

# EUMEDCONNECT3 and European R&E Developments

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DANTE

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INTERNET2 Middle SIG, Abu Dhabi



# Covering

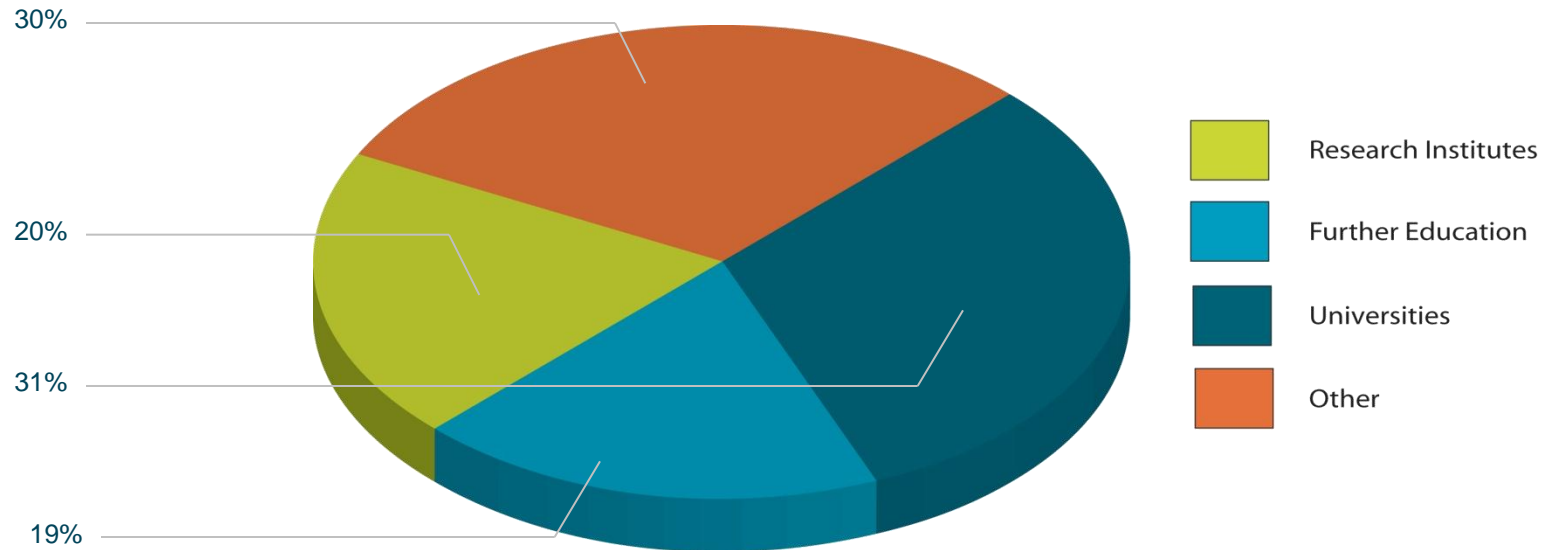
- GEANT
- Other regional network projects
- EUMEDCONNECT3

# The Gateway for European Research

- High-bandwidth, high-performance pan-European communications infrastructure serving Europe's research and education community
- Together with Europe's National Research and Education Networks (NRENs), GÉANT connects researchers in over 8,000 institutions, and students in over 20,000 primary and secondary schools across 40 countries
- GÉANT is co-funded by Europe's NRENs and the European Commission (EC)'s Seventh Framework Programme for Research and Technological Development (FP7)
- Project Partners are 32 European NRENs, TERENA and DANTE



