

**GARR**

The Italian Academic & Research Network



[www.garr.it](http://www.garr.it)

# GARR Network NREN Services in Italy

DC-NET, Tallinn, 13/01/11



# GARR community

- GARR is the Italian NREN
- GARR users are all the academic and research institutes in Italy

www.garr.it

## Shareholders:

- Italian Universities (Fondazione CRUI)
- INFN - The National Institute of Nuclear Physics
- CNR - The National Research Council
- ENEA - The Italian National Agency for New Technologies, Energy and Sustainable Economic Development.

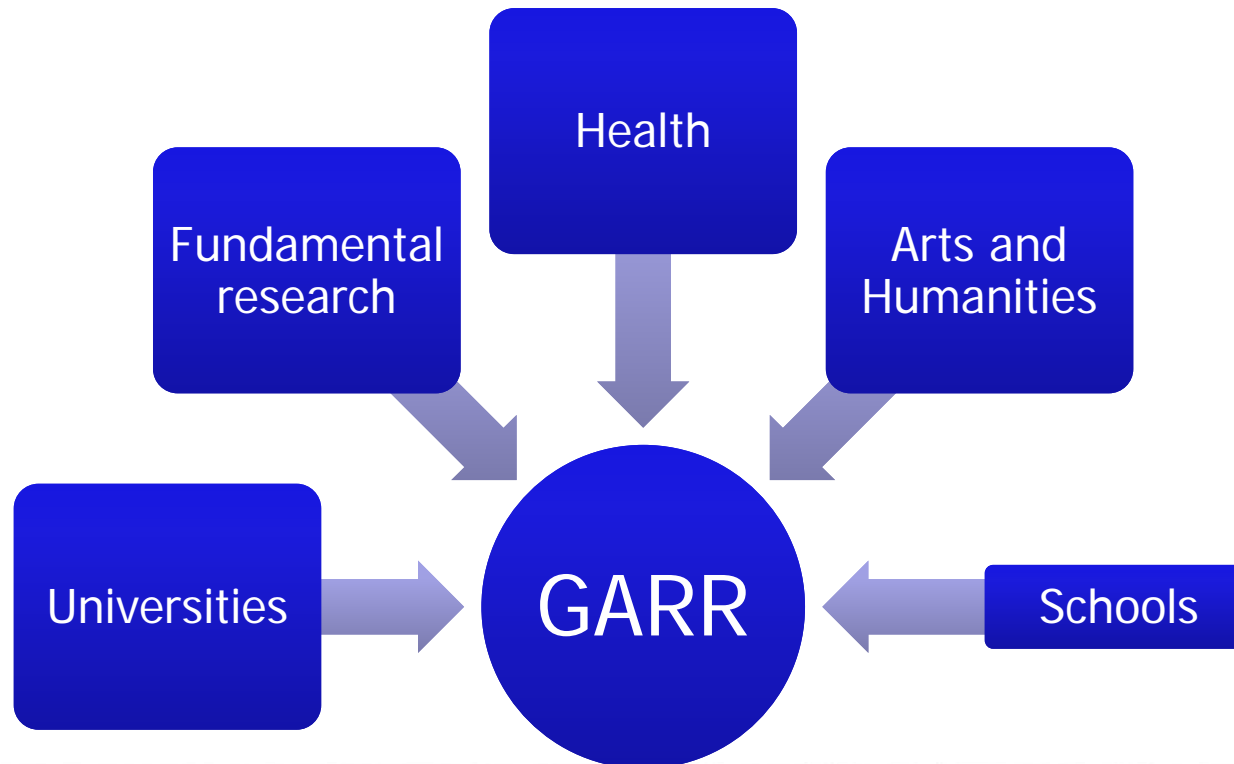
## Stakeholders:

- ASI - The Italian Space Agency
- INGV – The National Institute of Geophysics and Volcanology
- INAF – The National Institute of Astrophysics
- Scientific Institutes for Research, Hospitalization and Health care
- Music Conservatories, Academies of Art and Performing Arts institutes
- National libraries, Archives, public record offices and other documentation centers
- Other cultural and scientific institutes in Italy (national and international operating in Italy)

[http://www.garr.it/eng/ilGARR/chi\\_siamo.php](http://www.garr.it/eng/ilGARR/chi_siamo.php)

