



# **Sustainable Software Development for Public Research Infrastructures: *how to do it right?***

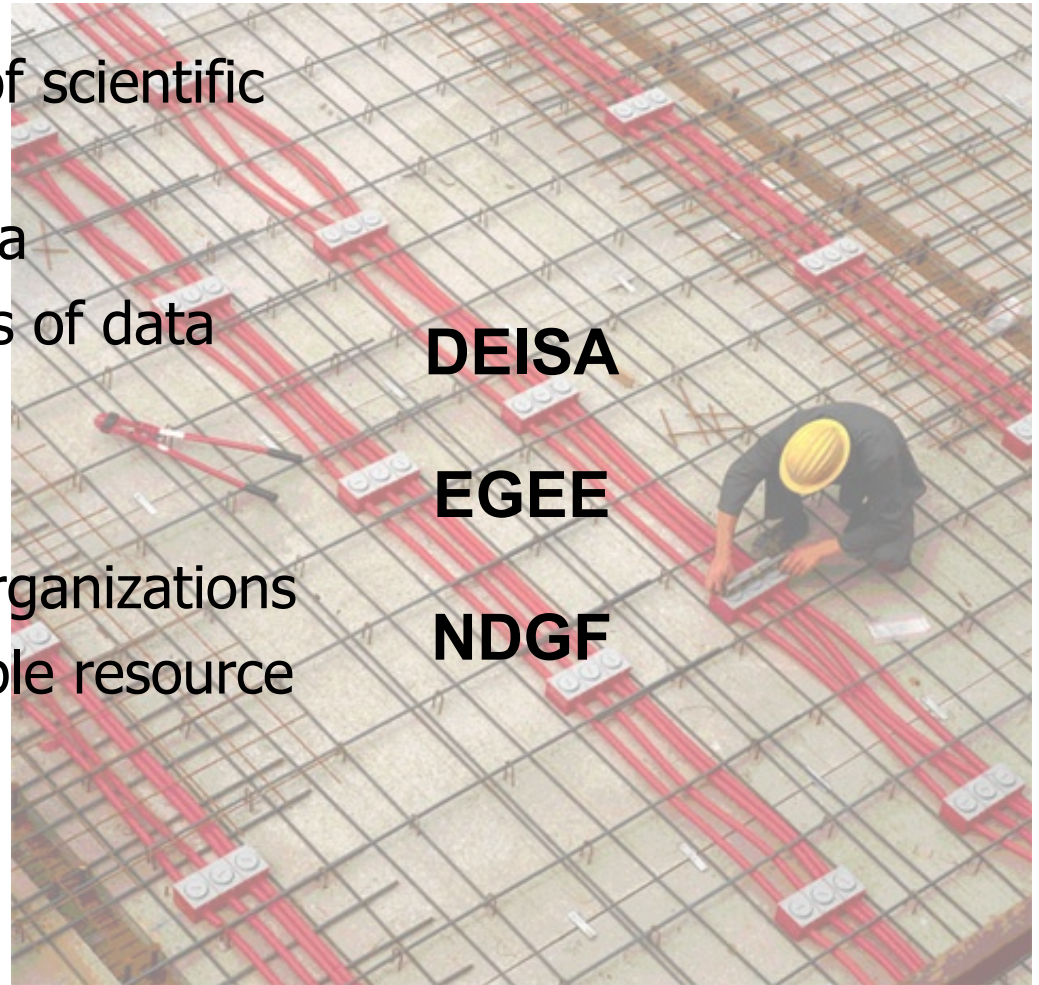
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*EGEE09*

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- Enable Researchers to:
  - Store huge amounts of scientific data
  - Access distributed data
  - Process huge amounts of data
  - Have high availability
- And connecting:
  - Users from multiple organizations
  - Resources from multiple resource providers
  - Multiple user groups



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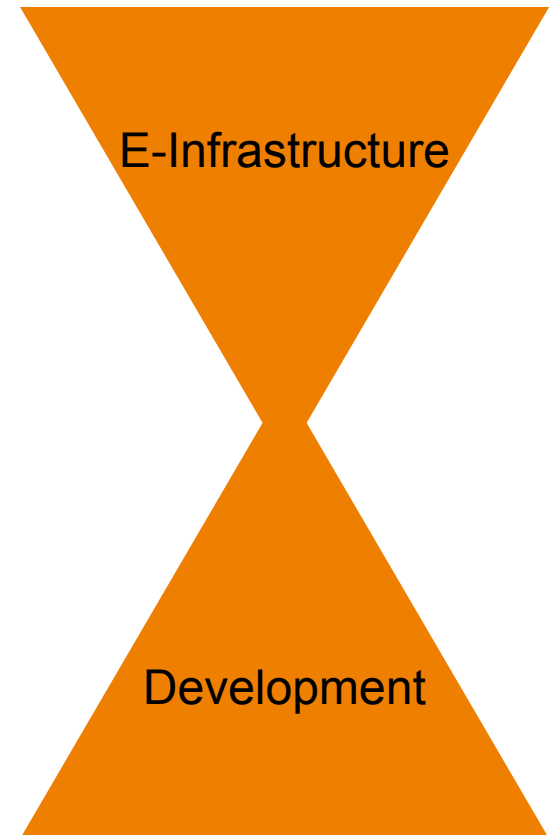


