

INDICATE

International Network for a Digital Cultural Heritage e-Infrastructure

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INDICATE at a glance (www.indicate-project.eu)

- Full title: International Network for a Digital Cultural Heritage e-Infrastructure
- Support Action co-funded by the European Commission under the call FP7-INFRASTRUCTURES-2010-2
- Grant Agreement no.: 261324
- Duration: 24 months
- Start: 1st of September 2010
- Budget (Total): ~682 k€
- Budget (EC contribution): ~600 k€ (~88%)
- Person months: 113
- Project Manager: Rossella Caffo (ICCU)
- Technical Coordinator: Antonella Fresa (ICCU)

The INDICATE partners

- **Italy:** Ministero per i beni e le attività culturali - Istituto Centrale per il Catalogo Unico (coordinator)
- **Italy:** Consotium GARR
- **Italy:** COMETA
- **France:** Ministère de la Culture e la Communication
- **Greece:** National Technical University of Athens
- **Spain:** I2CAT
- **Slovenia:** Institute for the Protection of Cultural Heritage
- **Egypt:** CULTNAT
- **Jordan:** Department of Antiquities
- **Turkey:** Ministry of Culture and Tourism

INDICATE objectives

- To establish a long-term network of common interest, following a tried and tested approach using working groups and high-quality publications;
- To deliver a range of demonstrators (two pilot applications and three case studies) that address the main priorities for research in the **Digital Cultural Heritage** (in both cases, these are not new R&D activities but they are a porting of existing work to an e-Infrastructure platform, with subsequent analysis and lesson learning);
- To establish a permanent dialog for e-Infrastructures and DCH to work together.

The relationship between INDICATE and DC-NET

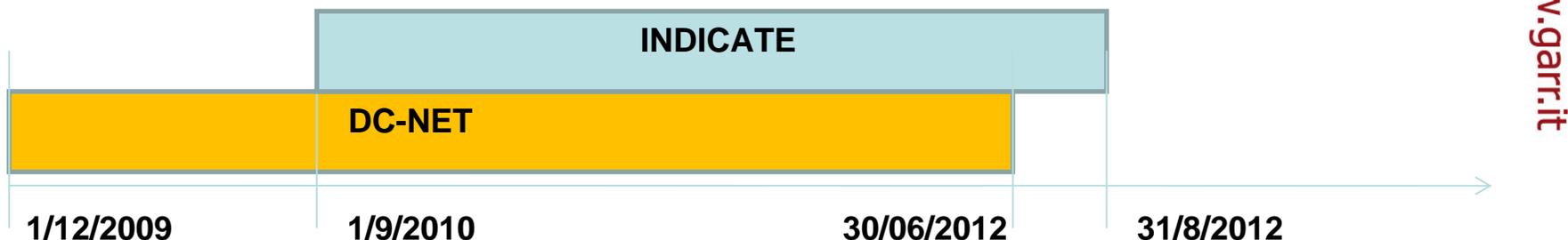
DC-NET is the ERA-NET for building a new e-Infrastructure dedicated to the research on the digital cultural heritage

www.dc-net.org

INDICATE is based on the results of DC-NET:

- Research priorities that can enable the implementation of new advanced services
- A Joint Activities Plan, agreed among European Ministries of Culture, fosters a common e-Infrastructure platform

DC-NET and INDICATE



The two projects run in parallel for more than 1 year.

They have some partners in common:

- ICCU and MCC
- NTUA and AAS that provide technological support to DC-NET partners from Greece and Slovenia
- GARR and COMETA participate to the DC-NET working groups

