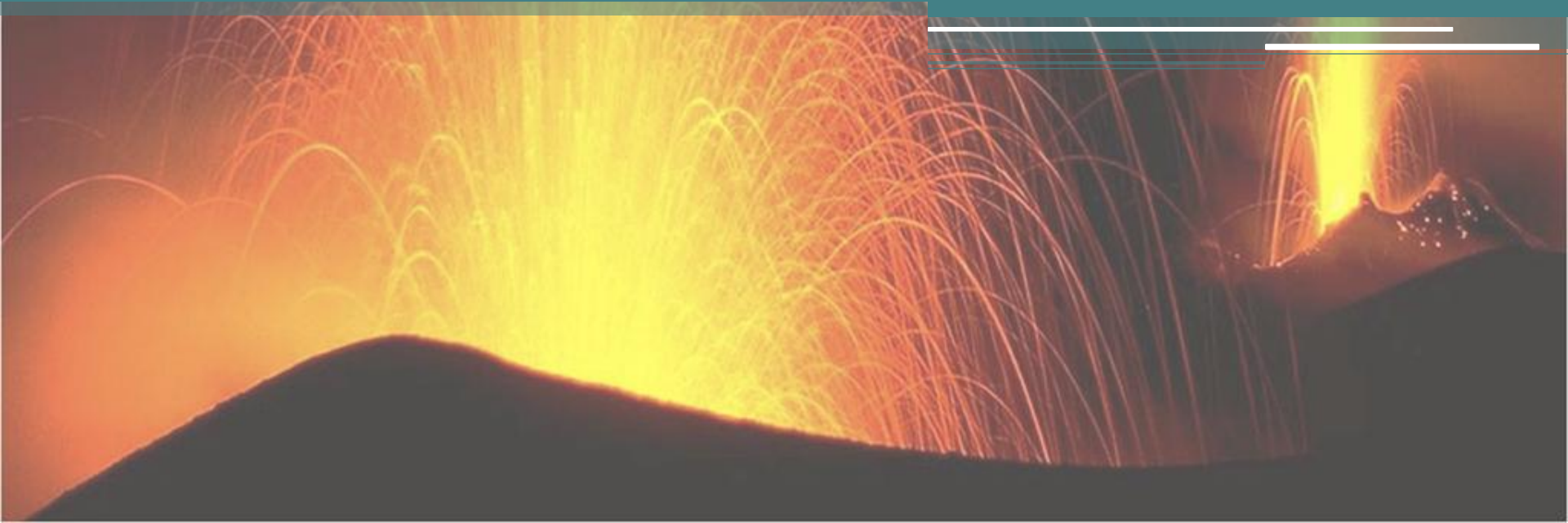


EPOS a long term integration plan of research infrastructures for solid Earth Science in Europe

Preparatory Phase Project

www.epos-eu.org



What is EPOS ?

EPOS is a long-term integration plan that aims to create a single sustainable, permanent and distributed infrastructure that includes:

- geophysical monitoring networks
- local observatories (including permanent in-situ and volcano observatories)
- experimental & analogue laboratories in Europe

EPOS will give open access to geophysical and geological data and modelling tools, enabling a step change in multidisciplinary scientific research into different areas

Mission Statement

EPOS will integrate the diverse, but advanced European Research Infrastructures for solid Earth Science, and will build on new e-science opportunities to monitor and understand the dynamic and complex solid-Earth System. EPOS will identify existing gaps and promote implementation plans with other disciplines of environmental science to help solve the grand challenges facing the Earth and its people.

