European Plate Observing System (EPOS) - die europäische Infrastruktur zur nachhaltigen Integrierung von multidisziplinären Daten zur Festen Erde

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Deutsches GeoForschungsZentrum GFZ, Potsdam

Helmholtz Open Access Webinare zu Forschungsdaten

Webinar 20 - 26.03./03.04.14

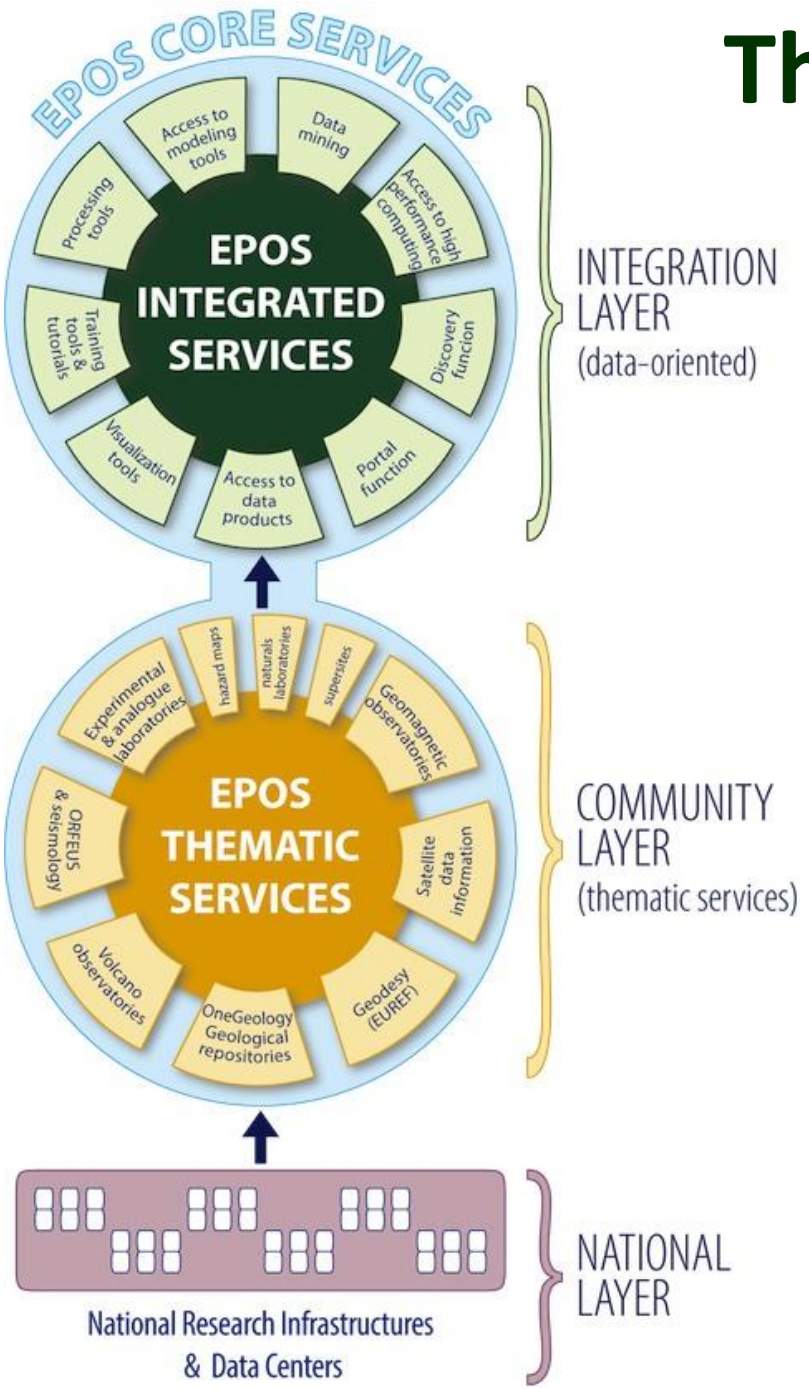
What is EPOS ?

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

- geophysical and geodetic 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

The EPOS Architecture



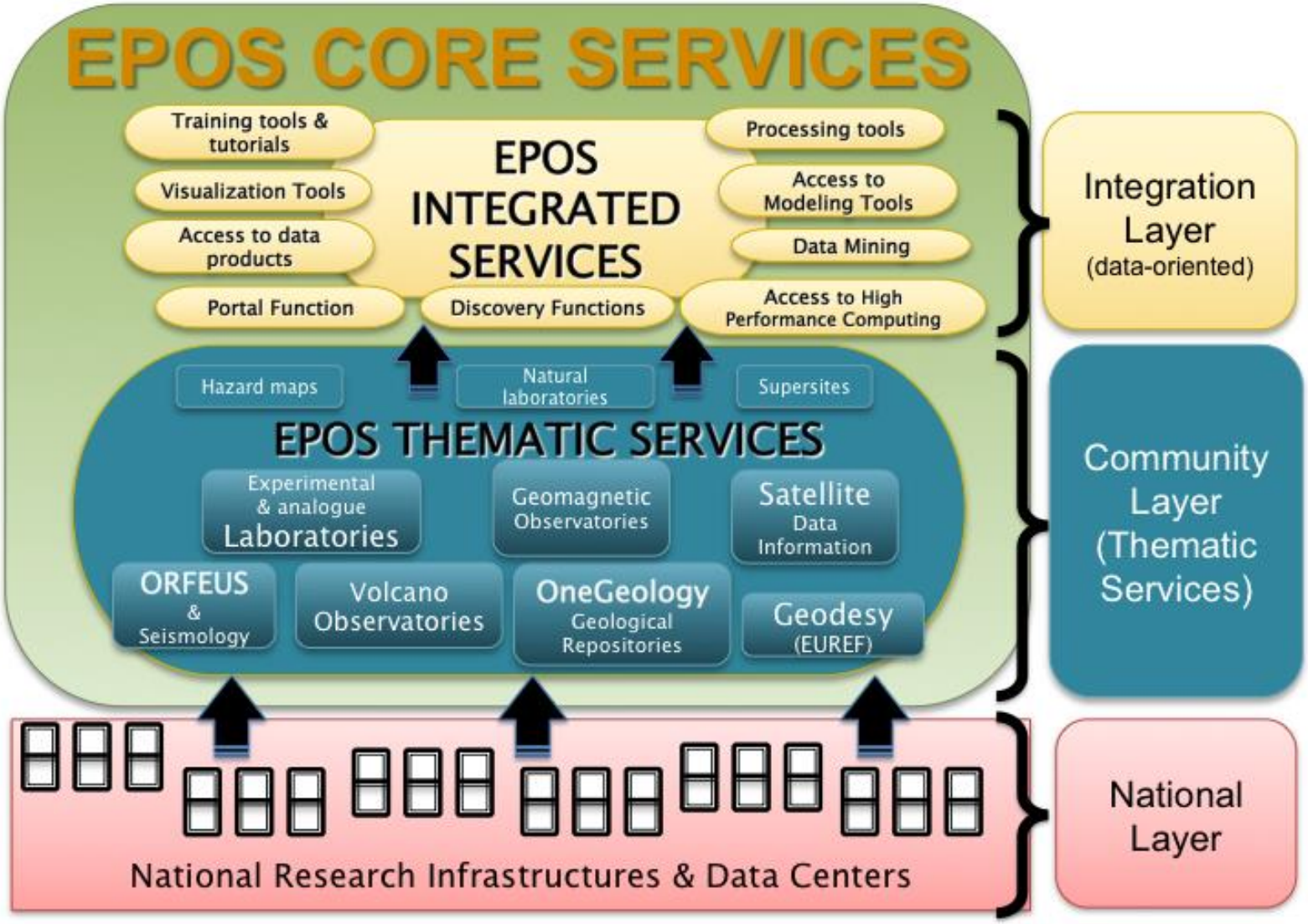
The **EPOS Integrated Core Services** will provide **access to multidisciplinary data, data products, synthetic data** from simulations, processing and visualization tools

The **EPOS Integrated Core Services** will **serve scientists** and other **stakeholders, young researchers (training), professionals** and **industry**

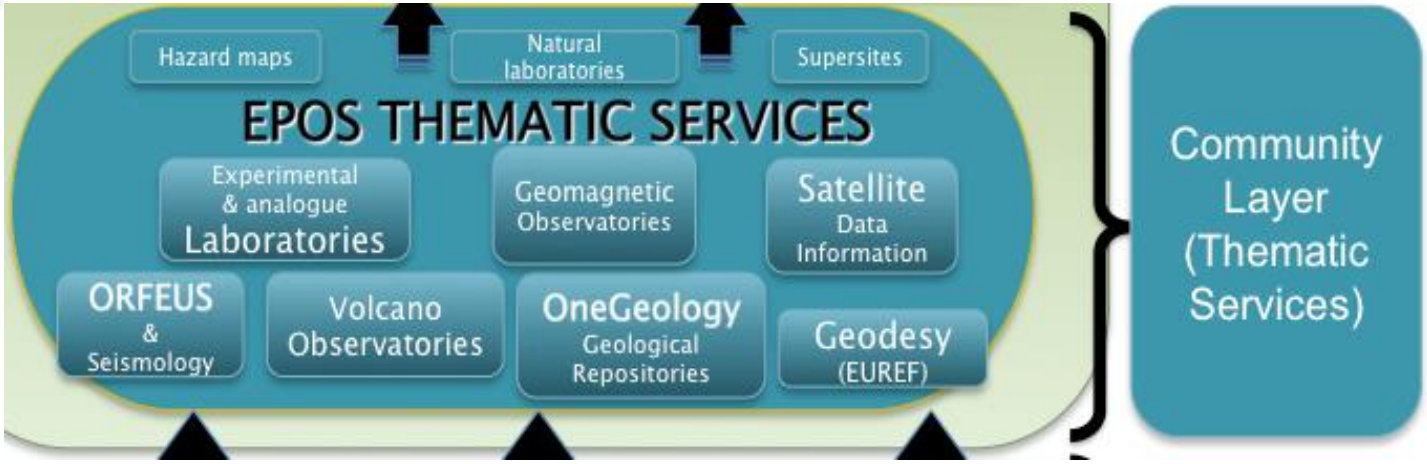
EPOS is more than a mere data portal: it **will** not only provide data but also **integrate**, **analyse**, **compare**, **interpret** and **present** data and information about **Solid Earth**.

