

European Grid Infrastructure – the future for EGEE

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Training and induction

Application Porting Support

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- **Vision of European e-Infrastructures**
- **EGEE-III and EGI-DS**
- **EGI structure**
- **EGI services for User Communities**

- **Project based funding from 2004 (3x2 years)**
- **Many scientific activities are becoming dependent on the existence of EGEE Grid**
 - LHC starting
 - Large scale grid collaborations such as biomed, fusion, ...
 - People are using EGEE Grid regularly for their scientific work
- **EGEE-III project will end in April 2010**
 - What will happen after this date?
 - Is it safe to depend on EGEE (and in general, Grid) infrastructure?
- **The community needs a longer term perspective**

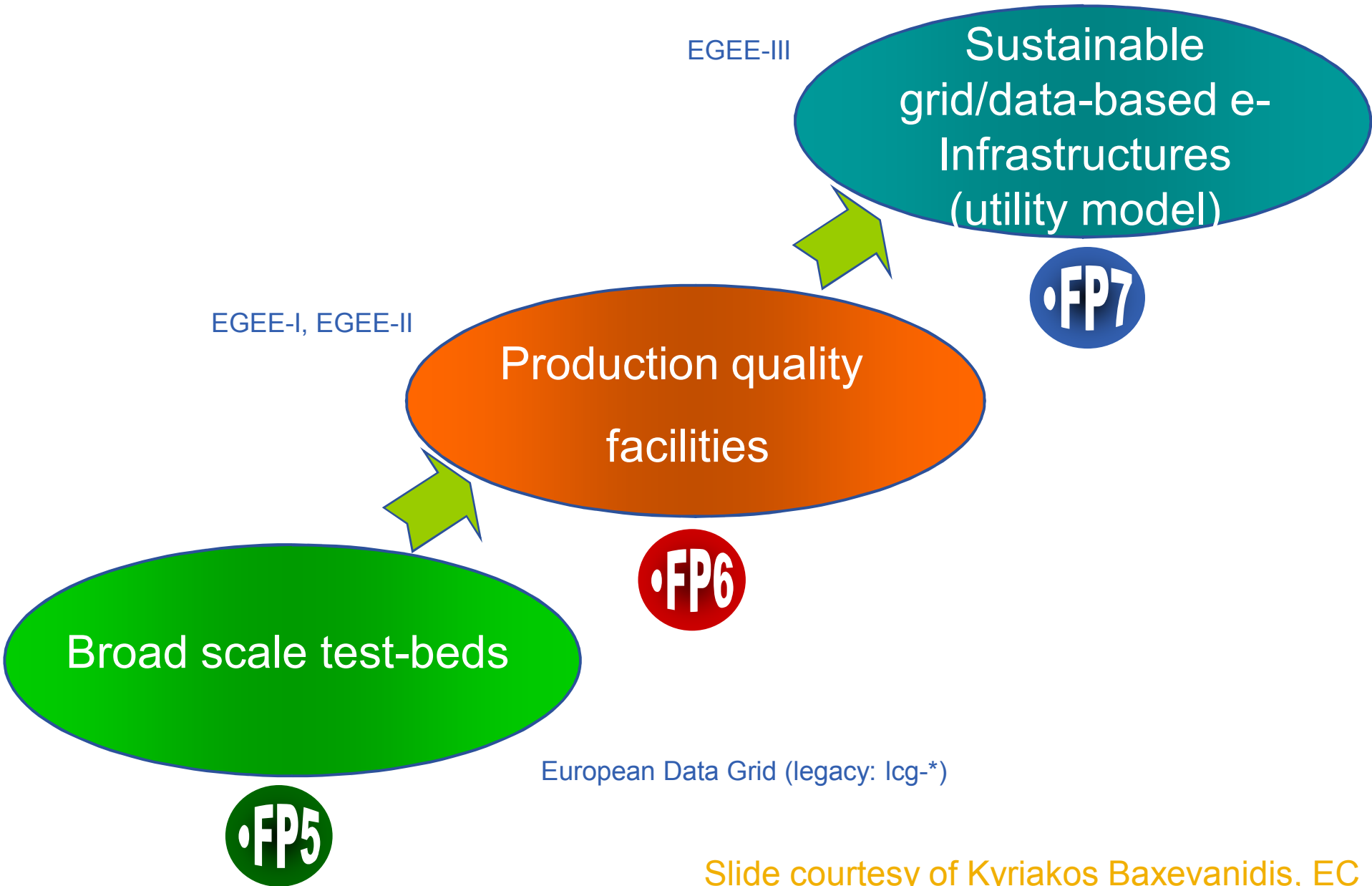
“...for Grids we would like to see the move towards long-term sustainable initiatives less dependent upon EU-funded project cycles”

