A large yellow star graphic is positioned behind the main text, partially overlapping a rounded rectangular box.

**TEIN1 – TEIN4:  
entering a 2<sup>nd</sup> decade of co-operation  
between Asia and Europe**

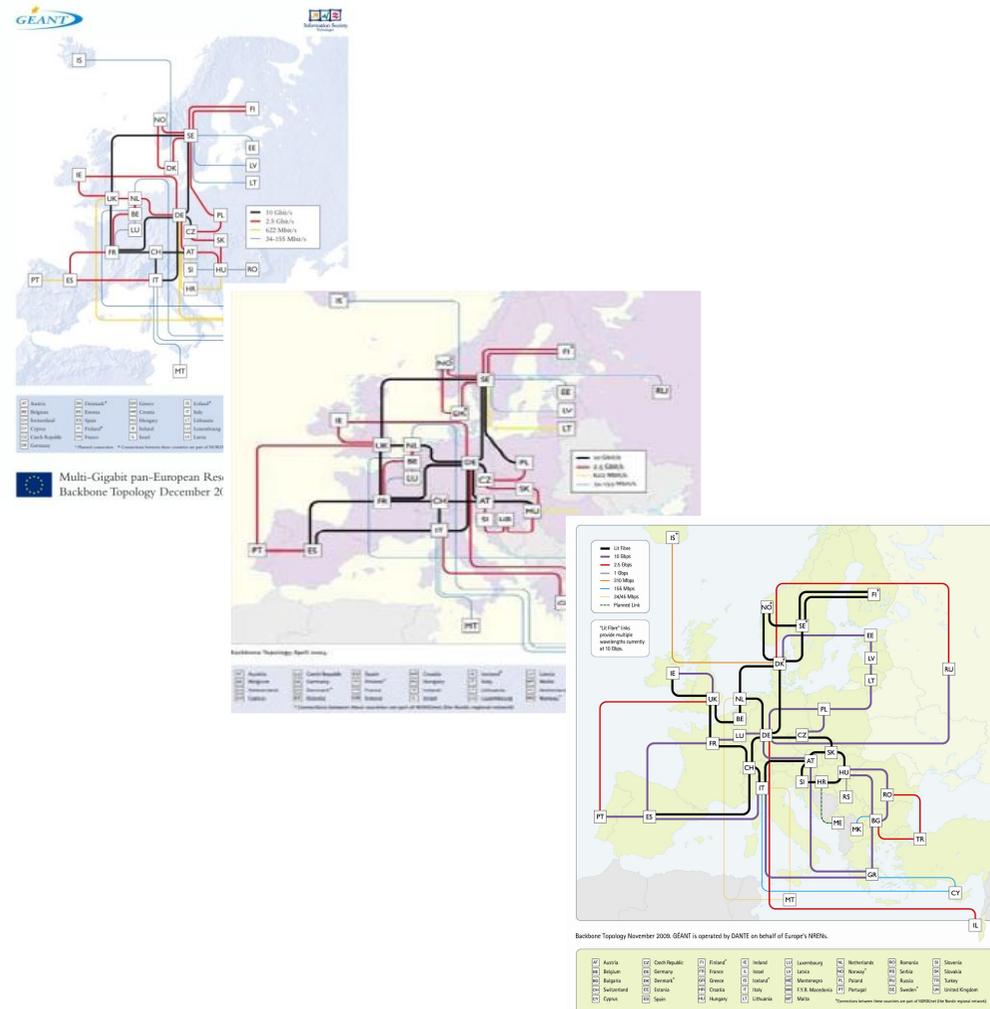
David West,  
DANTE  
KOREN Workshop  
Seoul  
24 May 2010



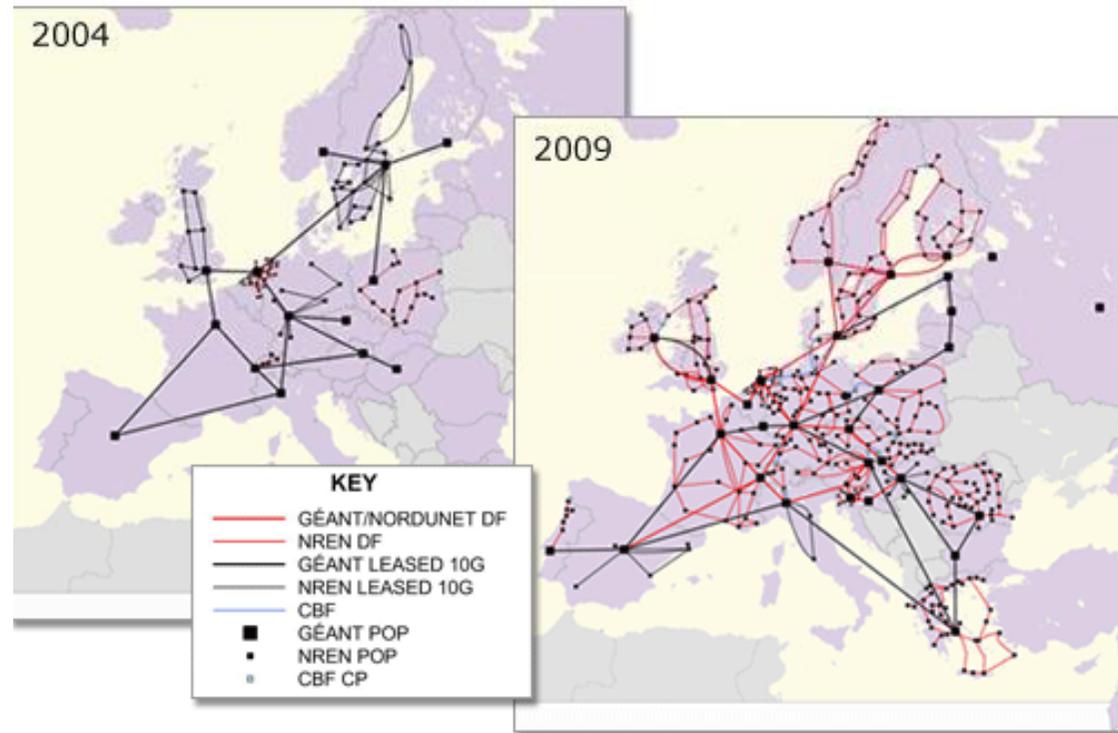
- European networking overview
- The R&E Digital Divide in Asia
- TEIN programme parts 1, 2, and 3 of EU-Asia co-operation
- TEIN4: the next stage of EU-Asia co-operation?

