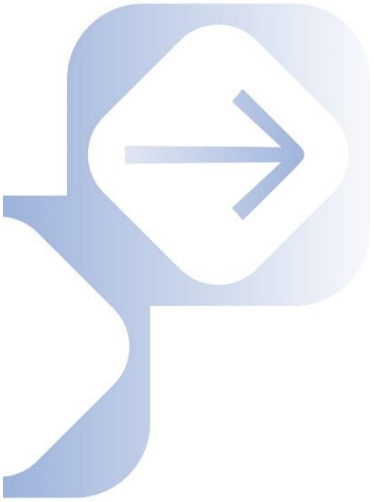


# Developing the Blue Growth in Brittany



# → Brittany's Key Blue Figures

- 1st French maritime region
- 1st French fisheries region in value produced
- 1st French region for marine biotechs
- 1800 km of coastline
- A unique marine biodiversity : more than 800 species of macroalgae listed, 3500 species of macrofauna



# A strong regional blue innovation ecosystem



- 1 marine competitiveness cluster : Pôle Mer Bretagne Atlantique
- 4 technology transfer and innovation centres: CBB Capbiotek, ID2Santé, IDmer and CEVA
- 3 marine-biology stations Roscoff, Concarneau, Dinard
- 50% of national oceanographic research based in Bretagne (IFREMER, CNRS, UBO...)
- European infrastructures : Euro Argo and Argo, EMBRC, Euro Fleet, EMSO, Vigisat, digital infrastructure Datarmor...
- Over 300 innovative companies

