

Advancing South-East Europe into the eInfrastructure era

www.see-grid.eu



<Name>

<Organization name>

- SEE-GRID-1 project May 2004 - May 2006: results

- SEE-GRID-2 project May 2006 - May 2008:
 - Definition
 - Objectives

- Recommendations for regional initiatives

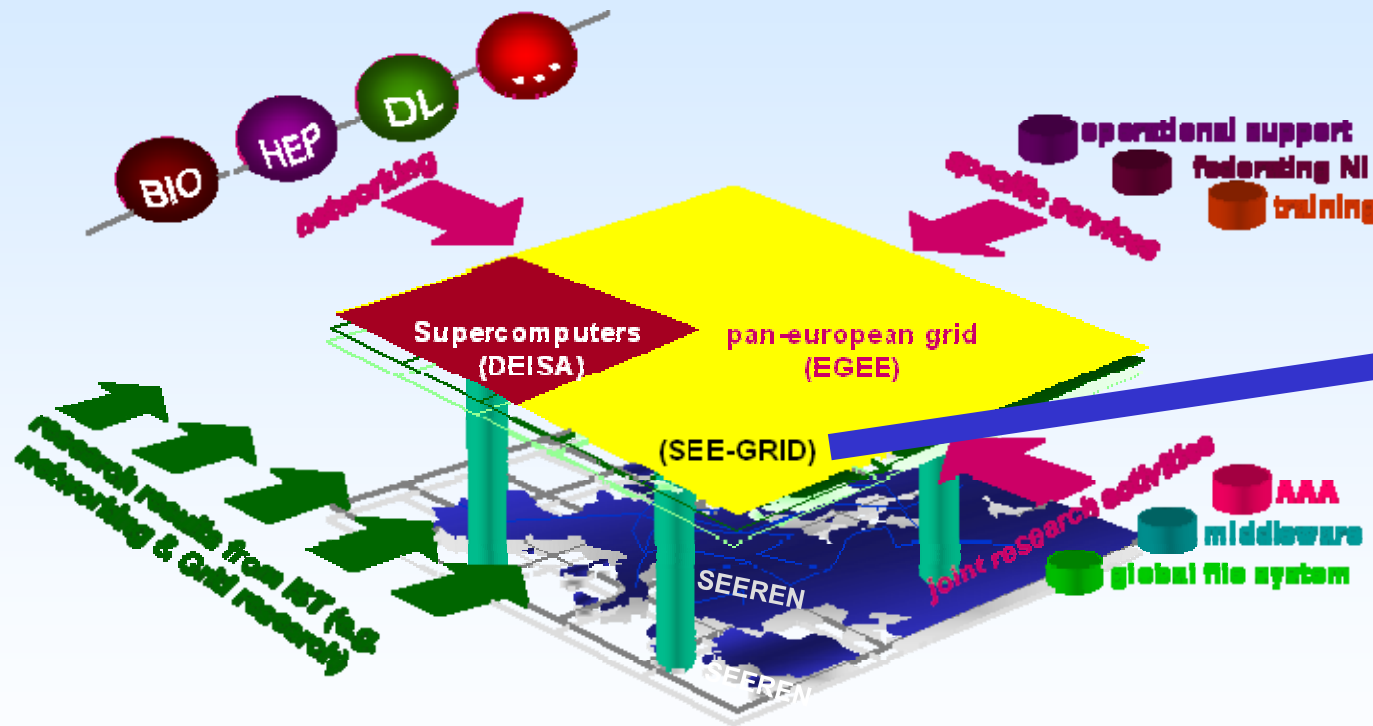
The SEE-GRID-1 initiative



SEE-GRID

South Eastern European GRid-enabled
eInfrastructure Development

Contribute to building a worldwide Infrastructure by expanding the “eInfrastructure inclusion” into South-East Europe