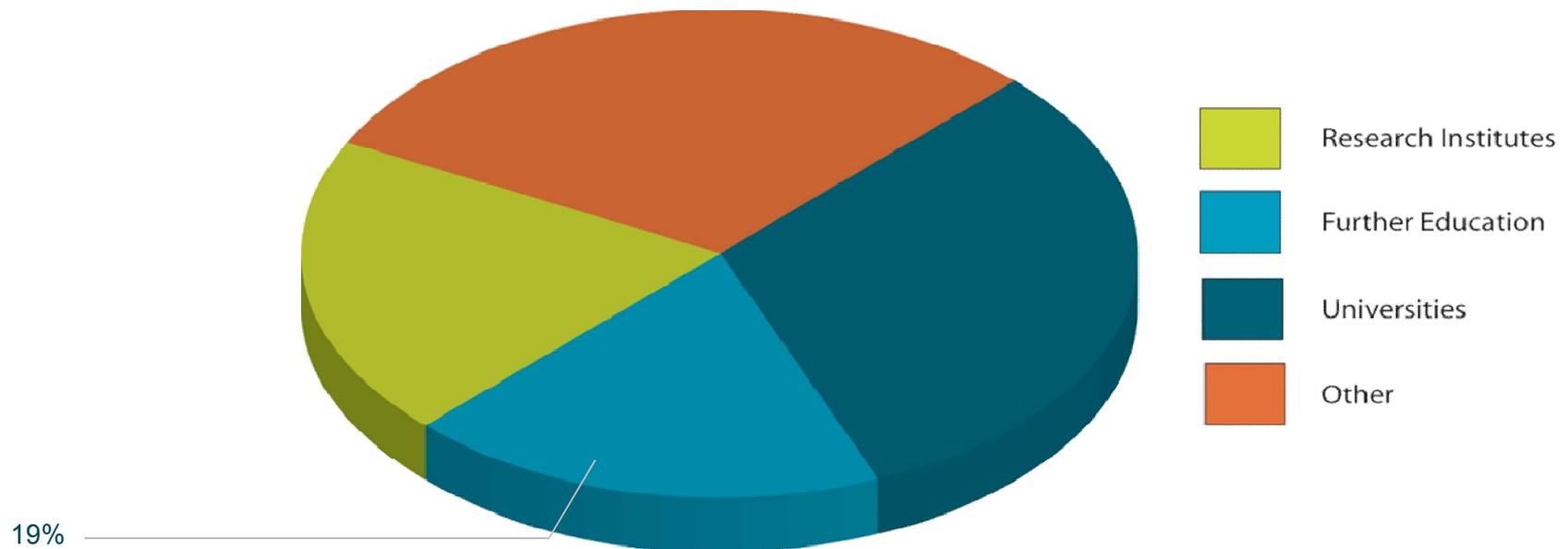


- 2000-2004: GN1 Project
  - GÉANT Network
- 2004-2009: GN2 Project
  - GÉANT2 Network
  - Other Services
  - Joint Research Activities
  - Networking Activities
- 2009-2013: GN3 Project
  - GÉANT Network
  - Wider Range of Services
  - Joint Research Activities
  - Networking Activities



# High Bandwidth Growth



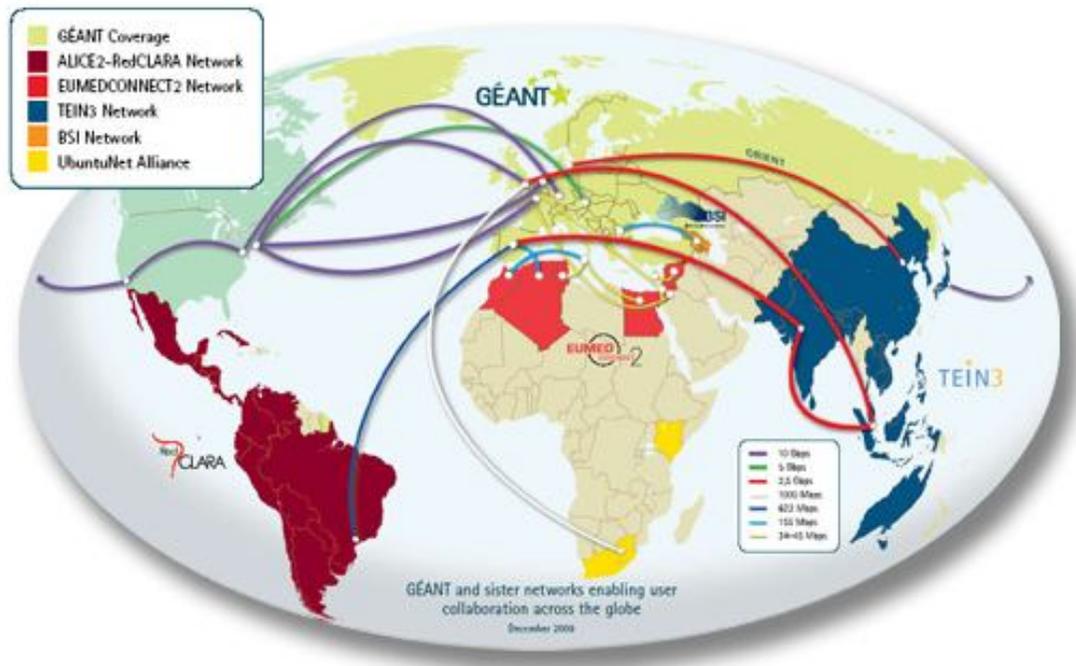


- Together with Europe's NRENs, GÉANT connects over 8,000 institutions – 2,500 universities, 1,500 institutes of further education, and 1,600 research institutes
- An additional 2,500 'other' institutions including libraries, government departments, hospitals and museums are connected



Source: TERENA Compendium 2009.





