

# Introduction to the third day

Ingrid Puillat,

EMSO ERIC Director General

Rome, 11-13 March 2025

# Forewords

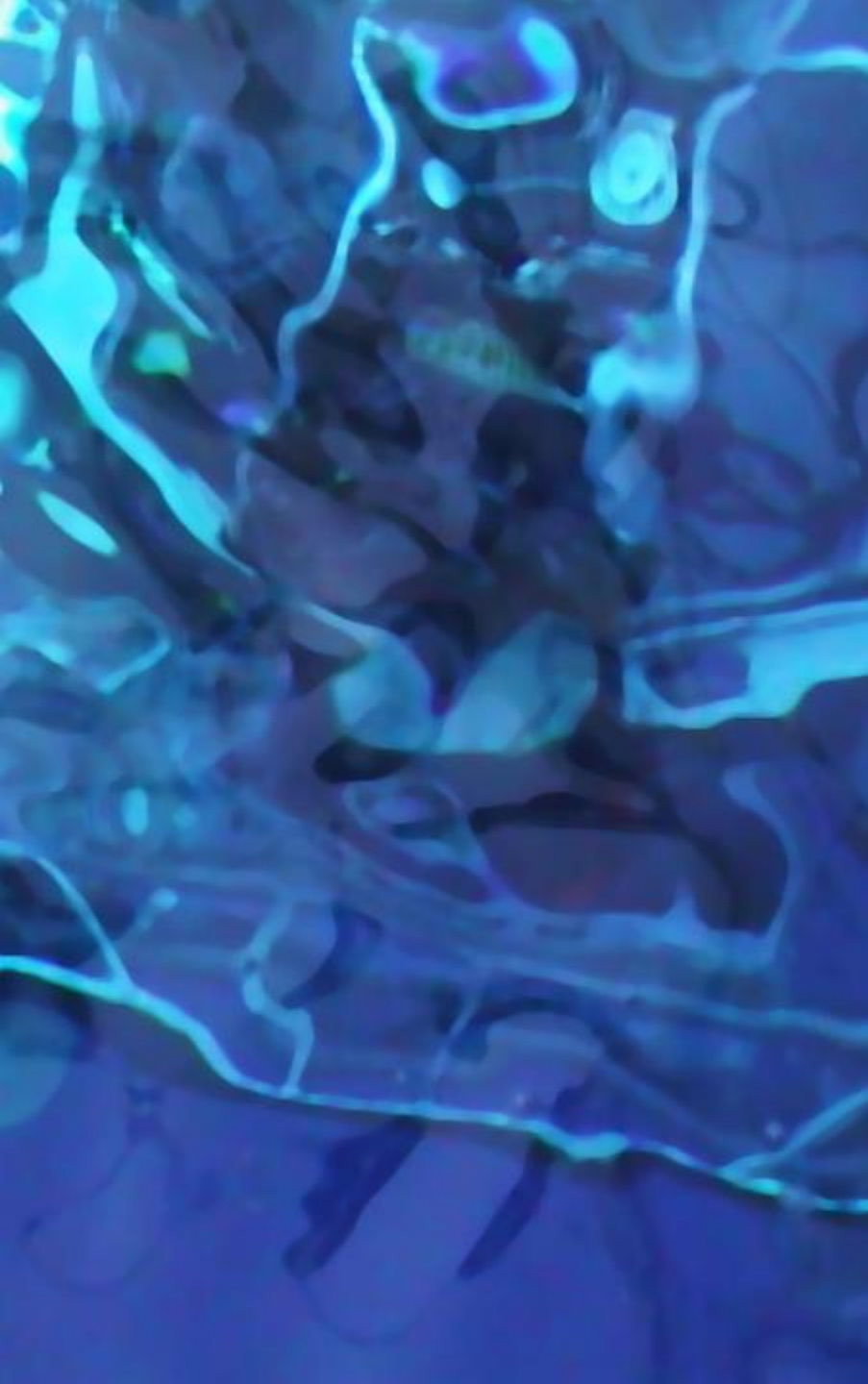
About 150 registered attendees  
of which 70 expected on site to day

## Special Guests:

Ministries' Delegates from Italy, France, Spain, Ireland,  
And the EMSO AoM Chairman

Austria, Bulgaria, Canada, Denmark, Georgia, Germany, Netherlands,  
Turkey, UK, Ukraine

