



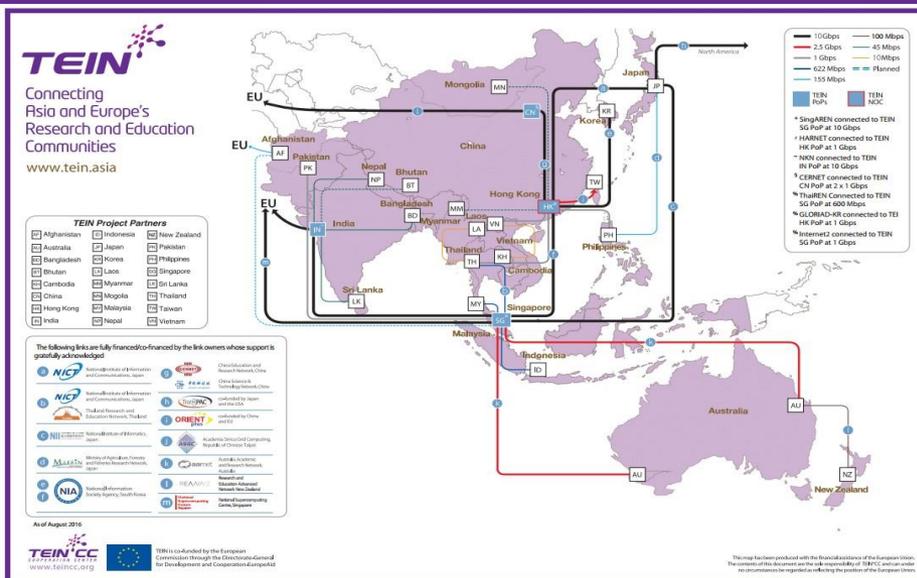
Preparation for Asia@Connect



Preparation Meeting for Asi@Connect

Hong Kong, China

3 August 2016



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*CRIS number: 2015/038-230 financed under the Development
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**Asi@Connect Project Preparation Meeting – Session chaired by ByungKyu Kim
(Open to TEIN Partners, APAN WGs, and Invited Observers)**

Meeting Venue: CPD-LG.63, Centennial Campus, The University of Hong Kong

11:00 – 12:30 Implementation on Asia@Connect Project (Logistics/Activities/Budget)

Introduction

Activities on each WP (including Visibility/PR)

Organisational set-up and Responsibility

Letter of Intent (LoI) & Letter of Endorsement (LoE)

Budget Plans

Schedules

Q&A

13:30 – 15:00 Implementation on Asia@Connect Project (Applications/projects)

- ISOC presentation

- Discussion with APAN WGs



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□ Regional Integration and Cooperation

- ❖ Provide and further develop a dedicated regional high capacity, high quality Internet connectivity network for research and higher education, also leveraging the e-infrastructure developed for public service projects and access to the Internet for LDCs

□ Zone benefiting from the action/location

- ❖ Afghanistan, Australia, Bangladesh, Bhutan, Cambodia, China, Taiwan, Hong Kong, India, Indonesia, Japan, Korea, Laos, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Vietnam.
 - ✓ (Other Asian countries may join during the course of Asi@Connect. Developed country participants may carry out project activities for the benefit of developing country participants)



□ Objectives of Asi@Connect

- i) continuously upgrade the advanced pan-Asian research and education Internet connectivity network further enabling research and education collaboration across Asia and globally
- ii) develop capacity of developing country NRENs
- iii) build capacity in network engineering expertise at university and NREN level for developing countries
- iv) deploy advanced network engineering products and services to NRENs and their universities in developing countries
- v) scale-up ongoing TEIN R&E collaborations with the potential to generate widespread societal benefits and
- vi) leverage the Asi@Connect infrastructure to address the digital divide in developing Asian countries and promote economic growth.



□ Work Packages

- ❖ WP1: Network Procurement and Management
- ❖ WP2: Capacity development of developing country NRENs
- ❖ WP3: Research and Education Network Design & Operations and associated capacity development
- ❖ WP4: Deployment of specialized network products, services and applications and associated capacity development
- ❖ WP5: Promoting Asi@Connect-enabled research and education collaboration for societal benefit
- ❖ WP6: Helping to bridge the digital divide in developing countries



□ WP1: Network Procurement and Management

- ❖ tendering by TEIN*CC of the Internet connectivity network links on a regular basis to maximize benefit from the downward cost trend in purchasing bandwidth
- ❖ The network topology will also be regularly reviewed to extend the network to further Asia countries and to improve network technical specifications like reduced latency to the EU, seeking also to upgrade resiliency and security.
- ❖ Asi@Connect NOC
 - i) provides regular engineering and operation services
 - ii) monitors the connectivity and network routing equipment at the Beijing, Hong Kong, Mumbai and Singapore network hubs to ensure high performance and security and
 - iii) troubleshoots and resolves any network problems



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□ **WP2: Capacity development of developing country NRENs**

- ❖ This work package is to enhance the capacity of the developing country NRENs in managing their national R&E networks and promoting international R&E collaboration. The activities range from carrying out assessments of NREN needs to "on the job training" with other NREN partners on e.g. financial administration, tendering, communication and public relations.
- ❖ This follows directly from the TEIN4 evaluation report (February 2016) which concludes that unless capacity deficits are addressed, some NRENs will not be able to play a full role in developing TEIN usage and impact in their respective countries.