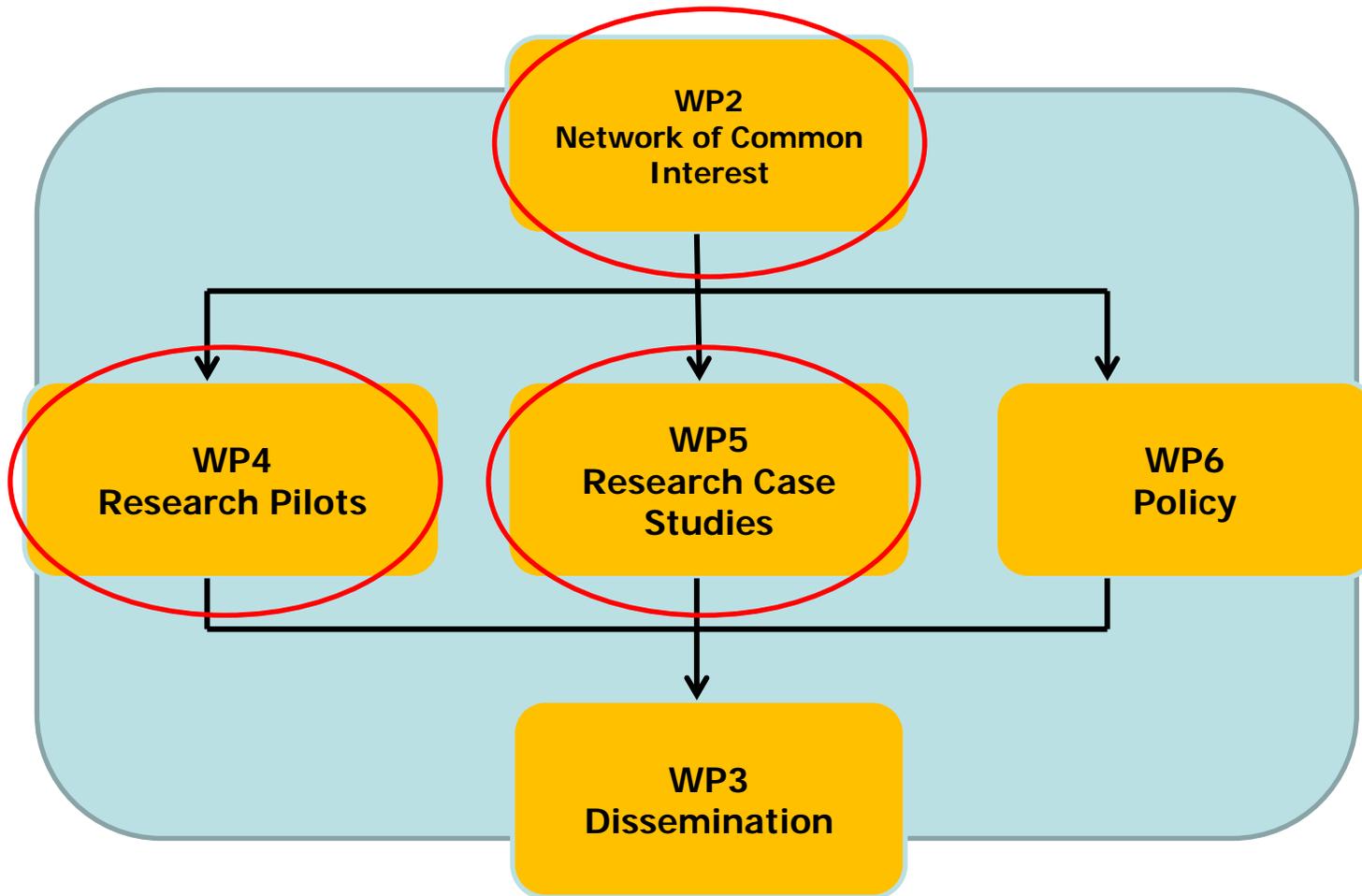
DC-NET and INDICATE

DC-NET has started the work on the new area of the digital cultural heritage enabled by e-Infrastructures.

