



International Cooperation R&D Program on APII/TEIN2

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- **APII Testbed & TEIN2**
 - APII Testbed
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 - *APII/TEIN2 Projects & WGs on 2006, 2007*
 - *TEIN2 Application Framework*

- *Building on TEIN3*



APII Initiative

APEC TELMIN-1, Seoul, 1995

- **Five Objectives of “APII” (defined at TELMIN1)**

Construction of information infrastructure

Technological cooperation

Free flow of information

Human resources development

Creation of policy and regulatory environment



Evolution of APII-KR Testbeds

KR-JP

1998.01 APII KR-JP launched (2 Mbps)
2003.04 APII KR-JP upgraded to **1Gbps, 2Gbps** ('05.11)
2006.12 APII KR-JP upgraded to **10Gbps**

KR-CN

2004.08 APII KR-CN launched (155M)

KR-SG

1999.10 APII KR-SG launched (8 Mbps)
2004.12 APII KR-SG closed, *find continuous cooperation thru TEIN2*

KR-US

2001 APII KR-US (45Mbps)
2004.05 APII KR-US upgraded to **1.2Gbps**
2005.06 APII KR-US closed,
find capacity and cooperation thru IRNC Connectivity
(Gloriad KR-US, Transpac2 KR-JP-US)



TEIN Initiative

ASEM-3 (Oct. 2000)

- *Under the theme of “Partnership for Prosperity and Stability in the New Millennium”*
- Contribute to enhancing exchanges and cooperation between Asia and Europe through increased and more effective information flows;
- Enhance and diversify research exchanges and cooperation between Asia and Europe;
- Expand and diversify speedier and more powerful telecommunication connections between Asia and Europe.