Responding to the specific needs for Europe

- **Innovation**
 - Integrated accessibility to multidisciplinary data will accelerate the discovery of new and novel uses of Earth science results for societal benefit (including both scientific discoveries and technological progress)
 - Development of educational, training and dissemination material (e-learning)
- **Connections to other RIs and to other scientific fields**
- **Maintaining a key role and collaborating with other global and international initiatives**

- Influencing national priorities
- Implementing transnational access
- Giving visibility and coherence to our community
- Structuring our community to be competitive for global challenges
- Ensuring long term sustainability of our RIs
- Reducing fragmentation
- Optimizing effectiveness and impact

EPOS DUAL ROLE

getting ready for construction phase

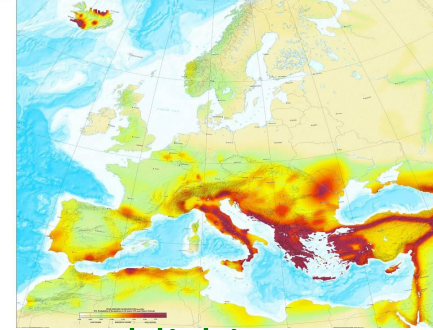


- Pan-European integration of existing research infrastructures
 - Integrating multidisciplinary infrastructures as a key challenge for solid Earth Science
 - Identifying existing gaps and pilot projects to promote a modern implementation of RIs
- Long-term sustainability of research infrastructures at national level
 - Guaranteeing maintenance and the minimum required implementation level
 - Supporting the development of the monitoring infrastructures coordinated with the Epos's pan-European integrated vision

MEREDIAN
NERIES
EXPLORIS
VOLCANO
TOPOEUROPE
SPICE



What is EPOS PP?

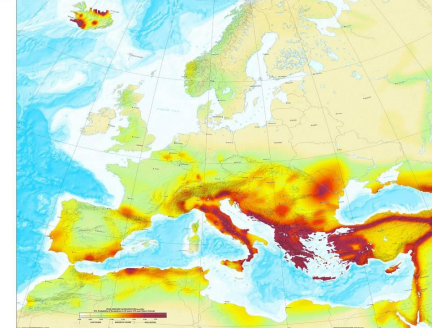


The Preparatory Phase is a timely initiative dedicated to establishing a management framework with efficient centralized coordination to achieve the following objectives:

Strategic

- To establish efficient coordination and management of the infrastructure at European level that will govern the process of building the necessary components, the expenditure assessment and the outreach at the project level.
- To reach mutual agreement among the countries involved regarding the core legal entity and its governance structure as well as commitments for funding that will ensure the construction of the infrastructure and its long-term operation.

What is EPOS PP?