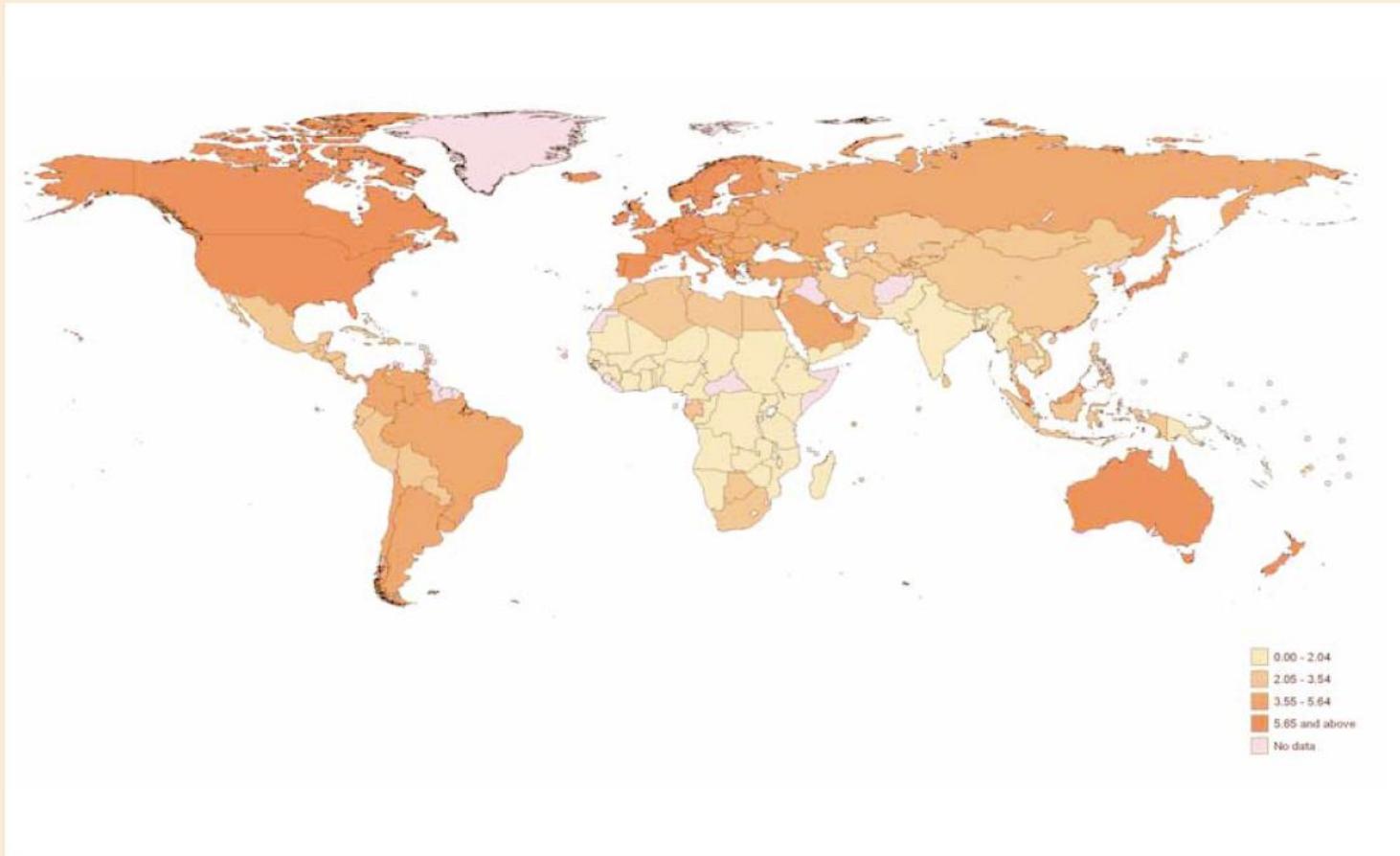
- The GÉANT network has high speed links to networks in other world regions, to connect researchers across the globe:

- Asia-Pacific
- South Caucasus
- Central Asia
- Latin America
- North America
- Southern and Eastern Africa
- Southern Mediterranean



# The Continuing Global Digital Divide

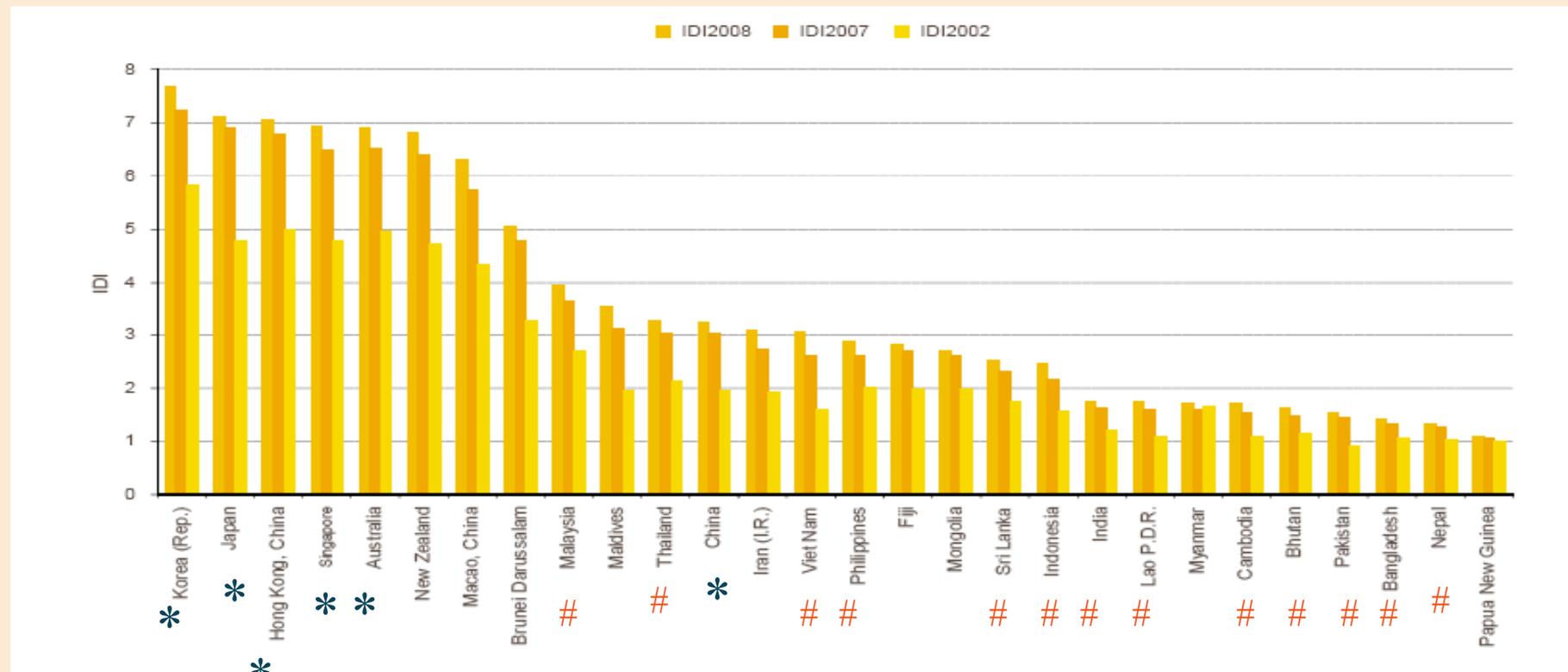
Figure 3.1: IDI by country groups, 2008



Source: ITU World Telecommunication / ICT Indicators database.