About 15 private companies



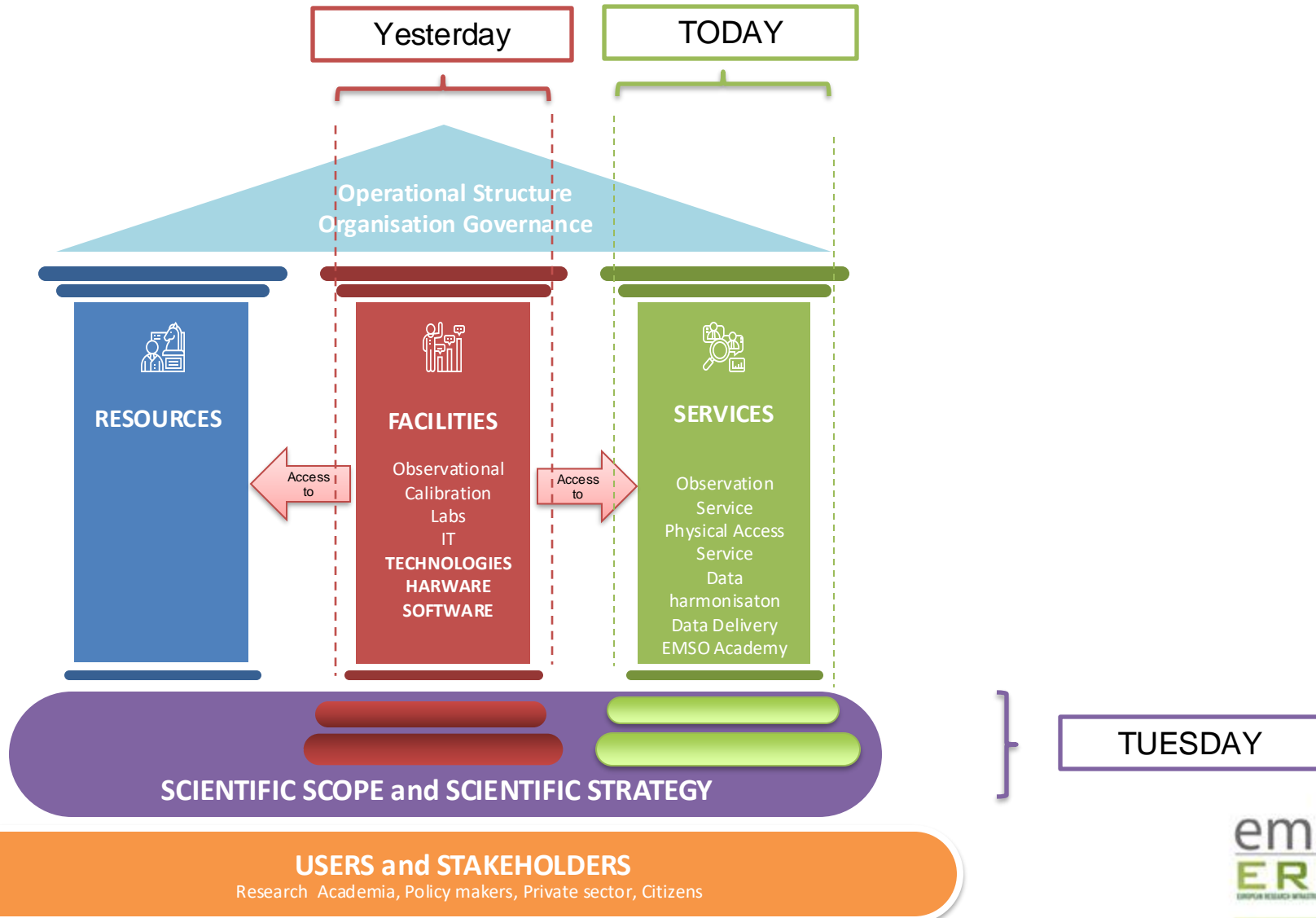
# Table of contents

---

- **Debriefing after the first 2 days**
- **Towards the future: Objectives of today**

# Workshop Scope

## Workshop Structure



# Towards the Future

## Six Strategic goals

Tuesday

Yesterday

Today

### Scientific goal

Refine and upgrade the EMSO Scientific and Technology strategy and progress towards the regional scale