INDICATE continues this work, exploiting the DC-NET results at international level, with a special focus on the Mediterranean region, aiming at:

- involving new partners in the dissemination of the DC-NET results
- developing pilots and case studies in order to put into practice the priorities identified by DC-NET

INDICATE workplane



WP2 - Network of Common Interest

- To establish a network of common interest dedicated to policy and best practice in the complementary domains of e-Infrastructures and e-Culture
- To build and animate working groups dedicated to key aspects of the projects
- To stimulate discussion and collaboration, through workshops, seminars, brainstorming and online communication
- To involve in the working groups researchers and experts from beyond the project, in order to add their perspectives to our work
- To create the conditions for the sustainability of the network beyond the project duration

National working Group



Project Board



E-Infrastructure-enabled semantic search

for cultural repositories, where data aggregated by the MICHAEL project are semantically enriched and relating to search, retrieval and publishing approaches are evaluated for porting to the e-Infrastructures platform provided by the EUMEDGRID e-Infrastructure and EUMEDCONNECT2 network.

E-infrastructure-enabled e-Collaborative Digital Archive

protected by access control and rights management. This pilot will put in place two e-collaborative repositories:

- Architectural and Archaeological Heritage present in Mediterranean Area (MED Repo)

<http://indicate-gw.consortio-cometa.it/med-repo>

- Federico De Roberto literary works archive

<http://indicate-gw.consortio-cometa.it/deroberto-dr>

WP4 – Pilot application

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www.garr.it

- Pilot Applications
- De Roberto DR
- Browse
- MED Repo
- Browse
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MED Repository

	Thumb	Nation	Area	Municipi
Medrepo				
Cultural Heritage				
Drawings				
Photos				
		Italia	Sicilia	Taorm
		Italia	Sicilia	Taorm
		Italia	Sicilia	Taorm
		Italia	Sicilia	Taorm
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		Italia	Sicilia	Taorm

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De Roberto DR

	Thumb	FileName	Description	Keywords
De Roberto				
Scanned documents				
Manuscripts				
Typescripts				
Printed drafts				
		004_la_lupa.tif	manoscritto della tragedia lirica in due atti, musicata da pierantonio tasca, pubblicata da officine tipo-litografiche barravecchia e balestrini, palermo 1919; altre edizioni: noto, tipografia rosario caruso, ottobre 1932; conservato presso la biblioteca di storia patria per la sicilia orientale	verismo, federico de roberto, la lupa, giovanni verga, officine tipo-litografiche barravecchia e balestrini palermo, tipografia rosario caruso noto, società d storia patria per la sicilia orientale catan manoscritti letterari moderni, la.mu.s.a. facoltà di lettere e filosofia, università di studi di catania, società di storia patria ; la sicilia orientale
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		030_la_lupa.tif	manoscritto della tragedia lirica in due atti, musicata da pierantonio tasca, pubblicata da officine tipo-litografiche barravecchia e balestrini, palermo 1919; altre edizioni: noto, tipografia rosario	verismo, federico de roberto, la lupa, giovanni verga, officine tipo-litografiche barravecchia e balestrini palermo, tipografia rosario caruso noto, società d storia patria per la sicilia orientale catan manoscritti letterari moderni, la.mu.s.a.

WP5: Research Case Study

Examine how E-Infrastructures can solve e-Culture problems:

- to gather e-Culture problems through 3 research cases
- to analyze resources provided by e-Infrastructures, and how they can be deployed
- to provide input to the best practice work

Case studies: the “learning centers” of the project based on real world examples combining e-Culture and e-Infrastructures

- Digital preservation
- Virtual Exhibitions
- Geo-coded digital cultural content

Definitions

e-Science

- Immense science data sets that require relevant computing power and storage capacity (Grid, HPC)
- Technologies that enable distributed collaboration

e-Infrastructures

- Easier and trusted access for e-Science with dedicated network connectivity
- Virtual research environments for collaboration, processing, simulation
- Data Repositories

e-Research

- Extends e-Science and e-Infrastructure to all domains, supporting existing and new forms of research

