

# ***SEE-GRID: Advancing South-East Europe into the eInfrastructure era***



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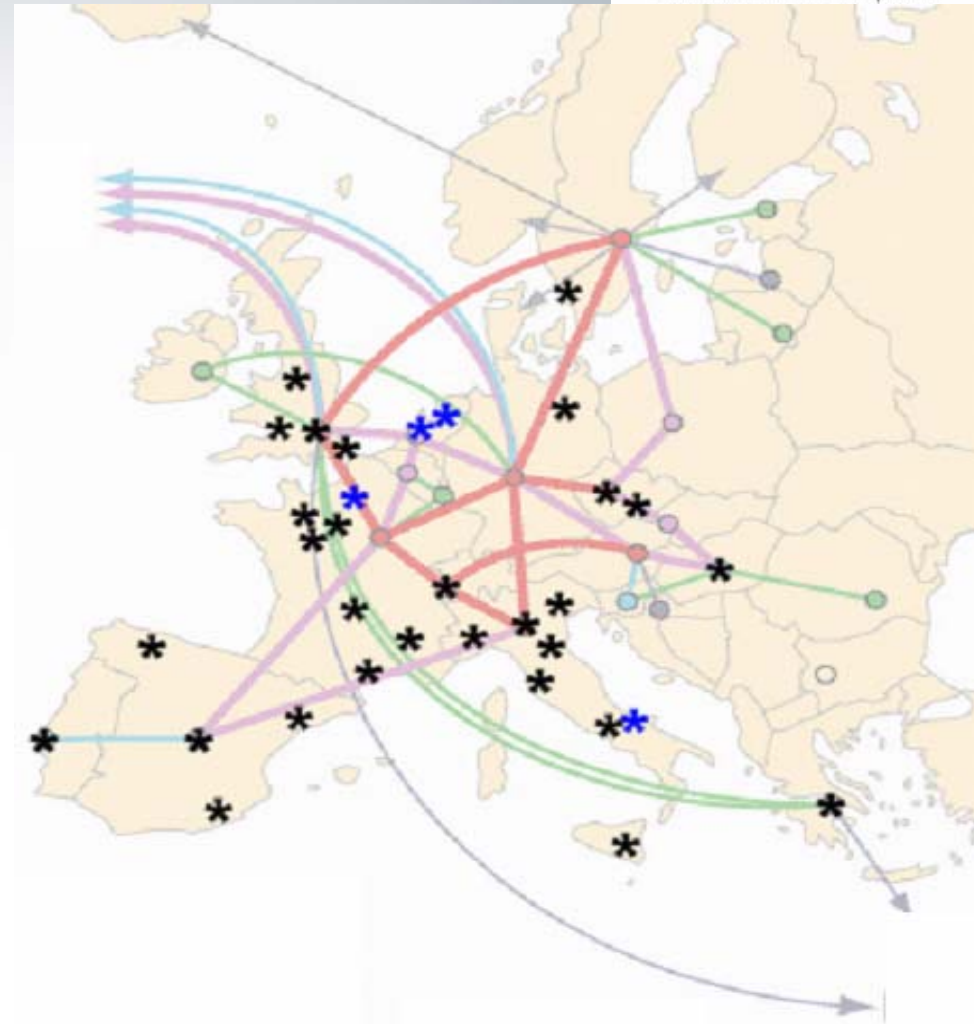
# eInfrastructures: The access to advanced services



**SEE-GRID**

South Eastern European GRid-enabled  
eInfrastructure Development

- **GEANT, SEEREN and other extensions**  $\Rightarrow$  bind national networks and create a high performance production network for Europe
- **EGEE, SEE-GRID and other extensions**  $\Rightarrow$  will bind national Grid infrastructures towards establishing a production quality Grid for Europe
- Together they constitute the basic components of the **eInfrastructure in an extended ERA**

