

SEE-GRID

Deploying a Grid-enabled eInfrastructure in SE Europe

www.see-grid.org

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Data Sources: EC, EGEE, SEEGRID, SEEREN

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What is GRID?



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- “Coordinated resource sharing and problem solving in dynamic, multi-institutional virtual organizations” (I.Foster)
 - Resources are controlled by their owners
 - The Grid infrastructure provides access to collaborators
- A Virtual Organization is:
 - People from different institutions working to solve a common goal
 - Sharing distributed processing and data resources
- Enabling People to Work Together on Challenging Projects
 - Science, Engineering, Medicine...
 - Public service, commerce...
- The Grid could be the “new age” Internet
 - ‘[The Grid] intends to make access to computing power, scientific data repositories and experimental facilities as easy as the Web makes access to information.’, *UK PM, 2002*

The GRID vision



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- On one hand:
 - Researchers/employees perform their activities regardless of geographical location, interact with colleagues, share and access data
- On the other hand:
 - Scientific instruments and experiments provide huge amount of data, incl. national databases
- And in the middle:
 - **The Grid:** networked data, processing centres and "middleware" software as the "glue" of resources.

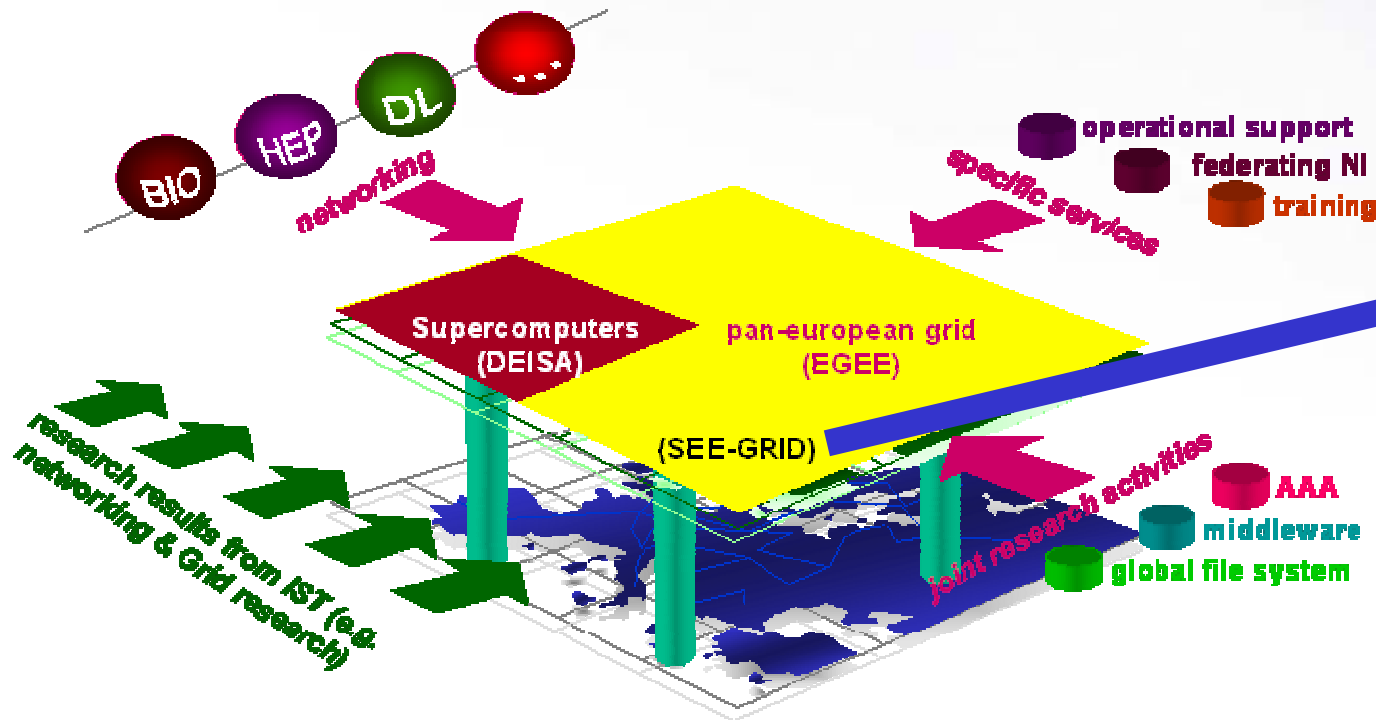
The SEE-GRID vision



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Contribute to building up a Pan-EU eInfrastructure by expanding the eInfrastructure inclusion into South-East Europe



