



# INTAROS

## Integrated Arctic Observation System

Pedro Gonçalves, Terradue  
Living Planet Symposium, Milan 2019  
EC and ESA collaboration:  
Polar Science Challenges and future activities



# INTAROS

## Integrated Arctic Observations System

Arctic Observing system funded by H2020-BG-09-2016 for atmosphere, ocean, cryosphere, terrestrial sciences and local communities

Collaborative effort:

- **200+ scientists**
- **49+ organisations**
- **20 countries**

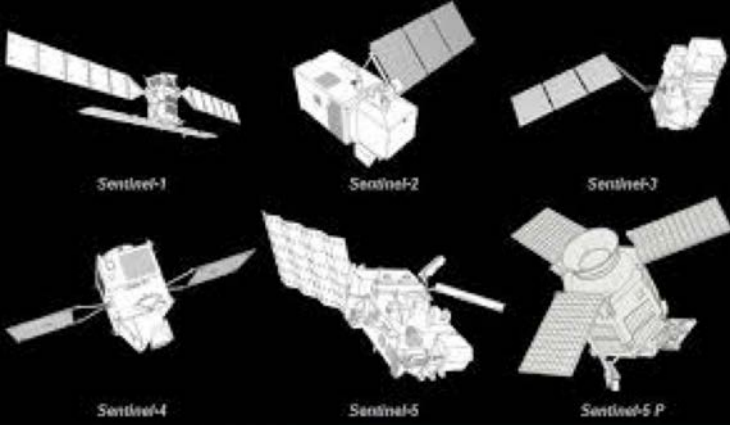


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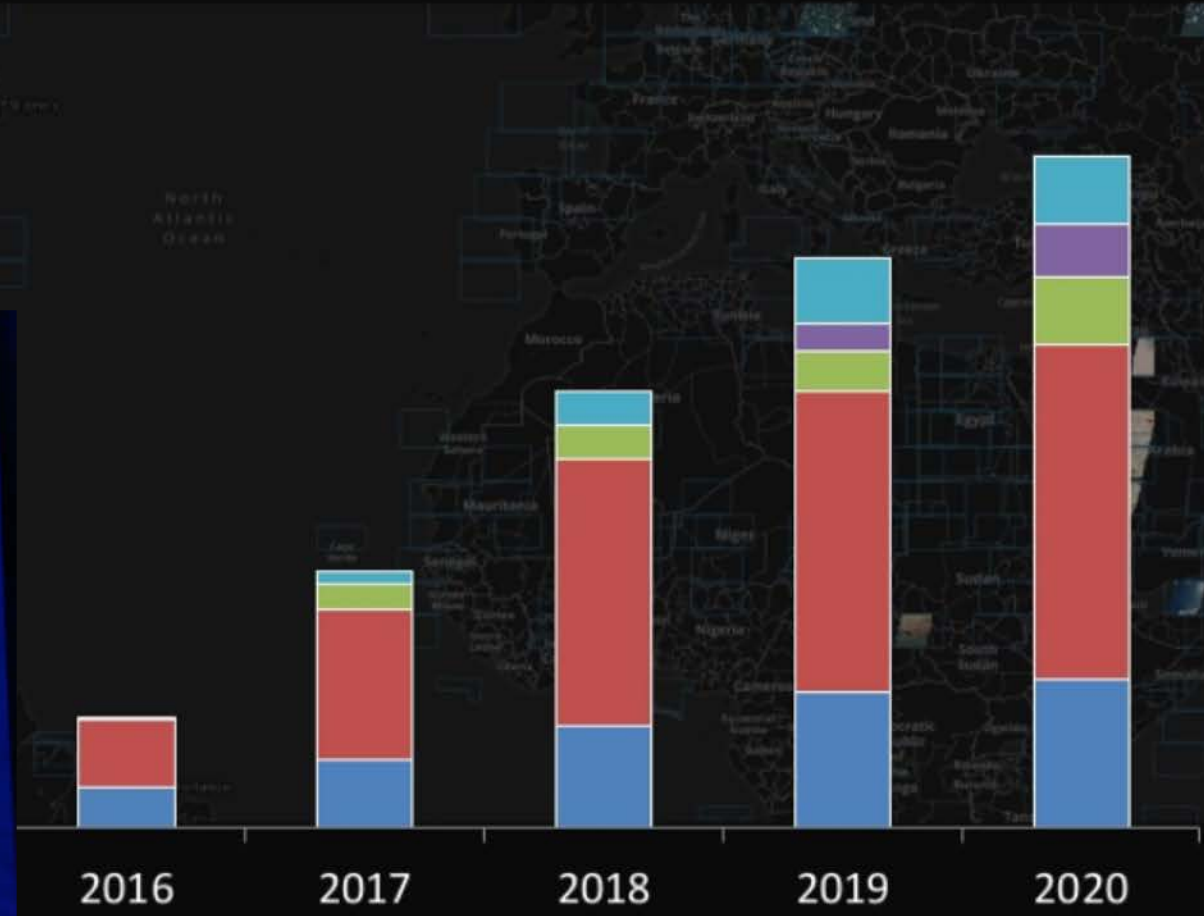
## Platform supporting Arctic Research

