

European Grid Initiative

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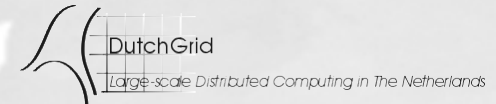
Why Sustainability TODAY?

- **Dependency:**
Some **application domains depend** on grids already today
- **Protection of Investment:**
Investment in grids, both from funding organizations and from users, need to be **protected**
- **Perspective:**
Today's grid users are **grid enthusiasts**, tomorrow's grid users ask for a **longer term perspective**

➔ Sustainability is the logical next step

Grids in Europe

- Examples of **National Grid** projects:
 - Austrian Grid Initiative
 - Belgium: BEgrid
 - DutchGrid
 - France: Grid'5000
 - Germany: D-Grid; Unicore
 - Greece: HellasGrid
 - Grid Ireland
 - Italy: INFNGrid; GRID.IT
 - NDGF
 - Portuguese Grid
 - Swiss Grid
 - UK e-Science: National Grid Service; OMII; GridPP
 - ...



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- II: the existing e-Infrastructure projects must be superseded by **integrated sustainable services** at national and European levels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



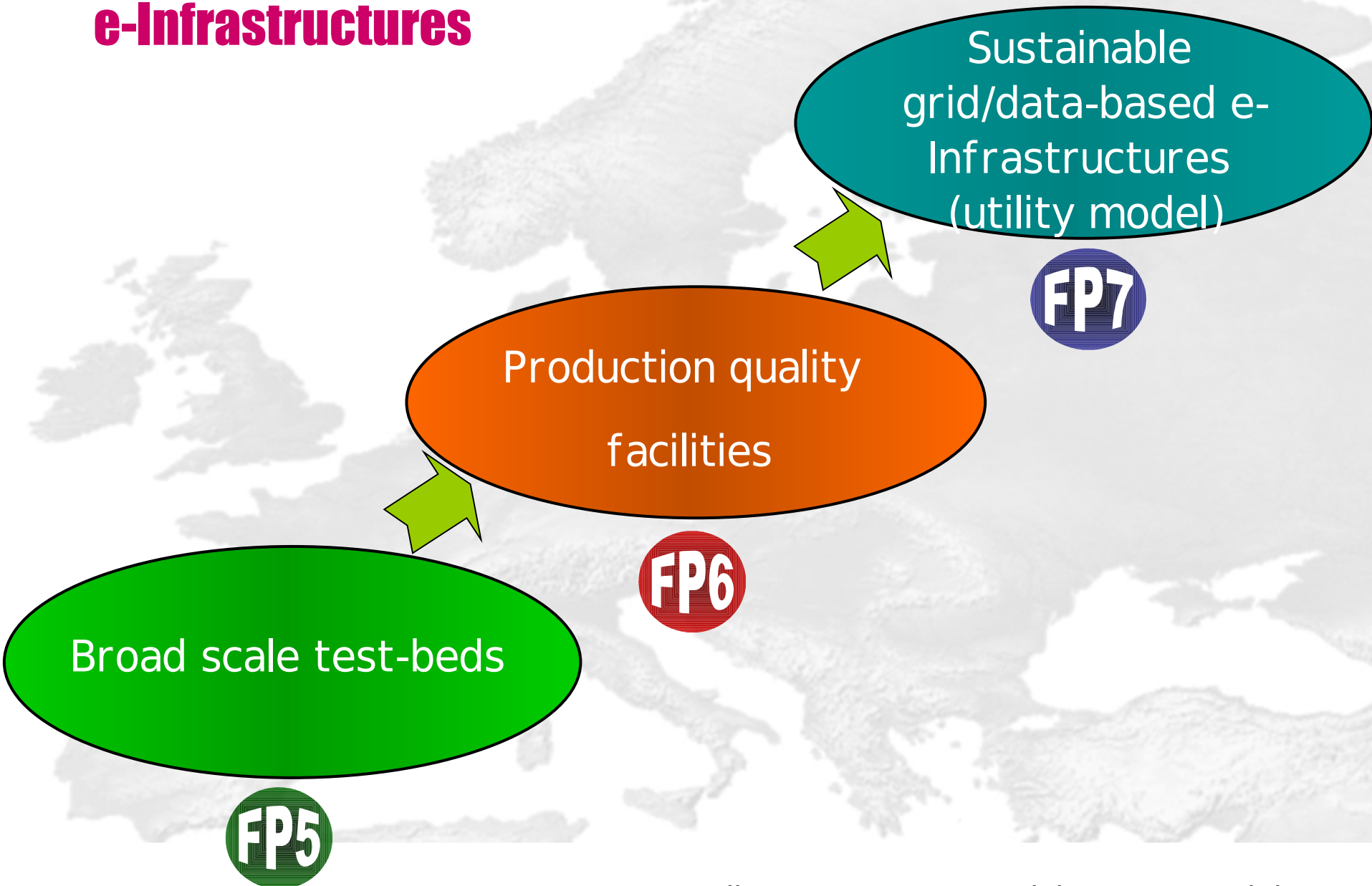


European Commission

“...for Grids we would like to see
the move towards
long-term sustainable initiatives
less dependent upon
EU-funded project cycles”

Viviane Reding, Commissioner, European Commission, at the EGEE'06
Conference, September 25, 2006

Towards sustainable grid-empowered e-Infrastructures



The first e-Infrastructure Call in FP7

Year 2007

Publication: early 2007
Closure: spring 2007

1. e-Science Grid Infra
2. Scientific Digital Re
3. Deployment of e-In
- Scientific Communi

5. New Research Infrastructures – Design studies
6. New Research Infrastructures – Preparatory phase