Thematic Core Services are infrastructures to provide **data services to specific communities** (they might be international organizations, such as ORFEUS for seismology)

National Research Infrastructures and facilities provide **services at national level** and send data to the European thematic data infrastructures.


EPOS CORE SERVICES
Training tools & tutorials
Visualization Tools
Access to data products
Portal Function
EPOS INTEGRATED SERVICES
Discovery Functions
Processing tools
Access to Modeling Tools
Data Mining
Access to High Performance Computing
Integration Layer (data-oriented)
Hazard maps
Natural laboratories
Supersites
EPOS THEMATIC SERVICES
Experimental & analogue Laboratories
Geomagnetic Observatories
Satellite Data Information
ORFEUS & Seismology
Volcano Observatories
OneGeology Geological Repositories
Geodesy (EUREF)
Community Layer (Thematic Services)
National Research Infrastructures & Data Centers
National Layer

The Community Layer of Thematic Services

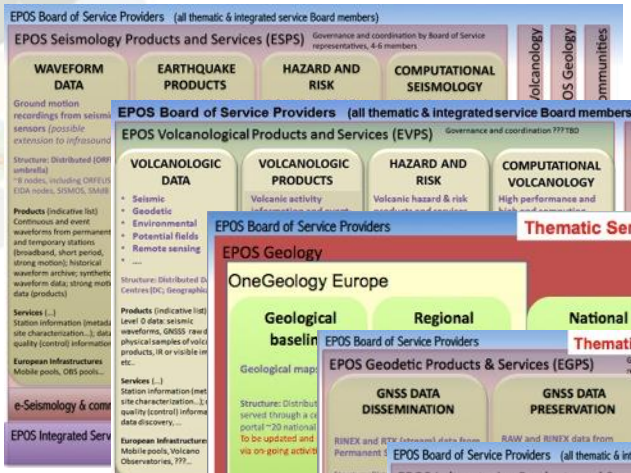


Thematic Core Services:

- are infrastructures to provide data services to specific communities
- also link the National Research Infrastructures to the EPOS Integrated Services
- consist of existing (e.g. ORFEUS, EMSC, EFEHR, etc.), developing (e.g. EUREF/GNSS) or still to be developed Service Providers for specific thematic communities (e.g., seismology, volcanology, geodesy, geology, geomagnetism, geo-resources … and many more)
- some Service Providers (e.g. OneGeology+, Intermagnet) may be merely linked or partially integrated
- Integrated Laboratories, and RIs spanning multiple EPOS disciplines, will also be included in this layer; their new Thematic Nodes will take advantage of other existing Thematic Services

The EPOS Working Groups and their vision of Thematic Core Services (TCS)

- Governance
- Data Products
- Services
- Socio-Economic Impact



WG1 - Seismology

WG2 - Volcanology

WG3 – Geological Data

WG4 – GNSS Data

WG5a –Ocean Bottom Sensors

WG5b - Near Fault Observatories

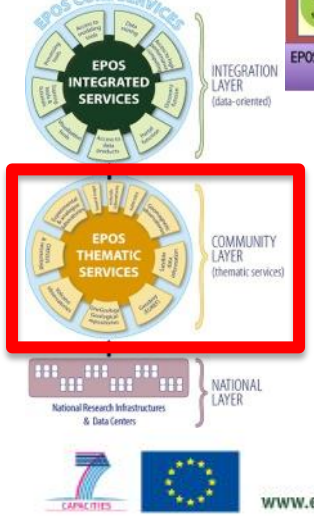
WG6 – Analytical and Experimental Laboratories