Evolution of TEIN & TEIN2



TEIN1 (KR-FR) + GEANT

2000 TEIN Initiative endorsed @ASEM3 (Seoul)

2001 TEIN KR-FR launched (2Mbps)

TEIN quoted as “the basis of a strong partnership b/w Asia & Europe” @ASEM4

2003 TEIN KR-FR upgraded to 45M

2004.01 TEIN2 announced by EU, funding 10M Euro esp. for ASEM-Asia

2004.12 TEIN1(KR-FR) upgraded to 155M

2004.12 APII KR-SG closed, *find continuous cooperation thru TEIN2*

2006.01 TEIN2 launched, TEIN1 closed and replaced with TEIN2

TEIN2 (KR, CN, JP, SG, AU, MY, VN, TH, ID, PH, FR, UK, NL, DE) + GEANT2

2004.01 TEIN2 announced by EU, funding 10M Euro esp. for ASEM-Asia

2004.12 TEIN1(KR-FR) upgraded to 155M

2004.12 APII KR-SG closed, *find continuous cooperation thru TEIN2*

2006.01 TEIN2 launched, TEIN1 closed and replaced with TEIN2

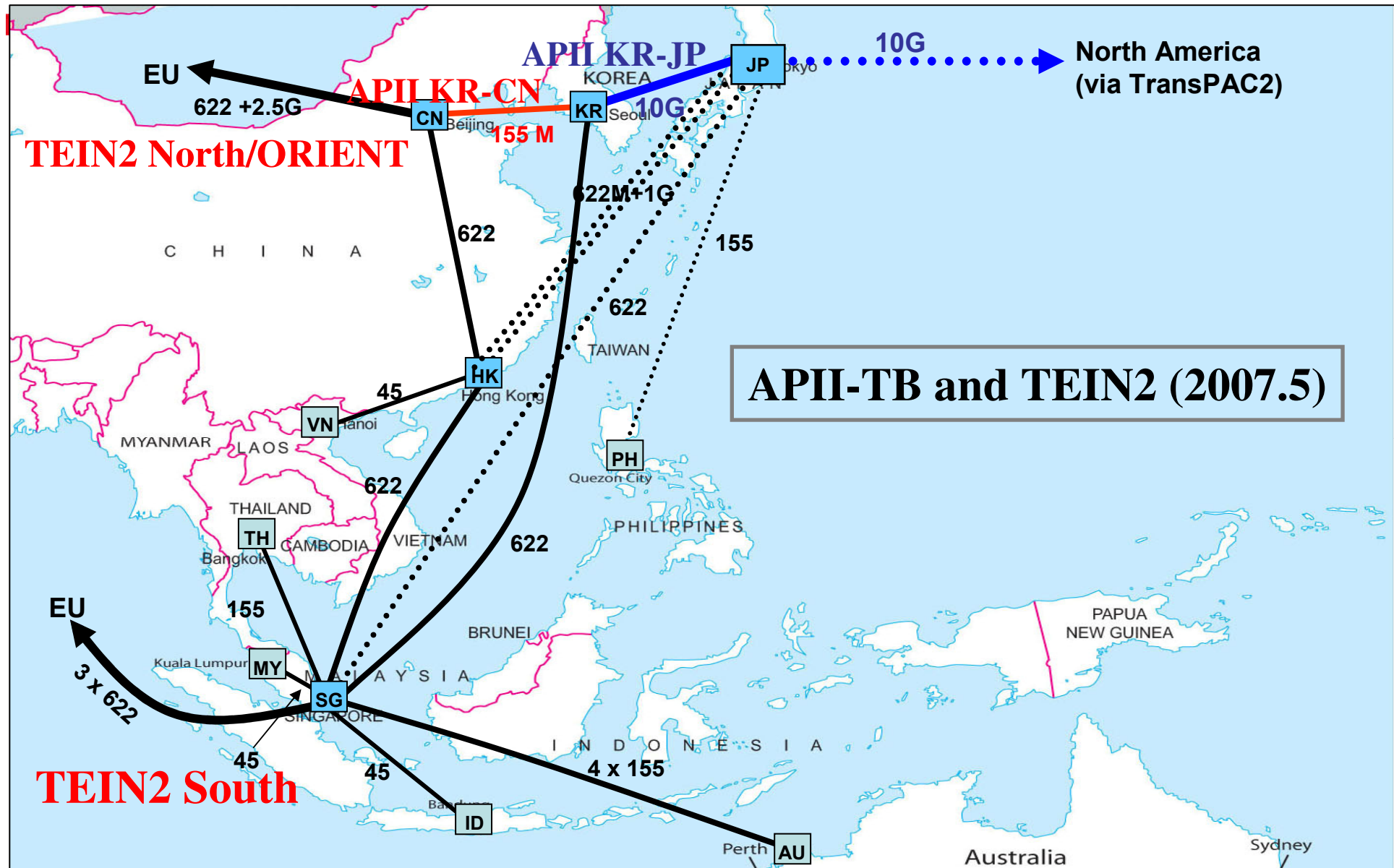
2006.06 TEIN2 Statement in ASEM ICT SOM (Halong, Viet Nam)

2006.09 TEIN2 Launch Event @ ASEM6 Summit (Helsinki, Finland)

2007.01 TEIN3: TEIN Organization Proposal (1st Draft)



APII-TB and TEIN2 (2007.5)



APII-TB and TEIN2 (2007.5)



TEIN2 Partners



Asian Partners:

China – CERNET

Indonesia – ITB

Japan – MAFFIN, NII and NICT

Korea - KISDI

Malaysia – MDC

Philippines – ASTI

Singapore – SingAREN

Thailand – ThaiREN

Vietnam – VINAREN

Australia - ARNet

European Partners:

France – RENATER

Netherlands – SurfNET

United Kingdom – UKERNA

EU Funding – 10 M Euro, targetted to assist the developing countries

Project co-ordinator: DANTE

Term of project: to Dec 2007



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APII/TEIN2 Joint Projects & WGs in 2006