# Communities create community

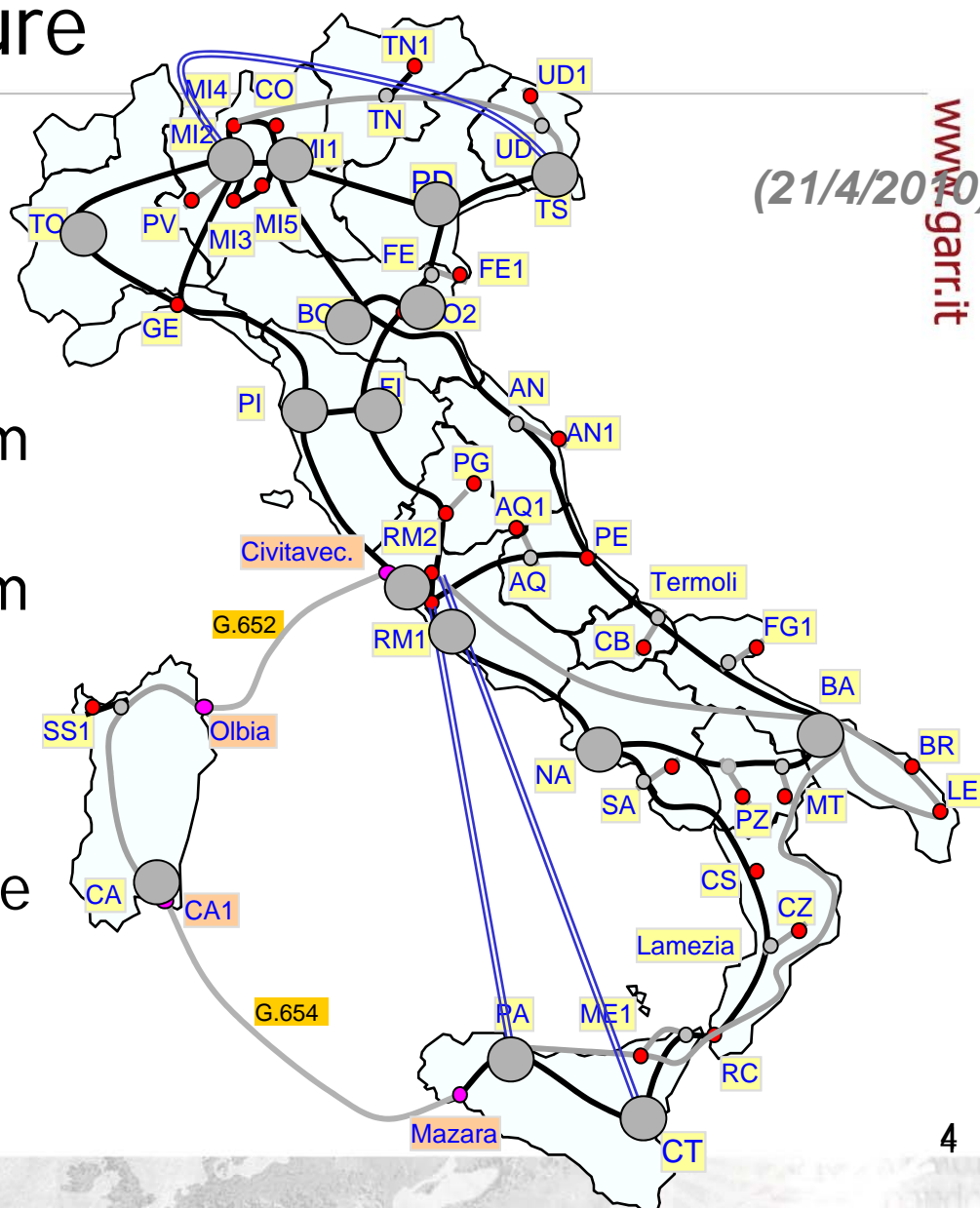
*Different users communities  
can collaborate using the same e-infrastructure*



# GARR-X Infrastructure

## GARR-X numbers

- Dark fiber backbone infrastructure: ~ 6.600 km
- Dark fiber access infrastructure: ~ 1.000km
- ~ 600 users sites connections
- Multilevel and multiservice network architecture
  - ~ 100 Point of Presence
  - ~ 500 network devices