WG8 – Satellite Data

- WG9 a proxy of a network of distributed Ris

WG 9 – Geomagnetic Observatories

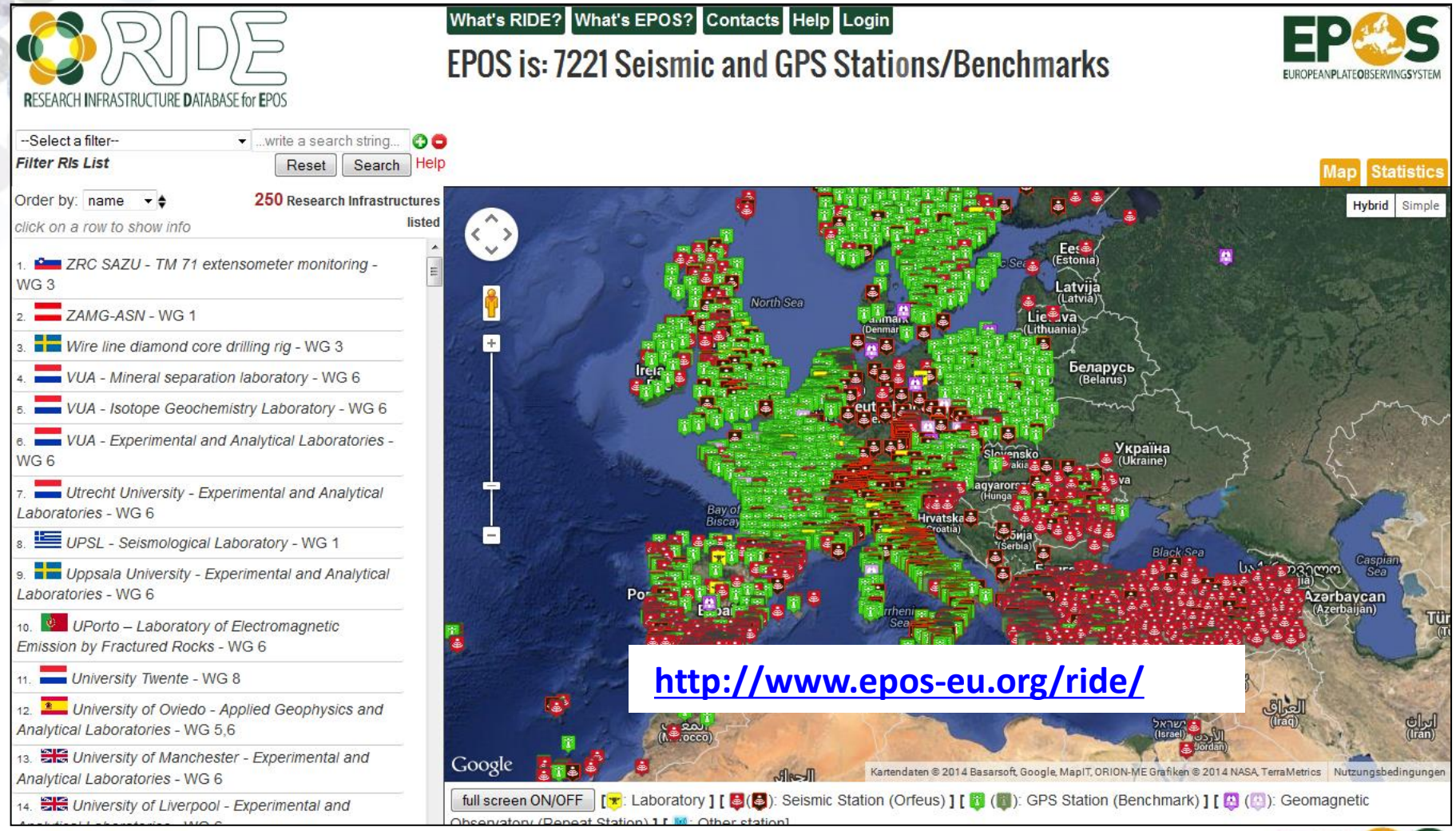
WG10 - Infrastructures for Georesources



www.epos-eu.org

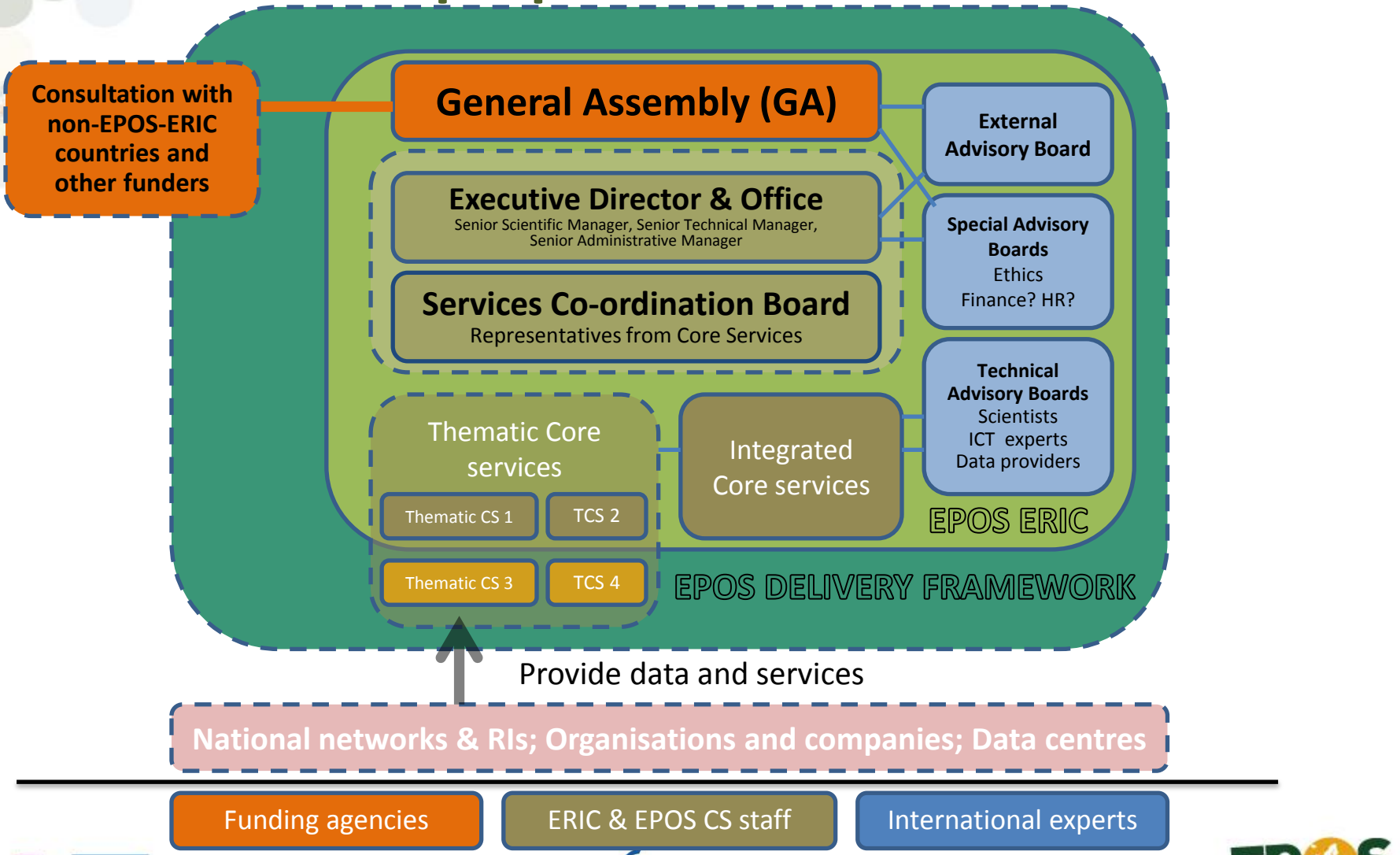
EPOS EUROPEANPLATEOBSERVINGSYSTEM

The RIDE Catalogue of EPOS Research Infrastructures

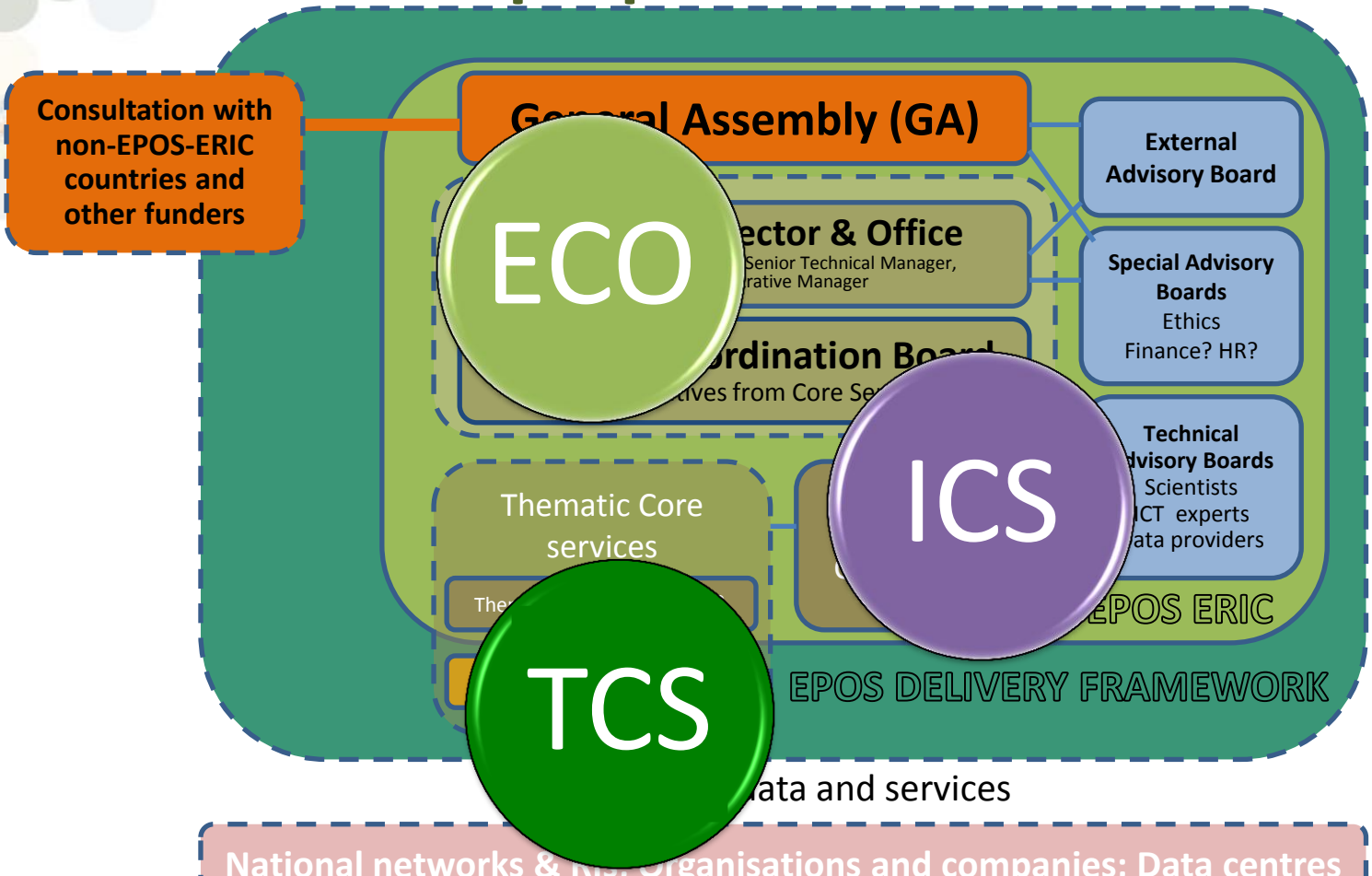


http://www.epos-eu.org/ride/

EPOS ERIC: proposed Governance scheme



EPOS ERIC: proposed Governance scheme



EPOS Landscape and interactions

EPOS CONCEPTION

Projects' interactions

