

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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uib.no

EPOS: European Plate Observing System

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



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Google

**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

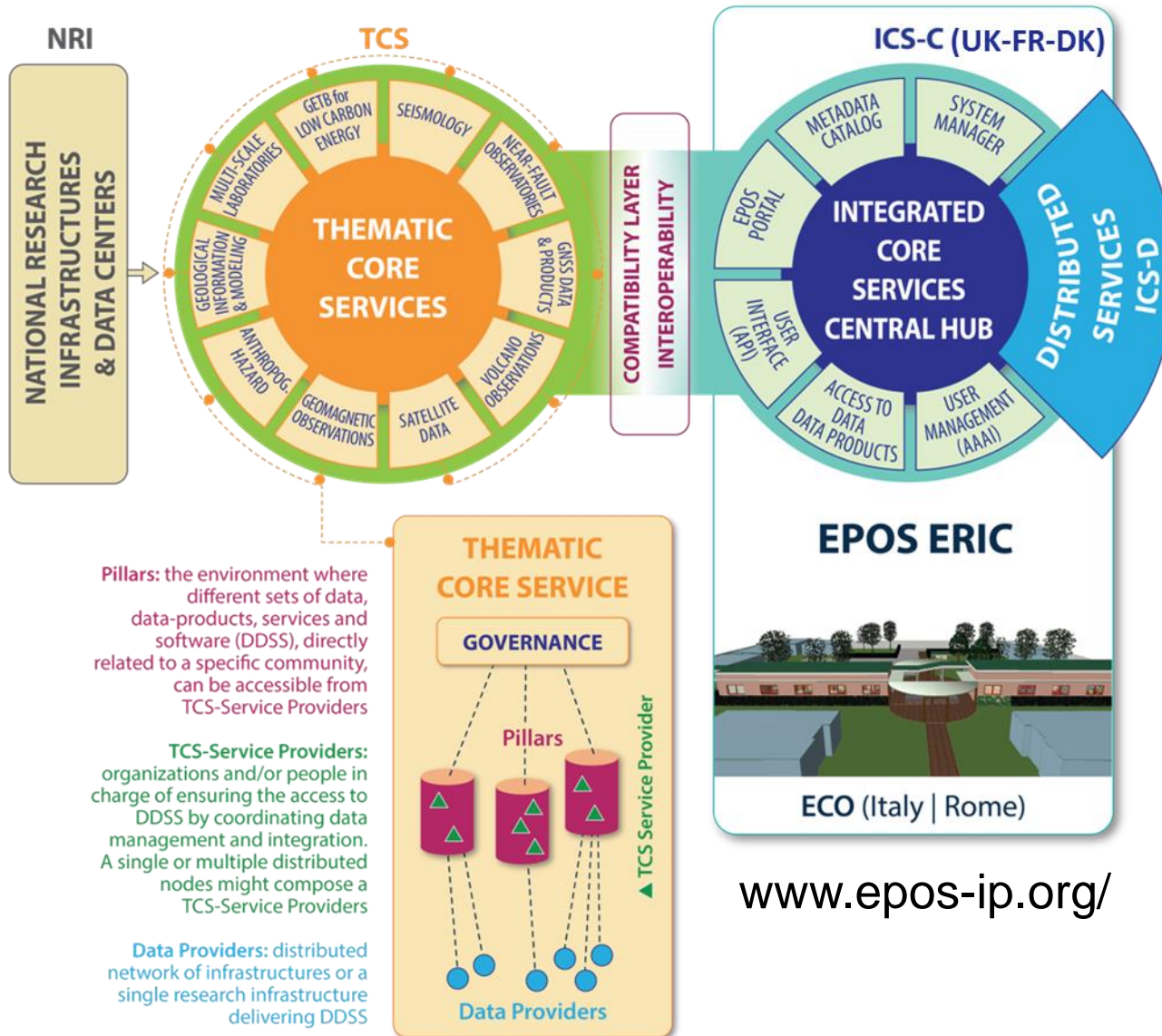
EPOS integrates the **existing (and future)** advanced European facilities into **a single, distributed, sustainable infrastructure** taking full advantage of new **e-science opportunities**



Several PetaBytes of solid Earth Science data will be available

Several thousands of users expected to access the infrastructure

EPOS Architecture



Pillars: the environment where different sets of data, data-products, services and software (DDSS), directly related to a specific community, can be accessible from TCS-Service Providers

TCS-Service Providers: organizations and/or people in charge of ensuring the access to DDSS by coordinating data management and integration. A single or multiple distributed nodes might compose a TCS-Service Providers

Data Providers: distributed network of infrastructures or a single research infrastructure delivering DDSS

www.epos-ip.org/

EPOS
A PAN-EUROPEAN
RESEARCH
INFRASTRUCTURE
for SOLID EARTH
SCIENCE

**EPOS-ERIC
LAUNCH
CEREMONY**

November 7th, 2018

Headquarter of the
Italian Ministry of Education,
University and Research
Viale Trastevere 76/a
Rome, Italy

