U N I V E R S I T E T E T I B E R G E N

Department of Earth Science / Geodynamics Group

European Plate Observing System and EPOS-Norway:

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EPOS: European Plate Observing System

Resarch Infrastructures and e-science for data and observations on geo-hazards and geo-resources

European Tectonic Plate covers a considerable geographical area

What is EPOS?

EPOS is a **long-term plan for the integration**
of research infrastructures for solid Earth Science in Europe

EPOS integrates the
existing (and future) advanced
European facilities into
a single, distributed,
sustainable infrastructure
taking full advantage of new **e-science opportunities**

25 COUNTRIES
Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Grecee, Hungary, Iceland, Ireland, Italy, Netherland, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom

4 INTERNATIONAL ORGANIZATIONS
Orfeus, Emsc, Euref, Intermagnet

256 NATIONAL RESEARCH INFRASTRUCTURES

4939 SEISMIC STATIONS

2272 GPS RECEIVERS

464 TB SEISMIC DATA

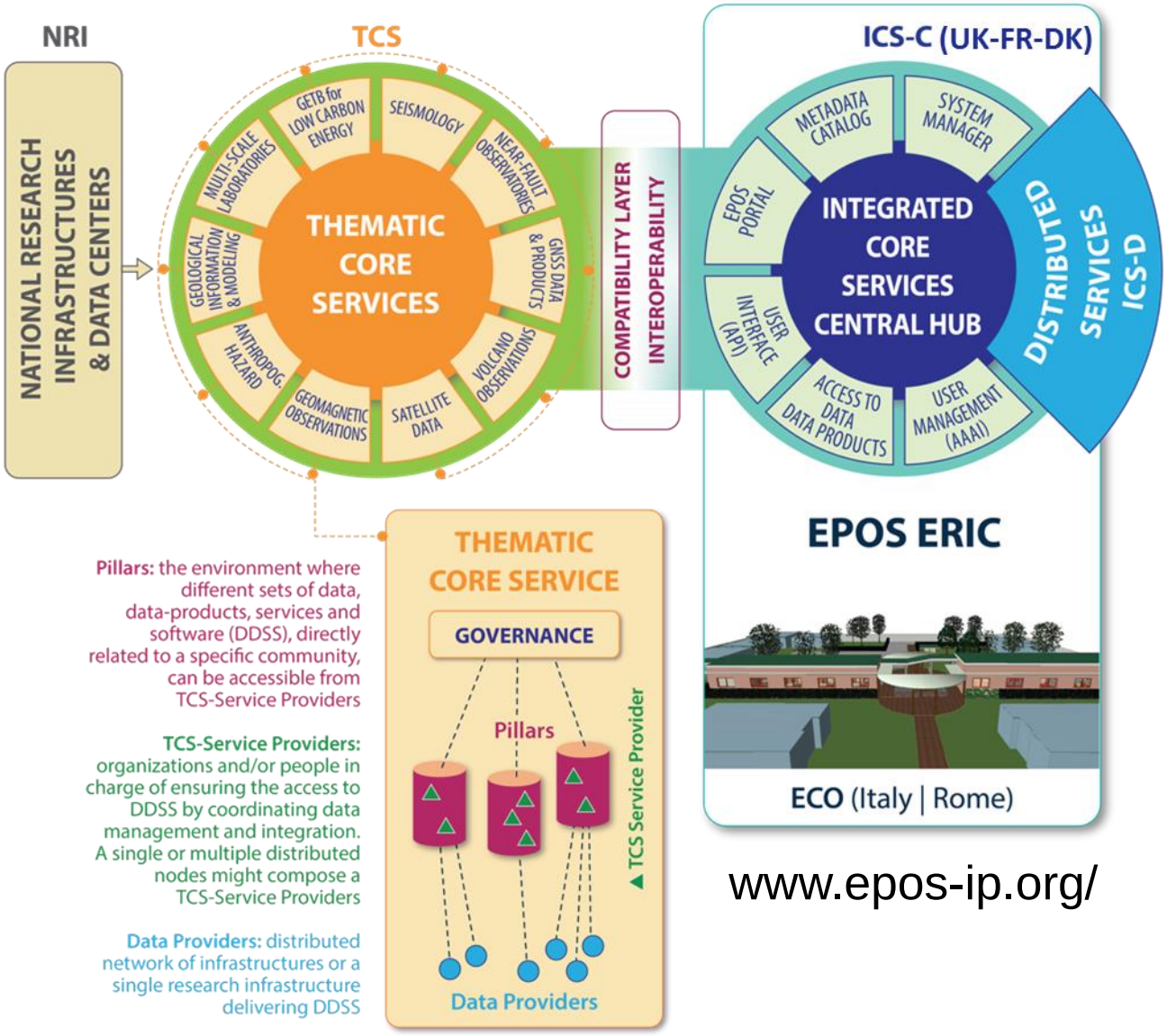
118 LABORATORIES

828 INSTRUMENTS

Several PetaBytes of solid Earth Science data will be available

Several thousands of users expected to access the infrastructure

EPOS Architecture



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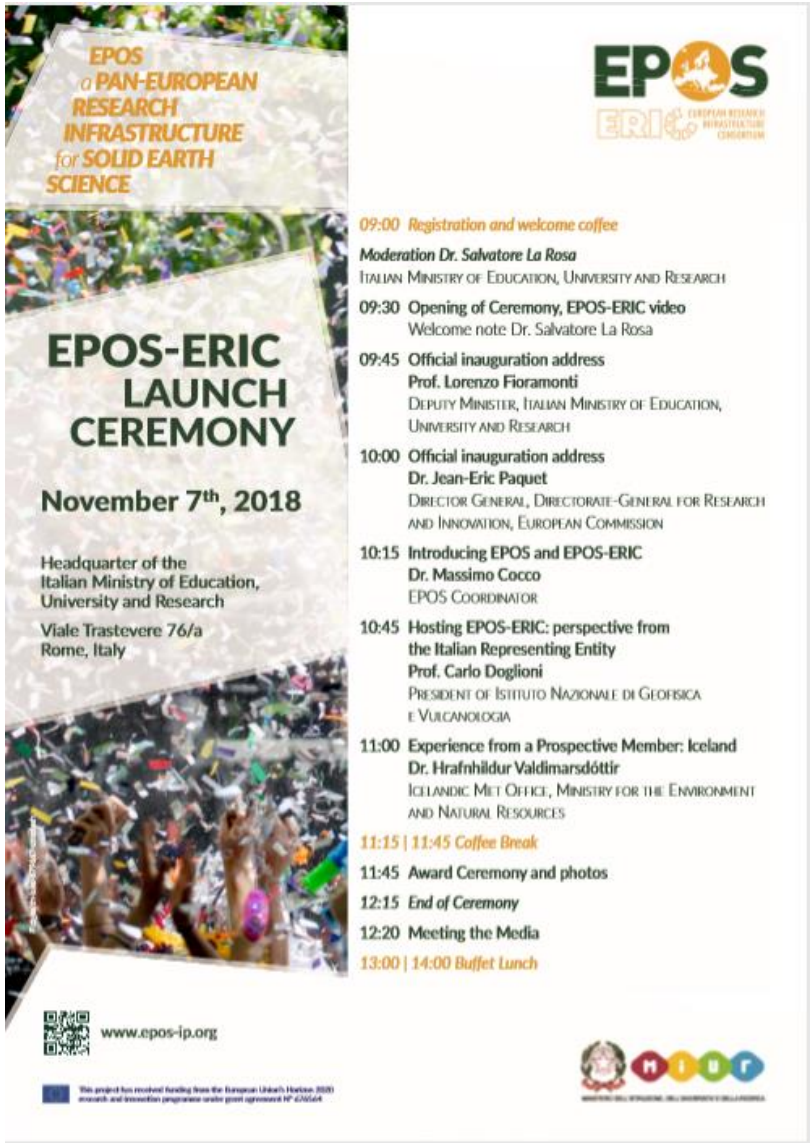
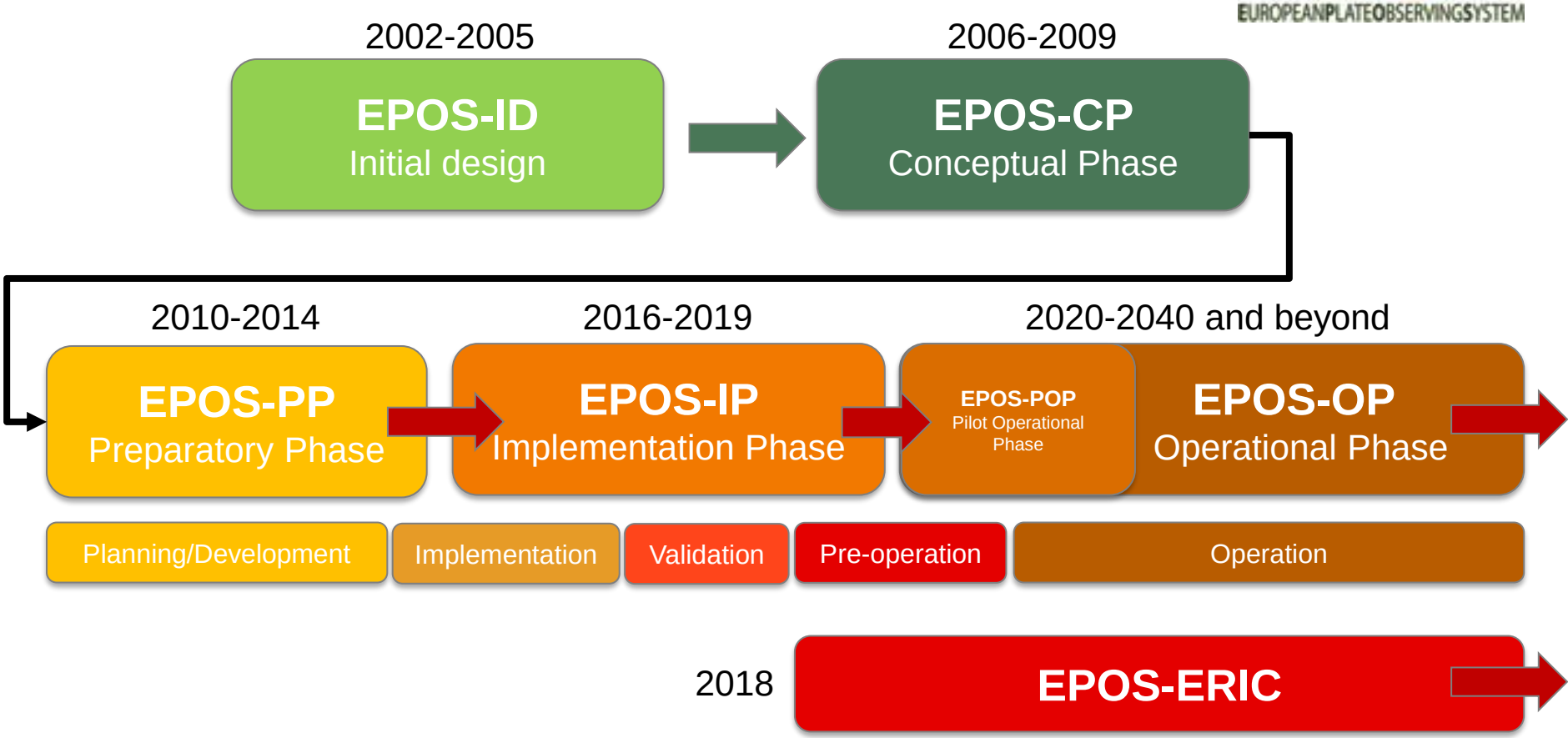