TRAINING

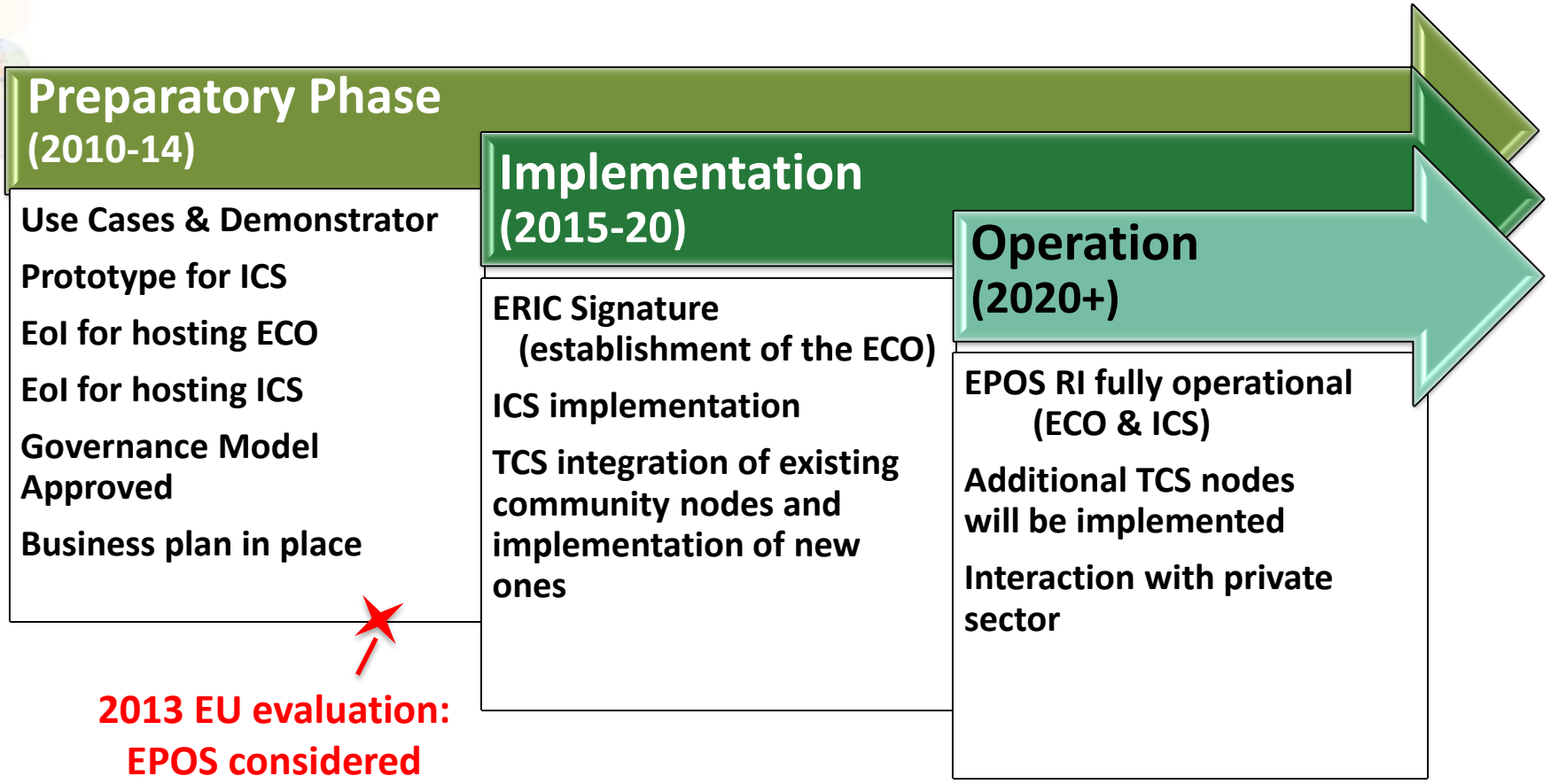
IT collaborations

TCS implementation

Global cooperation

Participation in global Initiatives

3-Phase Implementation Model



2013 EU evaluation: EPOS considered mature and ready for implementation

Das EPOS Portal

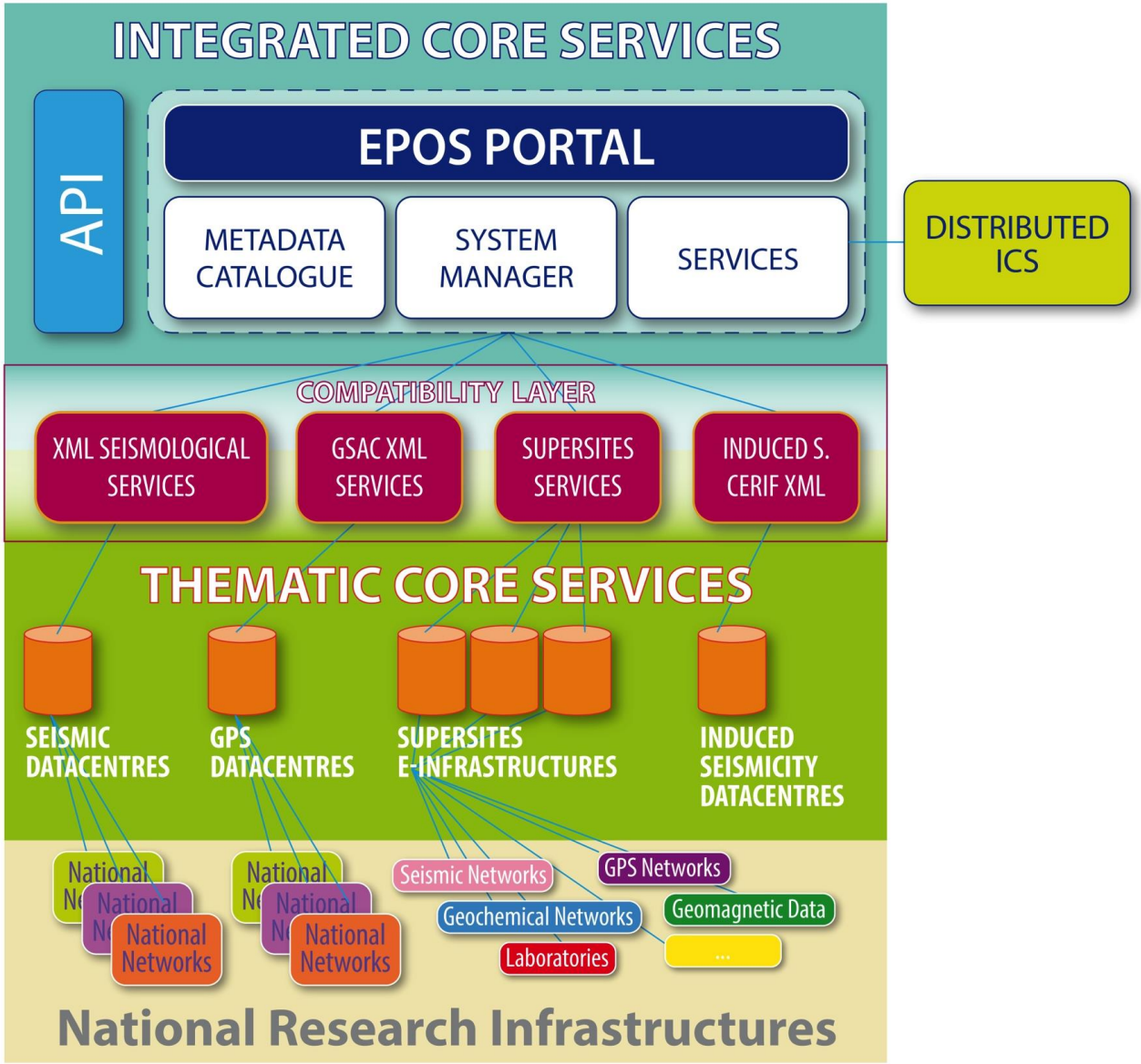
Erster Entwurf der EPOS eArchitektur

Kernelemente des EPOS Portals

- Diversität der Daten (Multidisziplinarität)
- Geprüfte Qualität der Daten
- Integration von Katalogen, Software, Modellen, …
- Prozessierung großer Datenmengen über externe HPC Ressourcen

