

**France Grilles**  
**Inauguration**  
Paris, 24 Sept. 2010



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# **EGI and the German NGI-DE**

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Archeology  
Astronomy  
Astrophysics  
Civil Protection  
Comp. Chemistry  
Earth Sciences  
Finance  
Fusion  
Geophysics  
High Energy Physics  
Life Sciences  
Multimedia  
Material Sciences  
...

- > 260 Sites
- > 55 Countries
- > 150,000 CPUs
- > 28 PetaBytes Disk
- > 14,000 Users
- > 200 VOs
- > 330,000 Jobs/Day

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# EGEE Projects

- EGEE
  - 01 April 2004 – 31 March 2006
  - 71 Partners, 27 Countries
  - EC Contribution: **32 Mio €**
- EGEE-II
  - 01 April 2006 – 30 April 2008
  - 91 Partners (11 JRU – 48 partners), 32 Countries
  - EC Contribution: **36 Mio €**
- EGEE-III
  - 01 May 2008 – 30 April 2010
  - 42 Partners (mostly JRUs)
  - EC Contribution: **32 Mio €**



The world's largest production grid infrastructure alone requires  
 > 16 Mio € EU funding  
 + add. national funding per year

This does **not** include the  
 hardware resources



# EGI History ... Once upon a time



# EGI History ... Long, long ago

- **18 June 2004:**  
Fabrizio Gagliardi, EGEE Project Director  
„International Grid Organization (IGO)“
- Input from CERN, RENATER/GEANT, ...
- **01 March 2005:** CERN  
„International Centre for Grid Middleware“
- **17 June 2005:** CERN  
„Establishing a European Grid Organization“

# e-Infrastructure Reflection Group

- **12 June 2003:** Workshop „EU eInfrastructure Initiative“, Athens, Greece
- **13-14 December 2005:** Malcolm Read, „European Vision for a Universal e-Infrastructure for Research“

*“... an environment where research resources (H/W, S/W & content) can be readily shared and accessed wherever this is necessary to promote **better and more effective research**”*

# e-IRG Delegates Meeting, London, 12/2005

## Recommendation:

*“The e-IRG recognises that the current **project-based financing model** of grids (e.g., EGEE, DEISA) presents **continuity and interoperability problems**, and that new financing and governance models need to be explored – taking into account the role of **national grid initiatives** as recommended in the Luxembourg e-IRG meeting.”*



# e-IRG Recommendations on Sustainable e-Infrastructures

- I: governments and the Commission should develop policies and mechanisms to encourage increased investment in a **more coherent and interoperable way** across Europe*
- II: the existing e-Infrastructure projects must be superseded by **integrated sustainable services** at national and European levels*
- III: e-Infrastructures must be **application-neutral and open to all user communities and resource providers**. National funding agencies should be encouraged to fund multi-disciplinary and inclusive infrastructures rather than disciplinary-specific alternatives*





# e-IRG Recommendations on Sustainable e-Infrastructures



*IV: e-Infrastructures must **inter-operate and adopt international standard services and protocols** in order to qualify for funding*

*V: the Commission should, within the seventh Framework Programme, develop a pan-European e-Infrastructure which **explicitly encourages the further integration of national e-Infrastructure initiatives***

e-IRG Task Force on Sustainable e-Infrastructures (SeI)  
[http://www.e-irg.org/publ/2006-Report\\_e-IRG\\_TF-SEI.pdf](http://www.e-irg.org/publ/2006-Report_e-IRG_TF-SEI.pdf)



# EGI History ... continued

- **26-27 February 2007:**  
EGI Munich Workshop
- **Results:**
  - 32 NGI Representatives participate
  - Agreement on **EGI Vision:**  
„The Future European Grid Infrastructure“  
([www.eu-egi.eu/vision.pdf](http://www.eu-egi.eu/vision.pdf))