- Long-term Arctic monitoring rests on a combination of satellite information and in situ observations





■ Sentinel-1   ■ Sentinel-2   ■ Sentinel-3   ■ Sentinel-4   ■ Sentinel-5



Copernicus – establishing global leadership in EO

> 175.000 registered users  
= tip of the iceberg

**6 operational services**

- Land
- Atmosphere
- Ocean
- Climate
- Disaster
- Security

150 TB satellite data distributed per day

**7 satellites flying**

S1 S2 S3 S4 S5P S5 S6

full, free & open data policy

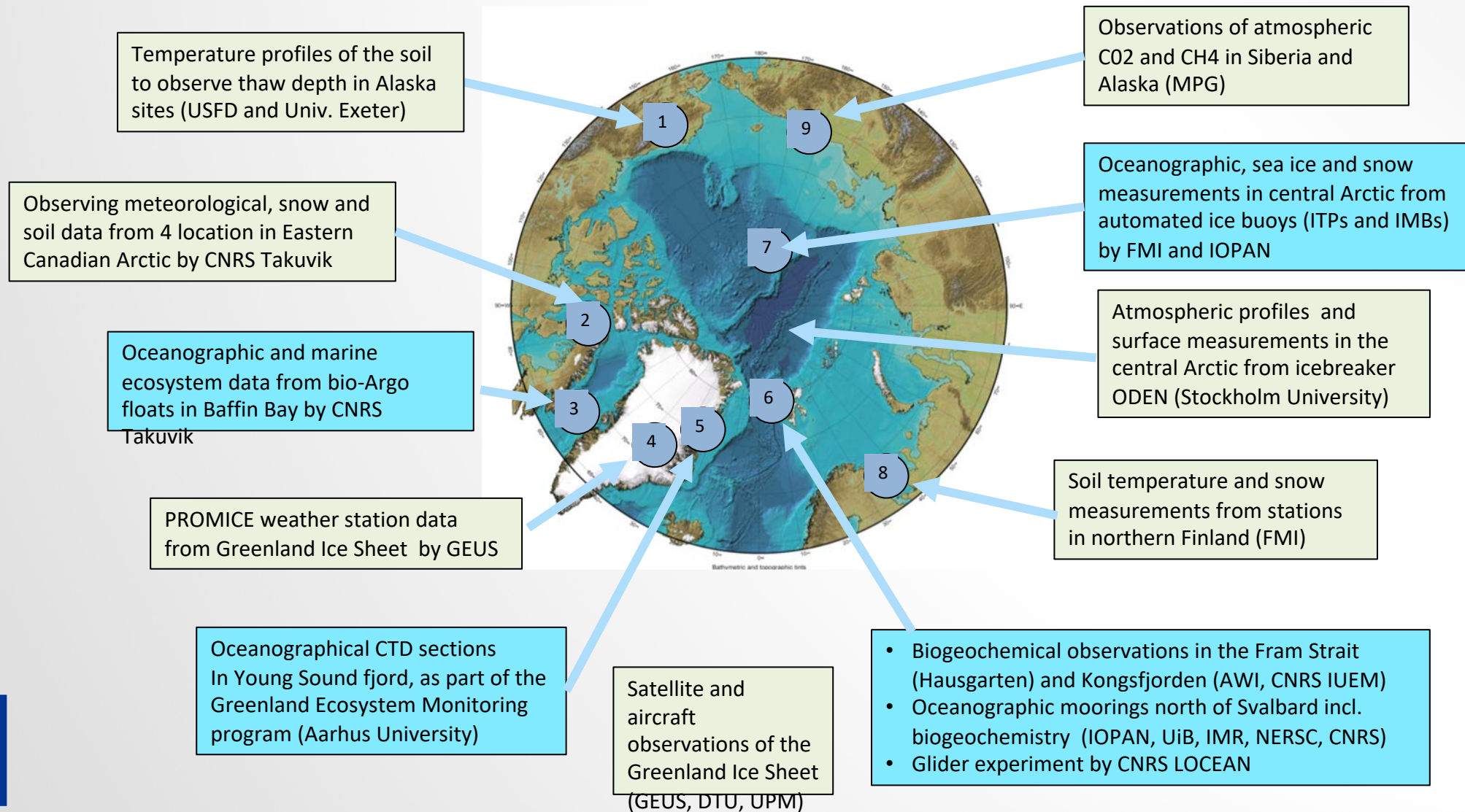
preparing Copernicus 2

Copernicus Sentinels as the next generation Earth Observation satellites

Typical EO data volumes  
500MB (S-2) < a single product < 8GB (S-1)