EPOS
ERIC EUROPEAN RESEARCH INFRASTRUCTURE CONSORTIUM

EPOS-ERIC is now formally established as a European level legal organization in Rome, Italy, with 13 countries signing as founding members.

EPOS Timeline



EPOS-PP EU-FP7 (4,5 Mill.EUR – 20 partner inst.)
EPOS-IP EU-H2020 (18,5 Mill.EUR) – 45 partner inst.)
EPOS-SP EU-H2020 (5,0 Mill.EUR – 20 partner inst.)

2020-2022

NEW **EPOS-SP** Sustainability Phase

Partners

NORCE

NORSAR

Kartverket

NORGES GEOLOGISKE UNDERSØKELSE
- NGU -

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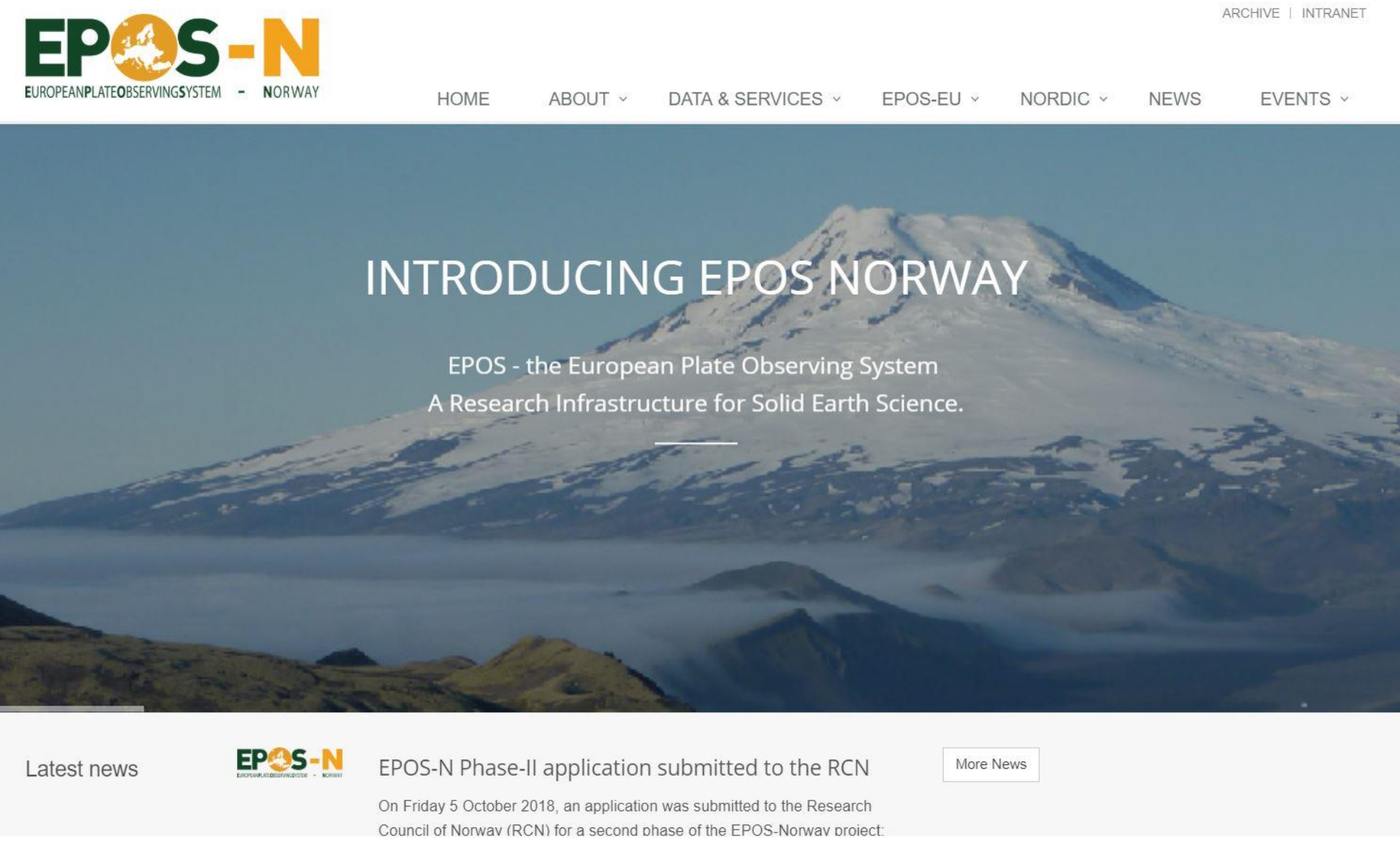
The goal of EPOS-Norway is to