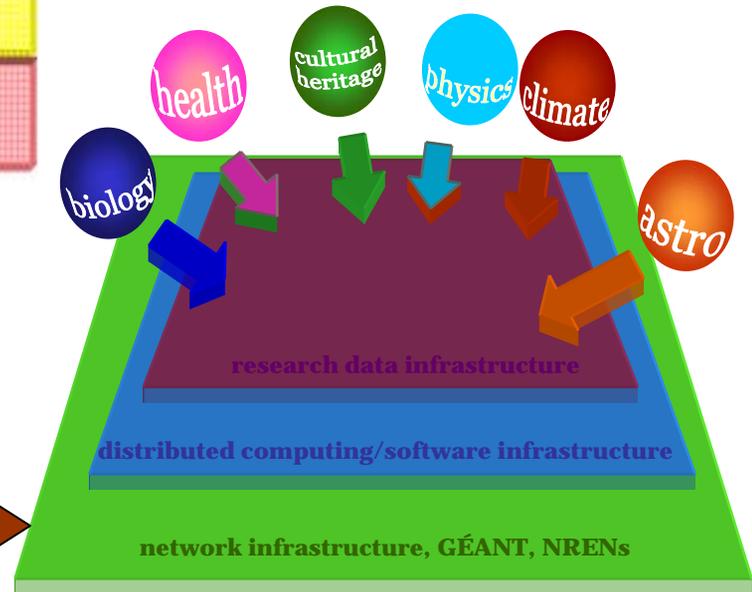
e-Infrastructure

www.garr.it

e-Infrastructure of repositories	Information Collections: data, work-flows, publications, learning materials, etc.	Authenticity Quality Longevity
	Repositories services Deposit, annotation, delivery, visualisation, search, help, etc	Ease of use Availability Reliability
	Repositories Repository management, curation, physical security, etc	Trusted Open Well managed
e-Infrastructure for repositories	Access Authentication, authorisation, logical security, federation, portals, etc	Standardised Stable Flexible
	Management Grids, Virtual Organisations, etc	Transparent Responsive Informed
	Physical infrastructure Networks, computing, HPC, physical storage, etc	Available Scalable Reliable



GÉANT and NRENs are the enabling layer of e-Infrastructures



Why Research and Education Networks?

Providing capabilities beyond commercial ISPs

- A question of purposes
 - Overprovisioning helps enabling new applications
- Platform for supporting key Research and Education collaborations
 - Authentication and Authorization
 - Shared use of computation facilities – i.e., the Grid
 - Collaborative environments
- Potential to mitigate constraints in non-competitive marketplaces