- Ensure the long-term sustainability of the European e-infrastructure
- Coordinate the integration and interaction between National Grid Infrastructures
- Operate the European level of the production Grid infrastructure for a wide range of scientific disciplines to link National Grid Infrastructures
- Provide global services and support that complement and/or coordinate national services (Authentication, VO-support, security, etc);
- Coordinate middleware development and standardization to enhance the infrastructure by soliciting targeted developments from leading EU and National Grid middleware development projects;
- Advise National and European Funding Agencies in establishing their programmes for future software developments based on agreed user needs and development standards;
- Integrate, test, validate and package software from leading Grid middleware development projects and make it widely available;
- Provide documentation and training material for the middleware and operations. (NGIs may wish to make the material available in turn in their local language);
- Take into account developments made by national e-science projects which were aimed at supporting diverse communities.
- Link the European infrastructure with similar infrastructures elsewhere;
- Promote Grid interface standards based on practical experience gained from Grid operations and middleware integration activities, in consultation with relevant standards organizations;
- Collaborate closely with industry as technology and service providers, as well as Grid users, to promote the rapid and successful uptake of Grid technology by European industry.

## EGI Vision Paper

<http://www.eu-egi.eu/vision.pdf>

# EGI History ... continued

- **26-27 February 2007:**  
EGI Munich Workshop
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  - 32 NGI Representatives present
  - Agreement on **EGI Vision:**  
„The Future European Grid Infrastructure“  
([www.eu-egi.eu/vision.pdf](http://www.eu-egi.eu/vision.pdf))
  - Involvement of NGIs in EGI Design Study
  - Letter of Support for EGI Design Study



