EGI
The European Grid Initiative

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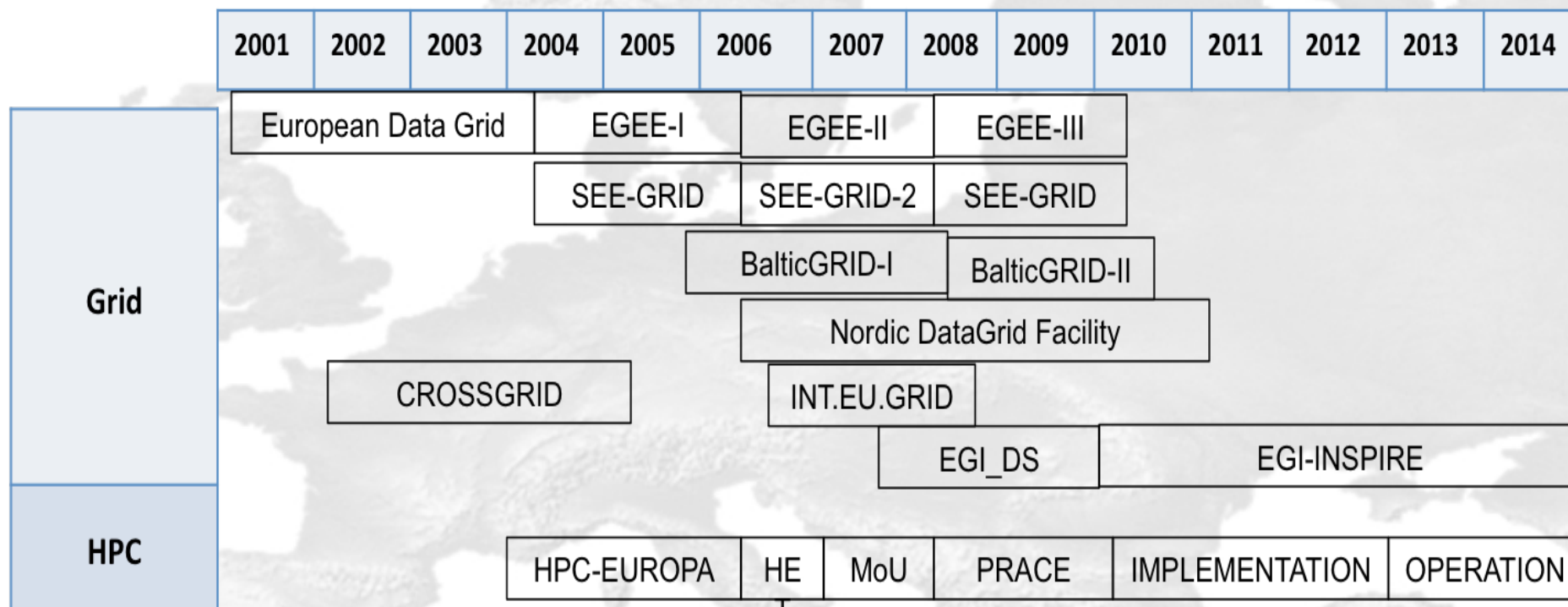
EGI.eu Executive Board

Overview

- **EGI Framework**
- **Setup of the foundation EGI.eu**
- **Technical bodies**
- **Operational bodies**
- **User Support & Services organization**
- **Perspectives**

European Grid Infrastruture

- **A network of distributed clusters**
  - Using Geant as backbone
  - Over 40K CPUs and tenths of Petabytes of Storage
- **Providing support to hundreds of scientist** in very different areas
  - Physics, Life Sciences, Chemistry, Engineering,..
- Grid Computing is a **European landmark**
  - There is no such other facility in the world

European Grid Infrastructure

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014

Grid

- European Data Grid
- EGEE-I
- EGEE-II
- EGEE-III
- SEE-GRID
- SEE-GRID-2
- SEE-GRID
- BalticGRID-I
- BalticGRID-II
- Nordic DataGrid Facility
- CROSSGRID
- INT.EU.GRID
- EGI_DS
- EGI-INSPIRE

HPC

- HPC-EUROPA
- HE
- MoU
- PRACE
- IMPLEMENTATION
- OPERATION

Cyclic project funding through EU Framework needs to be consolidated

The framework:
European Grid Initiative: EGI

- **Goal**: Establishment of a sustainable e-Infrastructure at the level of

  - National infrastructures sustained by national funds:
    National Grid Initiatives
  - International research communities legally bind in **EIROs** (eg. CERN or EMBL) or **ESFRI** projects

- **Assumption**: each of these entities is able to support their own operations and their own users