Project snapshot



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Project name:	South Eastern European Grid-enabled elInfrastructure Development
Project Acronym:	SEE-GRID
Call Identifier:	FP6-2002-Infrastructures-2
Contract No.:	FP6-RI-002356
Project type:	Specific Support Action (SSA)
Start date:	01/05/2004
Duration:	24 months
Total Budget:	1,215,000 €
Funding from the EC:	972,000 €
Total Effort:	389 person-months
Project web-site:	www.see-grid.org



Project members



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Contractors

● GRNET (Co-ord.)	Greece
● CERN	Switzerland
● SZTAKI	Hungary
● IPP-BAS	Bulgaria
● ICI	Romania
● TUBITAK	Turkey
● INIMA	Albania
● BIHARNET	Bosnia-Herzegovina
● UKIM	FYROM
● UOB	Serbia-Montenegro
● RBI	Croatia

Third Parties

- 18 SEE universities and research institutes

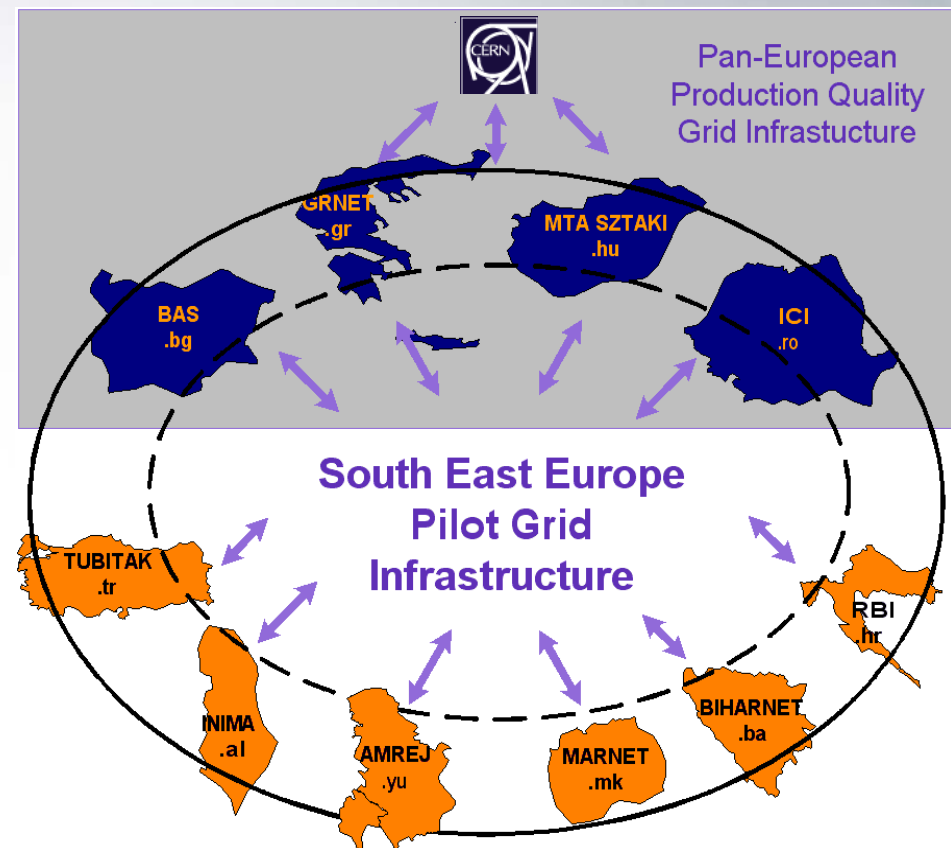
SEE-GRID mission



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- *Integrate SEE NGIs in the Pan-EU and worldwide Grid initiatives*
 - Establish a seamless and interoperable pilot-Grid infrastructure that will expand and support the ERA.
 - Allow smaller, less-resourced sites to access computing power that would otherwise be unaffordable.
 - Ease the digital divide and release the scientific & productive talents of the region