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

A universal e-Infrastructure for research⁽¹⁾

“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”

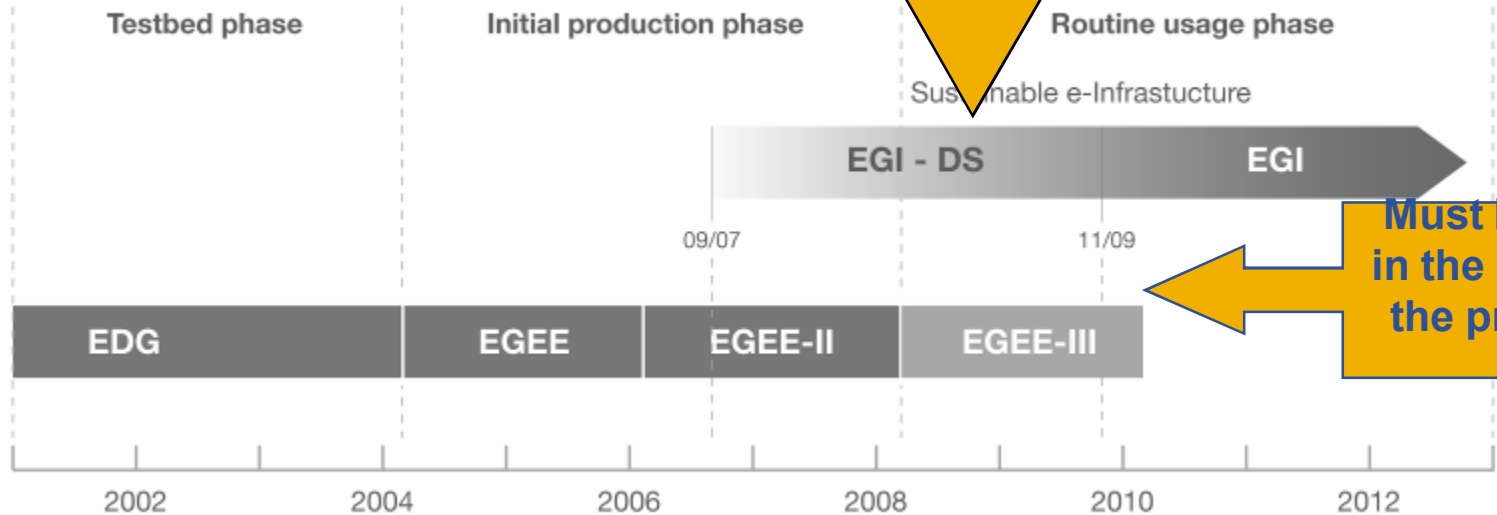
(1) Malcolm Read (Ed.) http://www.e-irg.org/meetings/2005-UK/A_European_vision_for_a_Universal_e-Infrastructure_for_Research.pdf



- **Solution based on a combination of**
 - an infrastructure project:
 - EGEE-III - www.eu-egee.org
 - a study project:
 - European Grid Initiative Design Study - web.eu-egi.eu
- **EGEE III**
 - Extension of EGEE II for two year (till April 2010)
 - Taking care of immediate future
 - Guarantees continuation of production and development
- **EGI Design Study**
 - Answer to: What and how [to do] after EGEE III?
- **The two projects run in parallel**
- **EGI_DS defines EGI structure**
- **EGEE-III performs transition to it**

- Need to prepare permanent, common **Grid infrastructure**
- Ensure the long-term sustainability of the European e-Infrastructure independent of short project funding cycles
- Coordinate the integration and interaction between National Grid Infrastructures (NGIs)
- Operate the production Grid infras... level for a wide range of scientific disciplines

