GROOM II

GLIDERS FOR RESEARCH, OCEAN OBSERVATION & MANAGEMENT : INFRASTRUCTURE AND INNOVATION
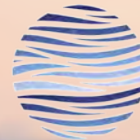
GROOM II PROJECT / GROOM - RI

Gliders for Research, Ocean Observations and Management: Infrastructure and Innovation
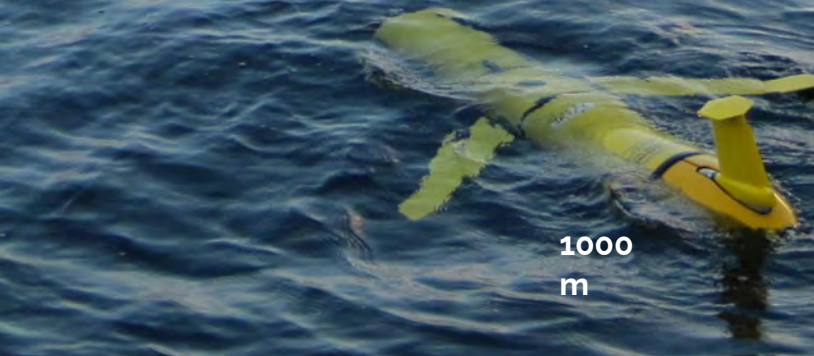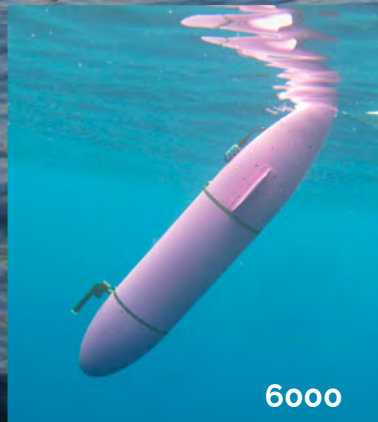
Laurent MORTIER

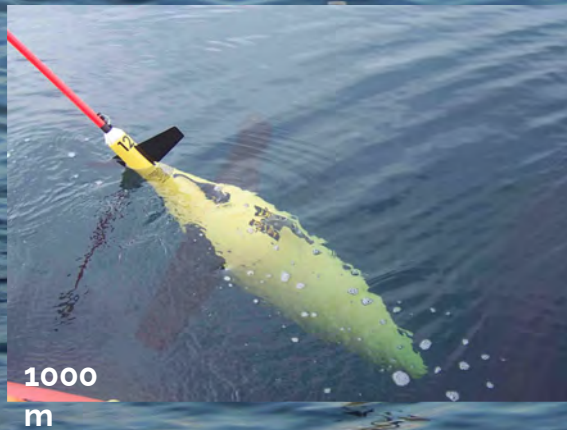**9th EuroGOOS International Conference:** May 5th, 2021

State of the art commercial underwater gliders and new deep ones ...