- The **level of coordination** necessary to offer those resources to external collaborators will be provided by the **European Grid Initiative-EGI**
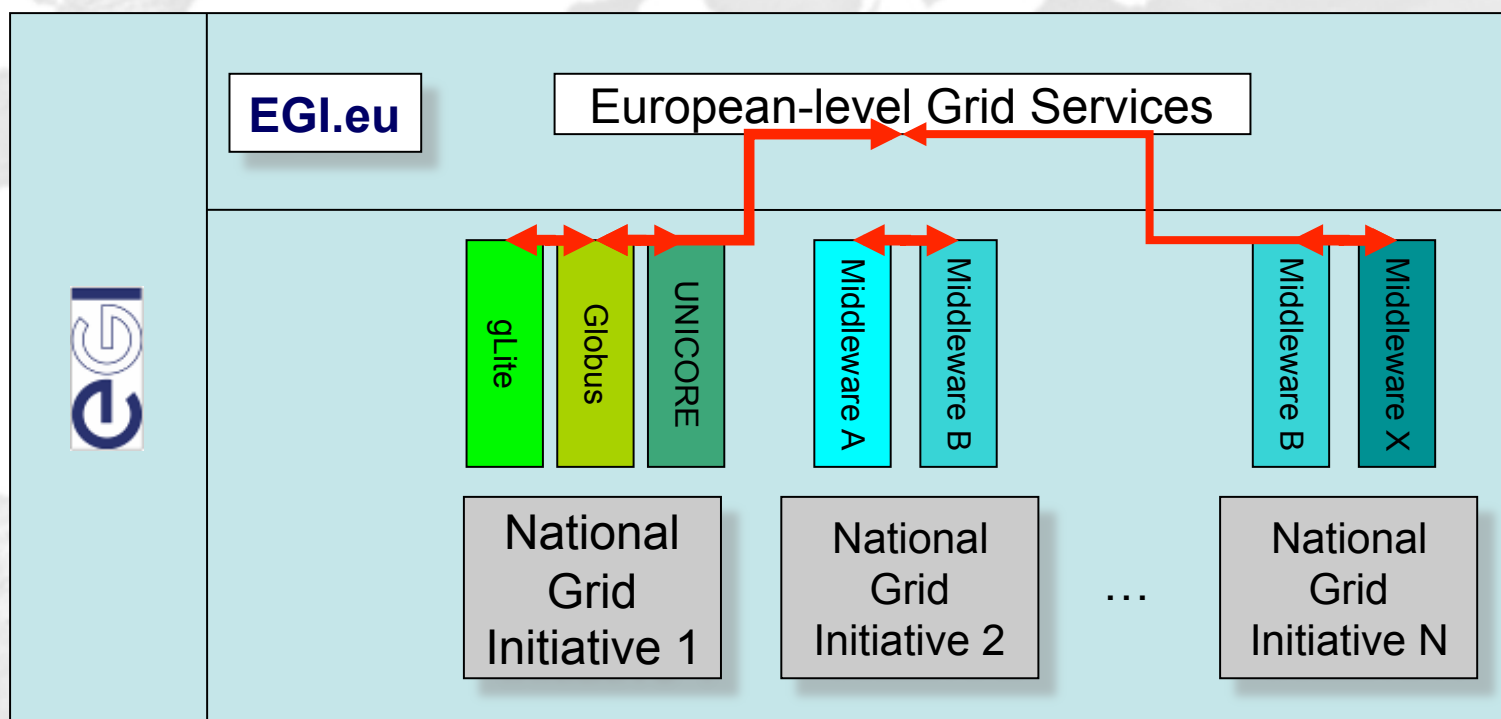
What takes being a NGI

Each NGI

- … should be a recognized national body with a **single point-of-contact**

- … should mobilize national funding and resources

- … should ensure the operation of a national e-Infrastructure

- … should support user communities (application independent, and open to new user communities and resource providers)

- … should contribute and adhere to international standards and policies

NGIs as Grid Stakeholders close to researchers

International Scientific and Research Collaboration

EGI.eu

European-level Grid Services

eGI

gLite

Globus

UNICORE

Middleware A

Middleware B

Middleware B

Middleware X

National Grid Initiative 1

National Grid Initiative 2

…

National Grid Initiative N

The design study: EGI-DS

- The project **EGI Design Study** (Sept. 2007- Dec. 2009)
  - Dedicated to analyze and define the functions to be fulfilled by EGI
    - **User Community support**
    - **Operations and Security**
    - **Middleware development and support: UMD**
    - **Management**
- Concluded with the publication of the EGI-DS Blueprint
  - Guidelines, description of tasks needed to build the European Grid Infrastructure as a service for researchers

  http://web.eu-egi.eu/documents/other/egi-blueprint/

Some Definitions

- **EGI: European Grid Initiative**
  - EGI is "the collaboration" defined by the EGI-DS Blueprint which is the collection of NGI's and EIROs
  - EGI has a Council to take care of general policies and long term strategy

- **EGI.eu**
  - EGI.eu is the operational entity to provide general services and coordination useful to all EGI stakeholders
  - EGI.eu needs to have a legal entity to perform its duties: foundation
  - EGI.eu has a small Executive Board to take care of the legal and management issues of the foundation and has the Council as supervisor

The design study: EGI-DS

- The project **EGI Design Study** (FP7, Sept. 2007- Dec. 2009)

  - Organized the participation of the countries in EGI by assembling the EGI Council
  - Fostered the creation of National Grid Initiatives in the countries
    - Letters of Intent were requested to the Ministries
    - A Memorandum of Understanding was devised in order to move ahead before having formal Statutes
  - Organized the election of the physical location of EGI.eu
    - Amsterdam (Science Park)
  - Organized and follow-up on the developments of the first EGI Councils (July 2009 – December 2009)

