

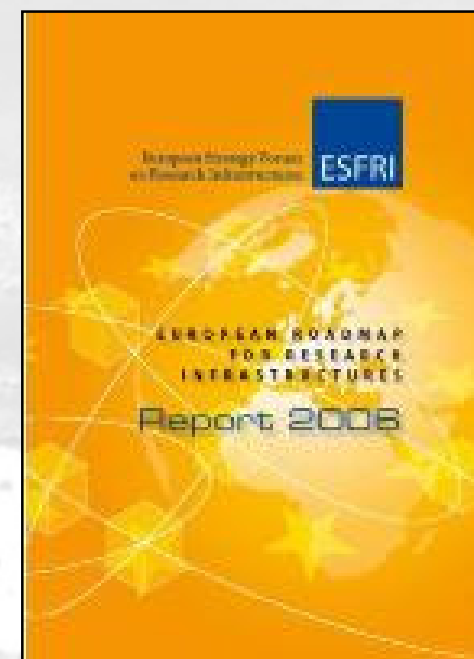
EGI: Enabling the Global Research Community

Steven Newhouse
Interim EGI.eu Director
EGI-InSPIRE Project Director

The ESFRI Projects

- First roadmap 2006 and updated in 2008 with 44 projects
- Preparatory phase funding for most with second round soon
- Big push in FP8?

ESFRI: European Strategy
Forum on Research
Infrastructures



ESFRI Environmental Sciences

EURO-ARGO



SIOS

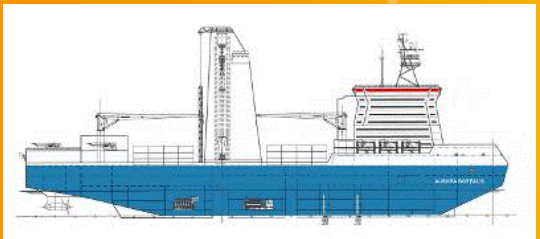


IAGOS-ERI



EUFAR-COPAL

Status
2009

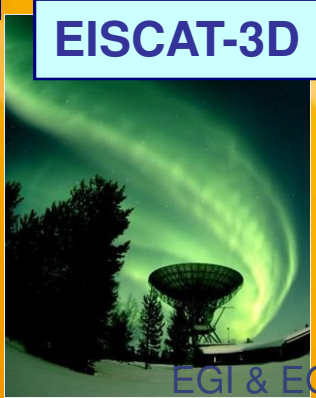


AURORA BOREALIS

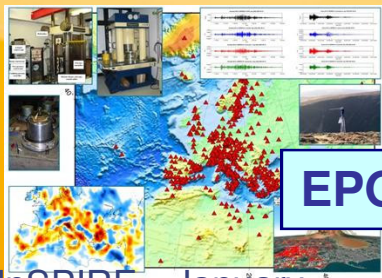


LIFEWATCH

EISCAT-3D



EMSO



EPOS



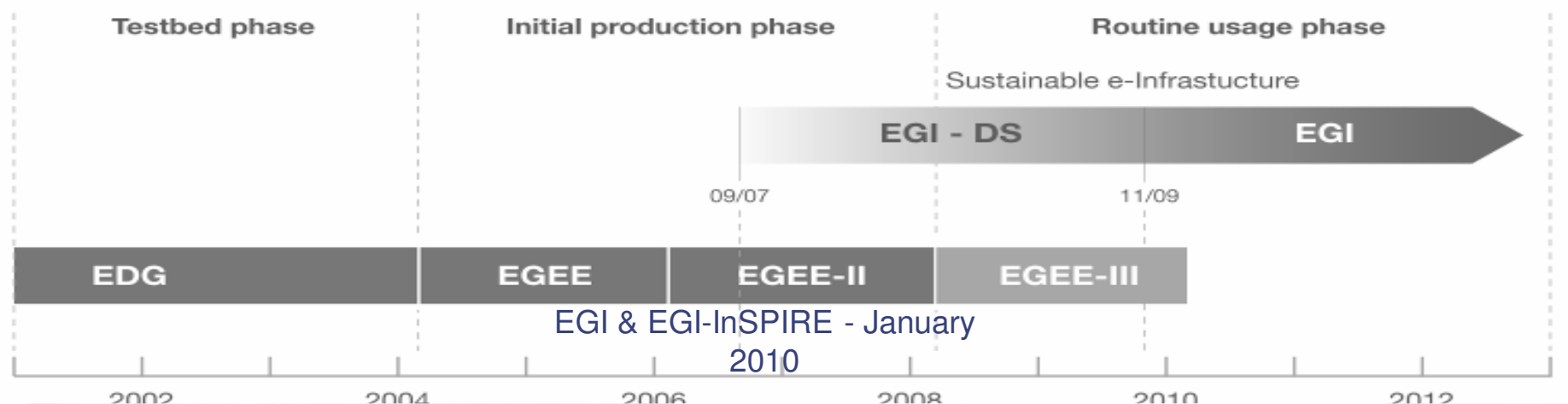
ICOS

What is e-Infrastructure?