### Service Operation Goal

Root long-term internal operation of technical services to EMSO members for an Excellent Research



### Governance Goal

Revise the EMSO Governance and matter its potential upscaling



### Technology Goal

Reduce EMSO environmental impacts with technologies dedicated to improve the EMSO efficiency



### Sustainability Goal

Raise the EMSO socio economic impacts to support a long-term financial sustainability



### Promotion & Awareness Goal

Re-energise the EMSO engagements in EU and worldwide initiatives





# Scientific goal

**Refine and upgrade the Scientific and Technology strategy and progress towards the regional scale**

a

EMSO's scientific scope make it unique and is its main strength. Its large scope include:

1

Play a key role in the **monitoring** of **marine geohazards** thanks to its bottom equipment

2

Long term study and monitor **impacts** of the **Climate change** on both the seafloor and through the water column in key areas

Given the broad focus, it is essential to streamline the scientific strategy around the Key Scientific Questions (KSQ) the community wishes to jointly address.

In the current era of the global green and digital transition, EMSO must **Reinforce** its scientific scope to better satisfy the current scientific and societal needs, whilst also updating its technology strategy accordingly.

## Strategic Objectives

- **SO.1.1 Define the key scientific questions**
- **SO.1.2 Expand the scientific & geographic scope**
- **SO.1.3 Enlarge the community**
- SO.1.4 Promote EMSO higher-level products

# Debriefing

## From Socio Economical Considerations to Key Scientific Questions (KSQs)



SOCIO  
ECONOMICAL  
Considerations

FOUR  
SCIENTIFIC  
CHALLENGES

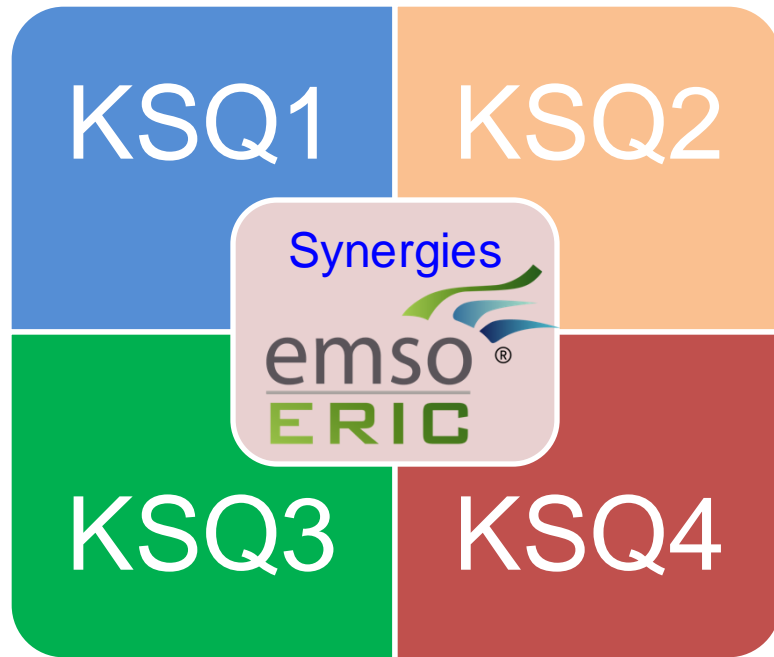
FOUR KSQs x  
FOUR SUB  
KSQs

# Debriefing

Identified synergies to contribute to 4 KSQs

Joint Research actions are the glue of the community

Joint publications and Capacity building !!!!



Copernicus  
Marine Service



**EMBRC**  
EUROPEAN  
MARINE  
BIOLOGICAL  
RESOURCE  
CENTRE

A increased interest for biological sensors, eDNA and metabarcoding, AI deployment and machine learning, sediment traps







# Technology Goal

Reduce EMSO environmental impacts with technologies dedicated to improve the EMSO efficiency

## EMSO aims to develop capacities to:

1

Sustain its own technologies and methodologies to ensure the delivery of high-quality of data and services

2

Advance the development of its e-infrastructure (cloud-computing facilities with VREs and Labs in collaboration with the existing national and EU initiatives)

3

Implement new technologies that help Reduce EMSO's environmental footprint and increase infrastructure efficiency (lower cost technology, less energy consuming, easier to deploy and retrieve, greener, well-designed decommissioning plan)

