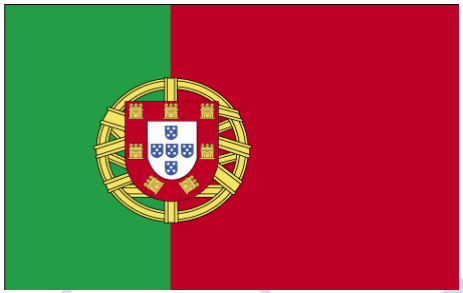



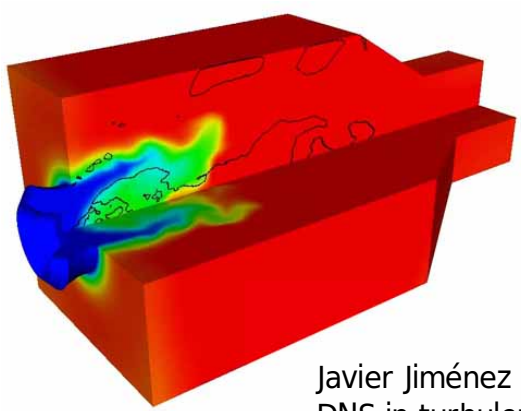

IBERGRID, AND IBERIAN PLAN FOR THE PRESENT AND THE FUTURE

Lisboa, 11 – 12 de octubre de 2007

INDEX

THE SCIENTIST COMMUNITY: ITS NEEDS

- Using the e-Infrastructures to enhance their research work
- Communication with their colleagues, the Industry, students, the Society
- Global connectivity



Javier Jiménez Sendín, UPM
DNS in turbulent channels

WHERE WE ARE

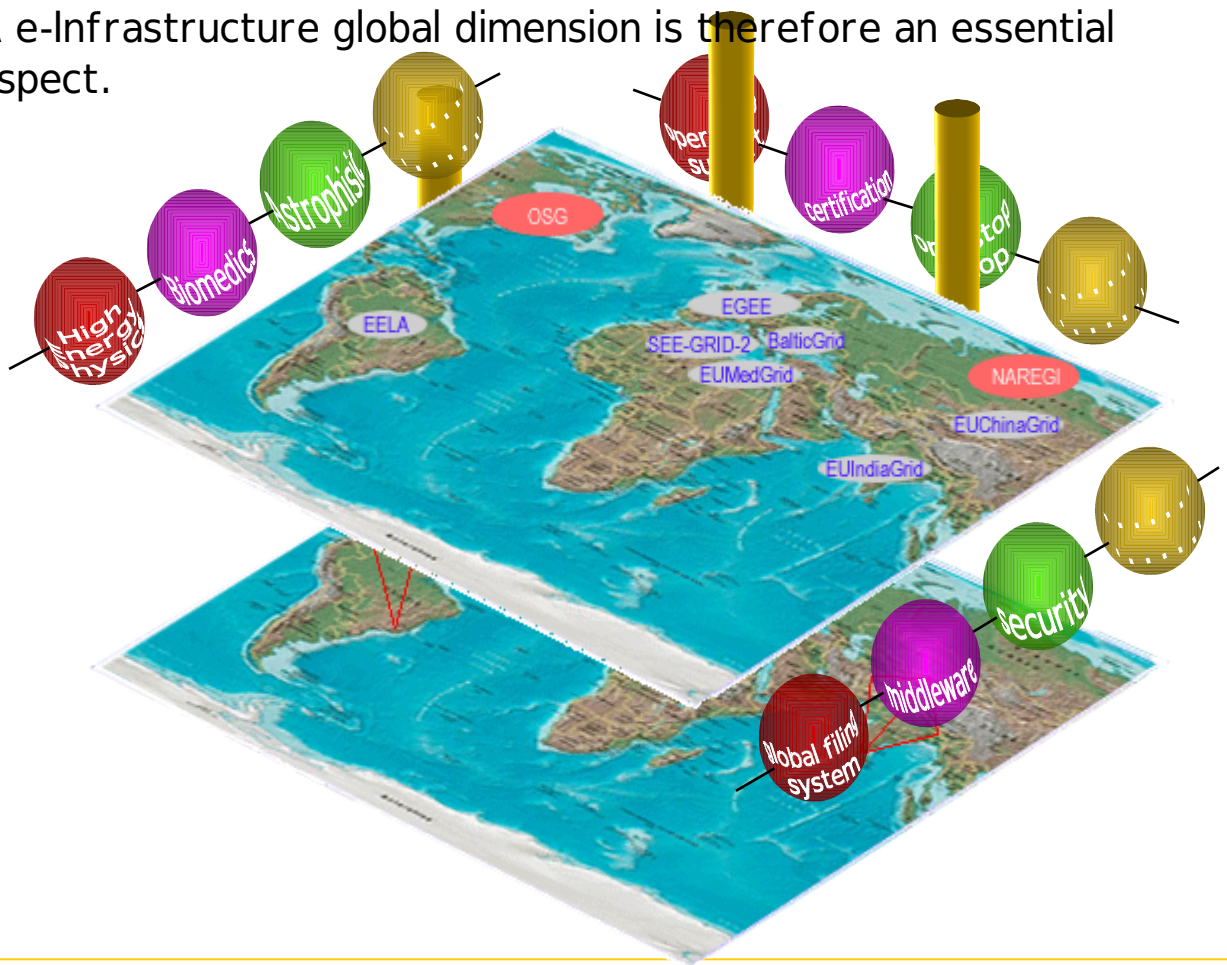
The European Union has promoted the development of networks in Europe and the rest of the world..