# Federation IDem and IDem GARR AAI service

www.garr.it

## Simplify

### user access to protected web data

- Single sign on concept

### protected web data management

- Access users rights are managed by their own institutions



<http://www.idem.garr.it>

# GARR Certification Service (GCS)

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X.509 certificates provided by **Comodo CA**

- Personal certificates
- Host and Service certificates
  - TCS: TERENA Certificate Service - <https://www.terena.org/activities/tcs/>
  - <http://ca.garr.it/TCS/>

Certificates are a Digital signature

- To sign and to crypt (*without legal validity*)
- They trust users and services identity

# EDUROAM: mobility service

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www.garr.it

- Simplify users mobility
- Permit Wi-Fi Internet connection using networks of all the federated institutes
- Without any device set-up using your own user profile (username and password)
- It's a Gèant federated service



<http://www.eduroam.it>

# GARR Vconf: Multivideo Conference Service

- MCU (Multipoint Control Unit), 40 audio/video ports, compliant with international standards
- Meeting streaming option
- Help Desk (before and during the meeting)

[www.garr.it](http://www.garr.it)

<http://vconf.garr.it>



# Other services

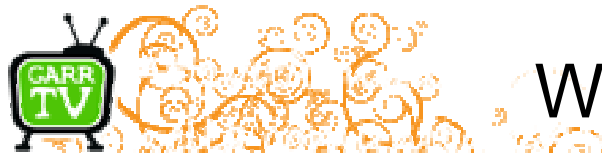
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## DVTS/netcast

- Events streaming support
- High definition video quality

## GARR.TV

- Directory of Web – Internet TV from GARR users community and multimedia video GARR production



WWW.GARR.TV

# R&D: e-Infrastructure collaborations

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## GN3

- GARR R&D activities about network technologies, services and provisioning [www.geant.net](http://www.geant.net)

## ALICE2

- Building the network infrastructure between Latin America and GÉANT.
- GARR represents European NRENs
- <http://alice.dante.net/server/show/nav.2191>

## EUMEDCONNECT2

- Building the network infrastructure between Mediterranean countries NRENs and GEANT
- One of the Point of Presence (working since April 2004) hosted by GARR in Catania
- Dissemination, Training and strategic support
- <http://www.eumedconnect2.net/>

# R&D : Future Internet

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In the frame of the European initiative FIRE (Future Internet Research and Experimentation)

- **NOVI** - Networking innovations Over Virtualized Infrastructures
  - e-infrastructure virtualization (deployed in FEDERICA project)
  - Cloud Computing services enhancement
  
- **FIRESTATION**
  - Experimental activities about Future Internet technologies and services
  - Dissemination, Training and strategic support

# R&D: Grid Computing Support

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**EGI-INSPIRE** - <http://www.egi.eu/projects/egi-inspire/objectives/>

- Operational network support and end-to-end monitoring

**EU-IndiaGrid II** - [www.euindiagrid.eu](http://www.euindiagrid.eu)

- Operational network support and end-to-end monitoring between Indian and Italian sites
- Strategic support

**EUMEDGRID-Support** - [www.eumedgrid.eu](http://www.eumedgrid.eu)

- Operational network support and end-to-end monitoring between Mediterranean and Italian sites
- Technical Project Management
- Dissemination and strategic support

# R&D: User communities support

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## **DECIDE** - Diagnostic Enhancement of Confidence by an International Distributed Environment

- E-Infrastructure deployment for neurological research community
- Project Coordination and Management
- E-service pilot for Alzheimer early diagnosis
- In collaboration with Ministry of Health
- <http://www.eu-decide.eu>

## **INDICATE** - <http://www.indicate-project.eu/>

- Network Service Support
- Strategic support

## **DC-NET** collaboration

# User communities support

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## ASTRA project

- ASTRA (Ancient instrument Sound/Timbre Reconstruction Application) is a project coordinated by Music Conservatory of Salerno and use GRID infrastructure

## LOLA project

- LOLA (LOW LATency audio visual streaming system) is a project coordinated by Music Conservatory of Trieste.
- Interactive music performance at the same time among musicians located in two different sites.
- Critical network set-up and monitoring.
- Virtual Concert workshop between Trieste and Paris

# LoLa Project – Virtual exhibition Trieste-Paris

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# Thank you!

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