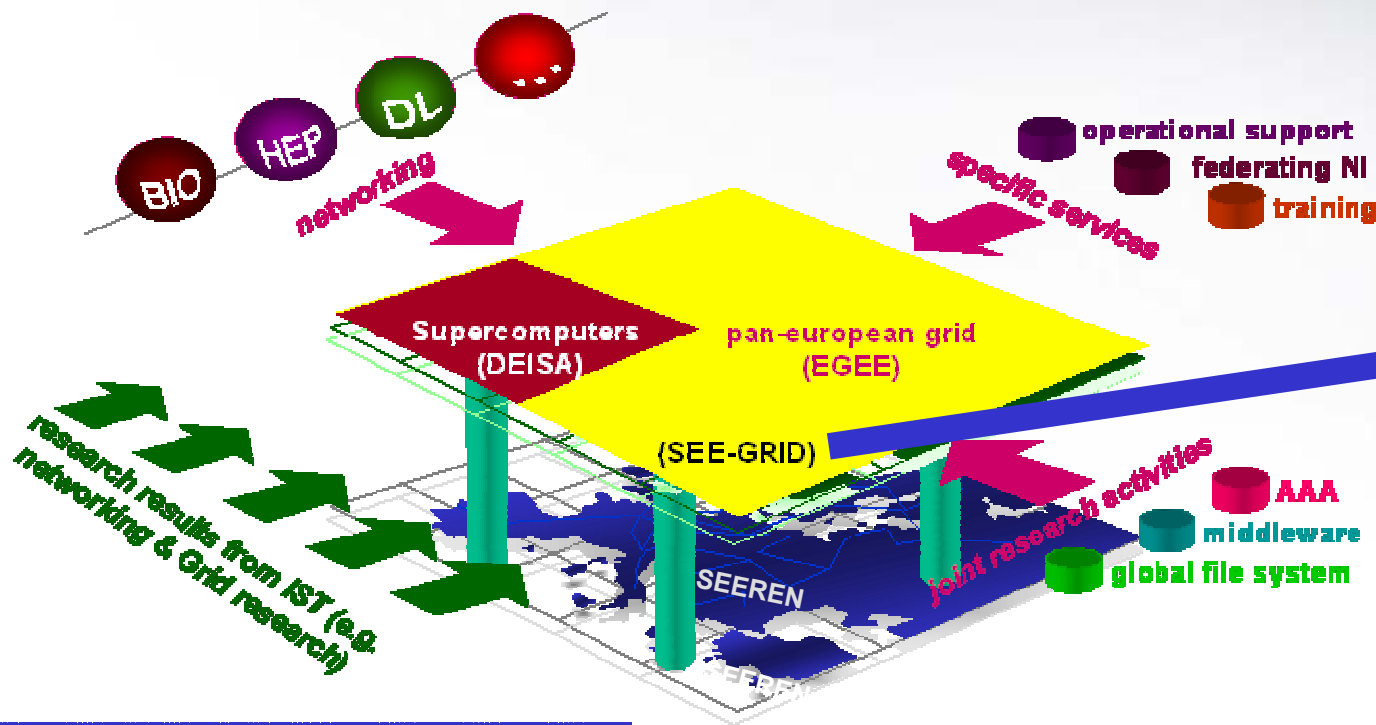


# The SEE-GRID initiative



**SEE-GRID**  
South Eastern European GRid-enabled  
elnfrastructure Development

Contribute to building a Pan-EU elnfrastructure by expanding the “elnfrastructure inclusion” into South-East Europe



Contract No.: FP6-RI-002356  
Project type: Specific Support Action (SSA)  
Start date: 01/05/2004  
Duration: 24 months  
Total Budget: 1,215,000 €

