic alliances for OER
7. Encourage the development and adaptation of OER in a variety of languages and cultural context
8. Encourage research in OER
9. Facilitate finding, retrieving and sharing of OER
10. Encourage the open licensing of educational materials produced with public funds

Based on these, we will give recommendations for policy, and operational development at an organisational and individual level, with a focus on recommendations for the ASEM process. Policy recommendations are directed towards governments, whereas organisational and individual recommendations are more operational and should be considered by institutions and people engaged in collaboration and OER.

31 Jan M. Pawlowski et al. (2014) *Overcoming Cultural Distance.*

32 UNESCO (2012) 2012 Paris OER Declaration, 20-22 June, www.unesco.org/new/.../HQ/CI/.../Paris%20OER%20Declaration_01.pdf.

33 Jan M. Pawlowski and Tore Hoel (2012) "Towards a global policyfor open educational resources: the Paris OER Declaration and its implications (White Paper, Openscout), http://monet.informatik.rwth-aachen.de/giotto/OpenScout_df6f1252-bfa6-11e1-a668-e13baff9bd23.pdf.

I. Policy recommendations

What are the necessary steps governments need to follow? This is discussed in the following recommendations.

Governmental support for an Open Education Area between Asia and Europe

There is no doubt that international, in particular Asian-European collaboration, will lead to improvements in the quality of education and positive long-term business effects.

We assume that in principle governments support the idea of collaboration improvement and this should be explicitly stated in a common memorandum or other form of partnership agreement or declaration. In the following, we describe the necessary steps to work towards an Open Education Area.

Reinforce the development of strategies and policies on OER

Until now, only a few governments, such as the Philippines, have adopted the concept of Open Education for their national educational policies. However, institutions and administrations need governmental support to implement this change. It is highly necessary to extend existing educational policies regarding OER. It should be assessed how OER can be incorporated when policies are revised. There should be either a dedicated OER policy or inclusion in existing ones.

For the OEA context, this could mean that a high-level agreement proposes the development of strategies as well as a commitment to resources and incentives to enable more collaborations based on national policies. Those could be synchronised and endorsed through the ASEM meeting with high-level recommendations.

For governments, this means that strategies need to be developed for including OER as an alternative to traditional and commercial learning materials for formal and non-formal education. It is also a mechanism to provide better access and wider reach, especially to areas that are geographically hard to reach.

Furthermore, access to OER should be widened throughout society, in particular for special needs education as well as marginalised and vulnerable groups, so working towards social inclusion. It could include courses related to disaster risk reduction and management, and climate change adaptation strategies.

To achieve an OEA, governments need to launch country-focused actions, but also campaigns harnessing the possible benefits of Open Education and Asian-European collaboration. A common fund should be started to enable and incubate long-term collaborations.

Foster strategic alliances for OER

Strategic partnerships across continents are a necessity for successful OER adoption. This is valid for partnerships within a country, e.g. between schools, publishers, content providers and technology providers and between countries, e.g. teaching collaborations, as well as for development work (North-South collaborations). Furthermore, self-sustainable communities should be created which work on resource improvement, quality assurance and experience sharing.

For the OEA this means to exploit current bilateral and multilateral relations between, and among, countries, regions and institutions. Existing relations need to be extended towards collaboration regarding funding programmes and policies on the governmental level, as well as concrete actions such as the common development of OER and common courses between institutions in Asia and Europe. Concrete actions and good practices should be shared and promoted.

Encourage the open licensing of educational materials produced with public funds

Governmental/public funding is still the main model for educational institutions. However, many publicly funded results remain restricted and are not open to the public. Thus, a part of the policy change should ensure that publicly funded educational projects, e.g. developing educational materials or practices, must be available using an open license. These open licenses, such as Creative Commons, are a prerequisite for a wide uptake of OER. However awareness and knowledge is rather low, even though there are simple schemes such as Creative Commons. It is necessary to increase awareness and knowledge on licensing options. Policies on licensing schemes for public projects and procurement should also be crafted.

For the OEAit means that different countries need to coordinate their efforts regarding policies but also awareness regarding licensing. The discussion on, for example, licensing should involve publishers and educators across borders, wherein they could identify potential OER programmes and projects that could benefit both continents.