1000 m

1500 m

1000 m

6000

1000 m

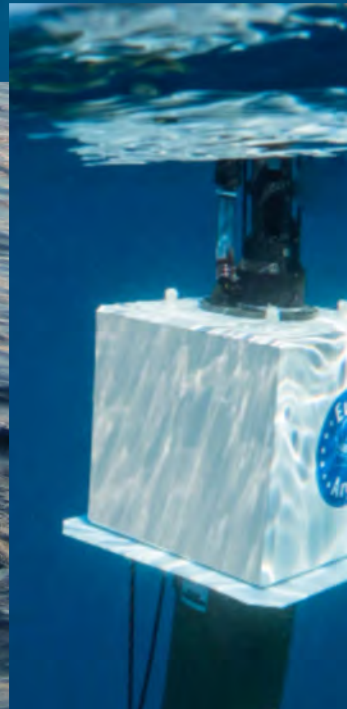Strong commonalities with Argo profilers and OceanSITES moorings
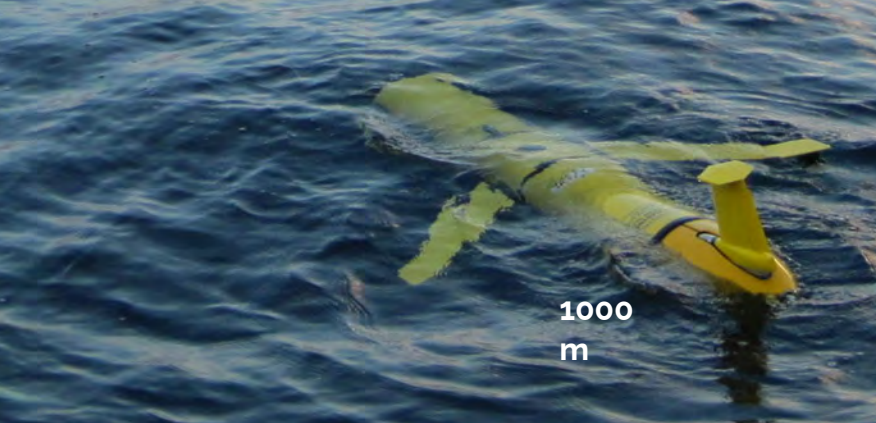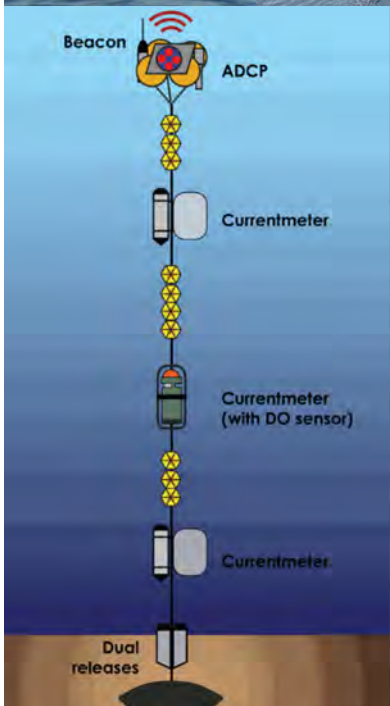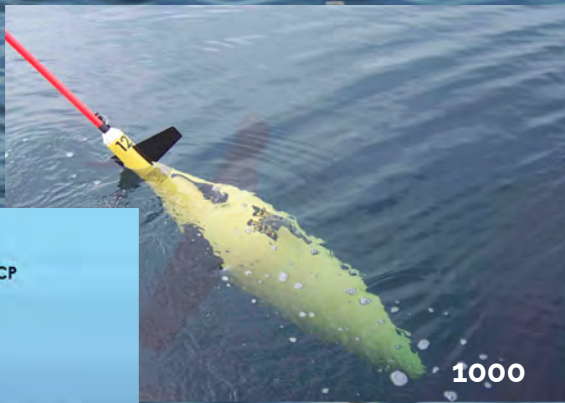
GROOM HISTORY AND COMMUNITY

GROOM II
GLIDERS FOR RESEARCH, OCEAN OBSERVATION &
MANAGEMENT : INFRASTRUCTURE AND INNOVATION

Platforms oriented RIs
- ▶ Fixed Observatories
- ▶ Gliders (underwater and surface)
- ▶ Marine Robots
- ▶ Profiling floats
- ▶ Research Vessel

Network oriented RIs
- ▶ Coastal Observatories

GROOM European and Global Leadership

EGO Everyone's Gliding Observatories

A worldwide community of glider users

bringing together :
- glider operator,
- scientists,
- manufacturer,
- data manager,

to share results, experience, knowledge and develop international cooperation.

GROOM II

GROOM
GROOM II

Building the glider European RI

Sustained observation monitoring

Sustained observation requirement

Ocean Gliders

GOOS associated program

Frontier Sciences
frontiers in Marine Science

innovation
BRIDGES

infrastructure
ENVRI community

Ocean Services

Copernicus Marine for MSFD

Data services

International scientific cooperation

OceanGliders Task Team

Storms
Water Transformation
Boundary Current
Data Management
Best Practices
Ocean Health & Ecosystems