There are several Grid initiatives around the world, one of them promoted by the European Union, another one by different countries.

Development of scientific Applications and services that cover many aspects of e-Science.

Many fields in Science need international collaboration activities, institutional cooperation and extended infrastructures able to provide a long-term continuity.

A e-Infrastructure global dimension is therefore an essential aspect.



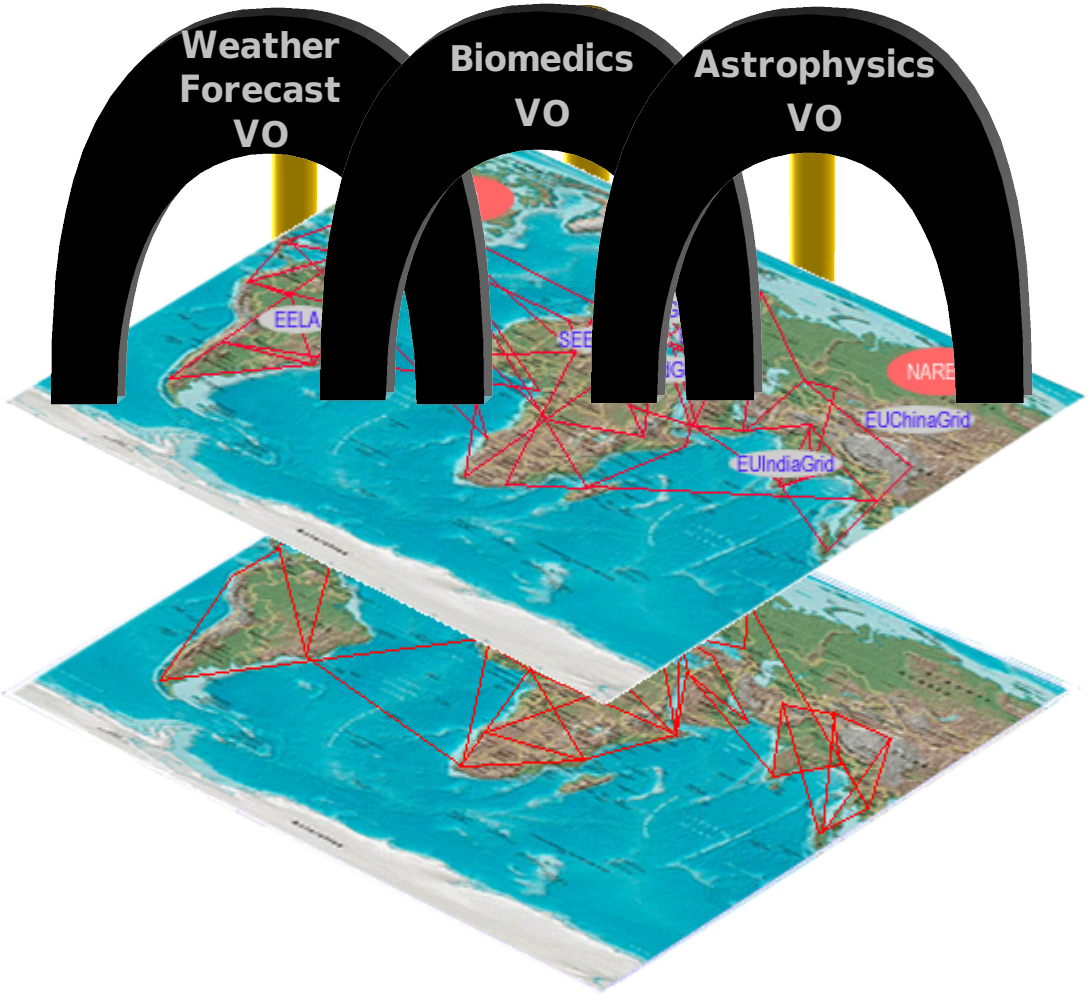
WHERE WE ARE GOING

There will be global services accessible in each part of the world.

Global Network will cover all countries.

All Grid initiatives will be interconected in an interoperable network.