Encourage the development and adaptation of OER in a variety of languages and cultural contexts

OER should be considered as a strong instrument when designed in a smart way in multilingual and multicultural versions. For this it is necessary to involve different communities of educators to take ownership, and thus maintenance and improvement of specific OER. Both Europe and Asia share the diversity regarding ethnic cultures and languages and small initiatives have been promoting this concept, such as the project LangOER.[34] It aims to promote diversity by offering face to face and online training in seven languages to create awareness and promote the creation and use of multilingual and interactive OER.[35]

It cannot be the aim to communicate and teach in one language but to promote and enable regarding languages and cultures.

Encourage research on OER

There has been a lot of research on OER around the globe, in particular in Europe. It is necessary to disseminate those results more effectively. Based on this, research gaps need to be identified. These should be addressed in global and national research programmes. More collaborative research is necessary, validating the impact of Open Education and developing implementation and adoption strategies. This should be based, and supported, on existing networks such as the ASEM Education and Research Hub for Lifelong Learning (ASEM LLL Hub).

II. Organisational recommendations

Organisations might have restrictions which do not allow their faculty members to utilise Open Education. Therefore, organisations need to be involved and committed.

Foster awareness and use of OER

Open Education is not yet mainstream in educational institutions, and there are still many fears and insecurities surrounding how to utilise OER. This means that awareness actions need to be implemented for schools as well as for universities.

Educational institutions should develop strategies on how to increase awareness on the use of OERs and Open Education in general. This also means developing various materials and guidelines on how Open Education and OERs could provide more access to more learners.

34 Linda Bradley and Sylvi Vigma (2014) "LangOER: Open Educational Resources in less used languages: a state of the art report," *LangOER*, http://langoer.eun.org/c/document_library/get_file?uuid=1d1f23d3-d38d-4298-b8d1-c7422c1c205d&groupId=395028.

35 LangOER, http://langoer.eun.org/.

Develop Organisational Open Education Strategies

Organisations will not change their practices to engage and invest in Open Education if this is not strongly embedded in the institutions' strategies. It is necessary that Open Education is backed by an appropriate strategy. A good example is Canada's Athabasca University, which clearly promotes and encourages the use of open licenses.[36] In building a strategy, institutions need to use a participatory engagement process to create awareness and encouragement from the very early stages. The University of the Philippines Open University (UPOU), for example, conducted a series of discussions to create its OER policies and strategies.

In a paper presented during UPOU Open Education Resources Policy Forum (5 June 2012, Laguna, Philippines), UPOU outlined the strategies and policies for its OER:

- Promote the use of OER in in support of quality teaching and learning
- Support the creation of OER
- Establish an open licensing framework
- Contribute to the sharing of OER globally
- Integrate OER values and processes in institutional policies and systems/practices

Recognition of OER development in assessment for tenure and promotional procedures

Recognition of utilising and developing OER is not yet a common practice. Current tenure procedures, as well as incentive systems, do not count OER as a valuable part of employees' performance. This needs to be clearly addressed by educational institutions; OER use must be explicitly allowed and OER development and sharing must be explicitly promoted. Development of OERs should also be included in assessment and tenure procedures. In the case of the University of the Philippines Open University, the development of course materials is recognised as a credit load and included in the assessment for tenure and promotion of its faculty members.

Support capacity building for the sustainable development of quality learning materials

It is very necessary to develop training programmes for OER usage and adaptation for different levels. It would be useful to partner with organisations such as UNESCO or Commonwealth of Learning to coordinate training materials which can be easily localised. Additionally, quality mechanisms need to be developed for easy and dynamic quality assurance. For this purpose educators also need to be aware of, and competent in the use of, quality and training materials.

For the OEA, this action is crucial. The diversity of countries, with very different economies, leads to diverse requirements and needs. The capacity building approach should incorporate contexts and lead to mutual benefits to avoid a one-way export strategy and new barriers.

36 Cindy Ives and Mary Margaret Pringle (2013) "Moving to Open Educational Resources at Athabasca University: A case study," *International Review of Research in Open and Distributed Learning* 14, no. 2: 1-13, http://files.eric.ed.gov/fulltext/EJ1008089.pdf.

