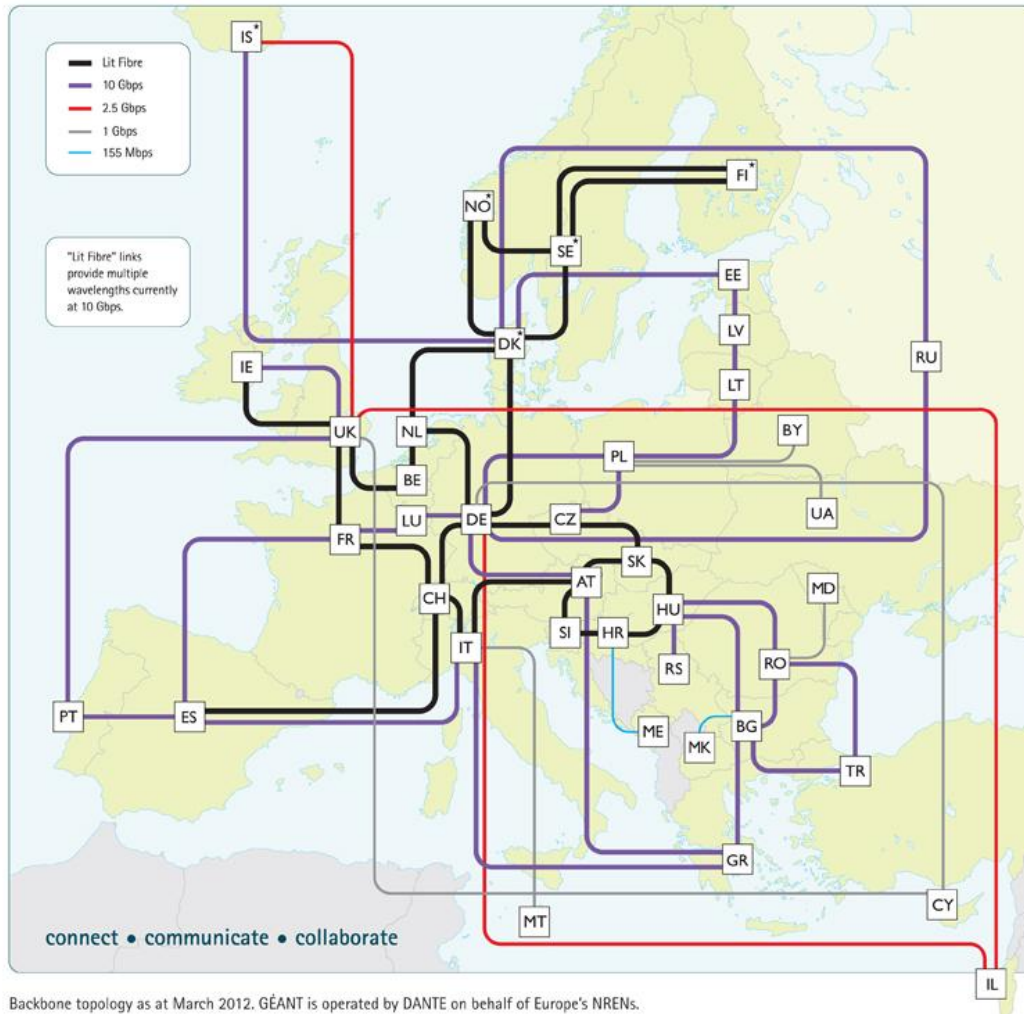


GÉANT

Enabling Global R&E Collaboration

Thomas Fryer, DANTE
AMERICAS Conference, CUDI
Friday, 4th October 2013

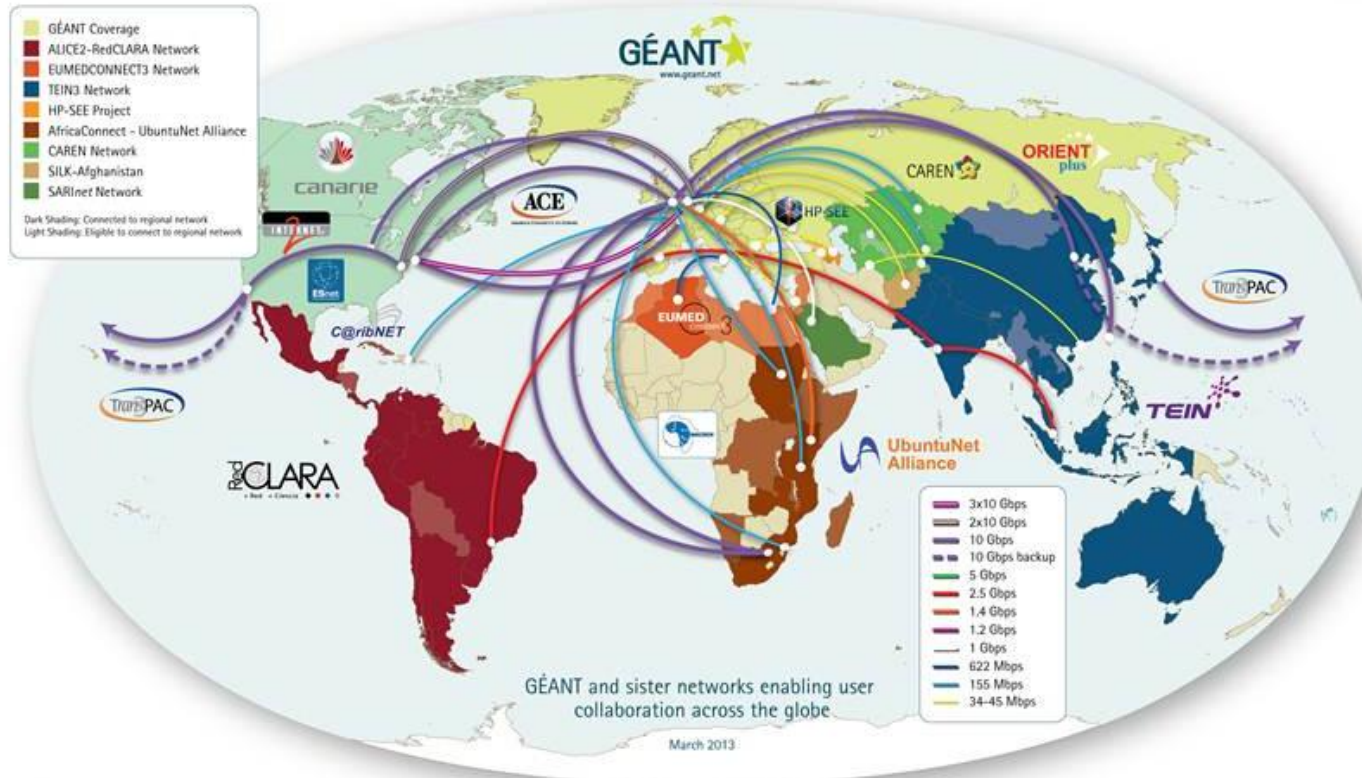
Europe's 100Gbps Network - e-Infrastructure for the "data deluge"



- Latest transmission and switching technology
- Routers with 100Gbps capability
- Optical transmission platform designed to provide 500Gbps super-channels
- Hybrid network
 - **GÉANT IP**: packet routed – and VPNs
 - **GÉANT Plus**: switched point-to-point circuits
 - **GÉANT Lambda**: dedicated wavelengths
- 12,000km of dark fibre over 100,000km of leased capacity (inc. transatlantic links)
- 28 main sites covering European footprint

GÉANT Global Connectivity

- at the heart of global research networking



connect • communicate • collaborate

GÉANT is co-funded by the European Union within its 7th R&D Framework Programme.

This document has been produced with the financial assistance 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.



GÉANT connects to 65 countries outside of Europe, reaching all continents through international partners