EMODnet PHYSICS

Global monitoring

International Glider Data and metadata flow mapping

GOOS The Global Ocean Observing System

GROOM Helps developing a European glider industrial sector
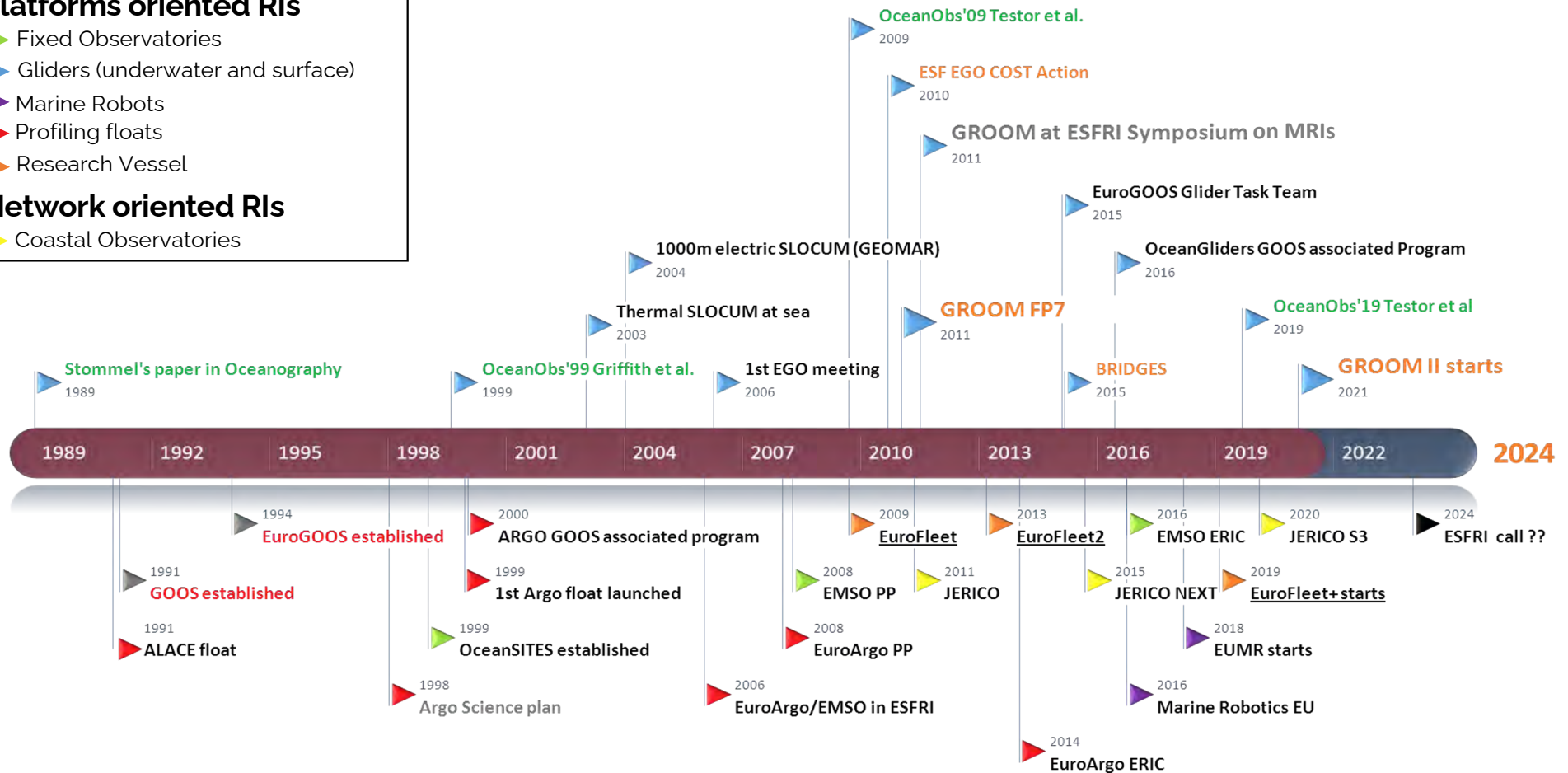

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BRIDGES

European Commission

**Smart cable for
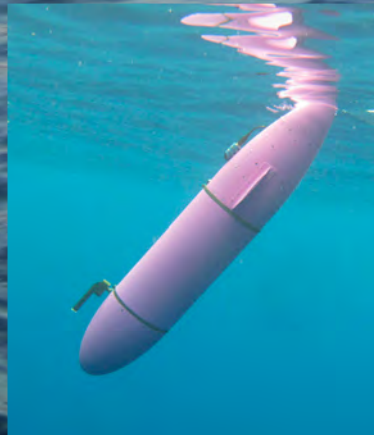sensor/vehicle connection**

**3000m water
sampler**
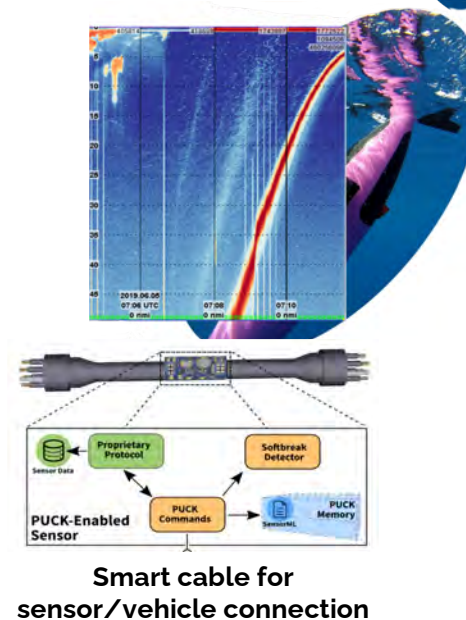
Underwater video profiler

- A growing sector routed in the research community at national, Eu and global level
  - *CSCS (Cy), Alseamar (Fr), AkvaPlanNiva (No), MTS (Sw), …*