Technical Objectives



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- Migrate and test Grid middleware components and APIs developed by pan-European and national Grid efforts in the regional infrastructure.
- Deploy (adapt if necessary) and test Grid applications developed by EGEE (Large Hadron Collider Computing Grid, Biomedical Grids) in the regional infrastructure.
- Develop and demonstrate an additional Grid application of regional interest (e.g. earthquake prediction, culture/heritage).
- Integrate available pilot Resource Centers of Albania, Bosnia-Herzegovina, Croatia, FYR of Macedonia, Serbia-Montenegro and Turkey into the EGEE-compatible infrastructure.
- Expand the operations and support center of the EGEE SE Europe Federation to cater for the operations in the above countries.

Creation of Awareness Objectives



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- Create a human network in the area of Grids, eScience and eInfrastructures in SE Europe and promote awareness in the region regarding Grid developments.
- Integrate incubating and existing National Grid infrastructures in all SEE-GRID countries. This will be accomplished by building upon and exploiting the infrastructure provided by GEANT and SEEREN in the region.
- Establish a dialogue at the level of policy developments for national grid initiatives and provide input to the agenda of national governments and funding bodies
- Pursue dissemination conferences, training material and demonstrations for hands-on experience, in coordination with EGEE, which will promote the project results to the private and public sector, ultimately reaching the general public.