www.epos-ip.org

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 410264



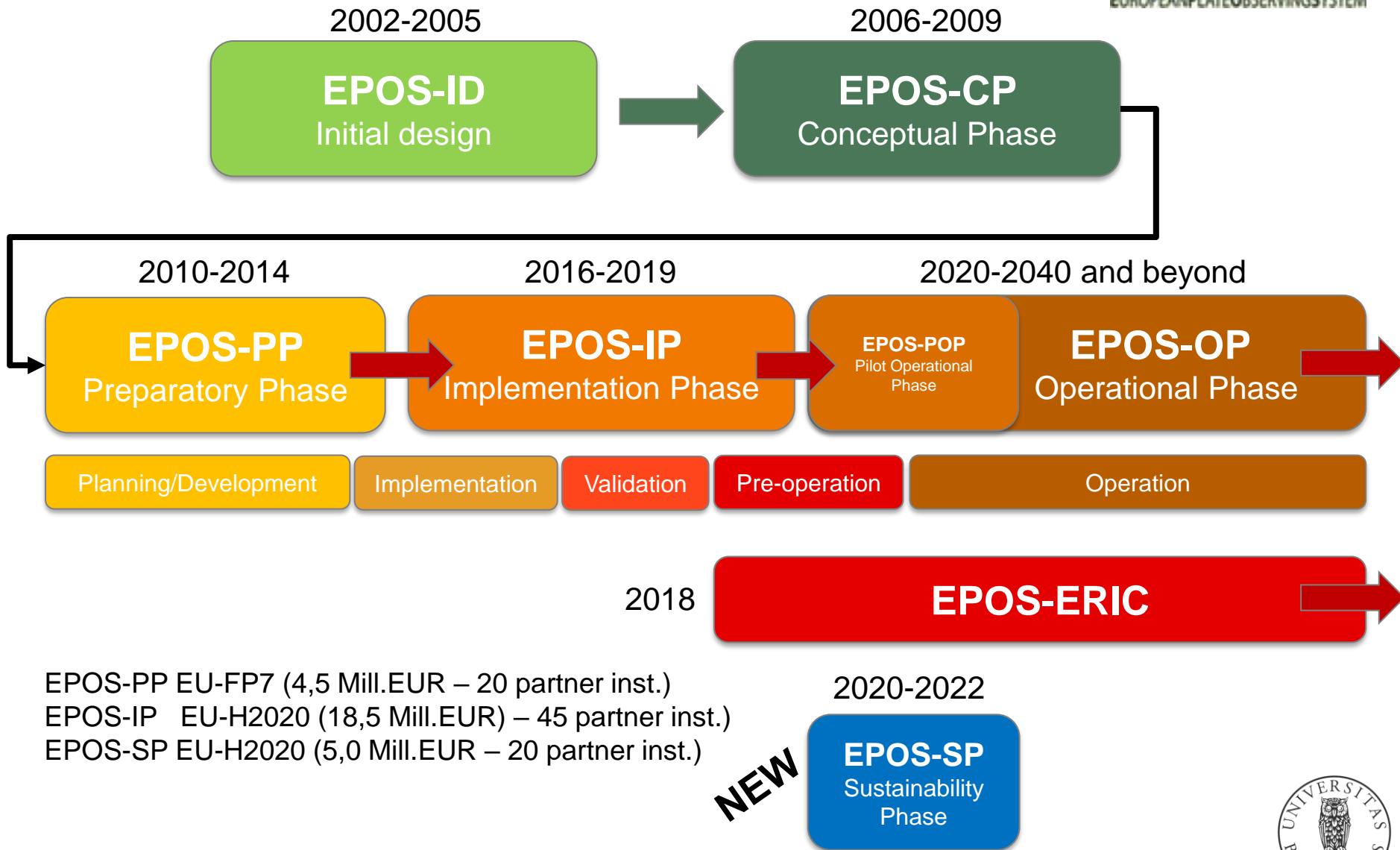
- 09:00 Registration and welcome coffee**
Moderation Dr. Salvatore La Rosa
ITALIAN MINISTRY OF EDUCATION, UNIVERSITY AND RESEARCH
- 09:30 Opening of Ceremony, EPOS-ERIC video**
Welcome note Dr. Salvatore La Rosa
- 09:45 Official inauguration address**
Prof. Lorenzo Fioramonti
DEPUTY MINISTER, ITALIAN MINISTRY OF EDUCATION,
UNIVERSITY AND RESEARCH
- 10:00 Official inauguration address**
Dr. Jean-Eric Paquet
DIRECTOR GENERAL, DIRECTORATE-GENERAL FOR RESEARCH
AND INNOVATION, EUROPEAN COMMISSION
- 10:15 Introducing EPOS and EPOS-ERIC**
Dr. Massimo Cocco
EPOS COORDINATOR
- 10:45 Hosting EPOS-ERIC: perspective from
the Italian Representing Entity**
Prof. Carlo Doglioni
PRESIDENT OF ISTITUTO NAZIONALE DI GEOFISICA
E VULCANOLOGIA
- 11:00 Experience from a Prospective Member: Iceland**
Dr. Hrafnhildur Valdimarsdóttir
ICELANDIC MET OFFICE, MINISTRY FOR THE ENVIRONMENT
AND NATURAL RESOURCES
- 11:15 | 11:45 Coffee Break**
- 11:45 Award Ceremony and photos**
- 12:15 End of Ceremony**
- 12:20 Meeting the Media**
- 13:00 | 14:00 Buffet Lunch**