❑ **WP3: Research and Education Network Design & Operations and associated capacity development**

- ❖ to develop local network engineering expertise in developing country university IT departments and NRENs, also seeking to promote national investment for renovating campus networks and NREN facilities.
- ❖ Activities include technical training for universities, NRENs and regional Network Operator Groups (NOGs), direct engineering assistance to improve networks, network security and performance monitoring, wireless infrastructure to improve faculty and student access and DNS stability, security and country code top-level domain (ccTLD) technical assistance. A sustainable "trainthetrainers" approach will be adopted where possible.
- ❖ Partners/specialised entities in implementing these activities include the Network Startup Resource Center (NSRC), the Asia Pacific Network Information Centre (APNIC) and the Asian Institute of Technology (AIT).



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- ❑ **WP4: Deployment of specialized network products, services and applications and associated capacity development**
- ❖ This work package is to provide advanced network engineering products/services and associated training/capacity development to Asi@Connect partners e.g. PerfSONAR, Software Defined Networking (SDN), OpenFlow and cloud services.
- ❖ Applications to be widely deployed include identity federation like eduroam and edugain and the underlying technologies that support these services. The use of the Asi@Connect network as a test bed platform for Future Internet technologies and applications will be promoted.



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- ❑ **WP5: Promoting Asi@Connect-enabled research and education collaboration for societal benefit**
- ❖ ongoing R&E collaborations currently enabled by TEIN, including telemedicine, e-learning, water resource management, climate and weather prediction, sensor networks in agriculture, earth monitoring, crop research, plant phenomics and plant pest and disease diagnostics.
- ❖ identifying and assessing new collaborations, and scaling-up existing collaborations that directly benefit people in developing countries.



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❑ **WP5: Promoting Asi@Connect-enabled research and education collaboration for societal benefit**

❖ The activities include

- i) developing specific communication messages and strategies on topics such as climate change mitigation and adaptation, agriculture, crop research, health and tele-medicine,
- ii) developing a website with user-friendly navigation and a visually attractive feel and look, promoting research collaboration as well as products and services to highlight the tangible benefits of the project and network,
- iii) funding R&E collaborations and
- iv) promotional activities like organising workshops and conferences bringing together a range of participants from researchers to network & computing specialists and engineers, and carrying out feasibility studies.

❑ **WP6: Helping to bridge the digital divide in developing countries**

- ❖ to create and enable opportunities to build regional and national infrastructures and capacity to address the digital divide in countries such as Bhutan, Cambodia, Laos, Indonesia, the Philippines and Pakistan.
- ❖ This includes the establishment of non-profit carrier-neutral Internet-Exchange Points (IXPs) and deployment of wireless community networks in underserved rural and remote areas to improve quality and bring down costs of local internet access to populations. IXP and wireless community network development includes strategic community outreach and training, a train-the-trainers approach where possible, as well as the provision of equipment for both operational and training purposes.
- ❖ NREN infrastructure and experts may also be important players in linking Wireless for Community sites to the wider Internet, potentially helping with backhaul and other technical project parameters, leveraging the Asi@Connect infrastructure as appropriate.
- ❖ Partners/specialised entities in implementing these activities include the Internet Society (ISOC), the NSRC and APNIC, as well as NRENs and universities.



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Visibility & Promotion



□ Objective

- To build strategy and plan on promotional activities for acknowledging new brand (Asi@Connect), and this project's purposes and benefits
- To raise awareness of TEIN's continuation through the new project to the TEIN community and stakeholders

□ Strategy

- To focus promotional activities on applications supported by the network and to produce case studies to validate asserted benefits of the TEIN network and Asi@Connect
- To build target audience friendly marketing plan
- To encourage NREN partners to share cases and stories for increasing usage and to generate new users



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Visibility & Promotion



❖ **Relationship Building**

- NREN Promotion officers
- Government/Funding bodies
- EC delegations in Asia countries
- Global R&E communities
 - ✓ APAN, GEANT, Internet2, MAGIC, Red-Clara, etc
 - ✓ ASEM, ASEAN, UN

❖ **Publications**

- Video
- Brochure & Leaflet
- Case studies & Poster
- Topology maps
- Promotional items for project funded events



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□ Partner's co-funding share for international connectivity and network management in %