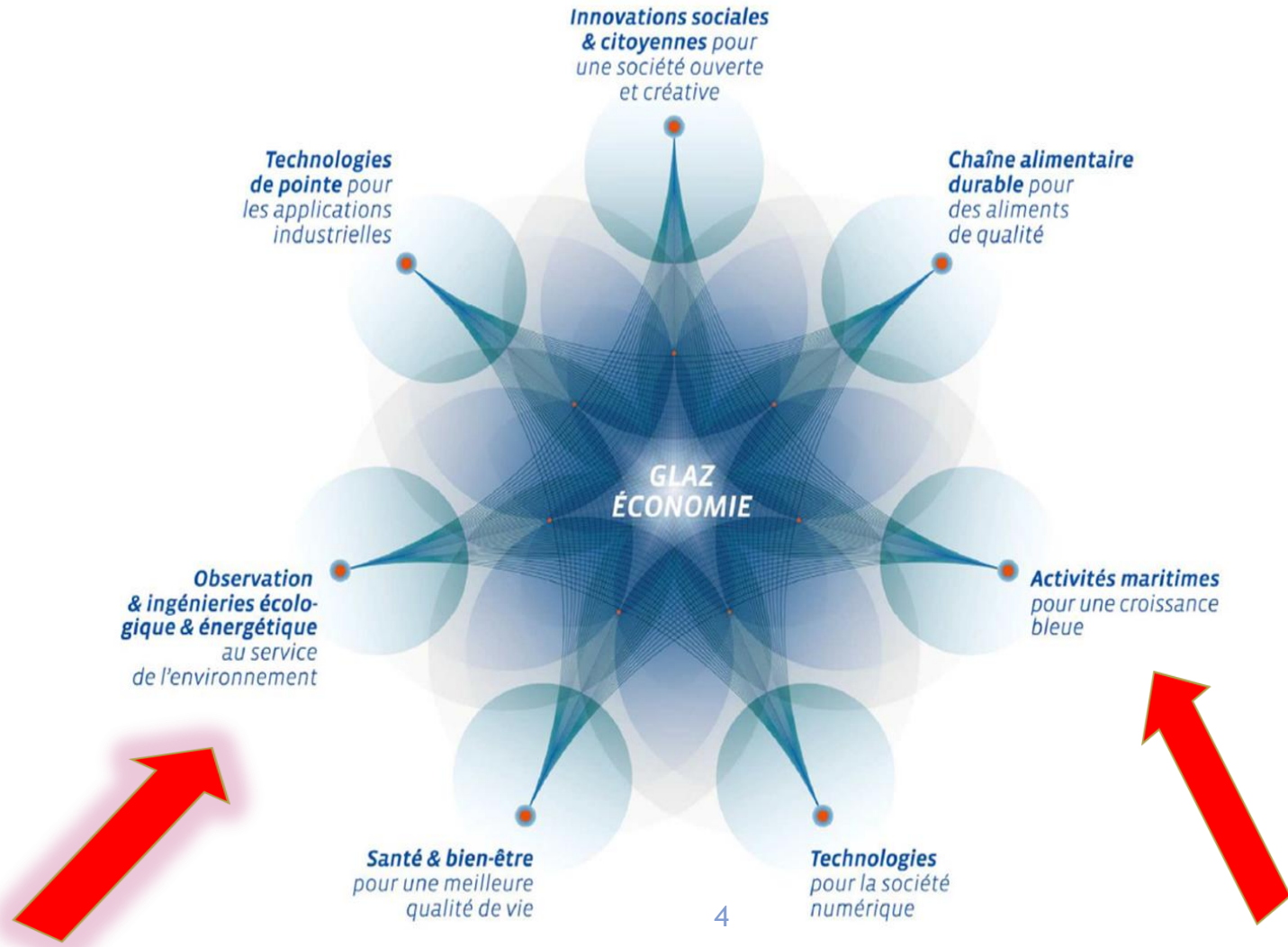


CNRS • SORBONNE UNIVERSITÉ  
Station Biologique  
de Roscoff





# 7 targeted areas of innovation and research for prioritization



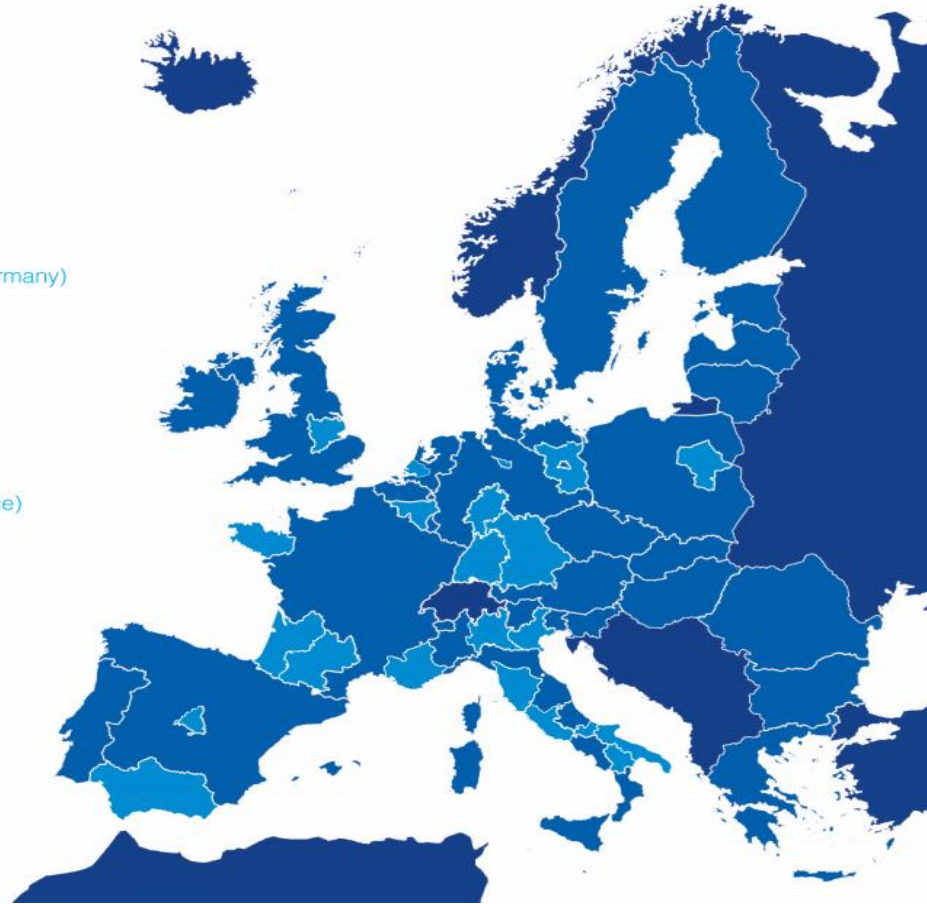


# → NEREUS : Network of 26 European Regions Using Space Technologies



Since 2009 :  
Brittany Council  
is a member of  
NEREUS.