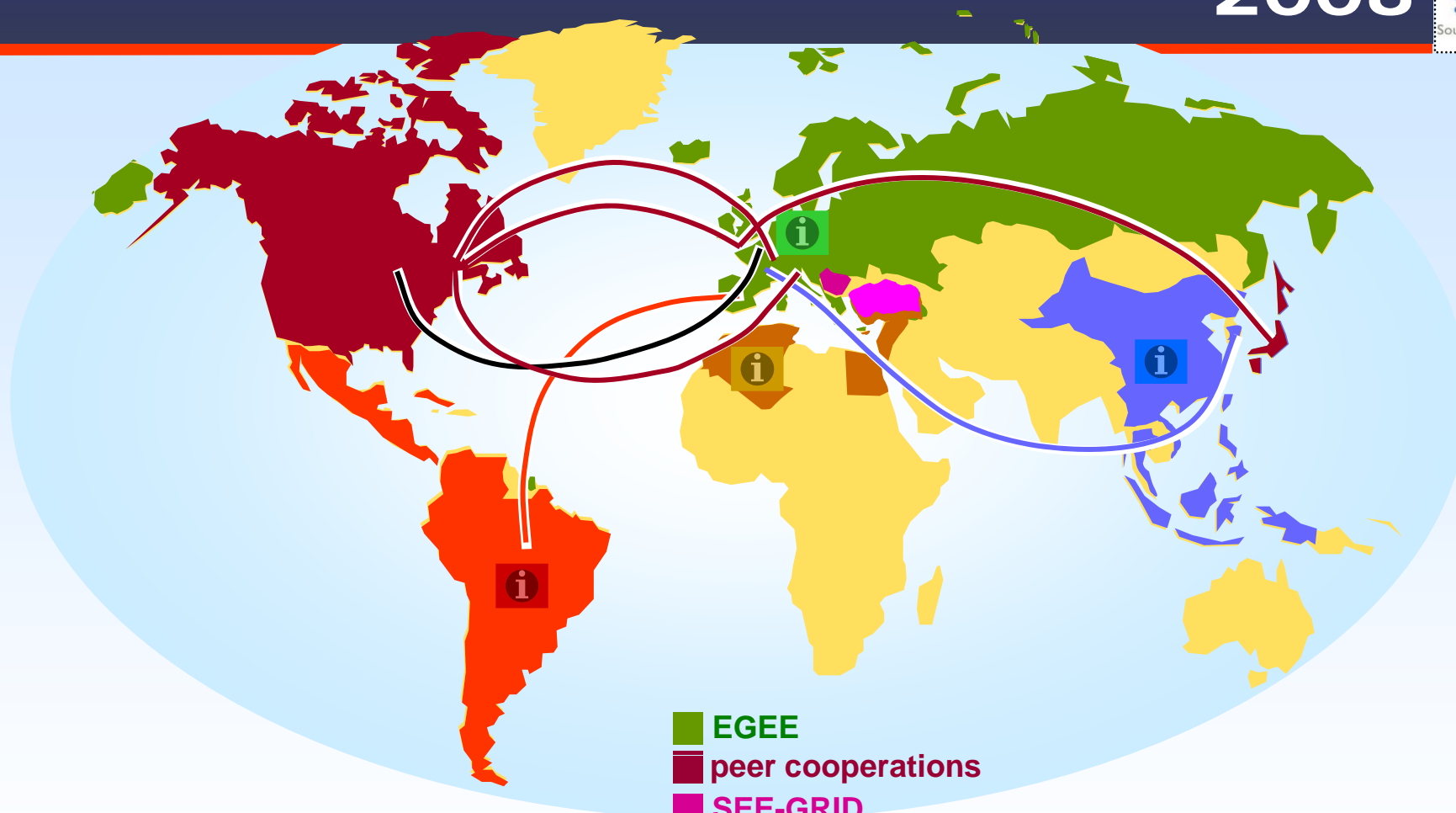
> <http://www.see-grid.org>

Grids: regional expansion 2004-2008



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- EGEE
- peer cooperations
- SEE-GRID
- BalticGrid
- EUMEDGRID, EXPRESS
- EELA, RedCLARA
- EUChinaGrid

SEE-GRID-1 project partners: the regional dimension



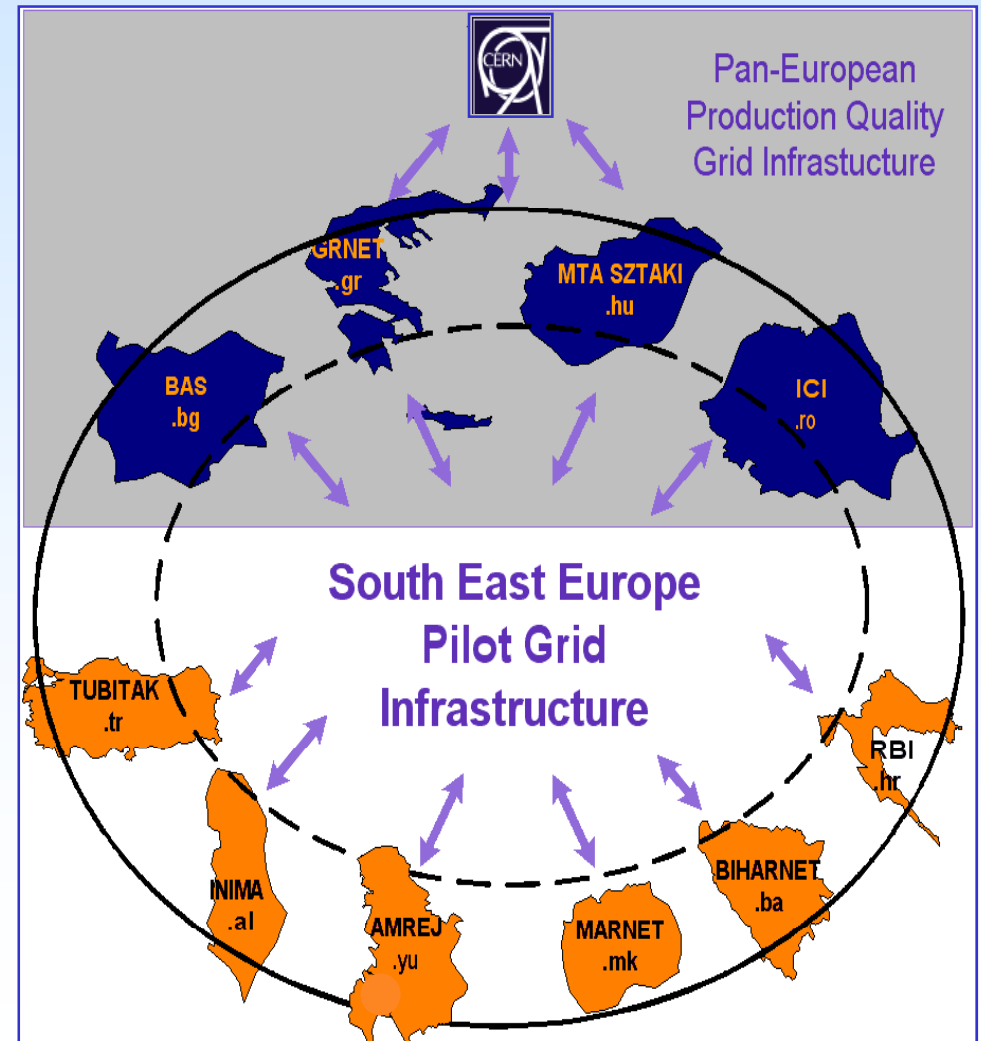
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Contractors