A consortium of various institutions that are engaged in OERs and Open Education can develop and implement training programmes on OER development, including customisation and contextualisation. They can be in the form of face to face, and online, capacity building programmes that could cater to academics, governments, NGOs and other individuals involved in OERs.

Build organisational partnerships and use existing partnerships for Open Educational collaborations

Many organisations have already been involved in educational and academic exchanges. Organisations need to build upon those partnerships where personal connections have already been established. Current programmes and individual collaborations should be extended towards Open Education collaboration. Also existing networks and strategic partnerships should discuss how collaborative courses and OER development would be feasible and fruitful.

ASEM is one of the platforms that could be utilised to share information on OERs and Open Education, to collaborate on OER development and customisation and develop awareness and capacity building programmes.

III. Individual recommendations

Last but not least, Open Education is realised by people – researchers, educators, students. On this very concrete level, collaborations need to be initiated in different forms.

Promote collaborative course and material development

An Open Education Area should be realised through different forms of collaboration. This could be sharing of experiences on the use of OERs through participation in various conferences and training programmes. Colleagues in Asia and Europe should aim to develop and run collaborative courses as these can be beneficial for both educators and students. For educators, common courses and the collaborative development of OER lead to cost and time savings, but moreover to a broader view on the subject. In particular, educators and students get to learn about each other's regional or national needs and specifics. As a result, students will learn in the very early stages about issues, problems and challenges in different cultural environments.

Facilitate finding, retrieving and sharing of OER

A lot of R&D efforts have been carried out in recent years to support search, retrieval, re-use and re-publishing of OER, e.g. through federated repositories. Research in this direction should be encouraged. Furthermore, interoperability is a must to create access to OER. Standards must be used and, when not available, developed.

For OEA this means that OER initiatives should be networked between Europe and Asia, starting from continent-wide repositories and initiatives, to smaller national and institutional projects. It will be a research and development challenge to deal with language and cultural, as well as curricula issues. New ideas and innovative approaches should be supported in, at least, bi-lateral settings.

Provide collaboration tools instead of repositories

In the OER domain many repositories have been developed, some of them used globally. However community building has been neglected. Two aspects are crucial. Beyond the availability of high-quality contents, it is essential to engage people with similar requirements and needs in collaboration. Educators should form small, but trusted, networks in which collaborative course development is performed. Secondly, tools for adapting OER to a certain context are necessary; as an example there should be support to transfer a course in German or English to Korean or Thai, and vice versa.

Develop a pool of OER experts

It is important for networks like ASEM to develop a pool of OER experts to provide capacity building to organisations and individuals. Their role is primarily to promote the use of OERs, as well as to address the technical and attitudinal issues regarding OERs.

Conclusion

In this article, we have aimed to set a starting point to establish an Open Education Area between Asia and Europe. We believe that Open Education, as it becomes more inclusive, is a promising approach to improve national, organisational and institutional collaborations. We also believe that such an action will lead to positive long-term effects for educational systems as well as businesses.

We have given recommendations for three levels: governments and policy, organisational strategies and support for individuals. As a next step governments should start to discuss how to implement those recommendations, facilitated through Asian-European networks such as ASEM. In parallel it is necessary to build capacities and create awareness and engagement on an organisational and individual level.

We believe that the creation of an Open Education Area will have significant impact on Asian-European collaboration. The process will – similar to the Bologna process – not finish within months, but should be achieved in less than five years.

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About the Authors



Yvonne GUO
PhD Candidate, Lee Kuan Yew School of Public Policy

Yvonne Guo is a PhD candidate at the Lee Kuan Yew School of Public Policy, National University of Singapore. She received her Bachelor's degree from Sciences Po Paris and holds a dual Master of Arts degree in International Affairs and Governance from Sciences Po Paris and the University of St. Gallen, Switzerland. She is the author of the chapter on *Measuring Connectivity* in this volume.