> <http://www.see-grid.org>

# Project partners: The regional dimension



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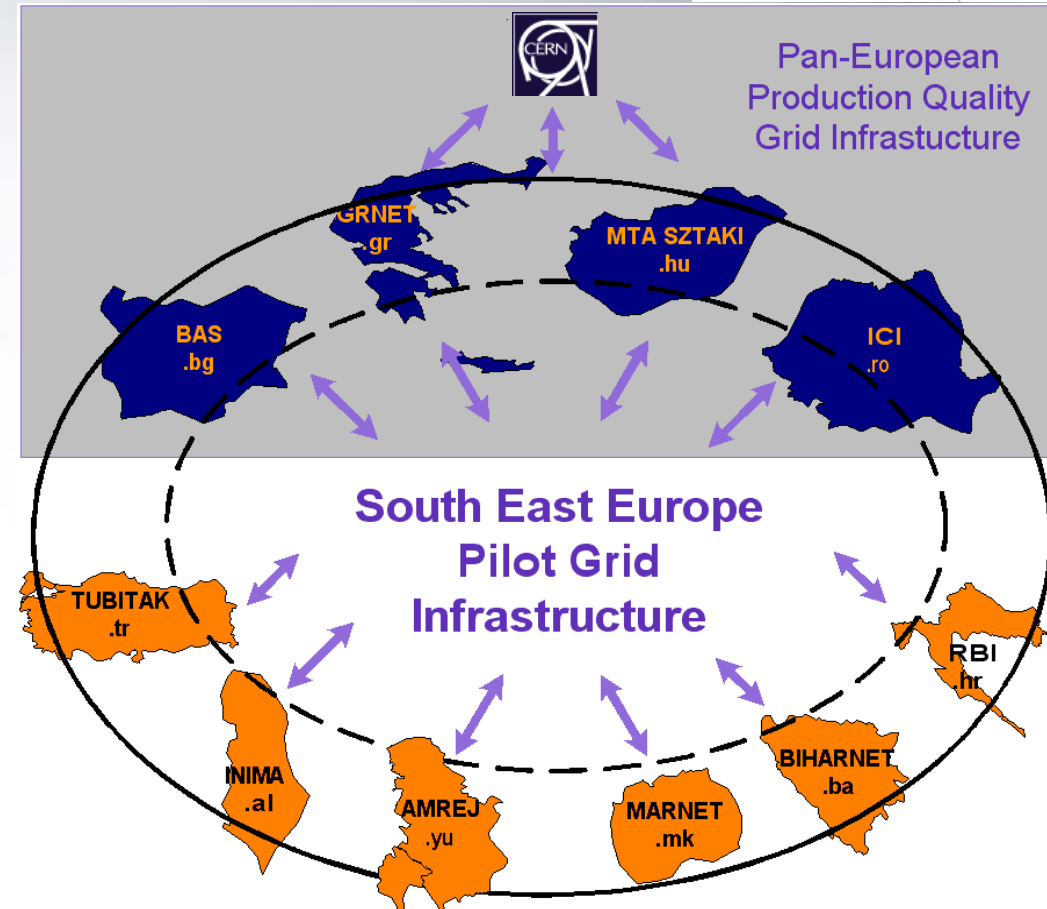
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## Contractors

GRNET	Greece
CERN	Switzerland
SZTAKI	Hungary
IPP-BAS	Bulgaria
ICI	Romania
TUBITAK	Turkey
INIMA	Albania
BIHARNET	Bosnia-Herzegovina
UKIM	F.Y.R. of Macedonia
UOB	Serbia-Montenegro
RBI	Croatia

## Third Parties

18 universities and research institutes



# SEE-GRID tactical priority



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- National Grid Initiatives are concerted efforts taken at National level in order to deploy, operate, and expand grid infrastructures in a coherent and coordinated way.
- Usually involves the inter-connection and inter-operation of multiple research and academic organizations - resource centers - under an umbrella of a national program aiming to integrate the available resources in order to establish e-Infrastructure for the benefit of the R&E (e-Science) community and in the long-term for the society at large.
- SEE-GRID tactical priority: help SEE partners to establish their NGI