Scientifics will be able to access all world resources



SPANISH e-SCIENCE NETWORK BACKGROUND

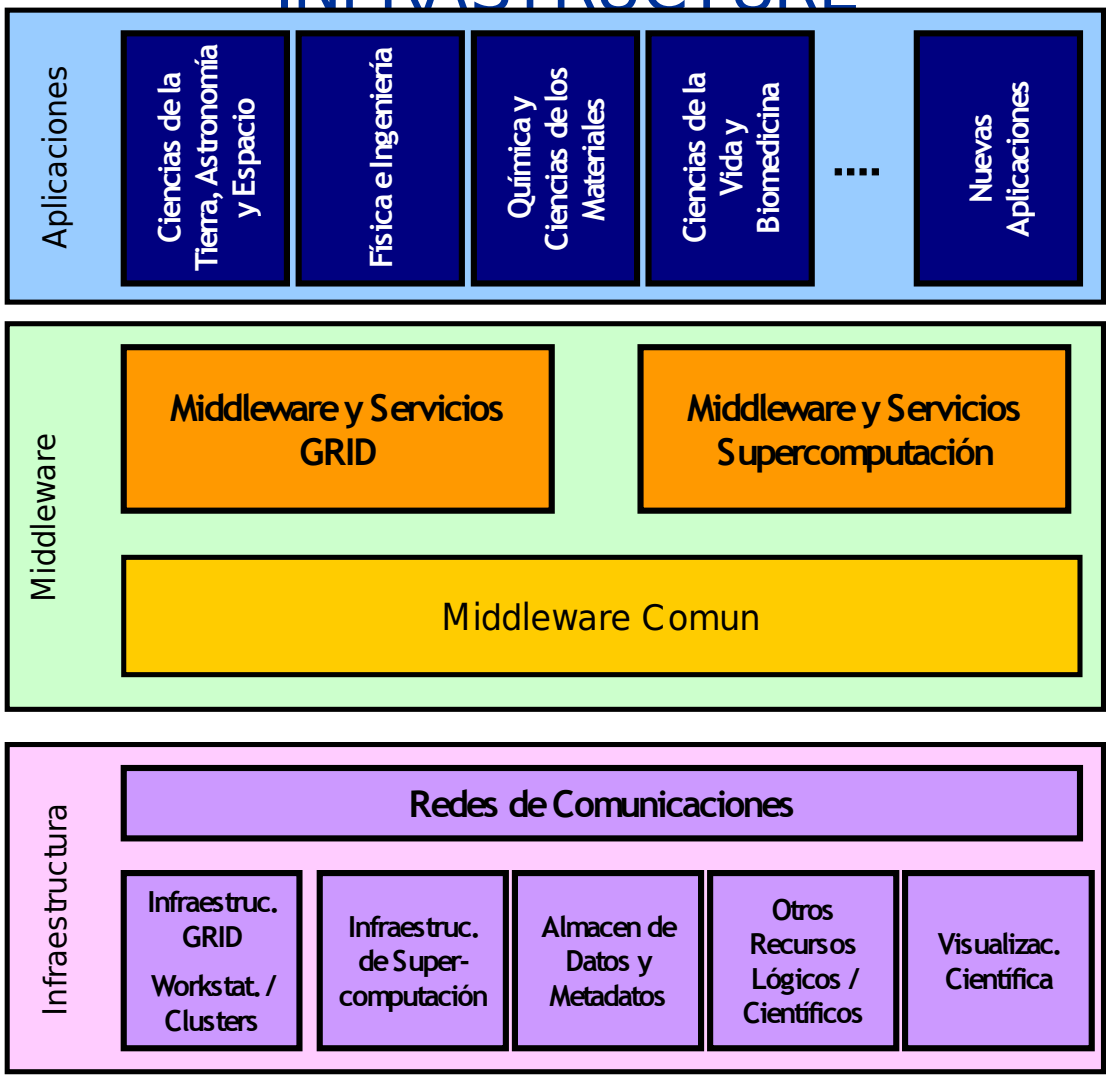
- The White Book of e-Science (http://www.fecyt.es/eciencia/libroblanco.htm)
- Important HPC sites and STSI
- E-Science activities in Spain: Astronomy and Space, Biomedicine, Material Engineering, Earth Science, Physics, Computational Chemistry, etc.
- The National Research Network (RedIRIS) and the Connection to the European Network GEANT as the Basic Communication Infrastructure
- IrisGrid and the Spanish Tematic Network in Grid Middleware
- Participation of the Spanish Research Centres in Projects and Initiatives as EGEE, DEISA, EELA, LHC, the BSC-National Supercomputing Network, etc.
- Need of a Global Coordination of all the Activities, Development of Common Tools and Easy Access to the Research Resources:

Promote the Creation of the Spanish e-Science Network

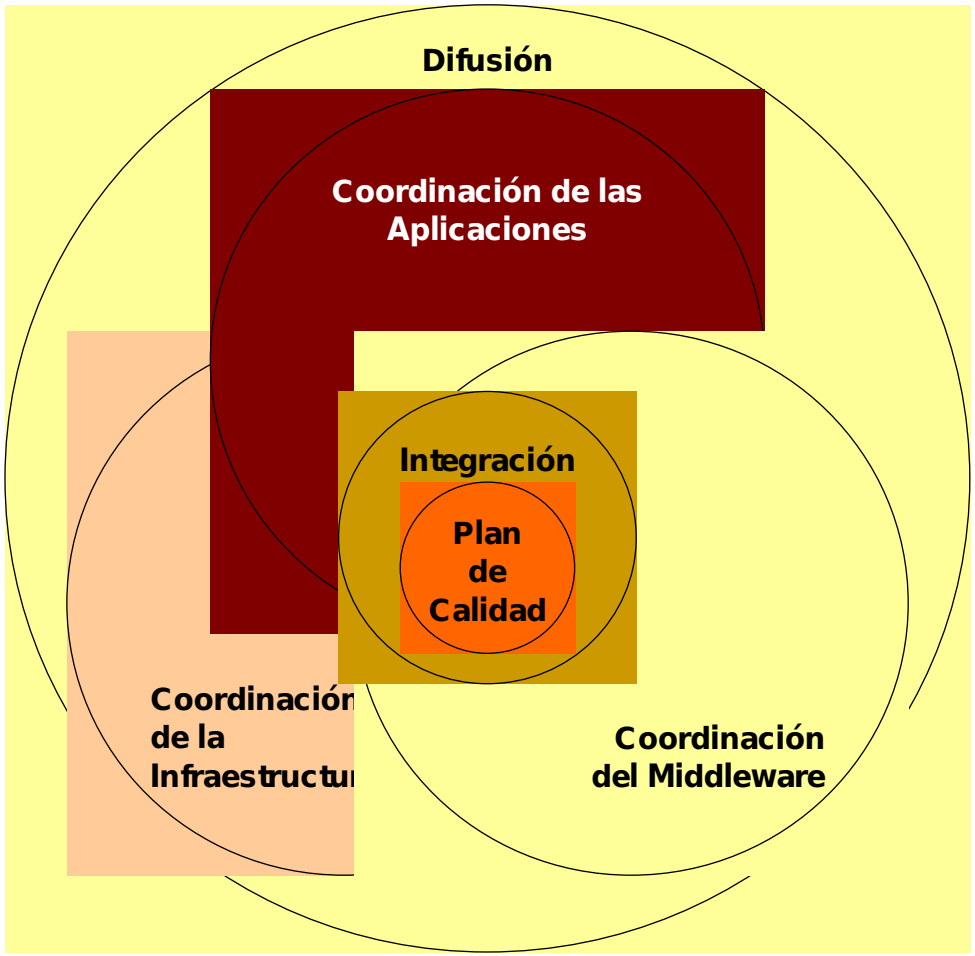
SPANISH e-SCIENCE NETWORK OBJECTIVES

- To Promote and Coordinate the Development of the e-Science in Spain.
- To Become the National Speaker for e-Science in the European framework.
- To coordinate the Spanish e-Infrastructures from the point of view of required investments, management, operation and user support.
- To foster the Cooperation with other Programs and Projects.
- To promote the Collaboration with Portugal (IberGrid) and other Countries in the e-Science Context.
- To transfer the Network results, and to train people.

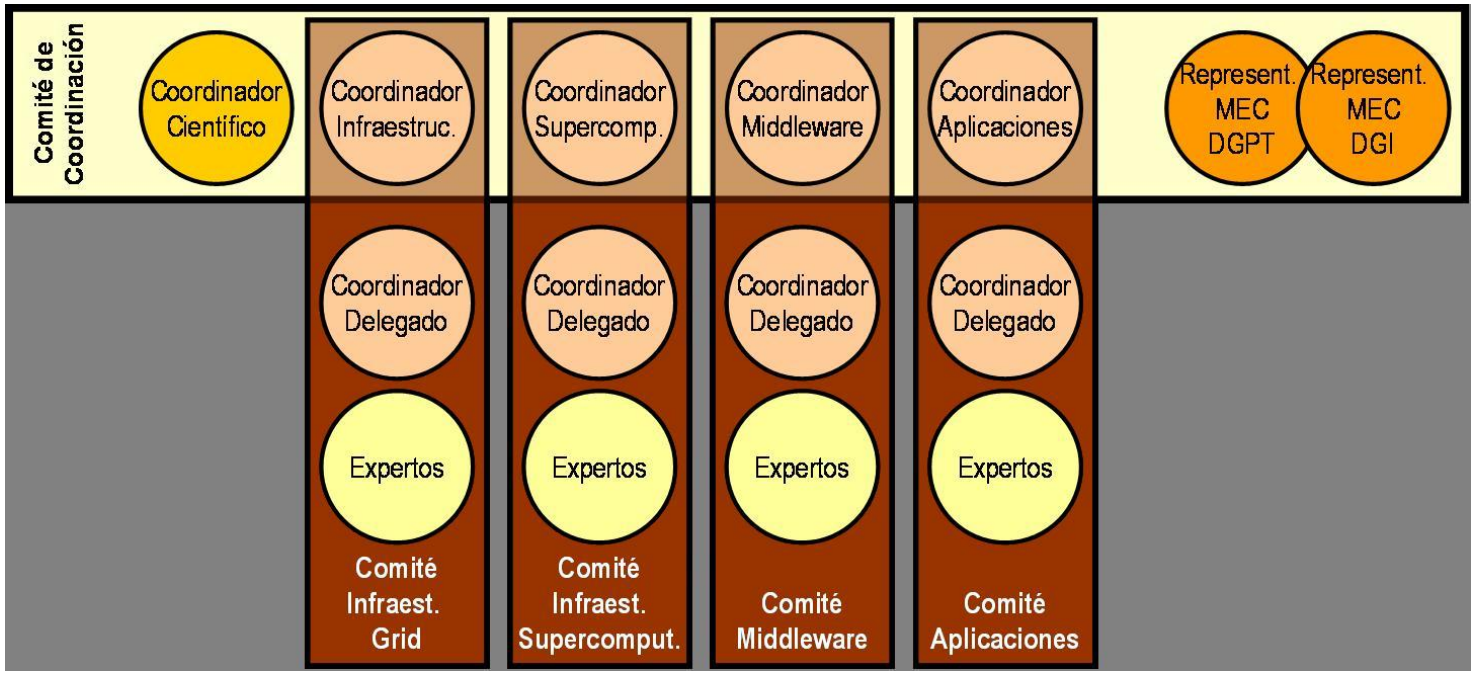
SPANIS e-SCIENCE NETWORK INFRASTRUCTURE



SPANISH e-SCIENCE NETWORK ORGANIZATION MODEL



SPANISH e-SCIENCE NETWORK CO-ORDINATION STRUCTURE



IBERGRID BACKGROUND

- Scientific and technological cooperation agreement between portuguese republic and spanish kingdom of 8th november 2003.
- Memorandums of understanding for grid computing and R&D electronic networks of 19th november 2005 (Evora).
  - Common access to resources
  - Information interchange and training
  - Researchers mobility
  - Common R&D projects