Thierry SCHWARZ
Former Director, Political & Economic Department, Asia-Europe Foundation (ASEF)

Thierry studied at the Monterey Institute of International Studies, California, the National School of Public Administration in Paris, Paris II University and Sciences Po. He was founder and Dean of the Europe-Asia Programme at the Paris Institute of Political Studies. Before joining ASEF in 2012, he held different positions in the private and public sectors in Brazil, Cameroon, Singapore, Thailand, USA and the former Union of Soviet Socialist Republics. He supervised the preparation and editing of the *ASEF Outlook Report 2016/2017*, and is the author of the chapter on *Measuring Connectivity* in this volume.

About the Authors



Jovan KURBALIJA
Director, DiploFoundation

Dr Jovan Kurbalija is the founding director of DiploFoundation and Head of the Geneva Internet Platform. He is a former diplomat with a professional and academic background in international law, diplomacy, and information technology. In 1992, he established the Unit for IT and Diplomacy at the Mediterranean Academy of Diplomatic Studies in Malta. In 2002, after more than ten years of successful work in training, research, and publishing, the unit evolved into DiploFoundation. He directs online learning courses on ICT and diplomacy and lectures in academic and training institutions in Switzerland, USA, Austria, the United Kingdom, the Netherlands, and Malta. His main areas of research are diplomacy and the development of an international Internet regime, the use of hypertext in diplomacy, online negotiations and diplomatic law. He is the author of *An Introduction to Internet Governance*, which has been translated into eight languages and is now in its 6th edition. He is the author of the chapter on *Diplomacy and Digital Connectivity* in this volume.



ByungKyu KIM
*Executive Officer, Trans-Eurasia Information Network-star Cooperation Center (TEIN*CC)*

Dr ByungKyu Kim received his PhD from the Department of Physics, University of Texas at Dallas in 1997. Currently he is the Executive Officer of Trans-Eurasia Information Network-star Cooperation Center Center (TEIN*CC) and is the project manager of the TEIN4 programme. He has been working in various IT areas, e.g., Country Code Top-level Domain Name (ccTLD) and IP Address, Research and Education (R&E) Networks more than 15 years in Korean IT agencies and academic institutes such as National Information Society Agency (NIA), Korea Information Society Development Institute (KISDI), and Korea Advanced Institute of Science & Technology (KAIST). He established TEIN*CC in Korea in August 2011. He is the author of the chapter on *Trans-Eurasia Information Network* in this volume.

About the Authors



Lauri OJALA
Professor and Chair of Logistics, Turku School of Economics

Dr Lauri Ojala has been Professor and Chair of Logistics at the Turku School of Economics since 1997. Previously he worked as trade and transport facilitation expert for international organisations, such as The World Bank, Asian Development Bank (ADB), Nordic Investment Bank (NIB) and the United Nations Industrial Development Organization (UNIDO). He is also an initiator and co-author of Logistics Performance Index by The World Bank (http://lpi.worldbank.org/). He headed the *Finland State of Logistics* surveys since 2006, which comprise the largest national database of its kind in the world. He is project director of several EU part-funded logistics projects with a combined volume of EUR 13 million. He is the author of the chapter on *Logistics Connectivity* in this volume.



CUI Hongjian
Senior Fellow, Director of European Studies,
China Institute of International Studies

Dr Cui Hongjian has been associated with China Institute of International Studies (CIIS) since 1998. He is a senior research fellow and Director of the Department for European Studies at CIIS. He served as a senior diplomat in Chinese Missions abroad from 2003 to 2007. He has been working on European economy, politics, security and China-Europe relations and has published numerous articles and books. He received his doctorate in International Relations from Peking University in 1998. He is the author of the chapter on the *Belt and Road Initiative* in this volume.

About the Authors

Margareth SEMBIRING
Senior Analyst, Centre for Non-Traditional Security Studies,
S. Rajaratnam School of International Studies (RSIS)



Margareth Sembiring is a Senior Analyst at the Centre for Non-Traditional Security Studies of the S. Rajaratnam School of International Studies (RSIS). Her main research interests are in energy and environment-related issues. She has been involved in a number of research projects including nuclear energy development in Southeast Asia and transboundary haze pollution in ASEAN. She was also involved in drafting the 2015 ASEAN Socio-Cultural (ASCC) Scorecard. Her work has appeared in a number of newspapers such as the Straits Times and the Jakarta Post. She has a background in Mechanical Engineering from the National University of Singapore, a masters' degree in Defence Management from the Indonesian Defense University, and a masters' degree in International Peace and Security from the King's College London, during which she was a Chevening Scholar. She is the author of the chapter on *Energy Security* in this volume.