42 European NGIs



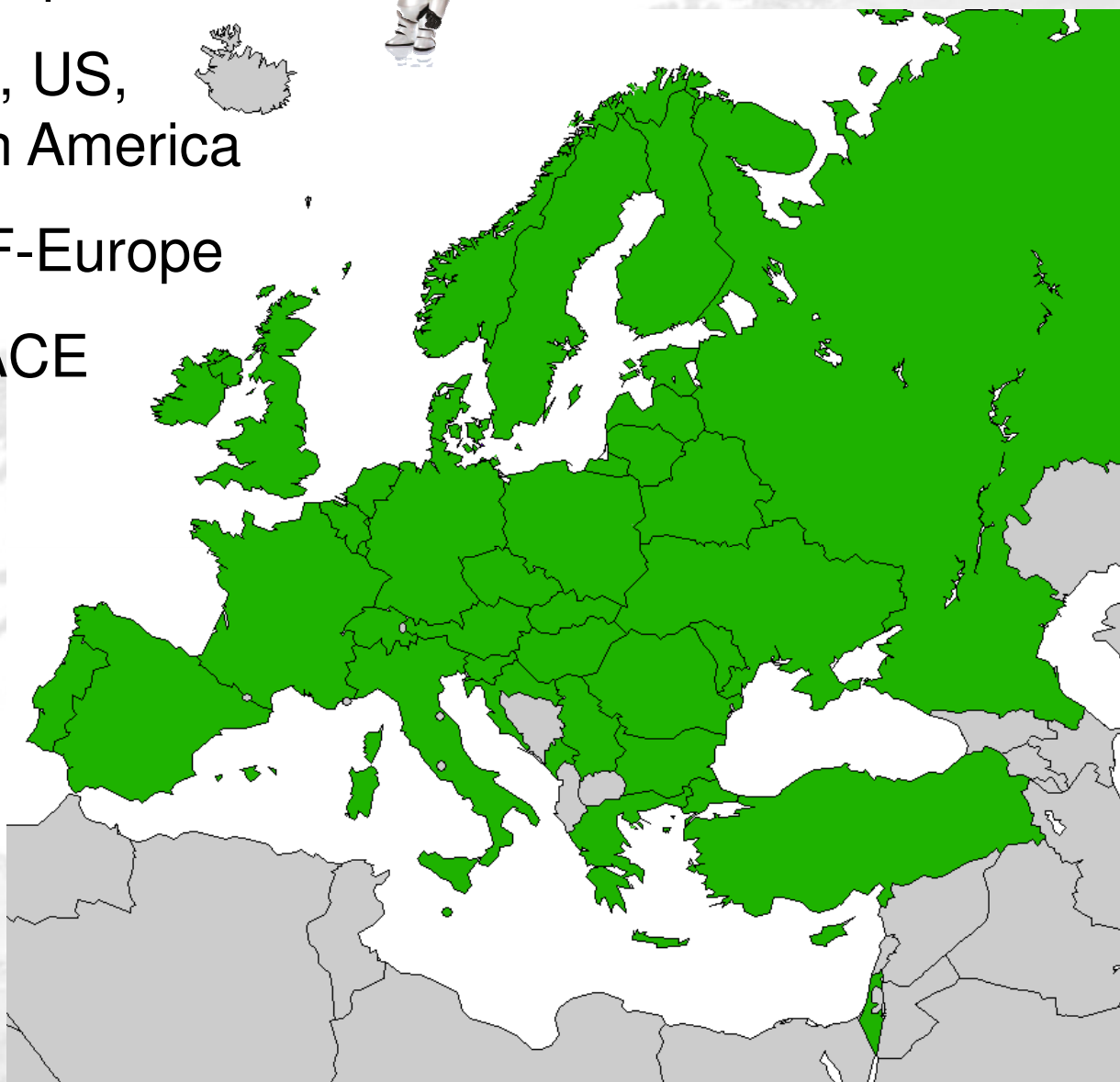
+ Asia, US,  
Latin America



+ OGF-Europe

+ PRACE

+ ...



Austria  
Belarus  
Belgium  
Bulgaria  
Croatia  
Cyprus  
Czech\_Republic  
Denmark  
Estonia  
Finland  
France  
Germany  
Greece  
Hungary  
Ireland  
Israel  
Italy  
Latvia  
Lithuania  
Luxembourg  
Malta  
Moldova  
Montenegro  
Netherlands  
Norway  
Poland  
Portugal  
Romania  
Russia  
Serbia  
Slovakia  
Slovenia  
Spain  
Sweden  
Switzerland  
Turkey  
UK  
Ukraine

France Grilles Inauguration,  
Paris

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# EGI History ... continued

- **02 May 2007, 17:00:**  
Deadline: FP7-Infrastructure-2007-1
- Proposal for **EGI Design Study (EGI\_DS)**:
  - Conceptual setup and operation of a new organizational model of a sustainable pan-European grid infrastructure
  - Consortium: 9 Partners
  - EGI Advisory Board → **EGI Policy Board**
  - Duration: 1 Sept 2007 – 31 Dec 2009

# EGI\_DS Activities

- **2 October 2007: EGI Budapest Workshop**
  - Requirements Analysis → EGI Knowledge Base

# EGI Knowledge Base - Main

[Log in / create account](#)



[article](#) [discussion](#) [view source](#) [history](#)

## Main Page

The EGI Knowledge Base is intended to provide up to date information on **National Grid Initiatives (NGIs)**, and increasingly detailed plans for the future **European Grid Infrastructure**. For questions or comments, please write us at [knowledge@eu-egi.org](mailto:knowledge@eu-egi.org)

**NEW!** We have a new survey tool! See it at work with the **NGIs in numbers** page, which records data from the "Users and Resources" boxes in the NGI pages.

### Contents [\[hide\]](#)

- 1 National Grid Initiatives in Europe
- 2 The General EGI Area
- 3 Editing Help

## National Grid Initiatives in Europe

To view an article about an individual NGI, click on its country or type the country name in the search box to the left.



NGI  
Representatives  
to provide their  
input  
and update their  
local information

### navigation

- [Main Page](#)
- [EGI Functions](#)
- [Use Cases](#)
- [European Projects](#)
- [Application Areas](#)
- [Legal Options](#)

### search

### toolbox

- [What links here](#)
- [Related changes](#)
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- [Special pages](#)
- [Printable version](#)
- [Permanent link](#)

<http://knowledge.eu-egi.org/index.php/Croatia>

Internet

100%

<http://knowledge.eu-egi.eu>



# EGI\_DS Activities

- **2 October 2007:** EGI Budapest Workshop
  - Requirements Analysis → EGI Knowledge Base
- **13-14 March 2008:** EGI Rome Workshop
  - Status review and initial discussion
- **30 June 2008:** EGI Geneva Workshop
  - Presentation of EGI Blueprint Proposal

# EGI\_DS Deliverables

- **D4.4 EGI Blueprint Proposal**
  - Structural outline and financing of EGI
- **D3.1 EGI Functions Definition**
  - Detailed functional description of EGI
- **D4.3 Guidelines for NGIs**
  - How to set up an NGI
  - Minimum requirements for NGIs