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

Third Parties

18 universities / research centres

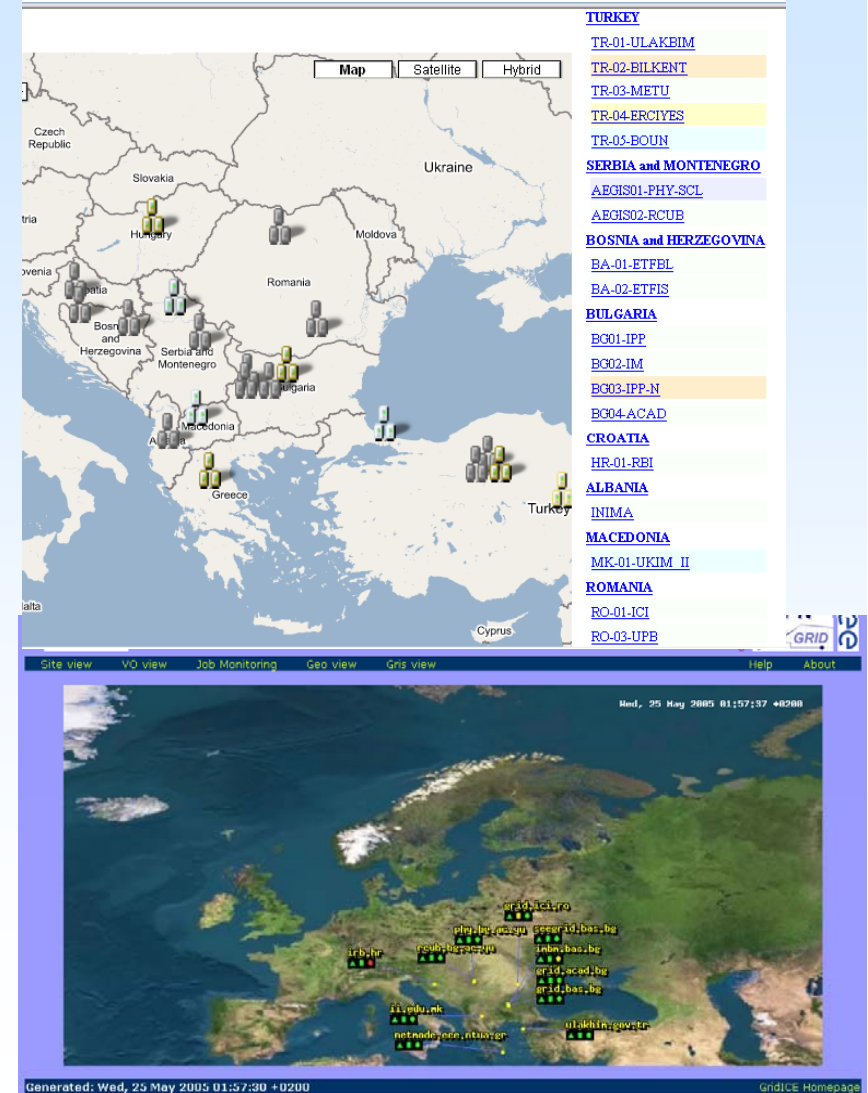


SEE-GRID-1 key results: infrastructure



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Infrastructure Development

- Large, distributed infrastructure spanning all countries:
 - Including EGEE-SEE sites, without GR and HU: 30 sites, 450 CPUs
 - 150 CPUs in 20 non-EGEE-SEE sites
- LCG-2 MW on Scientific Linux
- Support the SEE-GRID Virtual Organization
- Interconnection of SEE sites by P-GRADE portal
- Catch-all SEE-GRID CA operational
- Overlap with EGEE production
- Operations centre management solutions deployed: a number of monitoring tools, helpdesk, sites database, etc...