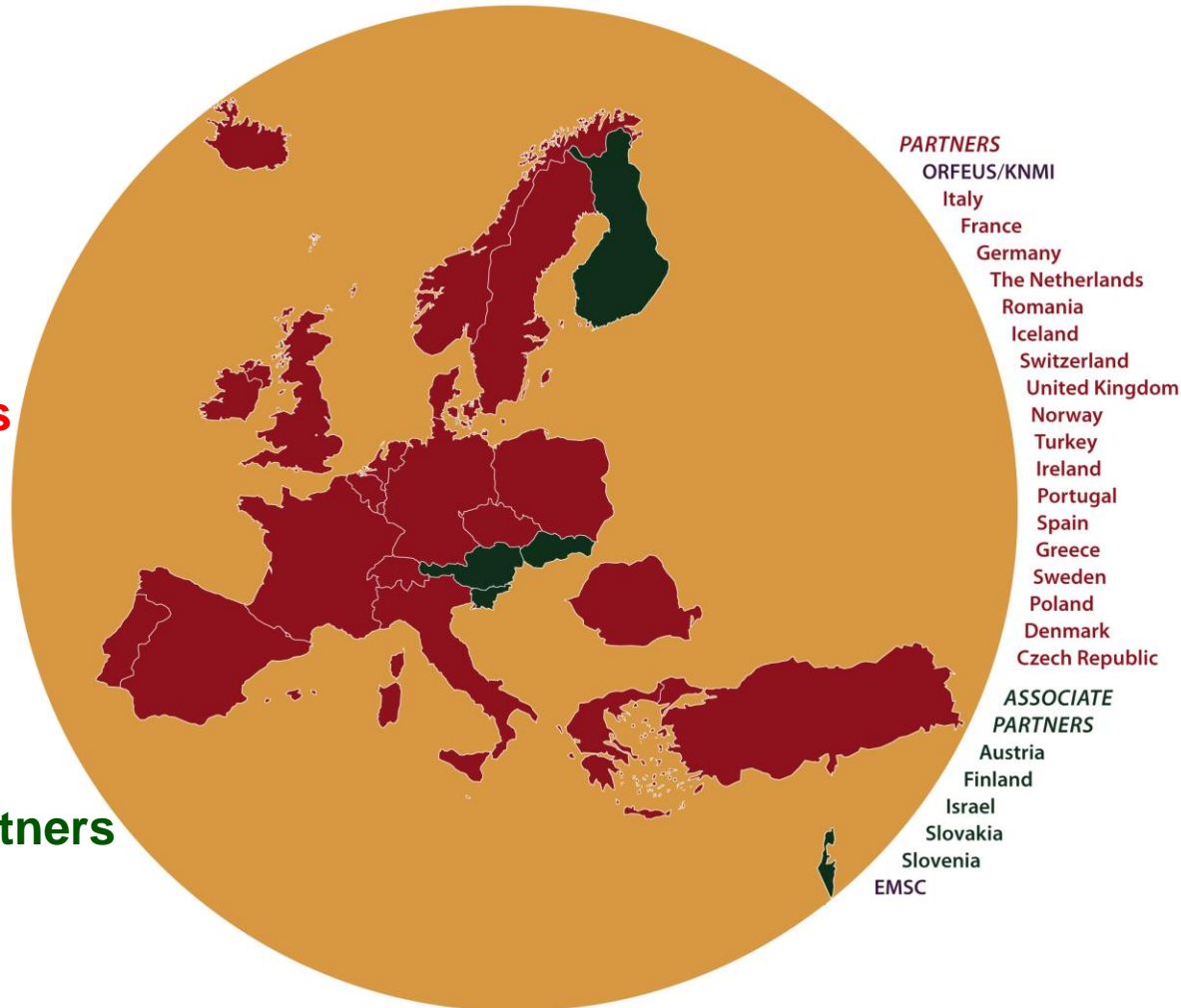
Technical

- To integrate existing national research infrastructures through the novel EPOS Data Centres representing a network of community service providers for distributed data storage and processing.
- To develop an innovative and coherent e-infrastructure architecture, which will form the platform and data service infrastructure (not community specific) by means of the EPOS Core Services, for interdisciplinary data and metadata exchange, processing tools and computational simulations through the EPOS user interface.
- To link EPOS with other international Earth Observing Systems.
- To promote coherent training, educational and dissemination programmes and outreach.

