



Enabling Grids for E-science

# *EGEE support for HEP and other applications*

*Bob Jones*  
*EGEE-II Project Director*  
*CERN*



[www.eu-egee.org](http://www.eu-egee.org)



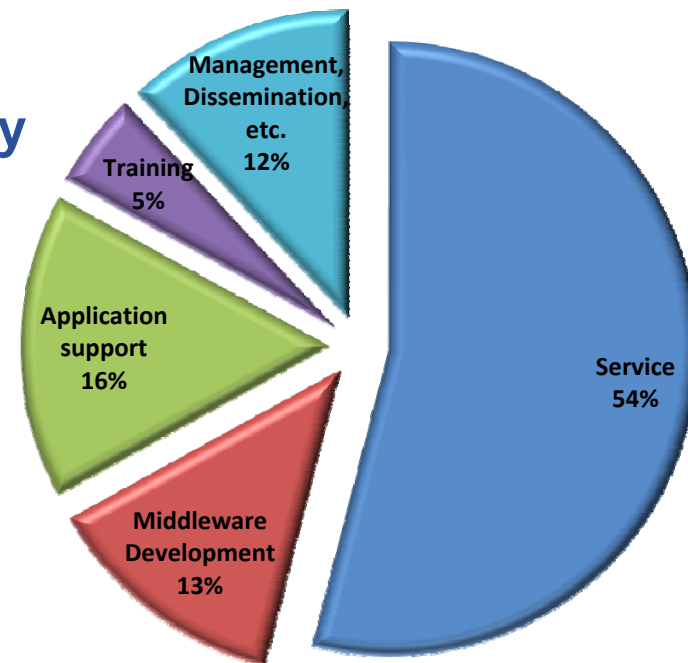
**1st year review successfully passed in May'07**

*"...having achieved an operational infrastructure delivering production services to a broadly distributed and diverse user community is a remarkable achievement."*

**EGEE Project Activities**

**Main Objectives**

- Operate a large-scale, production-quality grid infrastructure for e-Science
- Attract new resources and users from industry as well as sciences



**Total budget of 53M€, of which 37M€EC funding via DG Information Society, unit F3 "GÉANT & e-Infrastructure"**

- **Infrastructure operation**

- Currently includes ~240 sites across 45 countries
  - ~ 35000 CPUs and ~5 PBytes of storage
  - Continuous monitoring of grid services & automated site configuration/management
  - Support >200 Virtual Organisations from diverse research disciplines



- **Middleware**

- Production quality middleware distributed under business friendly open source licence
  - Implements a service-oriented architecture that virtualises resources
  - Adheres to recommendations on web service inter-operability and evolving towards emerging standards



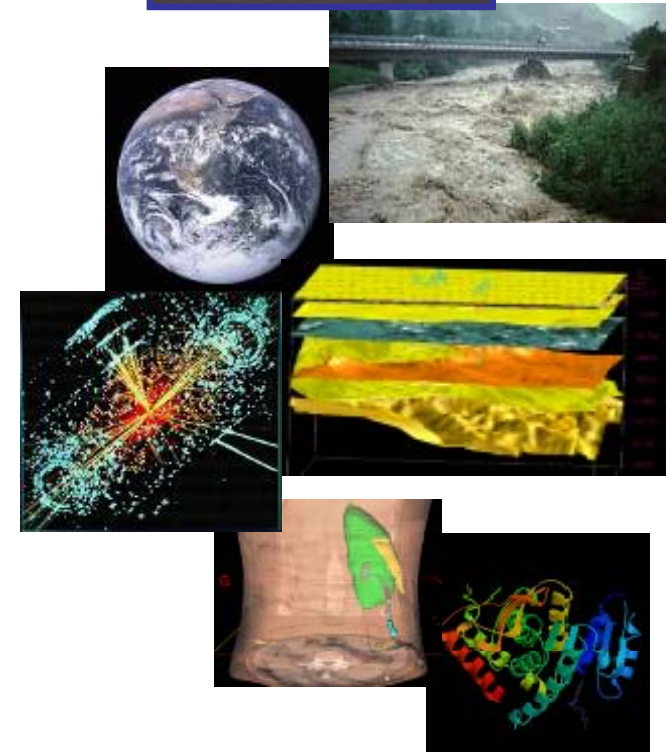
- **User Support - *Managed process from first contact through to production usage***

- Training
- Expertise in grid-enabling applications
- Online helpdesk
- Networking events (User Forum, Conferences etc.)