# Connected Institutions

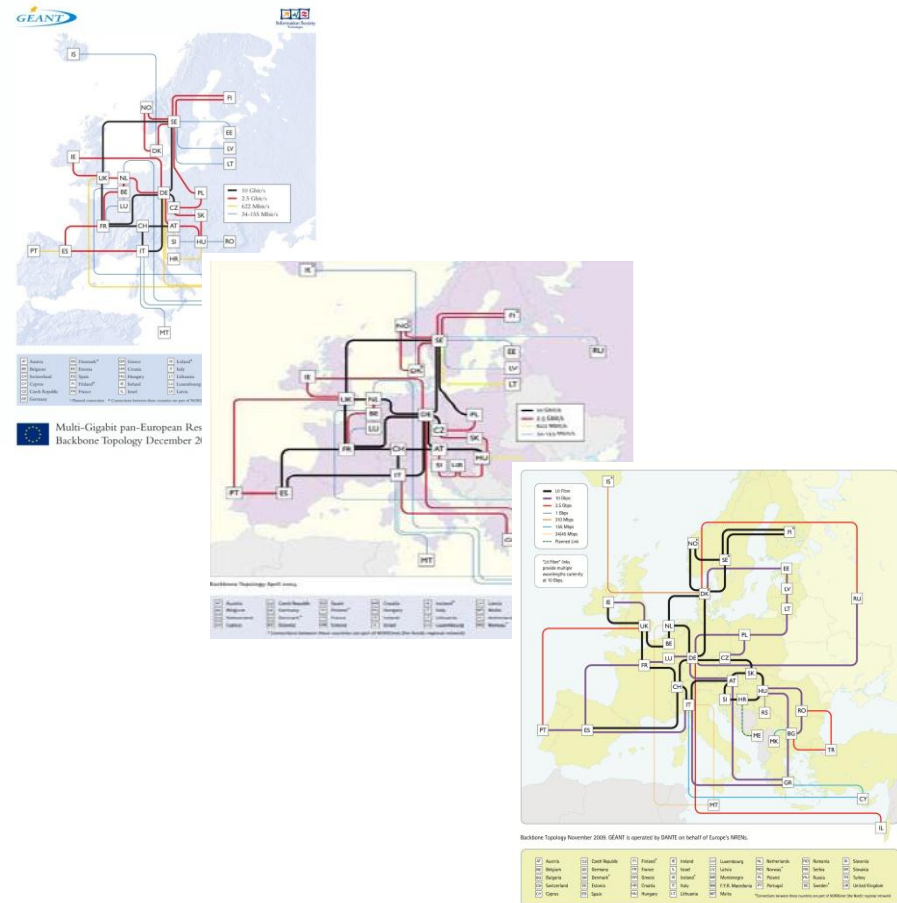


- 4,000 universities and institutes of further education
- 1,600 research institutes
- 2,500 ‘other’ institutions including libraries, government departments, hospitals and museums are connected
- 20,000 schools

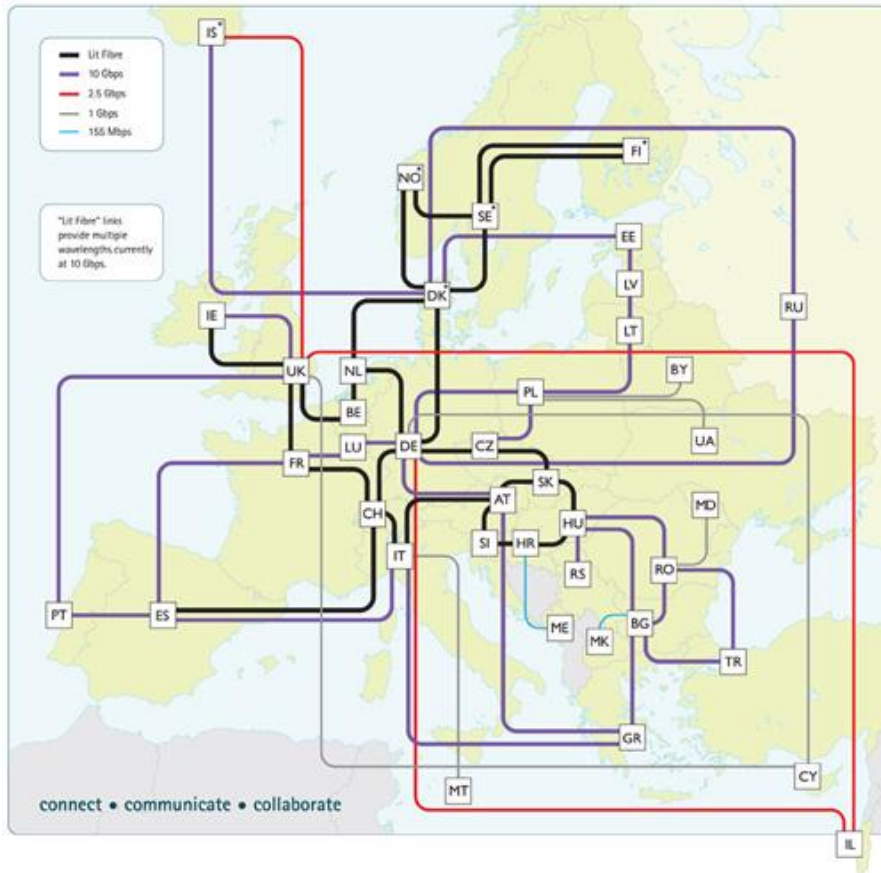
Source: TERENA Compendium 2011. Figures rounded to nearest 500.