Foundation 1: GEANT/SEEREN

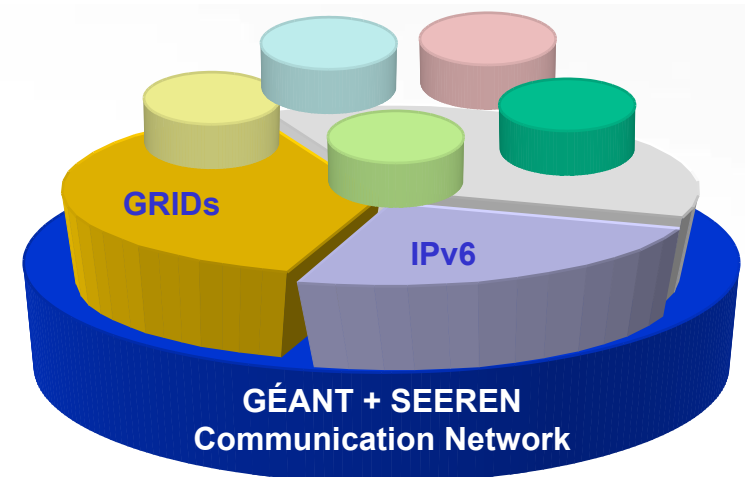
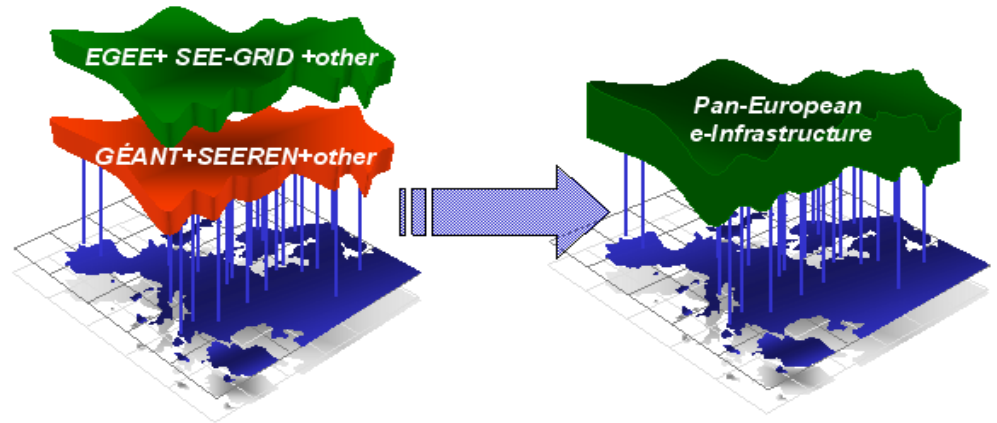
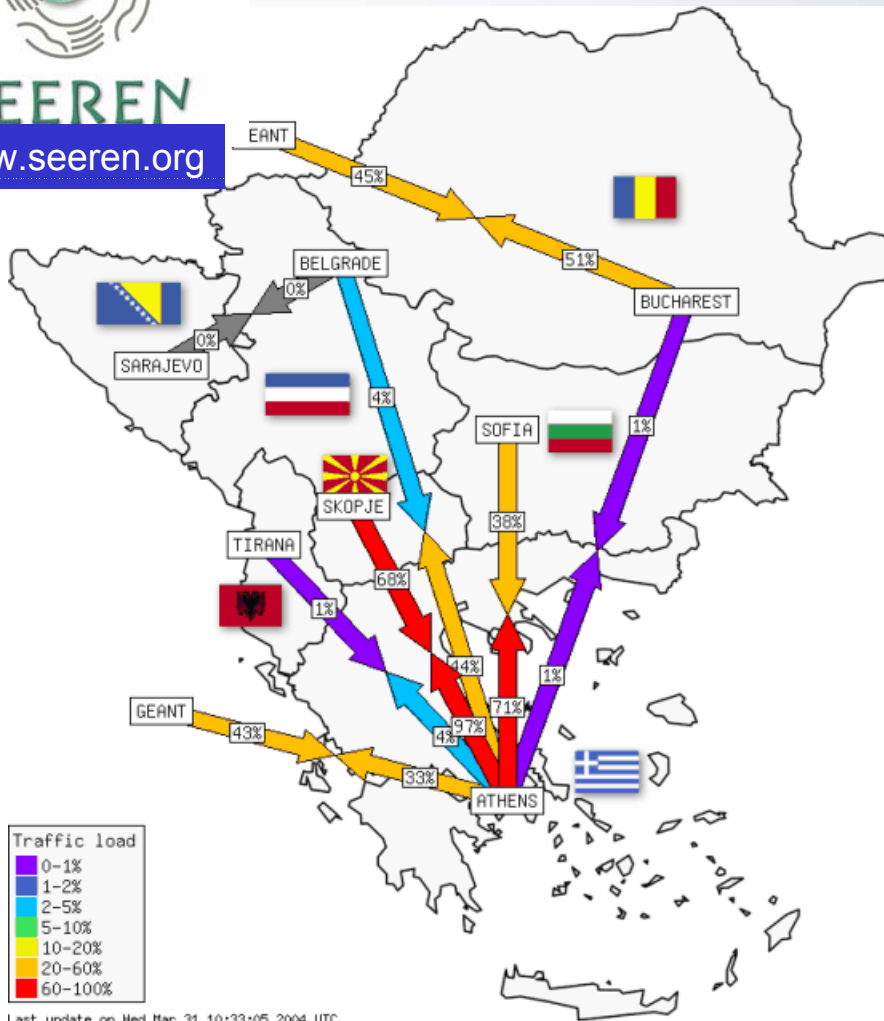