EPOS: the Partnership

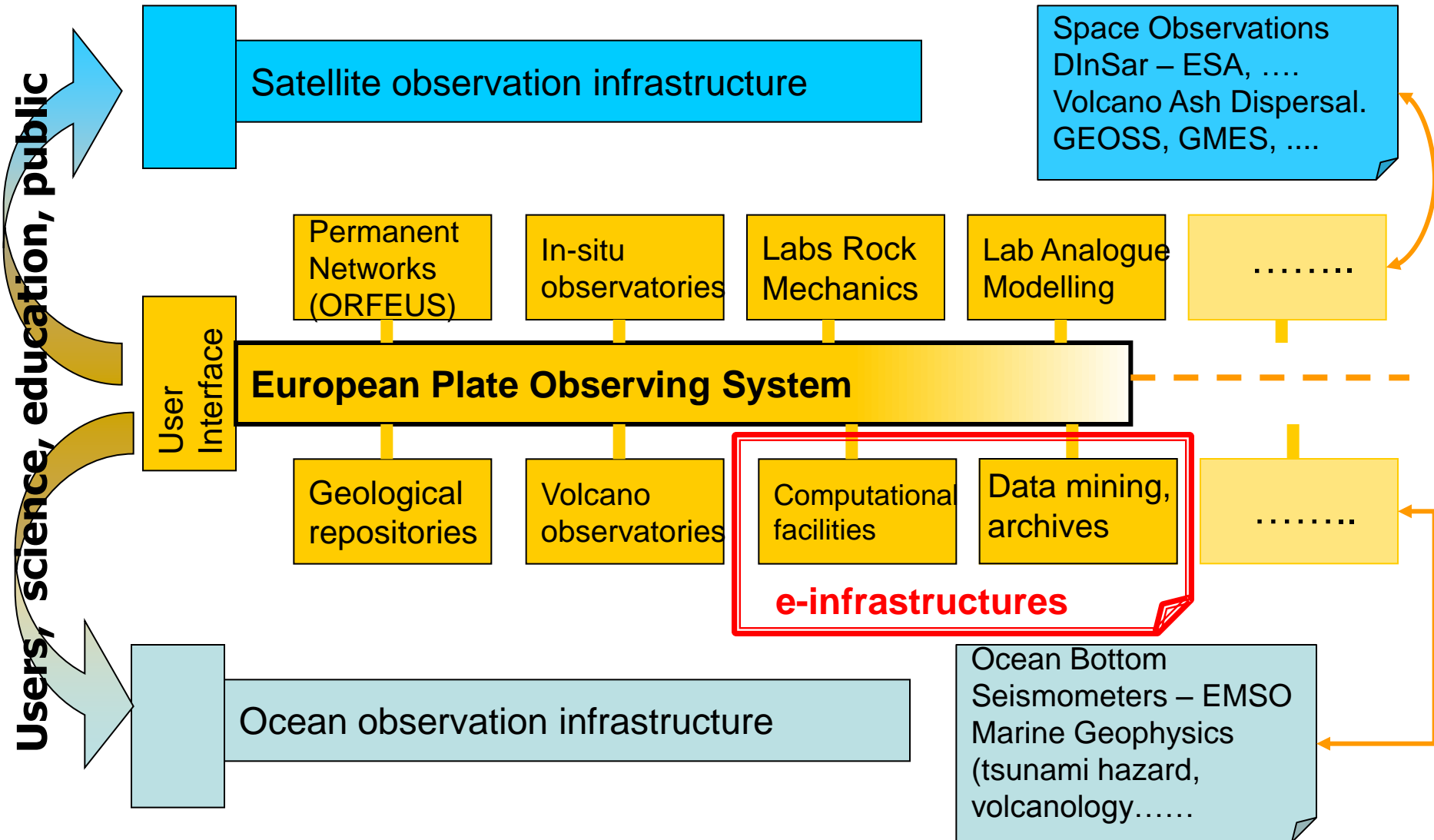
**20 partners
for 18 countries**

**6 associate partners
for 5 countries**

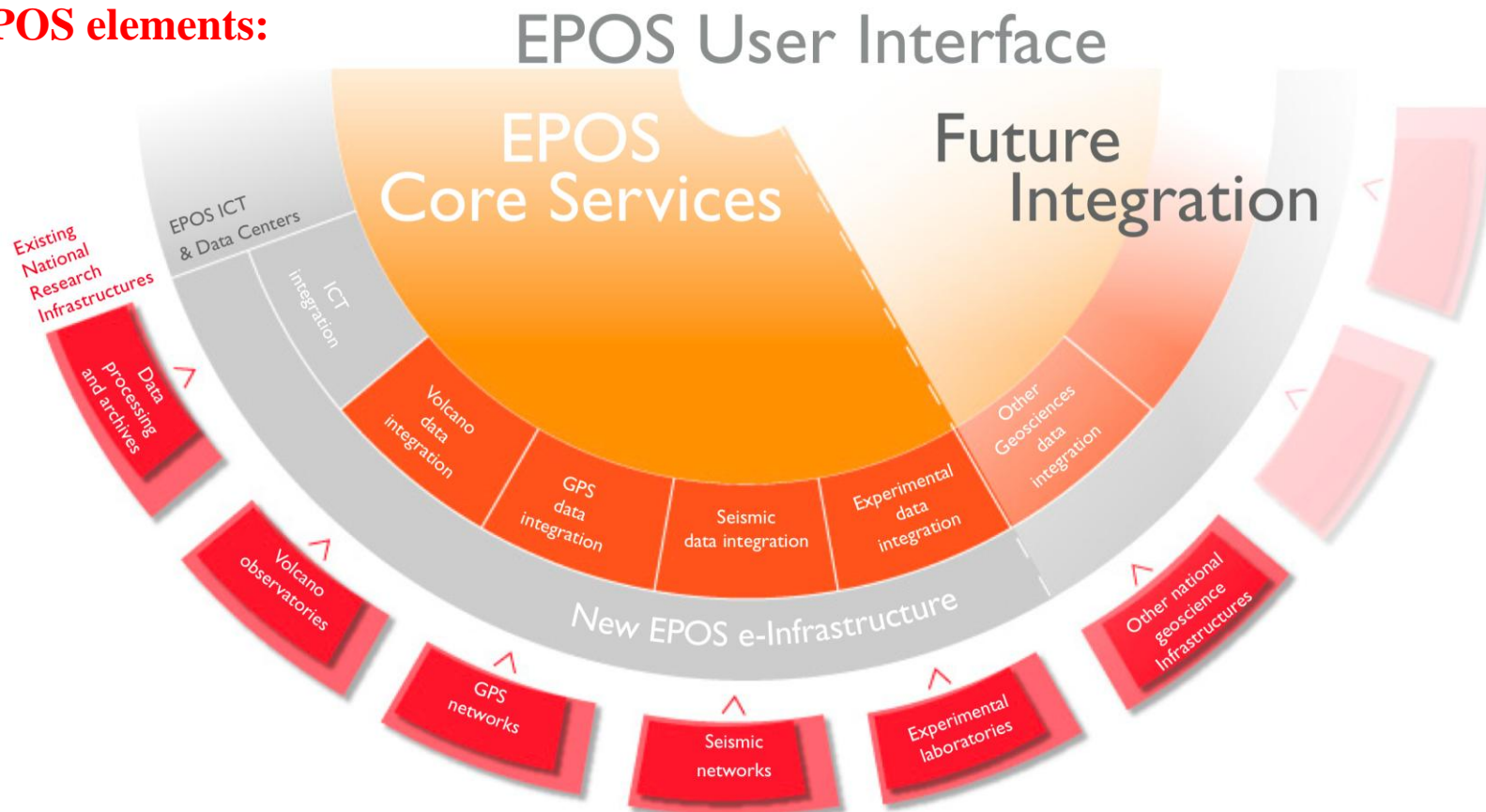


New Associate Partners: Finland, Austria, Slovenia

EPOS infrastructure concept



The EPOS elements:



- The existing national research infrastructures are integrated into the EPOS Data Centres, which represent community specific services for data archiving and mining having their own computational resources.
- Community specific data centres are further integrated by the EPOS Core Services, representing the infrastructure layer consisting of common data services.
- EPOS data service infrastructure will be designed and established during the PP to serve multiple communities studying the solid Earth dynamics.