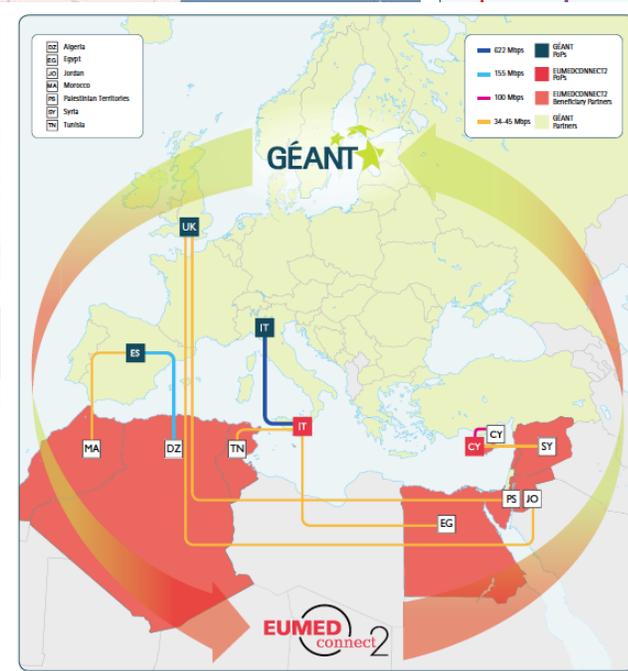
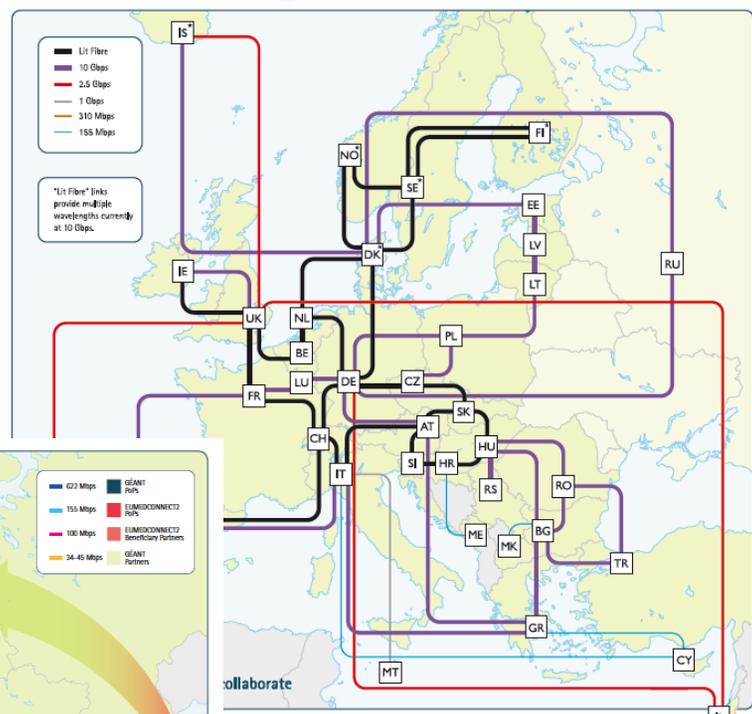
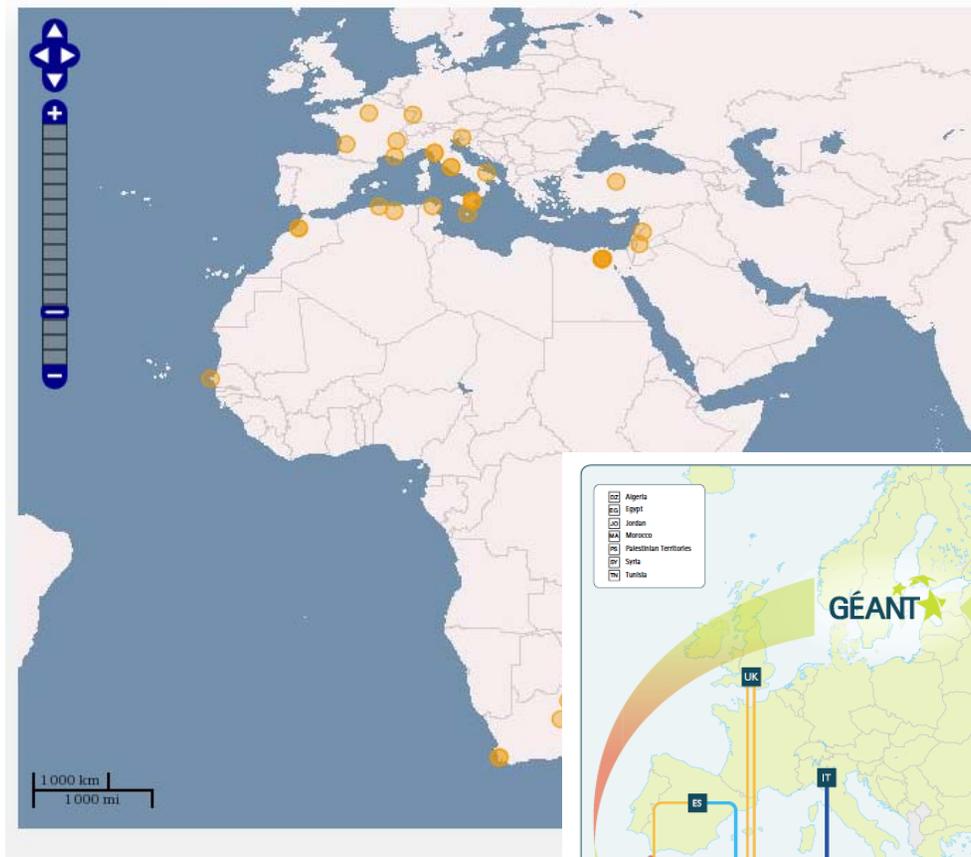
Aggregating demand of a key user community