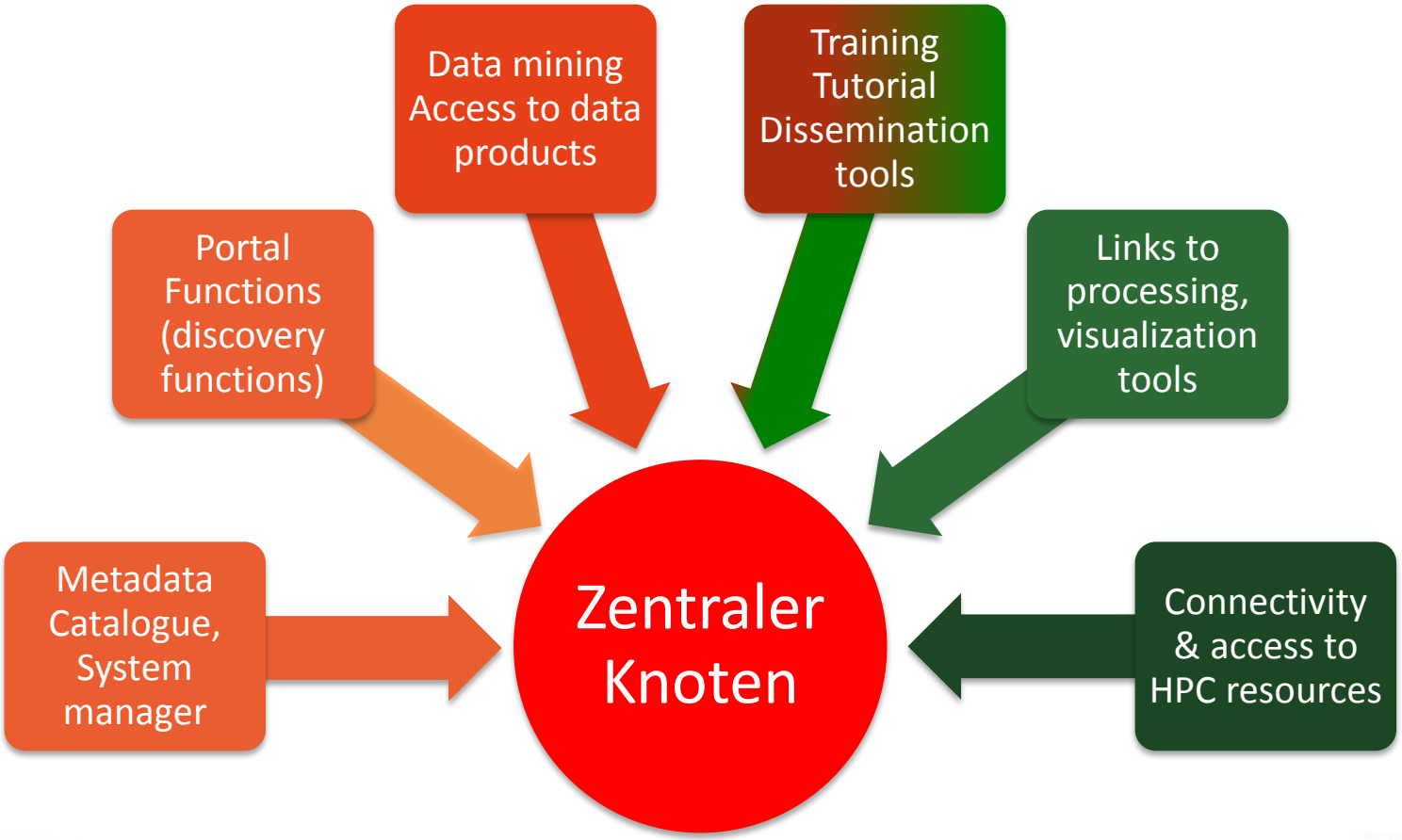
„One-Stop-Shop“

EPOS eArchitektur



Integrated Services

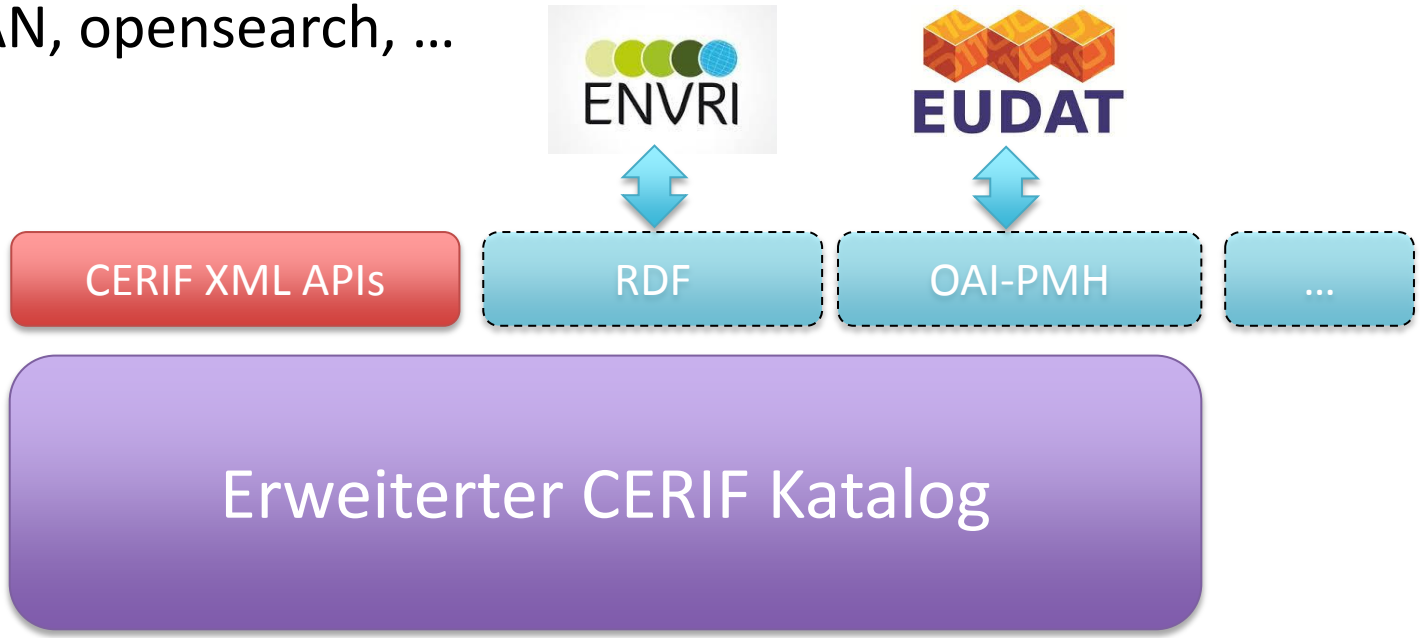
zentral oder verteilt?



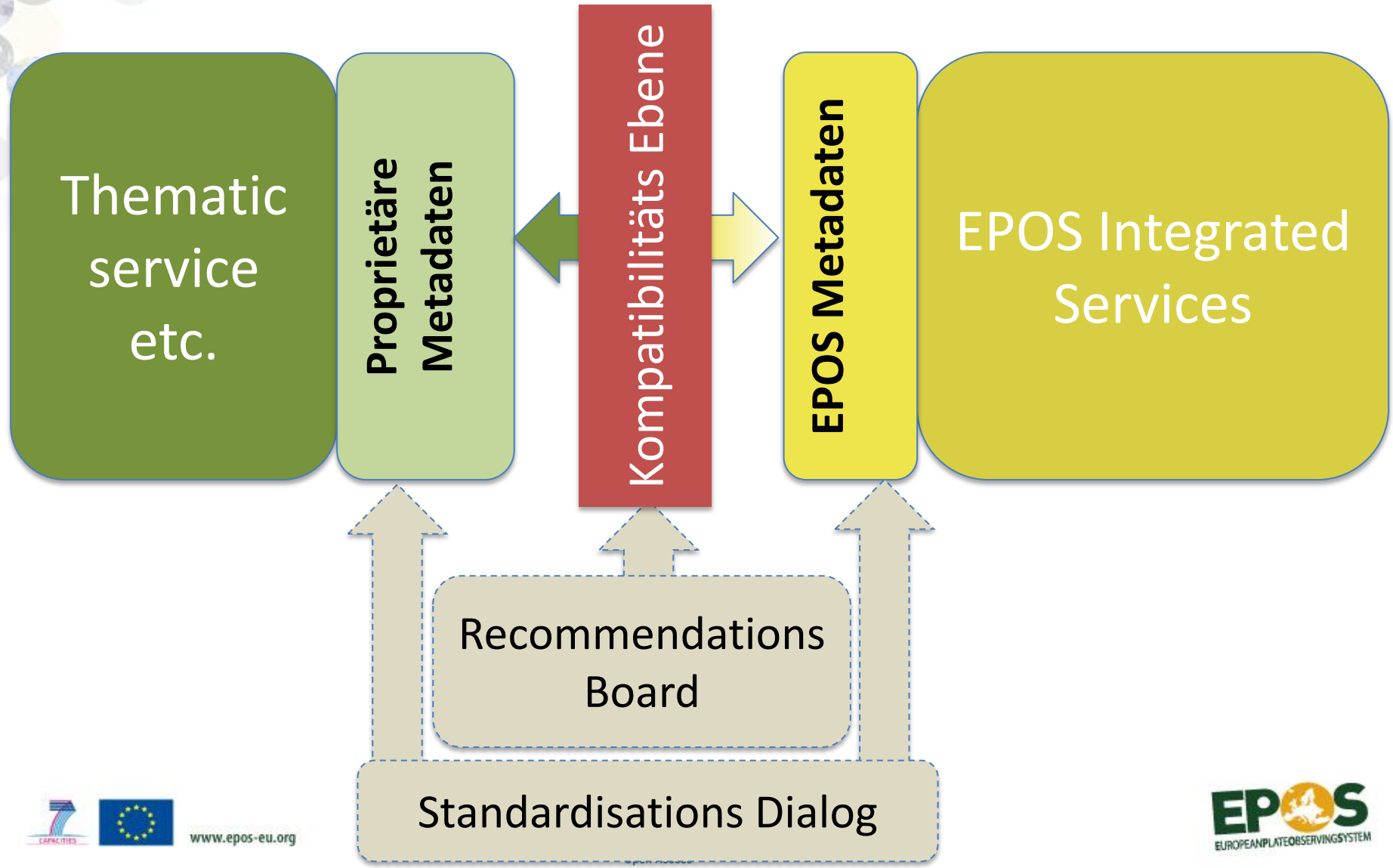
Der zentrale Katalog

Kommende Schritte:

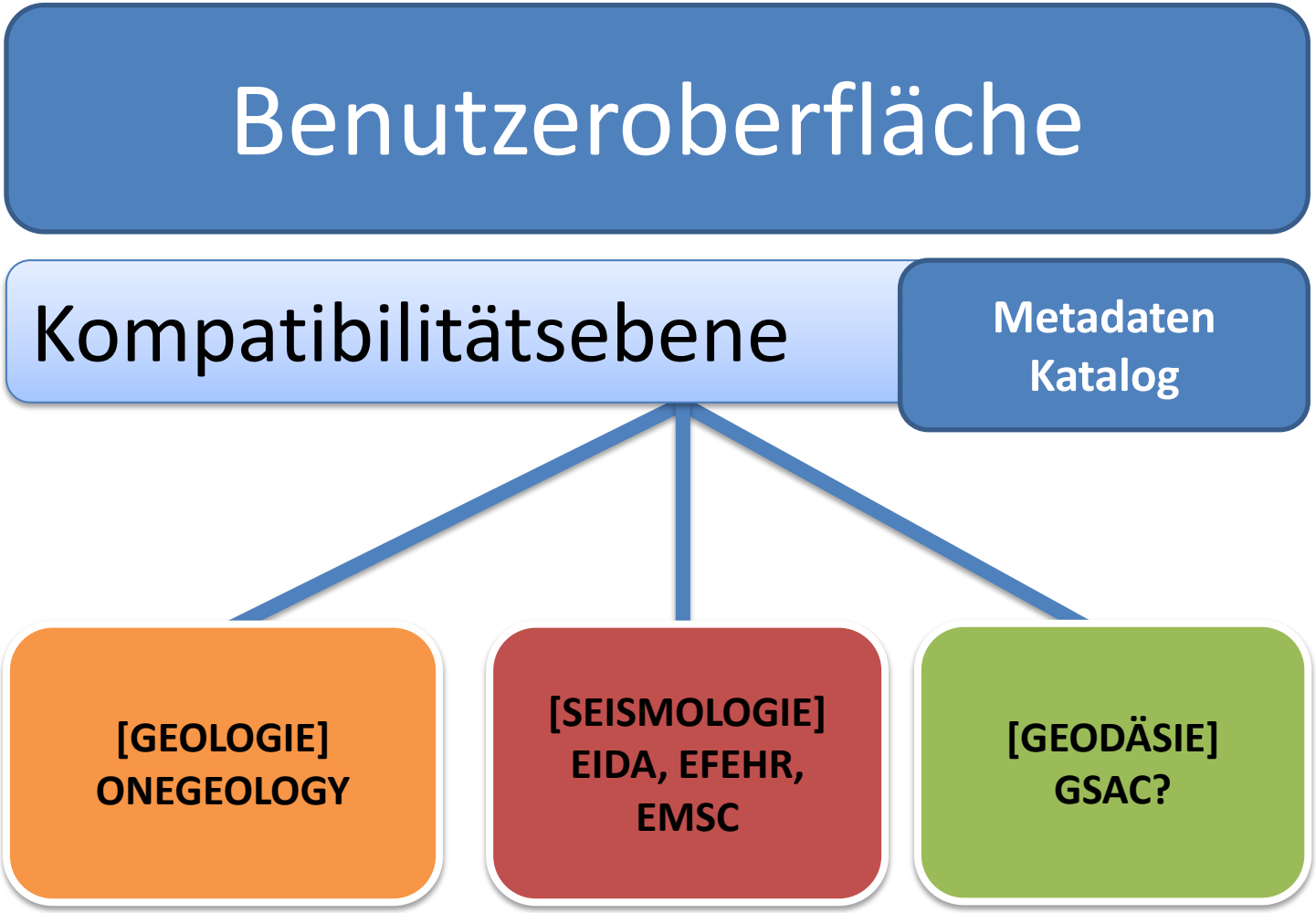
- RDF Export (Interoperabilität mit ENVRI)
- OAI-PMH (Interoperabilität mit EUDAT)
- CKAN, opensearch, …



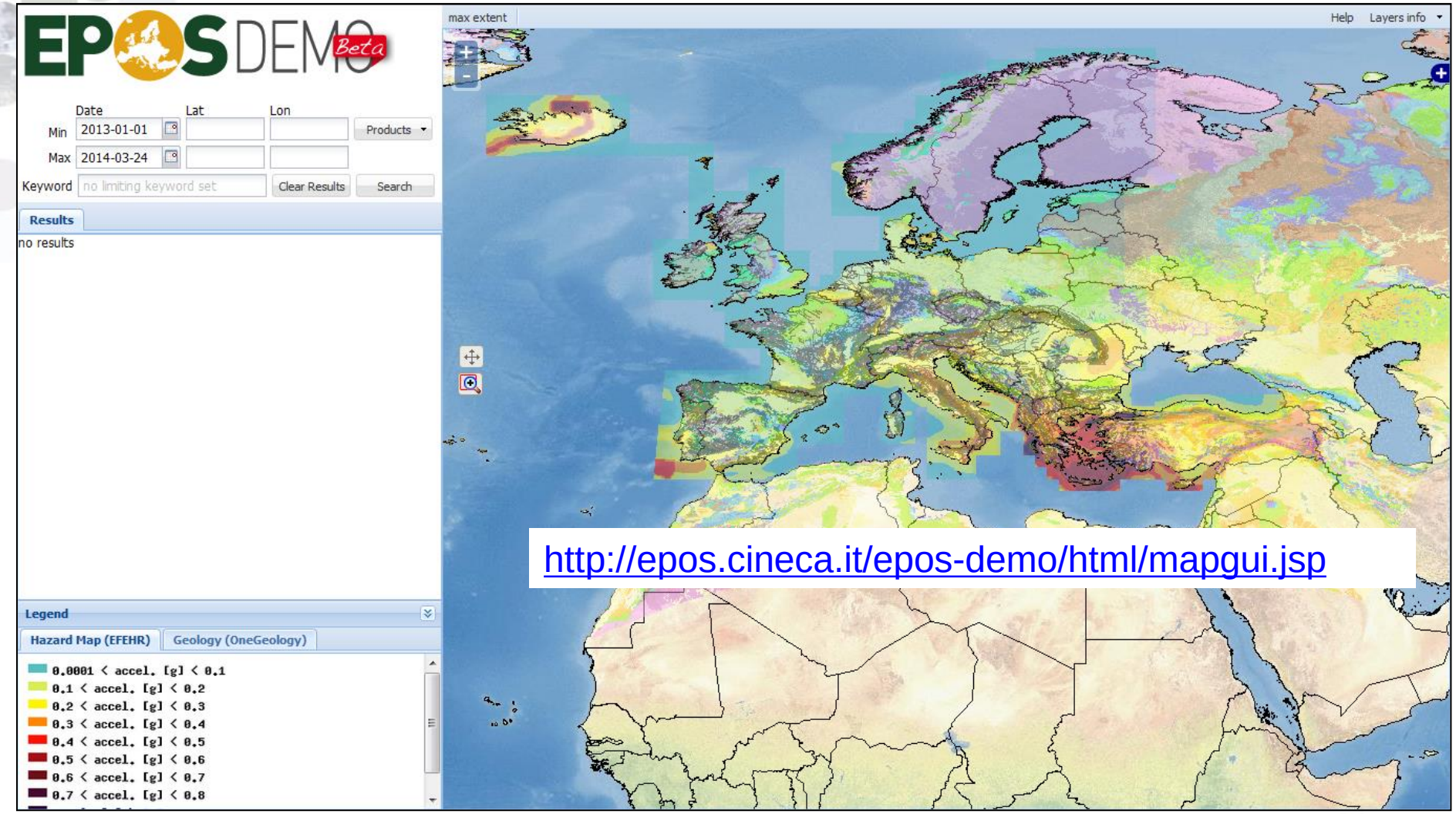
Metadaten Kompatibilität



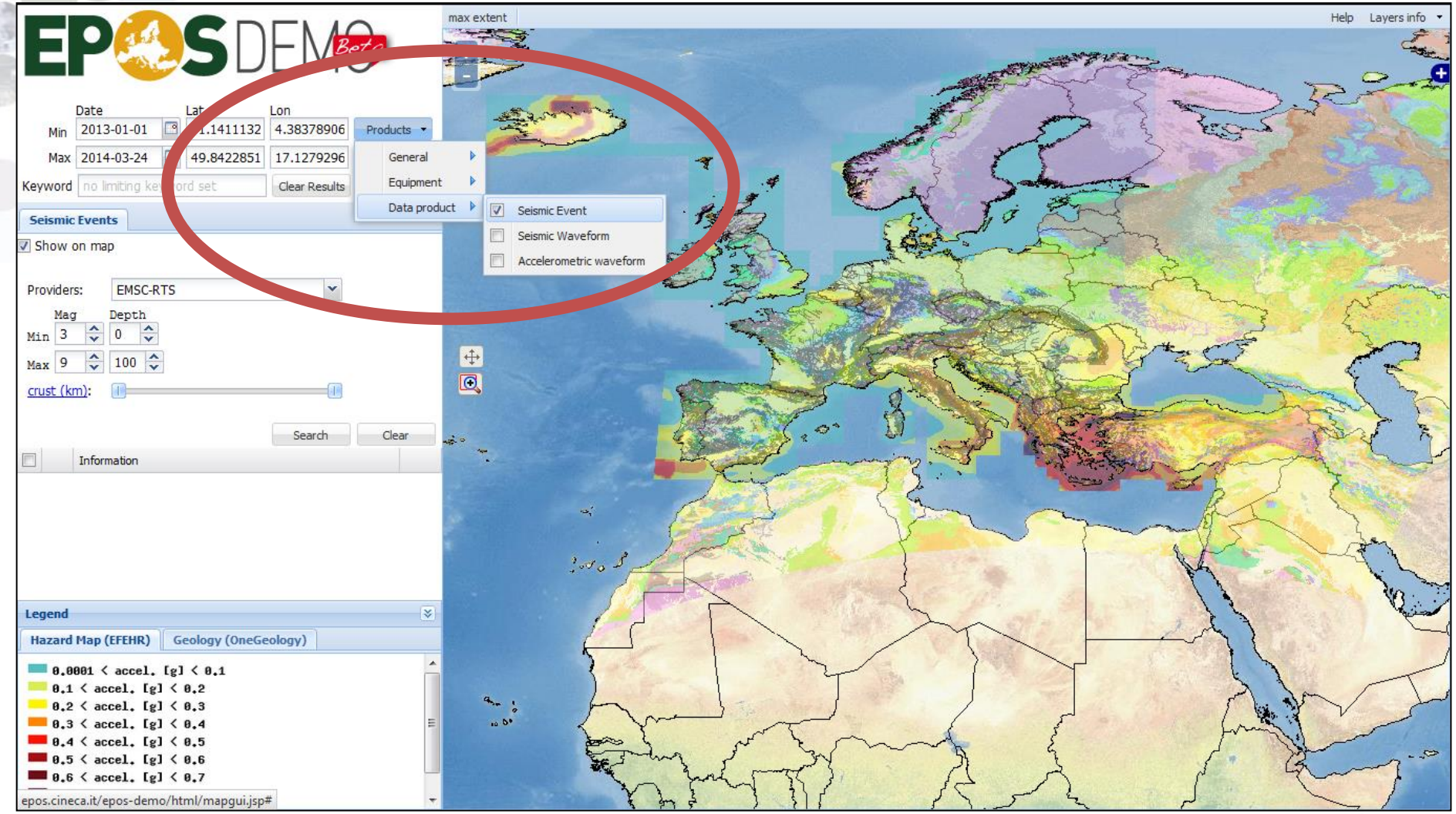
Epos Prototyp (Planung)