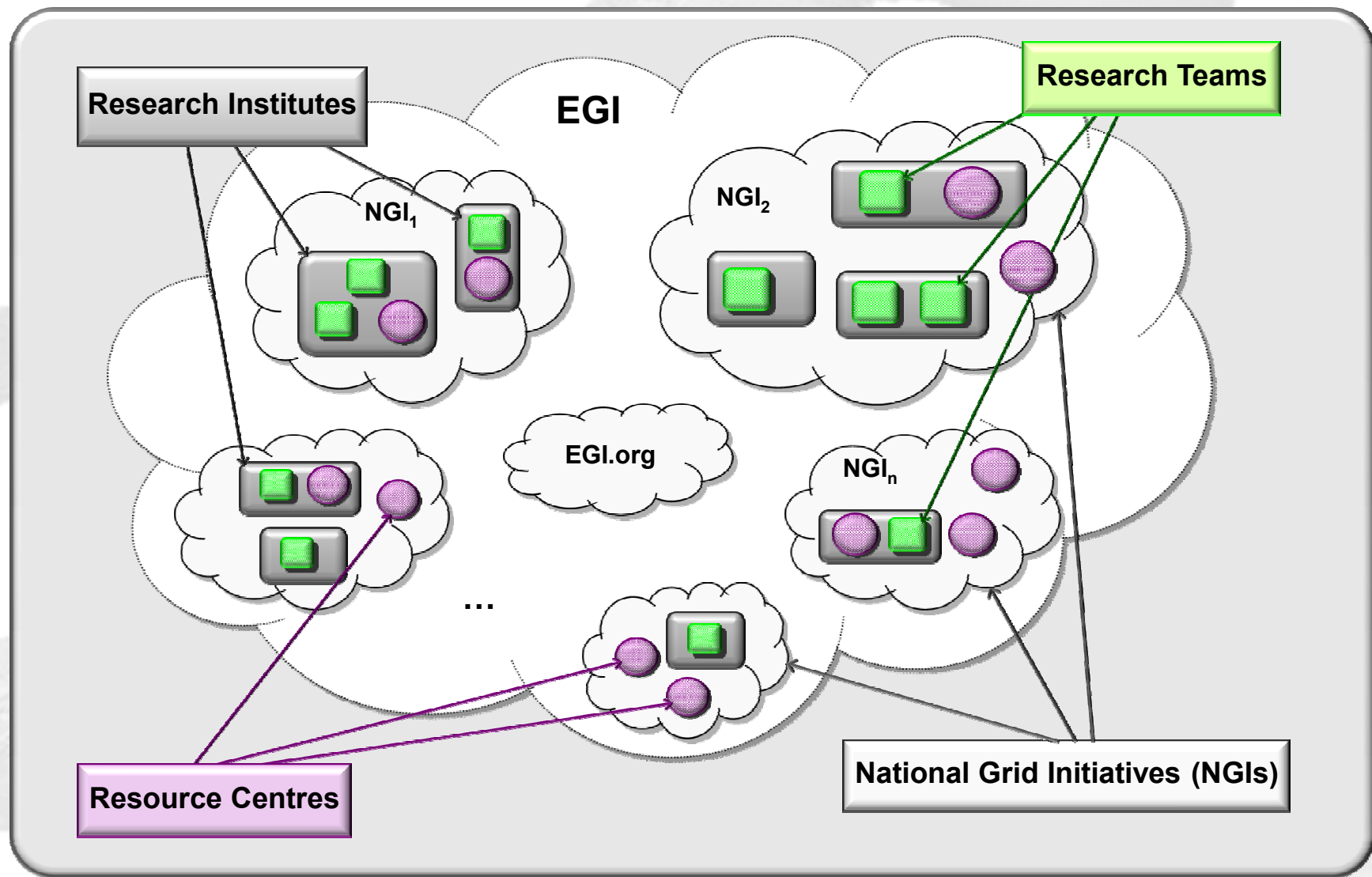
EGI Blueprint document:
22/12/2008
<http://web.eu-egi.eu/blueprint>