## Multitude of applications from a growing number of domains

- Archeology
- Astronomy & Astrophysics
- Civil Protection
- Computational Chemistry
- Earth Sciences
- Financial Simulation
- Fusion
- Geophysics
- High Energy Physics
- Life Sciences
- Multimedia
- Material Sciences
- ...



**Infrastructure used by >5000 researchers  
- submitted ~20 millions jobs in 2006**



[www.eu-egee.org/uf2](http://www.eu-egee.org/uf2)

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## EGEE USER FORUM

9 - 11 MAY 2007 MANCHESTER (UK)

**Co-located with OGF20:**

**900+ attendees**

**~50 booths**

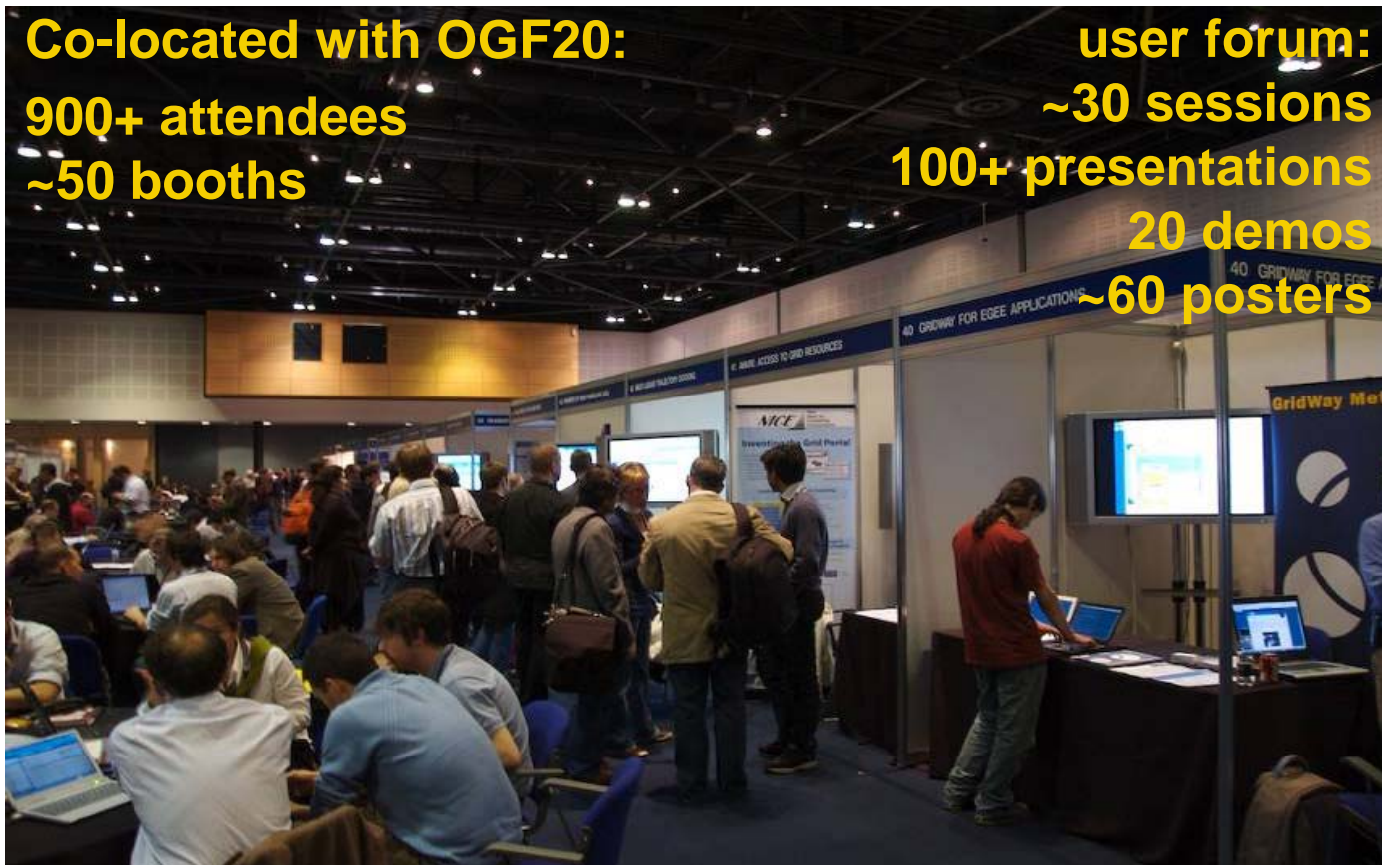
**user forum:**

**~30 sessions**

**100+ presentations**

**20 demos**

**~60 posters**



25 projects have registered as on June 2007: [web page](#)