# Phases

- 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
  
- 2013- 2015 GN3+ being planned

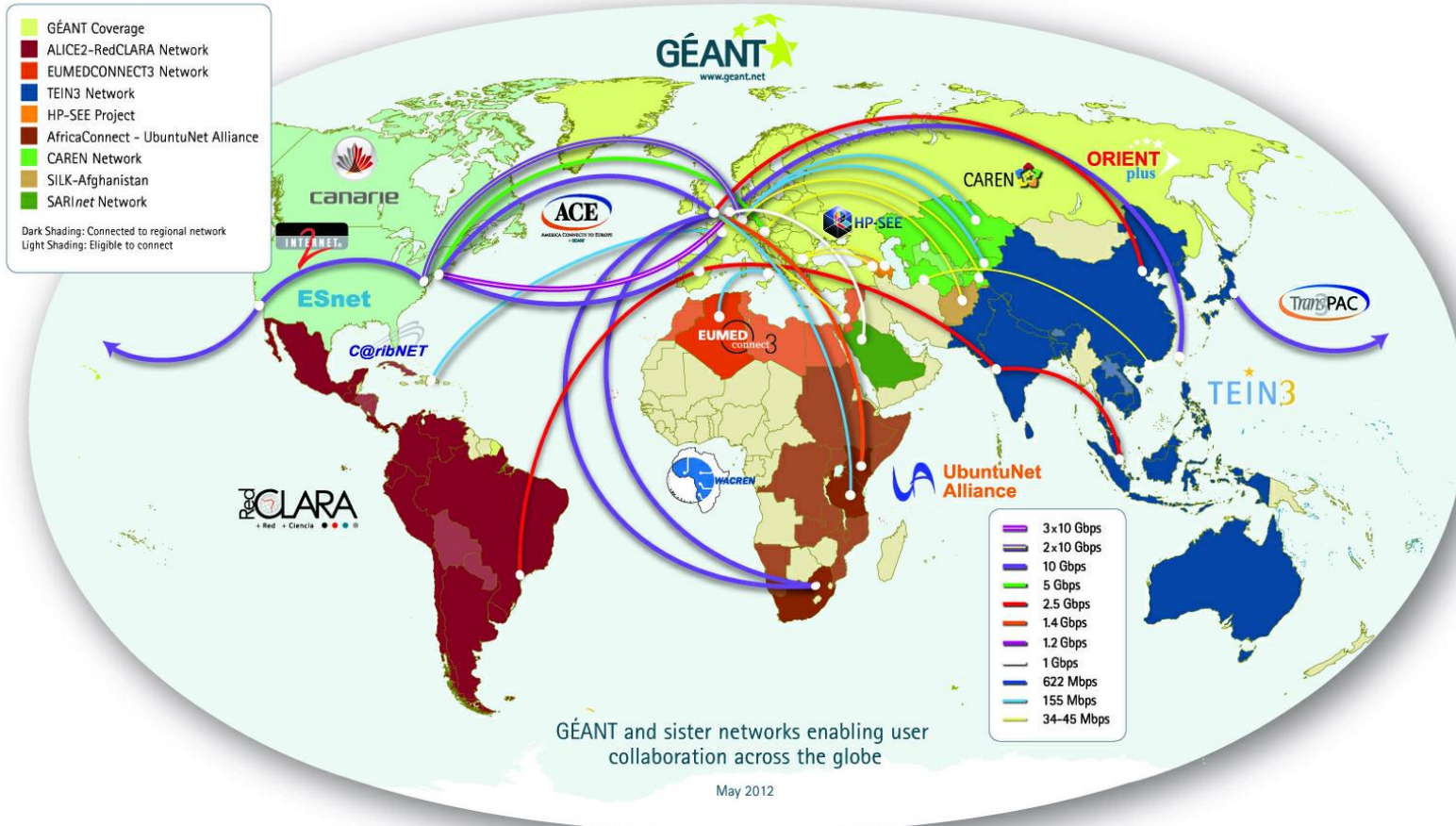


# Pan-European Topology



- Local campus networks link to national research networks that span specific countries, and these then interconnect via the GÉANT backbone
- Offers data transfer speeds of up to 40Gbps across 50,000 km of network infrastructure, of which 12,000 km is based on our own fibre
- 25 Points of Presence (PoPs), 44 routes and 18 dark fibre routes
- 99.999% availability on core