## Strategic Objectives

- **SO.2.1 Redesign a smart, greener and lower cost infrastructure**
- **SO.2.2 Leveraging emerging technologies**
- **SO.2.3 Set the EMSO harmonisation technology as a key asset for its expansion**
- **SO.2.4 Upgrade e-EMSO to be part of the European Digit landscape**



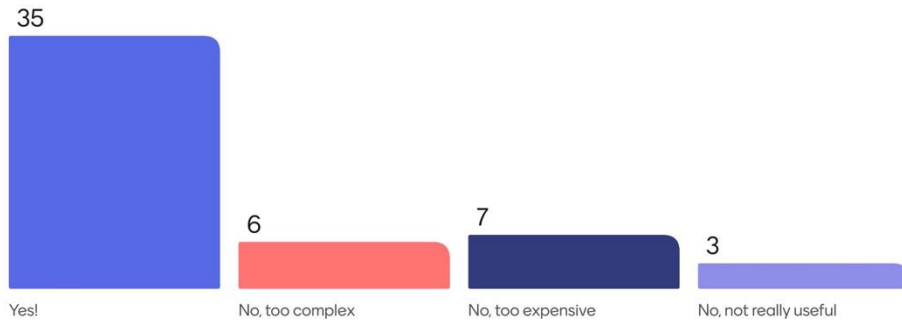
# Technology Goal

Reduce EMSO environmental impacts with technologies dedicated to improve the EMSO efficiency

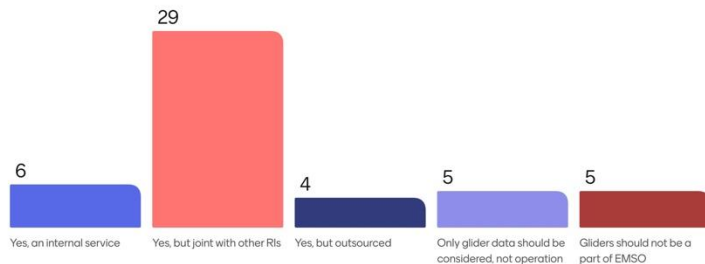
## Strategic Objective

- SO.2.1 Redesign a smart, greener and lower cost infrastructure
- SO.2.2 Leveraging emerging technologies

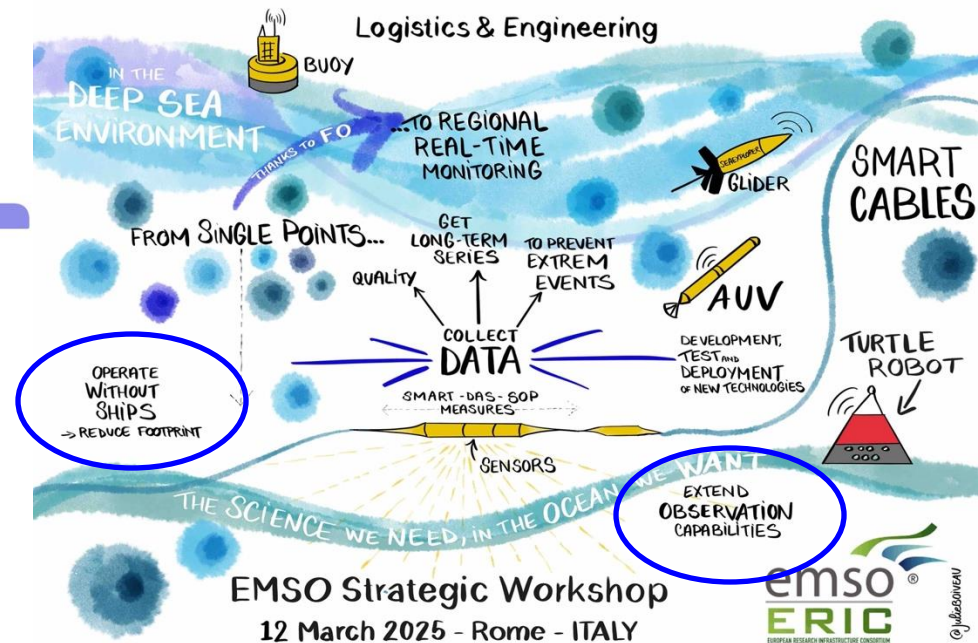
Resident AUVs are a feasible solution to increase EMSO sites autonomy and their monitoring footprint