Development of EGI.eu

- **EGI Council first summit on 9th July 2009 in Amsterdam**
  - Participated by all the countries and EIROs that had signed the *Letter of Intent* and *Memorandum of Understanding*
    - **34 Countries + 2 EIROs**
  - Starting point for discussions about the statutes of **EGI.eu**
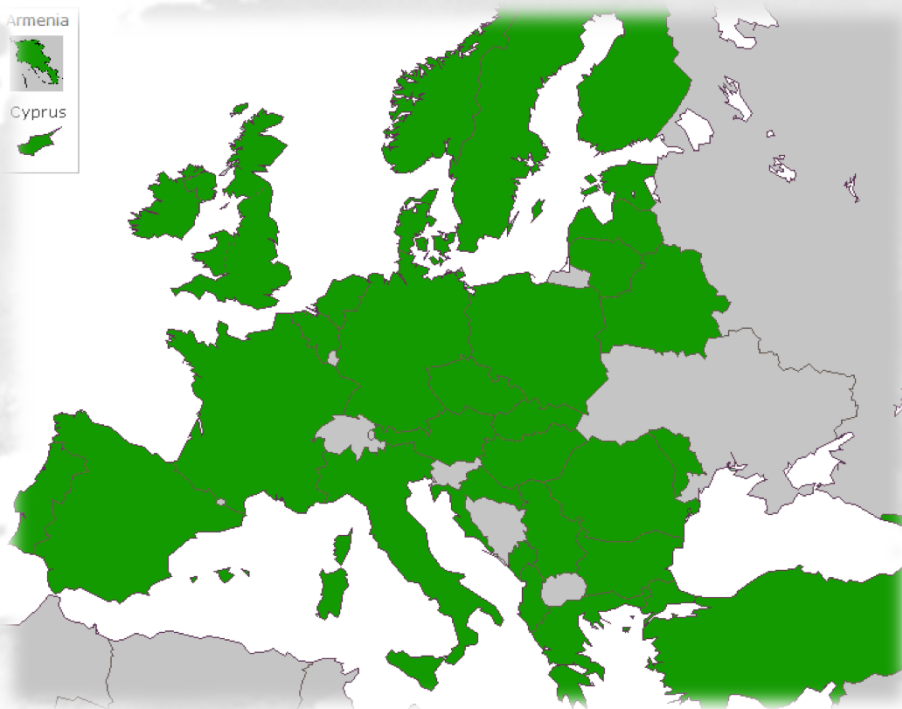
EGI Statutes

The Council has been defining the EGI statutes along 2009-2010

– Define the financial and economic rules of the organization

  • **Membership fees, budget organization, etc…**

– Define the Role of the Council as governing body of the organization

  • **Each NGI and EIRO has a representative in the Council**

– Define the Role of the Executive Board

  • **Legal representation of EGI.eu (civil responsibility, liability, etc…)**

  • **Follow-up of the foundation**

– Define the Role of the Director

  • **Daily running of the foundation EGI.eu at the request of the Executive Board**

See the statutes in **http://www.egi.eu/about/governance/**

Foundation of EGI.eu: 8th february 2010

Notary

Michal Turala (PL)

Neil Geddes (UK)

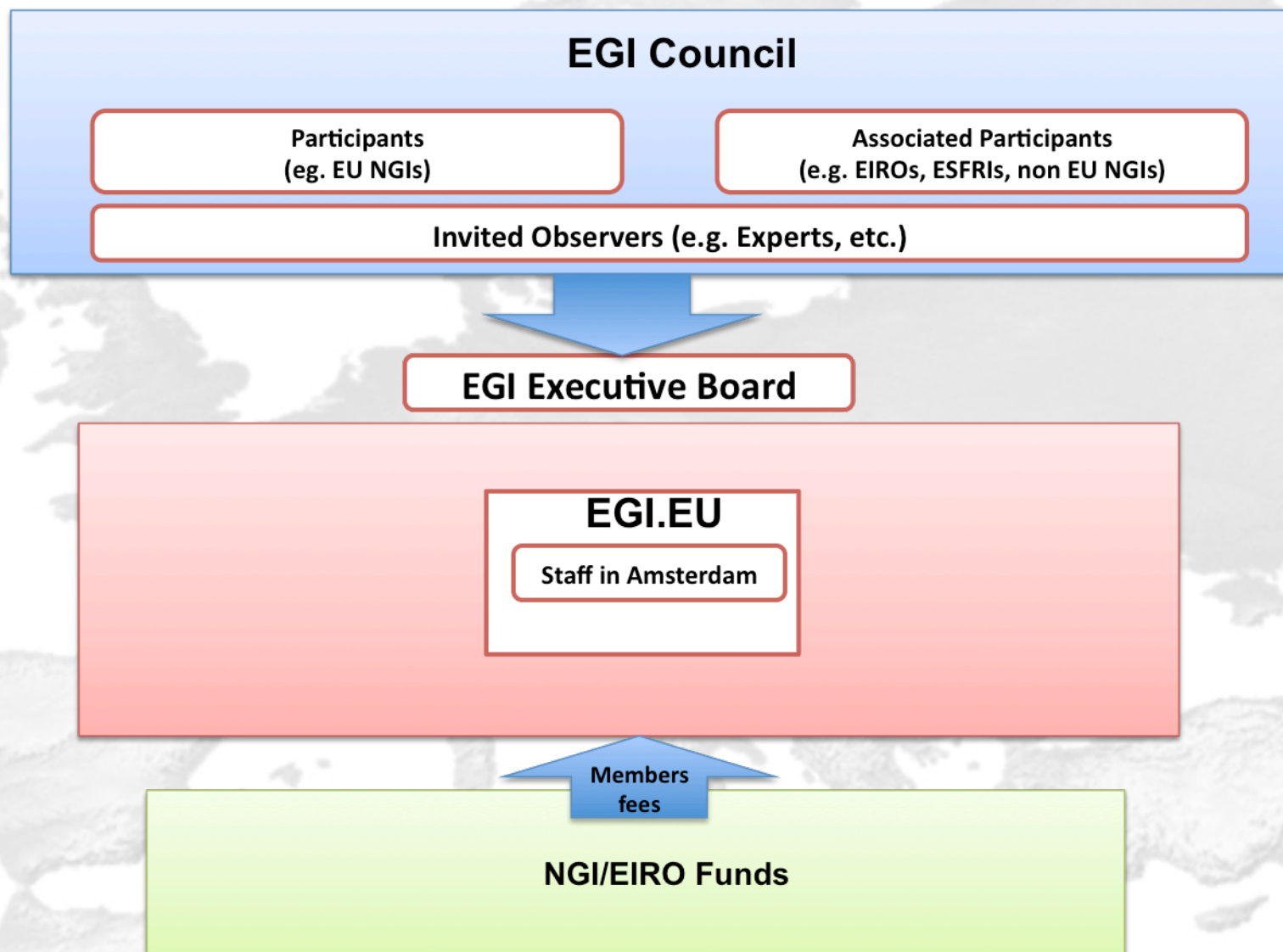Isabel Campos (ES)