Work Packages

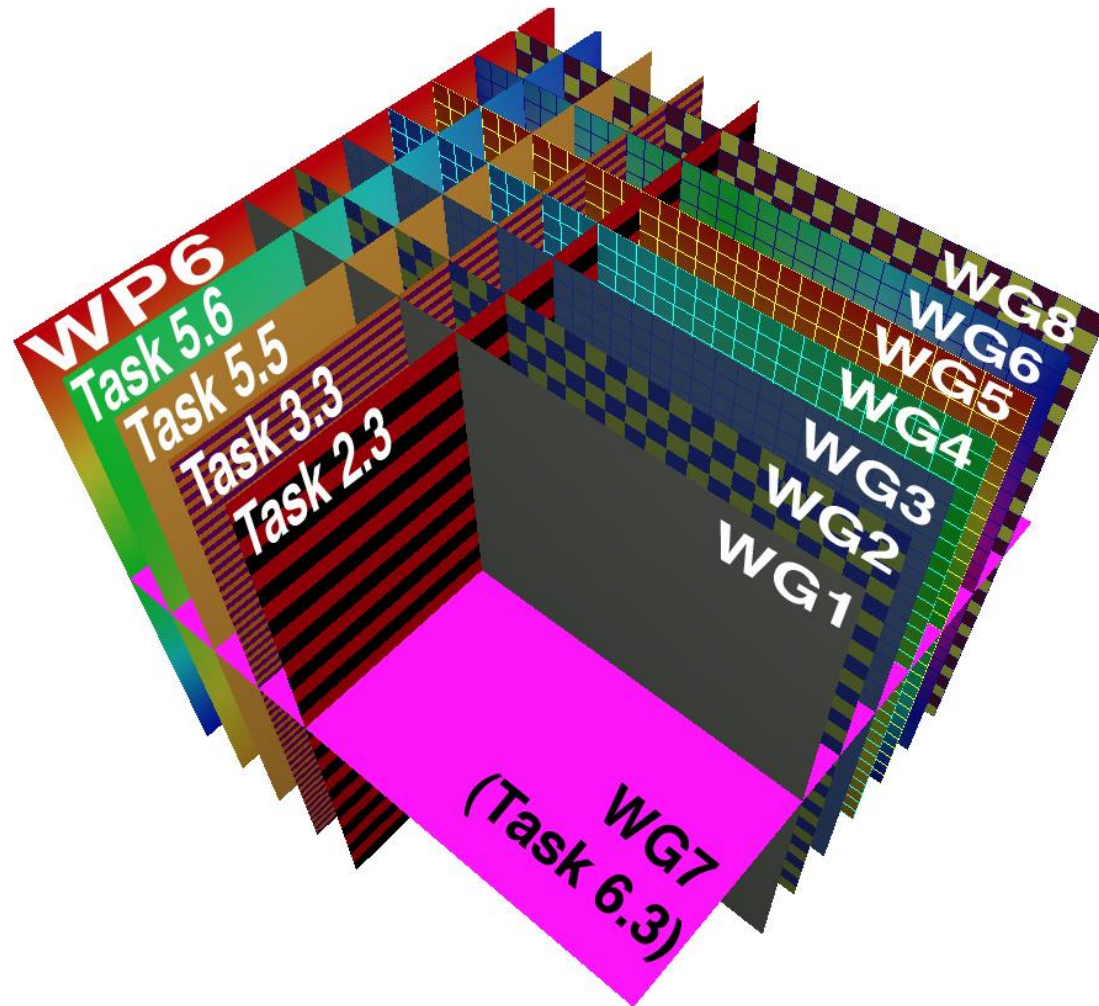
- WP 1 Preparatory Phase Management
- WP2 Legal work
- WP3 Governance
- WP4 Financial Plan
- WP5 Strategy
- WP6 Technical preparation
- WP7 Architecture and implementation plan
- Wp8 Stakeholder interactions & dissemination