Chart 2.14: IDI - Asia and the Pacific



Source: ITU World Telecommunication/ICT Indicators database.

\* Non-beneficiary TEIN3 countries

# Beneficiary TEIN3 countries



“Leaders shared the view that information and communications technology have become pivotal engines of growth in the world economy and also that the resulting digital divide would deepen economic and social disparities in and among countries. With this in mind, they agreed to accelerate efforts to address the digital divide to promote the joint prosperity of the two regions... they also emphasized the need to establish and expand information and research networks between the two regions and among ASEM partners in order to facilitate the flow of knowledge and information as well as research exchanges.....

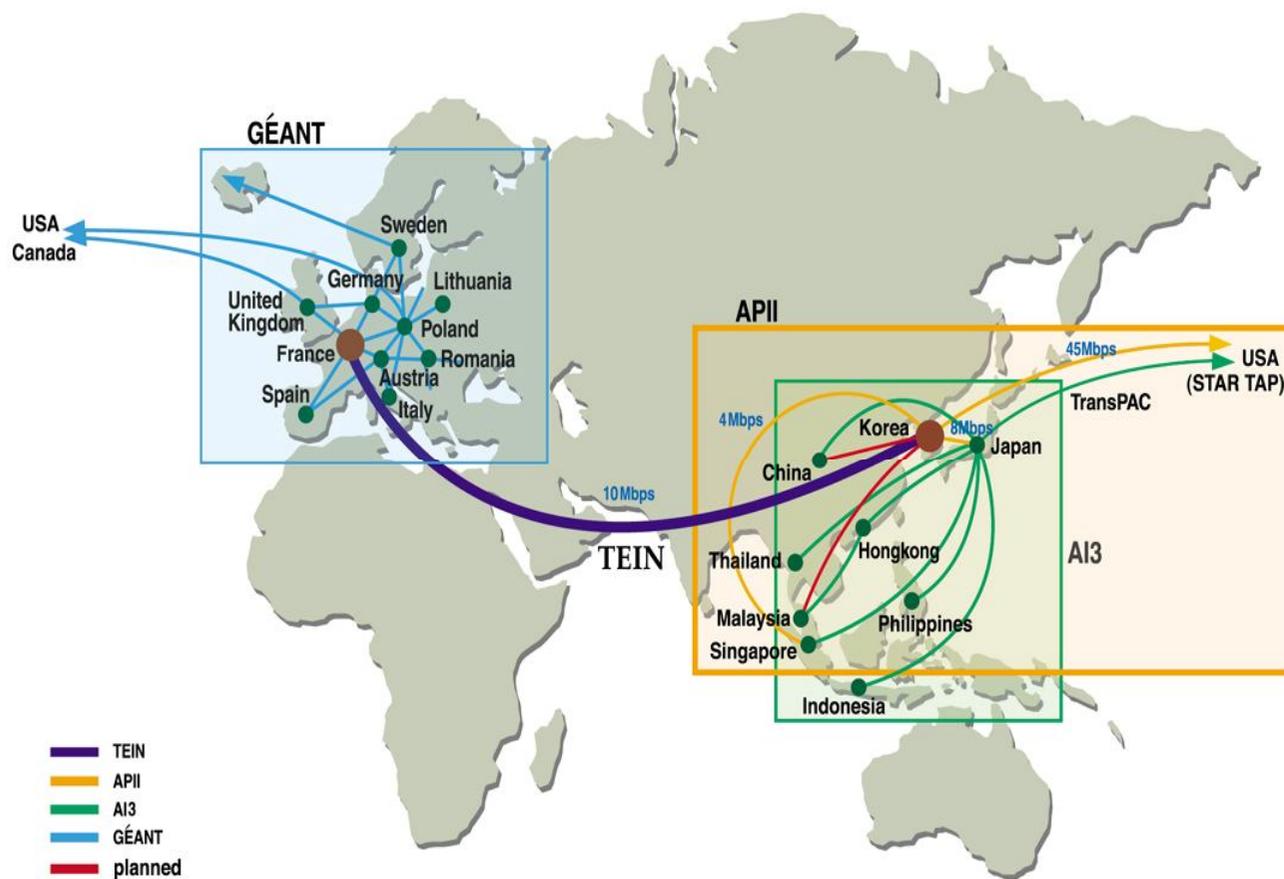
...Leaders endorsed the following new ASEM initiatives...

**...Trans-Eurasia Information Network”**



# TEIN (1) (Lee, Yeong-Ro pres 2002)

## Network Topology



- Oct 2000 Trans-Eurasia Information Network announced at ASEM 3, Seoul
- Nov 2001 Seoul – Paris link starts (“TEIN1”)
- Mar 2003 Idea of TEIN 2<sup>nd</sup> phase started (“TEIN2”)
- May 2004 EC/DANTE TEIN2 contract starts
- Oct 2004 TEIN2 planning studies completed
- Dec 2004 TEIN2 tendering begins
- October 2005 Tsinghua University wins NOC contract, first circuits contracted
- Dec 2005 First PoP operational
- Jan 2006 TEIN2 network goes live



- APAN 10 Beijing
- APAN 12 Phuket
- APAN 16 Busan
- APAN 18 Cairns
- APAN 19 Bangkok
- APAN 20 Taipei
- APAN 21 Tokyo