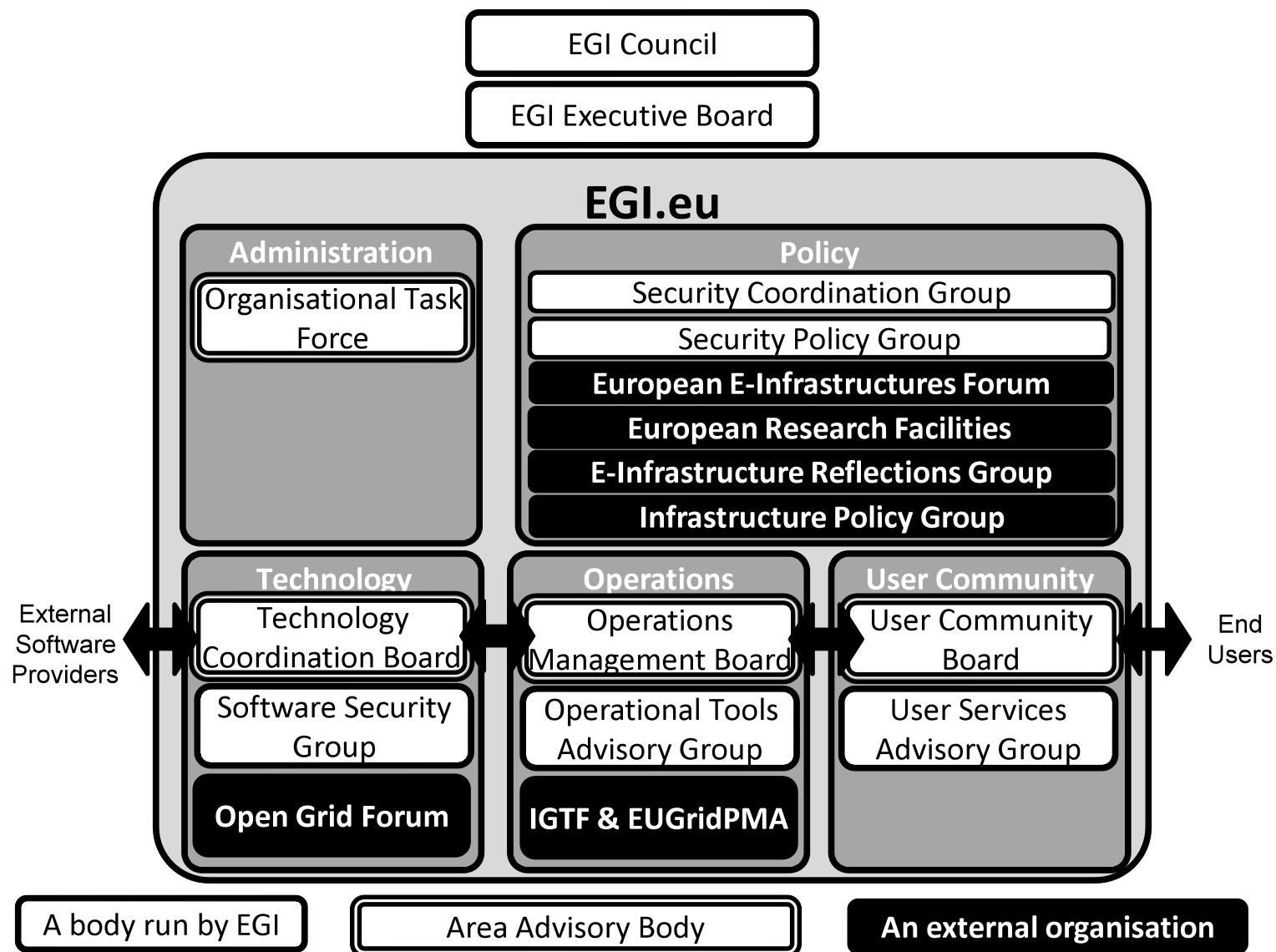Arjen van Rijn (NL)

Sverker Holmgren (SE)

Dieter Kranzmueller (DE)

Per Oster (FI) as EGI Council Chair

• EGI.eu was founded Monday 8 February 2010 at the notary's office in Amsterdam.