- High potential for research and innovation
  - *BRIDGES (deep gliders), BIOGLIDER (advanced imagery), …*

- Services to the research community, the O&G sector (including CCS), the MRE sector, …

- ***Need for better cooperation with other RIs and the marine industrial clusters***
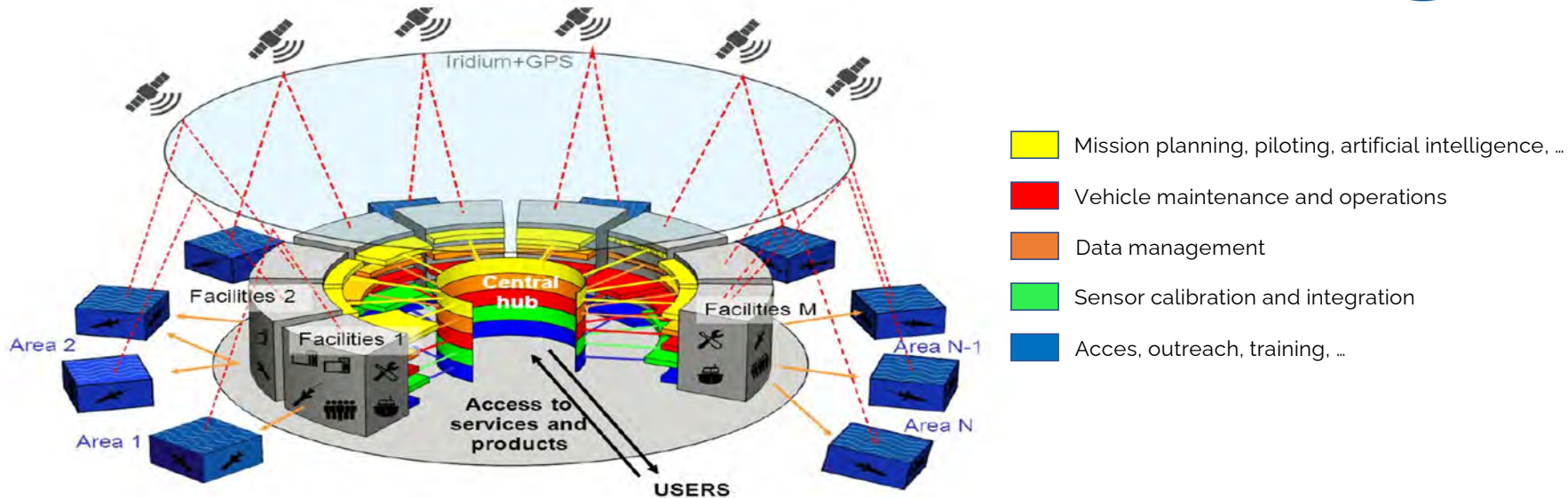 - **TES/EMSO, FCT/JERICO, several national marine clusters, …**

GROOM II now considers underwater gliders but also autonomous surface vehicles and emerging hybrid vehicles...

GROOM and GROOM II PROJECTS

Legend:
- **Yellow**: Mission planning, piloting, artificial intelligence, …
- **Red**: Vehicle maintenance and operations
- **Orange**: Data management
- **Green**: Sensor calibration and integration
- **Blue**: Acces, outreach, training, …

- GROOM : Central hub and distributed nodes technical organisation
  - *High potential of economy of scales of this approach   Strong case for an ESFRI like infrastructure*

- GROOM II : Detailed design of gliders services and user access
  - *Integration of the GROOM-RI in the landscape of European MRIs*
  - *Services for the GOOS, EOOS (including MSFD, …) and to the Industrial sector*

- GROOM II : Governance and funding
  - *Update technical organization and detailed assessment of economies of scales*
  - *Governance and funding schemes formally designed*
  - *Series of KPI to assess the efficiency of the GROOM-RI (versus a network of reg./nat. facilities)*

GROOM-RI NODES TODAY

24 Nodes (and the new ones to come) with an unified data management scheme and one GDAC at Coriolis-Ifremer

Map showing GROOM-RI capacity to maintain (sustained) observatories in most of the EuroGOOS ROOS and beyond

Thank you for your attention!

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