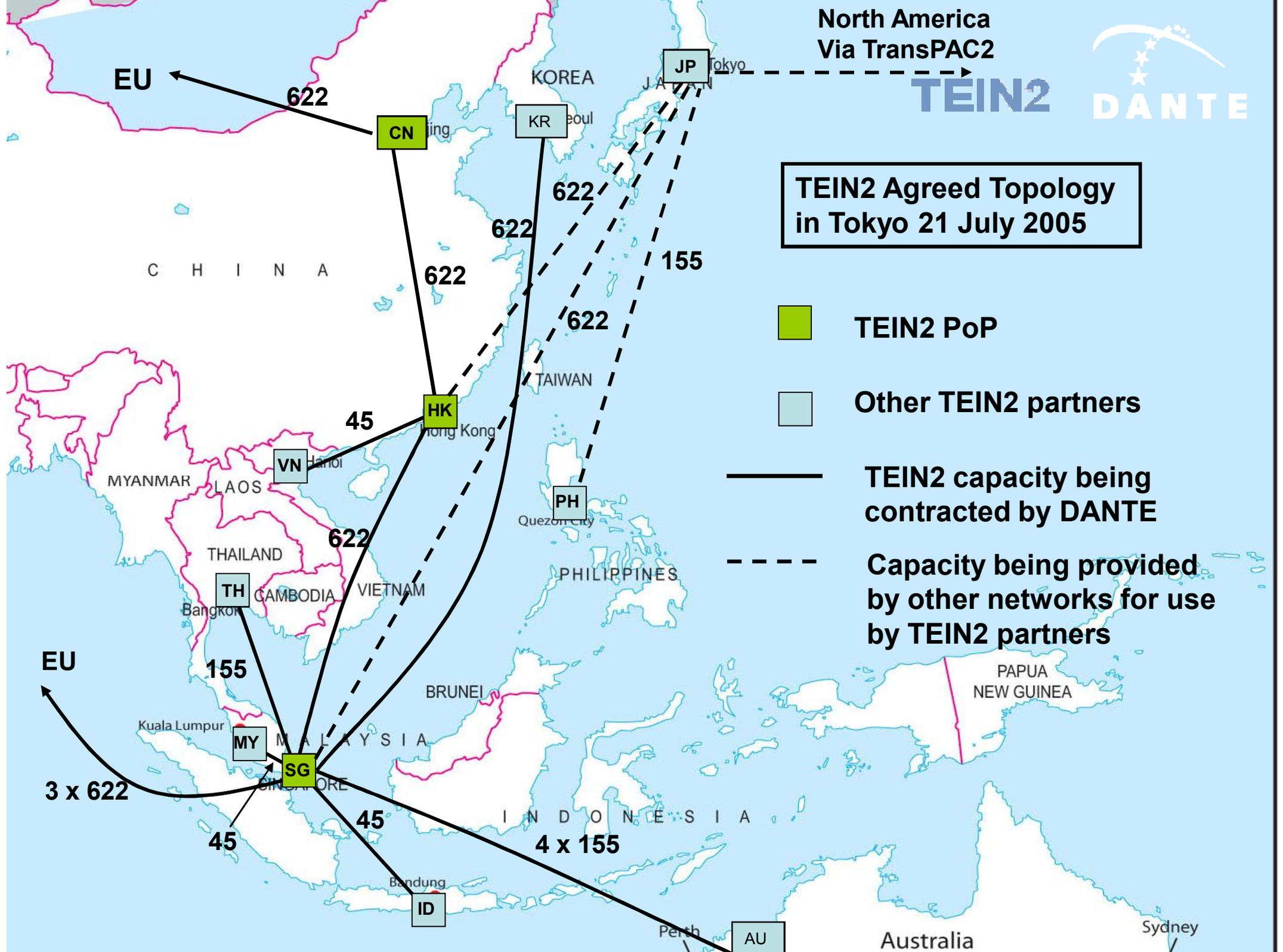
North America  
Via TransPAC2

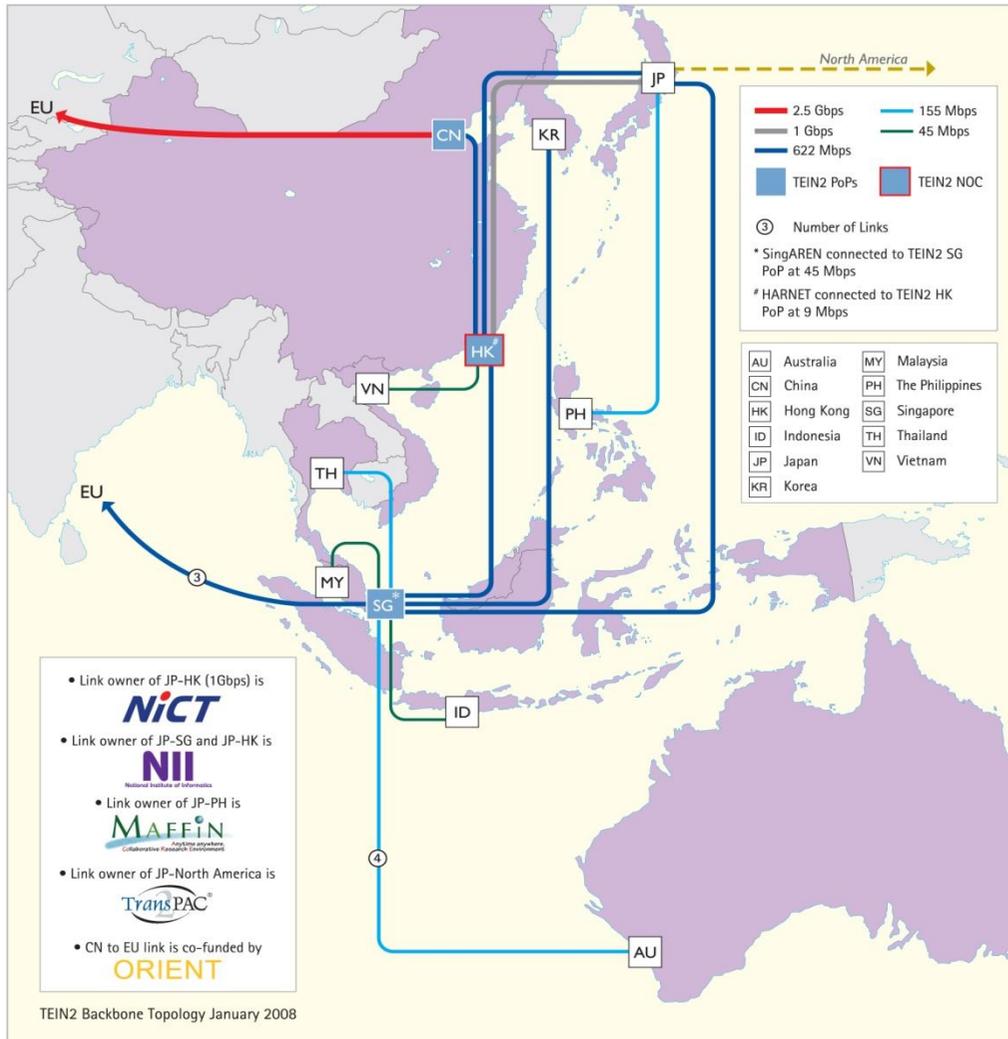
TEIN2

**TEIN2 Agreed Topology  
in Tokyo 21 July 2005**

-  **TEIN2 PoP**
-  **Other TEIN2 partners**

-  **TEIN2 capacity being contracted by DANTE**
-  **Capacity being provided by other networks for use by TEIN2 partners**





