PRACE First Implementation Project
PRACE-1IP

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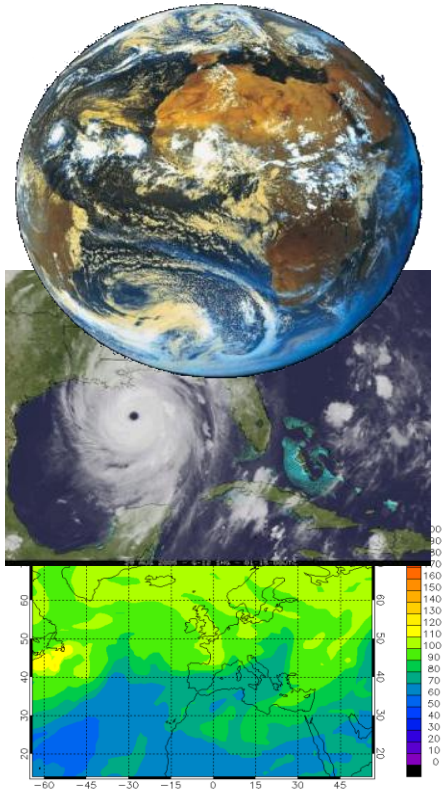
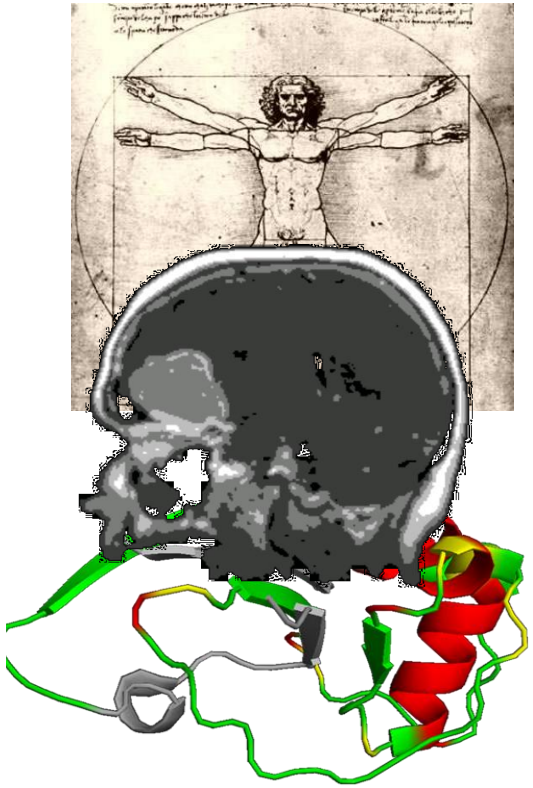
CAPACITIES

e-infrastructure

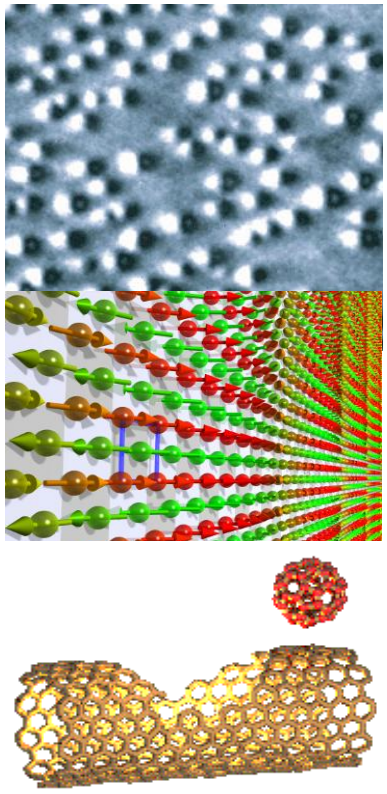
Supercomputing Drives Science through Simulation



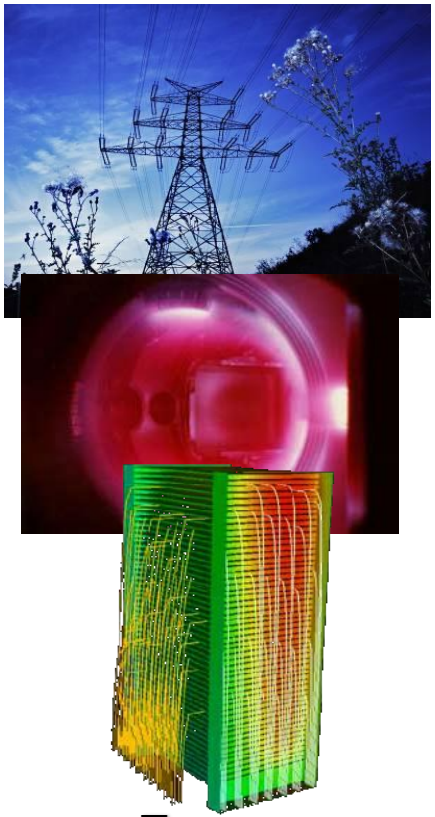
Environment
Weather/ Climatology
Pollution / Ozone Hole



