

ECRI 2007[★]


★ *european conference on research infrastructures*

Integrating developing regions in global research communities: APII and TEIN for Common Prosperity

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Contents

Origin & Evolution

R & D Activities

Issues and Recs.

REN Environment (Asia)

- **Local RENs**

NEA: KOREN, KREONET; JGN2, SINET; CERNET, CSTNet

**SEA: SingAREN, THAIREN, VinaREN, MYREN, ITB,
PREGNET**

- **Regional Connectivity**

Asia : APII, AIII, APAN

EU: GEANT2+ (eg., TEIN2, ALICE, ORIENT)

N.Am: NSF IRNC 5 Projects (Transpac2, Gloriad)

Origins of RENs in Asia

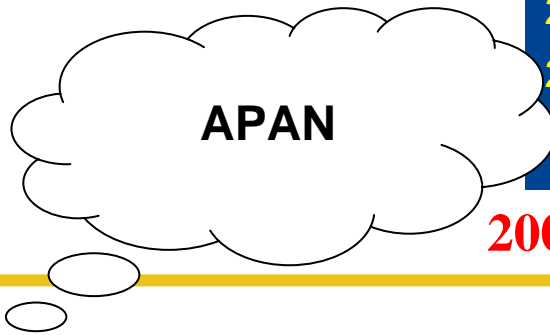
ASEM : “TEIN”

2000 *TEIN Initiative @ ASEM3*

2001.12-2006.01 KR/FR operated TEIN1

2004.01- EU initiated TEIN2 project

2006.01- TEIN2 Link in operation



1995

2000

2005

APEC: “APII”

APII Links in operation since 1998 (KR-JP, KR-SG, KR-US, KR-CN)

ASEAN : “AII”