6 Beneficiary partners  
5 Non-beneficiary partners

30 M connected users

3 hubs

10M Euro EC funding  
(80% co-funding)

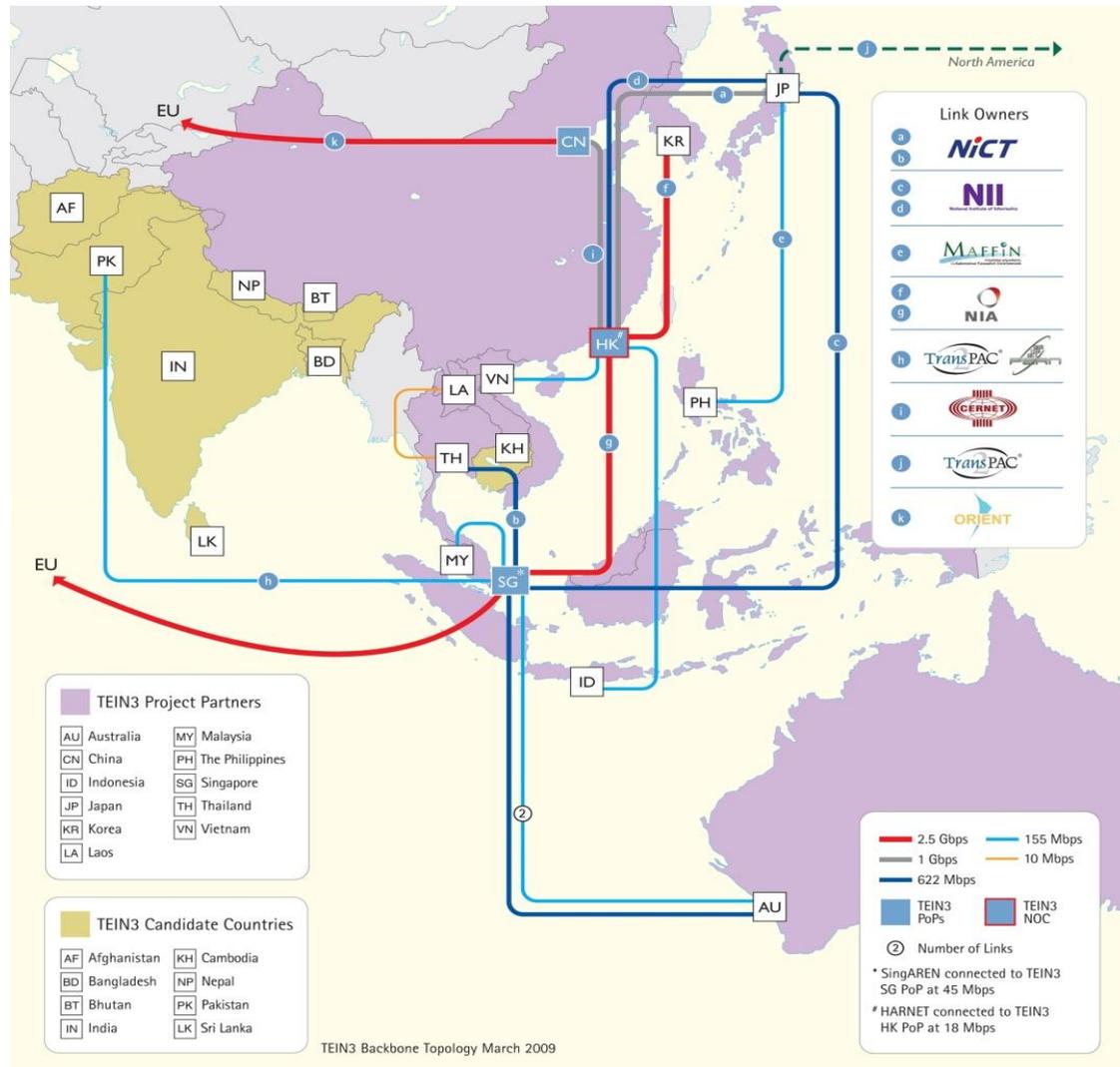
Managed by DANTE



Video



# TEIN3 2009 – 2011: Network at March 2009



6 beneficiary partners  
6 non-beneficiary partners

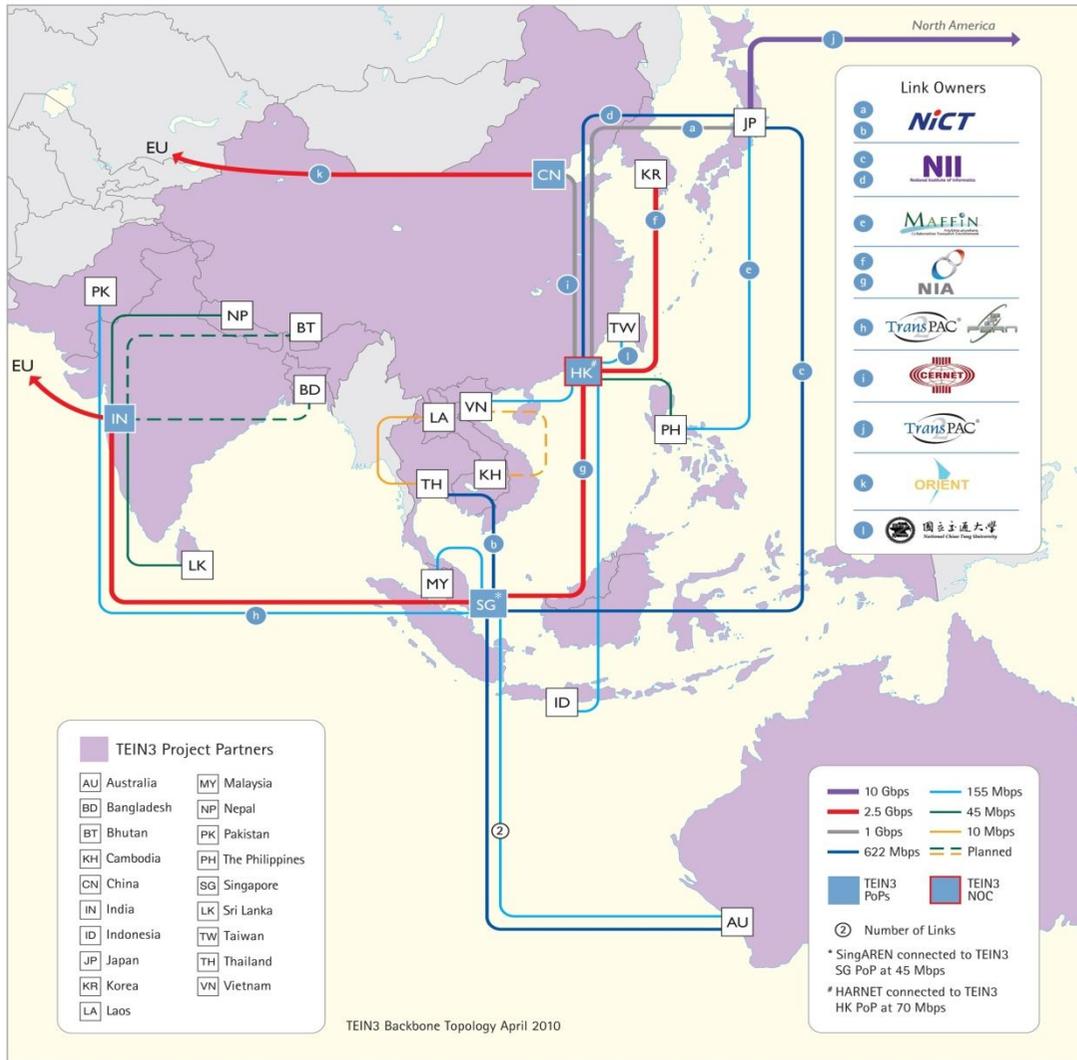
30M+ connected users

3 hubs

11.4M Euro EC funding  
(65% co-funding)



# TEIN3 Network May 2010



12 beneficiary partners  
 7 non-beneficiary partners

45M connected users

4 hubs

11.4M Euro EC funding  
 (65% co-funding)



# ★ TEIN3 saves lives

TEIN3 allows accurate typhoon forecasting and life-saving weather warnings through timely transfer of meteorological data from Germany to the Philippines.

# ★ TEIN3 fights hunger

TEIN3 helps farmers grow crops with greater yields and disease resistance by allowing researchers to develop new varieties and analyse growing conditions faster.

The third generation of the Trans-Eurasia Information Network (TEIN3) provides a dedicated high-capacity Internet for over 45 million researchers and academics in 18 countries across Asia-Pacific.