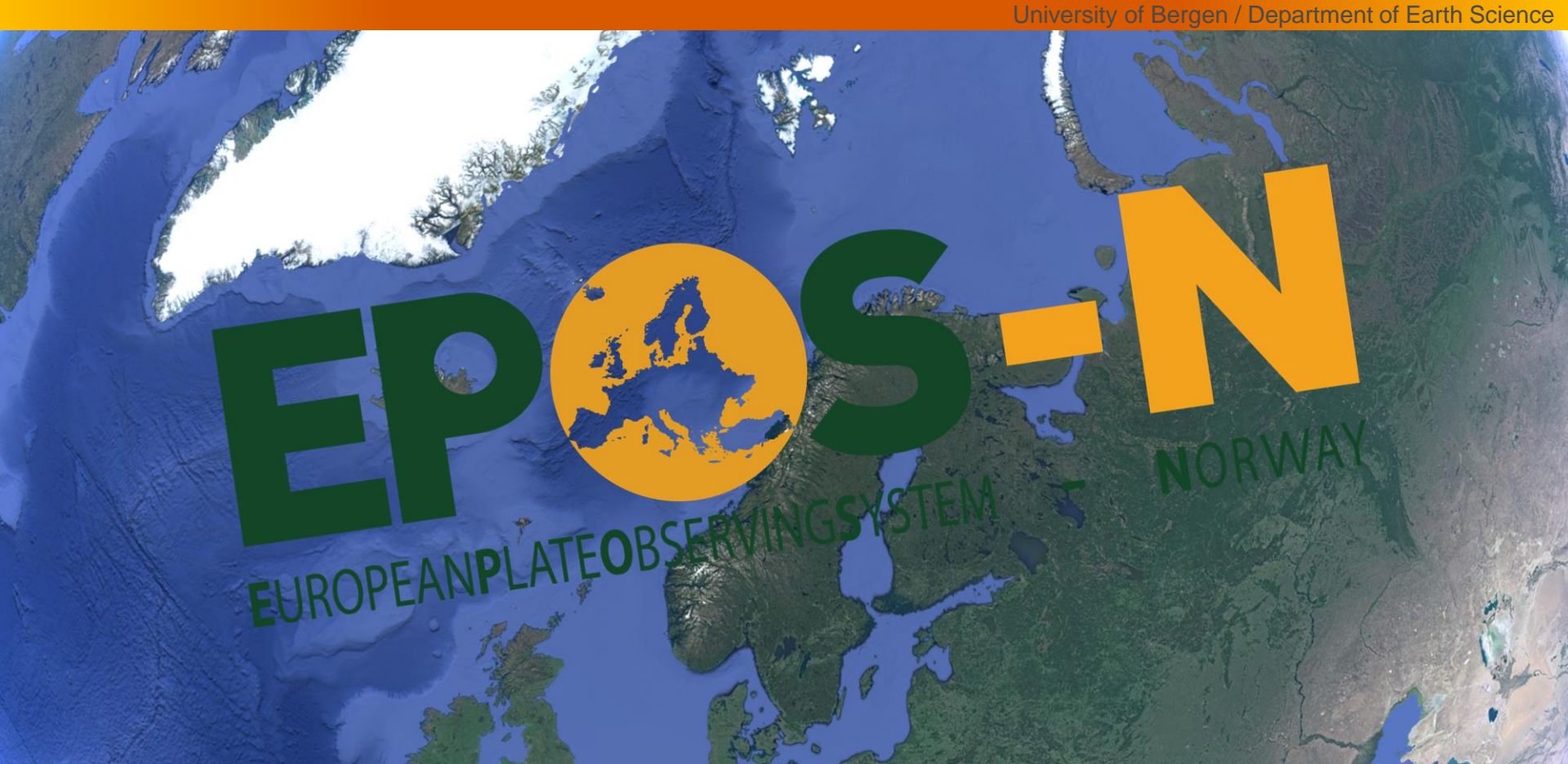
EPOS-ERIC is now formally established as a European level legal organization in Rome, Italy, with 13 countries signing as founding members.



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.)



Partners



www.epos-no-org





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



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EPOS-EU ▾

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INTRODUCING EPOS NORWAY

EPOS - the European Plate Observing System
A Research Infrastructure for Solid Earth Science.

Latest news



EPOS-N Phase-II application submitted to the RCN

[More News](#)

On Friday 5 October 2018, an application was submitted to the Research Council of Norway (RCN) for a second phase of the EPOS-Norway project:

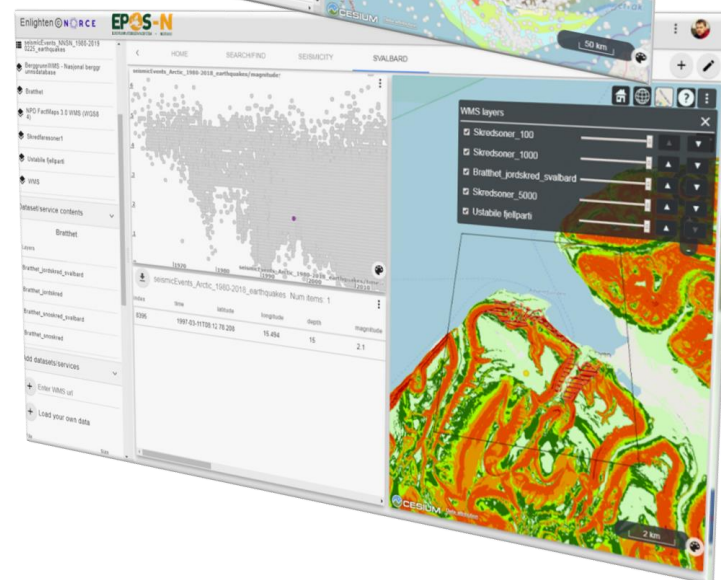
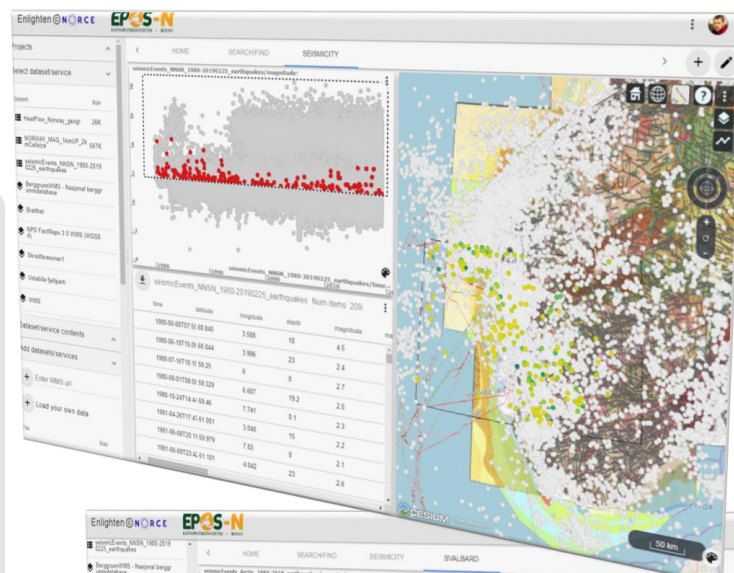
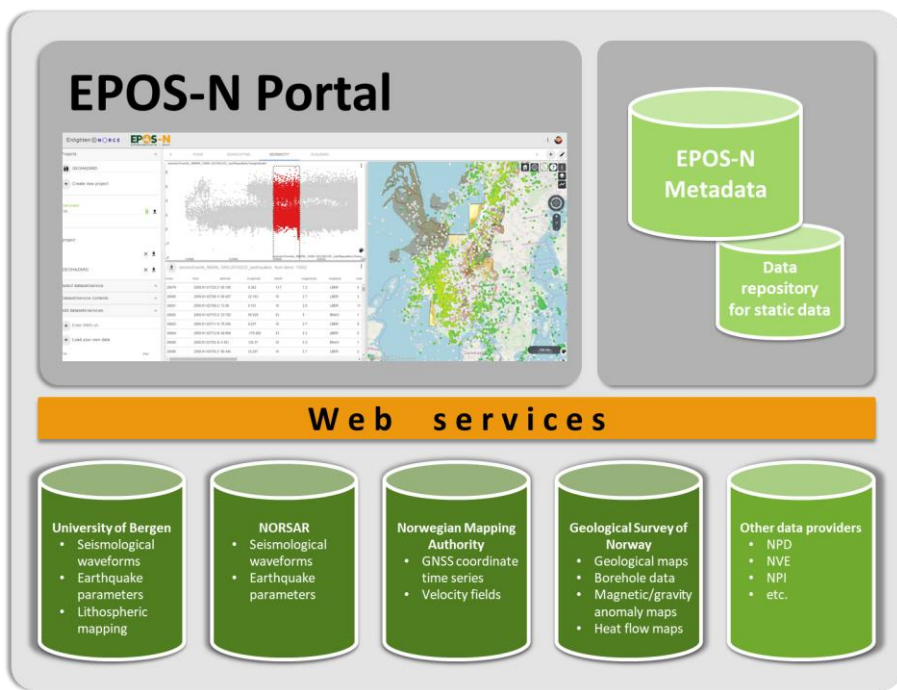
EPOS-Norway (EPOS-N) RCN Project

- **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




EPOS-N Portal

Enlighten © NORCE  EUROPEAN PLATE OBSERVING SYSTEM - NORWAY

Views  Dataset List  Enter WMS url  Dataset Size

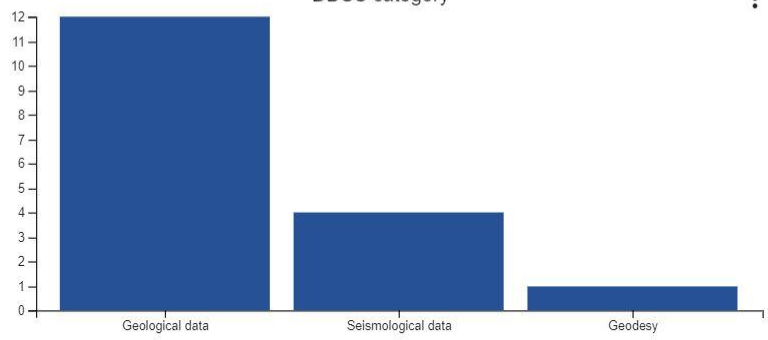
-  seismicEvents_NNSN_1980-2018_earthquake 11Ks
-  seismicEvents_Arctic_1980-2018_earthquake 41Ks
-  Bedrock geology maps
-  Gravity anomaly maps
-  NPD factmaps
-  Structural geology maps

