coordination
evolution
security
sites
communication
central
available
procedures
Board
needs
may
High
framework
including
Ganga
multiple
integrated
sustainable
national
help
data
production
based
grid
EGI-InSPIRE
international
early
VO
access
computing
MPI
GRelC
infrastructure
development
Portal
first
Users
application
many
dissemination
Virtual
Policy
ensure
Interaction
resources
Research
across
also
supported
software
events
set
Group
Earth
etc
information
groups
teams
training
partners
provide
local
system
EGI
project
processing
coordination
integration
scientific
used
policy
management
model
Security
deployment
Sciences
Quality
activities
distributed
policies
site
support
providers
ecosystem
relevant
usage
VRCs
applications
AppDB
new
units
European
work
tools
community
e.g.
resource
members
related
external
research
Operations
middleware
funding
technology
requirements
NGIs
Helpdesk
developed
e-insfrastructure
Advisory
coordinated
Services
issues
components
Europe
within
services
level
monitoring
defined
different
operational
Technology
specific
projects
operations
Roadmap
e-infrastructure
CAPACITIES

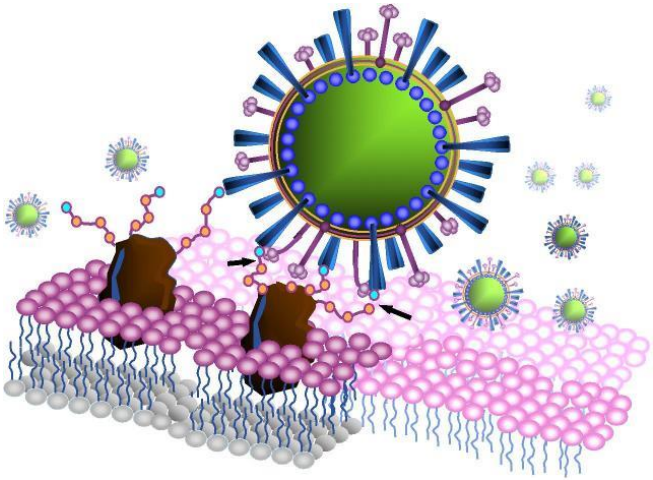
What is EGI?

The European Grid Infrastructure enables access to computing resources for European scientists from all fields of science, from Physics to Humanities.

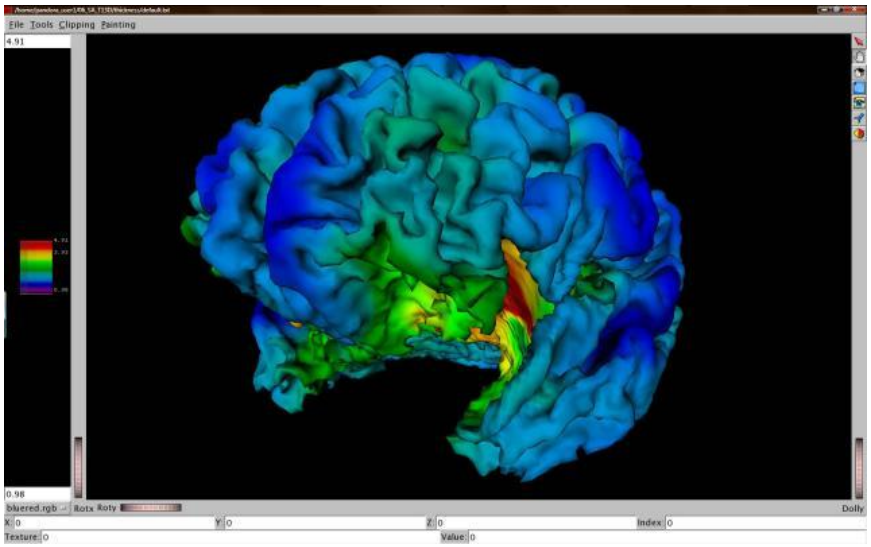
What is a grid?

- A grid is set of distributed resources, managed by separate organisations.
- These resources can be used systematically and securely by external users.
- Resources can include:
  - Commodity or HPC clusters
  - Disk or tape storage
  - Instruments
  - Data archives
  - Digital libraries
  - Desktop grids
  - Cloud resources