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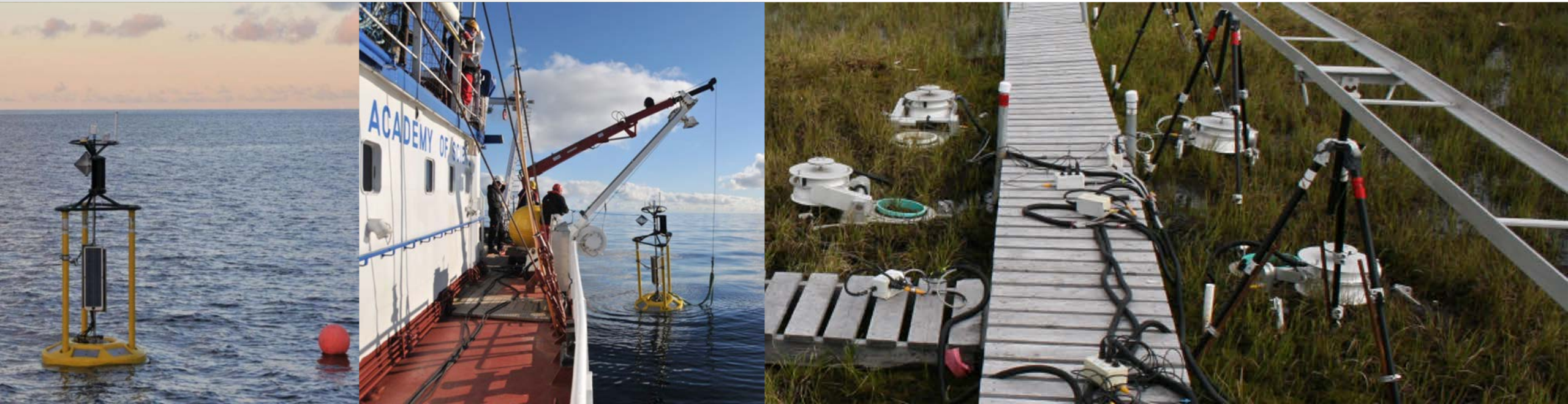
## Field activities in 2017-2018



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## Platform supporting Arctic Research

- **Integrate** existing observing systems
  - Connect observations & derived parameters with EO services and tools for data analysis, transformation & visualization



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## Platform supporting Arctic Research

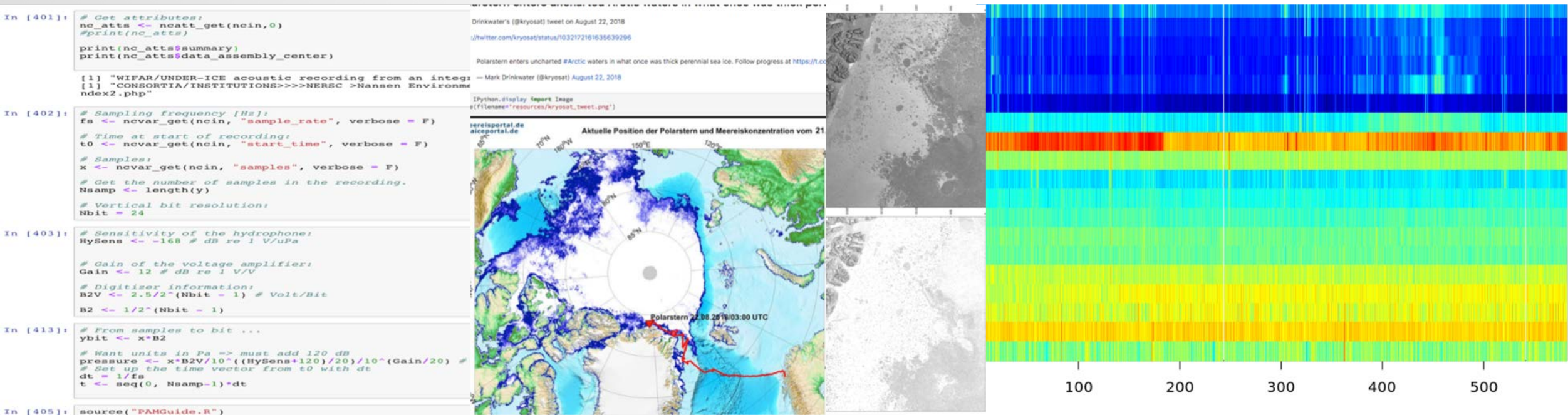
- **Deploy** new processing services as scalable Cloud data and computing resources (EOSC & DIAS)



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## Platform supporting Arctic Research

- **Manage** processing campaigns of new and existing observations (e.g. advanced geostatistics toolkits)





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## Platform supporting Arctic Communities

- Most advanced EU-initiative for **Community Based Monitoring (CBM)** in the Arctic, joining local & scientific knowledge



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## Challenges and Activities

- Coordination and collaboration between data providers and stakeholders in the pan-Arctic region
- Improvement of the observing platforms from research to operational systems, filling gaps in observations
- Data sampling, transmission, calibration, processing, archiving and retrieval of required variables
- Survey key resources for sustainability and targeting new sponsorship opportunities (e.g. OCRE, NoR)





  
**INTAROS**  
<http://www.intaros.eu/>