• The EGI council "approved" the statutes for the new EGI.eu foundation

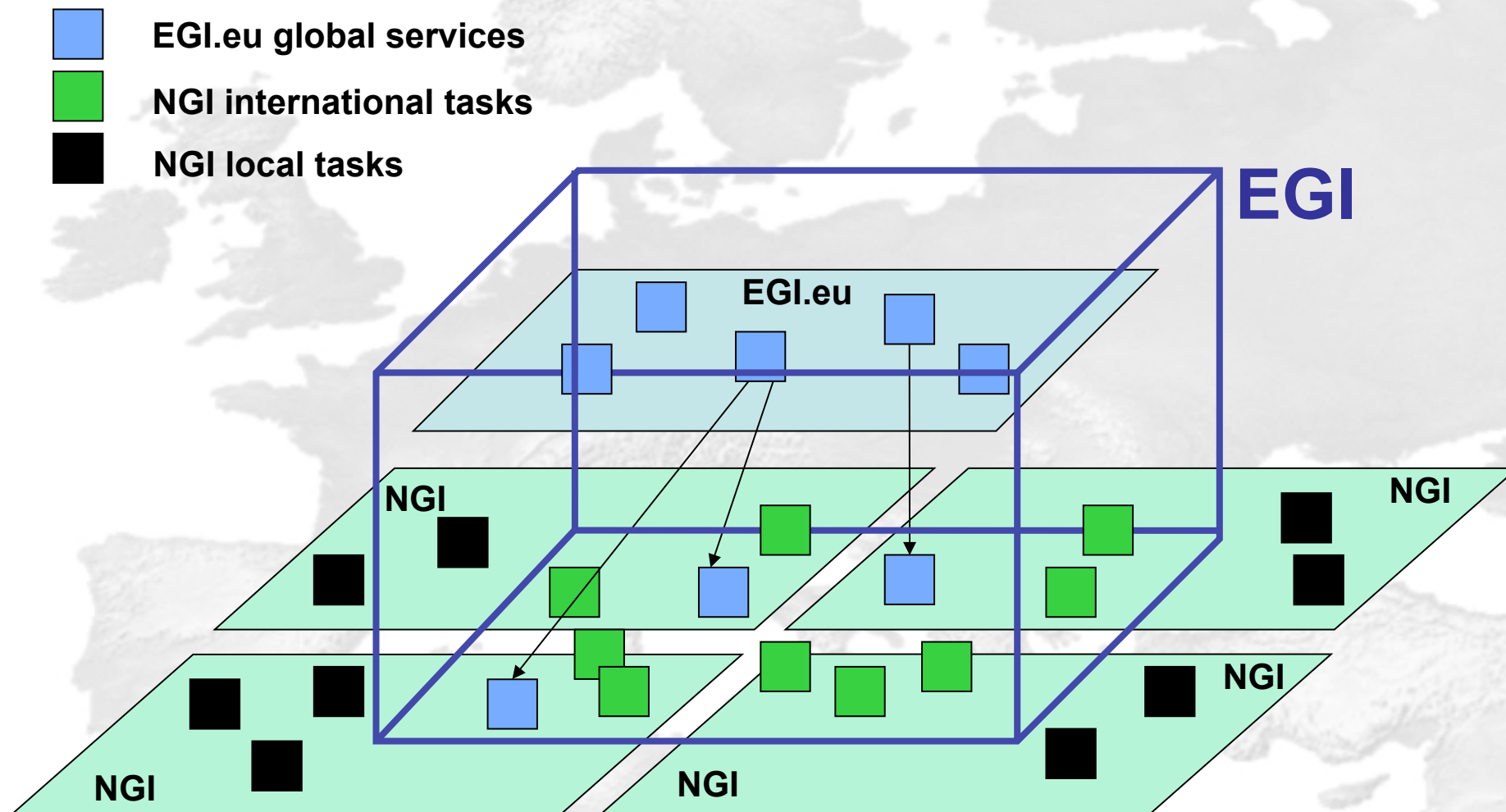• The Council also elected its Executive Board of 7 members. Currently "patrons" of the EGI.eu foundation

EGI.eu Government

EGI Council

Participants
(eg. EU NGIs)

Associated Participants
(e.g. EIROs, ESFRIs, non EU NGIs)

Invited Observers (e.g. Experts, etc.)

EGI Executive Board

EGI.EU

Staff in Amsterdam

Members
fees

NGI/EIRO Funds

Technical and operational bodies in EGI

EGI Council

EGI Executive Board

EGI.eu

Administration

Organisational Task Force

Policy

Security Coordination Group

Security Policy Group

European E-Infrastructures Forum

European Research Facilities

E-Infrastructure Reflections Group

Infrastructure Policy Group

Technology

Technology Coordination Board

Software Security Group

Open Grid Forum

Operations

Operations Management Board

Operational Tools Advisory Group

IGTF & EUGridPMA

User Community

User Community Board

User Services Advisory Group

External Software Providers

End Users

A body run by EGI | Area Advisory Body | **An external organisation**

EGI levels of operation

EGI.eu global services (light blue)
NGI international tasks (green)
NGI local tasks (black)

EGI

EGI.eu

NGI

EGI Financial Model

- Long-term vision:
  - **Management**, funded through membership fees
  - **Operations**, funded through usage charges
  - **Innovations**, funded through co-funded grants (EC and others)

- Transition phase:
  - Strong support from EC required to establish EGI model and to keep it at the leading edge of technology
  - Usage fees will not be introduced
  - **EGI.eu Management**, funded through membership fees (1M€/year)
 - **Operations + Innovations**, funded through co-funded EC grant

THE PROJECT EGI-INSPIRE

INTEGRATED **S**USTAINABLE **P**AN-EUROPEAN
INFRASTRUCTURE FOR **R**ESEARCHERS IN **E**UROPE

The EGI-InSPIRE Project

- It is a 4 year project with 25M€ EC contribution
 - Project Total cost 69M€
  - Staff ~ 170FTE