Oscar F. PICAZO
Research Consultant on Health and Tourism,
Philippine Institute for Development Studies



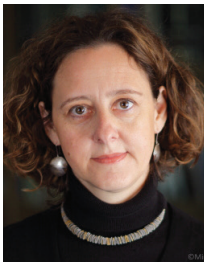
Oscar F. Picazo is a senior research consultant on health and tourism at the Philippine Institute for Development Studies. He retired from the World Bank in 2009 after ten years of service in Washington, D.C. and in Pretoria, South Africa. He also worked for seven years for the United States Agency for International Development in Manila and in Nairobi, Kenya. He is currently teaching health economics at the Ateneo Graduate School of Business, and sits on the board of three non-governmental organisations involved in health promotion, health information technology and early childhood literacy. He studied economics at the University of Santo Tomas and the University of the Philippines, and health policy at the Bloomberg School of Public Health (Johns Hopkins University), where he was a Humphrey Fellow. His current research interests include tourism and connectivity, health policy in ASEAN countries, and impact evaluation of social services. He is the author of the chapter on *People-to-People Tourism* in this volume.

About the Authors



Stephen RAE
Group Editor in Chief, Independent News and Media

Stephen Rae is Group Editor in Chief of Independent News and Media (INM), Ireland's largest media group. INM is the market leader in online news and in the daily, Sunday and regional newspaper sectors. He has led the group's online transition, building a seven-day Platform Neutral newsroom, which has made Independent.ie the largest and fastest growing news source in Ireland. He designed the central editorial hub which produces journalism for all of the group's news, sport and entertainment platforms, both online and print. Previously, he was editor of the Irish Independent newspaper and before that edited the Evening Herald. He is a qualified barrister-at-law and criminologist. Visit INM's sites at: www.independent.ie, www.herald.ie, www.sundayworld.com, www.inm.ie. He is the author of the chapter on *Digital Media*.



Nina OBULJEN KORŽINEK
Research Fellow, Institute for Development and International Relations (IRMO)

Dr Nina Obuljen Koržinek is Research Fellow at IRMO with over 20 years of experience in public administration, policy making and research in the field of culture and media. In 2004 she received the Cultural Policy Research Award for her research on the impact of the EU enlargement on cultural policies. Previously she was the head of the Croatian negotiating team for the 2005 UNESCO Convention and a chairperson of the Intergovernmental Committee (2010). Currently she is a member of the UNESCO Expert Facility for the implementation of the Convention. She worked as an expert for the Council of Europe, European Cultural Foundation, UNDP, European Parliament etc. As State Secretary (2008-2011) at the Croatian Ministry of Culture, she was responsible for the sectors of arts, culture and media. She was a member of the negotiating team for the Croatian accession to the EU responsible for the fields of culture and education as well as media information society. She is the author of the chapter on *Diversity of Cultural Expressions* in this volume.

About the Authors



Sophie ROCHEFORT-GUILLOUET
Professor, L'Institut d'études politiques de Paris (Sciences Po), Campus du Havre

Sophie Rochefort-Guillouet is an alumna of the Ecole Normale Supérieure (Ulm), The Sorbonne University (Paris IV) and the Institut d'Etudes Politiques de Paris, and is currently in charge of the Comparative History of Europe and Asia Lectures on the Euro-Asian campus of Sciences Po Paris in Le Havre. Her academic positions include professor of history of arts and ancient civilisations (elective class on arts and history and major class on The Silk Roads), lecturer in literary humanities at the University of Rouen and in history of arts for exchange graduate students from the Saint Lawrence University (NY). She is literary humanities department editor and author at Ellipses academic publishing for classical studies in Paris. She also holds consulting role and is lecturer for music and arts festivals. She is the author of the chapter on *Image of Asian Countries in Western Societies* in this volume.