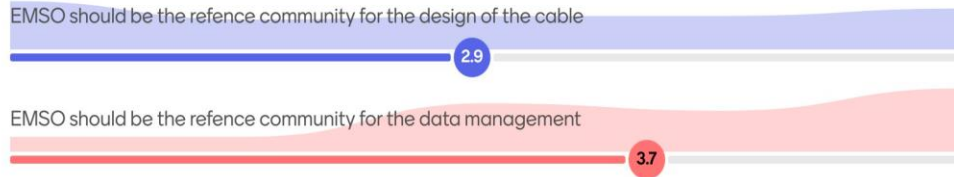
EMSO should have a glider service to optimize the use of such vehicles in the EMSO context



## Concept of Extended Observatories in EMSO



# About the SMART cables,



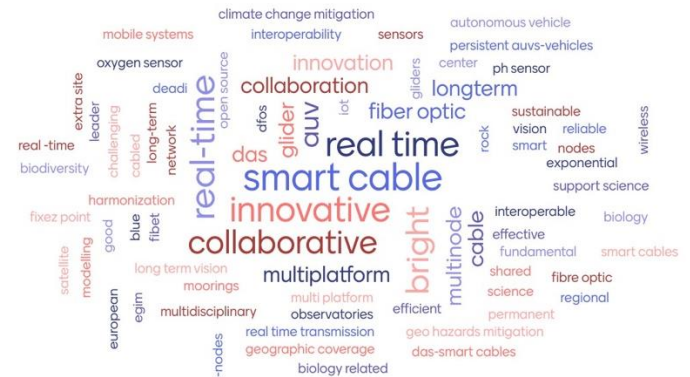
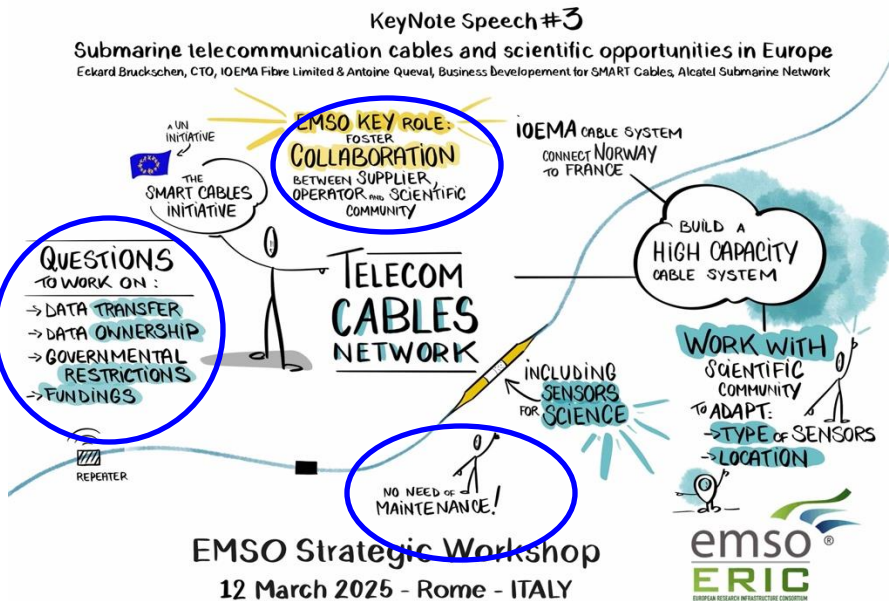
Strongly disagree

EMSO a reference community:

- maybe not for the design of a Smart cables but for a collaborative approach with operators
- for the data management

## What is the future of EMSO technology for the regional scale monitoring

112 responses





# Technology Goal

Reduce EMSO environmental impacts with technologies dedicated to improve the EMSO efficiency

## Strategic Objective

- SO.2.1 Redesign a smart, greener and lower cost infrastructure
- SO.2.2 Leveraging emerging technologies