	Title	PM
Int'l Joint Projects (5)	Network Technology: Study on transport and mobility support of high-speed multimedia application service in the TEIN2/APII network	Jae Yong Lee (Chungnam Nat'l Univ), jyl@cnu.ac.kr <i>With Karlsruhe Univ.(Germany)</i>
	e-Learning: Research on Environment construction for training the International Specialists between KR-JP using APII/TEIN2	Changsoo Kim (Pukyung Nat'l Univ), cskim@pknu.ac.kr <i>With Saga Univ. (Japan)</i>
	IPv6 Multimedia: Research on realtime multimedia of next generation system by using IPv6 multimedia service in TEIN network	Duk Young Seo (Kyung Hee Univ.), suh@khu.ac.kr <i>With France Telecom (France)</i>
	Network Technology: Inter-AS Traffic Matrix Estimation through GEANT and KOREN	Sue B. Moon (KAIST), sbmoon@cs.kaist.ac.kr <i>With LAAS/CNRS (France) and Microsoft Research Center(US)</i>
	Network Technology: A Joint Research of Safety support for MIPv6 network using TEIN network	Jae Ha Lee (Kon-Kuk Univ), jaehalee@konkuk.ac.kr <i>With INT (France)</i>
Working Groups (6)	Traffic Measurement Working Group	Seung-Joon Seok (Kyungnam Univ), sjseok@kyungnam.ac.kr <i>With Kyushu Univ. (Japan), CERNET (China), DANTE (UK)</i>
	e-Learning Working group	Ok-Hwa Lee (Chungbuk Nat'l Univ), ohlee@cbnu.ac.kr <i>With Stanford Univ., U of Texas, UCLA (US), Kyushu Univ. & Nagasaki Univ. (Japan), Beijing Univ (China)</i>
	High-Definition Video Transmission and Collaboration System Working Group	JongWon Kim (GIST), jongwon@gist.ac.kr <i>With SURFNET(NL), i2CAT(Spain), CERNET(China), U of Washington (US)</i>
	Medical Science Working Group	Ho-Seong Han (Bundang SNU Hospital), hanhs@snubh.org <i>With Kyushu Univ. (Japan)</i>
	IPv6 Working Group	Wang-Cheol Song (Cheju Nat'l Univ.), philo@cheju.ac.kr <i>With Kyushu Univ. (Japan), CERNET (China)</i>
	Physical Science Working Group	HyangKyu Park (Kyungpook Nat'l Univ), hkpark@knu.ac.kr <i>With IHEP (China), KEK (Japan), Caltech (US)</i>

III-2. Video-conference with Saga Univ.(Japan)

(a) 1st conference – Introduction (b) 2nd conference – running program

(c) 3rd conference – invitation of Japanese consul

• Video-lecturing system on Access Grid for tele-education
• Purchasing base of international communication

TEIN2/APII 활동을 위한 연구 과제 전문기 양성과 위한 원격 환경 구축에 관한 연구 - 13 -

HD Video Distribution and System

KISDI APEX HDTV WG

IPv6 WG Activities

- International collaborating with China
- Performance in Global IPv6 Summit 2006 in Korea
- Expiration of 6bone-kr service
- Test of ETRI-KAIST HDTV Streaming application
- Cultivation of Site Multihoming solution(ETRI)

Site Multihoming Environment

Main Activities

Setting up of On-line Cello Clinic Model Network

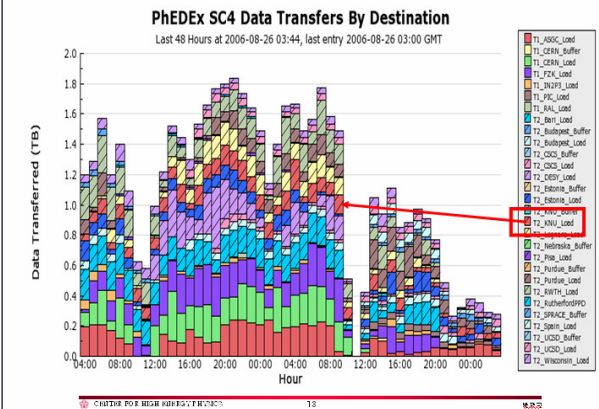
- Composition Network with Korea and Japan
 - CNU – Kyushu Univ. & Nagasaki Univ.
 - Konkuk Univ – Kyushu Univ. & Nagasaki Univ.