ASEAN TELMIN established

ASEAN ICT Focus

ASEAN+1/+3 ICT Framework

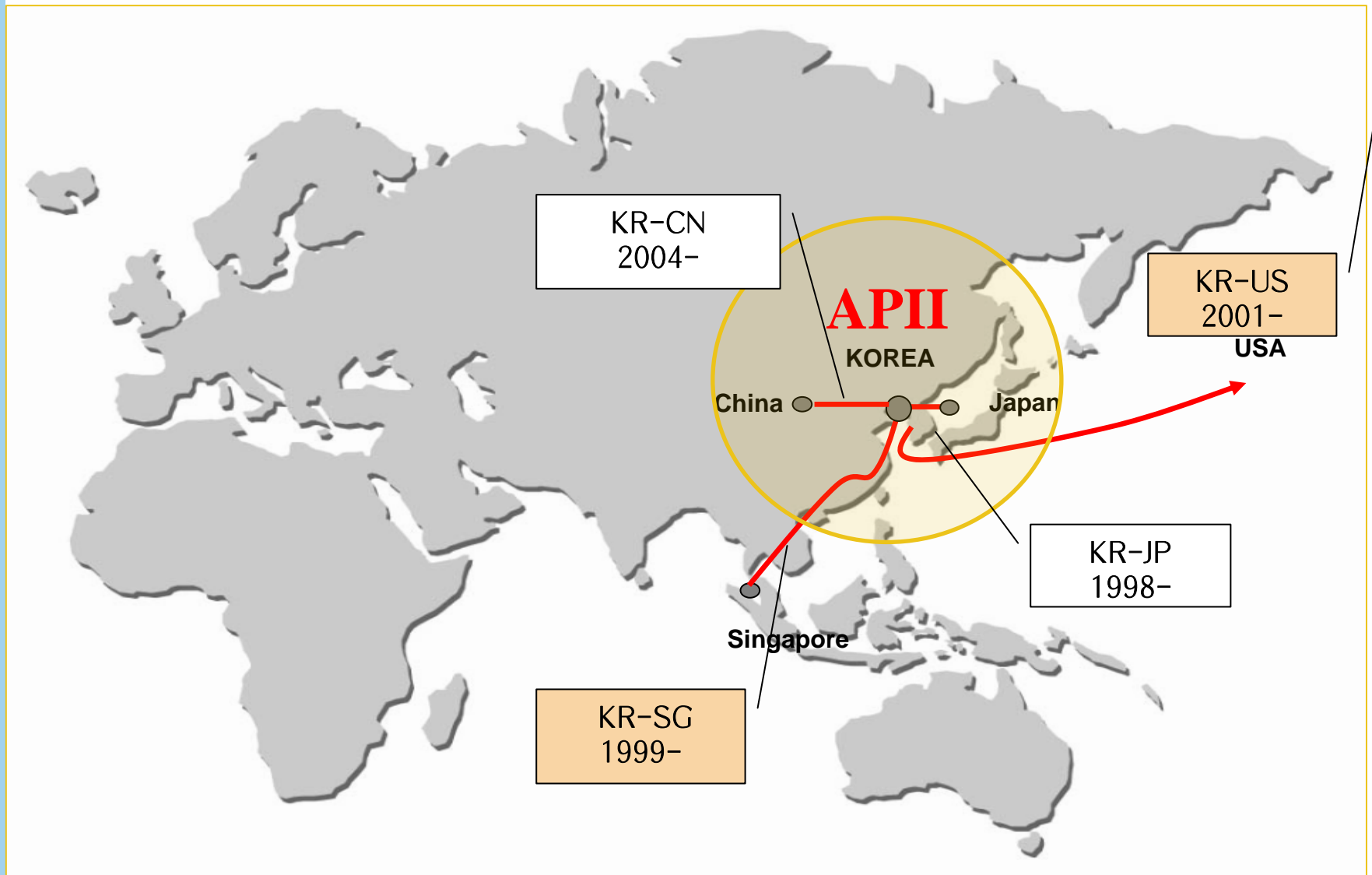
Evolution of APII

- 1995 APII @APEC TELMIN1 *
- 1995 APII TBProject (CJK) @APECTEL12
- 1998 APII KR-JP (2M)
- 1999 KR-SG (8M)
- 2000
- 2001 APII KR-US launched (45M)
- 2002
- 2003 APII KR-JP (1G)
- 2004 APII KR-US upgraded to 1G
- 2004 APII KR-CN launched (155M)
- 2004 APII KR-SG closed, *finding continuous cooperation thru TEIN2* **
- *** * ***
- 2005 the importance of 'APII Initiative' taken noted in the Ministerial Declaration of APEC TELMin6 (Peru)
- 2005 APII KR-JP upgraded to 2G
- 2006 APII KR-JP upgraded to 10G **

Objectives of "APII" @ APEC TELMIN1 (1995)

- construction of information infrastructure
- technological cooperation
- free flow of information
- human resources development
- creation of policy and regulatory environment

APII Phase1 to construct intra-regional infra (KR: 1998-2004)



- We, APEC Ministers responsible for the telecommunications and information industry gathered ... under the theme *Enabling Digital Opportunities: harnessing infrastructures to advance the Information Society*, make this Declaration to be presented at the next Leaders' Meeting in [...Korea in November 2005]



further reaffirming our commitment to the five objectives and ten core principles in the Seoul Declaration endorsed at TELMIN 1 (1995) as essential for the construction and the expansion of the **Asia Pacific Information Infrastructure (APII)** and the realization of the vision of the **Asia Pacific Information Society**

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

2000 TEIN Initiative endorsed @ASEM3 *

2001 TEIN1 (KR-FR) launched (2M)

2002 TEIN was quoted as “the basis of a strong partnership b/w Asia & Europe” @ASEM4 (Copenhagen)

2003 TEIN1 upgraded to 45M

2004.01 TEIN2 announced by EU, funding 10M euro esp for ASEM-Asia LDCs, in response to TEIN Initiative & Efforts @HQ of EC