WP6 Technical preparation

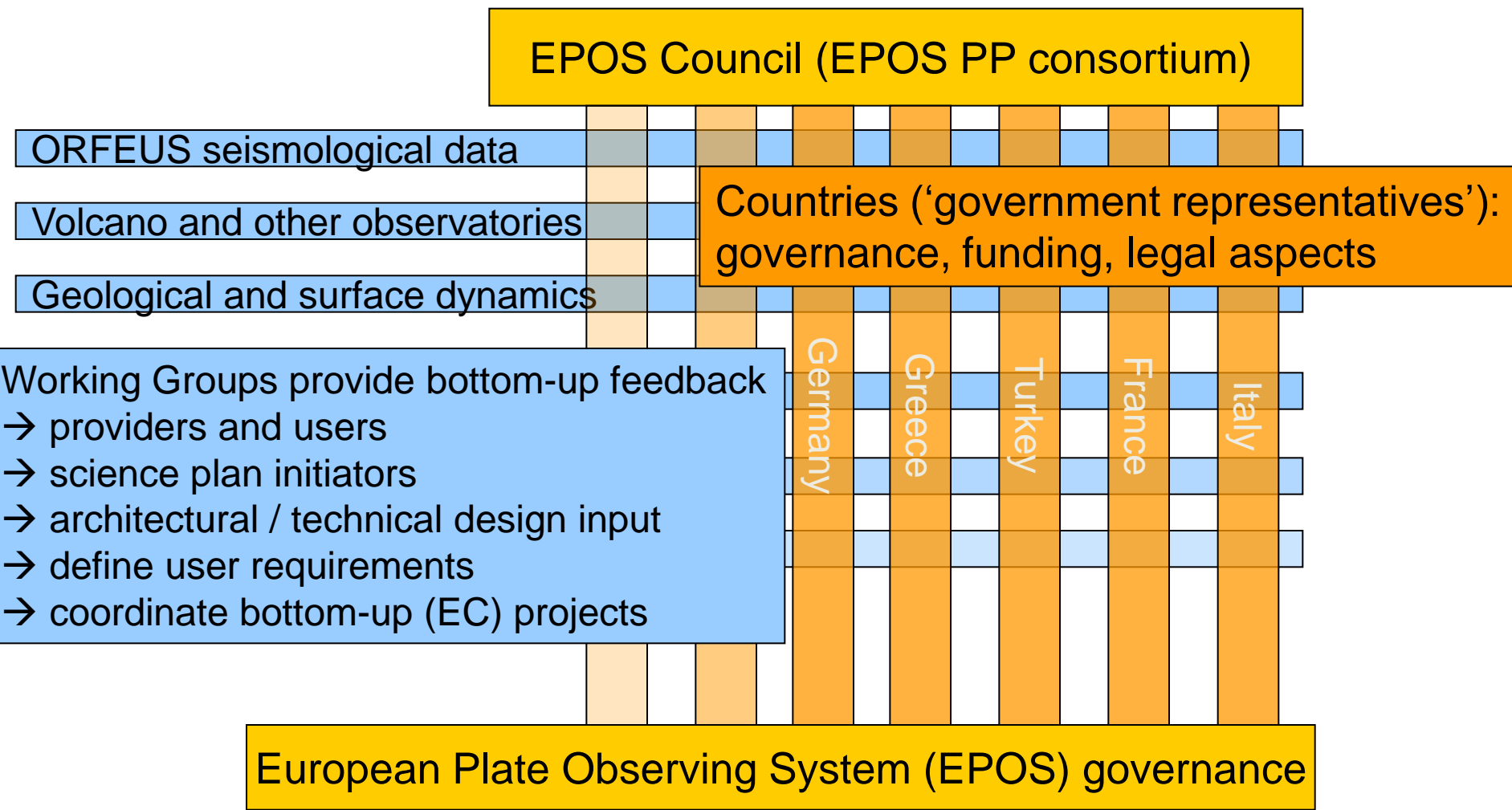
- Task 1 Inter-operability of RIs
 - Task 2 Standardization & Technological Challenges
 - Task 3 Access to data centres, modelling and technical facilities
 - Task 4 IT standardization
 - Task 5 WG integration and overview
-
- ✓ WG 1 Seismological data
 - ✓ WG2 Data from Volcano Observatories
 - ✓ WG3 Geological and Surface Dynamics data
 - ✓ WG4 GNSS data and other Geodetic data
 - ✓ WG5 Other Geophysical data
 - ✓ WG6 Analytic and Experimental Rock Physics Laboratories
 - ✓ WG7 e-infrastructures and virtual community (HPC and Grid)
 - ✓ WG8 Satellite data

EPOS Technological Work



EPOS EPOS PP project Working Groups

The EPOS research infrastructure fabric



Defining Mission Needs

- Identify data providers
- Define the EPOS Working Groups for technological work
- Define EPOS core groups of Users
- Define EPOS technical requirements
- Define optimal legal and governance structure
- Validation, authentication and impact assessment
- Provide long-term sustainability at national level