SEE-GRID  
South Eastern European Grid-enabled  
infrastructure Development



**Infrastructures**  
geographical or thematic coverage



omii europe  
open middleware infrastructure institute



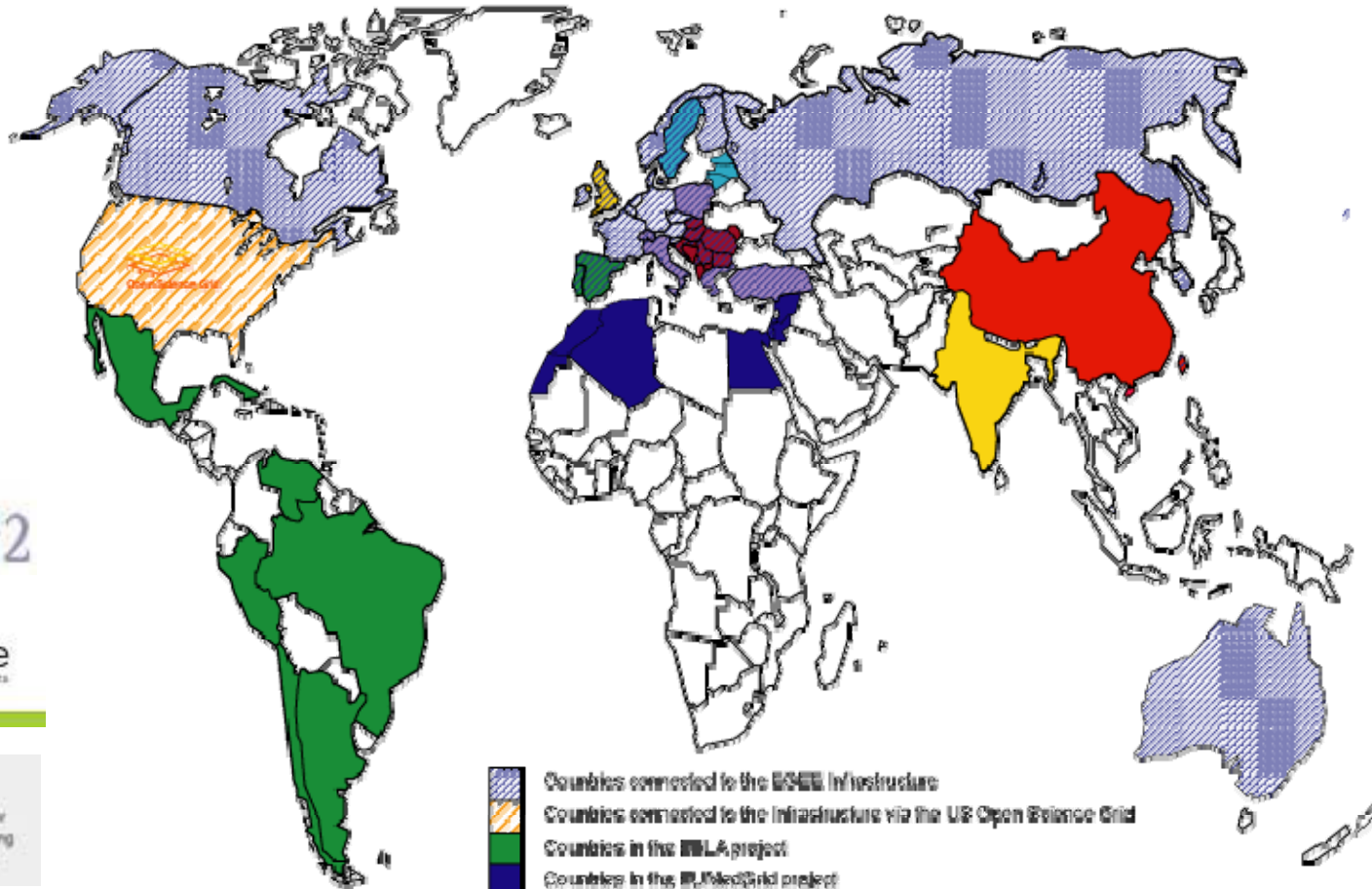
**Applications**

improved services for  
academia, industry and the  
public

**Support Actions**

key complementary functions

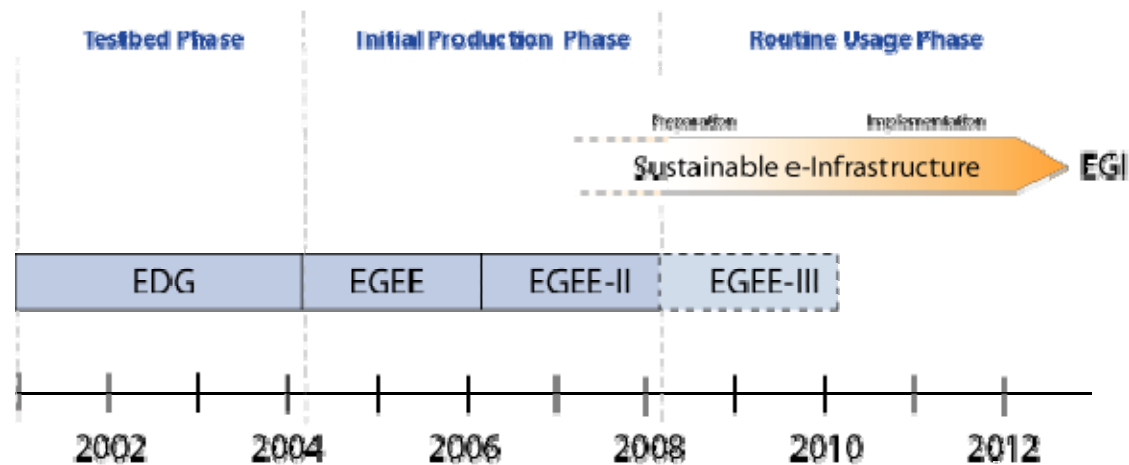




-  Countries connected to the EGEE infrastructure
-  Countries connected to the infrastructure via the US Open Science Grid
-  Countries in the IBLA project
-  Countries in the EUMedGrid project
-  Countries in the BattleGrid project
-  Countries in the SIB-GRID project
-  Countries in the EUMindiaGrid project
-  Countries in the EUCChinaGrid project
-  Countries in several regional projects



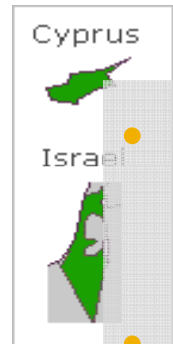
- Need to prepare permanent, common **Grid infrastructure**
- Ensure the long-term sustainability of the European e-Infrastructure independent of short project funding cycles
- Coordinate the integration and interaction between National Grid Infrastructures (NGIs)
- Operate the European level of the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



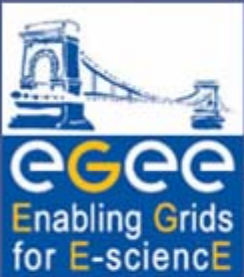


- **Partners:**

- Taiwan: ASGC – Asia ROC, training, outreach, BioMed apps, federation leadership etc.
- Korea: KISTI & CNU – HEP & BioMed apps
- Australia: (Univ. Melbourne) – HEP, BioMed, digital libs apps, training & outreach, help with ROC duties