2004.12 TEIN1(KR-FR) upgraded to 155M

2006.01 TEIN1 closed and replaced with TEIN2

2006.01 TEIN2 in operation (informal ceremony @APAN)

2006.06 ASEM ICT SOM, Big Interest in TEIN2 & TEIN3 beyond 2007 (VN)

2006.09 ASEM6: Respect for TEIN1 & TEIN2 as Success Story

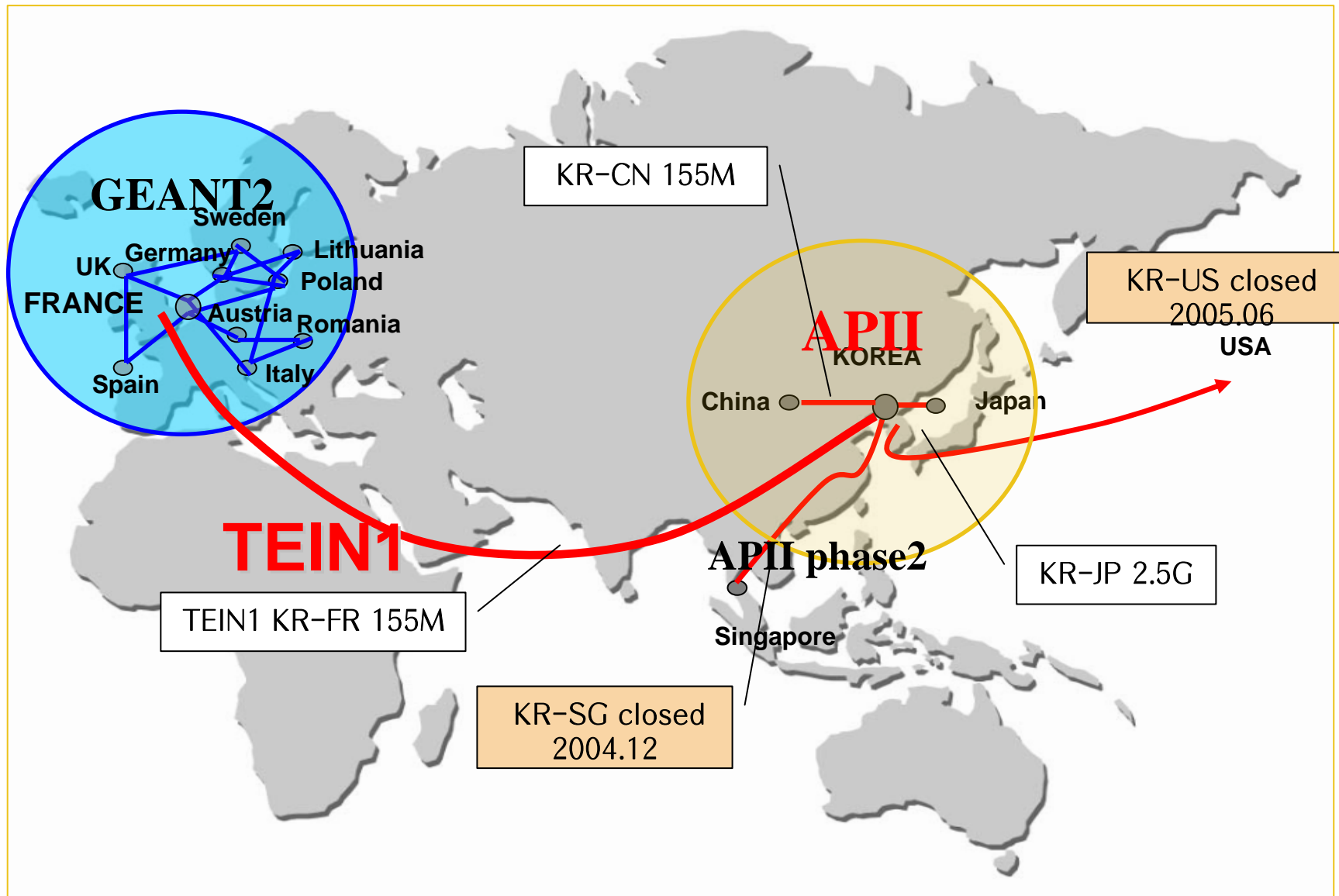
2006.11 TEIN2 Com. begins talking about future of TEIN2 with continuous funding from EC, including transferring of ownership to Asia and how to expand to neighboring countries, ie., MM, KH, IN ...