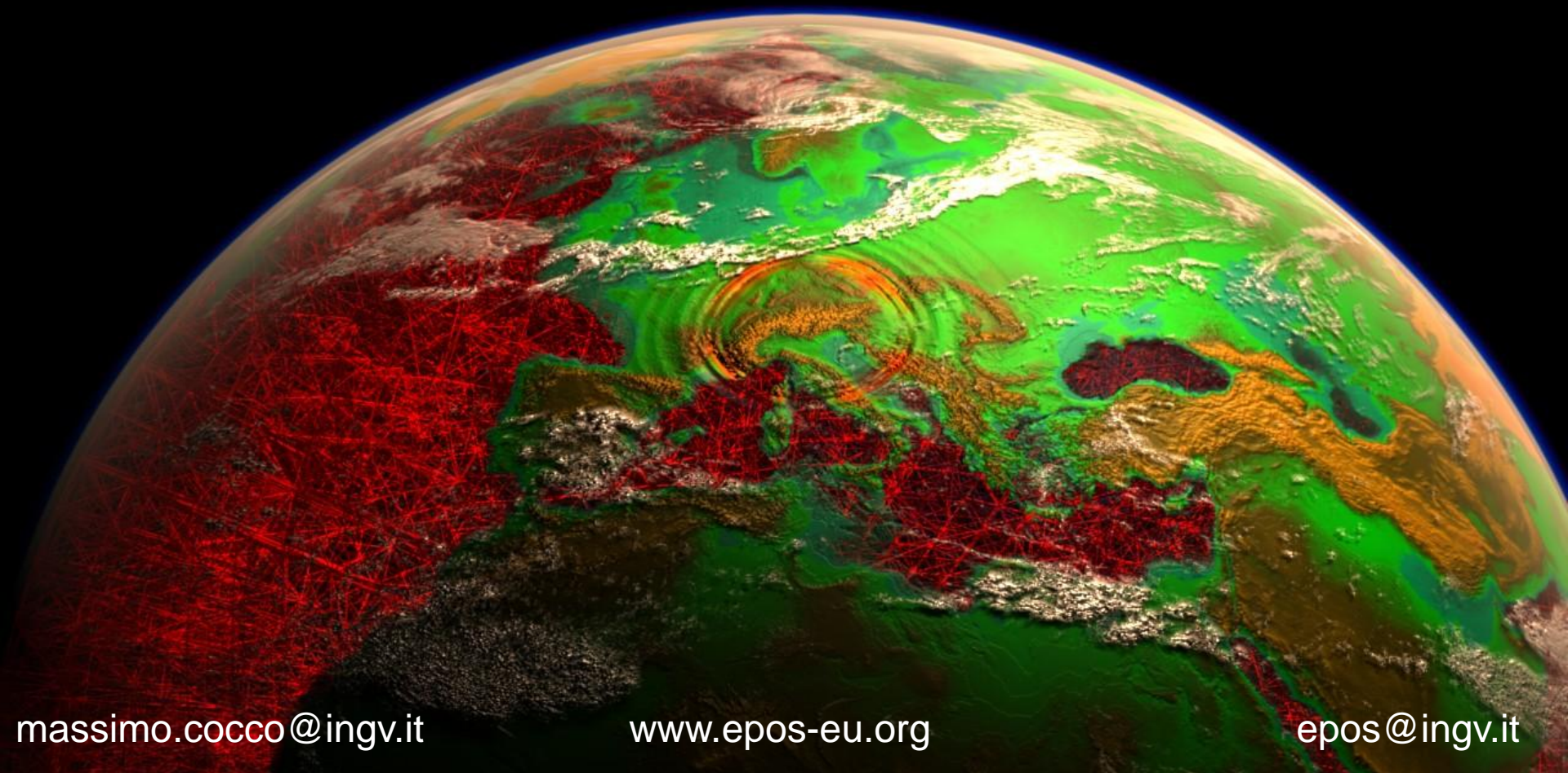


On-going & short-term Future Actions

- Finalizing RI's inventory (May 2011)
- Finalizing WGs composition (mid June 2011)
- Updating the e-science plan (June 2011)
- Designing the EPOS Data Centers (end 2011)
- Revising the core group of Data Providers (mid 2011)
- First collection of user needs (end 2011)



Thank you for attention



Coordinating interactions with the User Community and Stakeholders

EPOS stakeholders categories:

- (i) National Research Organisations & funding agencies,
- (ii) EPOS data providers,
- (iii) RI data users (including Academia),
- (iv) data and services providers and users outside the research community (including industry).

European Geosciences Union (EGU) & European Seismological Commission (ESC) belong to category (iii)

Regional Conferences are envisioned for the EPOS Strategic Work

Thematic Workshops are promoted