7. Support measures (studies, policy initiatives, international co-operation,...)

- Support **conceptual design studies** for new RI (or major upgrades of existing ones) of clear European dimension and interest; such studies will help to assess technical and financial feasibility of proposed new RI
- Action should also foster emergence of **new organisational models to consolidate a sustainable approach to e-Infrastructures**, in particular in the domain of **grids** and **data repositories**
- New service provisioning schemes to be more **neutral and open to all user communities and resource providers**

Evolution

National



European e-Infrastructure



Global

Testbeds

e-IRG Workshop, Lisbon,

Routine Usage

www.eu-egi.org

Utility Service

European Grid Initiative

Goal:

- Long-term sustainability of grid infrastructures in Europe

Approach:

- Establishment of a new federated model bringing together NGIs to build the EGI Organisation

Characteristics of NGIs

Each NGI

- ... should be a recognized national body with a **single point-of-contact**
- ... should mobilise national funding and resources
- ... should operate the national e-Infrastructure
- ... should supports user communities (application independent, and open to new user communities and resource providers)
- ... should contribute and adhere to international standards and policies

Responsibilities between NGIs and EGI are split to be federated and complementary

European Grid Initiative

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EGI Organisation:

- Coordination and operation of a common multi-national, multi-disciplinary Grid infrastructure
 - To enable and support international Grid-based collaboration
 - To provide support and added value to NGIs
 - To liaise with corresponding infrastructures outside Europe