- Mixed committee of memorandums in Madrid meeting (2-10-2006) commited a mixed work group to elaborate an Iberic Infrastructure common plan for distributed computation.
- Mixed work group in its Braga meeting (12-11-2006) designated the team and recommended to make a road map.
- Iberic Infrastructure Common Plan aproved in may 2007

IBERGRID
SPANISH AND PORTUGUESE E-SCIENCE CAPACITIES

SPAIN

- **Research Grid Groups**: PIC, UPV, CSIC-UV (IFIC), BIFI, CESGA, UCM, IFAE (UAB), CSIC-UC (IFCA), UB, USC, UAM, RedIris, CIEMAT, etc.
- **Supercomputing Centers**: BSC, CESGA, CESCA, CIEMATR, CICA, INM, EPPE, CEPBA (UPC), UPM, IAC, Zaragoza, Valencia, etc.
- **Main Projects:** EU Data.Grid, LHC Computing Grid, CROSSGRID, EGEEI&,II, EELA, EUMEGRID, LCGII, DEISA, Int.eu.grid.
- **Applications:**

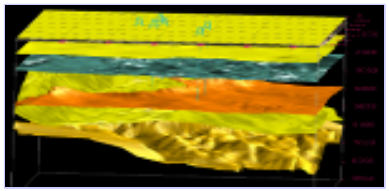
  BIOMEDICINE (Proteomic, Medical Physics Diagnostic),
  ENGINEERING (Fotonic, Materials),
  ENERGY (Fusion, Renewable Energy),
  SCIENCES (High Energy Physics, Cosmology, Gamma Ray Astroomy, Environment, Chemistry).

IBERGRID
SPANISH AND PORTUGUESE E-SCIENCE CAPACITIES

PORTUGAL

- **Research Grid Groups:** LIP, University of Aveiro, University of Lusiada, University of Minho, University of Porto, LNEC, University of Coimbra.

- **Main Projects**: EGEE I&II, EELA, Data.Grid, Int.eu.grid, LHC Computing Grid, COREGRID
- **Applications:**



BIOMEDICINE (Image Computing, Diagnostic),
ENERGY (Fusion),
SCIENCES (High Energy Physics, Environment, Maritime Simulation),
CIVIL (Fire Simulation, Civil Protection)

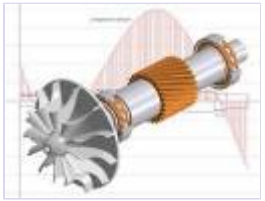
IBERGRID
COLLABORATION BETWEEN SPAIN AND PORTUGAL

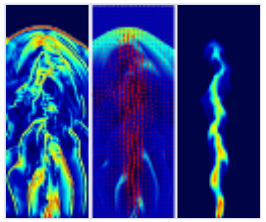
- EGEE. 14 Centers in southwest federation. Collaboration in SA1 (Infrastructure), SA3 (Middleware Certification), NA2, NA3 (Disemination and Training) and NA4 (Aplications).
- WLCG. TIER 1 (PIC), 3 TIER 2 in Spain and 1 TIER 2 in Portugal
- EELA
- CORE.GRID
- TORGA.NET
- CYTED GRID
- CROSSGRID
- INTERACTIVE EUROPEAN GRID
- COMMUNICATIONS. Connections in Galicia and Extremadura frontiers.