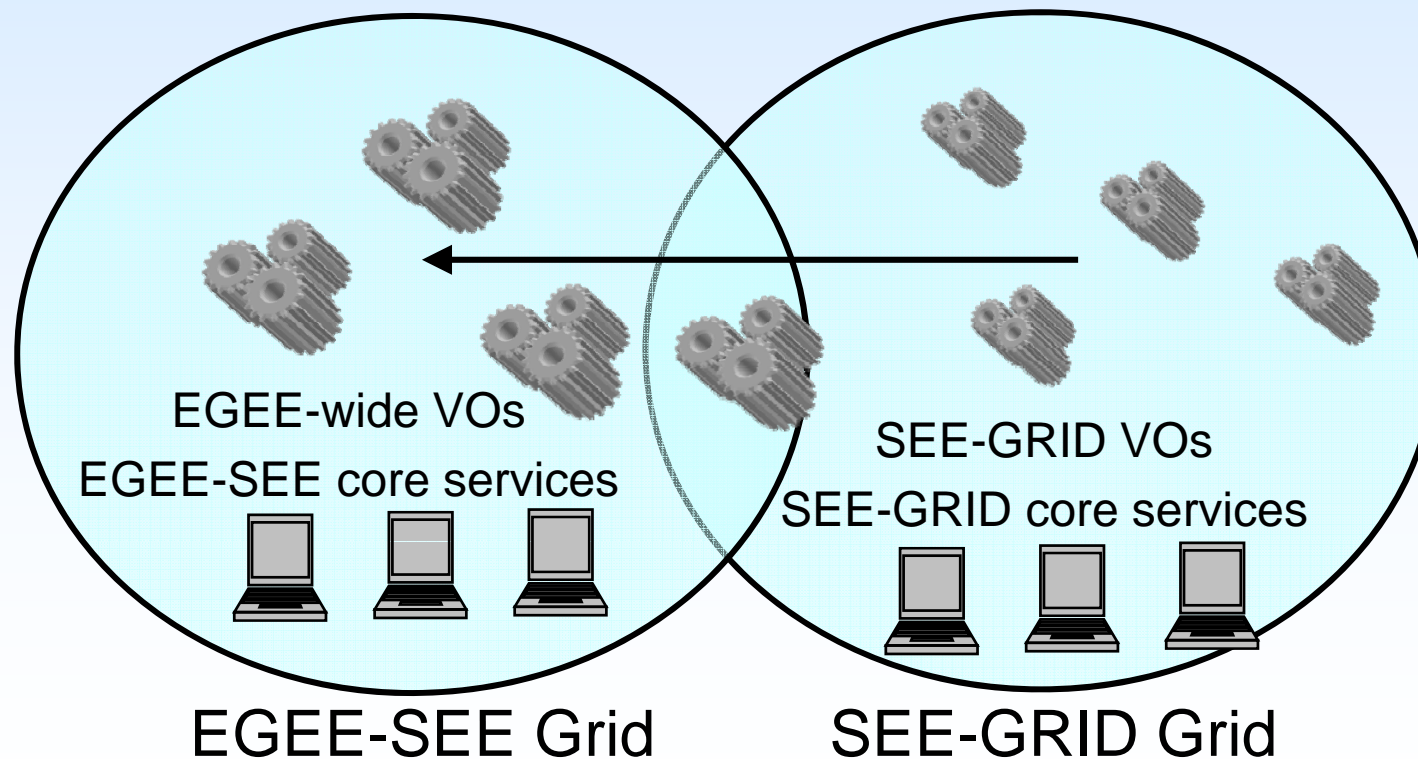


SEE-GRID and EGEE



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- Infrastructure overlapping and complementing to EGEE
- SEE-GRID open to new “fresher” sites
- SEE-GRID open to new applications

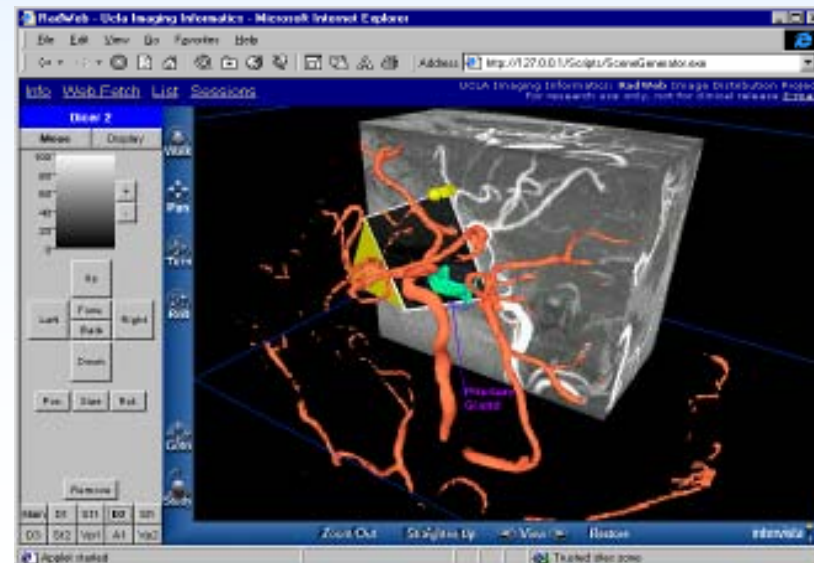
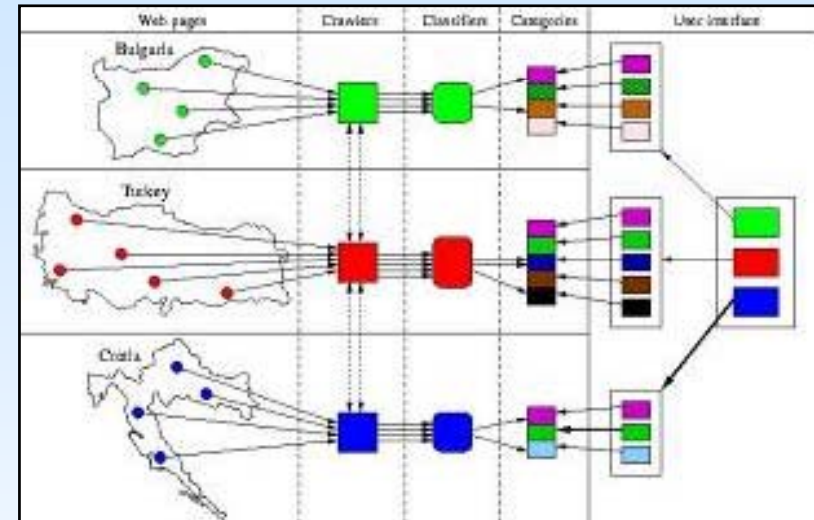


SEE-GRID-1 key results: applications



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- 2 regional grid applications developed:
 - **Search Engine for South-East Europe (SE4SEE)** for Grid-aided web-crawling & data indexing.
 - **Volumetric Image Visualization Environment (VIVE)** for medical images and other static or time-dependent scalar and vector 3D fields



SEE-GRID-2 project partners: expansion



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Start date:	01/05/2006
Duration:	24 months
Total Budget:	2,028,886 €

Contractors

GRNET	Greece
CERN	Switzerland
SZTAKI	Hungary
IPP-BAS	Bulgaria
ICI	Romania
TUBITAK	Turkey
ASA/INIMA	Albania
UoBL	Bosnia-Herzegovina
UKIM	FYR of Macedonia
UOB	Serbia
UoM	Montenegro
RENAM	Moldova
RBI	Croatia