- Abruzzo (Italy)
- Andalusia (Spain)
- Apulia (Italy)
- Aquitaine (France)
- Azores (Portugal)
- Baden-Württemberg (Germany)
- Basilicata (Italy)
- Bavaria (Germany)
- Brandenburg (Germany)
- Brittany (France)
- East Midlands (United Kingdom)
- Free Hanseatic City of Bremen (Germany)
- French Guiana (France)
- Hesse (Germany)
- Lazio (Italy)
- Lombardy (Italy)
- Madrid (Spain)
- Mazovia (Poland)
- Midi-Pyrénées (France)
- Piedmont (Italy)
- Provence-Alpes-Côte d'Azur (France)
- South Holland (Netherlands)
- Tuscany (Italy)
- Veneto (Italy)
- Wallonia (Belgium)

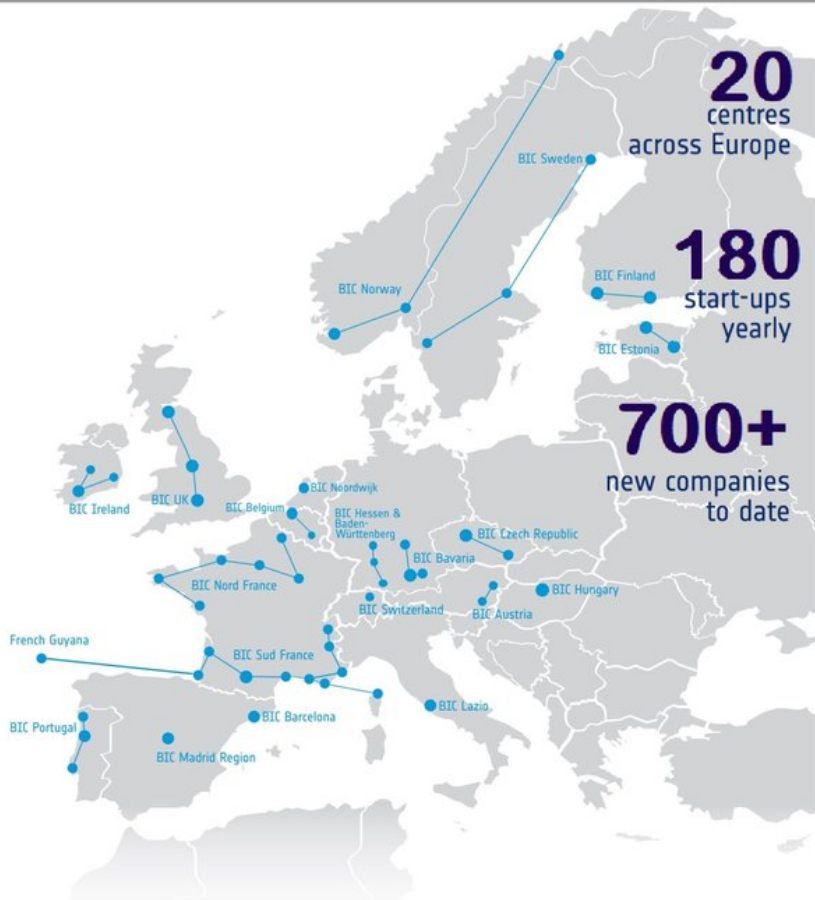




# June 2019 : ESA BIC Nord France was established



## → ESA BUSINESS INCUBATION CENTRES



**Bretagne Télédétection (GIS BreTel)**, created in 2009 brings together the players (Research, education, companies) in remote sensing and spatial applications in Brittany.