IBERGRID

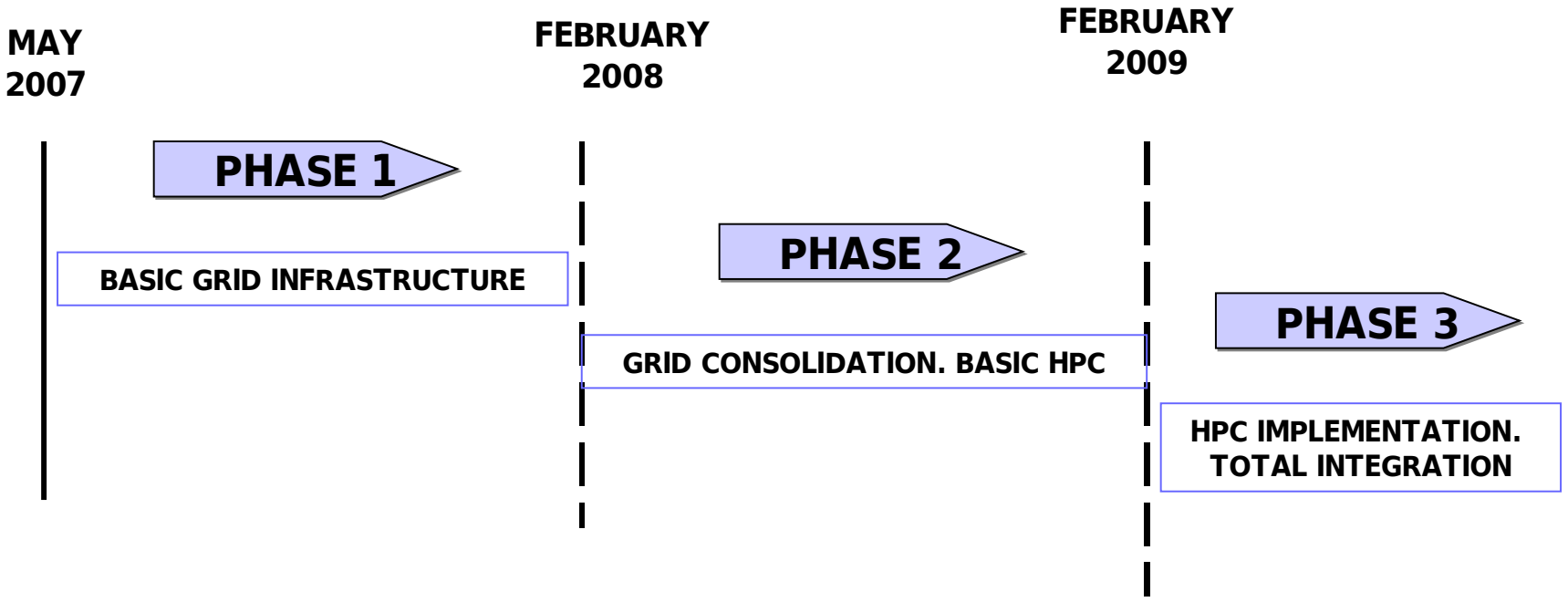
GENERAL IDEAS FOR IBERIAN GRID COLLABORATION

- Wide open and effective collaboration
- Collaboration in UE
- Common Infrastructure
  - Firstly Based on EGEE and EELA Standar
  - Powerful Common Communications Network
    Coordination RedIris-RCTS
  - Organized Structure of Resources
    Users certification; Resource centers support; Security; Monitoring and control
- Applications
  - Push Common Virtual Organizations
  - Select Appropriate Common Applications
- Information and Training
  - Take Advantage of Common Initiatives
- Researchers Mobility
  - Coordinate National Plans and Promote Bilateral Cooperation