# EGI\_DS Activities

EGI Advisory Board → EGI Policy Board

- **2 October 2007:** EGI Budapest Workshop
  - Requirements Analysis → EGI Knowledge Base
- **13-14 March 2008:** EGI Rome Workshop
  - Status review and initial discussion
- **30 June 2008:** EGI Geneva Workshop
  - Presentation of EGI Blueprint Proposal
- **22 Sept 2008:** EGI Istanbul Workshop
  - Discussion of EGEE → EGI Transition

# EGI\_DS & EGI Policy Board

- **20 January 2009:** Prague, CZ  
5th EGI Policy Board Meeting
  - Endorsement of **EGI Blueprint Proposal**
- **2 March 2009:** EGI Catania Workshop &  
6th EGI Policy Board Meeting
  - Selection of Amsterdam as host for **EGI.eu**



# Location of EGI.eu

## • Activities of EGI.eu

- Operation of the European level of the production grid infrastructure (incl. security)
- Provisioning of grid services and support at pan-European level
- Coordinating national activities
- Coordination of research and standardization,
- Training dissemination

### **EGI Call for Proposals**

- 8 Bids from NGIs received
  - Ranking provided by Evaluation Board
- Decision by EGI PB on 2 March 2009: Amsterdam, The Netherlands

# EGI\_DS & EGI Policy Board

- **20 January 2009:** Prague, CZ  
5th EGI Policy Board Meeting
  - Endorsement of **EGI Blueprint Proposal**
- **2 March 2009:** EGI Catania Workshop &  
6th EGI Policy Board Meeting
  - Selection of Amsterdam as host for **EGI.eu**
- **29 May 2009:** 7th EGI Policy Board  
Meeting, Amsterdam, The Netherlands

# EGI Policy Board → EGI Council

- **9 July 2009:**  
1st EGI Council Meeting, Amsterdam
- Composed of NGIs and EIROs,  
who signed the **EGI MoU**
  - 8 July 2009:
  - 16 Sept 2009:
- **24 Sept 2009:**  
2nd EGI Council Meeting, Barcelona

<http://web.eu-egi.eu/partners/egi-council-members/>

# EGI Council Members

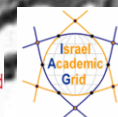
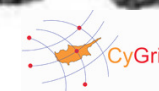






# Grids in Europe

[www.eu-egi.eu](http://www.eu-egi.eu)



# EGI Grid Infrastructure

... should be

- a large-scale, **production Grid** infrastructure
- built on national grids that **interoperate** seamlessly at many levels,
- offering **reliable and predictable services** to a **wide range of applications**

# EGI Operations Tasks

## Operation of tools and services

- Grid configuration repositories
- Grid accounting repositories
- Grid repositories for SLA compliance and performance monitoring
- Grid operations portal
- NGI Grid oversight

## Security

- Security policy development and maintenance
- Coordination of security and incident response
- Expert team for security vulnerabilities