Third Parties

27 universities / research centres



SEE-GRID-2: new directions



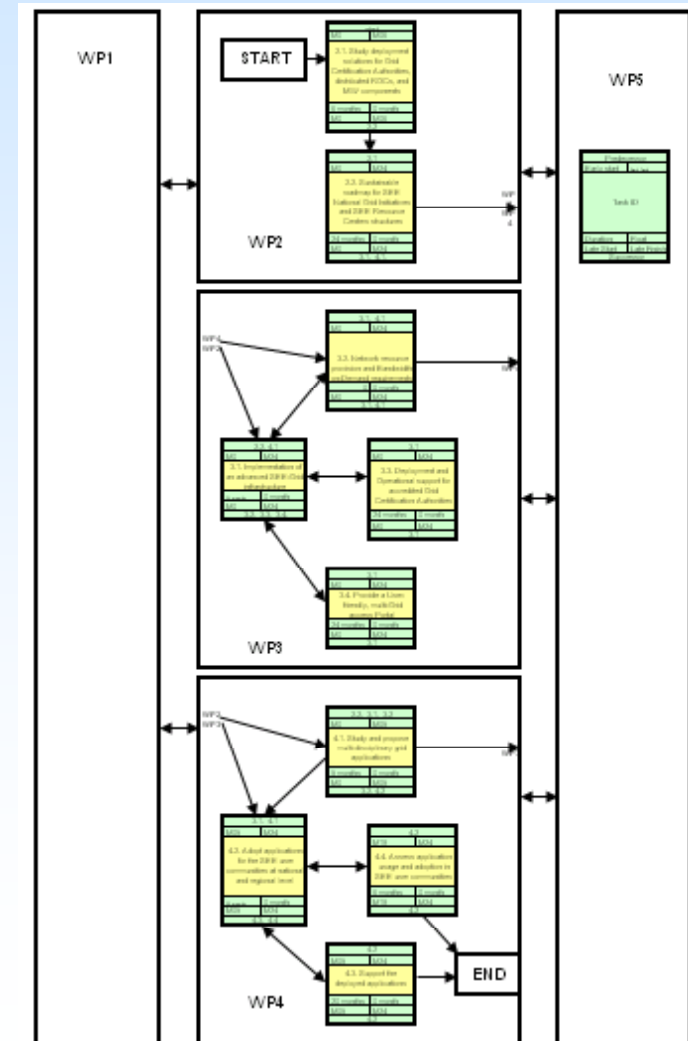
- Policy-focused deployment strategy
 - Shift priority from a “top-down” approach towards a a “bottom-up” approach (i.e. from regional project execution to national implementation)
 - Achieve Grid uptake beyond the R&E community (-> government, policy-makers, dialogue with industry...)
- Growth of infrastructure
 - Expand regionally to include new countries/areas and widen the SEE eInfra community
 - Expand nationally to include new sites/institutes and strengthen collaboration in each country
- Application-driven deployment approach
 - serve the needs of diverse and multi-disciplinary communities
 - extend the user-base – USE the grid, USE the network, USE the Infrastructure

Work organization



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- WP1 - Project management
- WP2 – Sustainability
 - Studies and Strategies for sustainable operational, organizational and policy schemes
- WP3 - eInfrastructure expansion and operations support
- WP4 - User community enlargement and applications support
- WP5 - Training, dissemination and communication



SEE-GRID-2 objectives: ensure sustainable development



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- Clear NGI strategy
- National government commitment and support for incubating NGIs
- Build solidarity and cooperation with research and academic organizations at national level
- Engage regional and national user communities
- Build long-term operational solutions: operations centres, CAs, etc, in each country



Strategic priority: NGIs



- Formation of stable NGIs is the key to long-term sustainability
- 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 academic and research-based resource centers under an umbrella of a national program aiming to integrate the available resources

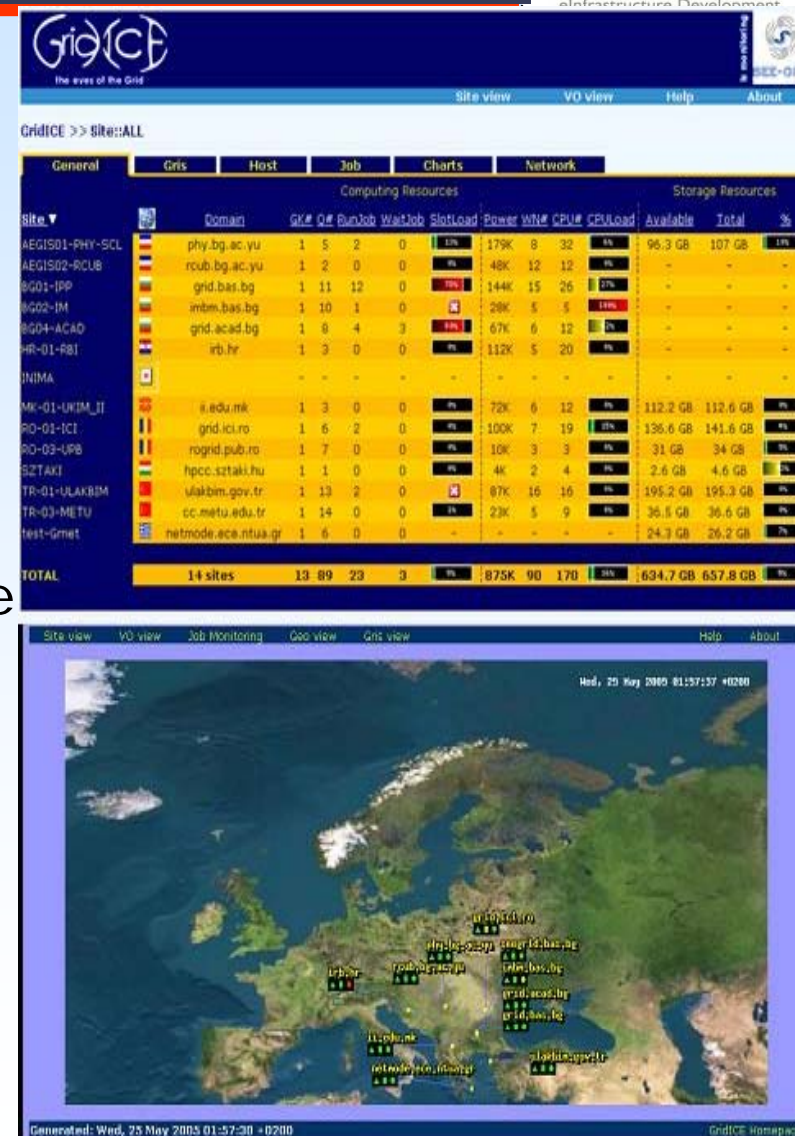
SEE-GRID-2 objectives: upgrade SEE grid infrastructure