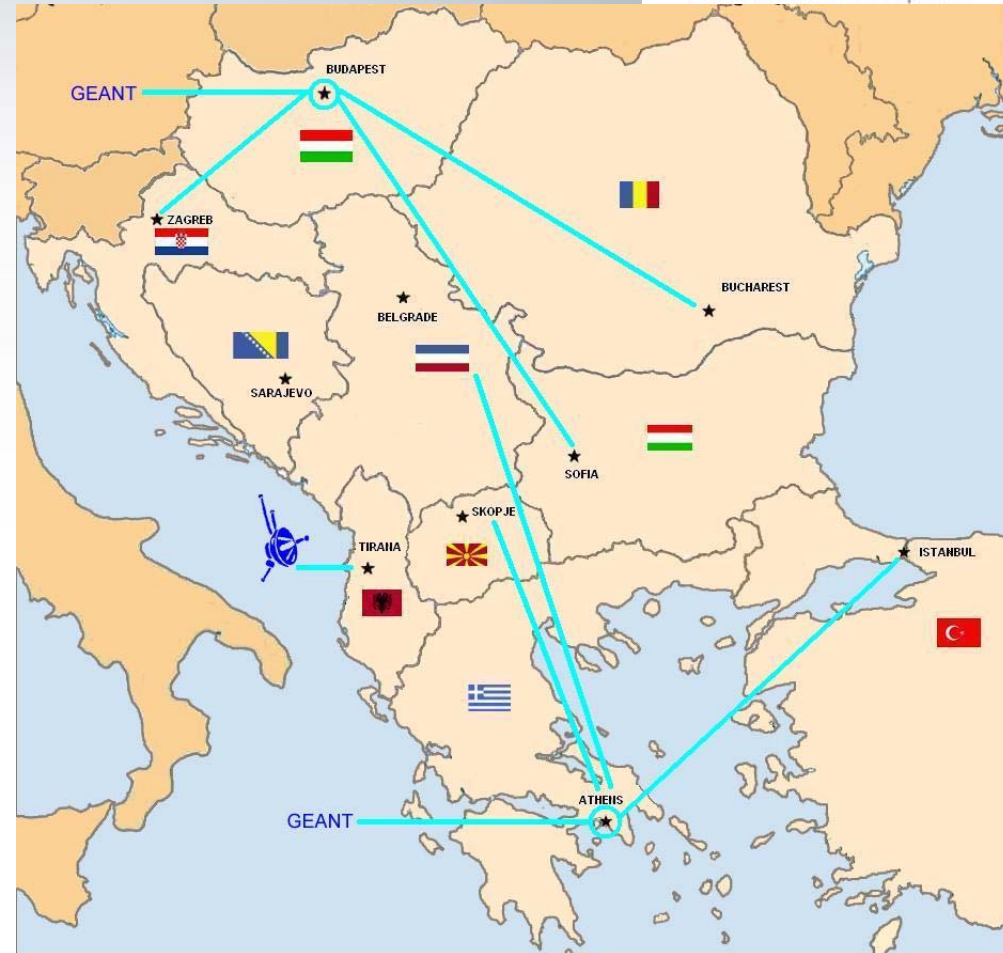


# Objectives and Status: Infrastructure



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- Establish at least one fully operational and certified grid site in all participating beneficiary SEE countries
  - based on LCG-2 M/W and SL operating system.
  - 5-50 nodes sites targeted in each country.
    - Latest figures (approx): **20 clusters / 300CPUs / 10TB storage**
  - migration to gLite to be evaluated.
  - all sites to support at minimum UI, SE, CE, WNs.
  - each contractor to set up at least one site
  - third-parties to set up additional sites.
  - Expand EGEE SEE ROC to cater for the operations in the SEE(-GRID) countries, with the extension of SEE-GRID-specific monitoring tools