## User support

- Central ticket handling system
- Gathering requirements for user support tools

## Other international tasks

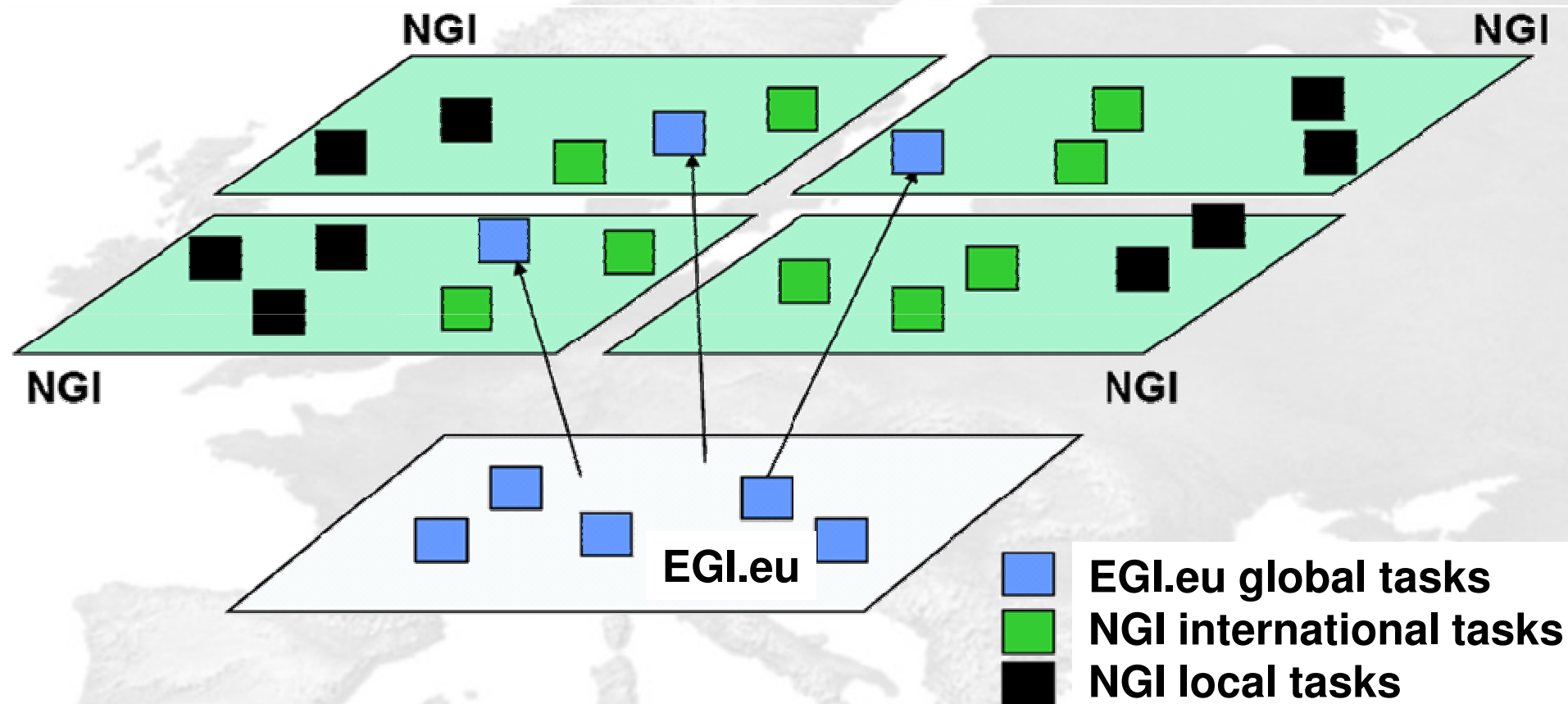
- MW deployment/roll-out and support
- Resource allocation & brokering support
- Interoperations between NGI's

## EGI Blueprint Proposal (V3.0)

<http://www.eu-egi.eu/blueprint.pdf>

- Functions of EGI
- Financing of EGI
- Transition to EGI

# EGI Operations = EGI.eu critical services + NGI international tasks







# Grids in Europe

[www.eu-egi.eu](http://www.eu-egi.eu)

## Each NGI

... should be a recognized national body

with

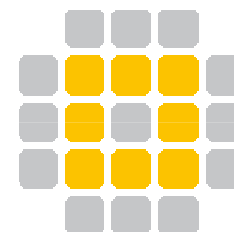
... should

... should

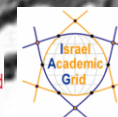
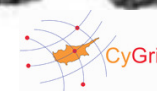
... should support user communities