SEE-GRID

South Eastern European Grid-enabled Infrastructure Development

- Upgrade the capacity of the regional pilot infrastructure
- Guarantee stability and interoperability of the infrastructure
- Support the accreditation of national Grid CAs.
- Strengthen operations at national level
- Deploy portal technology for accessing the grid and supporting application development and deployment
- Collaborate with other EGEE-based grid projects (EUMEDGRID, BalticGrid, EELA)

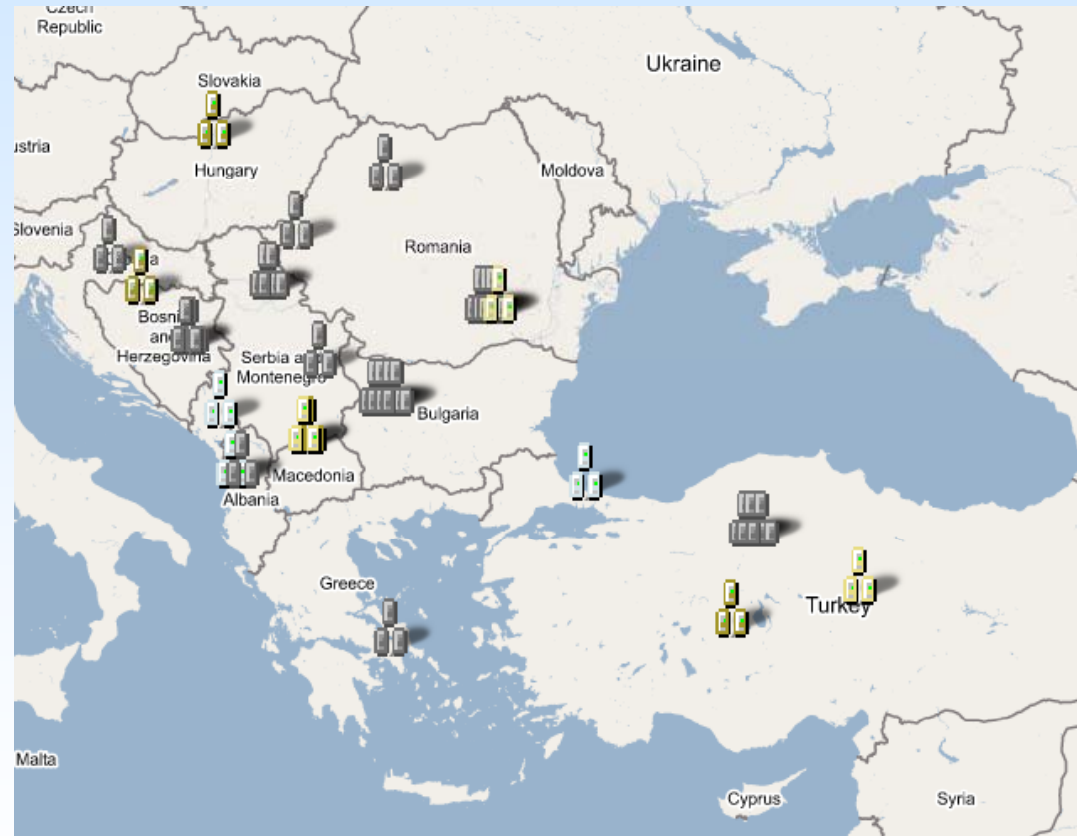


Current infrastructure



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- Number of Countries: 11
- Number of Sites: 31
- Number of CPUs: 540
- TBs of Storage: 11.64
- Migrating from LCG to gLite