TEIN2 Launch Ceremony (Jan. 2006)



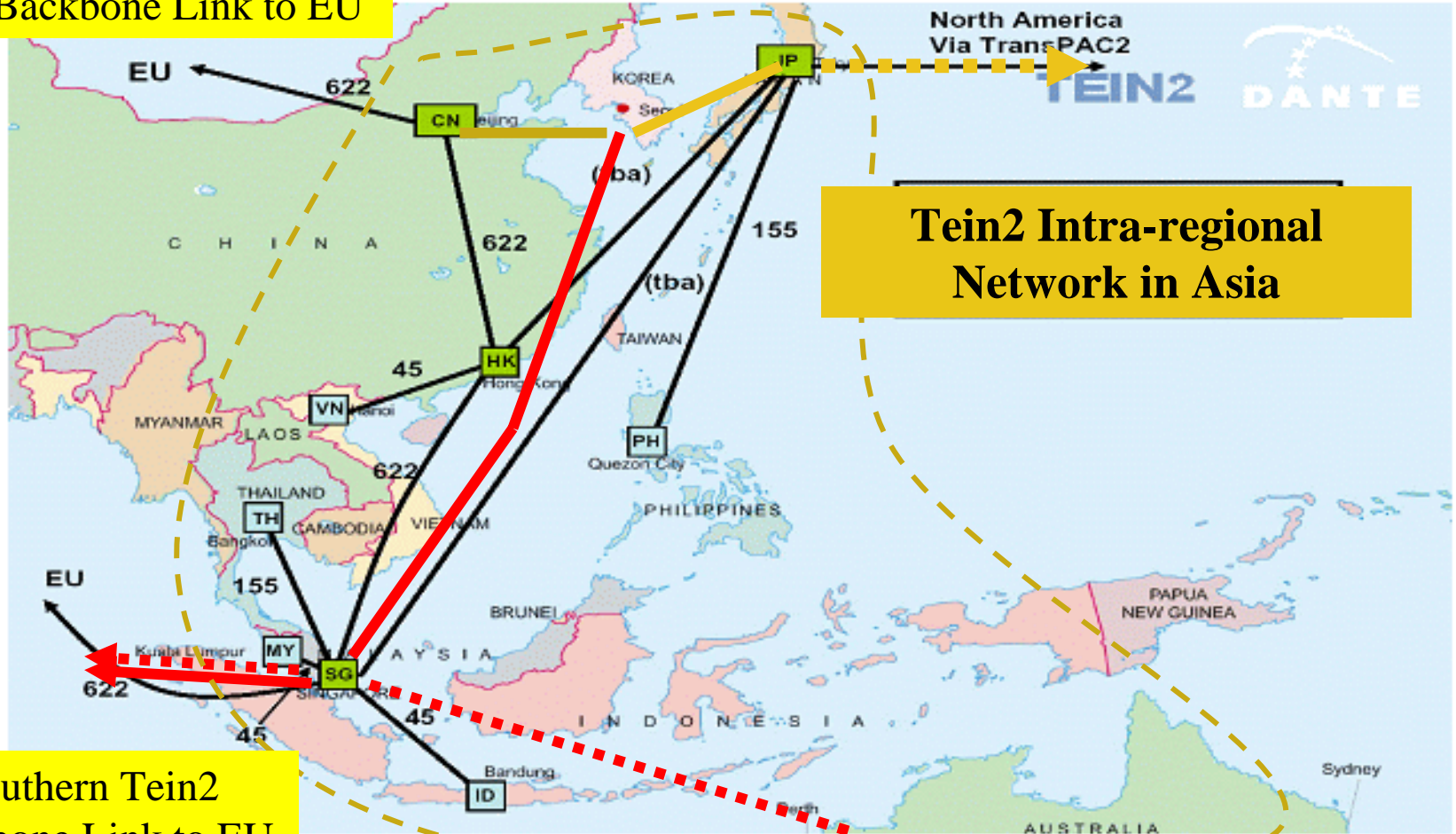
Challenge to Change (-2005)