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the research and education network for asia-pacific



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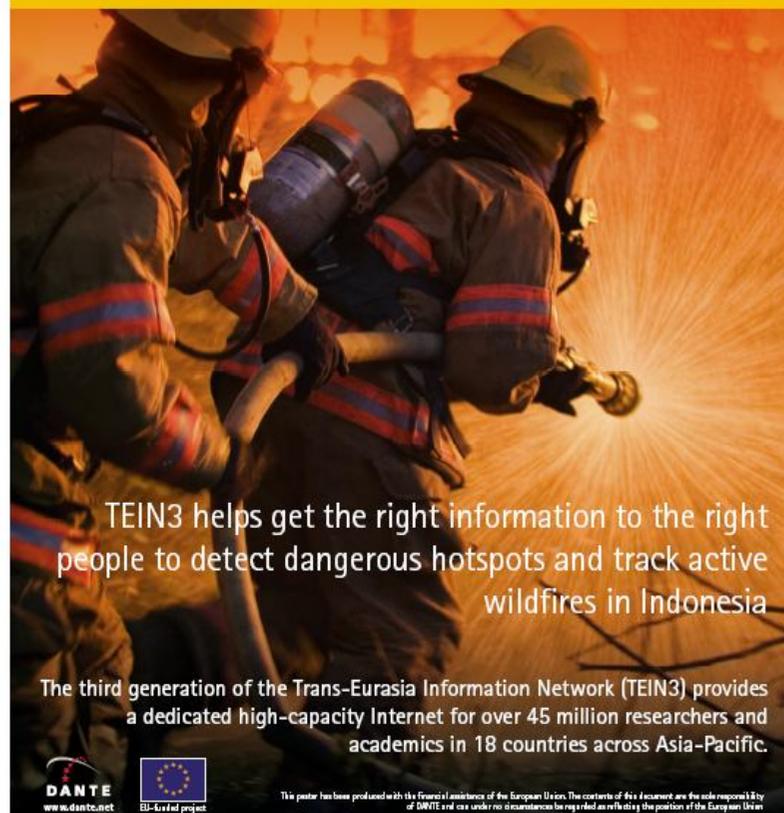
of the European Union. The contents of this document are the sole responsibility of DANTE and can under no circumstances be regarded as reflecting the position of the European Union.

and education network for asia-pacific

# ★ TEIN3 trains doctors

TEIN3 allows surgeons at their hospitals to learn complex clinical techniques from world experts through interactive remote training.

# ★ TEIN3 tackles wildfires



TEIN3 helps get the right information to the right people to detect dangerous hotspots and track active wildfires in Indonesia

The third generation of the Trans-Eurasia Information Network (TEIN3) provides a dedicated high-capacity Internet for over 45 million researchers and academics in 18 countries across Asia-Pacific.