Project Partners (48)
EGI.eu, 37 NGIs, 2 EIROs, 8 AP

Un-Funded

Funded

EGI-InSPIRE Funded partners
EGI-InSPIRE Unfunded partners

19
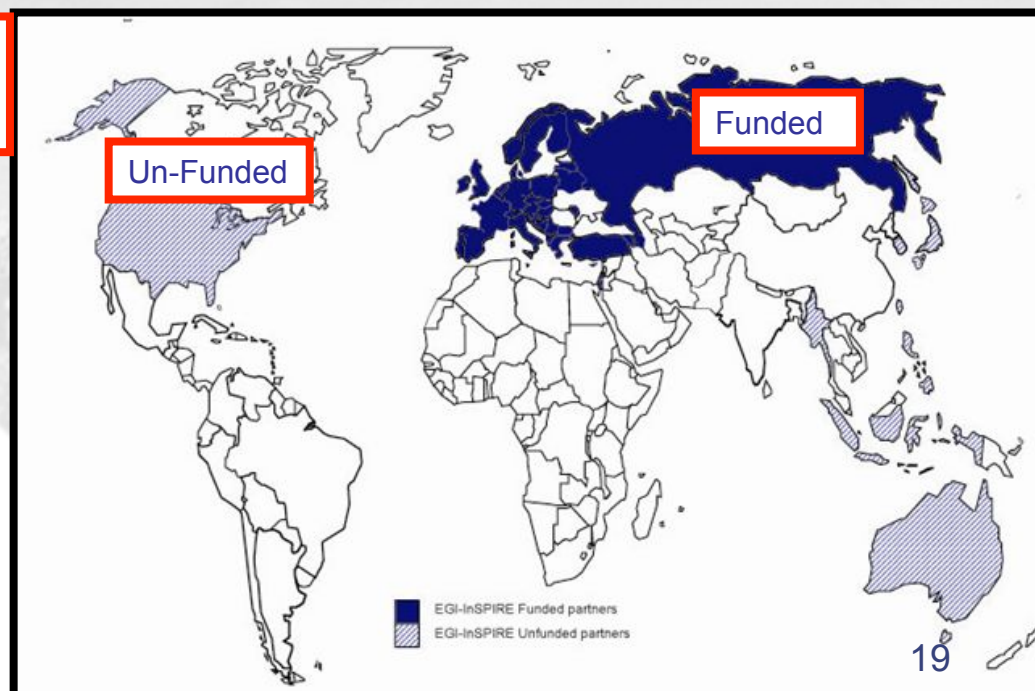
EGI-InSPIRE Objectives

- EGI-InSPIRE is a 7th FP project
- Started 1st of May 2010 will go on 4 years
  - Transition to a sustainable federated European e-infrastructure built from national resources
  - Deliver production quality services to all its user communities and users
  - Provide a scalable user support model for international research communities within Europe and their worldwide collaborators
  - Interoperation and interoperability with other e-infrastructures

# Organization of EGI-InSPIRE
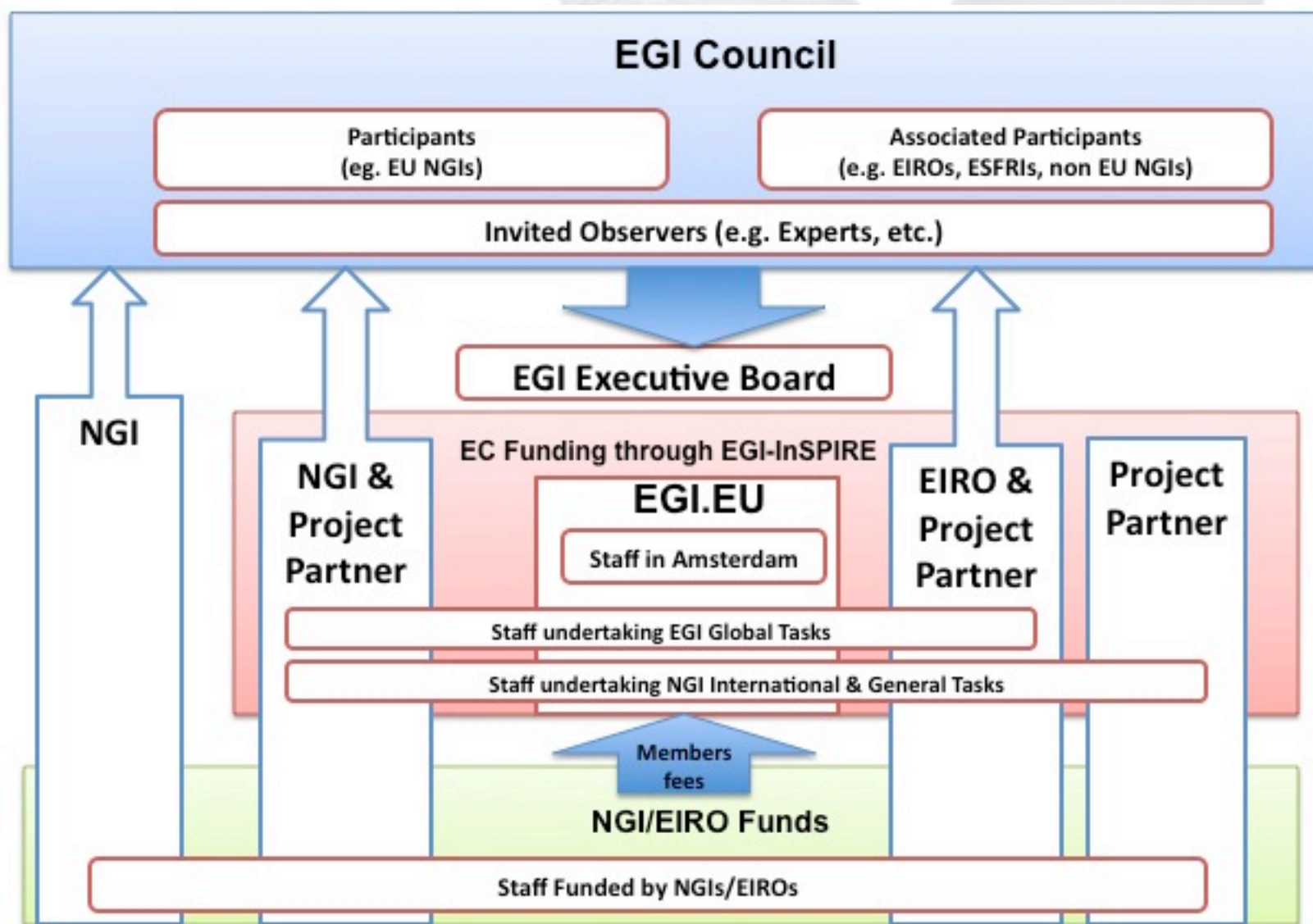
Who does what in EGI-InSPIRE?

- Internal National Infrastructure & Activities
  - Infrastructure that is not visible internationally
  - Activities with no external dependency
- NGI International Tasks
  - The 'service' interface to your national grid
  - Community defined that EGI will enforce
- EGI Global Tasks
  - Provided by EGI.eu through community partners
  - Services needed for the whole EGI community