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SEEREN

www.seeren.org

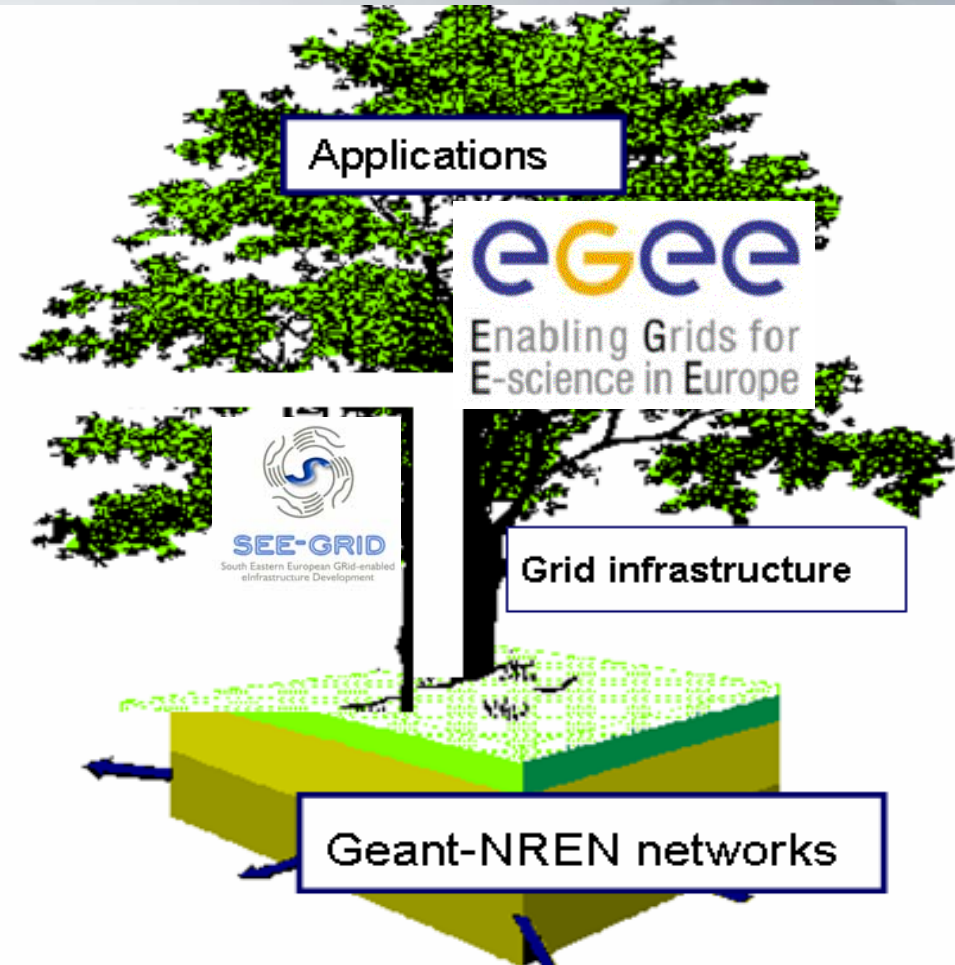
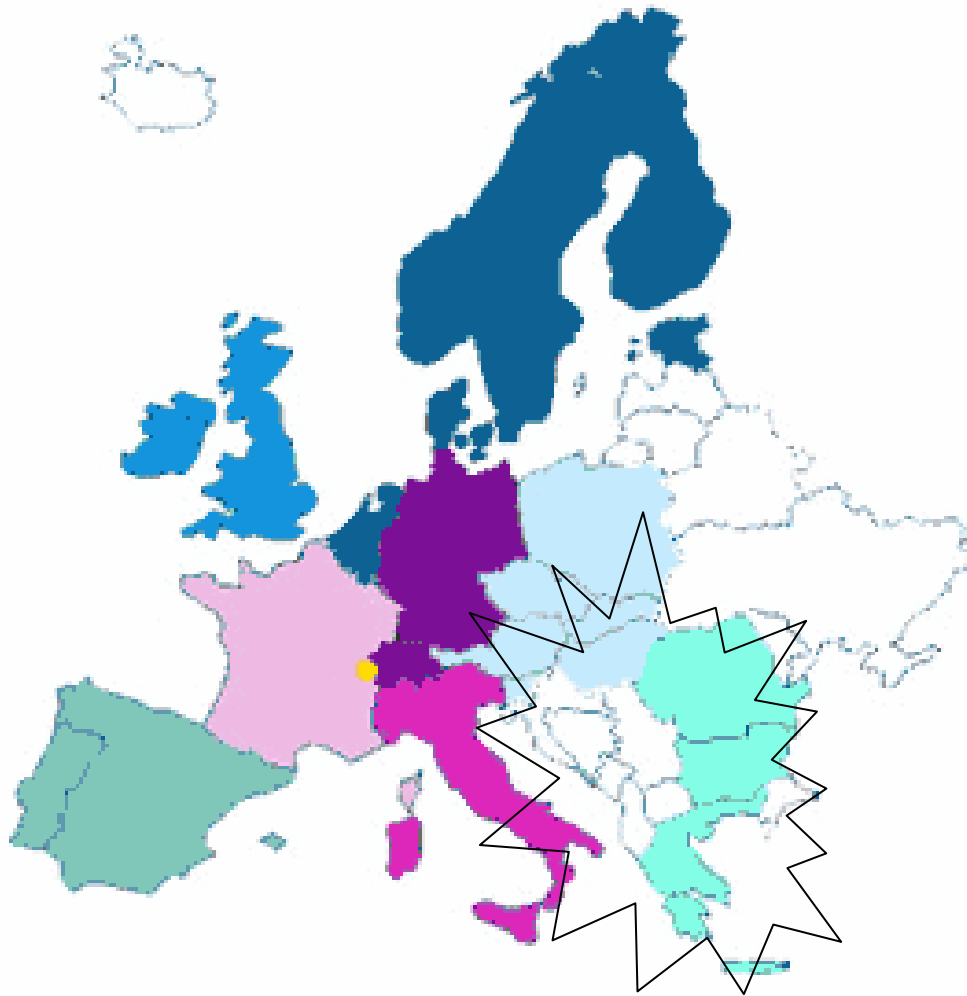