Infrastructure management: monitoring



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No	Site Reports	GIIS Host	bnode	cernse	gperf	sanity	serv	version	totalCPU	freeCPU	runJob	waitJob	seAvail TB	seUsed TB	maxCPU	avgCPU
1	AEGIS01-PHY-SCL	ce.phy.bg.ac.yu	ok	ok	ok	ok	ok	GLITE-3 0 1	100	1	99	276	0.06	0.07	100	95
2	General	Gris	Host	Job	Charts	Network										
3	Computing Resources															
4	Storage Resources															
5	Site ▼		Domain	GK#	Q#	RunJob	WaitJob	SlotLoad	Power	WN#	CPU#	CPULoad	Available	Total	%	
6	AEGIS01-PHY-SCL		phy.bg.ac.yu	1	8	99	2	<div style="width: 99%;"><div style="background-color: red;">99%</div></div>	560K	25	100	<div style="width: 99%;"><div style="background-color: red;">99%</div></div>	135.2 GB	278.5 GB	<div style="width: 51%;"><div style="background-color: red;">51%</div></div>	
7	AEGIS02-RCUB		rcub.bg.ac.yu	1	3	6	0	<div style="width: 54%;"><div style="background-color: red;">54%</div></div>	48K	12	12	<div style="width: 11%;"><div style="background-color: green;">11%</div></div>	112.2 GB	199.2 GB	<div style="width: 44%;"><div style="background-color: green;">44%</div></div>	
8	AEGIS03-ELEF-LEDA		elfak.ni.ac.yu	1	3	0	0	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	19K	4	4	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	8.5 GB	9.3 GB	<div style="width: 9%;"><div style="background-color: green;">9%</div></div>	
9	AL-01-INIMA		salla6.inima.al	1	2	1	28	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	4K	3	3	<div style="width: 1%;"><div style="background-color: black;">1%</div></div>	1.2 GB	9.1 GB	<div style="width: 87%;"><div style="background-color: red;">87%</div></div>	
10	AL-02-FIE		fie.upt.al	2	6	0	26664	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	45K	8	8	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	47.5 GB	49.1 GB	<div style="width: 3%;"><div style="background-color: black;">3%</div></div>	
11	BA-01-ETFBL		grid.etfbl.net	1	2	0	0	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	17K	2	3	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	147.2 GB	149.5 GB	<div style="width: 2%;"><div style="background-color: black;">2%</div></div>	
12	BA-02-ETFIS		etf.unssa.rs.ba	1	2	0	10	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	29K	3	6	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	24.1 GB	29.8 GB	<div style="width: 19%;"><div style="background-color: green;">19%</div></div>	
13	BA-04-PMFSA		pmf.unsa.ba	1	2	3	0	<div style="width: 100%;"><div style="background-color: red;">100%</div></div>	40K	7	9	<div style="width: 4%;"><div style="background-color: black;">4%</div></div>	33.6 GB	34.4 GB	<div style="width: 2%;"><div style="background-color: black;">2%</div></div>	
14	BG01-IPP		grid.bas.bg	1	10	0	1	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	591.7 GB	705 GB	<div style="width: 16%;"><div style="background-color: green;">16%</div></div>	
15	BG02-IM		imbm.bas.bg	1	5	4	15	<div style="width: 80%;"><div style="background-color: red;">80%</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	15.4 GB	32.9 GB	<div style="width: 54%;"><div style="background-color: red;">54%</div></div>	
16	BG04-ACAD		grid.acad.bg	1	10	1	3	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	373K	39	78	<div style="width: 14%;"><div style="background-color: green;">14%</div></div>	27 GB	70.3 GB	<div style="width: 62%;"><div style="background-color: red;">62%</div></div>	
17	BG05-SUGrid		grid.uni-sofia.bg	1	9	12	87	<div style="width: 86%;"><div style="background-color: red;">86%</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	58.5 GB	83.5 GB	<div style="width: 30%;"><div style="background-color: green;">30%</div></div>	
18	HR-01-RBI		irb.hr	1	4	0	2	<div style="width: 75%;"><div style="background-color: red;">75%</div></div>	112K	5	20	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	60.8 GB	64.6 GB	<div style="width: 6%;"><div style="background-color: black;">6%</div></div>	
19	MK-01-UKIM_II		ii.edu.mk	1	4	0	5	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	72K	6	12	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	327.5 GB	337.7 GB	<div style="width: 3%;"><div style="background-color: black;">3%</div></div>	
20	MK-02-ETF		etf.ukim.edu.mk	1	2	0	0	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	-	-	<div style="width: 100%;"><div style="background-color: red;">100%</div></div>	
21	MREN-01-CIS		cg.ac.yu	1	2	0	0	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	25K	2	4	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	64.6 GB	67.7 GB	<div style="width: 5%;"><div style="background-color: black;">5%</div></div>	
22	RO-01-ICI		grid.ici.ro	1	8	8	8	<div style="width: 88%;"><div style="background-color: red;">88%</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	410.7 GB	433 GB	<div style="width: 5%;"><div style="background-color: black;">5%</div></div>	
23	RO-03-UPB		rogrid.pub.ro	1	3	0	0	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	20K	6	6	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	29.9 GB	34 GB	<div style="width: 12%;"><div style="background-color: green;">12%</div></div>	
24	RO-08-UVT		info.uvt.ro	1	7	0	1	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	298.2 GB	299 GB	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	
25	RO-09-UTCN		mosigrid.utcluj.ro	1	3	0	0	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	196 GB	216.6 GB	<div style="width: 9%;"><div style="background-color: green;">9%</div></div>	
26	SZTAKI		hpcc.sztaki.hu	1	2	0	0	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	17.9 GB	18.7 GB	<div style="width: 4%;"><div style="background-color: black;">4%</div></div>	
27	TR-01-ULAKBIM		ulakbim.gov.tr	1	14	24	25	<div style="width: 73%;"><div style="background-color: red;">73%</div></div>	665K	125	125	<div style="width: 60%;"><div style="background-color: red;">60%</div></div>	2.7 TB	3.1 TB	<div style="width: 11%;"><div style="background-color: green;">11%</div></div>	
28	TR-02-BILKENT		cs.bilkent.edu.tr	1	13	0	0	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	12K	1	2	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	128.7 GB	205.1 GB	<div style="width: 37%;"><div style="background-color: green;">37%</div></div>	
29	TR-03-METU		cc.metu.edu.tr	1	13	0	0	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	3K	1	1	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	46 GB	50.3 GB	<div style="width: 8%;"><div style="background-color: black;">8%</div></div>	
30	TR-04-ERCIYES		erciyes.edu.tr	1	13	0	0	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	97.3 GB	102.6 GB	<div style="width: 5%;"><div style="background-color: black;">5%</div></div>	
31	TR-05-BOUN		grid.boun.edu.tr	1	13	0	0	<div style="width: 0%;"><div style="background-color: black;">0%</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	30.8 GB	34.7 GB	<div style="width: 11%;"><div style="background-color: green;">11%</div></div>	
32	TR-06-SELCUK		selcuk.edu.tr	1	13	6	60	<div style="width: 100%;"><div style="background-color: red;">100%</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	24.5 GB	33.2 GB	<div style="width: 26%;"><div style="background-color: green;">26%</div></div>	
33	test-Gmet		netmode.ece.ntua.gr	1	2	0	27	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	-	-	-	<div style="width: 0%;"><div style="background-color: black;">-</div></div>	29.3 GB	32.9 GB	<div style="width: 11%;"><div style="background-color: green;">11%</div></div>	
	TOTAL		28 sites	29	178	164	26938	<div style="width: 27%;"><div style="background-color: green;">27%</div></div>	2M	249	393	<div style="width: 12%;"><div style="background-color: green;">12%</div></div>	5.6 TB	6.6 TB	<div style="width: 23%;"><div style="background-color: green;">23%</div></div>	

Infrastructure management: Helpdesk, database, wiki



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Task Management System

Task Manager Options		Your Group's Open Tasks							
Task Options <ul style="list-style-type: none"> Create Task My Open Tasks (0) My Group's Tasks (3) Unassigned Tasks (0) My Recent Tasks My Group's Recent Tasks Search For Task 		ID	Task Manager	Short Description	User	Priority	Created	Status	Time
FAQ Options <ul style="list-style-type: none"> Knowledge Base Task Manager Knowledge Base Add to Knowledge Base Knowledge Base Stats 		00133	testGRNET	grid1_netmode.ece.ntua.gr: seegridsgm job submission - proxy expired	branko	Critical	21/03/06	In Progress	
User Documentation		00141	testGRNET	grid1_netmode.ece.ntua.gr: VO_SEEGRID_SW_DIR not set on WNs	branko	Medium	29/03/06	Unassigned	
		00154	testGRNET	GR information in HGSM	antun	Critical	05/04/06	Unassigned	