- gather **all Solid Earth Science data** in Norway
- make the **data available and accessible** to the full geoscience community and public
- provide an **integrated infrastructure** for improved use of all available geodata
- initiate and facilitate **closer interaction between scientists from different fields**
- **improve the monitoring capacity in the Arctic**, including northern Norway and the Arctic islands

More information about EPOS-Norway is available at
www.epos-no.org



EPOS-Norway (EPOS-N) RCN Project

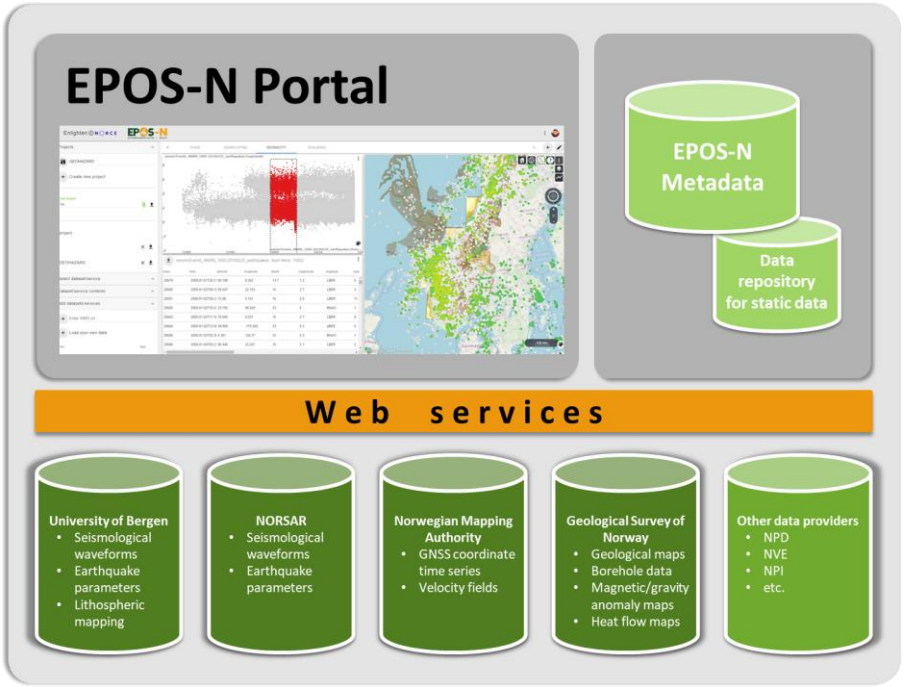
- **Component 1:** E-infrastructure
  - Integration of Solid Earth Data in Norway
  - Developing technologies for visualization and processing for Europe

- **Component 2:** Improved Observations in the Arctic
  - Nordland (seismic and geodetic stations)
  - Svalbard (seismic and geodetic stations)
  - Jan Mayen (volcano observatory)
  - Bjørnøya (seismic array)
  - OBS – offshore surveys
  - Knipovich Ridge aeromagnetic survey

- **Component 3:** Solid Earth Science Forum
  - Solid Earth Science Forum Workshops
  - Training sessions
  - External Advisory Board

Component 1: EPOS-N Portal

INTERACTIVE WEB PORTAL
for multidisciplinary data analysis



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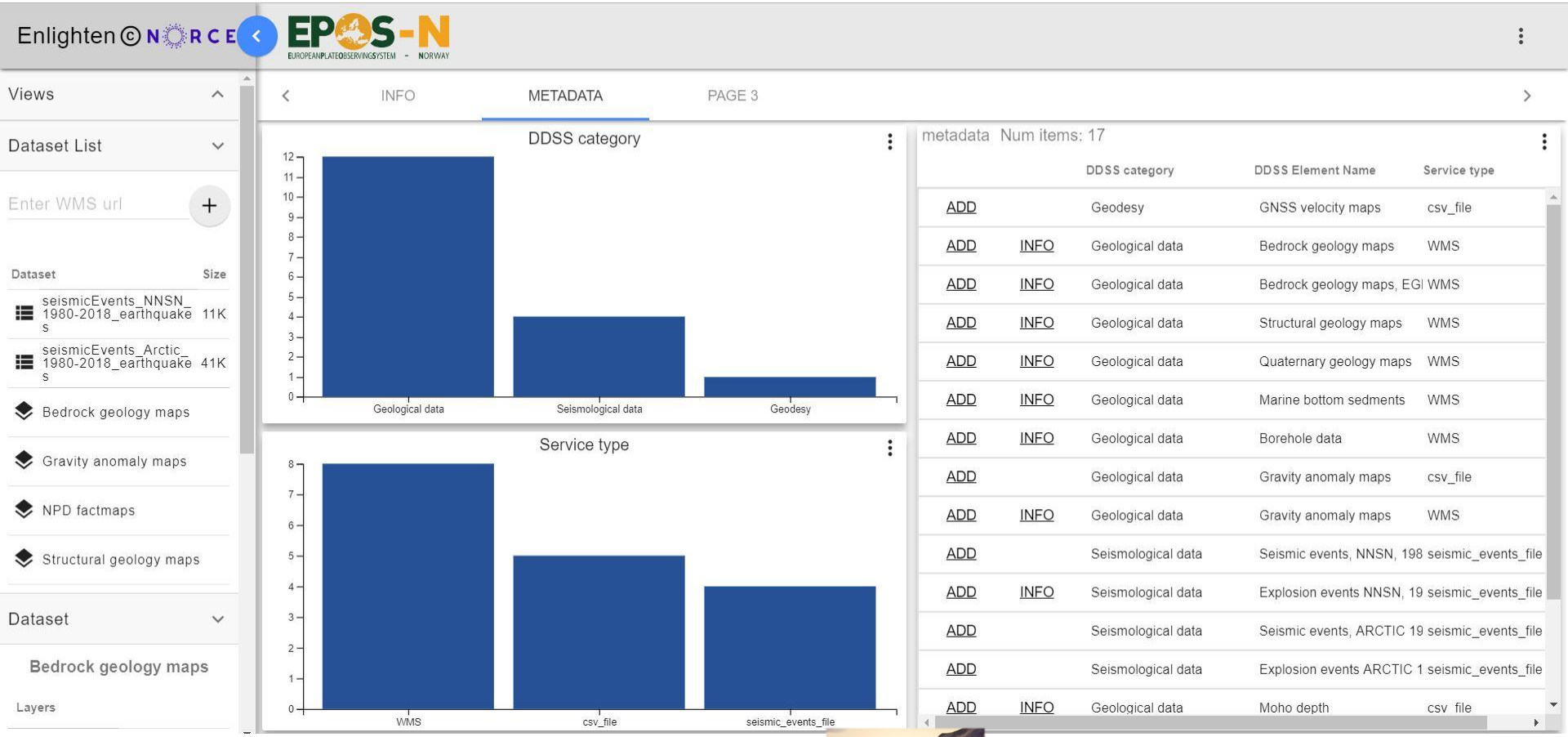