SEOUL Konkuk UNVI JAPAN Fukuoka Kyushu UNVI JAPAN Nagasaki UNVI

Tele-live Surgery at the Venue



SC4 Transfer Rate Plots-Volume





APII/TEIN2 Joint Projects & WGs in 2007

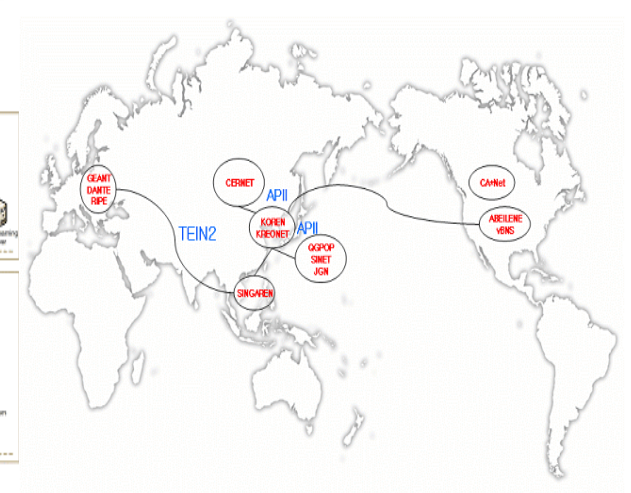
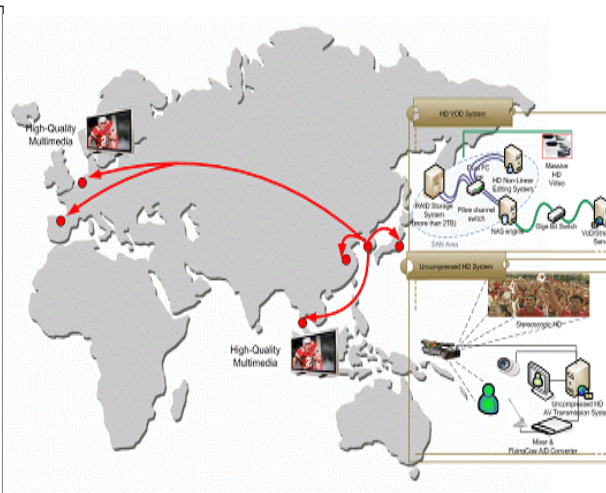
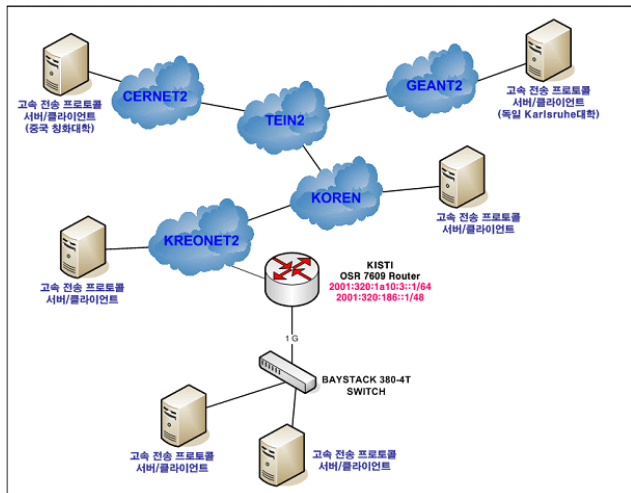
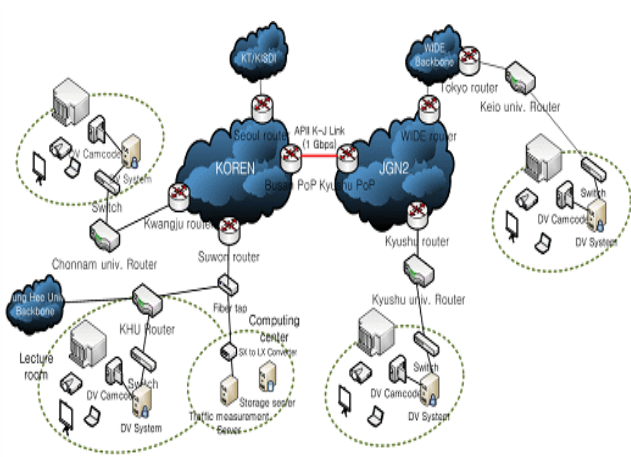
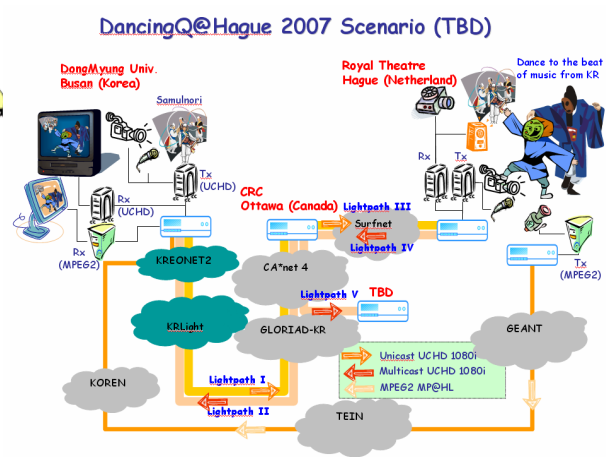
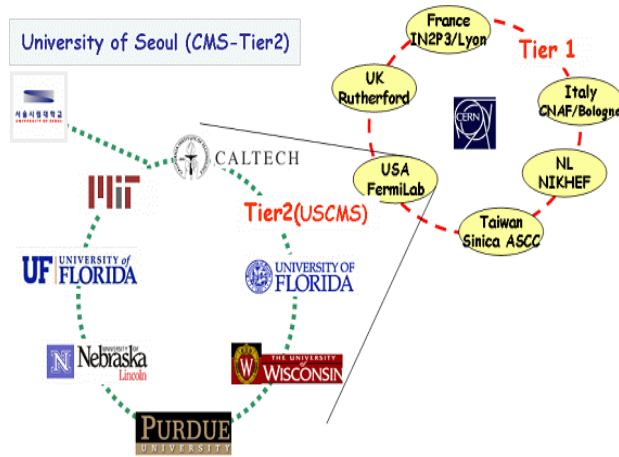