- EGEE JRAs
- KnowARC
- UNICORE
- dCache
- others...
- And soon:
  - The European Middleware Project

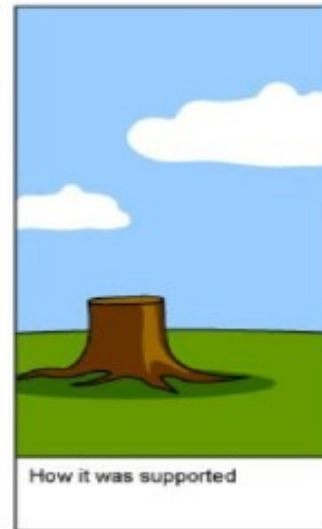
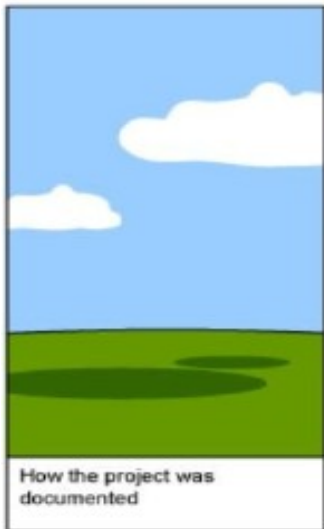


- How do we interface between e-Infrastructures and middleware development projects?
- How do e-Infrastructures feed back requirements to the m/w projects
- How do the projects realize the needed requirements
- How do the e-Infrastructure “pay” for their tools
- How do we make it sustainable ?

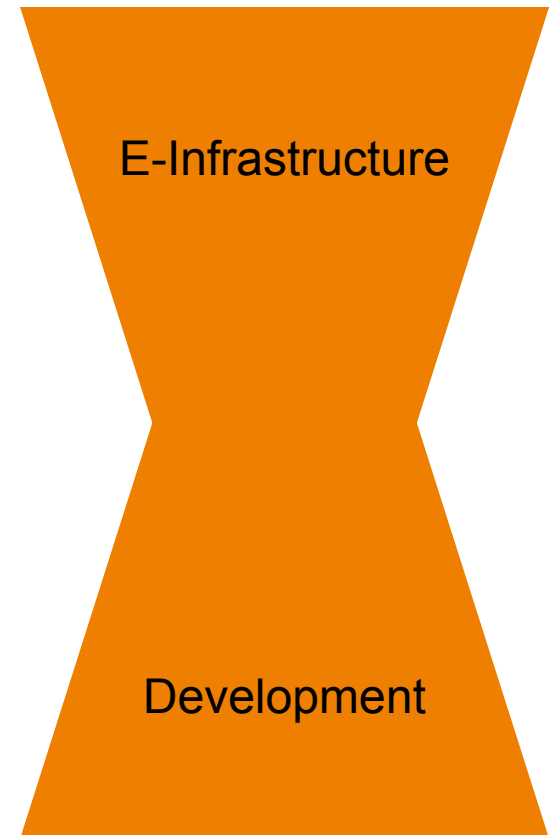
- Requirement specifications
- Roadmaps
- Technical groups and boards
- Long term plans



# The Project Cartoon...



- We need to widen the interface
- Have better communication
- But how ?





- How to reach it ?
- Today around 100 FTEs in Europe are funded to do middleware...
- Will that be needed in the future too ?
- Is this community really that special compared to others or e.g. industry ?

- The users contribute
  - the main users are the main contributors
- If you need a feature - add it your self!
  
- But we are doing open source already, right ?

- Grid Standards:
  - GridFTP, BES, SRM, GLUE, GSI
- ...but they are hardly used outside our community
  
- What about:
  - NFS4.1, WebDAV, http, ...

- Fedora and Debian with grid m/w:
  - Globus is there, VOMS is there, more is coming...
  - Partly eliminating the need for community specific distributions
  
- dCache
  - Close to “real” open source, push towards NFS4.1

- Close collaboration between operation, users and developers
  - Developers are doing maintenance, support, some new features and additions but *only* as contributions to existing projects
- Realistic ambitions for the development
  - No new projects from scratch
- Still dependent on other contributors
- Always looking for better external projects...



- Move from creating new open source projects to locate good ones to influence
  - Same goes for standards and protocols...
- Create awareness among “users” that contributions are needed in the future
  - “Users” are: resource centers, e-science projects and actual users
- Still coordination is needed...



**Questions**