About the Authors



Jean-Louis MARGOLIN
Senior Lecturer, Aix-Marseilles University

Jean-Louis Margolin is Senior Lecturer at Aix-Marseilles University and Research Fellow at the Asia Research Institute, Marseilles. He has been a student in Paris at Ecole Normale Supérieure and Lecturer at Strasbourg University. He is currently engaged in a comparative historical analysis of the political background of development strategies followed in South Korea, the Taiwan Province of China and Singapore. Another subject is the evaluation of cultural Westernisation/globalisation in these three countries, since the 1950s; and, more recently, the commercial, cultural and political connections between Southeast Asia and Europe, since the 15th century. During the last 15 years, he has also worked extensively on political mass violence in East Asia in the 20th century. His publications include *Singapour 1959–1987: Genèse d'un Nouveau Pays Industriel*, Paris: L'Harmattan, 1989; *The Black Book of Communism*, Paris: Robert Laffont, 1997/Harvard University Press, 1999 (co-authored with Stéphane Courtois, Nicolas Werth et al.; translated in 31 languages); *Les sociétés, la guerre, la paix 1911-1946* (with Philippe Chassaigne, Olivier Dard, Sylvain Schirmann), Paris: CNED-SEDES, 2003; *L'Armée de l'Empereur: Violences et Crimes du Japon en Guerre 1937–1945*, Paris: Armand-Colin, 2007 (awarded two book prizes); *Singapore from Temasek to 21st Century: Reinventing the Global City* (co-edited with Karl Hack), Singapore: National University of Singapore Press, 2010; and *Les Indes et l'Europe: Histoires connectées, XVe-XXIe siècle* (with Claude Markovits), Paris: Gallimard-Folio, 2015. He is the author of the chapter on *Connecting through Colonisation* in this volume.

About the Authors



Que Anh DANG
EU Marie Curie Research Fellow, University of Bristol

Que Anh Dang is a PhD Research Fellow at the University of Bristol, a partner of the EU Marie Curie Research Network, Universities in the Knowledge Economy (UNIKE). Her current project examines higher education regionalism in Asia and Europe. She has a cross-disciplinary academic background. She holds an MSc degree in Business and Development Studies from Copenhagen Business School and an MA degree in Educational Sociology jointly awarded by Danish School of Education, London Institute of Education and Deusto University (Spain) for the European Erasmus Mundus Programme in lifelong learning. Before embarking on the PhD programme at Bristol University, she has worked as a professional in the higher education sector for five years at The Research and Talent Development Office, Aarhus University in Copenhagen and for ten years at the British Council in Viet Nam. She has in-depth cultural understanding and extensive experience of collaborative research projects between Asian and European universities and ministries. Her publications cover several aspects of higher education, such as the World Bank and Higher education reform, ASEAN regionalism, Bologna Process, ASEM Education Process. She is the author of the chapter on *Academic Mobility* in this volume.

About the Authors



Jan M. PAWLOWSKI
Professor, Business Information Systems,
Ruhr West University of Applied Sciences

Dr Jan M. Pawlowski has been Professor for Business Information Systems at the Ruhr West University of Applied Sciences (Germany) since 2014 and Research Professor at the University of Jyväskylä, Finland. After his dissertation (Dr. rer. pol.) and habilitation (Business Information Systems) at the University of Duisburg-Essen, he was professor for Global Information Systems at the University of Jyväskylä in Finland. He was a founder of an enterprise for quality management and certification (Delzert) and chaired a private research institute for knowledge management and e-learning in Seoul, Korea. He was a consultant for education and knowledge management. He is active in commissions and organisations, such as the German Scientific Commission on Business Information Systems (WKWI), IEEE, AIS. He focuses on teaching and research in Business Information Systems, in particular from a global perspective such as managing globally distributed business processes and designing support systems for global collaborations in particular in education and training. He is the author of the chapter on *Open Education* in this volume.