**InSpace Institute** supports local authorities and local public actors in the identification, knowledge, evaluation and implementation of these solutions at national level

→ Remote sensing and spatial applications as a vector to develop our blue economy



A 10 year programme on :

- **Environmental Monitoring:** *Detection of marine pollution, natural resources traffic, monitoring of invasive natural phenomena (green algae, etc.)*
- **Marine Safety:** *Securing maritime routes for the transport of goods and passengers*
- **Risk management:** *Submersion, storms monitoring, coastlines vulnerability...*
- **Resource Management:** *Monitoring of large marine mammals, management of fisheries...*
- **Energy Sector:** *Offshore oil, management of RME sites...*

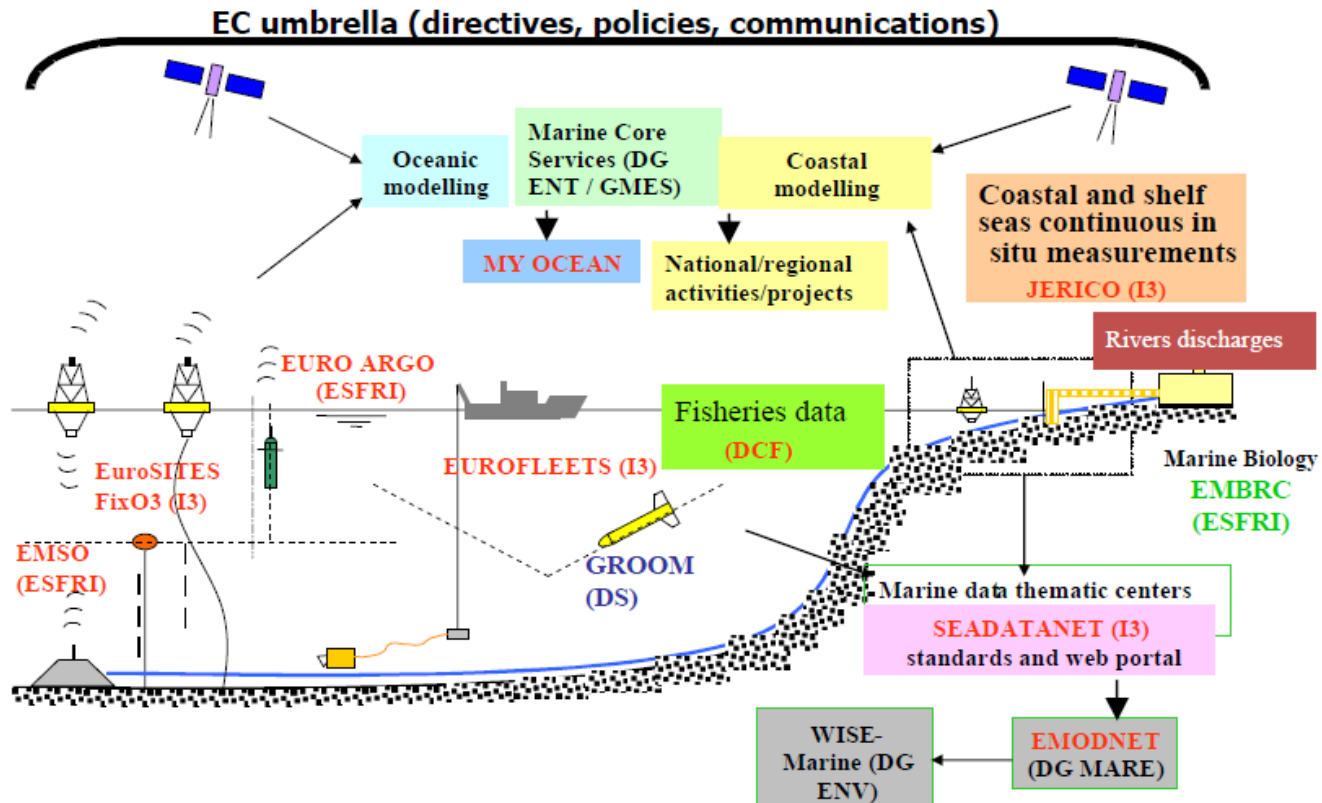
# → European infrastructures after H2020 and regional issues ?