EGI: Technical and Software design

- Recall some design facts:
  - EGI federation of national grid activities
  - EGI is not developing middleware
  - EGI does not control the resources its users use
- As a consequence:
  - EGI will need to integrate different middleware
  - EGI needs to identify interoperable solutions
- EGI must work with multiple software providers and deployments to achieve its goals

EGI Software Infrastructure
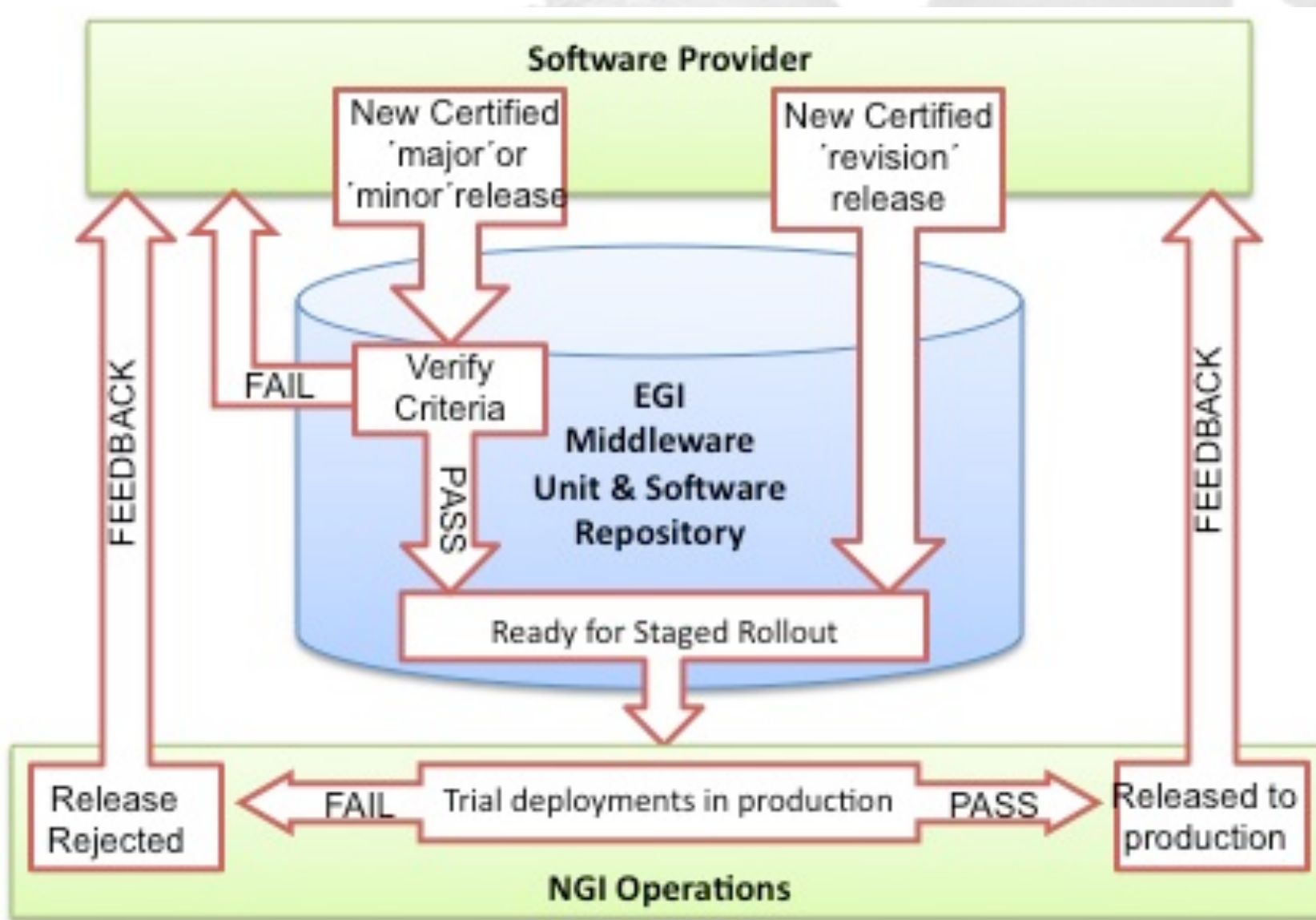
EGI Operations: Objectives

- **Continued operation and expansion** of todays' production infrastructure

- "Set up an organisation that will enable the sustainable provision of grid services to the European scientific community"

  - **EGI global operations services**
  - **NGI/EIRO operations services**

- "The EGI should ensure a seamless and progressive transition in service provision from the current arrangements to a new scheme that is more sustainable organisationally and financially"

  - **Extension of accounting to support different business models**

- "The EGI should promote close collaboration and interoperability with similar infrastructures in other parts of the world."

  - **Extension of operational procedures and policies**
  - **Enhancement of monitoring and accounting tools**

EGI Operational groups and boards

- **Security Policy Group (SPG)** development and maintenance of security policies that define the expected behaviour of sites and users to ensure a secure distributed computing infrastructure (NGIs, sites, application communities)
- **Software Security Group (SSG)** has representatives from the software providers contributing software to EGI in order to ensure a common coherent approach to the security frameworks.
- **Security Coordination Group (SCG)** coordination between the NGI operational security groups, the software security groups, the security policy activities both inside EGI and in other infrastructures and projects
- **User Services Advisory Group (USAG)** has representatives from the user communities to feedback to the EGI.eu on the user facing operations tools and support processes.
- **Operational Tools Advisory Group (OTAG)** has representatives from the NGI/EIRO Operations Centres and provides feedback on the operational tools and how they need to be adapted in response to EGI's requirements.