- Resources linked by high speed networks
 - Compute, Storage, Instruments, ...
- Controlled access to shared resources
 - Authentication, Authorisation, Accounting, ...
- Dependable services for others to use
 - Driven by availability and reliability metrics
- Services that are there for the long-term
 - Supporting experiments lasting decades

European e-Infrastructure

- European Data Grid (EDG)
 - Explore concepts in a testbed
- Enabling Grid for E-sciencE (EGEE)
 - Moving from prototype to production
- European Grid Infrastructure (EGI)
 - Routine usage of a sustainable e-infrastructure



The EGI-InSPIRE Project

Integrated **S**ustainable **P**an-European
Infrastructure for **R**esearchers in **E**urope

- A 4 year project with €25M EC contribution
 - Project cost €70M
 - Total European Grid Effort ~€330M
- Project effort:
 - 8138PM mixed EC/NGI/EGI.eu funding model
 - 1100PM unfunded Asia Pacific Grid Initiative

EGI.eu

- **Coordination for European Grid resources**
 - Roadmap to integrate HTC, HPC, Data, Instruments, ...
 - Policy & services needed to run a grid
- **Governance & ownership by its stakeholders**
 - EGI Council votes proportional to GDP
 - EGI Council fees proportional to votes
 - Sustainable small coordinating organisation (EGI.eu)
 - Builds on resources from within its stakeholders
- **Location selected to be Amsterdam**
 - Distributed staff with a core (~50%) in Amsterdam
 - Approximately 40 staff, €3.5M/year

Resources

- EGI.eu does **not** own or control resources
- Resources owned by individual organisations
 - They manage access for their user communities
- Middleware enables secure authorised access for external collaborators
 - EGI provided Unified Middleware Distribution (UMD)
 - EGI defined software & interfaces
 - UMD compatible software must be deployed
 - Interoperation within your country and internationally