Juvy Lizette M. GERVACIO
Assistant Professor, University of the Philippines Open University

Juvy Lizette M. Gervacio is an assistant professor and programme chair of the Master of Public Management (MPM) programme of the University of the Philippines Open University (UPOU). She has conducted various research and published articles on e-learning management, quality assurance, interactivity, open educational resources, lifelong learning and Massive Open Online Courses (MOOCs). She develops and handles online courses for the MPM Programme and also manages online continuing education programs for the public sector such as the e-course on Solid Waste Management for Local Government Units and MOOCs on Inter-local Cooperation. She has coordinated, facilitated and managed the e-Learning Development and Implementation (eLDI) Program for Asia and E-skills Asia through the partnership between GIZ and the UPOU from 2009 to 2012. She is a member of the Awarding Body of the Open ECB Check and also a member of the Research Network for e-Asia -Europe Meeting (e-ASEM). She is the author of the chapter on *Open Education* in this volume.

About the Contributors



David LEE
Director, David Lee Media & Events Ltd

David Lee worked on daily newspapers in the UK for more than 20 years and was Senior Assistant Editor of The Scotsman when he left to set up his own business in 2009.

David Lee Media & Events Ltd provides a wide range of communications services, including event hosting and organisation. David has chaired around 100 conferences, seminars, awards ceremonies and election hustings and with Susan Dalgety, he co-founded The Scotsman Conferences, which has organised around 60 high-quality policy conferences and seminars including the acclaimed series A Question of Independence ahead of the Scottish referendum.

David is also a media and communications consultant, writer and editor with a particular interest in the law, environmental affairs, education and general public policy. He acted as the copy editor, along with Susan Dalgety, for this publication.



Susan DALGETY
David Lee Media & Events Ltd

Susan Dalgety has enjoyed a varied career in the Scottish media, from editing Scotland's foremost community newspaper to now delivering the Scotsman's public policy events, which she co-founded with David Lee in 2010. She also enjoys writing comment pieces.

She was chief writer for the Edinburgh Evening News before becoming chief press officer for Scotland's First Minister. She also delivers active democracy projects in sub-Saharan Africa, and is currently working on a capacity building project with elected councillors in Malawi. She has a particular interest in gender, international development and political communications. She acted as the copy editor, along with David Lee, for this publication.

About the Contributors



Mariah NEUBRONNER
Research Analyst

Mariah Neubronner received her Bachelor's degree in Social Science with a double major in Psychology and Political Science from Singapore Management University (SMU). She interned at several special education institutions in Singapore such as The Special People's Little Garden School House and Specialkids Child Health and Development Clinic, where she had the opportunity to work with children with Autism Spectrum Disorder and learning disabilities. She is currently involved in an SMU-initiated project that has collaborated with a teacher training centre for Karen refugees along the Thai-Burma border, specifically assisting in the curriculum development of community management. She contributed to the *ASEF Outlook Report 2016/2017* by conducting statistical analysis for *Volume I*.



Sunkyoung LEE
Acting Director, Political & Economic Department, Asia-Europe Foundation (ASEF)

Sunkyoung Lee contributed to the *ASEF Outlook Report 2016/2017* as the editor for *Volume II* and coordinator of the overall publication.



Rebecca STETTER
Project Officer, Political & Economic Department, Asia-Europe Foundation (ASEF)

Rebecca Stetter is the coordinator of the *ASEF Outlook Report 2016/2017* and the editor of *Volume I*, collecting data, overseeing data visualisation and editing data analysis.

About the Contributors

Angelina CHEW
Admin/Communications Executive, Public Affairs Department, Asia-Europe Foundation (ASEF)



Angelina Chew managed the production of the *ASEF Outlook Report 2016/2017* and coordination with the design and printing partner.

Leonie NAGARAJAN
Director, Education Department, Asia-Europe Foundation (ASEF)



Leonie Nagarajan contributed to *ASEF Outlook Report 2016/2017* by coordinating with the authors in the field of *Education* and editing their chapters in this Volume.

Anupama SEKHAR
Director, Culture Department, Asia-Europe Foundation (ASEF)



Anupama Sekhar edited the chapter on *Diversity of Cultural Expressions* and coordinated with its author.

Debasmita DASGUPTA
Press Manager, Public Affairs Department, Asia-Europe Foundation (ASEF)



Debasmita Dasgupta reviewed the chapter on *Digital Media* in *Volume II* and coordinated with its author.

About the Partners

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CONNECTIVITY: FACTS AND PERSPECTIVES

Volume II: Connecting Asia and Europe



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