	Title	Project Manager
Int'l Joint Projects (5)	Network Technology: Building a protocol testbed of high bandwidth transport layer among 3 countries	Jae Yong Lee (Chungnam Nat'l Univ), jyl@cnu.ac.kr <i>Tsinghua univ.(CN), Karlsruhe Univ.(DE)</i>
	Science Grid: Operation of CMS-HI Tier2 based on OSG and JPARC Experiment	InKyu Park (Univ. of Seoul), icpark@uos.ac.kr <i>With CERN, MIT LNS(US), KEK(JP)</i>
	e-Learning: Performance Measurement of Live Remote Lecture System	Choong Seon Hong (Kyung Hee Univ.), cshong@khu.ac.kr <i>With Kyushu Univ, Keio Univ. (JP)</i>
	e-culture: Research on Convergence of Advanced Network and Culture Technologies	Dae Young Kim (ANF), dykim@cnu.ac.kr <i>With Catalunya Polytechnic(ES), RENATER(FR, NYU(US), AARNET(AU), SURFNET(NL), Kyushu Univ. (JP)</i>
	Network Technology: Research on Technologies of Live Service Session Management through AAA	Kicheon Kim (KonKuk Univ), kckim@konkuk.ac.kr <i>With Kyushu Univ. (JP)</i>
Working Groups (5)	Traffic Measurement Working Group	Young-Suk Lee (Chungnam Nat'l Univ.), lee@cnu.ac.kr <i>With Kyushu Univ., QGPOP(JP), Renater(FR), CERNET(CN), Internet2, CANARIE</i>
	e-Learning Working group	Ok-Hwa Lee (Chungbuk Nat'l Univ), ohlee@cbnu.ac.kr <i>With Stanford Univ., U of Texas, UCLA (US), Kyushu Univ. & Nagasaki Univ. (Japan), Zarburken (DE), Vinn (AT)</i>
	u-Media and Collaboration System Working Group	JongWon Kim (GIST), jongwon@gist.ac.kr <i>With NTT(JP), CERNET(China), U of Washington, Internet2 BigVideo WG (US)</i>
	Medical Science Working Group	Ho-Seong Han (Bundang SNU Hospital), hanhs@snuh.org <i>With Kyushu Univ.(JP), Taichung Univ (TW), Flinders Univ. (AU), Mahodol Univ. (TH), Putra (MY), Sigapore Univ (SG)</i>
	Physical Science Working Group	HyangKyu Park (Kyungpook Nat'l Univ), hkpark@knu.ac.kr <i>With IHEP (China), KEK (Japan), Caltech, U of Florida (US), CERN, Melbourne Univ. (AU)</i>