Foundation 2: EGEE



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Source of figure: EGEE

SEEGRID – EGEE MoU



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- Migrate and test Grid middleware components and APIs developed by pan-European Grid efforts (e.g. EGEE, etc) in the regional infrastructure - SEE-GRID WP3 / EGEE SA1
- Migrate (adapt if necessary) and test Grid applications developed by EGEE (Large Hadron Collider Computing Grid, Biomedical Grids) in the regional infrastructure - SEE-GRID WP3 / EGEE NA4.
- Integrate available pilot Resource Centers of Albania, Bosnia-Herzegovina, Croatia, FYRoM, Serbia-Montenegro and Turkey into the EGEE infrastructure. Expand the operations and support center of the EGEE SE Europe Federation
- Promote awareness in the region regarding Grid developments through dissemination conferences, training material and demonstrations for hands-on experience, in coordination with EGEE, which will promote the project results to the private and public sector, ultimately reaching the general public.



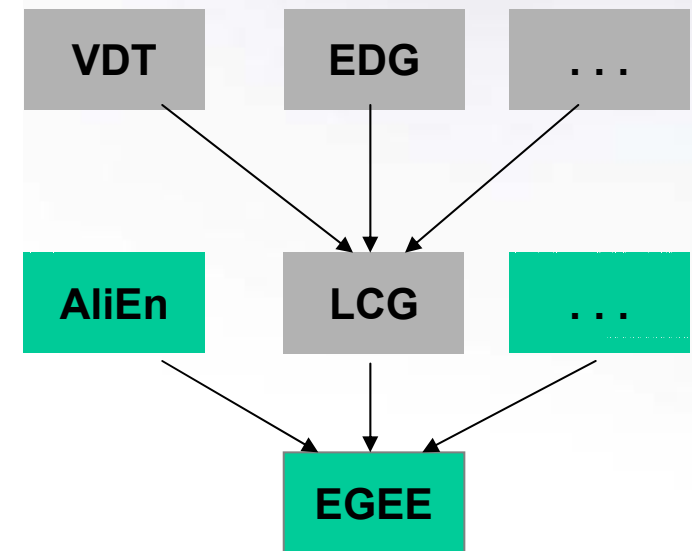
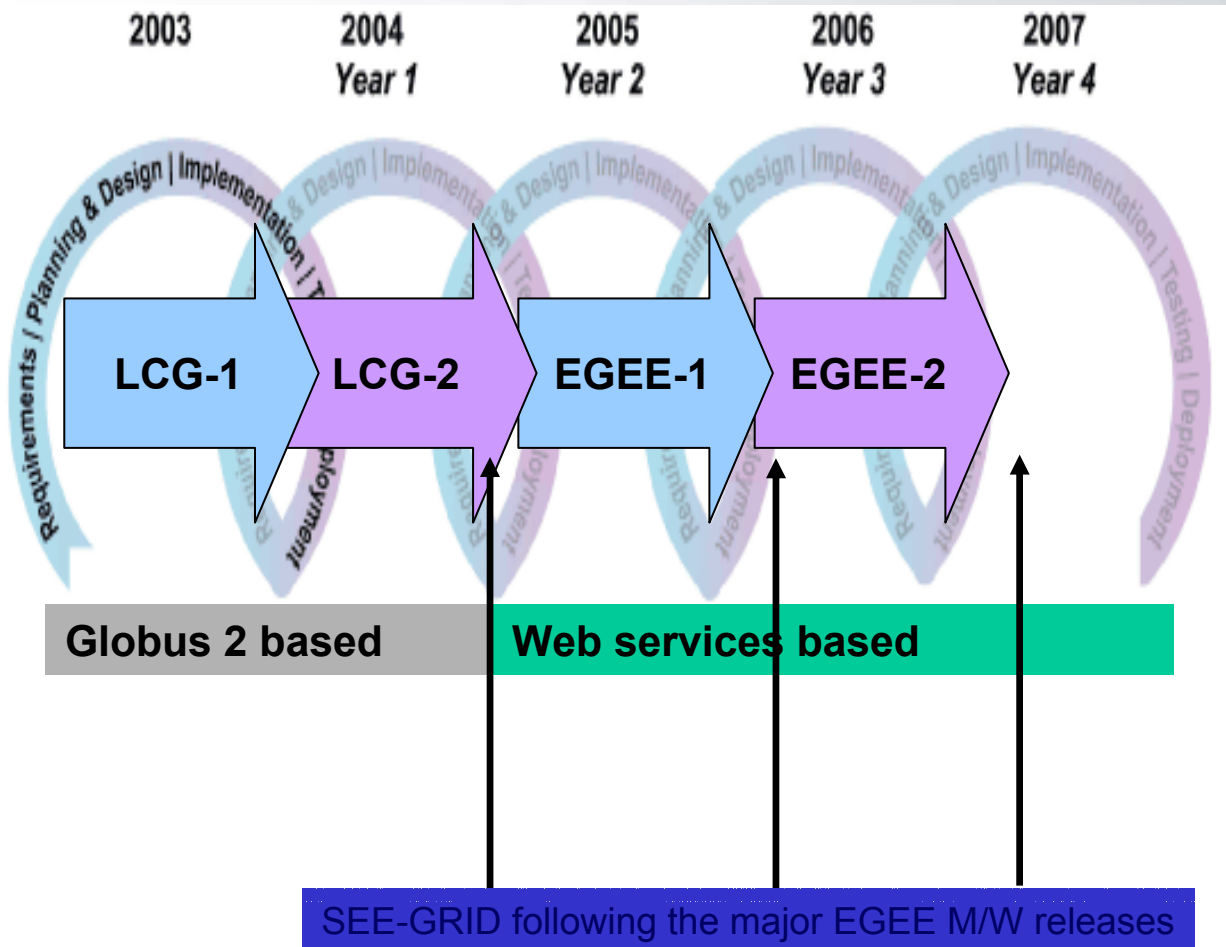
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EGEE m/w lifecycles vs. SEE-GRID