EGI means Innovation

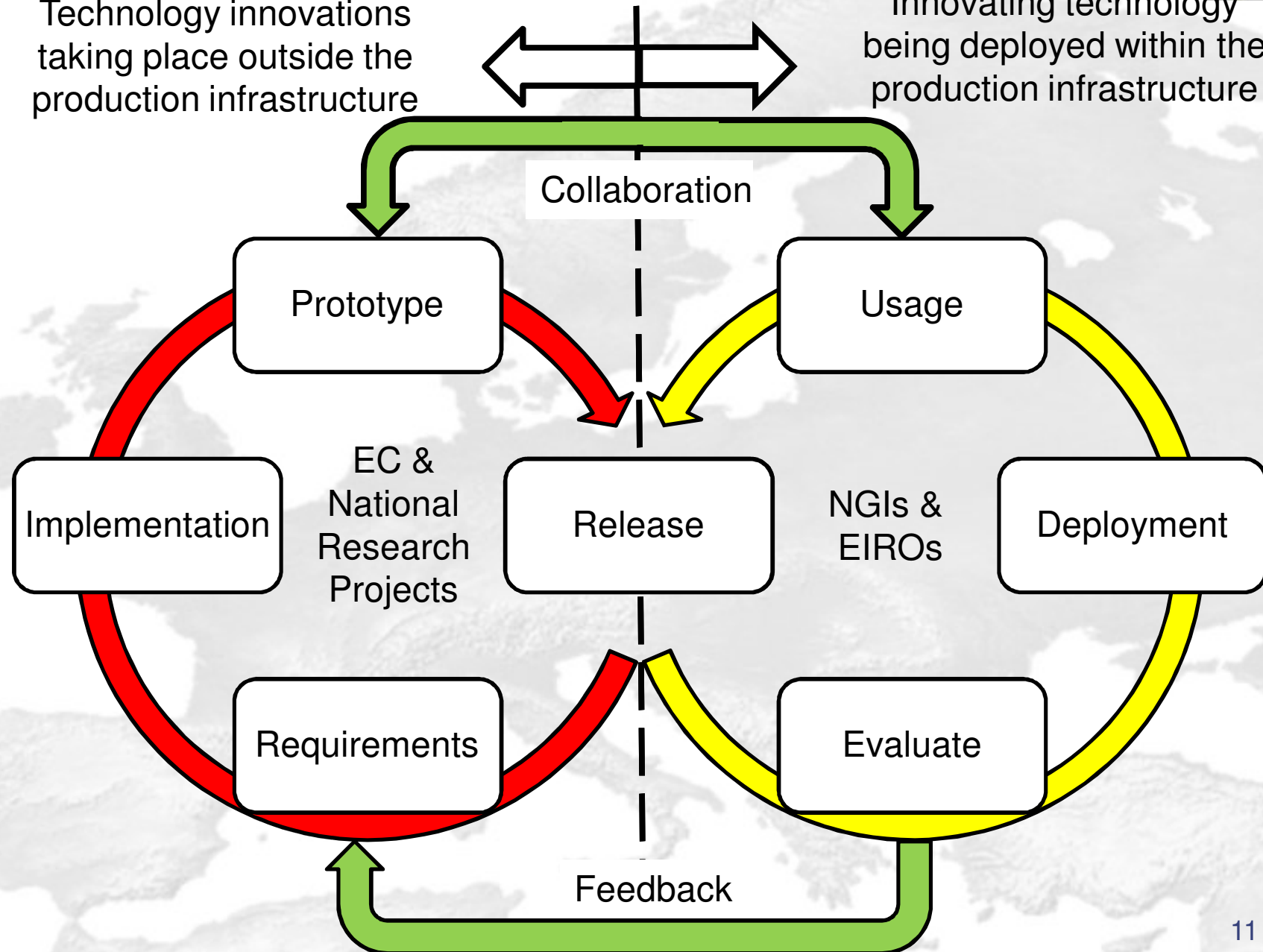
- **Deploy Technology Innovation**
 - Distributed Computing continues to evolve
 - **Grids → Desktops → Virtualisation → Clouds →?**
- **Enable Software Innovation**
 - Provide reliable persistent technology platform
 - **Today: Tools built on gLite/UNICORE/ARC**
- **Support Research Innovation**
 - Infrastructure for data driven research
 - **Support for international research (e.g. ESFRI)**

Technology Innovation

- Will come from outside EGI
 - EGI runs DCI technologies in production
- Partnership with technology projects
 - EMI (European Middleware Infrastructure)
 - Continued evolution of gLite, ARC, UNICORE
 - RESERVOIR
 - Public cloud functionality to ERA
 - StratusLab (Proposed)
 - RESERVOIR in production environments

Technology innovations taking place outside the production infrastructure

Innovating technology being deployed within the production infrastructure



Software Innovation

- Will come from outside EGI
 - EGI is a neutral platform for applications
- EGI cannot support all services in its core
 - Every community needs something different
- Foster innovation within ‘sectors’
 - High Throughput Computing
 - High Performance Computing
 - Digital Libraries
 - ...

Research Innovation

- An infrastructure to support the ERA
 - Within the EU27
 - Geographical Europe
 - Interoperability worldwide for collaboration
- Work with Virtual Research Communities
 - Groupings of aligned Virtual Organisations
 - Provide community specific:
 - Support, training, consultancy, requirements etc.

User Support & Services

- 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

Other Activities

- **Dissemination**
 - With NGIs, VRCs, SSCs and other projects
- **Support for Heavy User Communities**
 - General & community specific services
- **Events**
 - Two Annual meetings: Users & Technology
- **Technology**
 - Liaison with software providers
 - Definition and verification of requirements
- **Provide core services to support users**
 - Manage VOs, Application DB, Training DB

Moving from EGEE to EGI

- What is different?
 - EGEE did ‘everything’
 - EGI focuses just on infrastructure operations
- What is the same?
 - Running a 24/7 production quality infrastructure
 - Providing a support framework for the users
 - Collaboration to drive European DCI forward

Summary

- Move away from a project based model
 - Sustainable e-Infrastructure
- User services will evolve to this new model
 - Coordination of services provided through NGIs
 - Expect little change in the delivered services
- Start coordinating European e-Infrastructure
 - 1st May 2010
- Contact: director@egi.eu