APII Phase2 in response to TEIN2 Progress



Challenge to Change (2006-) Collaboration with divergent Initiatives & projects

Northern Tein2
Backbone Link to EU



Tein2 Intra-regional
Network in Asia

North America
Via TransPAC2

TEIN2 DANTE

Southern Tein2
Backbone Link to EU

Cooperation with other Initiatives : *TEIN2 & TransPAC2 +*



General Infrastructure Observations :

- The “bandwidth problems” b/w the US and Asia has been solved! > 60Gbps available as of 5/1/05
- The “access problem” within Asia continues. The TEIN2 project is one effort to address this issue
- The “north-south problem” within Asia continues

2006.01.
MoU b/w TEIN2 & Transpac2
2006.04.
MoU DANTE-APIICC & -CERNET

ASEM6 TEIN2 PRESS Meeting (Sep. 2006)



ASEM6 Summit 2006 (Helsinki)

10 Years of ASEM: Global Challenges – Joint Responses

- **A remarkable example of ASEM's work in information technology cooperation is the Trans-Eurasian Information Network (TEIN) project, endorsed at the ASEM 3 Summit in 2000....**
- **With the powerful network links in place, researchers and academics can now engage in inter-regional and intra-regional collaborative research projects, **access geographically dispersed databases, and carry out other projects where the rapid transfer of massive amounts of data is essential.** Many of the applications supported by TEIN2, **such as remote medical training, collaboration on disaster warning and e-learning, are bringing tangible benefits to the population at large.****

R&D @ APAN & APII : APAN Origin (96-)

The necessity for high-end Internet for researchers in Asia Pacific region was recognized at APEC Symposium in Tsukuba, Japan in March 1996, and then **Asia Pacific Advanced (APAN)** was proposed at APII Test-bed Forum in Seoul, Korea in June 1996.

Energetic meetings were held with the attendance of the delegates from North America or Europe for one year, and APAN Consortium was formed under a Memorandum of Understanding in June 1997 to promote advanced research in networking technologies and the development of high-performance broadband applications.

APAN Objectives

APAN (Asia-Pacific Advanced Network) is a non-profit international consortium established on 3 June 1997. APAN is designed to be a high-performance network for research and development on advanced next generation applications and services. APAN provides an advanced networking environment for the research and education community in the Asia-Pacific region, and promotes global collaboration.

Its objectives are:

- (a) to coordinate and promote network technology developments and advances in network-based applications and services;**
- (b) to coordinate the development of an advanced networking environment for research and education communities in the Asia-Pacific region; and**
- (c) to encourage and promote global cooperation to help achieve the above.**

- APAN Meeting being held twice a year by APAM members
- APII Workshop is held once a year by KISDI & NICT

APAN 23 held in Manila (Jan. 2007), whose session includes:

Global collaboration + APII* + TEIN2* +SEA

Medical

Earth Monitoring

IPv6

HDTV

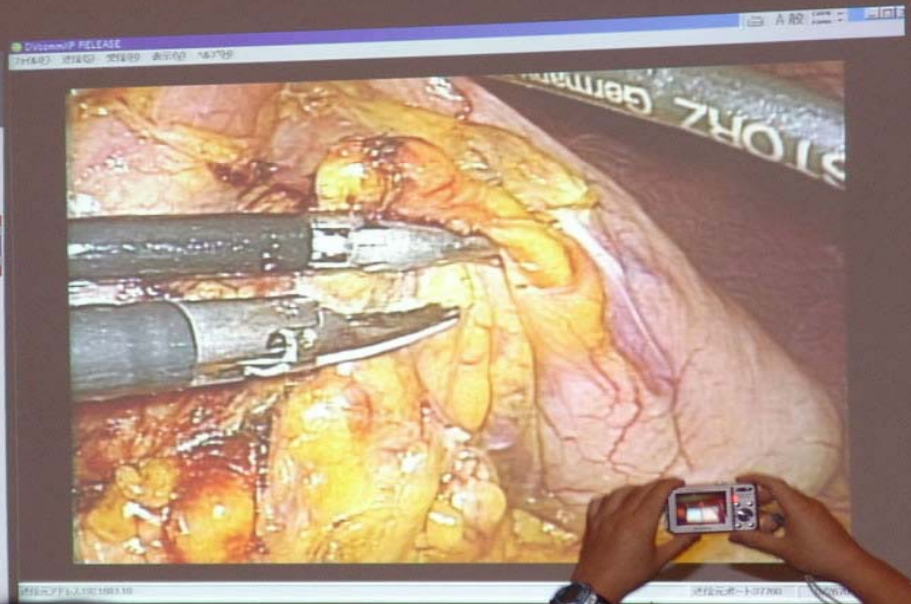
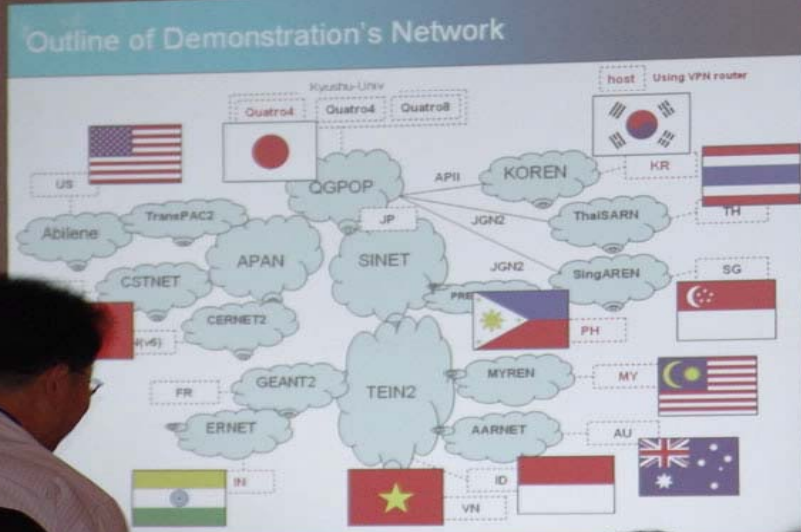
Network Engineering

Security

e-Culture

Pictures taken @ APAN, APII Workshop, Asian DHX

APAN Activities (Medical)



APAN Activities (Earth Monitor)





Phases of Cooperation

Phase 1

Links started separately

APII phase1, TEIN1

Phase 2

Move toward Multilateral

Intra-regional & Inter-regional

Phase 3

Enhance global connectivity

Widen the coverage

Bridge the digital divide

Achievements & Lessons:
before and after TEIN2

Previous

Rare NRENs to be connected
Weak Intra-regional networks
Poor inter-continental connectivity
Bilateral approach for connectivity
Little demand for utilization due to poor network environment

Many NRENs newly up and connected (esp ASEAN)

Achieve a large scale intra-regional R&E network thru TEIN2

Expand inter-continental connectivity

Strong interest in joint approach to maximize effect and minimize cost

Big demand for promotion for utilization over the enhanced connectivity

Strong commitments for sustainability and long term development

Issues

Primary Issues

Expand Intra-regional connectivity in AP

Enhance global connectivity (Gloriad, ORIENT, Transpac2, etc.)