# Objectives and Status: Applications

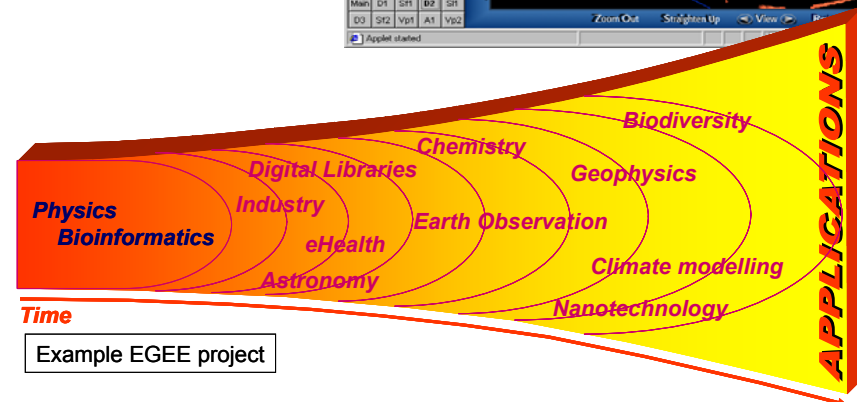
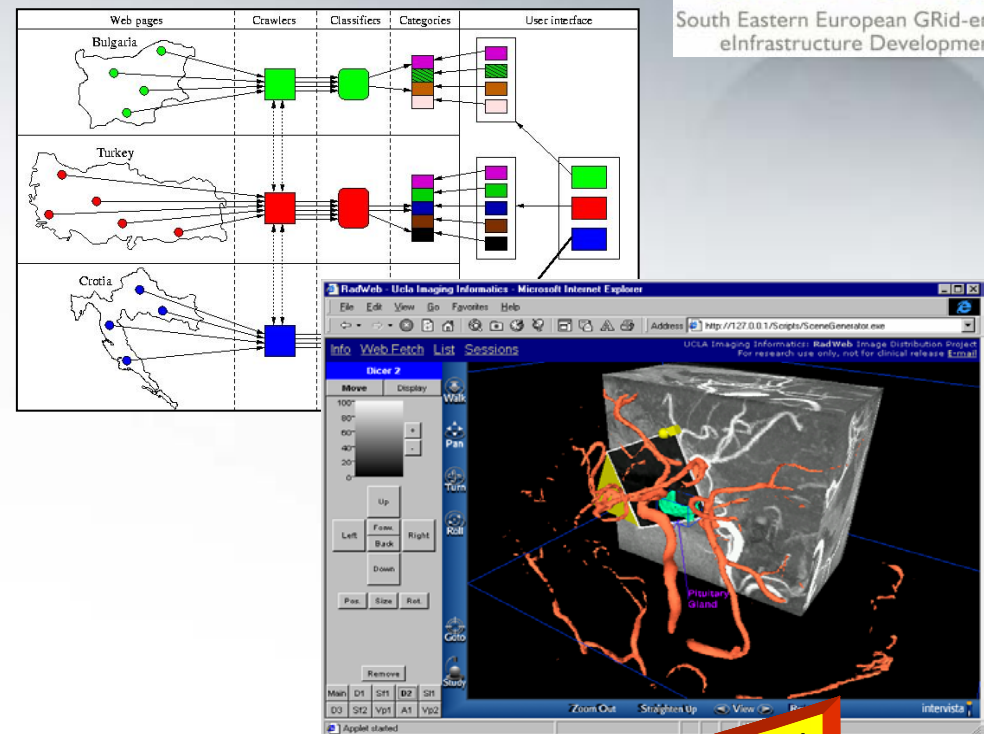


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- Deploy at least two Grid applications developed by SEE-GRID partners in the regional infrastructure.

  - Volumetric Image Visualization Environment (VIVE) for medical images and other static or time-dependent scalar and vector 3D fields
    - Previewed in the IST2004 in Den Haag
  - Search Engine for South-East Europe (SE4SEE) for Grid-aided web-crawling & data indexing
  - Successful test-jobs submissions carried out already in the SEE grid
- Deploy at least two Grid applications developed by EGEE (one application from the HEP VO, and one application from the Biomed VO) in the regional infrastructure and demonstrate their usage over the regional infrastructure.