EGI Objectives

- 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.org/vision.pdf>

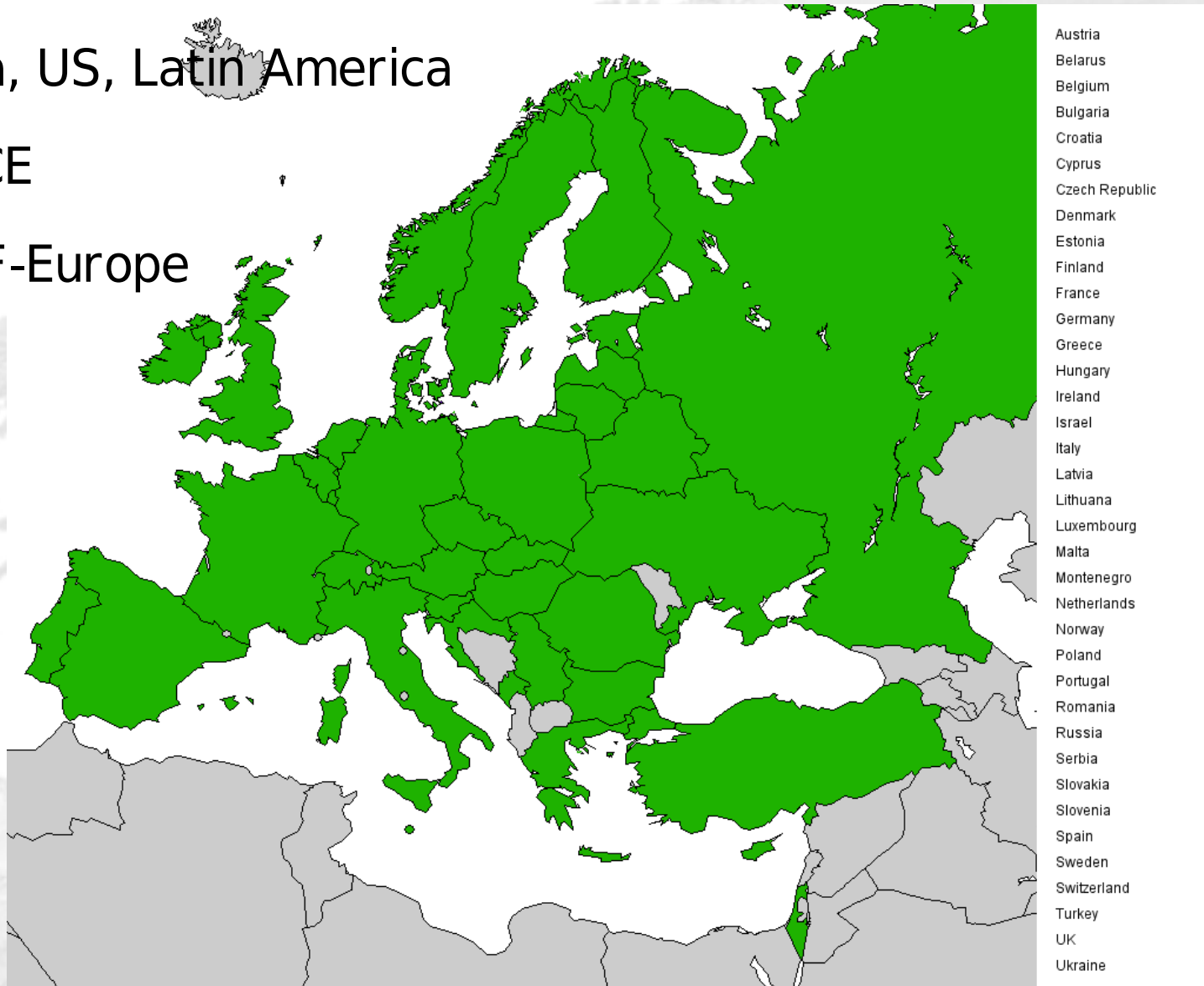
37 European NGIs

+ Asia, US, Latin America

+ PACE

+ OGF-Europe

+ ...



EGI Design Study

Project proposal:

- submitted to FP7-INFRASTRUCTURES-2007-1,
1.2.1 Design Studies

Goal:

- Conceptual setup and operation of a new organizational model of a sustainable pan-European grid infrastructure
- **Consortium:** 9 Partners → **EGI Preparation Team**

EGI Preparation Team

Members:

- Johannes Kepler Universität Linz (GUP)
- Greek Research and Technology Network S.A. (GRNET)
- Istituto Nazionale di Fisica Nucleare (INFN)
- CSC - Scientific Computing Ltd. (CSC)
- CESNET, z.s.p.o. (CESNET)
- European Organization for Nuclear Research (CERN)
- **Verein zur Förderung eines Deutschen Forschungsnetzes - DFN-Verein (DFN)**
- Science & Technology Facilities Council (STFC)
- Centre National de la Recherche Scientifique (CNRS)

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- Conceptual setup and operation of a new organizational model of a sustainable pan-European grid infrastructure
- **Consortium:** 9 Partners → **EGI Preparation Team**
- NGI Representatives → **EGI Advisory Board**
- Person months: ~300
- Duration: 1 Sept 2007 – 30 Nov 2009 (27 Months)

Work Distribution

- **WP2:** EGI Requirements Consolidation
(Fotis Karayannis, GRNET)
- **WP3:** EGI functionality definition
(Laura Perini, INFN)
- **WP4:** Study of EGI legal and organisational options
(Beatrice Merlin, CNRS)
- **WP5:** Establishment of EGI
(Jürgen Knobloch, CERN)
- **WP6:** EGI Promotion and Links with Other Initiatives
(Per Öster, CSC)

EGI Design Study

Chronology:

- **October 2006:** EGEE appoints EGI Coordinator
- **February 26-27, 2007:** EGI Workshop Munich
- **May 2, 2007:** Proposal submitted to the EC within FP7-INFRA-2007-1, 1.2.1 Design Studies
- **Sept. 1, 2007:** Project start (if approved)
- **Sept. 27, 2007:** End of negotiations with EC
- **Oct. 2, 2007:** EGI Workshop