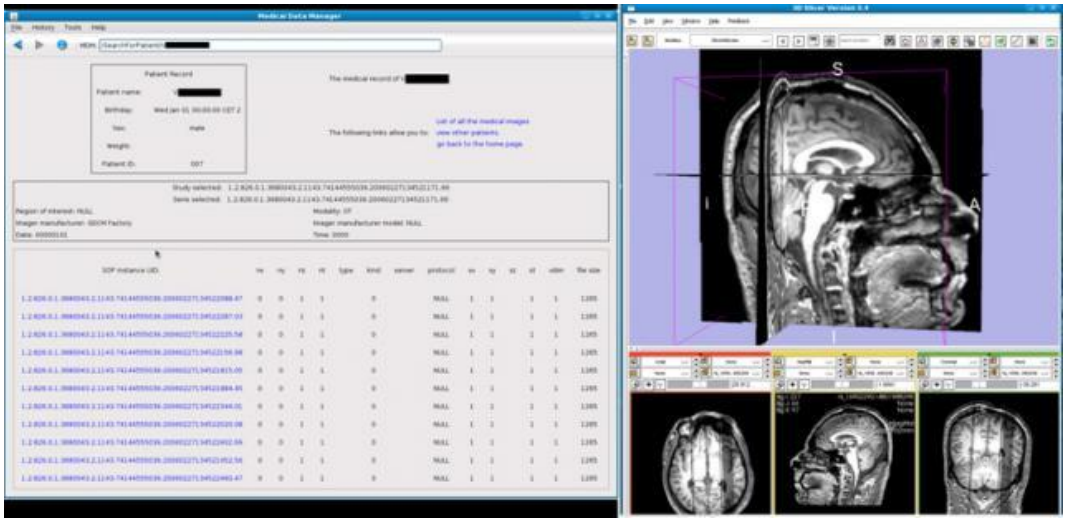
What does a grid do?



Avian flu research



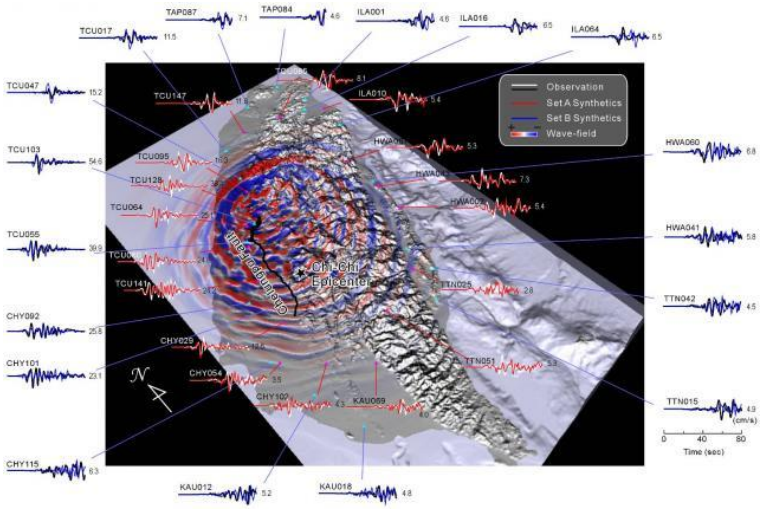
Neuroscience



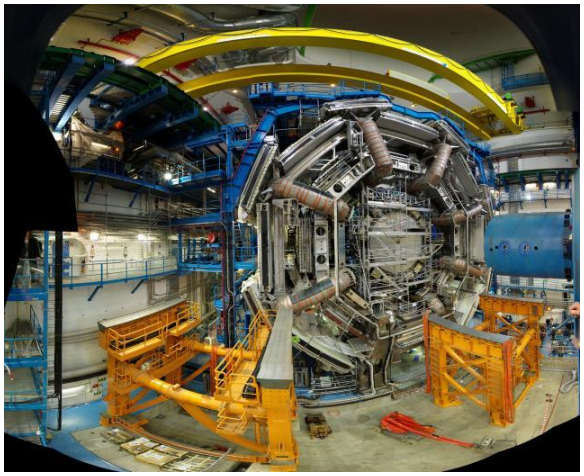
Sharing medical records securely

What does a grid do?