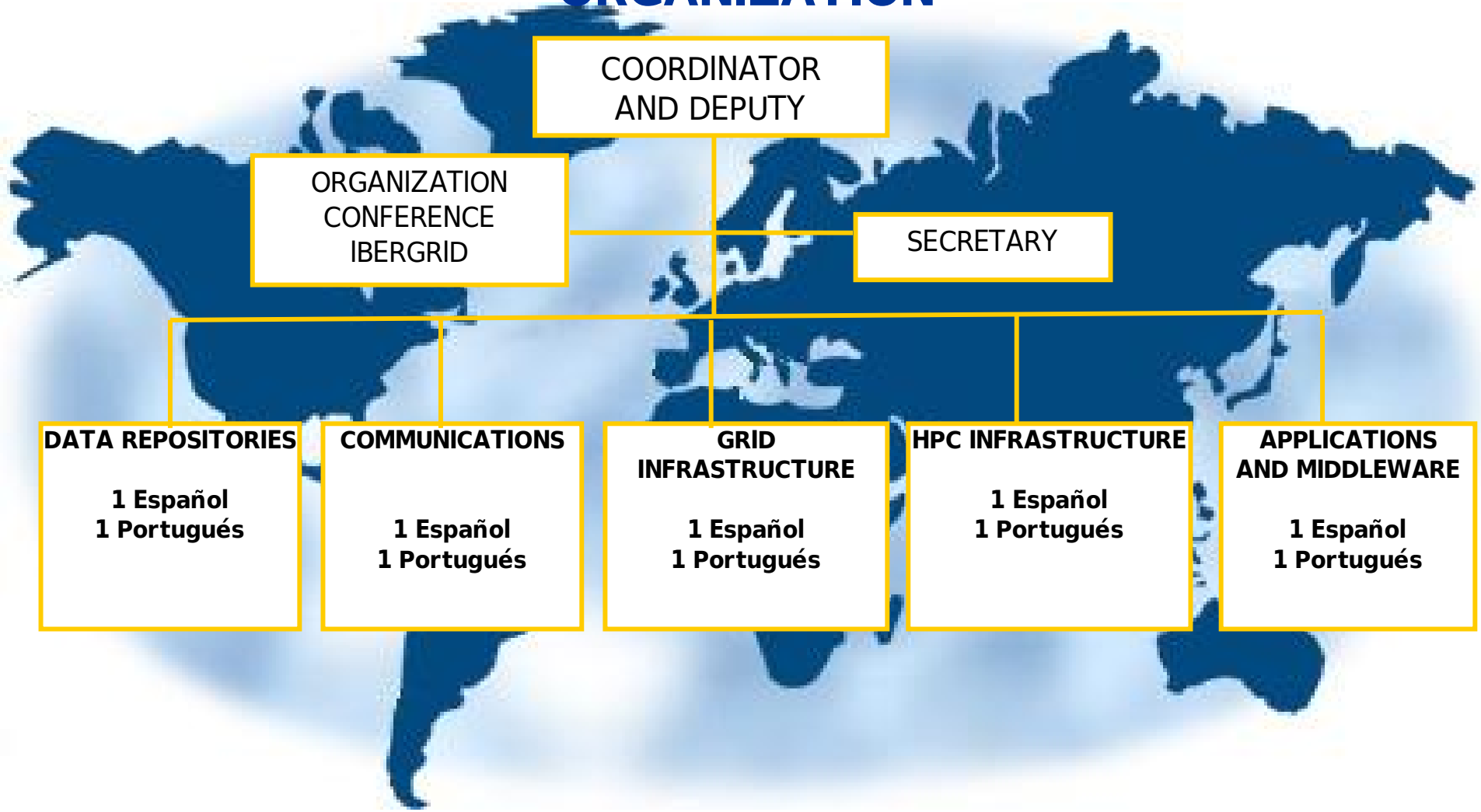
IBERGRID
ROAD MAP



There is not favorable winds for people who don't know where to go

Seneca

IBERGRID ORGANIZATION

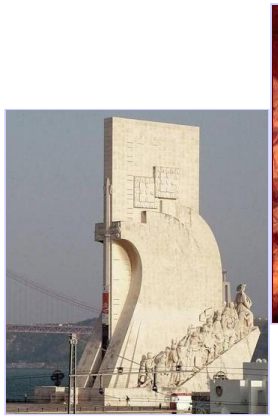


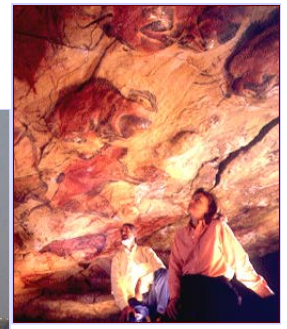
- **THANK YOU VERY MUCH**

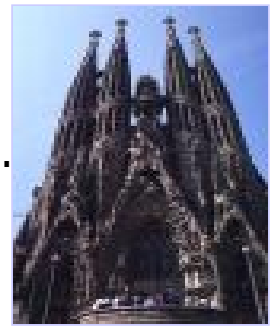
IBERGRID ROAD MAP

PHASE 1 (9 MONTHS)

- Communication network connection trough Galicia and Extremadura.
- Organization approval and deployement.
- Starting with present infrastructures (glite).
- Identification of COIs and resources inventory.
- Definitions of resource centers characteristics.
- Resources access standars and procedures.
- EUGRID PMA (pkirisgrid + lip ca).
- Common rules of safety.
- Selection of 4 virtual organizations out of the list recomended in Evora. Identification of aplications.
- Training coordination.
- Ibergrid infrastructure sustainability study after UE support.
- Document to improve researchers mobility.







IBERGRID ROAD MAP






PHASE 2 (12 MONTHS)

- Push new resource centers
- Push new virtual organizations and applications
- Testbed deployement
- Definition and development of new middleware needs. Mechanisms for evolution and incorporation of new middleware
- Define and deploy a collaboration system in the area of supercomputing
- Training coordination on new activities

IBERGRID
ROAD MAP

PHASE 3

- Supercomputing collaboration deployment
- Definition of specific access mechanisms to Ibergrid
  - Mare Nostrum
  - National Supercomputing Network
  - Finisterrae
  - Others
- Specific training programmes
- Middleware integration
- Apply specific mechanisms of personal mobility