Les Infrastructures de Recherche marines soutenues par la Commission Européenne

## European Strategy Forum on Research Infrastructures –ESFRI

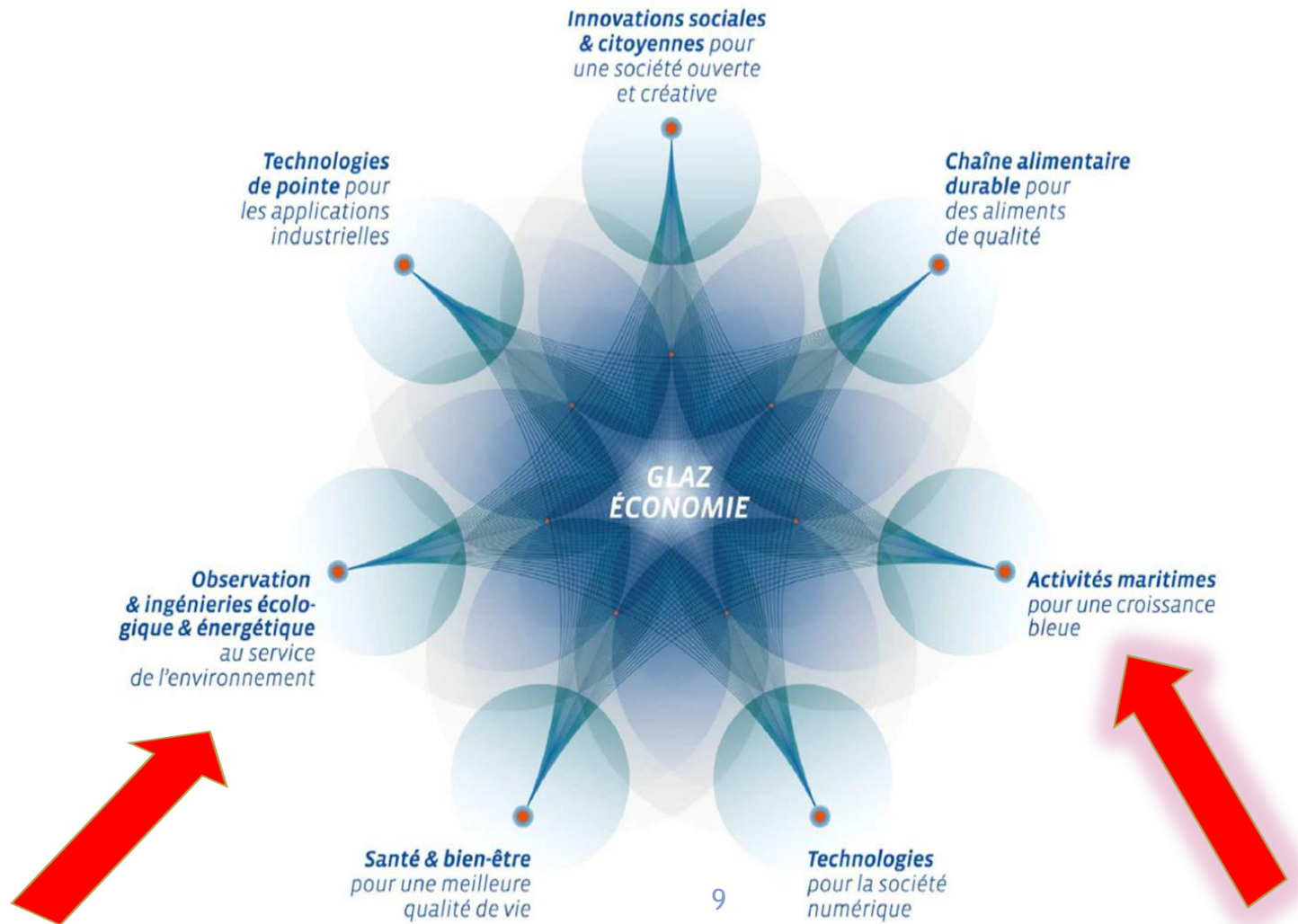
### Integrated Infrastructure Initiatives – I3