Species mapping



Earthquake impact modelling

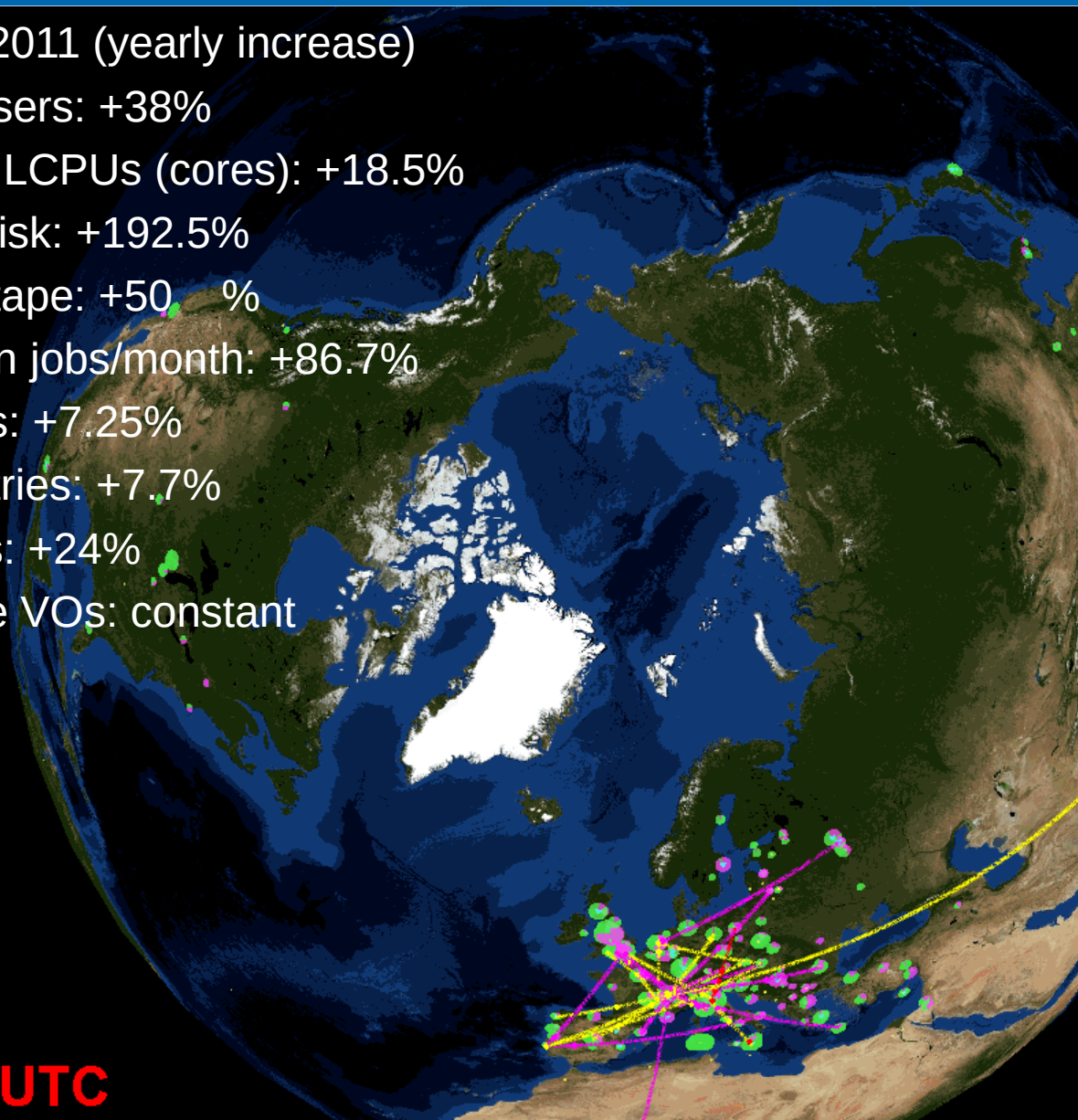


High energy physics

European Grid Infrastructure

Status Jan 2011 (yearly increase)

- 13800 users: +38%
- 288000 LCPUs (cores): +18.5%
- 117PB disk: +192.5%
- 91.5PB tape: +50 %
- 28 million jobs/month: +86.7%
- 340 sites: +7.25%
- 56 countries: +7.7%
- 217 VOs: +24%
- 30 active VOs: constant



Scheduled = 21539
Running = 25374

Archeology
Astronomy
Astrophysics
Civil Protection
Comp. Chemistry
Earth Sciences
Finance
Fusion
Geophysics
High Energy Physics
Life Sciences
Multimedia
Material Sciences
...