- Different demand patterns than residential, business users
- Tailored support to user requirements

Collaboration among the Research and Education Community

- Where much more can be achieved together than separately

E-Infrastructures in the Mediterranean



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<http://www.geant.net>
<http://www.eumedconnect2.net>
<http://roc.africa-grid.org/>

The role of NRENs

The role and importance of National Research and Education Networks:

- non-commercial and dedicated to serve research and education
- offer large network capacity and advanced services not available generally
- research networks and their user communities form important environments that become sources of innovation
- “Networks of networks” (NRENs interconnecting): participation in international, world-leading broadband developments with particular applications to leading-edge Education and Research
- outreach, technology implementation and support for application development in various ways

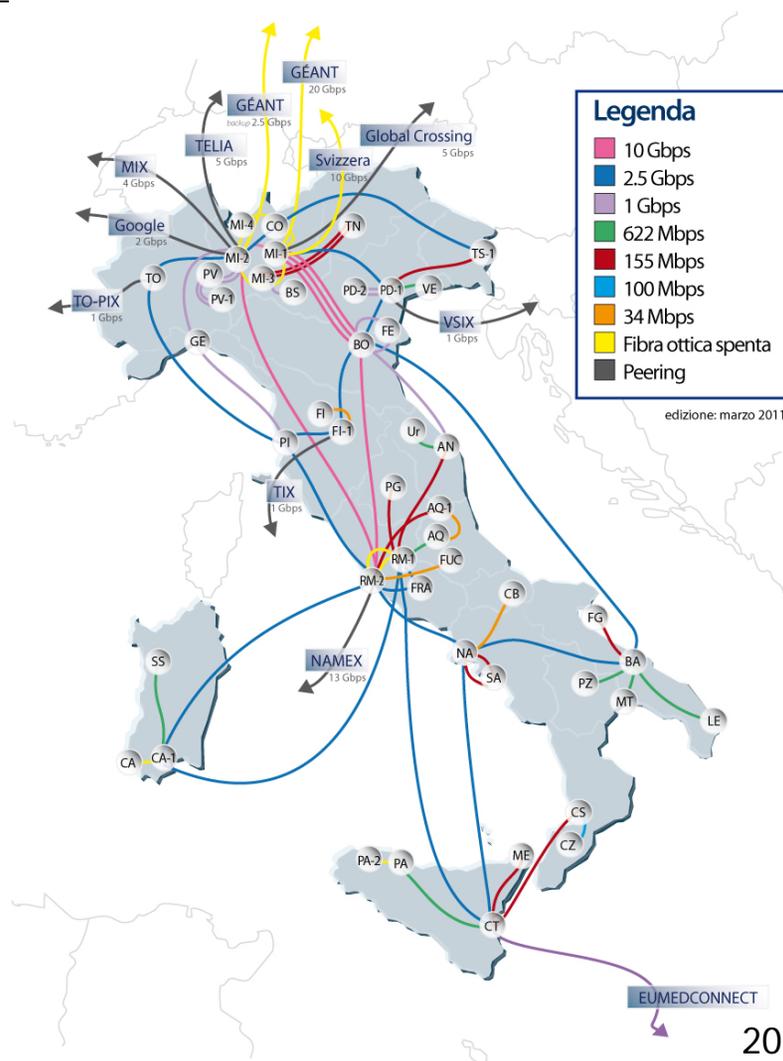
GARR User Communities

- Italian universities, CNR, INFN and ENEA are the founding members
- The most important institutes belonging to the research and education community in Italy:
 - More than 120 laboratories, observatories and research centres of CNR, ENEA, INGV, INFN and ASI;
 - 88 public and private universities;
 - 31 Academies of Art and some Academies of Music;
 - More than 70 biomedical research and healthcare centres;
 - More than 50 sites among National Archives, National and University Libraries;
 - 17 Astronomical and Astrophysical observatories;
 - 74 other international research, cultural and educational institutes located in Italy.