- First 100Gbps routes being deployed

# Inter-regional connectivity



# Central Asia: CAREN

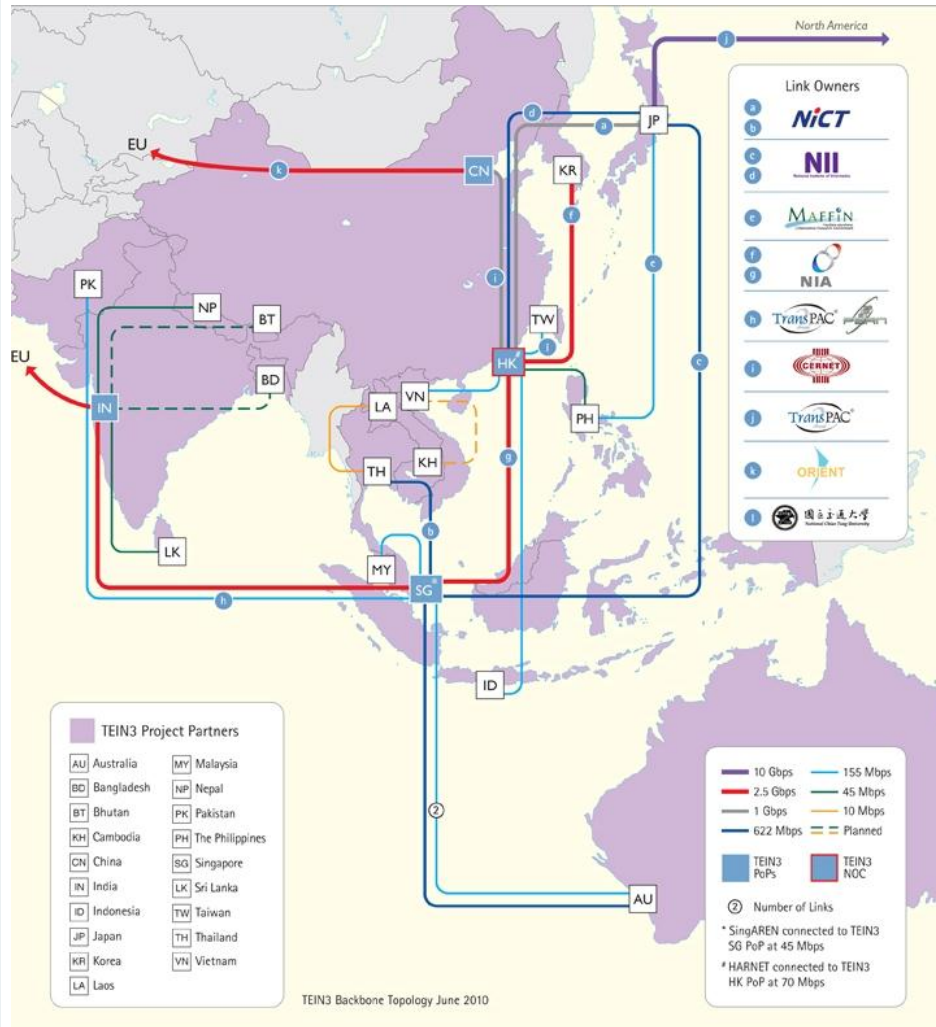


- DANTE-led project for Central Asia Research and Education Network
- Regional network since 2010
  - Connecting Kazakhstan, Kyrgyzstan, Turkmenistan and Tajikistan
  - First fibre-optic connectivity for R&E in the region
  - Uzbekistan eligible
- Half a million users at over 500 institutions
- 80% (€5m) of its €6.25m budget from the EC
- Supports region relevant applications:
  - Seismology, e-learning