  - Taken up by participating countries having expressed a preference for either one or both.
  - Preference must be well-justified



# Objectives and Status: Human Network



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- Create a Human Network on eInfrastructures and raise awareness in the wide R&E community per country.
  - Committed end-user communities is key
  - Grid SEE questionnaire/survey to be taken again at the end of the project, aiming to derive improved awareness results
  - Actively disseminate Grids in the SEE R&E community with national and regional events
    - Grid National Conferences planned for all SEE countries
- And most important of all: **Training, training, training**





# Objectives and Status: Sustainability



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- Achieve sustainability of the grid infrastructure.
  - Network sustainability is critical and must be demonstrated to be reliable and future-proof
    - Upgrade SEE regional network: the SEELight vision
  - Support and promote research and scientific endeavors in the area of eInfrastructures
    - Strong interest for Grid applications and S/W development by the R&E communities
    - “continuous” apps submission open to all
  - Establish National eInfrastructure Policies
    - a formally established NGI per SEE country
    - a national grid Certification Authority per SEE country
  - Implement the SEE-GRID policy workshop recommendations



# “A roadmap for establishing National Grid Initiatives”



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- Held in Nov 2004 in The Hague during the EU Grid leadership week / 2<sup>nd</sup> EGEE conference
- Workshop objectives:
  - provide key members of National Grid Initiatives with information about Policy, Technology, and Financial issues they should look out for when deploying e-Infrastructures in “greenfield” regions
  - provide input regarding “best-practices” as well as “bad-practices” to the agenda of national governments and funding bodies interested to deploy grid infrastructures
  - raise awareness about the role of National Grid Initiatives as well suggest ways to enhance communication and synergies among grid projects, countries/regions, technology areas, and application areas (user groups)
- Organized by SEE-GRID, with the support and endorsement of the European Commission IST DG Research Infrastructures unit, and EGEE.
- Attended by key representatives from European National Grid Initiatives, European Commission, and other Grid projects.

# Workshop key recommendations



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- No (product-quality, high-performing) grid without a (product-quality, high-capacity, reliable) network
  - NREN support at national level + GEANT extensions + upgrade of capacity in existing links
- “Web of trust” that brings human capital together
  - Deployment of e-Infrastructures is as much a sociological/political challenge as a technological one
  - Expand the "usual suspects" list (e.g. HEP and Biomed)
- Exploit existing infrastructure and provide alternative technical roadmaps
  - Homogeneity of all available infrastructure/resources is not realistic
  - Key issue is interoperability rather than the “smart new idea”.
- Study both “best-practices” and “bad-practices” in grid-advanced regions and countries.
  - User communities involved in the deployment effort, Training, Connecting Vs. Using resources, no “free cycles“, no “over-marketing” of Grids, ...
- Sustainability is achieved through coordinated and complementary actions.
  - There is no “silver-bullet”...

-> <http://www.see-grid.org/Policy.pdf>

# SEE-GRID strategic priority



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- Strategic success metric of SEE-GRID:
  - not the number of nodes
  - not the TBs of storage
  - not even the number of partners to join the product-level infrastructure of EGEE
- SEE-GRID: a piece of the larger puzzle of RTD efforts that address **the future of the SEE region**
  - **Increasing the retention of talented scientists in the SEE**
  - **Pursuing joint R&D efforts among SEE countries**
  - **Making available the benefits of the Information Society for all SEEtizens**
  - **Easing the digital divide between the region and the rest of the continent**
  - **Improvement of regional competitiveness in all market sectors**
  - **Regional political stability and cohesiveness**
  - **Pave the way for future enlargement steps of the European Union**
  - ...

# Conclusions



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- Grid is the means, NOT the end.
- SEE-GRID is the first step for the regional eInfrastructure integration
- Inclusion in the European trends is critical for the SEE region
- Technologies are a facilitator for wider integrations and prosperity



# Thank you for your attention

<http://www.see-grid.org>



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Expanding  
the  
eInfrastructure  
Inclusion  
Info  
South East Europe

South Eastern European GRid-enabled eInfrastructure Development

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