- Japan: KEK – HEP applications, gLite deployment and EGEE/NAREGI interop.
- Singapore: NGO - dissemination, business outreach (NA6)
- Vietnam: VGS – dissemination, outreach, BioMed apps
- Malaysia (Indonesia & Brunei), Philippines : BioMed & Environmental apps



- **EGI Design Study proposal submitted to the European Commission (2 May 2007)**
- **Supported by 31 National Grid Initiatives (NGIs)**
- **2 year project to prepare the setup and operation of a new organizational model of a sustainable pan-European grid infrastructure**
- **Federated model bringing together NGIs to build a European organisation**
- **Well defined, complimentary responsibilities between NGIs and EGI**



**1-5 October, 2007**  
**Europe Congress Center (ECC)**  
**Budapest, Hungary**

## Building Bridges...

- Between Science and business
- Between users and infrastructures
- Between countries
- Between scientific disciplines
- Between projects
- Etc

<http://www.eu-egee.org/egee07>

- **EGEE is THE largest multi-disciplinary research Grid infrastructure in the world**
- **EGEE actively supports the LCG project in many activities**
- **Interoperability is essential to provide a global grid service to the user communities**
- **EGEE is the driving force behind preparations for a sustainable grid infrastructure in Europe**
- **The success of a large number of collaborating projects and EGI all depend on EGEE-III**

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