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the research and education network for asia-pacific

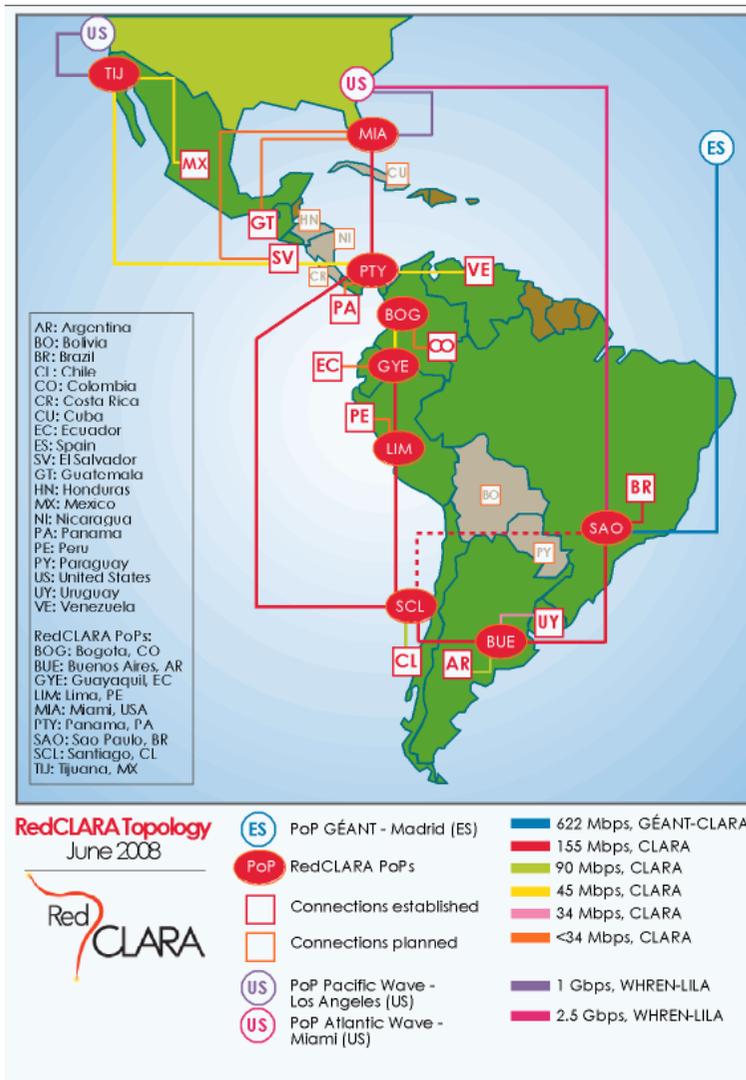
TEIN3) provides researchers and Asia-Pacific.

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work for asia-pacific

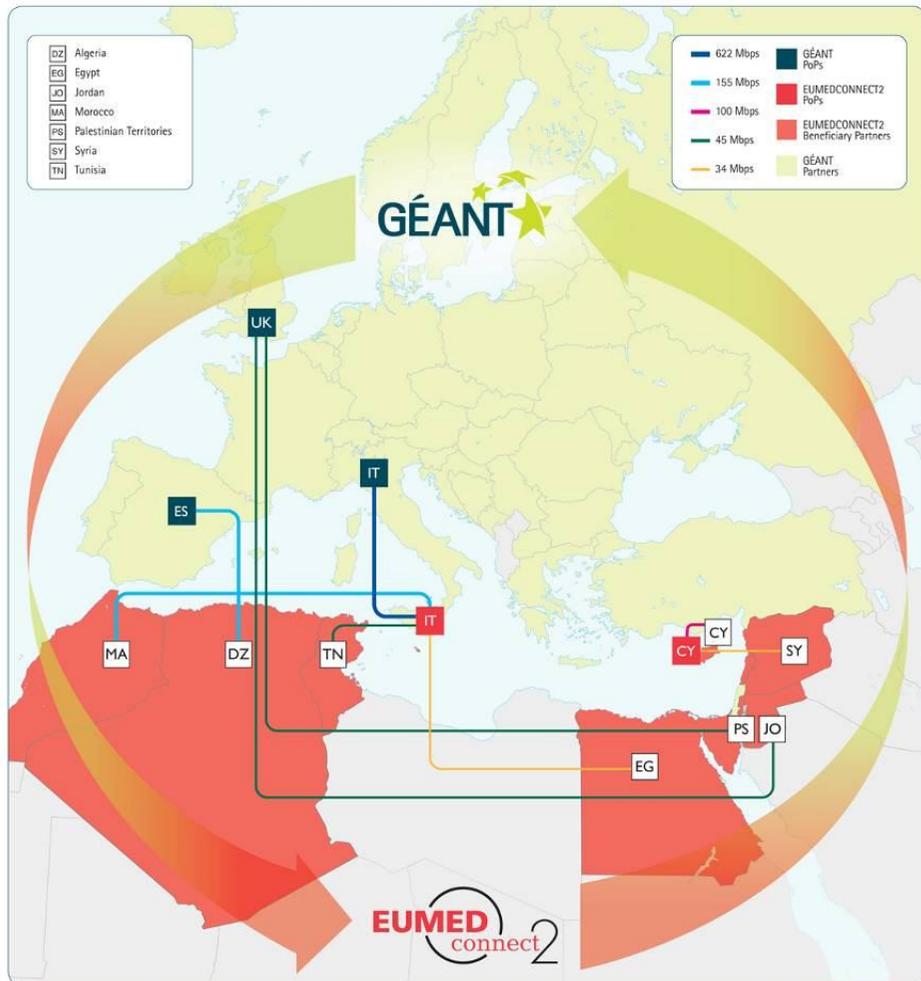
- A key TEIN3 objective
- After many discussions Korea's 'TEIN\*Co-operation Center' (TEIN\*CC) initiative was proposed in Kuala Lumpur during TEIN Ministry Officials meeting on 2 December 2009 by KCC and NIA.
- TEIN \*CC taskforce has Asian and European representatives: NIA (chair), APAN, LEARN, RENATER, VINAREN, DANTE
- TEIN\*CC was endorsed by TEIN3 Technical Committee at Sydney meeting
- Plans being developed for endorsement of TEIN\*CC by ASEM, company formation, and take-over of operational responsibility





- RedCLARA provides IP research network infrastructure within the Latin American region and towards Europe
- Regional research and education network connecting 14 NRENs across Latin America
- Managed by CLARA:
  - not for profit international organisation registered in Uruguay
  - Formed in 2006
  - 8 staff
  - <http://www.redclara.net/>





- Provides high-capacity connectivity for academic and scientific collaboration
- Connects 7 southern and eastern Mediterranean partner countries
- Managed by DANTE today
- In the process of forming Arab States Research and Education Network (ASREN)
  - Political support on UN Global Alliance for ITC and Development, and Arab League
  - Intended to take over responsibility from DANTE
  - ASREN is an EC requirement for EUMEDCONNECT3 funding



- Possible further phase of EC funding
- EC wishes to contract its TEIN4 funding with the Asian organisation that has taken on responsibility for the TEIN programme
- Initial request shortly to be submitted, formal funding decision in 2011
- DANTE will support TEIN\*CC in TEIN4.



Thanks for your attention!

David West

DANTE

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