



PON GRISU`

A Public/Private Initiative to support SuperB and southern enterprises competitiveness

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The CALL. 713

The *MIUR* (*Italian Ministry* of University and Research) has published a CALL within the 2007-2013 Operating National Program (PON) on "Research and Competitiveness" for the four regions of the convergence objective, i.e. Campania, Sicily, Apulia and Calabria. ("Fostering, developing and spreading research results and innovation" and "Competitiveness of productive systems and employment".)

In the National Strategic Framework the CALL. 713 supports 2 actions:

- **Line 1: Support the already existing High-Tech Districts or Public Private Laboratory Partnership**
- **Line 2: Creation of new High-Tech Districts or Public-Private Aggregations**

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**GRISU' APPLIED
FOR THIS CALL**



Line 2: Creation of new High-Tech Districts or Public-Private Aggregations



The MIUR call for the “Feasibility Study” to define the team, the topics, the goals and institutional aspects for the creation and startup of **new High-Tech Districts or Public-Private Aggregations working on specific area considerate strategic in the regional/national Framework Program Agreement (FPA).**

ICT is one of the Strategic area define in the Four Region’s FPA



The GRISU' APPLICATION



- Public Private Multiregional Aggregation
- *Associazione Temporanea di Scopo (ATS), a temporary association of 8 years [i.e. JRU]*

Involved Regions and Available resources

- Campania [220 M€]
- Sicilia [90 M€]
- Puglia [80 M€]
- Calabria [136 M€]



The GRISU' APPLICATION



GRISU' plans to enhance the enterprises competitiveness by developing new enabling technologies below the Cloud/Grid Paradigm on the South Grid Infrastructure, with the following *core business*:

- **Support to the SuperB Project**
- **New services for The Healthcare system**
- **New services for Enterprises**
- **New services for the PA**

The Team

68 Partners

- 50 PRIVATE
- 18 PUBLIC Institution
 - INFN
 - 9 Universities
 - ENEA
 - CNR
 - INAF

INFN 7

- INFN-Bari
- INFN-Catania
- INFN-Cosenza Group
- INFN-LNS
- INFN-Lecce
- INFN-Napoli
- INFN-Salerno Group

Coordinator: University of Naples Federico II



The Enterprises



- **Software development**
- **System Integrator**
- **Electronic components**
- **Sensor and data acquisition**

**ABOUT A DOZEN FIRMS AMONG THE 50 HAVE SHOW
INTEREST IN THE SuperB SUBPROJECT**



The SuperB - Subproject



The SuperB Sub-project is a Three years program, included in the Feasibility Study.

The Goal:

Develop enabling technologies to allow the Southern Italy Enterprises to Support SuperB in the next 10 Years and offer new services at the scientific communities.

The Challenger:

First effort to export part of the software development of a physic Experiment to private enterprises, like the excellent CERN experience about Hardware development.



The SuperB - Subproject



In the first three years the GRISU' Aggregation plans to work on the following themes:

- Supporting the SuperB computing infrastructure.
- New technology for distributed data management
- New technology for Collider and Detector
- Monitoring and Management



The SuperB - Subproject



FIRST EFFORT OF POSSIBLE ITEM TO DEVELOP

- Development and management of e-infrastructure, GREEN Computing, Asset management.
- Data Management, Data Movement Services, Interoperability, Security, Professional data Management.
- Multilevel Monitoring Services, User Profiling, Accounting and Billing Services for computing and Storage
- Realization and implementation of Cloud Services for job submission, Porting of SuperB code in multi/many-core architecture, Support for Simulation, Code optimization, GPU.
- Virtualization Service, Consolidation of Virtual Machine and services migration trough the Cloud Computing Paradigm .
- 3d Visualization system, Graphic Collider and Detector Representation
- New Network Services, IPv6
- New Electronic Components ,Sensor and Mechanic components for the SuperB Collider and Detector



The SuperB - Subproject



PUBLIC/PRIVATE INTERACTION

- PROMOTING JOINT RESEARCH WORKING GROUPS
- ORGANIZING TRAINING PROGRAMS FOR TECHNOLOGY TRANSFER
- INVOLVE THE GRISU' ENTERPRISES IN SPECIFIC SUPERB TECHNICAL MEETINGS
- DETACHMENT OF ENTERPRISE EMPLOYEES AT RESEARCH LABORATORIES
- DETACHMENT OF RESEARCHERS AT ENTERPRISE LABS



The GRISU' Infrastructure

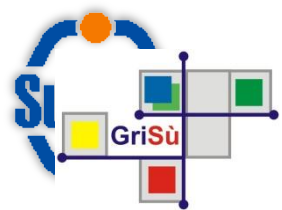


Memorandum of Understanding
(ENEA, UniNA Federico II,
Cons. COSMOLAB, Cons. COMETA and
Cons. SPACI)