<http://global.geant.net/>

66 countries outside Europe connected to GÉANT

Americas & the Caribbean

- CANARIE Canada
- C@ribNET Anguilla, Antigua, Barbados, BVI, Dominica, Dominican Rep., Grenada, Jamaica, Montserrat, St. Kitts, St. Lucia, St. Vincent, Trinidad
- CEDIA Ecuador
- CUDI Mexico
- ESN Net USA
- INNOVA|RED Argentina
- Internet2 USA
- NISN (NASA) USA
- NLR USA
- RAAP Peru
- RAGIE Guatemala
- RAICES El Salvador
- RAU2 Uruguay
- REACCIUN2 Venezuela
- Red CoNARE Costa Rica
- RedCyT Panama
- RENATA Colombia
- REUNA Chile
- RNP Brazil
- USLHCNet USA

Middle East & Africa

- ANKABUT United Arab Emirates
- ARN Algeria
- ENSTINET Egypt
- KENET Kenya
- MoRENet Mozambique
- Qatar Foundation Qatar
- SARInet Saudi Arabia
- SUIN Sudan
- TENET South Africa
- TERNET Tanzania
- ZAMREN Zambia

Asia & Oceania

- AARNet Australia
- AfRENA Afghanistan
- NAS RA Armenia
- ASGC Taiwan
- AzRENA Azerbaijan
- BdREN Bangladesh
- CamREN Cambodia
- CERNET China
- CSTNET China
- INHERENT/ITB Indonesia

Asia & Oceania (cont.)

