

## Current status of the EPOS WG4 – GNSS and Other Geodetic Data

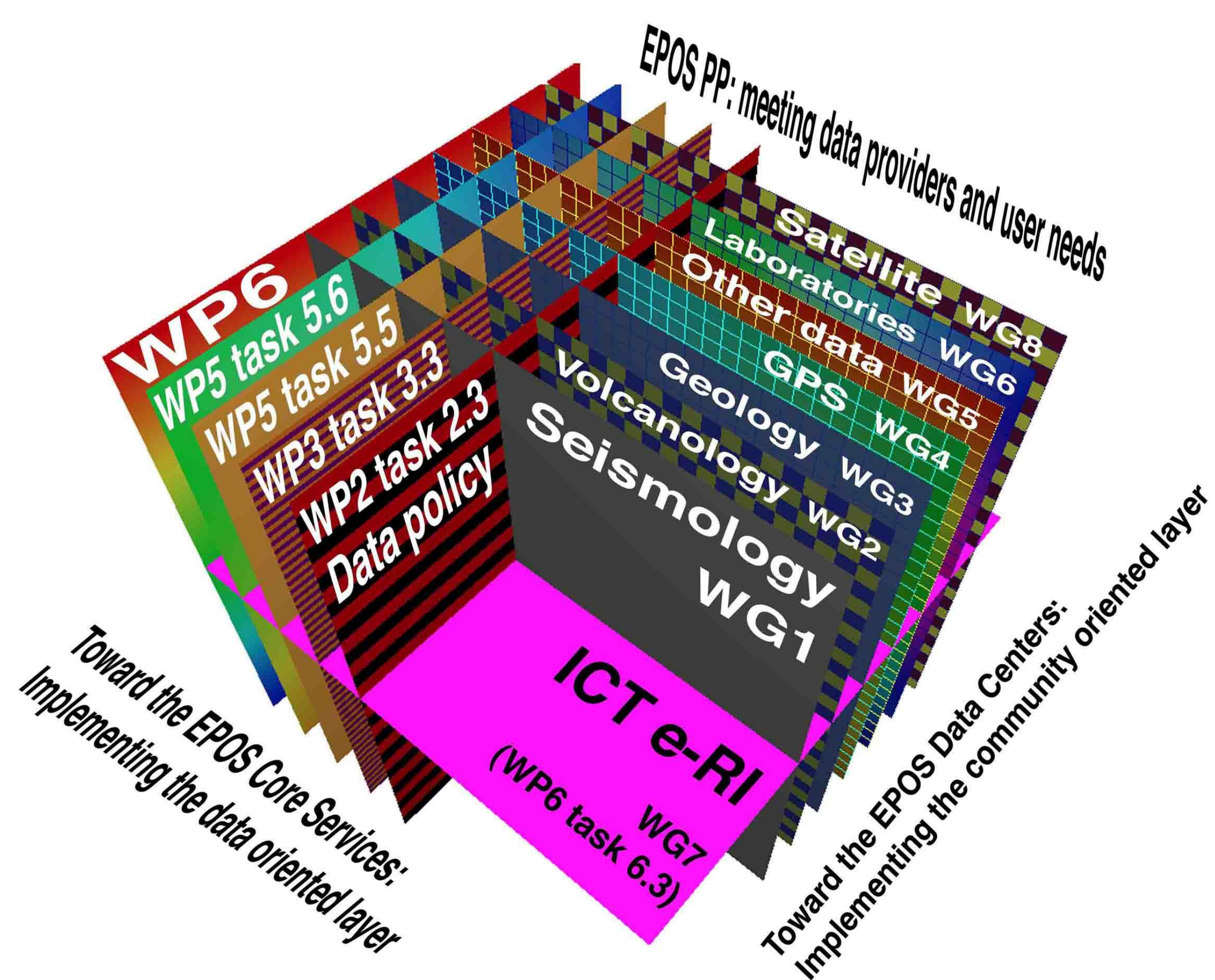
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WG4 – “EPOS Geodetic Data and Other Geodetic Data” is the Working Group of the EPOS project in charge of defining and preparing the integration of the existing Pan-European Geodetic Infrastructures that will support European Geosciences, which is the ultimate goal of the EPOS project. The WG4 is formed by representatives of the participating EPOS countries (23) but it is also open to the entire geodetic community. In fact, WG4 also already includes members from countries that formally are not integrating EPOS in the Preparatory Phase.