Task Management System

Task statistics for time: 27/05/06 to 27/06/06

From: 27/05/06 To: 27/06/06 Task Manager: All Group: All

Legend: All Sum. Priorities Task Groups Categories Task Manager Life time

Type	Open tasks before 27/05/06	Opened during	Closed during	Open on 27/06/06
All Sum.	19	2	7	14
Priorities				
Critical	11	2	3	10
High	1	0	0	1
Medium	6	0	4	2
Low	1	0	0	1
Task Groups				
Please Select	3	0	1	2
SE4SEE	0	0	0	0
LOG2	16	2	6	12
SLM	0	0	0	0
VNC	0	0	0	0
Categories				
Please Select	2	0	1	1
Job Submission and Execution	7	0	3	4
Security (admins)	0	0	0	0
Grid Services (admins)	5	1	1	5
SHPC&E Monitoring	0	0	0	0
Information	3	1	1	2
Login Problems	0	1	0	1



- navigation
- Main Page
 - Community portal
 - Current events
 - Recent changes
 - Random page
 - Help
 - Donations

search

- toolbox
- What links here
 - Related changes
 - Upload file
 - Special pages
 - Printable version
 - Permanent link

SEE-GRID Wiki

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- Guides
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 - 3.2 Middleware Assessment
- Important Emails
- LCG References

- Links
- Project Homepage <http://www.see-grid.org/>
 - Technical Forum <http://cv.s.lpds.sztaki.hu/cgi-bin/ikonboard/ikonboard.cgi>
 - Maillists <https://mailman2.gnet.gr/mailman/admin/>
 - BDII configuration http://hgsm.grid.org/tr/export/see-grid_all_sites.php
 - Certification Authority <http://www.grid.auth.gr/pki/see-grid-ca/>
 - VOMS <https://voms.irb.hr:8443/edg-voms-admin/seegrid/index.html>
 - P-Grade Portal <http://portal.p-grade.hu/seegrid/>
 - Help Desk <http://helpdesk.see-grid.org/>
- Monitoring and Maps
- SFT <http://grid-se.marnet.net.mk/st/lastreport.cgi>
 - GridCE <http://grid.ce.iit.edu/ce/gridce/lastreport.cgi>

Authenticated as /C=GR/O=HellasGrid/OU=gnet.gr/CN=Ioannis Liabotis

Grid Operation Center Database

Regional Operation Center: **SEEGRID (South-East Europe GRID)**

Email: helpdesk@see-grid.org

Phone:

Comments:

Last modified on: 01/01/1970

ID	Name	Email	Phone	Admin
AL	Albania	grid@mima.al	+355 4 228852	/DC=ORG/DC=SEE-GRID/O=People/O=INIMA/CN=Neki Frasheri
BA	Bosnia and Herzegovina	badaboorn@etfbl.net	+387 51 221860	/DC=ORG/DC=SEE-GRID/O=People/O=BIHARNET/CN=Mihajlo Savic
BU	Bulgaria	emanouil@paralle.bas.bg	+359 2 9796793	/O=GRID-FRVC=BG/O=BAS/OU=IPP/CN=Emanouil Atanasov
CS	Serbia & Montenegro	grid-admin@phy.bg.ac.yu	+381 11 3160260 ext. 152	/DC=ORG/DC=SEE-GRID/O=People/O=UOB/CN=Antun Balaz, /DC=ORG/DC=SEE-GRID/O=People/O=Institute of Physics Belgrade/CN=Branimir Ackovic, /DC=ORG/DC=SEE-GRID/O=People/O=UOB/CN=Branko Marovic, /DC=ORG/DC=SEE-GRID/O=People/O=UOB/CN=Ivica Barisic
GR	Greece	iliaboti@gnet.gr	+302107474248	/C=GR/O=HellasGrid/OU=gnet.gr/CN=Ioannis Liabotis
HR	Croatia	lcg-admin@irb.hr	+385 1 4561168	/DC=ORG/DC=SEE-GRID/O=People/O=RBI/CN=Matej Vela
HU	Hungary	lcg2@lpds.sztaki.hu	+361 2 796066	/C=HU/O=NIIF CA/OU=GRID/OU=MTA SZTAKI LPDS/CN=Miklos Kozlowszky
MK	Macedonia	borov@ii.edu.mk	+389 70 328718	/DC=ORG/DC=SEE-GRID/O=People/O=UKIM/CN=Boro Jakimovski
RO	Romania	stanciu@grid.ici.ro	+40 21 2241256	/DC=ORG/DC=SEE-GRID/O=People/O=CIC/CN=Alexandru Stanciu
TR	Turkey	grid@ulakbim.gov.tr		/C=TR/O=TRGrid/OU=TUBITAK-ULAKBIM/CN=Onur Temizsoyulu, /DC=ORG/DC=SEE-GRID/O=People/O=TUBITAK/CN=Kursad Yusuf Konus

Best viewed with Firefox This application is free software (GNU GPL) Copyright (C) 2005, 2006 Dashmir Hoxha

Powered by phpWebApp

Using the infrastructure



- Going to website www.seegrid.eu
 - Talking to the SEEGRID representative in the country
 - Obtaining a certificate from SEE-GRID catch-all CA
 - Joining the SEE-GRID VO
 - Asking local country Grid team to provide support
-
- Currently 10+ new applications under development, ~20 in the course of the project

Conclusions



- SEE-GRID was the first step for regional eInfrastructure integration
- SEE-GRID-2 is the next step towards SUSTAINABLE Grid-related ACTIVITIES (NOT just infrastructure!) in the SEE region
- SEE-GRID-2 is open for discussions, feedback, inputs to other related regional initiatives