Ageing Society
Medicine
Biology



Materials/ Inf. Tech
Spintronics
Nano-science

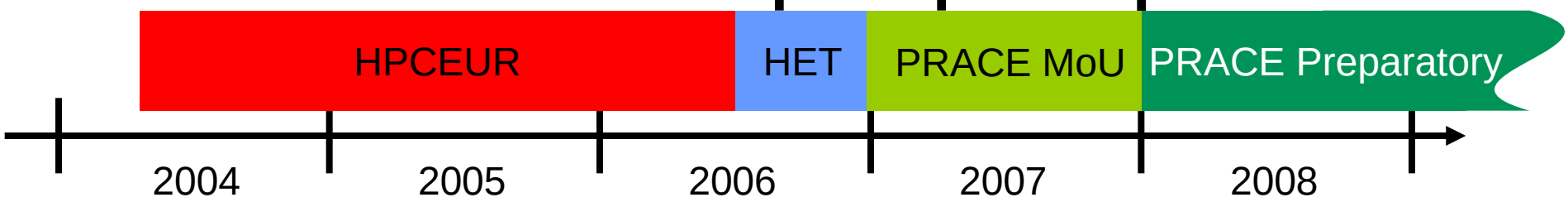


Energy
Plasma Physics
Fuel Cells

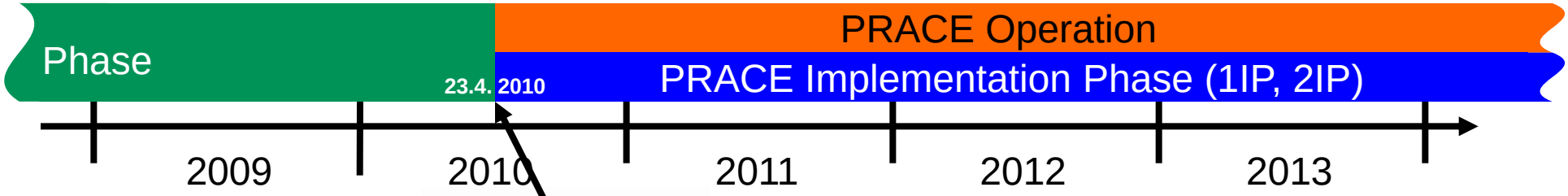
PRACE
The Partnership for Advance Computing in Europe is ***the*** European HPC Research Infrastructure

- PRACE enables world-class science through large scale simulations
- PRACE provides HPC services on leading edge capability systems on a diverse set of architectures
- PRACE operates up to six Tier-0 systems as a single entity including user and application support
  - International non-for-profit Association with seat in Brussels; 20 members
  - Systems funded by hosting members with 100 Million € / 5 years each
  - Currently France, Germany, Italy, Spain; The Netherlands expected soon
- PRACE offers its resources through a single pan-European peer review process
  - Governed by an independent Scientific Steering Committee

PRACE Timeline



EU-Grant: INFSO-RI-211528, 10 Mio. €

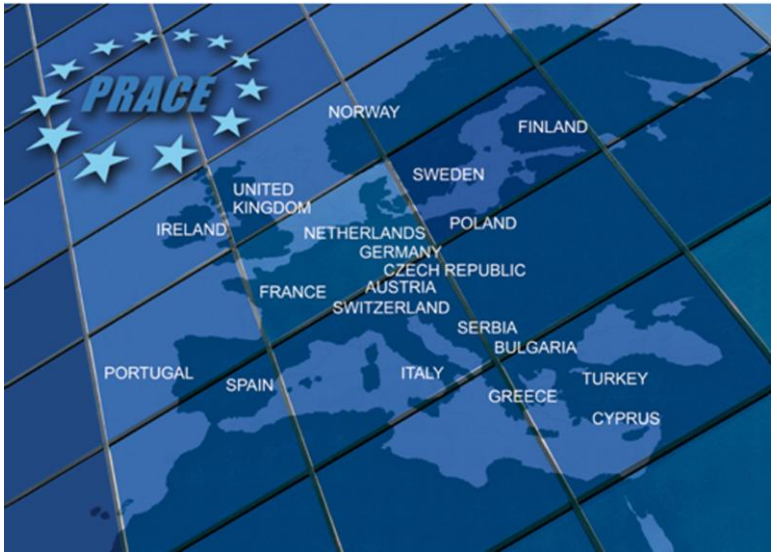


PRACE (AISBL), a legal entity
with seat in Brussels

PRACE-1IP
The First Implementation Phase Project

- PRACE-1IP complements the national investments of 400 Mio € and accelerates the deployment of HPC services

Designated organizations of 20 European states are members of the PRACE RI and collaborate in PRACE-1IP



Budget: 28 Mio €

EC contribution: 20 Mio €

Duration: July 2010 – June 2012

Activities and expected results of the PRACE-1IP project

- **Port, petascale and optimise applications for the Tier-0 systems as a service for the users of the PRACE RI [40% of staff effort]**
- Address the specific requirements of European industry (as users)
- Manage and support the distributed systems and diverse architectures consistently
- Integrate PRACE in the European HPC ecosystem
- Develop a model for a sustainable Tier-1 service
- Provide advanced HPC training and a training portal
- Promote the PRACE brand in international events
- Maintain the close relation with HPC vendors and advise the PRACE RI on future procurements
- Assess advanced architectures to foster European developments towards future multi-Petaflop/s systems
- Assume a driving role in the international exascale collaborations

PRACE Application Support

- Enabling/scaling support for applications can be requested along with proposals for Tier-0 (and in future Tier-1) access: typically 3-6 PM effort by PRACE
- Community support
  - Identification of opportunities to achieve impact by enabling/petascaling important community codes – leveraging existing relations to code owners and additional advice from the Scientific Steering Committee (SSC)
  - Work conducted by PRACE experts, in close contact with the community
  - Complementary approach planned for PRACE-2IP:
    embed PRACE experts in community development team to jointly work on refactoring of a code
- R&D on new programming paradigms, environments, tools, …