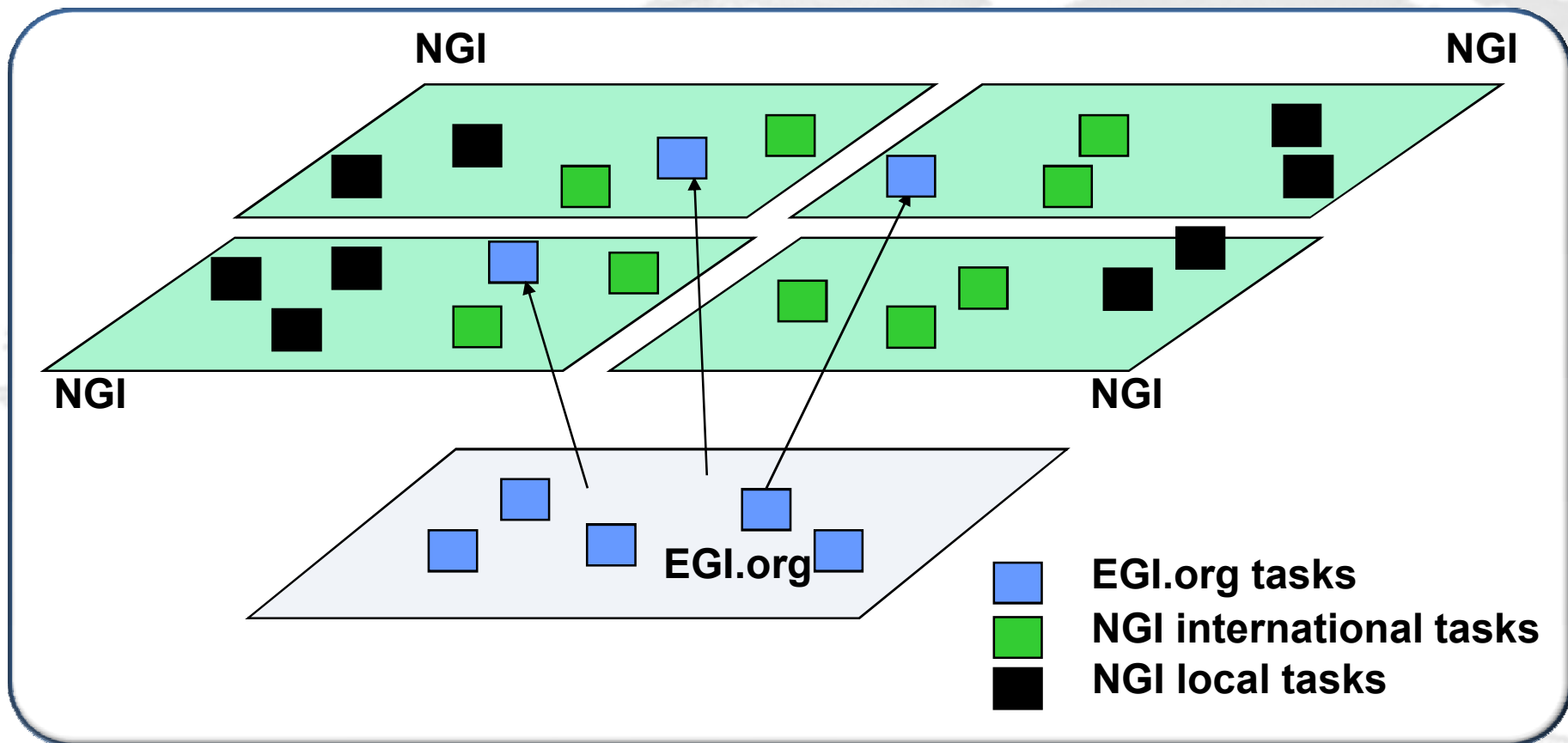
Must be no gap in the support of the production grid

- **EC projects** → sustainable pan-European Grid infrastructure **EGI (European Grid Initiative)**
- **EGI customers**
 - **National Research Institutions: Universities, research laboratories, national research organisations, etc.**
 - **Research Teams operating throughout Europe that come together in national and European Virtual Organisations (VOs), whose members are the DIRECT USERS**
- **Associate members:** European International Research Organisations (EIRO) with formal representation in EIROFORUM or ESFRI, having been accepted as EGI members (e.g. CERN, EBI, ...)
- **National Grid Initiatives (NGIs)**
- **Partners: the Middleware Consortia (MC)**, which provide the open source middleware needed to implement the European e-Infrastructure:
 - **gLite** www.glite.org
 - **UNICORE** www.unicore.eu
 - **ARC** www.nordugrid.org/middleware
- **National/international funding agencies**