Dataset  **Bedrock geology maps**

Layers

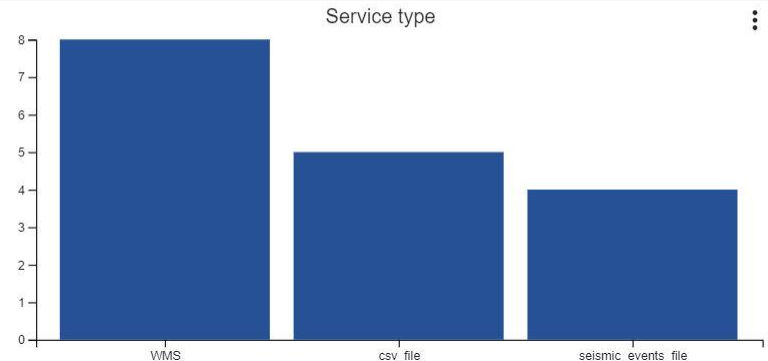
INFO METADATA PAGE 3

DDSS category



DDSS category	Count
Geological data	12
Seismological data	4
Geodesy	1

Service type



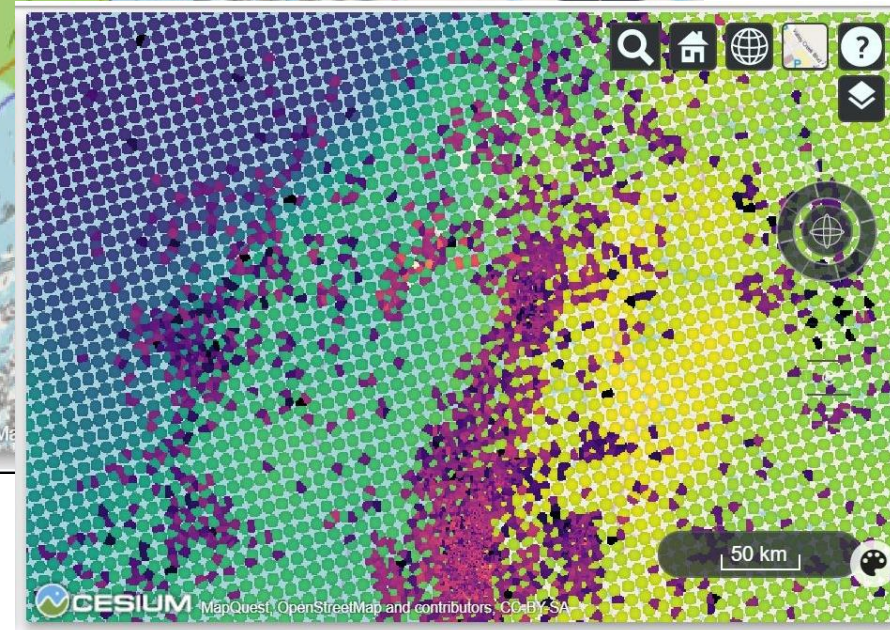
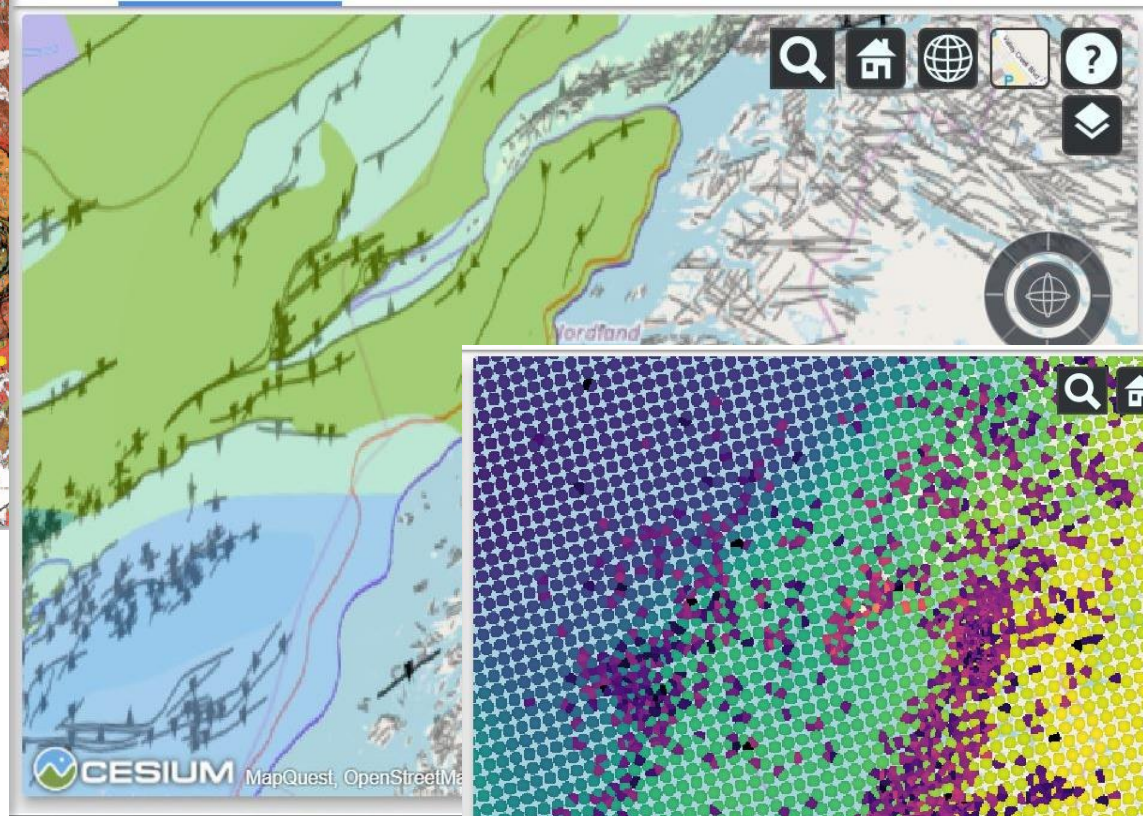
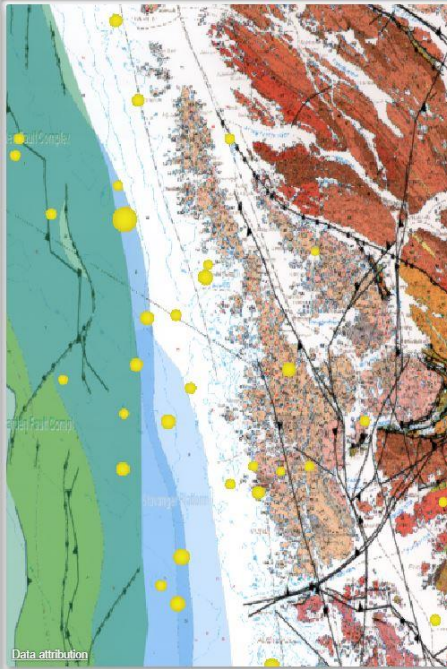
Service type	Count
WMS	8
csv_file	5
seismic_events_file	4