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Source of figure: EGEE

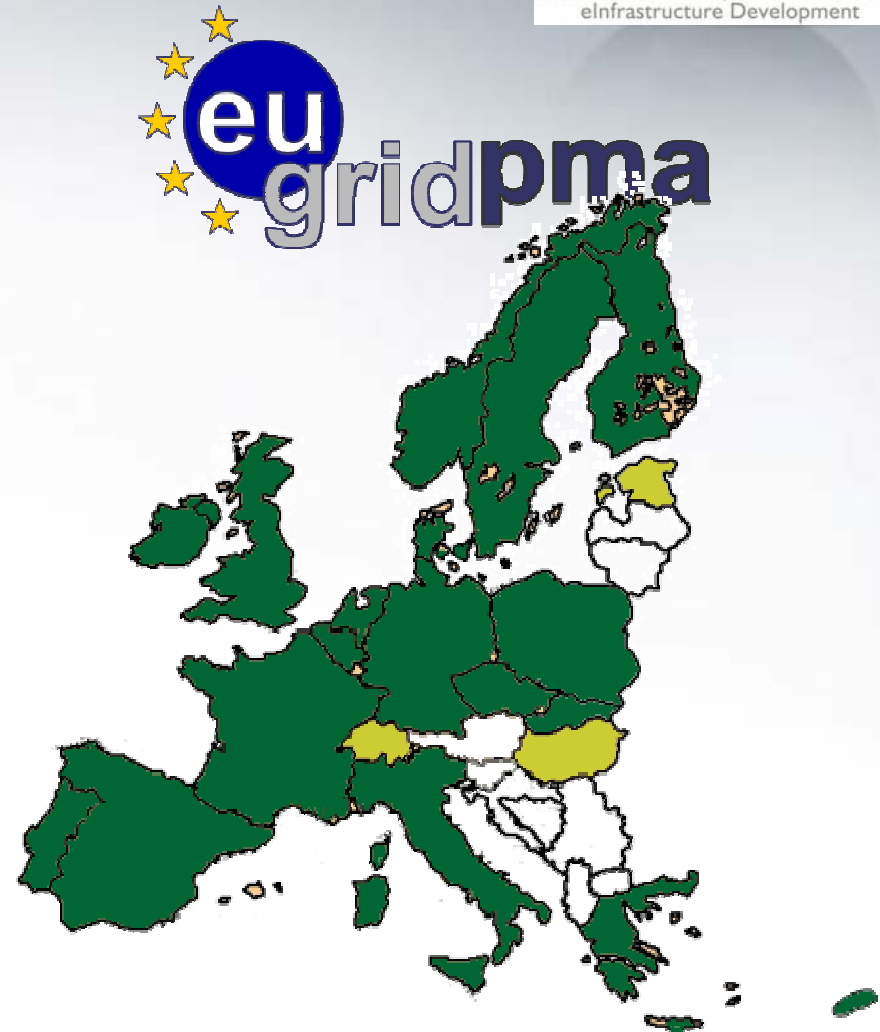
EUGridPMA & SEE-GRID



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- EUGridPMA: *“a body to establish requirements and best practices for grid identity providers to enable a common trust domain applicable to authentication of end-entities in inter-organizational access to distributed resources.”*
- EUGridPMA itself does not provide identity assertions, but instead asserts that Grid certificates issued by Accredited Authorities meet or exceed relevant guidelines.
- The SEE-GRID project is a Relying Party in the EUGridPMA (along with EGEE, DEISA, and other major grid projects)
- GRNET is setting up a SEE-GRID “Catch-all” CA for the participating countries that do not have yet an EUGridPMA-accredited Grid CA
- All partners will be supported to establish their own EUGridPMA-accredited CA



SEE-GRID work organization



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● WP1

- Project management

● WP2

- Requirements capture and architectural design

● WP3

- Migrate and test Grid middleware components and APIs developed by pan-European Grid efforts (e.g. EGEE, etc) in the regional infrastructure.
- Migrate (adapt if necessary) and test Grid application components developed by EGEE (Large Hadron Collider Computing Grid, Biomedical Grids) in the regional infrastructure.

● WP4

- Integrate available pilot Resource Centers of SEE countries into the EGEE-compatible infrastructure. Expand the operations and support center of the EGEE SE Europe Federation.

● WP5

- Promote awareness in the region regarding Grid developments through dissemination conferences, training material and demonstrations for hands-on experience
- Promote the project results to the private and public sector, ultimately reaching the general public.

Milestones (end results)



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- Project management information system established (M1)
- Questionnaire online publishing mechanism (M2)
- Identified user communities (M2)
- Promotional package available (M3)
- NGIs requirements collected and analyzed (M6)
- Start operations and support center (M13)
- First migration of Grid applications (M14)
- First adaptation of m/w components, APIs and application development environment (M18)
- Demonstration labs (M21)
- Final migration of Grid applications components (M22)
- Final migration of middleware components and APIs (M24)
- Demonstration of applications (M24)
- Final SEE-GRID conference proceedings (M24)

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Next slides: Profile & Role per partner



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