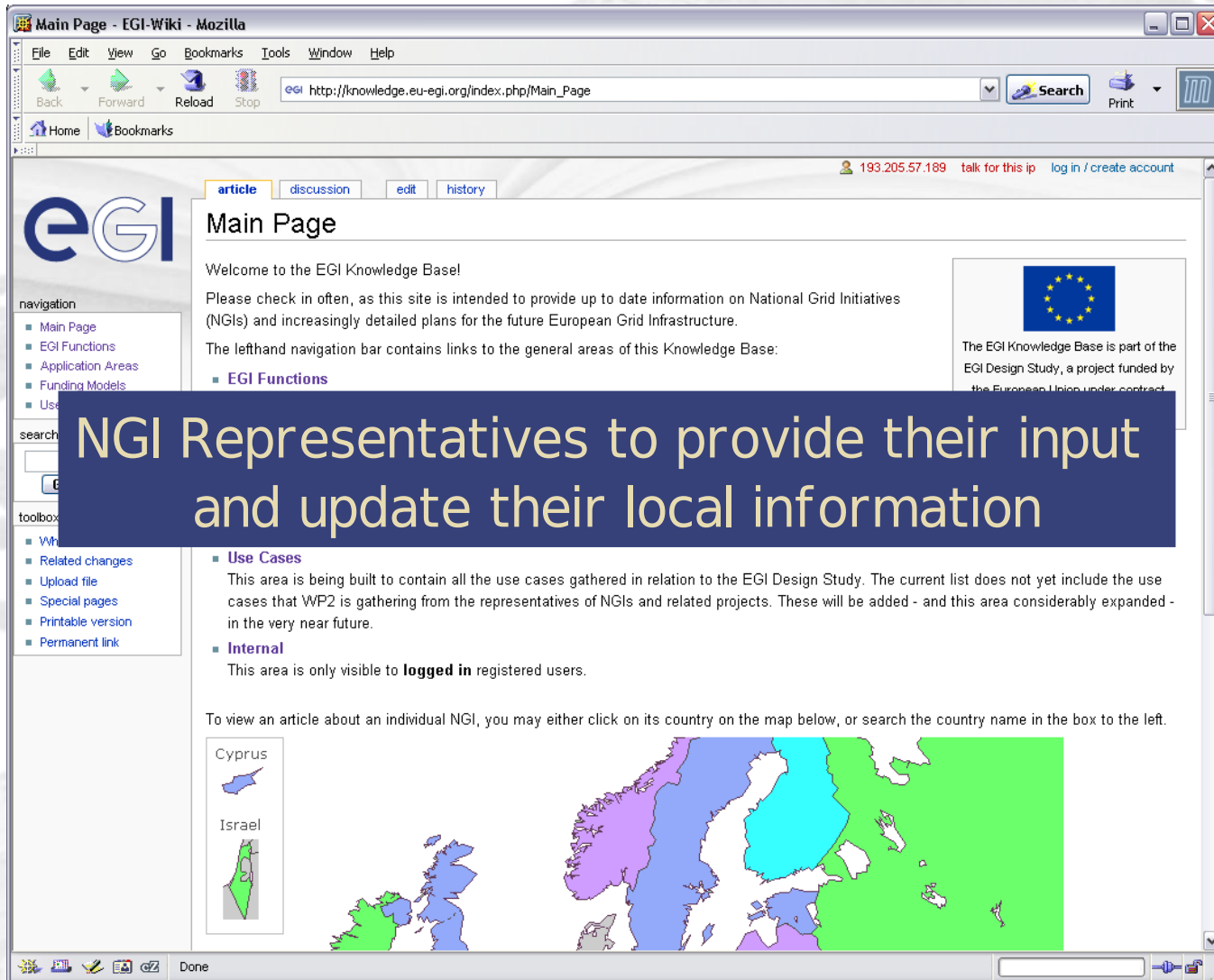
“Requirements consolidation and use case definition”

<http://www.eu-egi.org/events/workshop/oct07>

EGI Workshop Summary: Use Cases

- Attended by NGI representatives and other communities
- **First set of EGI use cases** gathered and summarised:
 - Invitation distributed to NGIs, application communities, related projects, operators, etc.
 - Total: 26 replies
(11 out 37 NGIs replied, plus 15 other replies from projects, application communities, institutes)
 - The actual use cases are much more
(1 to 8 use cases each reply)
- **Summary of use cases** will be uploaded to the Knowledge Base within 2 weeks
- 2nd Round of feedback starting end of October 2007

knowledge.eu-egi.org



NGI Representatives to provide their input and update their local information

Welcome to the EGI Knowledge Base!