EMSO Strategic Workshop  
12 March 2025 - Rome - ITALY



## About Physical Access

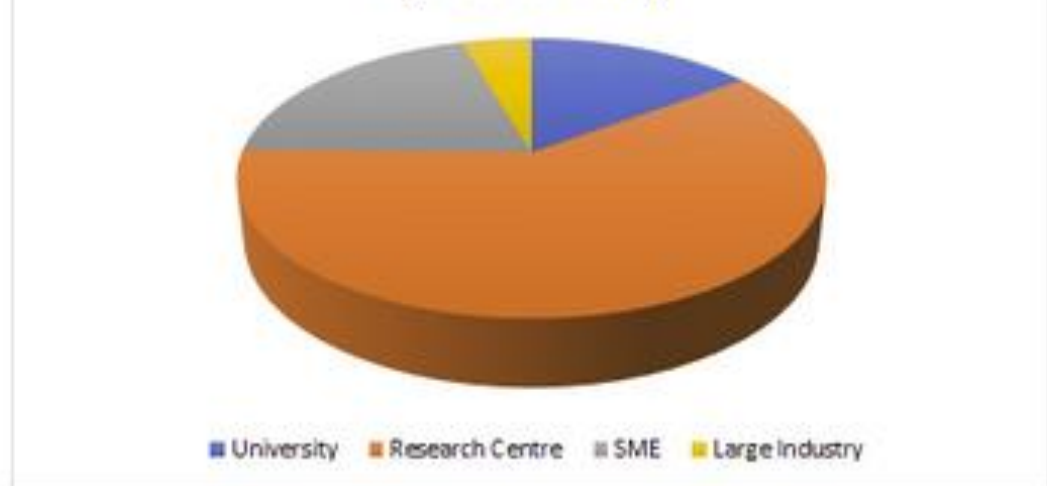
10 projects have been funded since the program was launched in April 2022:

### Action needed:

Sustainability and funding models to explore

Towards user-need oriented solutions (fast track vs opportunistic one?)

Type of Users - Access Units Requested  
(1312 in total)



The Physical Access Service for the industry and for the Academia should be organised with 2 different programmes.

3.3

Strongly disagree

Strongly agree





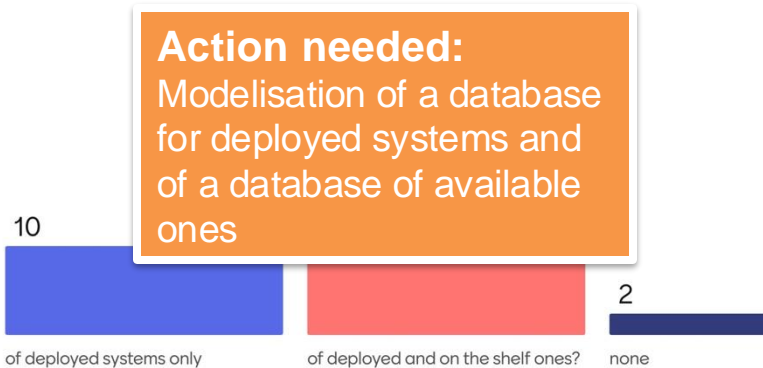
# Technology Goal

Reduce EMSO environmental impacts with technologies dedicated to improve the EMSO efficiency

## Strategic Objective

- SO.2.3 Set the EMSO harmonisation technology as a key asset for its expansion

What type of sensors/platforms inventory do we need?



**Action needed:**  
 Modelisation of a database for deployed systems and of a database of available ones

About the EGIM (E



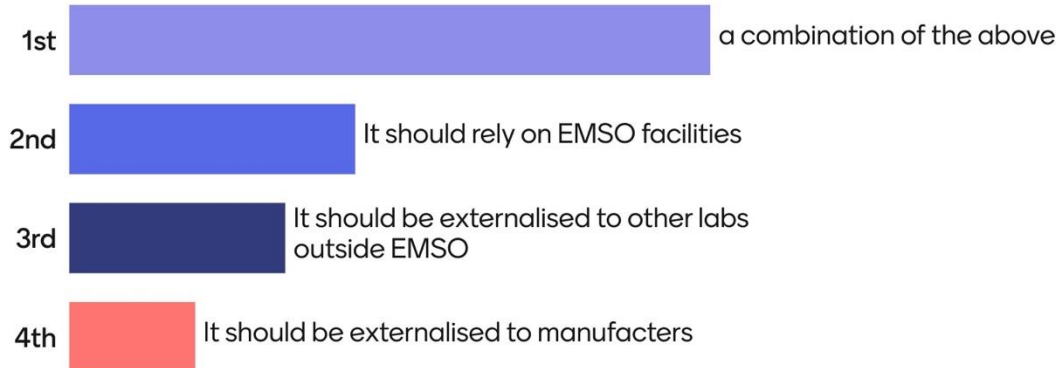
**Action needed:**  
 Clarify the need

We need the EGIM as a star

An 'EGIM service' should be created so that EMSO engineers could maintain, evolve and deploy EGIMs on demand