IBERGRID
MAKING THE WAY

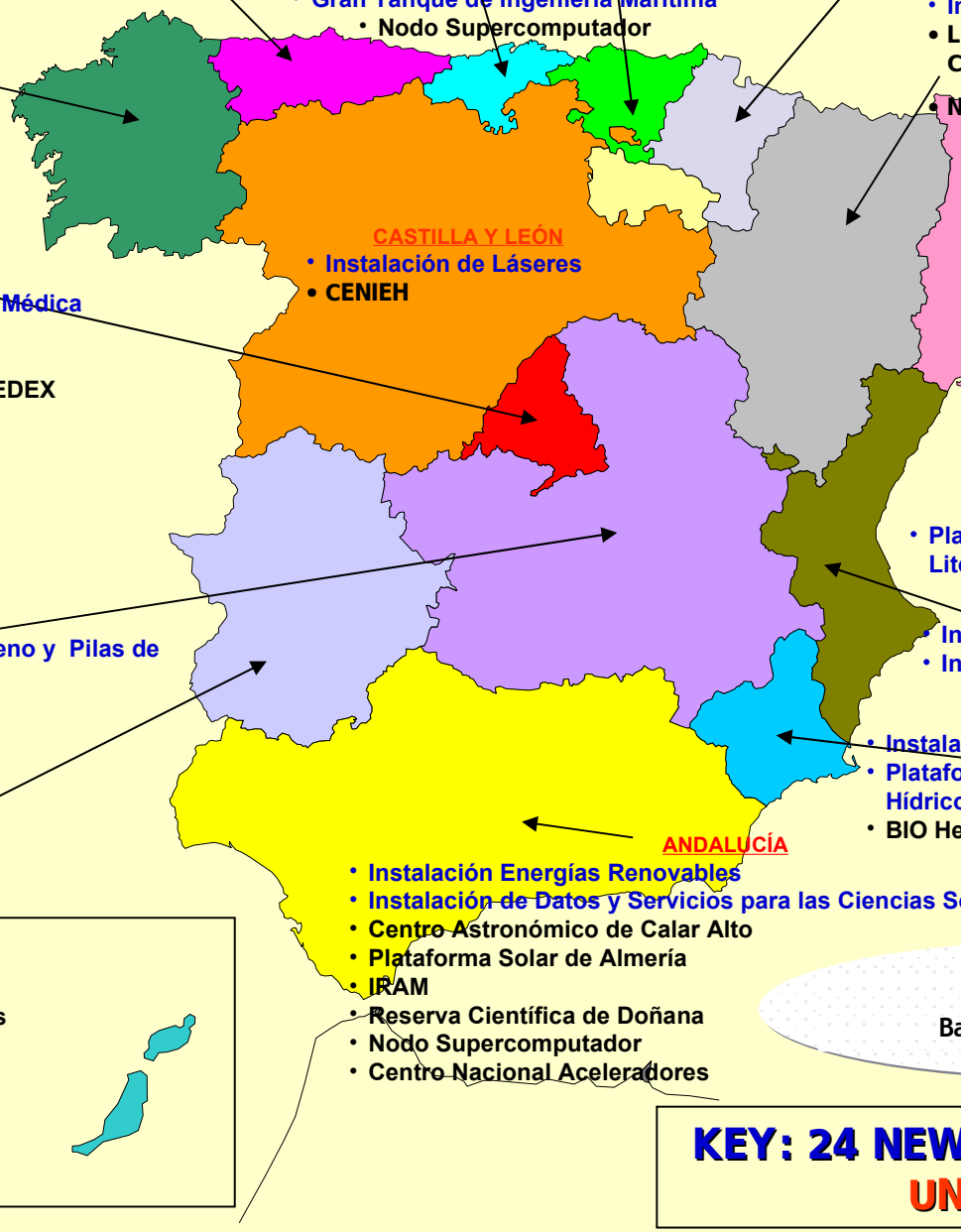
ONCE IBERIC INFRASTRUCTURE COMMON PLAN APPROVED

- **FIRST IBERGRID CONFERENCE IN SPAIN (Santiago de Compostela, 14-16 May 2007)**
- **HISPANO-PORTUGUES COMMITEE MEETING IN VALENCIA (24th July 2007)**
  - **WG Kick off meeting**
- **SECOND IBERGRID CONFERENCE IN PORTUGAL. (Oporto , May 2008)**

ELECTRONIC NETWORK CONNECTIONS

MINISTERIO
DE EDUCACIÓN
Y CIENCIA

ICTS Roadmap



PAÍS VASCO
- Fuente de Espalación
- Unidad de Imagen Molecular

ASTURIAS
- Plataforma de Oceanografía

CANTABRIA
- Gran Tanque de Ingeniería Marítima
- Nodo Supercomputador

NAVARRA
- Instalación de Imagen Medica y Diagnostica
- Instalación de Inv. en Biocumbustibles
- CENER

ARAGÓN
- Instalación Microscopias Avanzadas
- Laboratorio Subterráneo de Canfranc
- Nodo Supercomputador

GALICIA
- Unidad Oceanográfica
- Supercomputador Finis Terrae
- BIO Cornide de Saavedra
- BIO Sarmiento de Gamboa

CATALUÑA
- Instalación de Biología Estructural y Proteómica,
- Plataforma Mouse Clinic
- Sala Blanca del CNM
- Laboratorio de RMN
- CESCA
- BSC- Mare Nostrum 2
- Canal CIEM
- CIMNE
- Sincrotrón ALBA

MADRID
- Instalación Singular de Fusión
- Instalación de Tratamiento de Imagen Médica
- Fusión TJ-II
- Instalación de alta seguridad del CISA
- Instalaciones de ingeniería civil del CEDEX
- Central de Tecnología del ISOM
- RedIRIS (1)
- CEHIPAR
- Microscopía Avanzada
- Nodo Supercomputador

CASTILLA Y LEÓN
- Instalación de Láseres
- CENIEH

BALEARES
- Plataforma Tecnológica Litoral

VALENCIA
- Instalación de Física Médica
- Instalación ensayo Motores

CASTILLA LA MANCHA
- Instalación de Tecnologías del Hidrógeno y Pilas de Combustible
- Centro Astronómico de Yebes

MURCIA
- Instalación Oceanográfica y de Acuicultura
- Plataforma de Investigación en Recursos Hídricos
- BIO Hespérides

EXTREMADURA
- Instalación Grids

ANDALUCÍA
- Instalación Energías Renovables
- Instalación de Datos y Servicios para las Ciencias Sociales
- Centro Astronómico de Calar Alto
- Plataforma Solar de Almería
- IRAM
- Reserva Científica de Doñana
- Nodo Supercomputador
- Centro Nacional Aceleradores

CANARIAS
- Plataforma de Observación Oceánica
- Observatorio del Teide
- Observatorio del Roque de los Muchachos
- GranTeCan
- Nodo Supercomputador

Base A. Juan Carlos I
Base A. Gabriel de Castilla

KEY: 24 NEW ICTS & EXISTING & UNDER CONSTRUCTION