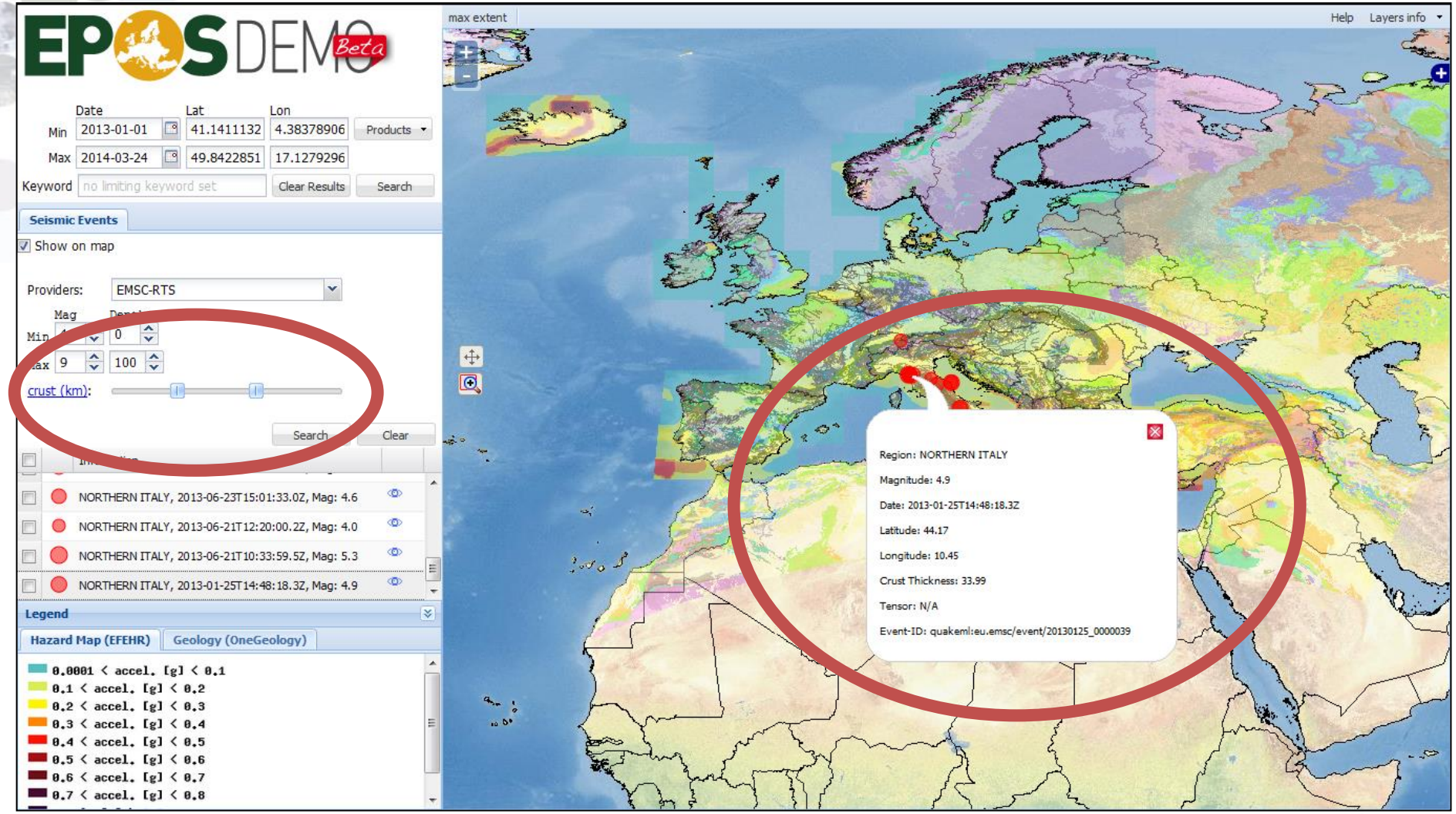
EPOS Demonstrator I



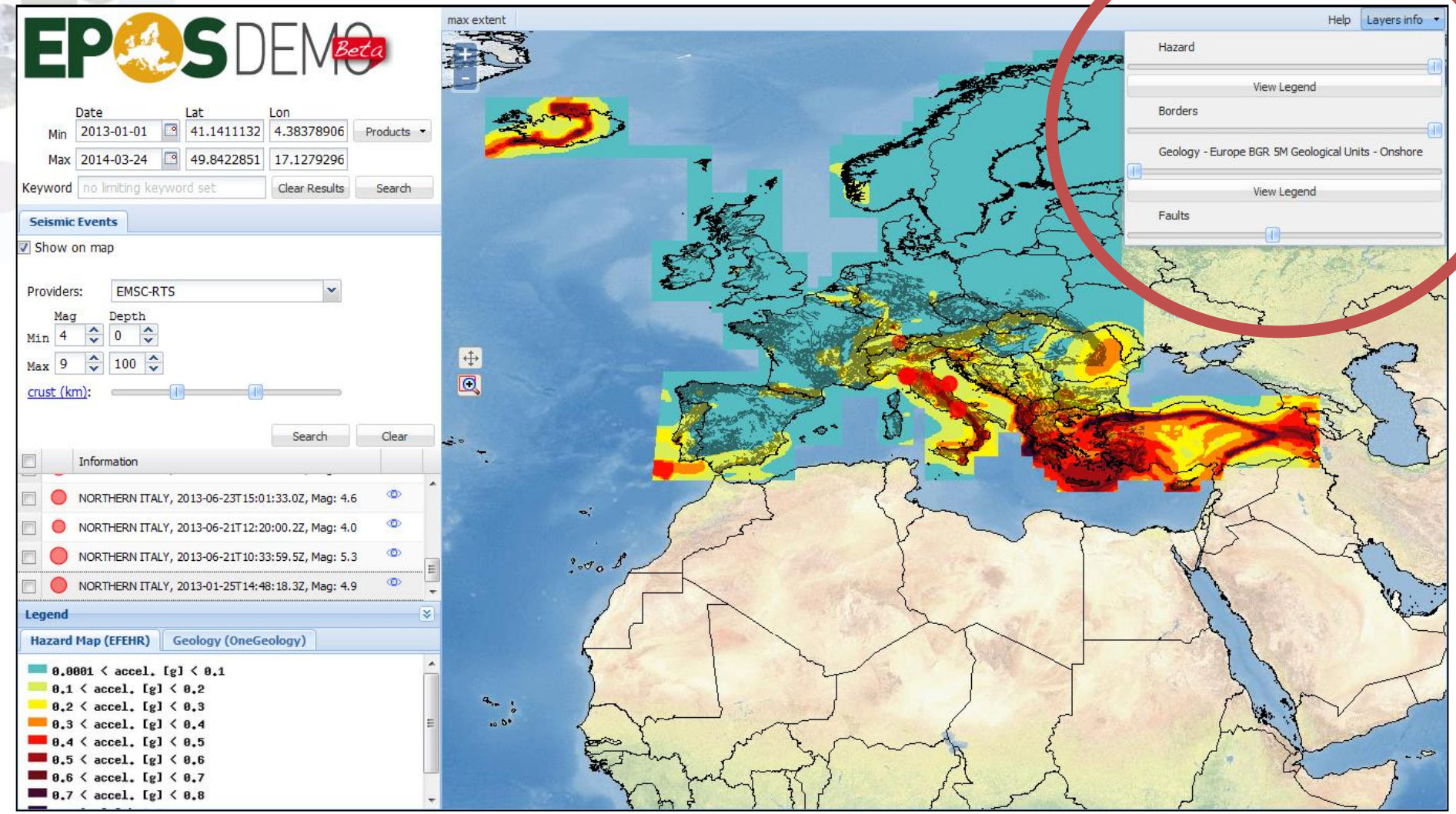
EPOS Demonstrator II



EPOS Demonstrator II



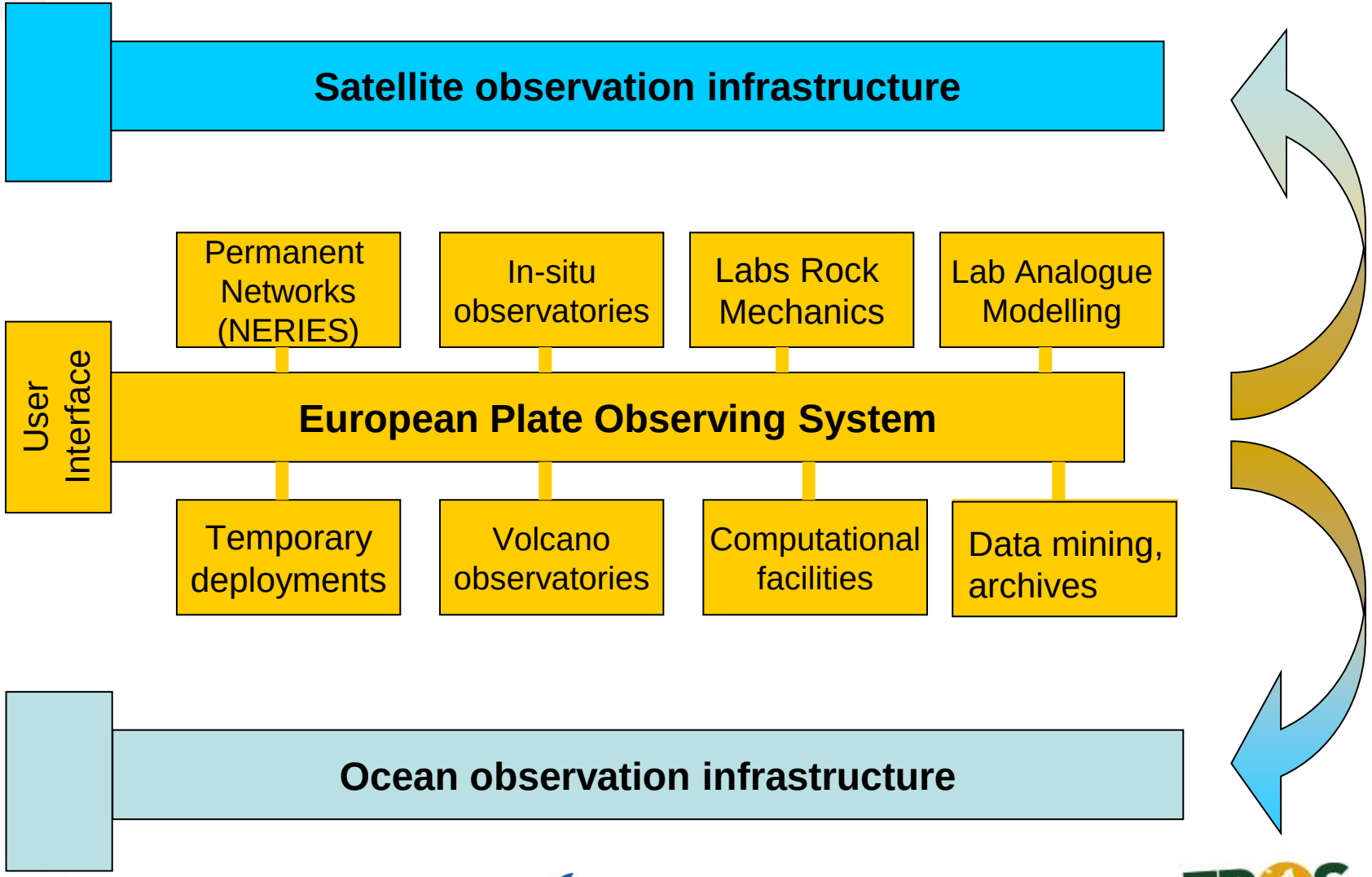
EPOS Demonstrator IV



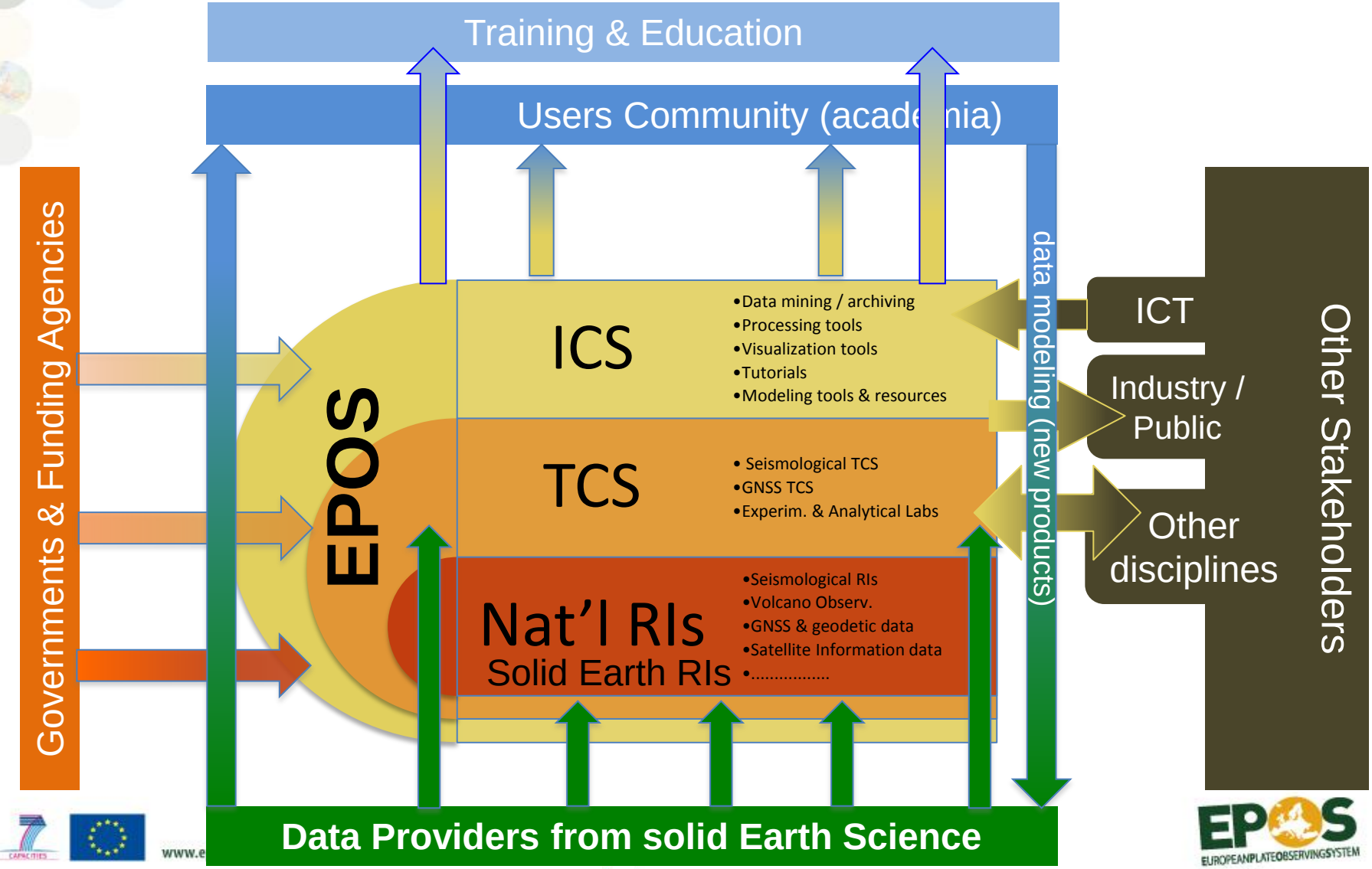
Additional EPOS presentation slides for discussion and general reference

EPOS: Integration with other European RIs

Users: science, education, public



Stakeholder Strategy



EPOS Data, Access, and IPR policy

Guiding principle: open access
- licensing
- no charges

developers: DP WG & EPOS Legal WG
(lawyers, IT scientists, geoscientists)

September 2013: draft presented to IAPC
October 2013: Deliverable D2.4

Protect EPOS legally

Trace EPOS use & users

Unrestricted use & access

Balance: Legal risk : Openness : Traceability

Respect: domain customs & standards
e.g. anonymous vs authentication access, embargo periods,
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national & EU legislation & policies
e.g. INSPIRE, privacy protection,
commercial use of publicly funded data

Account for: **Ethic Issues**

Implementation Phase: funding sources