# Debriefing

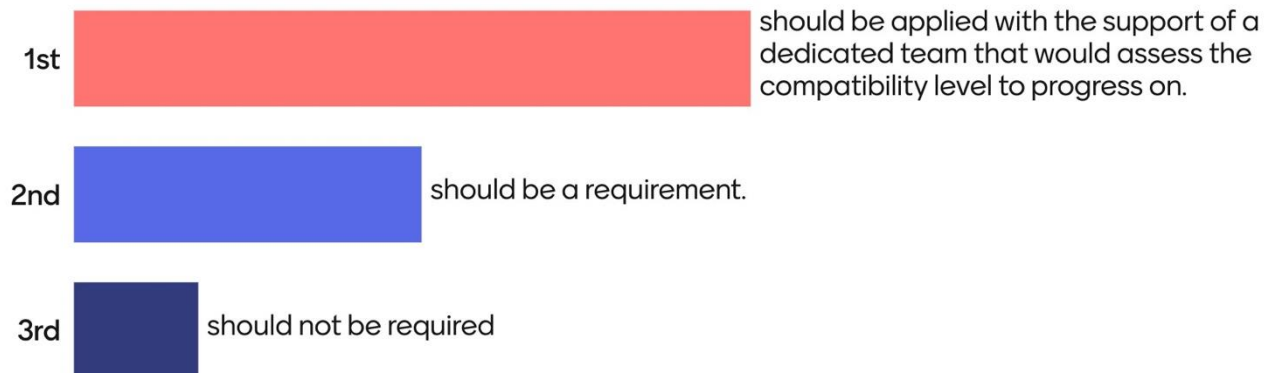
## About Calibration needs



Towards an ERICs  
Joint/common  
Calibration Service?

The application of the Best practices, guidelines agreed in EMSO ....

Towards an EMSO  
interoperability  
service?





# Technology Goal

Reduce EMSO environmental impacts with technologies dedicated to improve the EMSO efficiency

## Strategic Objective

- SO.2.4 Upgrade e-EMSO to be part of the European Digit landscape

What **new** internal or external **data services** should EMSO consider offering to enhance data access, interoperability, or user engagement (3 words max)?

80 responses



### Actions needed

- 1- Upgrade of EMSO the Data portal
- 2- Data Service Catalogue (Model Ifremer Sextan?)
- 3- Progress on the compatibility with Blue Cloud

...

# Towards the Future

## Six Strategic goals

Tuesday

Yesterday

Today

### Scientific goal

Refine and upgrade the EMSO Scientific and Technology strategy and progress towards the regional scale



### Service Operation Goal

Root long-term internal operation of technical services to EMSO members for an Excellent Research



### Governance Goal

Revise the EMSO Governance and matter its potential upscaling

### Technology Goal

Reduce EMSO environmental impacts with technologies dedicated to improve the EMSO efficiency



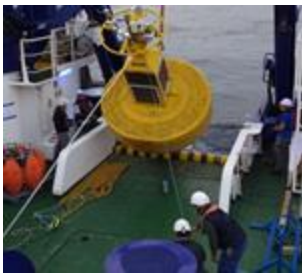
### Sustainability Goal

Raise the EMSO socio economic impacts to support a long-term financial sustainability



### Promotion & Awareness Goal

Re-energise the EMSO engagements in EU and worldwide initiatives



# Service Operation Goal

Root long-term internal operation of technical services to EMSO members for an Excellent Research

**A Reliable and sustainable infrastructure that supports research excellence stands in:**

<b>1</b>	The continuous improvement of the already provided services and products
<b>2</b>	The capacity to update them or develop new ones based on user needs
<b>3</b>	The delivery of harmonised data and information with high quality, from the sensor calibration to the processed data