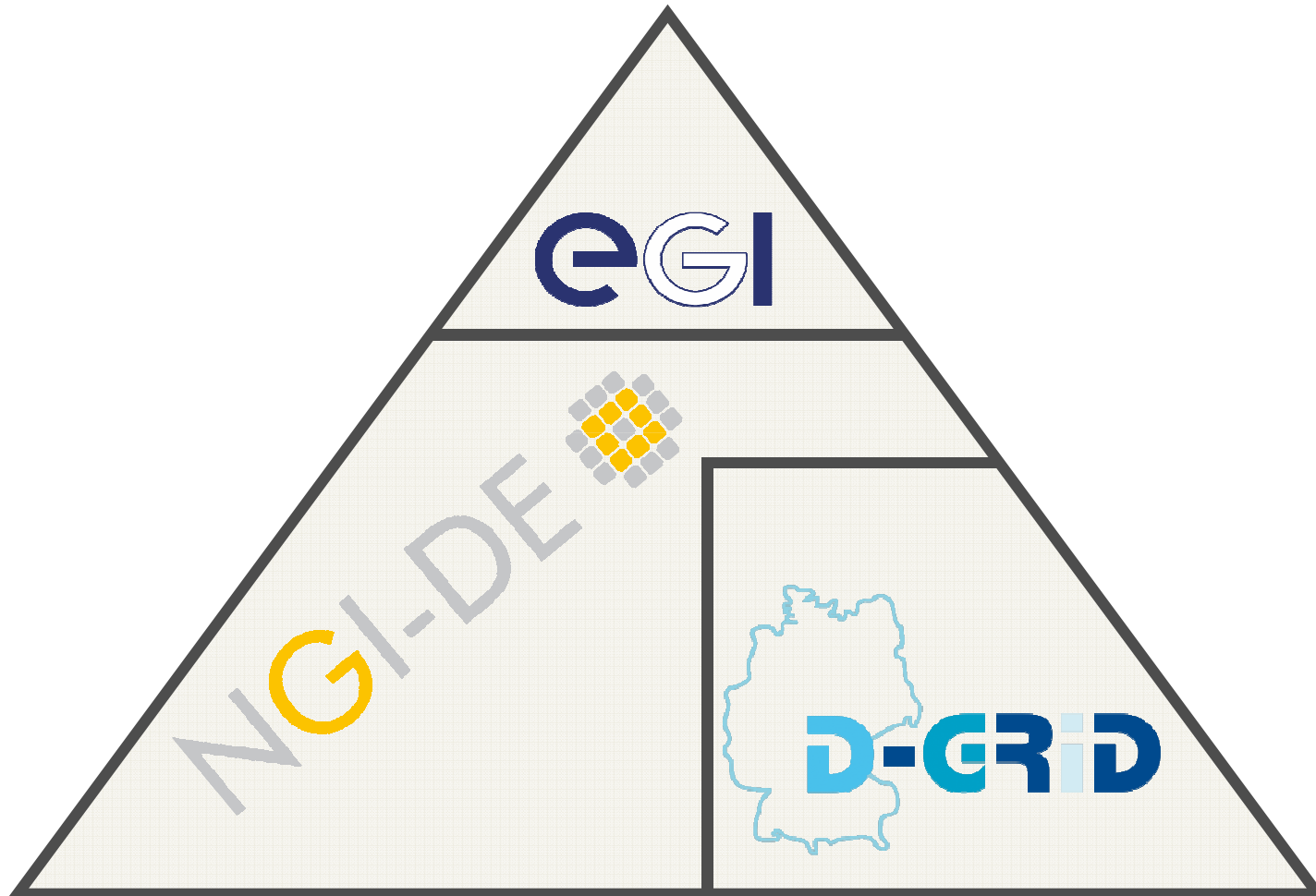
... should contribute and adhere to intl. standards and policies