21:13:50 UTC

GridPP
UK Computing for Particle Physics

EGI.eu

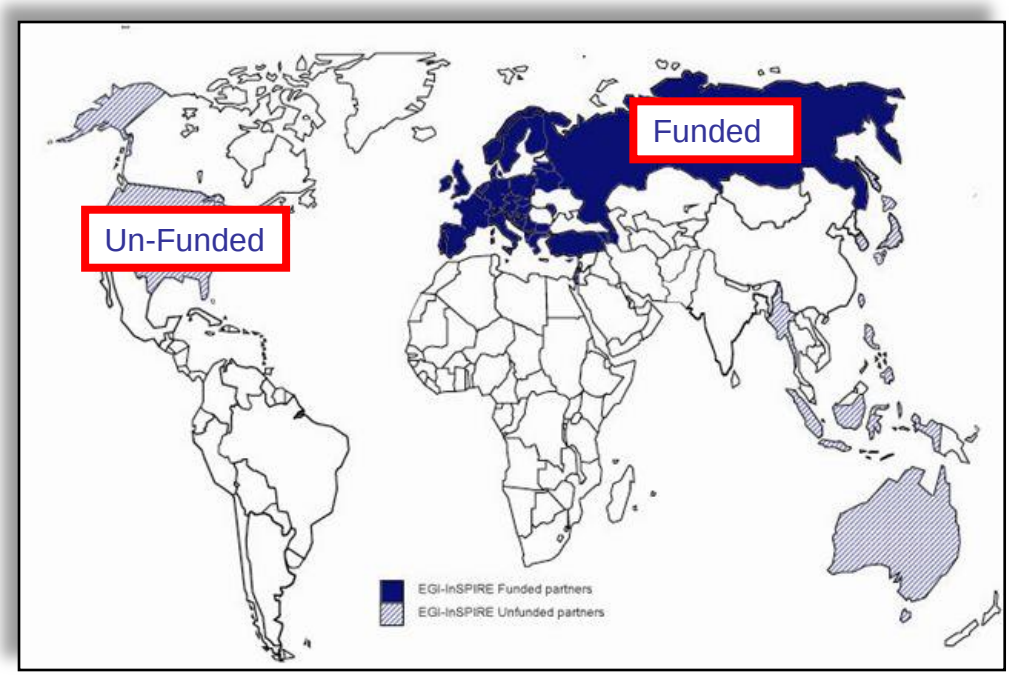
- EGI = European Grid Infrastructure
  - The resources used by over 13,000 scientists across Europe
- EGI.eu = Stichting European Grid Initiative
  - Based in Amsterdam
  - Director is Steven Newhouse
  - Governed by an Executive Board
  - Overseen by a larger Council with representatives from 33 NGIs (countries) & / EIROs (research communities)
  - Celebrated our first birthday on 8th February!

EGI-InSPIRE

Integrated Sustainable Pan-European Infrastructure for Researchers in Europe

- A 4 year project with €25M EC contribution
  - Project cost €72M
  - Total Effort ~€330M
  - Effort: 9261PMs

Project Partners (47)
EGI.eu, 37 NGIs, 2 EIROs
Asia Pacific (8 partners)



Technology innovation

- Will come from outside EGI
  - Moving research technologies into production
- Partnership with technology projects
  - EMI (European Middleware Initiative)
  - IGE (Initiative for Globus in Europe)
  - EDGI (European Desktop Grid Initiative)
  - StratusLab
  - VenusC

Venus-C
Virtual multidisciplinary EnviroNments USing Cloud infrastructures

European Middleware Initiative

EDGI

Initiative for Globus in Europe

StratusLab

Software innovation

- Will also 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 different ‘sectors’
  - Digital Libraries
    - gCube from D4Science

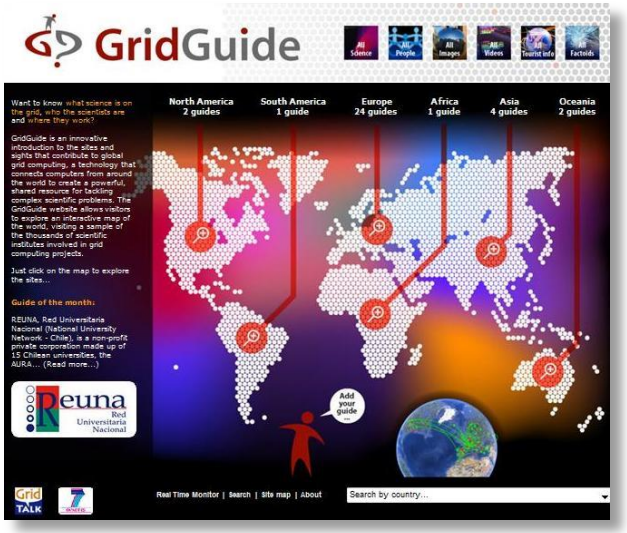
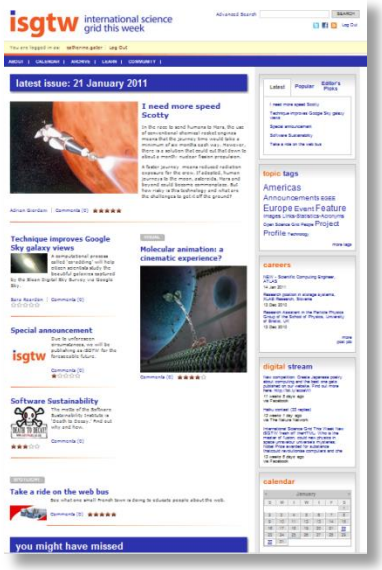
Research innovation

- An infrastructure to support European Researchers
  - Within the EU27
  - Geographical Europe
  - Interoperability worldwide for collaboration

- Work with Virtual Research Communities
  - Groupings of aligned Virtual Organisations
  - Enable their community specific support activity:
    - Support, training, consultancy, requirements etc.

Communications

- Letters
- Newsletters
- Website
- Wiki
- Blogs
- Social Media
- Events

Collaboration

- Working with e-ScienceTalk to communicate the success stories of e-Infrastructures to policy makers, general public, scientists and students