APII/TEIN2 Joint Projects & WG in 2007

- connecting to international R&E networks -





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TEIN3 Objectives (Oct 2006)



- 1. Seamless continuation of TEIN2 network beyond 31 Dec 2007 and its 6 – 9 months extension !**
- 2. Expanded coverage**
- 3. Increased applications focus**
- 4. Transfer TEIN3 management to Asia by 2010, plans by mid 2007**
- 5. Establish long term Asian-lead funding model**



TEIN3 Summary



Duration of the action	42 months (1 July 2008 to 31 Dec 2011, subject to confirmation of dates)
Objectives of the action	Overall objective : To contribute towards Millennium Development Goals through the exploitation of improved ICT connectivity within Asia and between Asia and Europe
	Specific objective : To increase network capacity and coverage, and network use for applications of societal benefit.
Partner(s)	AARNet, ASTI, CERNET, DANTE, ITB, KISDI, LaoREN, MAFFIN, MyREN, NII, RENATER, SingAREN, SURFNet, ThaiREN, UKERNA, VINAREN
Target Group(s)	Research and Education Communities of ASEM developing countries, other Asian participants and EU Member States
Final beneficiaries	Wider societies of ASEM developing countries, other Asian participants and EU Member States benefiting from the discoveries and research enabled by the TEIN3 network
Estimated results	Increased development and take up of ICT-enabled applications across many fields with societal benefits
Main Activities	Operation of Asian regional electronic network, and its promotion for multi-sectoral applications



TEIN3 - Work Packages



- **2 Central themes :**

1. To give the highest priority to fostering the use of the TEIN3 network for applications of societal benefit
2. To put in place funding and governance models that will allow it to be sustained beyond the TEIN3 planned period.

- **8 Work packages:**

- WP0 Project management
- WP1 Network Procurement and Commercial Management
- WP2 Network Operations
- **WP3 Promoting and Supporting Applications**
- WP4 Human Capacity Building
- WP5 South Asia Feasibility study
- WP6 Organisational Transition
- WP7 Financial Sustainability
- WP8 Dissemination



TEIN3 Work Packages: Applications



■ WP3

- Promote multi-sectoral use of TEIN3 network
 - ✓ Medicine
 - ✓ Earth sciences
 - ✓ Education
 - ✓ Heritage
 - ✓ Government (subject to feasibility)
- TEIN3 User Support Group?



Thank You !