NGI-DE

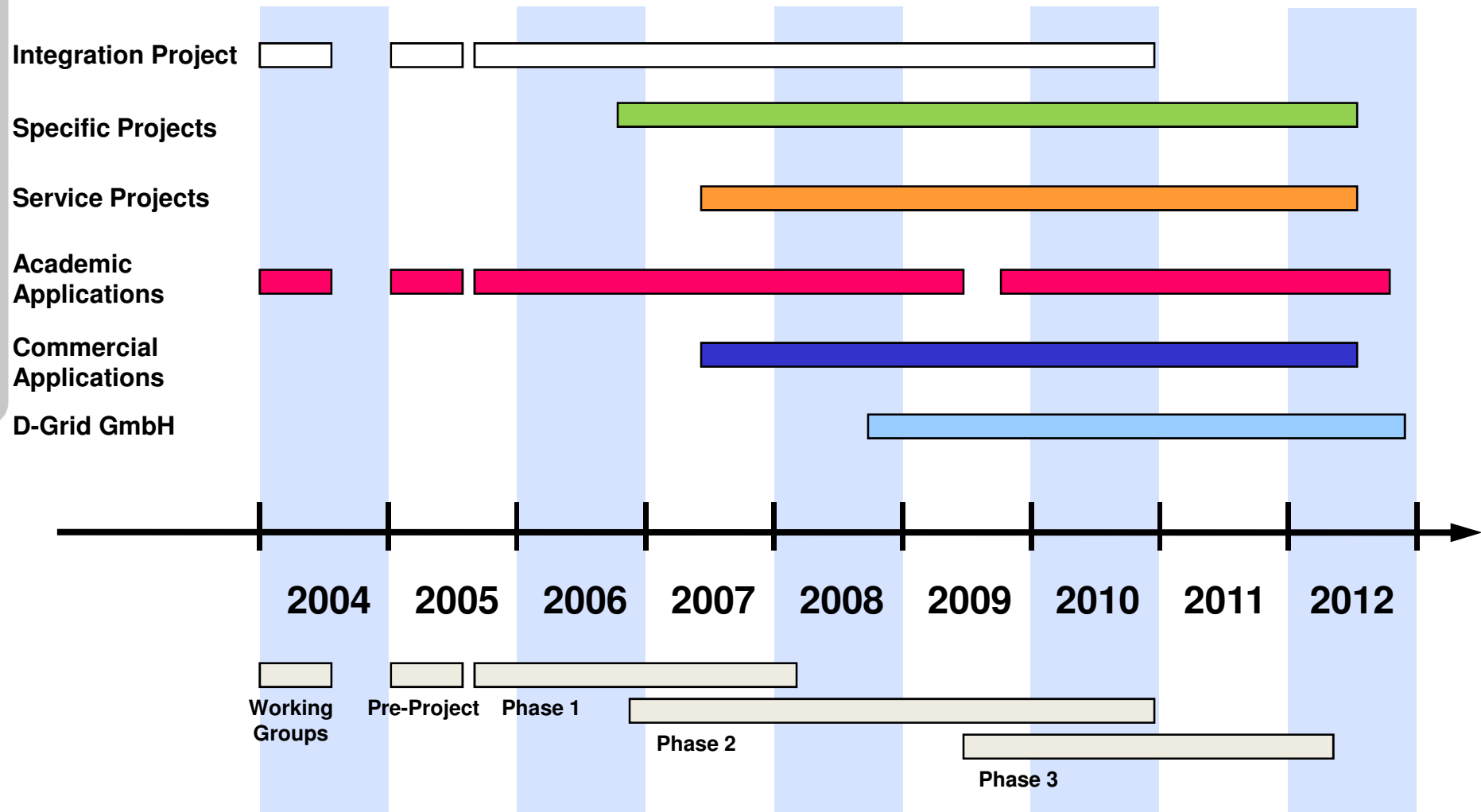


structure





- 2003: Grid Report from National Discussions
- 2005: D-Grid Initiative – 1st Phase
- **35 D-Grid Projects:**  
DGI-2, AeroGrid, AstroGrid, BauVoGrid, BisGrid, Biz2Grid, BW-GRiD, C3Grid, D-MON, DGSI, FinGrid, F&L Grid, Gap-SLC, GDI-Grid, GIDS, Goe-Grid, HEP CG, In-GRID, InterLogGrid, MediGRID, MediaGrid, MedInfoGRID, MoSGrid, OptiNum-Grid, Partnergrid, PneumoGRID, ProGRID, PT-Grid, Services@MediGRID, SLA4D-Grid, SuGI, TextGrid, ValueGrids, WisNetGrid, WissGrid







Gauß-Allianz e.V.