# 7 targeted areas of innovation and research for prioritization



# Blue biotech as a vector to develop our traditional economy

## BRETAGNE <sup>BE</sup>

## traditional economy

### 1ère région française en biotechnologies marines

#### Plus de 110 acteurs

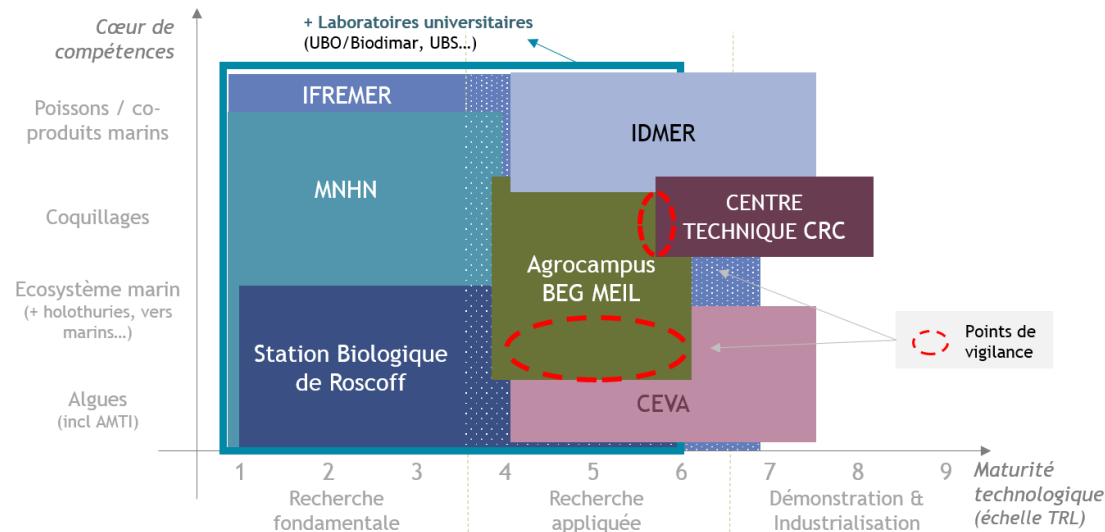


Février 2019  
Sources : Base collaborative Craft - CBB Capbiotek, Plug in labs Ouest  
IGN - GEOFLAB ET RGE®

# → The role of the Brittany Region



- Developing a coherent policy framework:
  - Regional S3 : valorisation of marine biomass and blue biotech
  - Regional Roadmap for the circular economy
  - Regional Strategy for the Sea and the coastline
  - Managing authority for ERDF and intermediate body for EMFF
- Structuring the regional ecosystem to support SMEs



# → The role of the Brittany Region



- **Defining the right financial tools and schemes:**
  - Training and Research (ESRII scheme)
  - SMEs innovation and collaborative R&D approaches (Pole Mer Atlantique),
  - Guarantees and equity (BreizhUP)
  - Accompanying pilots and industrial development (pilot sites, BreizhIMMO)
  - Supporting marketing and regulatory approaches
- **From research to economic development :**
  -  **EMBRC research infrastructure** in Roscoff (observatory)
  - **Blue Train:** a 5 year training program to develop skills in blue biotechs
  - **Blue Valley:** a marine biotechnology science park around Roscoff
  - **Breizh'alg:** fostering the development of the algae value chain
- **Facilitate cooperation at EU level: CPMR, EMBRC, S3PT, H2020 and Interreg projects**

# Towards a multi-dimensional integration of the innovation ecosystems of the blue bio-economy in Europe



CNRS UPMC  
**Station Biologi  
Roscoff**



**Regional dimension:**  
**Blue train**  
**Blue Valley @ EMBRC**  
**/Roscoff**



**National dimension**  
**Innovation ecosystem of**  
**EMBRC-France**

**European dimension:**  
**Metasystem covering maritime**  
**regions in Europe**





## → Key take away messages:



- **Maritime observation** is key to contribute in a sustainable exploitation of marine resources
- **Need to consolidate and to accompany current ESFRI infrastructures** (ex : EMBRC), whose purpose is to be accessible to scientific communities AND to enterprises
- Importance of existing **plateformes and enabling technologies** in built ecosystems for private investors
- **Over come of regulatory barriers** :
  - Improve SMEs knowledge on legal constraints : Access and Benefit Sharing to marine resources (Nagoya protocole)
  - Satellite applications with strong constraints regarding data protection, analysis and mining.

## → Food for thoughts:



- Regions play a key role in identifying and developing emerging blue sectors through regional S3 strategies
  - Regions need the support of the EU on how to foster innovation & investments, and increase interregional cooperation
  - European blue economy value chains are important, but we need to clarify the kind of support and engagement from the Commission before launching new S3 partnerships
- Need to improve the convergence and coherence between regional, national and European policies



# Thank you for your attention!

Annie Audic - Regional Council of Brittany