Today: GARR-G network

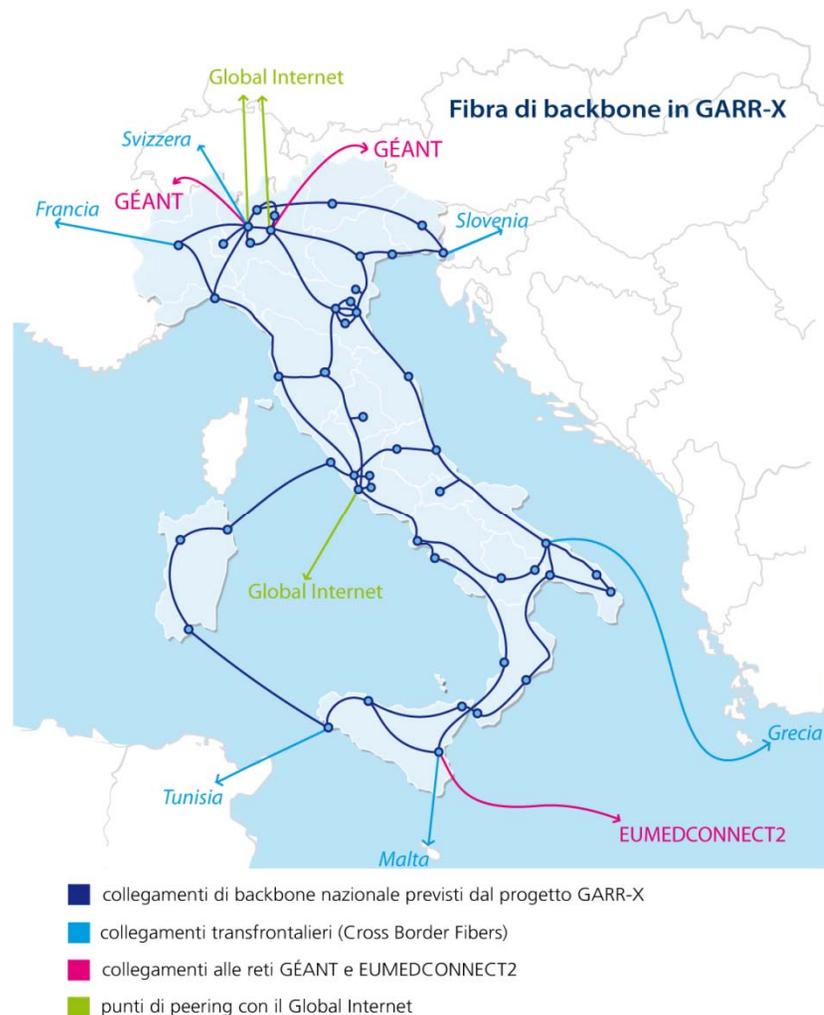
- 45 PoP (and other small aggregation points)
- Aggregate backbone IP Capacity :
 - ~ 130Gbps
- Access links:
 - Aggregate capacity: ~ 70Gbps
 - from 2Mbps access link up to 10Gbps access links
 - Total access links: more than 400
- Interconnection to Metropolitan Area network and Regional Area Network
 - MAN GARR in Florence
 - **Soprintendenza Speciale Polo Museale di Firenze**
 - **Galileo Galilei museum**
 - **Riccardiana and Medicea Laurenziana libraries and many others**
- Network Advanced Services for the infrastructure management.

Topologia di backbone di GARR-G



Ongoing: from GARR-G to GARR-X

- **GARR-X** is the name of the project that will lead GARR technical evolution during the next 6 years
- GARR-X will provide research, professors and students high bandwidth network at the same level as the major european NREN
- 10.500 km backbone fibre
- 1.500 km access fibre (not indicated in the figure)



Thank you !

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