NGI-DE Consortium: KIT, FZJ, LRZ, DESY



NGI-DE JRU Partners in EGI-InSPIRE  
incl. D-Grid gGmbH

## ComputingService (DB)

name	type	domainID	informa...	sourceAddr	insertTime
UNICORE 6 Target System Factory Service			CIS	134.94.105.15	2008-09-16 14:18:37.0
alnitak.ari.uni-heidelberg.de	org.teragrid.ws-gram	AstroGrid-D	MDS4	129.187.254.39	2008-08-07 11:25:16.0
anticyclone.dkrz.de	org.teragrid.ws-gram	dkrz.de	MDS4	129.187.254.39	2008-08-07 11:25:17.0
aprilia.izbi.uni-leipzig.de	org.teragrid.ws-gram		MDS4	129.187.254.39	2008-08-07 11:25:16.0
arminius-grid.uni-paderborn.de	org.teragrid.ws-gram	PC2	MDS4	129.187.254.39	2008-08-07 11:25:16.0
astar.aip.de	org.teragrid.ws-gram	AstroGrid-D	MDS4	129.187.254.39	2008-08-07 11:25:16.0
astrodata01.gac-grid.org	org.teragrid.ws-gram	AstroGrid-D	MDS4	129.187.254.39	2008-08-07 11:25:16.0
bladekemper21.informatik.tu-muenchen.de	org.teragrid.ws-gram	AstroGrid-D	MDS4	129.187.254.39	2008-08-07 11:25:16.0
buran.aei.mpg.de	org.teragrid.ws-gram	AstroGrid-D	MDS4	129.187.254.39	2008-08-07 11:25:16.0
c3grid-gt.E-Technik.Uni-Dortmund.DE	org.teragrid.ws-gram	c3grid-gt.e-t...	MDS4	129.187.254.39	2008-08-07 11:25:17.0
c3grid.rrz.uni-koeln.de	org.teragrid.ws-gram	de.uni-koeln	MDS4	129.187.254.39	2008-08-07 11:25:17.0
cashmere.aip.de	org.teragrid.ws-gram	AstroGrid-D	MDS4	129.187.254.39	2008-08-07 11:25:16.0
ce-1-fzk.gridka.de	pbspro-gLite3	FZK-LCG2	BDII	lwrdrmon-bdii.fzk.de	2008-09-19 17:13:20.0
ce-2-fzk.gridka.de	pbspro-gLite3	FZK-LCG2	BDII	lwrdrmon-bdii.fzk.de	2008-09-19 17:13:20.0
ce-3-fzk.gridka.de	pbspro-gLite3	FZK-LCG2	BDII	lwrdrmon-bdii.fzk.de	2008-09-19 17:13:20.0

## VO-specific View (OGSA-DAI)

SQLQuery: SELECT name, type, totalJobs, runningJobs, waitingJobs, informationProvider FROM ComputingService\_VO

VO: vi

uk.org.ogsadai.resource.request.status.COMPLETED

name	type	totalJobs	runningJobs	waitingJobs	informationProvider
arminius-grid.uni-paderborn.de	org.teragrid.ws-gram	0	0	0	MDS4
dgiref-globus.fzk.de	org.teragrid.ws-gram	0	0	0	MDS4
dgrid-glitec1.rz.rwth-aachen.de	sge-dgiseq	null	null	null	BDII
dmon-unic.fz-juelich.de\$9115\$FZJ-JUGGLE-DMON	de.fzj.unicore.tsf	0	0	0	CIS
udo-gt01.grid.uni-dortmund.de	org.teragrid.ws-gram	151	151	0	MDS4
udo-gt03.grid.tu-dortmund.de	org.teragrid.ws-gram	0	0	0	MDS4

# EGI – One year ago

- **24 September 2009:**  
EGI Council Chair election: Per Öster, Finland
- **1 October 2009:**  
NGI financial contributions received (Membership fees)
- **24 November 2009:**  
EGI proposal submission  
+ additional proposals (middleware, SSCs, ...)



# Status EGI Today



## **EGI-InSPIRE:** Integrated Sustainable Pan-European Infrastructure for Researchers in Europe

- Duration: 4 years (starting 1 May 2010)
- Costs: 70 MEUR, incl. 25 MEUR EU
- Total costs incl. NGI resources: ca. 330 MEUR
- Partner: EGI.eu, 37 NGIs, 2 EIROs

## **EGI.eu:** EGI organization

- Location: Amsterdam, The Netherlands
- Status approved, EGI.eu Executive Board elected

# EGI and NGI-DE



- **EGI** consists of NGIs + EGI.eu
  - **NGIs need to collaborate** to perform the **processes and functionalities** of EGI
  - German is contributing through **NGI-DE**, which builds upon the success of the national D-Grid Initiative
- ➔ **Concurrent development of NGIs and EGI for the success of international scientific collaboration**

# EGL and the German NGI-DE

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