# Asia-Pacific: TEIN project



- Pan-Asian regional network
  - Operational since 2006
  - Serving Asia Pacific region
- 18 Asia Pacific countries connected
- 50M+ connected users
- Managed by DANTE from outset to 2012
- New Phase TEIN4 2012 – 2016
  - Managed by TEIN\* Cooperation Center
  - Not for profit supported by Korean government
  - Supported by DANTE

★  
TEIN3

# Sub-Saharan Africa: AfricaConnect



- 4-year project divided in Planning/Procurement Phase and Operational Phase
  - Started in May 2011
  - Planning and Procurement (up to 12 months)
  - Operational Phase (months 13-48)
- Total Budget of 15 M Euro (divided in 80:20) for AfricaConnect
- Partners:
  - UbuntuNet Alliance
  - UbuntuNet Alliance member NRENs
  - WACREN and Association of African Universities
  - DFN, GARR, FCCN, HEANET, JANET, SURFnet
  - DANTE as the Coordinating Partner
- Tender nearing completion



# Latin America: ALICE Creates CLARA



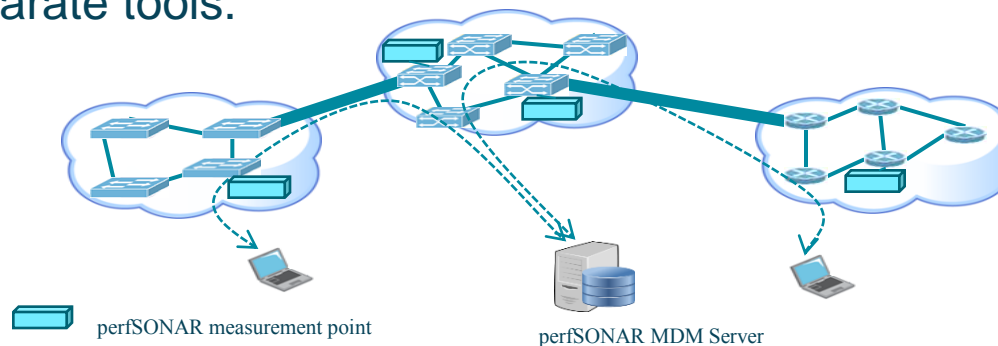
- Regional Network in South America
- ALICE (Latin America Interconnected with Europe)
  - EC-funded project coordinated by DANTE
    - 19 Latin American partners
    - 4 European NREN partners
  - Established CLARA, the Latin American R&E Networking Organisation
  - Created the Latin American RedCLARA network
    - Established interconnection with Europe
    - 12 LA nations now connected
  - Project management for ALICE2 (2008-2012) handed over to CLARA
  - DANTE remains a Project Partner.

3:



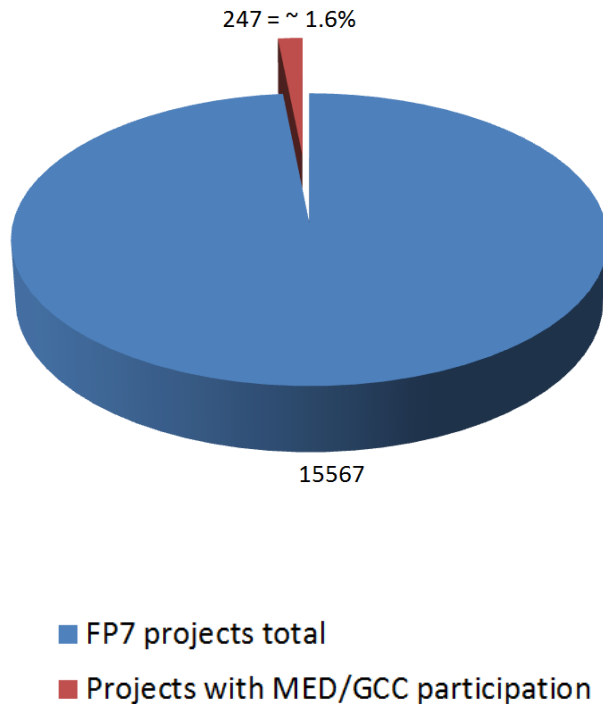
# perfSONAR Service

- The increase in multi-national project collaborations means users need to monitor performance of networks across multiple NRENs
- perfSONAR provides a simple to use, powerful, network independent performance monitoring tool
  - Multi-domain monitoring to give visibility to users and administrators across the GÉANT community
  - Web based service to enable access from any location and any device
  - Network technology independent allowing performance monitoring and fault finding across disparate networks without the need to use separate tools.

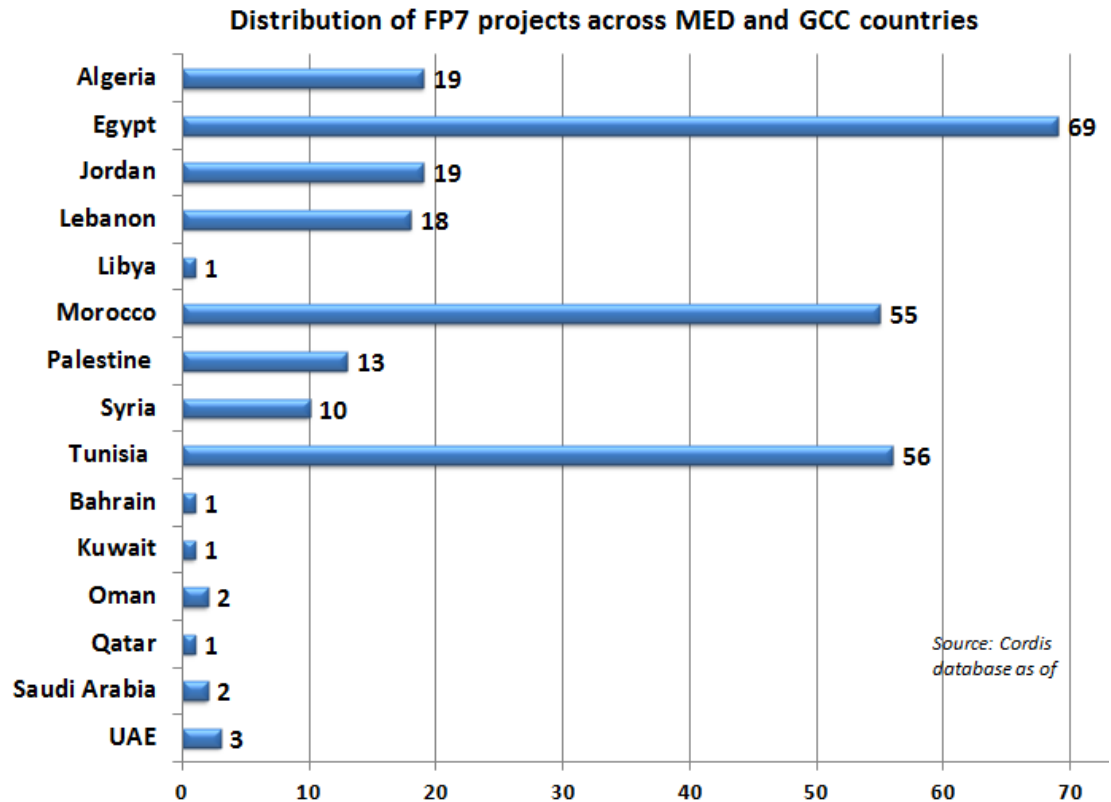


- A set of interoperable systems that enable verified users to securely identify themselves and enable granting access to resources as appropriate
  - **eduPKI**
    - *A ‘trust-factory’ to support GN3 services in defining trust requirements and providing digital certificates*
  - **eduGAIN**
    - *Enabling organisations associated with different federations to seamlessly and securely exchange information as though part of the same federation*
  - **eduroam**
    - *Secure, roaming access for the global research and education community based on reciprocal institutions*