- JGN-X Japan
- HARNET Hong Kong
- KazRENA Kazakhstan
- KOREN/NIA Korea
- KRENA-AKNET Kyrgyzstan
- LEARN Sri Lanka
- MAFFIN Japan
- MYREN Malaysia
- NKN India
- NREN Nepal
- PERN2 Pakistan
- PREGINET Philippines
- REANNZ New Zealand
- SINET3/NII Japan
- SingAREN Singapore
- TARENA Tajikistan
- ThaiREN/ThaiSARN Thailand
- ThaiREN/UniNet Thailand
- TuRENA Turkmenistan
- TWAREN Taiwan
- VINAREN Vietnam

<http://global.geant.net/>

GÉANT (GN3plus)

- vital to the EU's e-Infrastructure strategy



Key Facts	GN3plus
Start date	April 1 2013
Duration	24 months
Total budget	€84,283,018
EC contribution	€41,800,000
Participants	250+
41 Project Partners: 38 NRENs, DANTE, TERENA, NORDUnet (representing 5 Nordic countries)	

- **GN3plus:** extension and expansion to 3rd term of the successful GÉANT networking project, vital to the EU's e-Infrastructure strategy.
- **GÉANT vision:** to become the unified *European Communications Commons* - driving knowledge creation as the global hub for research networking excellence
- **GÉANT Mission:** to deliver world-class services with the highest levels of operational excellence
- **Co-funded:** by the EU and Europe's NRENs

GN3plus in numbers



14
Activities

58
Tasks

250+
People

41
Partners



50,000,000 users
10,000 institutions
across Europe



Reaching over
100 countries
worldwide

- Performance Monitoring
- Mobility
- Authorisation & Authentication
- Videoconferencing

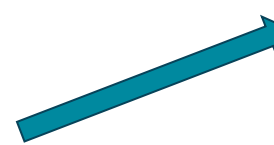
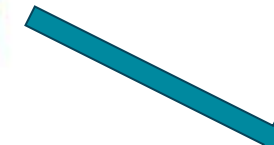
perfSONAR^{MDM}

eduPERT

eduroam

eduGAIN

eduCONF



elcira
Europe Latin America
Collaborative e-Infrastructure
for Research Activities

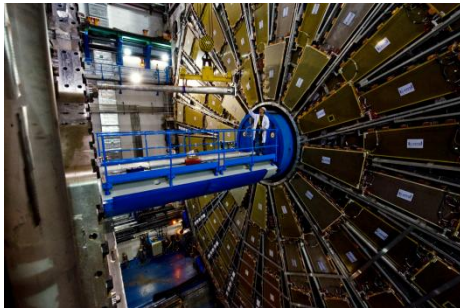
↑
Collaboration
tools

Who Uses R&E Networks? (i)

Radio astronomy

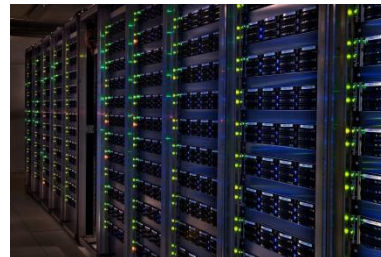


- **BIG SCIENCE**

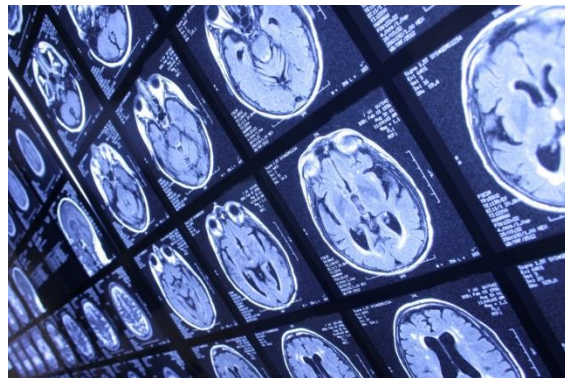


The Large Hadron Collider
- PIC, Barcelona, is a Tier 1 site

- **SUPERCOMPUTING**
BSC, Barcelona, is a PRACE participant



Source of image: CERN



- **E-HEALTH AND THE BIOMEDICAL SCIENCES**

- **E-LEARNING**
Benefits teachers,
lecturers and
students



Who Uses R&E Networks? (ii)

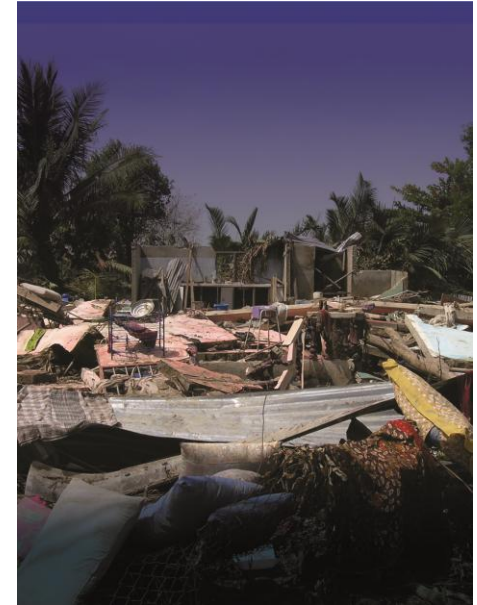
- **EARTH OBSERVATION**



- **TELEMEDICINE**



Environmental monitoring



Disaster warning and recovery

- **THE ARTS**

Musicians have new ways to create music, rehearse and perform together.



Thank you!



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