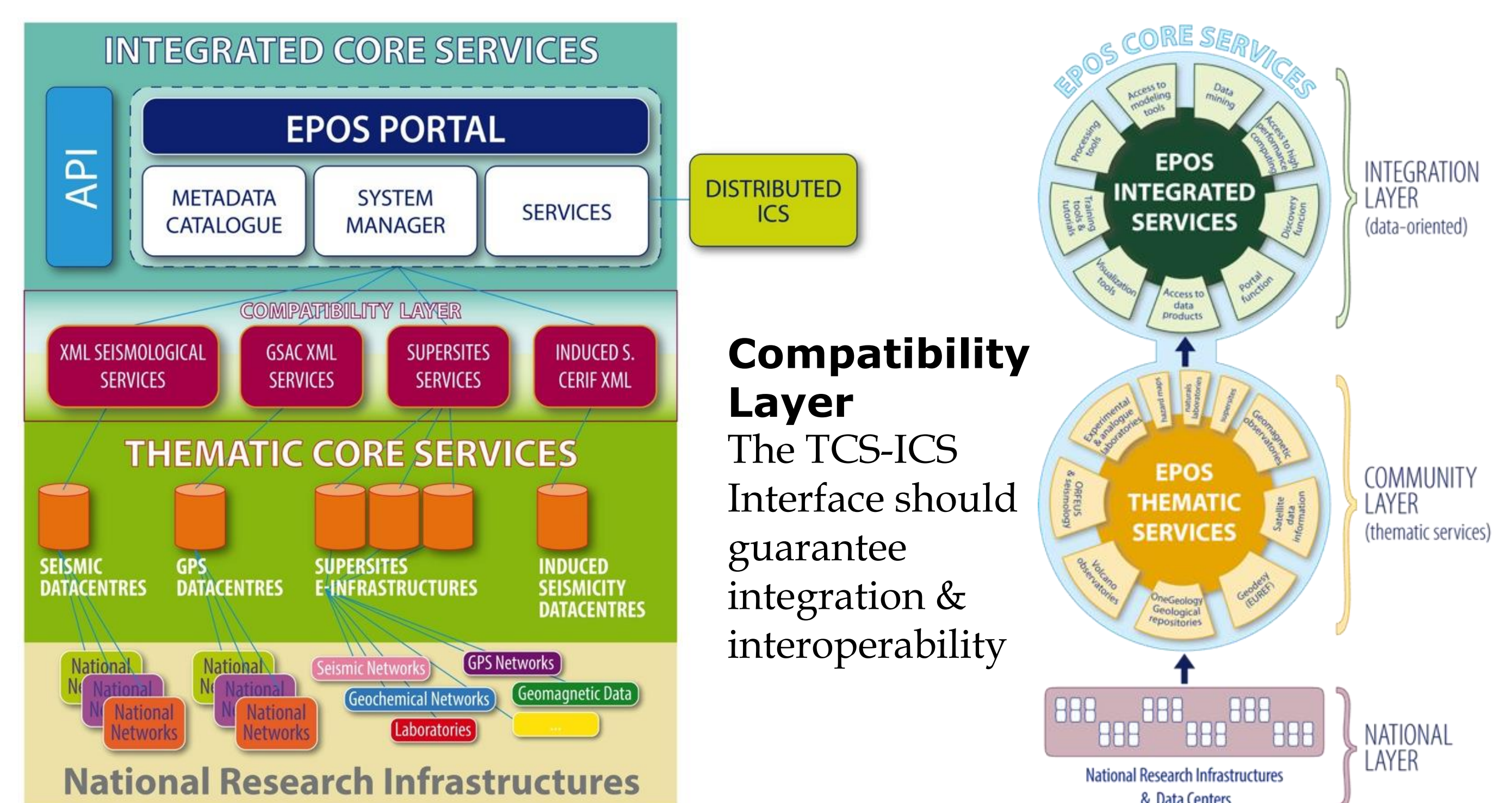
The geodetic component of EPOS (WG4) is dealing essentially with Research Infrastructures (RI) focused on continuous operating GNSS (cGNSS) that can also be used for Solid Earth research. The interaction with the EUREF community is a key aspect for the progress of the work.

Essential for the implementation of EPOS are the thematic and core services (TCS) for geodetic data within EPOS and the related business plan. Focus is on strategies towards the implementation of the best solutions that will permit the end-users, and in particular geo-scientists, to access the geodetic data, derived solutions, and associated metadata using transparent and uniform processes.