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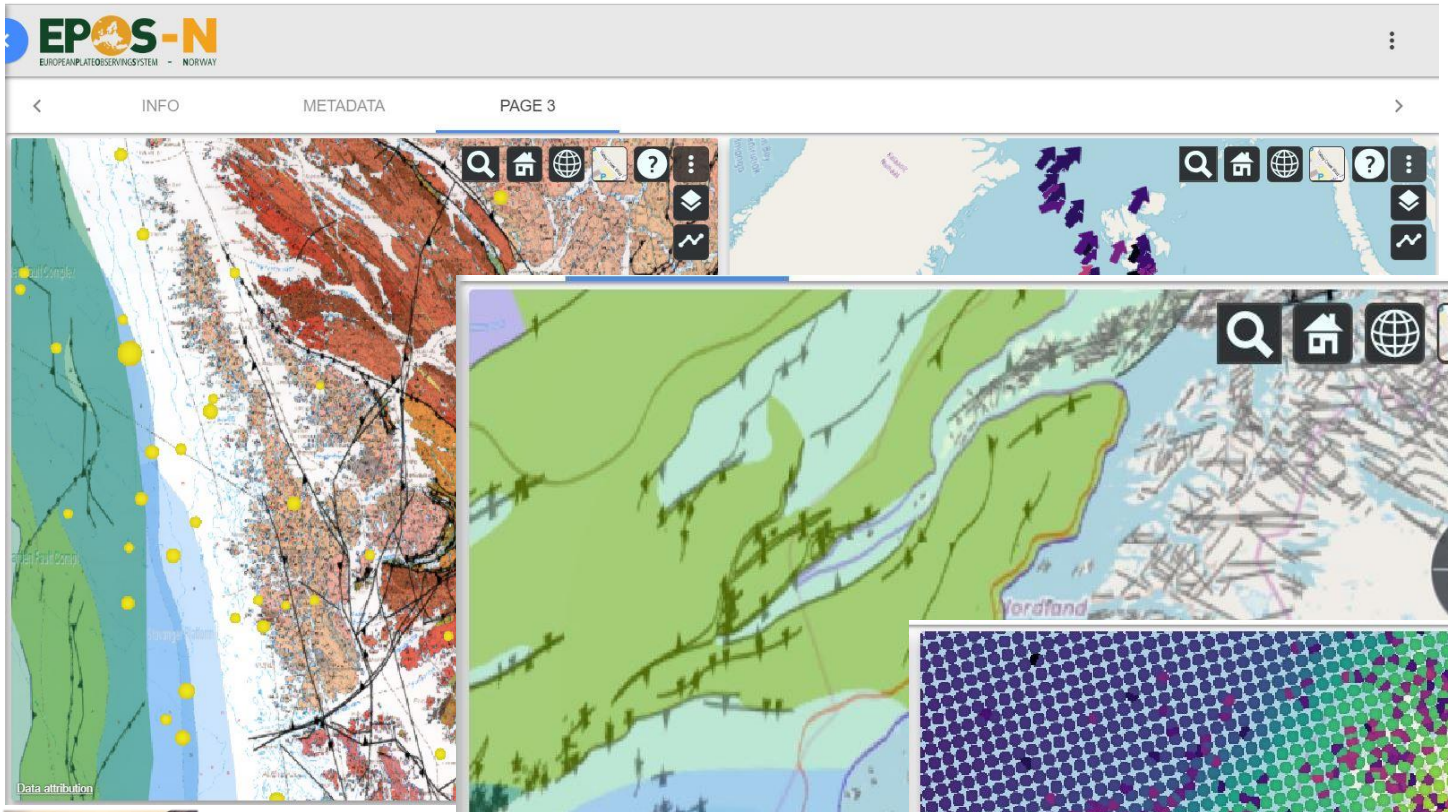