# MED/GCC participation in FP7 projects

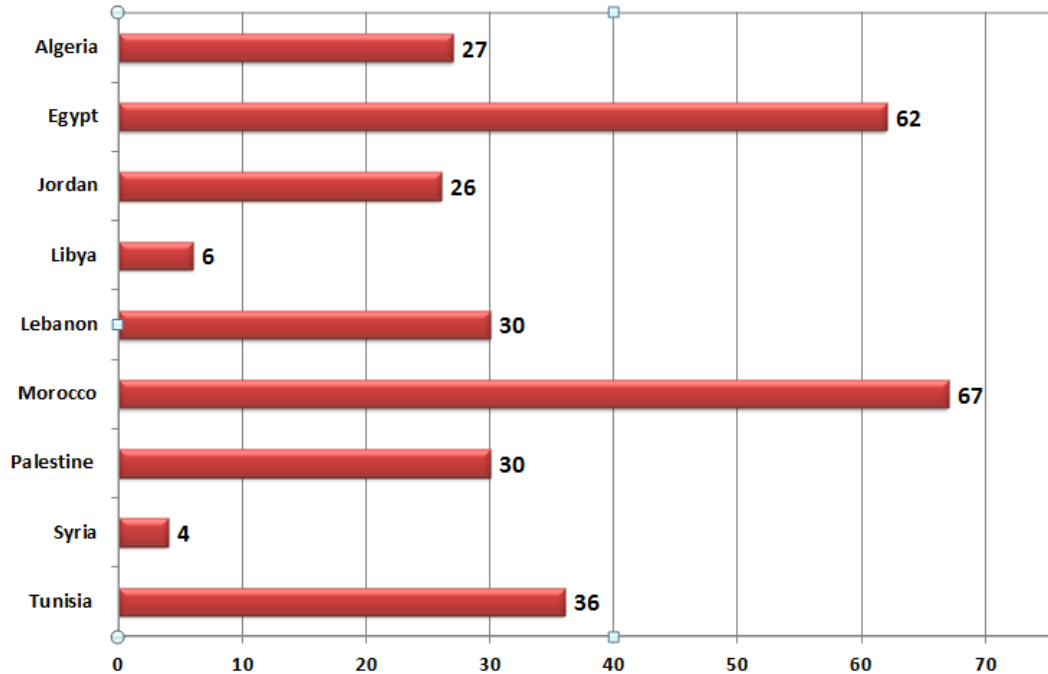


Source: Cordis database  
 Projects still in execution phase as of  
 15/09/12

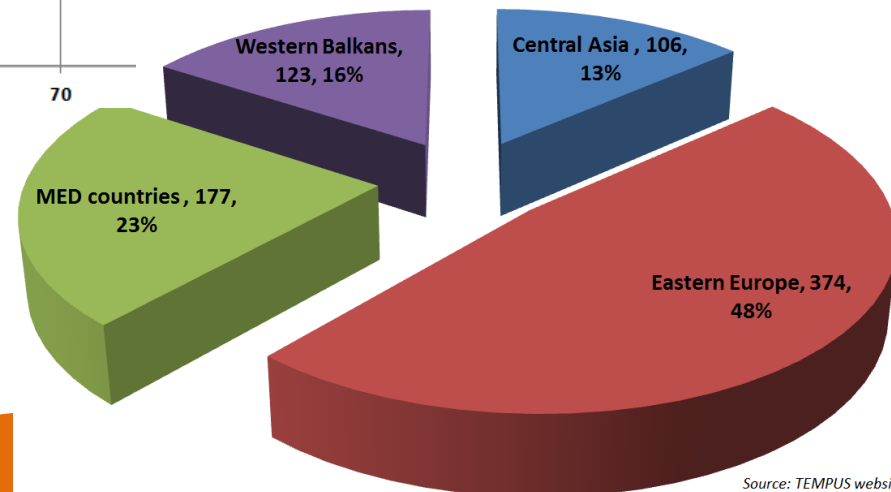


# MED participation in TEMPUS projects

MED participation in TEMPUS projects



TEMPUS IV Applications submitted by partner region



# Applications relying on EUMEDCONNECT

**EUMED connect 2**

## tackles global warming

EUMEDCONNECT2 helps save the Mediterranean by supporting cutting-edge climate research, combating desertification and improving water resource management.

EUMEDCONNECT2 provides a dedicated high-capacity Internet network for over 2 million researchers, academics and students in 7 countries across the southern and eastern Mediterranean.