Country	Partner	Partner's co-funding share for international connectivity and network management in %					
		~Sep. 2016	2017	2018	2019	2020	~ Sep 2021
Afghanistan	AfgREN	20	20	20	30	30	40
Bangladesh	BdREN	55	100	100	100	100	100
Bhutan	DrukREN	20	100	100	100	100	100
Cambodia	CamREN	20	30	30	40	40	50
China	CERNET	100	100	100	100	100	100
India	NKN	100	100	100	100	100	100
Indonesia	ITB/INHERENT	55	60	60	70	70	80
Laos	LERNet	20	30	30	40	40	50
Malaysia	MyREN	55	60	60	70	70	80
Mongolia	ErdemNet	20	20	20	30	30	40
Myanmar	mmREN	20	20	20	30	30	40
Nepal	NREN	55	100	100	100	100	100
Pakistan	PERN	55	60	60	70	70	80
Philippines	ASTI/PREGINet	55	100	100	100	100	100
Sri Lanka	LEARN	55	100	100	100	100	100
Thailand	ThaiREN	55	60	60	70	70	80
Vietnam	NASATI/VinaREN	55	60	60	70	70	80



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□ Indicative Budget

Expected Contributions	EUR
EU contribution	20.000.000
Co-funding contributions by National Research and Education Networks (NRENs) of Asian developing countries for international carrier Internet connectivity links and network management	6.300.000
Other Contributions/Payments	
Korean Ministry of Science, ICT & Future Planning (MSIP) (salary costs of TEIN*CC staff to manage Asi@Connect and general offices costs) and Seoul Metropolitan City (office rent for Asi@Connect project staff)	5.600.000
The China Education and Research Network (CERNET) (co-funding of the 10 Gbps Beijing-Hong Kong link)	1.550.000
Agency for Science, Technology and Research (A*STAR), Singapore (co-funding of the 10 Gbps Singapore-EU link)	450.000
Australian Academic and Research Network (AARNet) payment	1.500.000
Hong Kong Academic and Research Network (HARNET) payment	600.000
Research and Education Advanced Network New Zealand (REANNZ) payment	435.000
Singapore Advanced Research and Education Network (SingAREN) payment	400.000
Total estimated Costs	36.835.000,00



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Indicative Budget by Work Packages

Asi@Connect Actions			EUROs	Remarks
WP1	New circuit costs	AF, MM, MN, etc links	2,000,000	2.0M (AF, MM, MN)
	Circuit costs based on TEIN4	Normal circuit costs based on TEIN4	5,500,000	
		SG-EU (ASTAR), BJ-HK (CERNET) link	4,000,000	Partially supported by Singapore (50%) and China (50%)
	Network management costs (NOC, POP etc)		2,500,000	
	Admin/Tech supports and other costs		1,000,000	Supported by Korea (MSIP)
Sub-total			15,000,000	40.7%
WP2	Capacity development of developing country NRENS	NREN Workshops	585,000	
		NREN Training	900,000	
		Admin/Tech supports and other costs	750,000	Supported by Korea (MSIP)
	Sub-total			2,235,000
Campus Network	Campus Network	1,200,000		

Activity	EUROs	%
Sub-totals other costs	1,800,000	Support by Korea (MSIP)
	4,400,000	11.9%
	1,500,000	
ork	1,500,000	
ervice Applications	1,500,000	
upports and other costs	700,000	Supported by Korea (MSIP)
	5,200,000	14.1%
	1,000,000	
	1,000,000	
in	1,100,000	
ention ...etc	1,000,000	
upports and other costs	1,400,000	Supported by Korea (MSIP)
	5,500,000	14.9%
P	2,900,000	
igital Divide Activites	900,000	
upports and other costs	700,000	Supported by Korea (MSIP)
	4,500,000	12.2%
	36,835,000	100.0%

WP3	Activity	EUROs	%
WP3	Deployment of specialized network products, services and applications and associated capacity development		
	Sub-tota		
WP4	Deployment of specialized network products, services and applications and associated capacity development		
	Eduroam		
	Future network		
	Admin/Tech		
Sub-tota			
WP5	Promoting TEIN-enabled research and education collaborations		
	Telemedicine		
	E-learning		
	Earth & ocean		
	Disease prevention		
Sub-tota			
WP6	Digital Divide		
	Internet & IX		
	Additional Di		
	Admin/Tech		
Sub-tota			
TOTAL			



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❑ **Organisational set-up and Responsibility**

- ❖ TEIN*CC is the Coordinator and will act as the main interlocutor of the European Commission, representing and acting on behalf of the Asi@Connect project partners.
- ❖ For WP2, WP3, WP4, WP5 and WP6 the "Governors' Meeting" should discuss and reach consensus on the activities to be carried out.
- ❖ The advisory "Steering Committee" should assess and provide technical guidance on any proposed activities, including those coming from the "Governors Meeting".
- ❖ The final decision on
 - i) activities to be carried and
 - ii) selection of specialised entities to implement the activitiesis taken by the contracting authority as represented by the EC project manager in consultation with the project Coordinator (TEIN*CC).



❑ **"Letter of Intent (LoI)" or "Letter of Endorsement (LoE)"**

- ❖ Each project partner is required to confirm its participation in Asi@Connect via a "Letter of Intent (LoI)" or "Letter of Endorsement (LoE)" to TEIN*CC clearly stating its financial contribution and/or contribution of international carrier Internet connectivity if any to the project.
- ❖ Non-profit, public service Internet organisations may also become project partners, subject to the opinion of the "Governors Meeting" and "Steering Committee" and approval of the contracting authority as represented by the EC project manager.



Contacts



Thank you for your attention !

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