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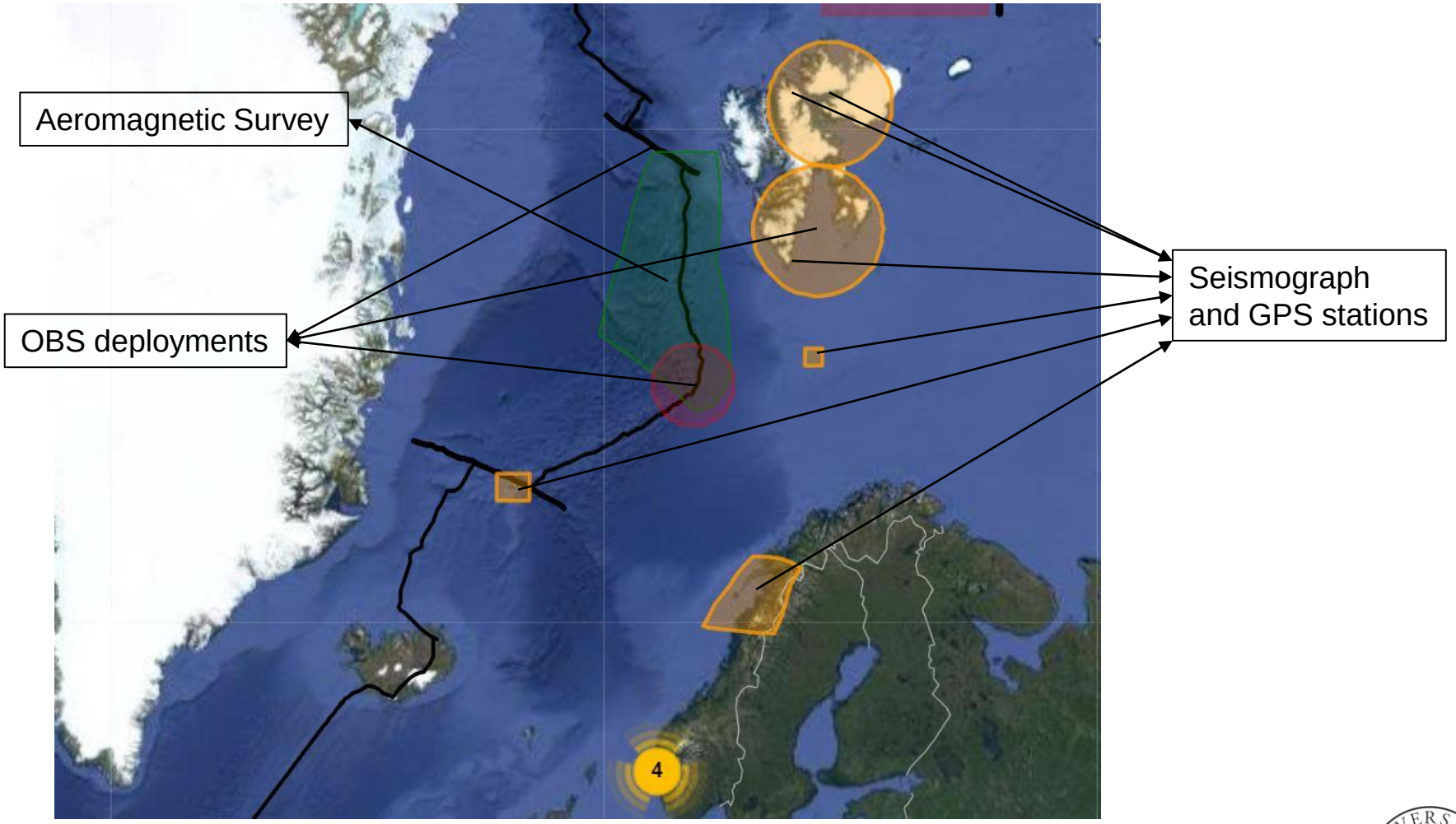
Improved Arctic Monitoring

- **Permanent new Installations on land (Seismological and Geodetic):**
  - Nordland (7 stations)
  - Bjørnøya Seismic Array (9-elements)
  - Svalbard (6 stations)
  - Jan Mayen (3 stations)

- **Offshore surveys:**
  - OBS procurements (3 systems) and installations
  - Knipovitch Ridge aeromagnetic survey