metadata Num items: 17

	DDSS category	DDSS Element Name	Service type	
ADD	Geodesy	GNSS velocity maps	csv_file	
ADD	INFO	Geological data	Bedrock geology maps	WMS
ADD	INFO	Geological data	Bedrock geology maps, EGI	WMS
ADD	INFO	Geological data	Structural geology maps	WMS
ADD	INFO	Geological data	Quaternary geology maps	WMS
ADD	INFO	Geological data	Marine bottom sedments	WMS
ADD	INFO	Geological data	Borehole data	WMS
ADD		Geological data	Gravity anomaly maps	csv_file
ADD	INFO	Geological data	Gravity anomaly maps	WMS
ADD		Seismological data	Seismic events, NNSN, 198	seismic_events_file
ADD	INFO	Seismological data	Explosion events NNSN, 19	seismic_events_file
ADD		Seismological data	Seismic events, ARCTIC 19	seismic_events_file
ADD		Seismological data	Explosion events ARCTIC 1	seismic_events_file
ADD	INFO	Geological data	Moho depth	csv_file



EPOS-N Portal

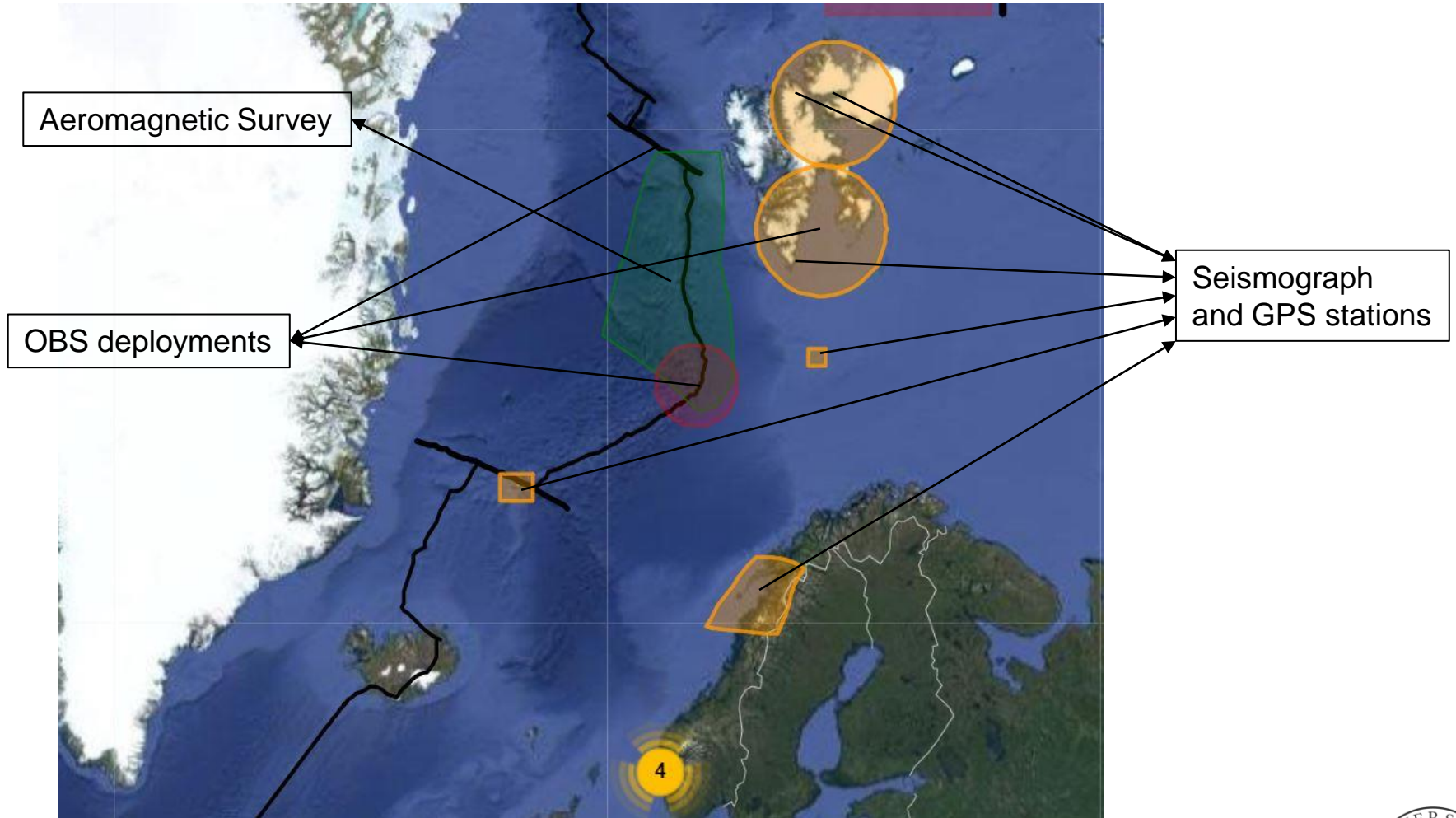


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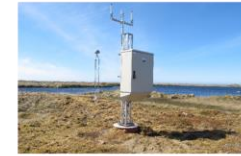
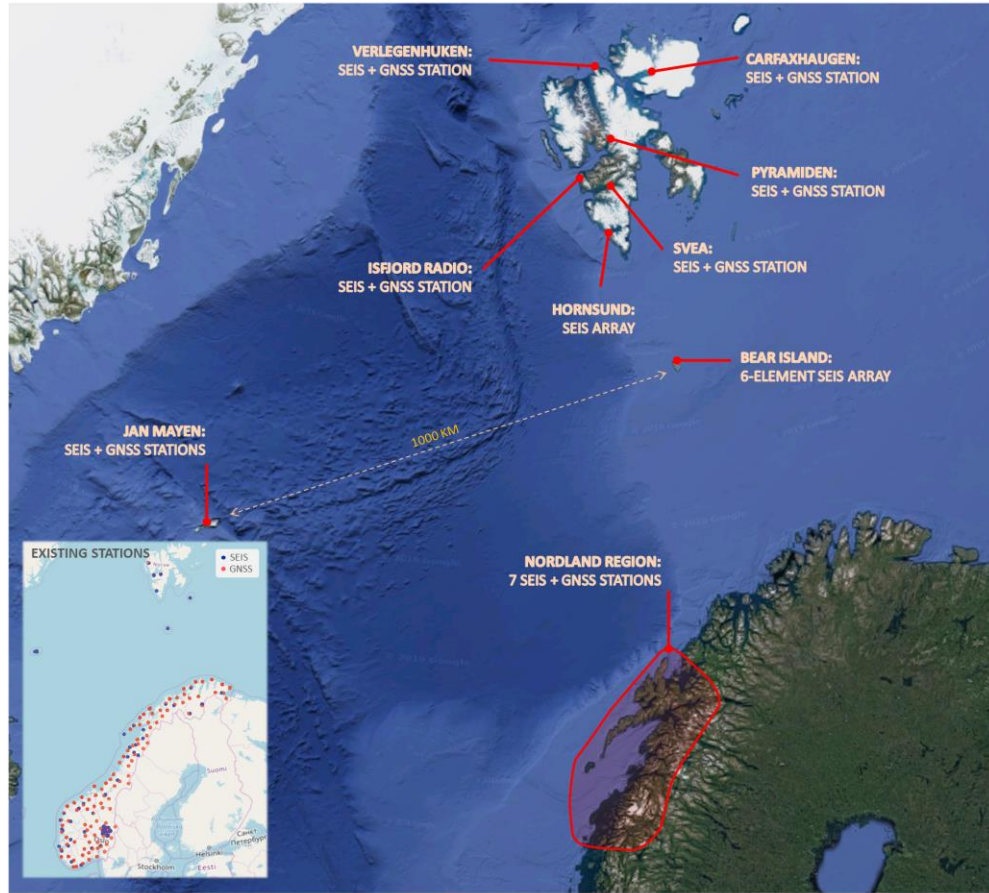
Improved Arctic Monitoring