### THE EPOS RESEARCH INFRASTRUCTURE FABRIC



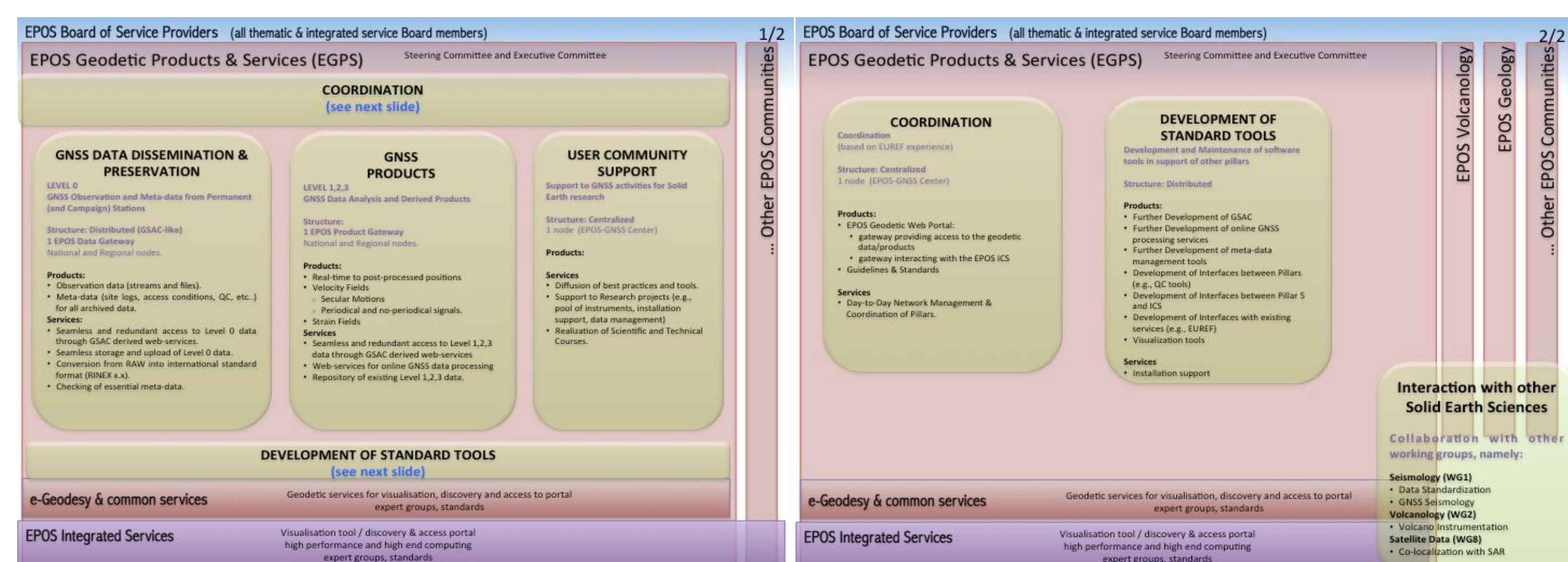
### EPOS Architecture



### WG 4 - GNSS

Focus in EPOS WG 4 is on GNSS and how to organize exchange of data for the benefit of scientific research, based on the spread infrastructure of several GNSS networks in Europe, implemented for various purposes. The task is to integrate **DATA** (not the basic infrastructure). Much efforts has been devoted to implementation and test of the GSAC tool used within UNAVCO for sharing data from a distributed infrastructure of data repositories, and providing data to users.

The design of the TCS for GNSS is summarized below



### WG 4 - Gravity

Among “other geodetic data” gravity data have been identified as an important contribution to other disciplines within earth sciences. The static gravity field is of interest, but is already organized through BGI. The **Absolute gravity** data, as well as **Superconducting gravity** observations have been identified and described in a separate document.

### Future – EPOS Implementation and Operational Phase

According to the conclusions from the European Union Council May 26, 2014, EPOS is one of three Priority Projects for Implementation!

### What is EPOS?

The European Plate Observing System (EPOS) is the integrated solid Earth Sciences research infrastructure approved by the European Strategy Forum on Research Infrastructures (ESFRI) and included in the ESFRI Roadmap in December 2008. EPOS is a long-term integration plan of national existing RIs. The invested value of these infrastructures has been estimated to some EUR 350 million.

### The preparatory phase

EPOS is a long-term integration plan that aims to create a single sustainable, permanent and distributed solid Earth science infrastructure that includes geophysical monitoring networks, local observatories, experimental & analogue laboratories in Europe and integrated satellite data information. This EPOS plan was the result of a conceptual phase (2002 – 2008) at the end of which EPOS was included in the European roadmap for research infrastructures by ESFRI. Currently EPOS is in the Preparatory Phase (2010 – 2014) for which the FP7 (Seventh Framework Program) of the European Commission has provided funding.

### What is included?

In the EPOS PP the various scientific communities are organized into working groups, with the task to design so-called **Thematic Core Services** (TCS) and prepare for the implementation and operational phase:

- WG1 – Seismological Observatories and Research Infrastructures
- WG2 – Volcano Observatories
- WG3 – Geological and Surface Dynamics data
- WG4 – GNSS and other Geodetic data
- WG5a- OBS (“other data”)
- WG5b- Near Fault Observatory
- WG6 – Analytical and Experimental Laboratories
- WG7 – e-infrastructures and virtual community (HPC and Grid)
- WG8 – Satellite information data
- WG9 – Magnetic Observations
- WG10- Infrastructures for Georesources