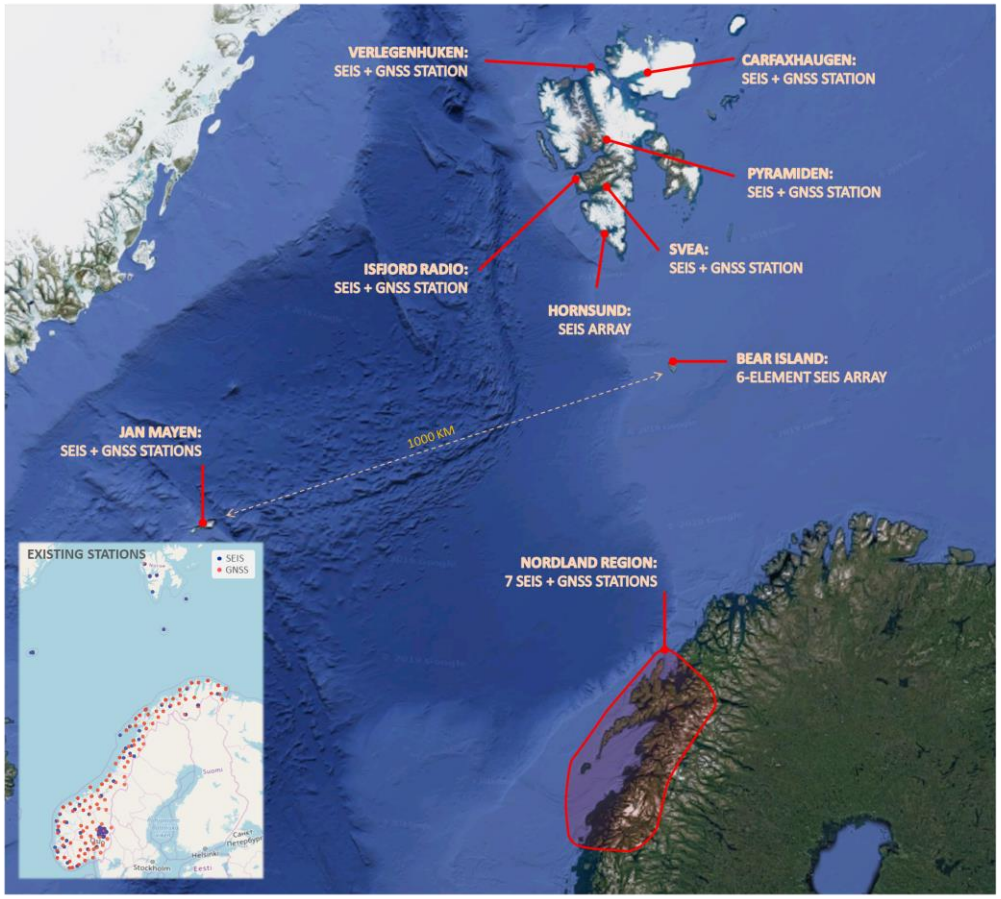
EPOS-N Arctic Installations



IMPROVED ARCTIC MONITORING













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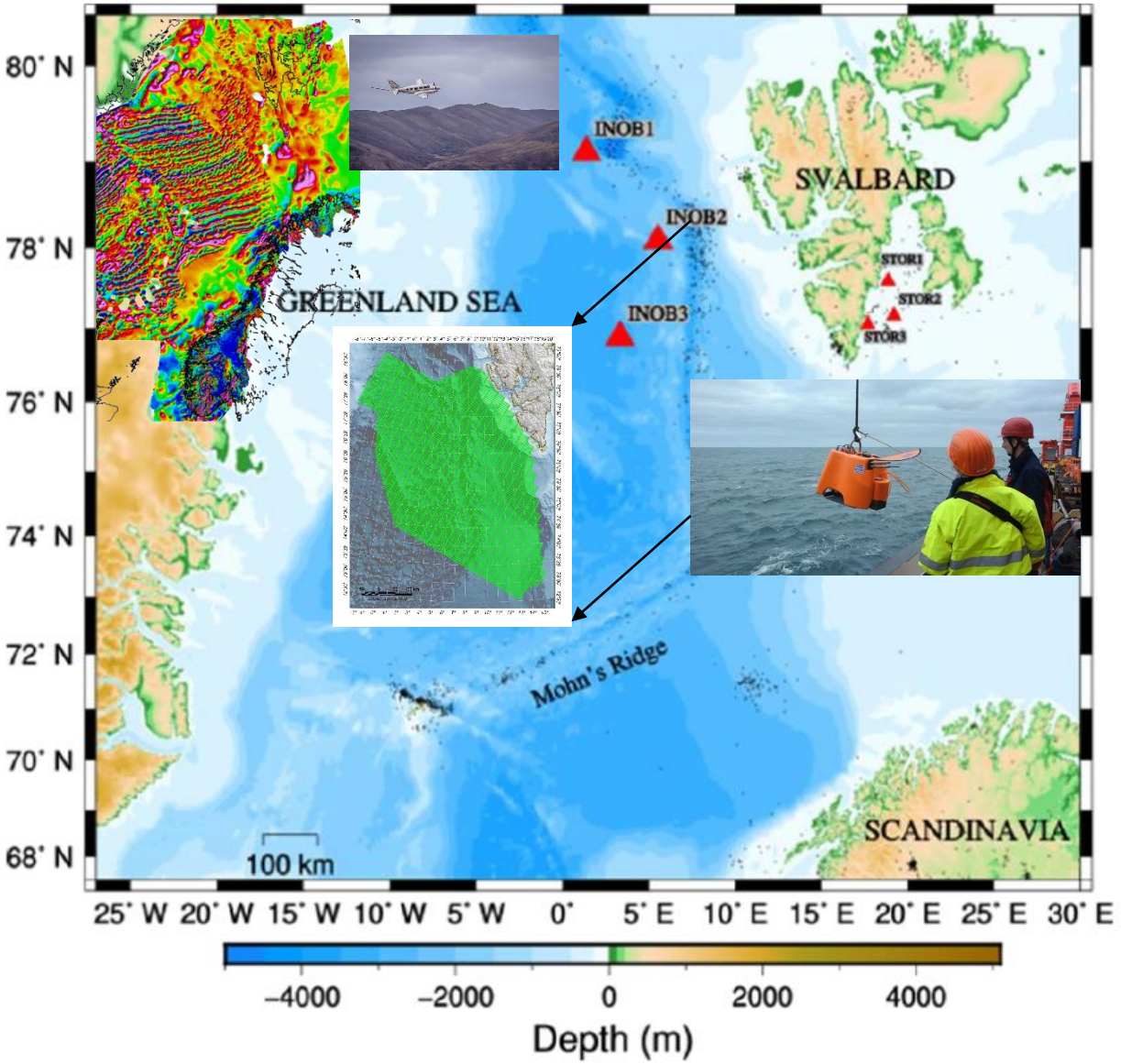
Offshore Surveys