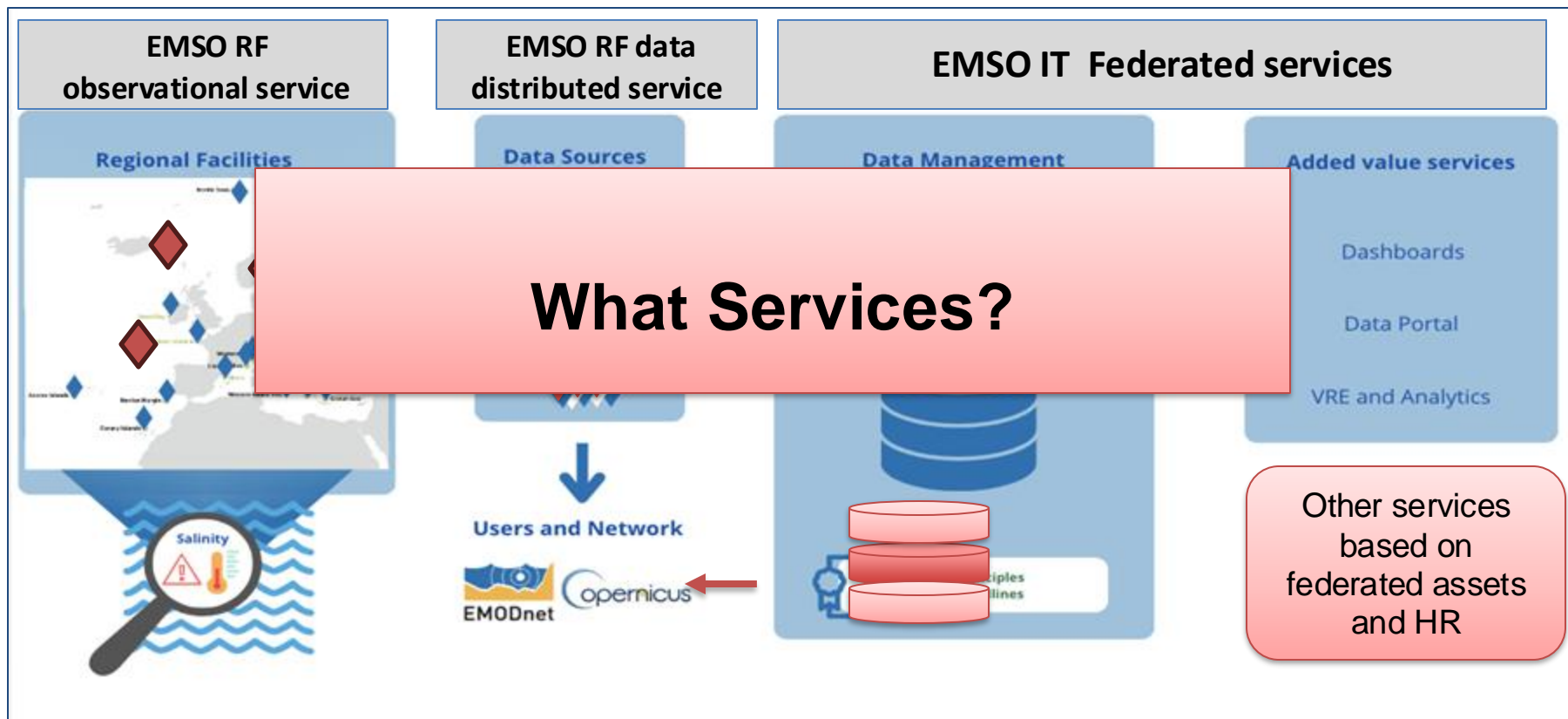
## Strategic Objectives

- SO.3.1 Define common Excellence objectives
- SO.3.2 Progress from FAIR EMSO data to Visible and Attractive EMSO products
- SO.3.3 Operate EMSO Virtual Research Environments and Virtual labs
- SO.3.4 Operate a joint Harmonisation Engineering internal unit
- SO.3.5 Implement a capacity building service



# Workshop Scope

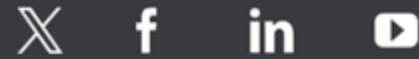
## Operational structure of EMSO



Thank you for your attention



[www.emso.eu](http://www.emso.eu)



## Contact us



### Headquarters

Via di Vigna Murata 605  
00143 Rome



### Operative Office

via Giunio Antonio Resti 63  
00143 Rome



+39 06.45431040



[info@emso-eu.org](mailto:info@emso-eu.org)