Core Business

- **Research and Development, Innovation**
- **Enterprises Cooperation**
- **Southern part of the Italian Grid Initiative (IGI) and European G. I. (EGI)**





The GRISU' Infrastructure



- **MORE THAN 20.000 CPU DISTRIBUTED IN 5 REGIONS**
- **MORE THAN 2PB DISK SPACE**
- **CLOUD/GRID INTERFACE**
- **DIRECT NETWORK LINK BETWEEN THE SITES WITH NEXT UPGRADE AT 10Gbit/s and Nx10Gbit/s**
- **SCALABLE INFRASTRUCTURE: RACK, UPS, COOLING SYSTEM READY TO HOST NEW NEXT GENERATION HARDWARE**
- **KNOW-HOW**



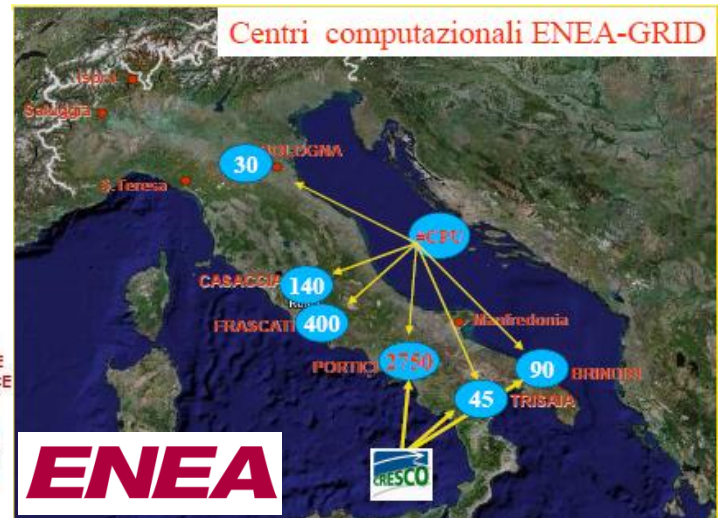
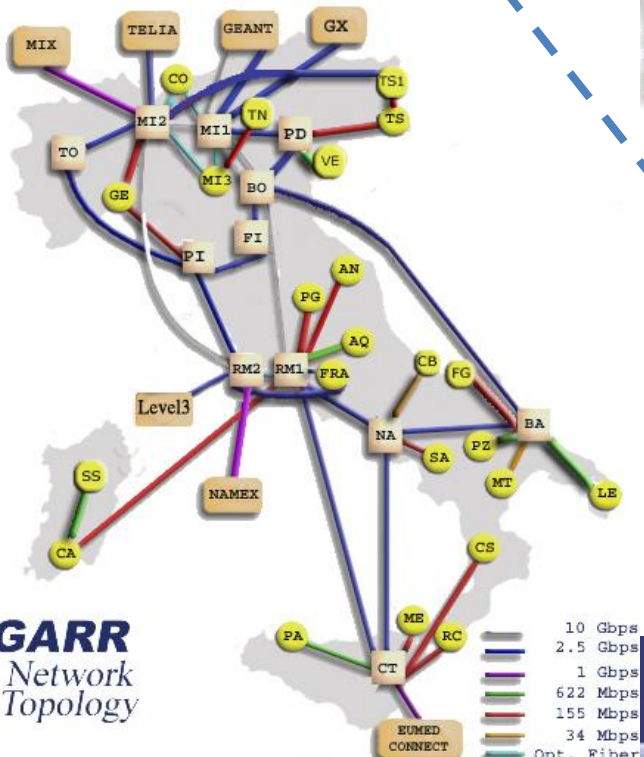
The Italian e-Infrastructure



(interoperable with common communication protocols)