OBS surveys in 2018 and 2019
In collaboration with the INTAROS Project, three Ocean Bottom Seismometers (OBS) from EPOS-N are installed along the Knipovich Ridge in 2018 and in Storfjorden in 2019

Knipovich Ridge Aeromagnetic Survey
2018 KRAS survey
57000 km



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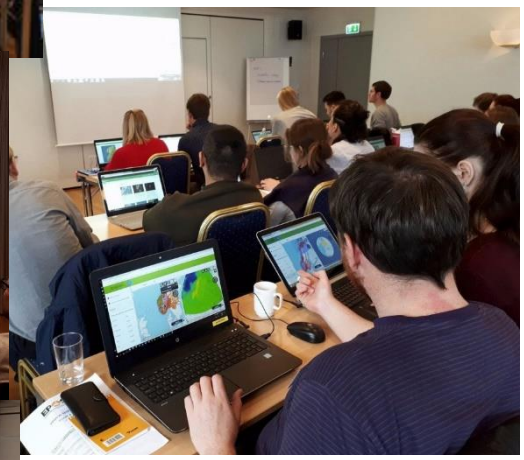
Solid Earth Science Forum



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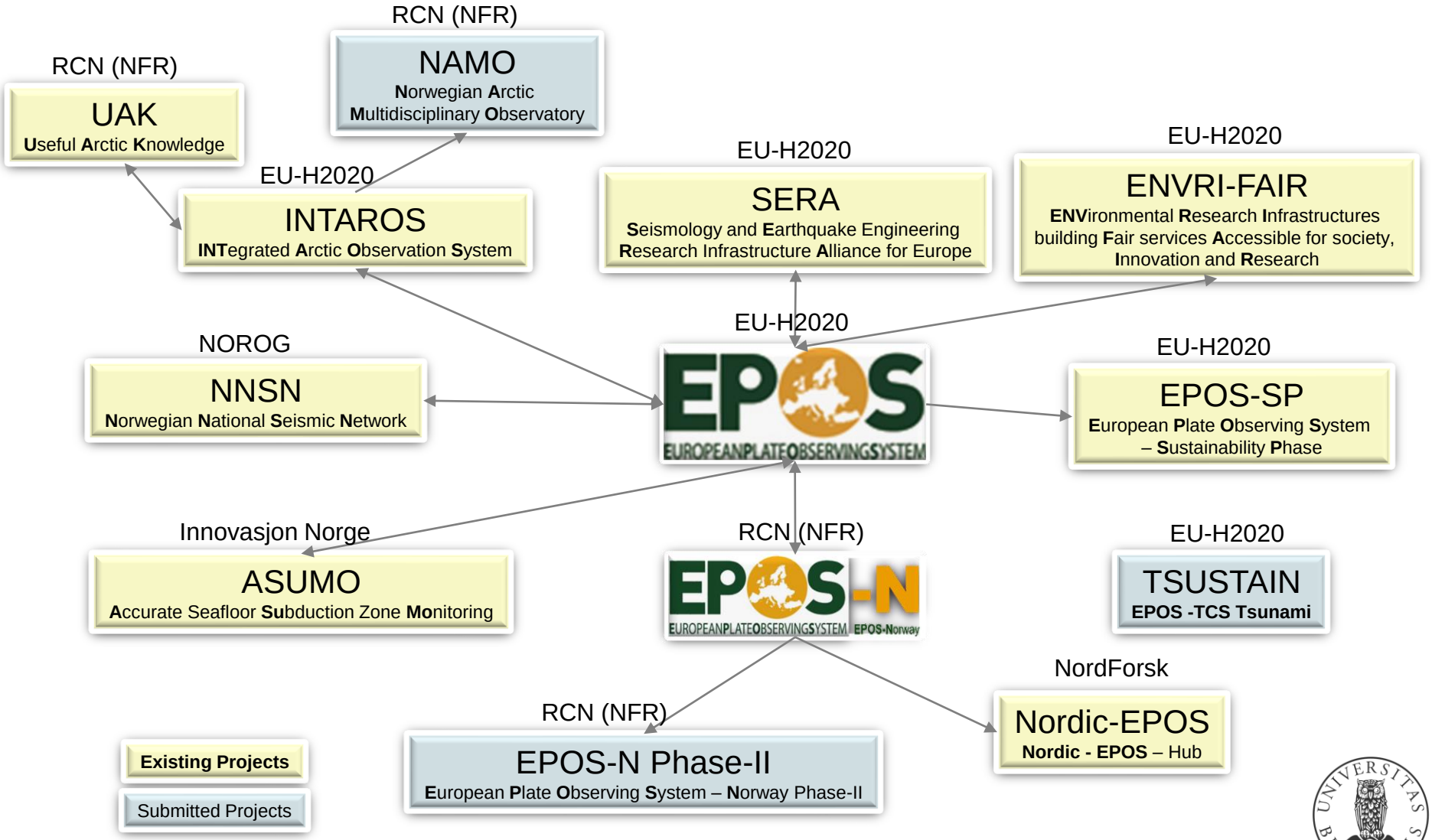
EPOS synergies



EPOS-N is a team-work

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Thank you for your attention!