- **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



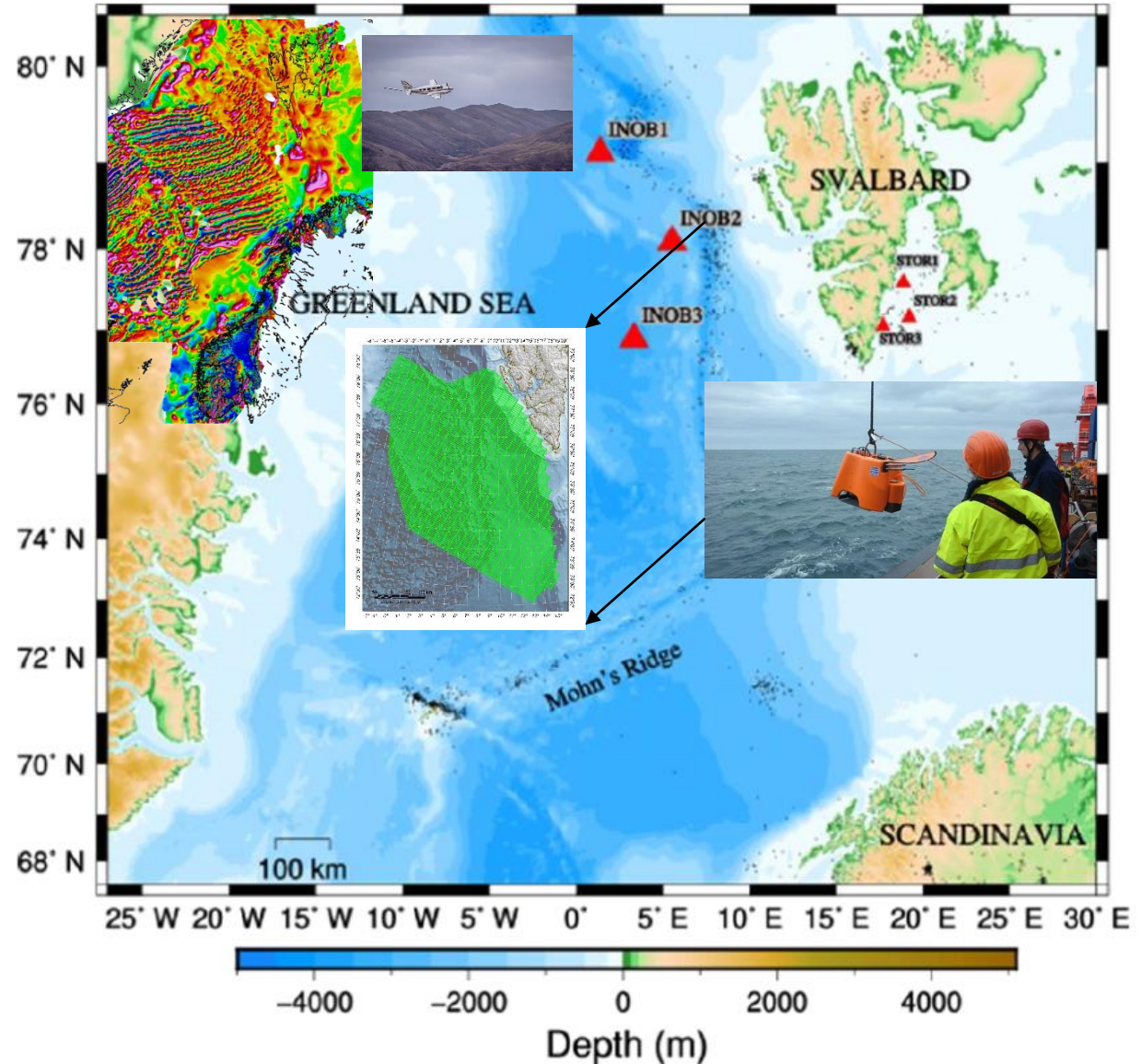
Offshore Surveys

OBS surveys in 2018 and 2019

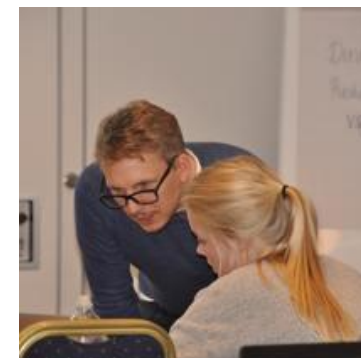
In collaboration with the INTAROS Project, three Ocean Bottom Seismometers (OBS) from EPOS-N