The EGI Actors



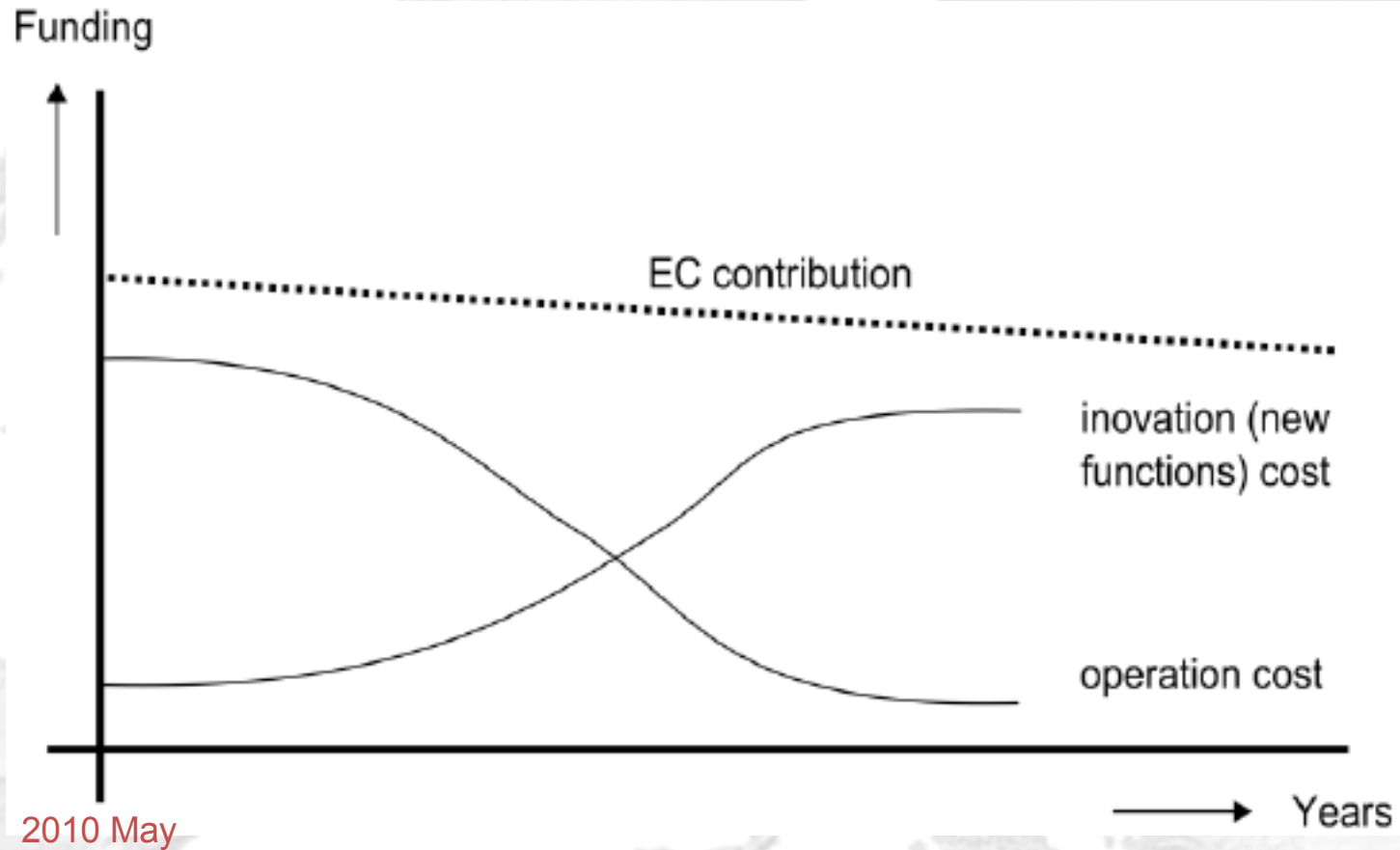
EGI.org and NGI Tasks



Resources and Funding

- EGEE and similar European Grid infrastructure projects rest on three pillars for financial support:
 1. Co-funding by the EC
 2. Matched national funding
 3. National/institutional funding for computing infrastructures and their operation
- Primary EGI funding is at the national level
- EC funding for
 - Coordinating national efforts
 - Activities spanning several countries
 - Initial funding during startup
 - Supporting innovation