**DANTE** This project has been funded with the financial assistance of the European Union. The contents of this document are the sole responsibility of DANTE and do not necessarily represent the opinion of the European Union.

the research and education network for the mediterranean

**EUMED connect 2**

## recreates the Big Bang

EUMEDCONNECT2 allows high-energy physicists in the Mediterranean to participate in groundbreaking experiments to discover the origins of the universe.

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**EUMED connect 2**

## stops seizures

EUMEDCONNECT2 allows neurosurgeons in Tunisia to collaborate remotely with their French colleagues on the diagnosis and surgical treatment of epilepsy patients, giving them back a seizure-free life.

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the research and education network for the mediterranean

**EUMED connect 2**

## opens classroom doors

EUMEDCONNECT2 is a gateway for students in the Mediterranean to learn with the world's most inspirational tutors in an interactive virtual environment.

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**EUMED connect 2**

## saves lives

EUMEDCONNECT2 improves life chances of thalassaemia sufferers by speeding up the development of innovative drugs that reduce the dependency on expensive and frequently unsafe blood transfusions.

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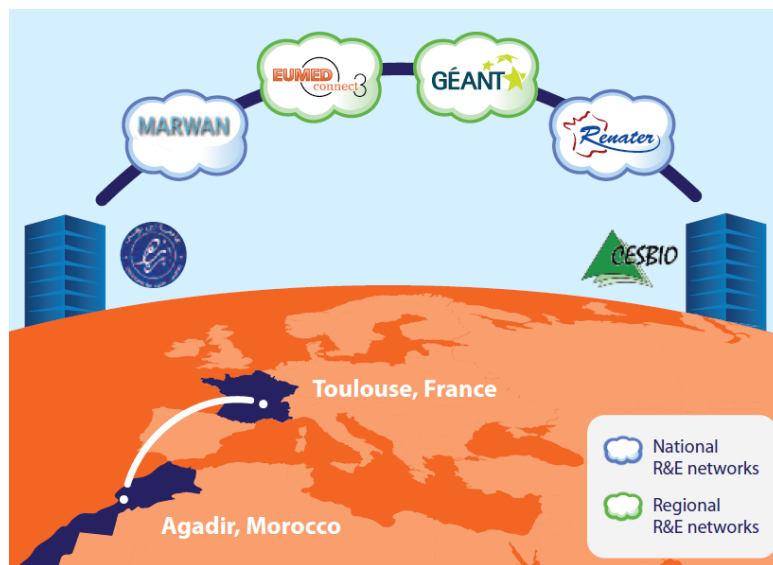
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the research and education network for the mediterranean



# Latest case study

Sustainable land management in Morocco supported by EUMEDCONNECT3 and GÉANT



Networks allow fast and reliable transfer of large GIS files between researchers in Morocco and France for accurate mapping.

# EUMEDCONNECT3

- Phase started 1 Sept 2011 with 36 – 42 month term
- Up to 3.29M Euro EC funding, up to 36.19% EC funding contribution
- Co-ordinating Partner: DANTE
- Contract partners: ASREN, CYNET, GARR, GRNET, RENATER, Red.ES
- Beneficiary Countries: Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, Tunisia
- Other countries welcome to join at own cost
- [www.eumedconnect3.net/](http://www.eumedconnect3.net/)

# Connectivity Status

- Palestine 45 Mbps since 1 May 2012
- Algeria 155 Mbps link upgraded to 622Mbps since 12 September 2012
- Egypt – discussions underway to connect ENSTINET to GEANT
- Discussions with other NRENs underway

# The Way Ahead

- Re-establish EUMEDCONNECT network
- Close partnership with ASREN
- Wish to engage with GCC NRENs:
  - Network connectivity level (Pan-Arab regional network)
  - User level (stimulate GCC participation in EU programmes)

# Forthcoming Events

- EUMEDCONNECT3/ASREN meeting at Al Ain:
  - 19 Sept 11.30 – 15.30
  - All NRENs welcome to attend
- E-AGE 2012 Conference in Dubai
  - 12/13 December
  - Follow up to the first e-AGE in Amman
  - <http://eage2012.asrenorg.net/en/welcome.html>

Thanks!  
Q/A?

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