are installed along the Knipovich Ridge in 2018 and in Storfjorden in 2019

Knipovich Ridge Aeromagnetic Survey

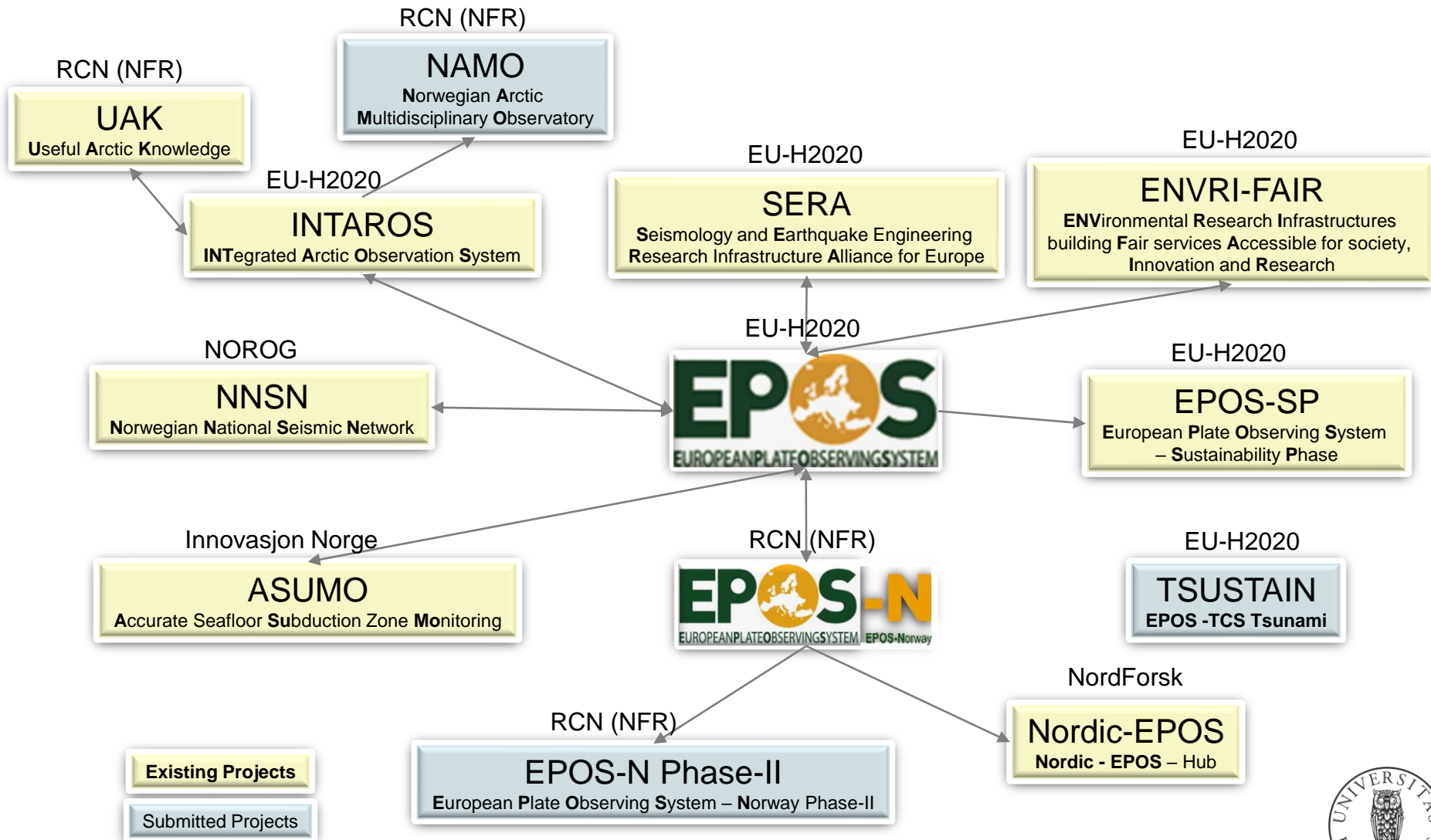
2018 KRAS survey
57000 km



Solid Earth Science Forum



EPOS synergies



EPOS-N is a team-work



Thank you for your attention!