Expected funding evolution

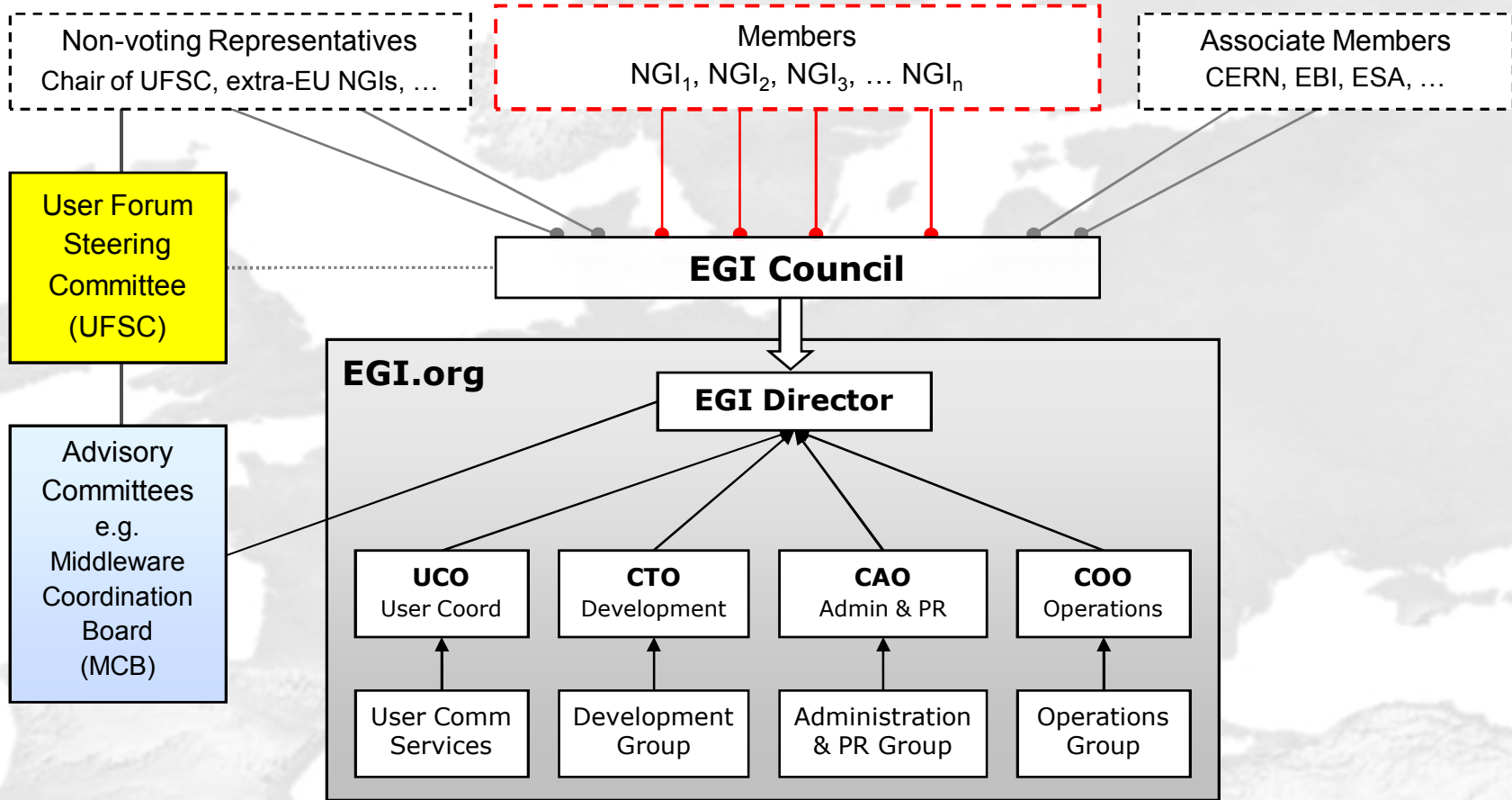


Expected resources in NGIs

Task	Small NGI	Medium NGI	Large NGI	“Sum”
Operations and Security	2-4 FTE	5-10 FTE	14-22 FTE	225 FTE
International User Community Services	0.5-1.7 FTE	1-2.5 FTE	1.5-4 FTE	60 FTE
Specialised Support Centres				50 FTE