Please check in often, as this site is intended to provide up to date information on National Grid Initiatives (NGIs) and increasingly detailed plans for the future European Grid Infrastructure.

The lefthand navigation bar contains links to the general areas of this Knowledge Base:

- **EGI Functions**

Use Cases

This area is being built to contain all the use cases gathered in relation to the EGI Design Study. The current list does not yet include the use cases that WP2 is gathering from the representatives of NGIs and related projects. These will be added - and this area considerably expanded - in the very near future.

Internal

This area is only visible to **logged in** registered users.

To view an article about an individual NGI, you may either click on its country on the map below, or search the country name in the box to the left.

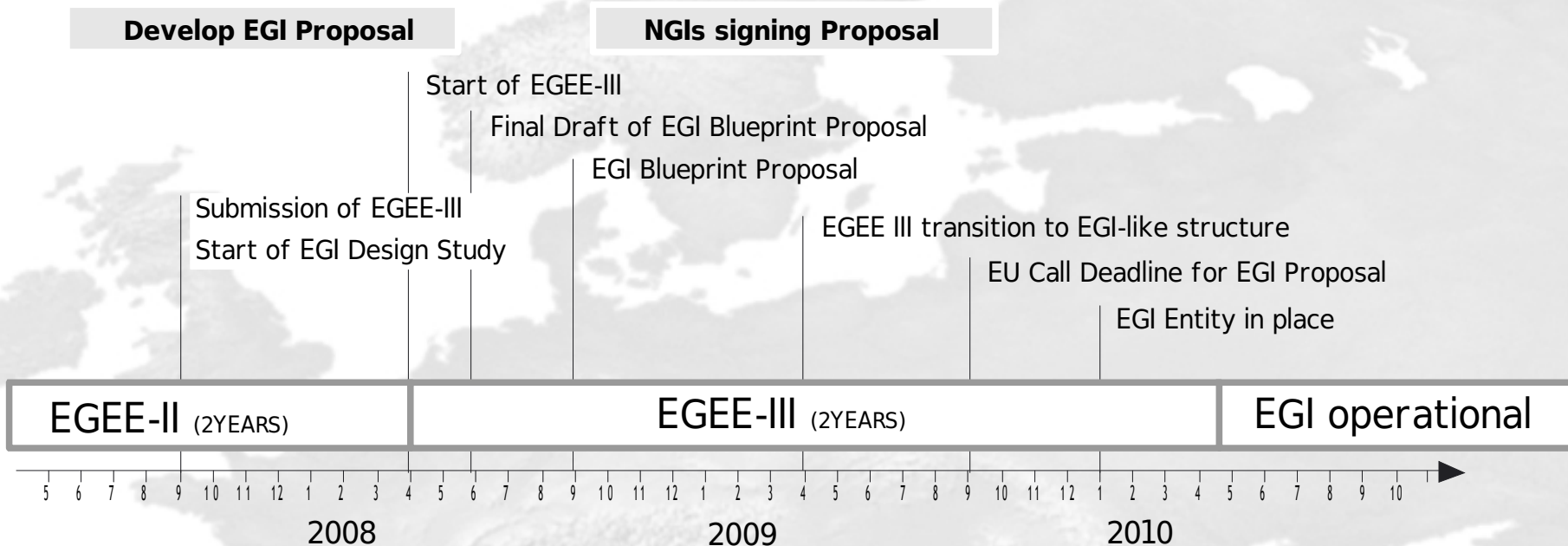
Cyprus

Israel

EGI and e-IRG

- EGI seeks **feedback from e-IRG** on the EGI requirements and use cases
- **Process:**
 - Knowledgebase and EGI use cases will be presented to e-IRG Delegates
 - e-IRG Delegates are invited to comment and provide further input
 - Results of consultation will be presented to the e-IRG Delegates

Schedule



- **March 2008 (M7):**
2nd EGI Workshop (Responsible partner: INFN)

Upcoming Deliverables & Milestones

- **Dec 2007:**
D2.1 – EGI consolidated requirements and use cases
- **Feb 2008:**
D4.2 – Options analysis of different legal structures
- **Mar 2008:**
D5.1/5.2 – Draft definition and convention of EGI organization

➔ EGI Workshop

„List of EGI functions and working model“

- **Apr 2008:** D4.3 – Guidelines for NGIs
- **June 2008:** M4.1 – EGI Blueprint publication



European Grid Initiative



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