User Support & Services in EGI

- Support User Communities
  - Researchers in International Collaborations
  - Scale up from the single VO to a community
- Provide a federated Helpdesk linking:
  - Discipline specific support (e.g. Bio Apps)
  - National infrastructure support (e.g. NGS)
  - Generic services (e.g. Training)
- Provide core services to support users
  - Manage VOs, Application DB, Training DB

User Support & Services in EGI
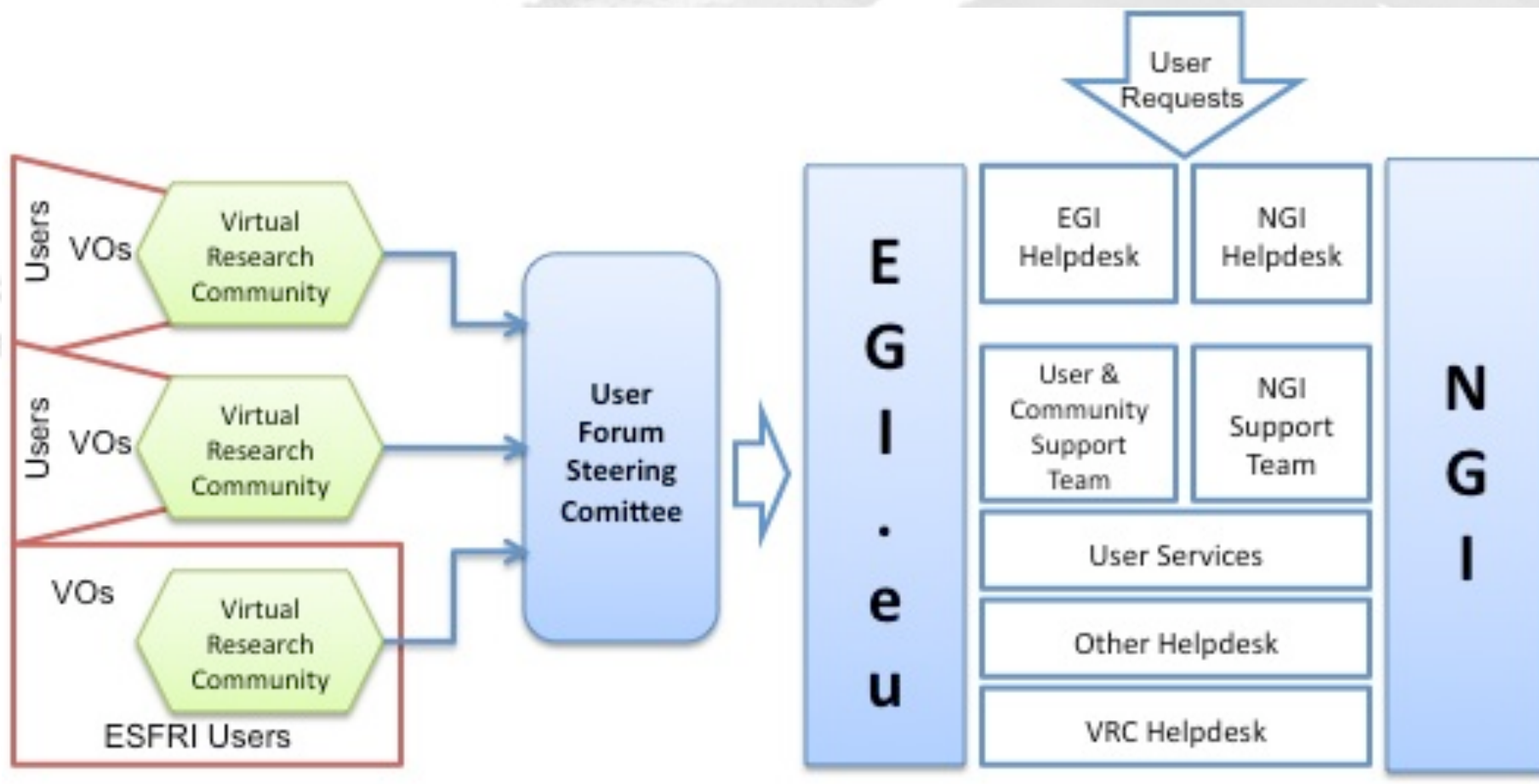
The role of Ibergrid in EGI

IBERGRID will operate inside EGI as a single entity

- **See upcoming presentation "Ibergrid transtion to EGI"**

The Spanish and Portuguese NGIs have joined forces to take an active role in the global tasks of EGI

GLOBAL EGI TASKs UNDERTAKEN BY IBERGRID

- **EGI Operations**
  - Middleware rollout will be coordinated from Ibergrid
    - **See Mario David presentation "Provisioning Grid Middleware for EGI"**
  - Accounting portal and operational developments related to accounting
    - **See Javier López presentation "The Metrics Portal: a tool for EGI operations"**
- **EGI Technology**
  - Middleware certification and validation will be taken care by Ibergrid
    - **Definition of requirements for the UMD**
    - **Certification and validation process definition**
- **EGI Support to User Technical Service**
  - User Technical Services: tools available for user communities

Perspectives

- **EGI has began to work**
  - A legal entity, EGI.eu has been created to coordinate the European Grid
- **EGI-InSPIRE will undertake the migration** of the European Grid e-infrastructure and its services into a new sustainable governance model
  - The NGIs are already supporting over 90% of the total costs implied by EGI-InSPIRE.
- **EGI will evaluate multiple sources of funding** including new business models where services are to be offered for a fee or alternative direct contributions
- The union of **ES-NGI and INGRID in IBERGRID** has turned out to be a successful step towards a stronger implication of the Iberian peninsula in the development of EGI
  - **We are not a "marriage of convenience", we are real collaborators !**