Based on current experience
These resources exist in countries with operational grid infrastructure

EGI Management Structure



- **EGI.org is the coordinating body of EGI**
- **Responsibilities:**
 - the **User Community Services**, intended to provide support to the Users belonging to international scientific communities that run their applications on the grid → provided **by NGIs and Associate Members** with the coordination and support of EGI.org
 - the EGI infrastructure **operations and security** → provided by the **NGIs under the coordination of EGI.org**
 - **maintenance, support and standardisations of the middleware** used in EGI, provided by the **Middleware Consortia under the coordination of EGI.org**
 - **EGI management and external liaison functions**, which are responsibility of **EGI.org**

Expected resources for EGI.org

Costs for	EGI.org Costs (in FTE/a)
Operations	17
Middleware interfaces and final certification	8
User Community Services	11
External Liaison Functions	4
EGI.org Management and Administration	11
Total	51 Persons

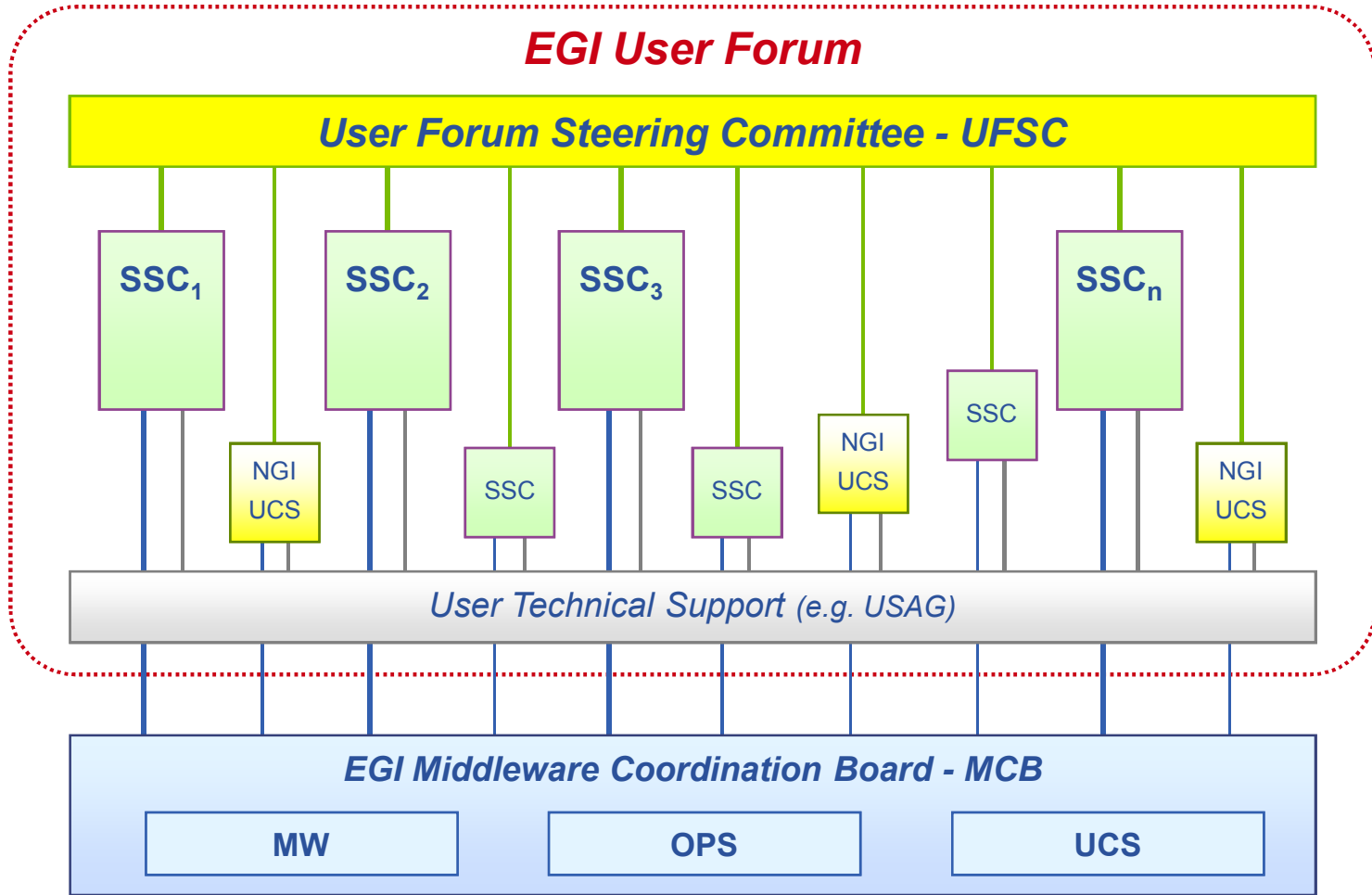
- Research teams are organised in **user communities**
- User communities will be supported by **User Community Services (UCS)** provided by the **NGIs**
 - gathering **requirements** from the user communities
 - integrate useful **“external” software**
 - establishing **Science Gateways** that expose common tools and services
 - establishing technical **collaborations with the large European research infrastructure projects** (e.g. ESFRI)
 - maintenance of **repositories, FAQs, wikis**, etc.
 - Maintaining a European Grid **Application Database**
 - Organising European **events** such as **User Forum** meetings and **topical meetings**
 - Providing **services for new communities**
 - Documentation and training