The Network



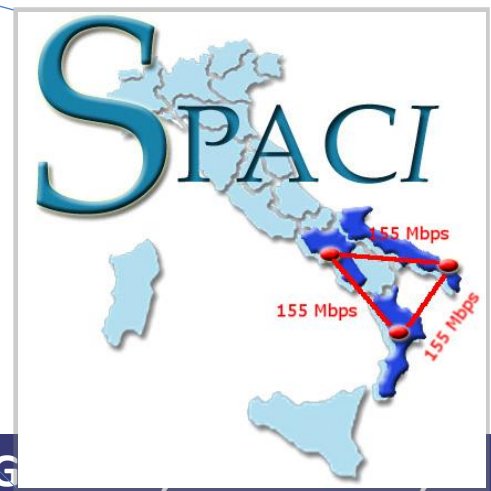
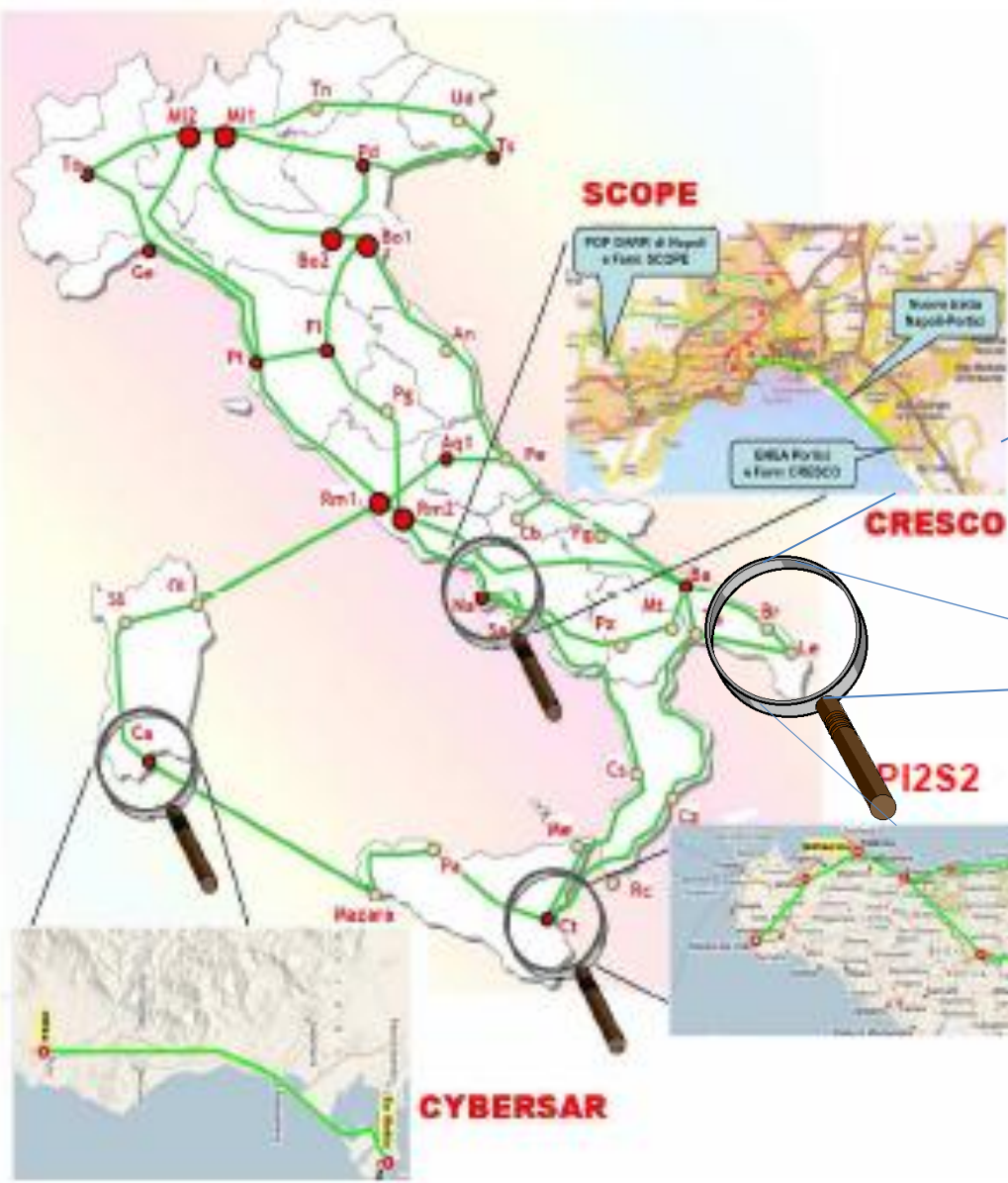
The Grid

Logos and Organizations:

- ESR
- Ministero Università e della Ricerca
- Regione Toscana
- PONT
- PROGETTO SCOPE
- UNIVERSITÀ DEGLI
- SPACI
- CRESCO
- CYBER!
- GriSù
- Trinera Grid Virtual Laboratory



The "ultimate" Network of GRISÙ



GRISÙ interoperability and EGI - European GRID Infrastructure

IGI Italian GRID Infrastructure



● BRINDISI
● LECCE
● TRISAIA

The Feasibility Study has been completed and submitted for evaluation.

We expect (hope) to have feedback by the Italian Ministry at the end of 2011.

If the Aggregation will be approved, the GRISU' Partners must sign direct Agreement with Regions by defining activities, team and the budget.

We expect to start the activities after the Autumn 2012

CONCLUSION 1/2

GRISU' is the first initiative that involve the South enterprises and the SuperB communities.

This program follow the European and National directive that ask for integrate programs Research/Enterprises.

The collaboration with Enterprise seem to be a crucial aspect for the future.



CONCLUSION 2/2



The INFN-Naples Unit and the University of Naples Federico II are available to host the “Open day SuperB and Industry”, promoted by Prof. Marcello Giorgi, 11-12 October 2011.

The Meeting will be organized under the INFN Presidency direction and will involve the main Italian Institutions.