Utilization both for the advanced and late-comers

Preparation for TEIN3

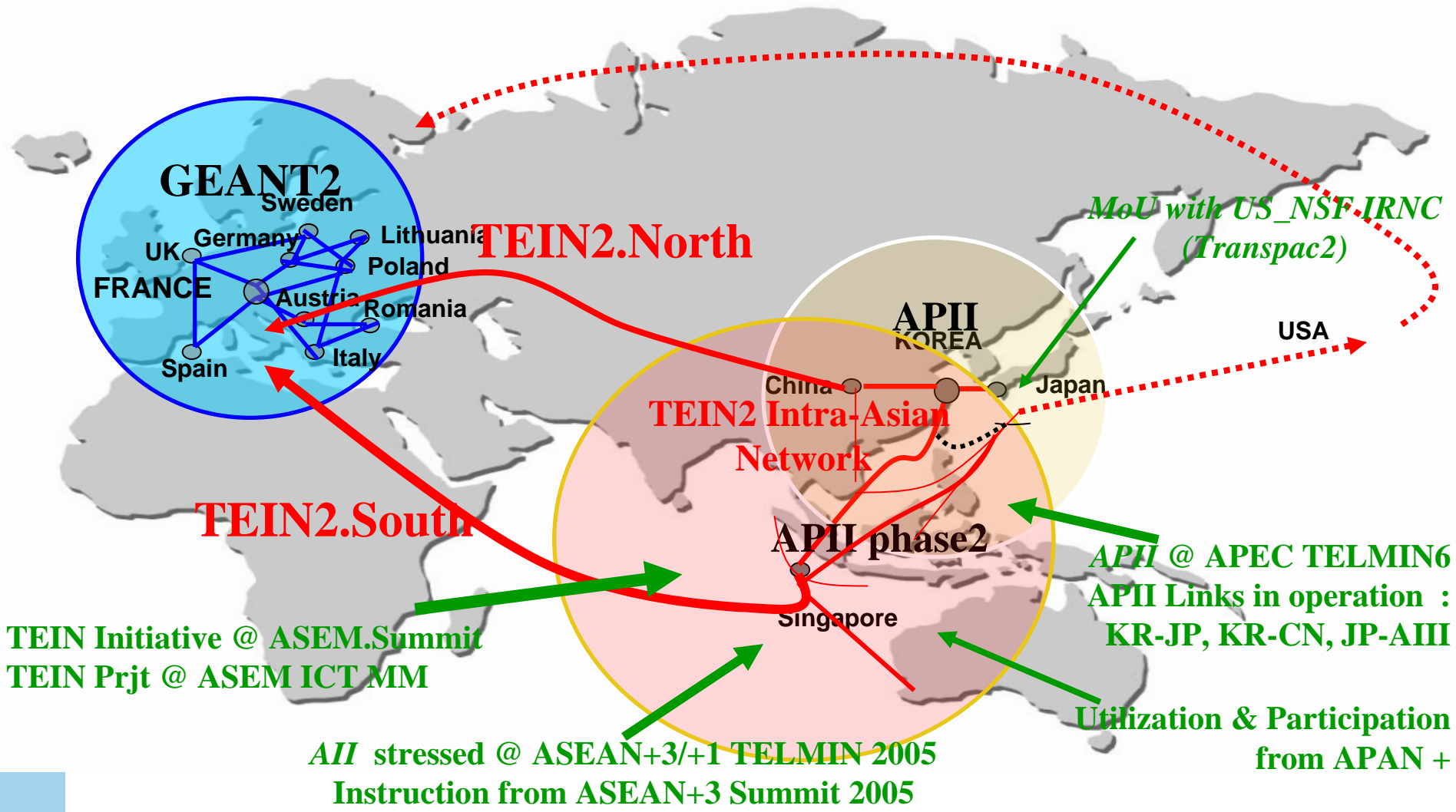
Sustainability and expansion

Leadership and ownership

Collaboration with APAN as prime user group

Rec. for Common Prosperity

Combining TEIN Initiative with Other Initiatives for the next phase of TEIN Initiative (TEIN3+)



THANK YOU
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