- **EGI User Forum (UF)**
 - established by the communities themselves
 - provides representation to **all** user communities, and is not expected to have special restrictions on its composition
 - UCS representatives from the NGIs – whether or not they are organised as SSCs – will participate in the User Forum
 - will establish a **Steering Committee (UFSC)** which interacts directly with EGI.org management and with the EGI Council via a **Chairperson**
- **EGI Specialised Support Centres (SSCs)**
 - an **SSC** is defined as a centre (or cluster of activities) that has a formal relationship with **EGI**
 - established by the user communities

- **Responsibilities:**

- a cohesive community behind it that is able to **take ownership** of the SSC and to **drive its evolution**.
- a **European-level existence**. There will be national or regional communities, but those should be served by individual NGIs until the underlying community spans a couple European countries.
- a **fairly long lifetime** (minimum 2-3 years).
- will report facts and figures about their use of EGI in order to help EGI (and its funding agencies) understand the scope of the work accomplished with EGI.
- are expected to follow the defined EGI policies (both security and operational policies)
- are expected to operate transparently allowing a clear view of the SSC's activities and making the list of provided services available to the full EGI community
- **Organized with “bottom-up” approach: driven by user communities**

- **SSCs:**
 - **User Technical Support team**
 - covers the day-to-day technical needs
 - assists in collecting and transferring requirements and feedback from the user communities to EGI
 - **Operations Help-Desk team**
 - **Grid Planning team**
 - participates in the EGI Middleware Coordination Board
 - **Front Desk services**



- SSCs do not require full NGI consensus to be established
- Initial SSCs to be defined during the drafting of the EGI proposal
 - **Scientific / vertical SSCs: scientific communities**
 - **Support / horizontal SSCs: provide services for the whole EGI user community**
- EGI_DS and EGEE are working with the user communities to help define these entities
 - **SSC workshops:**
 - <http://indico.cern.ch/conferenceDisplay.py?confId=55097> (5 May)
 - <http://indico.cern.ch/conferenceDisplay.py?confId=60563> (1 July)
- In the future, SSC proposals will be evaluated by the EGI Council in consultation with the User Forum Steering Committee

- **EGI: A sustainable grid infrastructure in Europe**
- **EGEE-III mid term solution, provision of grid services**
- **EGI_DS define EGI concept**
 - EGI blueprint
- **Main EGI stakeholders: NGIs**
- **User communities in EGI will be served by:**
 - SSCs: spanning across countries
 - NGI UCSs: services of one NGI at international level
- **Your SSC (and NGI) representatives**
 - SSC workshops

Thank you