

**Interreg**  
Mediterranean



EUROPEAN UNION



**SHAREMED**

## SHAREMED

### First Capitalisation Workshop

*Designing the future system of observing systems to assess and address threats to the Mediterranean marine ecosystem  
- State-of-the-art, needs and future direction*

*Webinar: 14-15<sup>th</sup> December, 2020*

David Mills

SEACAMS2 - IMARDIS



PRIFYSGOL  
**BANGOR**  
UNIVERSITY



SEACAMS



**Project name:** SEACAMS2 IMARDIS

**Project coordinator:** Bangor University, Marine Centre Wales

**Project duration:** 2015 - 2022

**Funding authority:** EU ERDF and Welsh Government

**Geographic extension:** Welsh Sector Irish Sea

**Other useful information:** Collaborative multidisciplinary research programme focussed on expansion of ocean renewable energy sector in Wales

# SEACAMS2

Observations

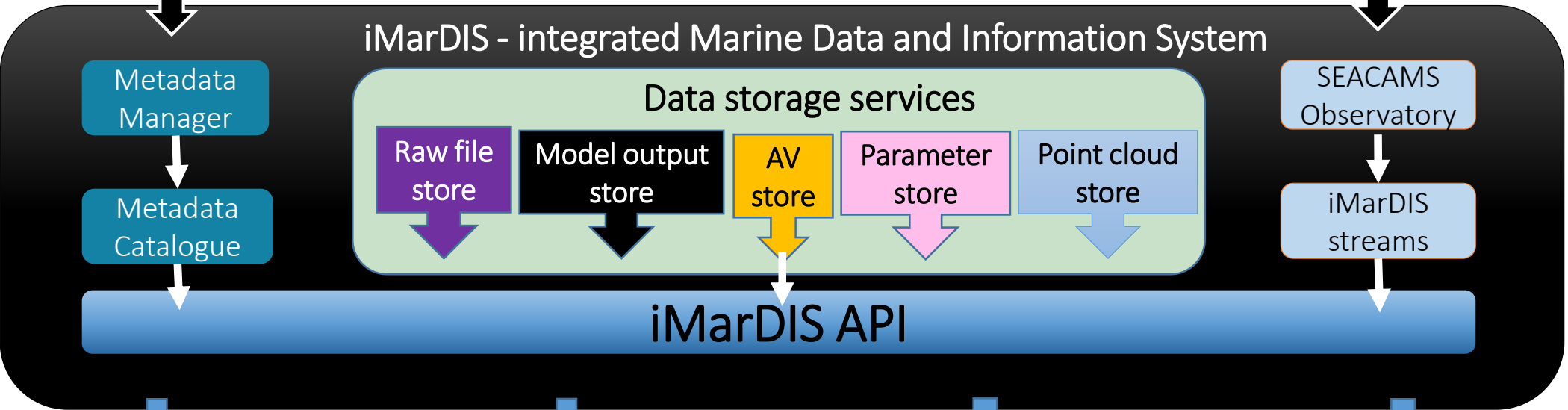


Ship spatial surveys

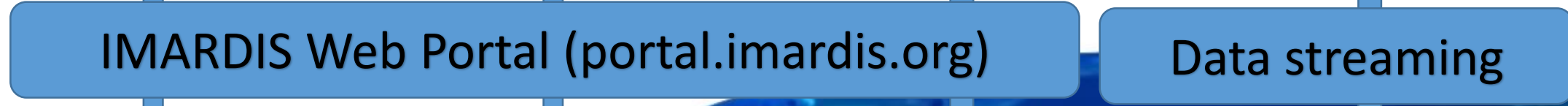
Intertidal surveys

Autonomous moorings

Data Management



Dissemination



Users



Purpose



# Examples of SEACAMS information products and use

Information product	Requirement
Marine mammal (presence, absence)	Kill quotas for MRE schemes
Bedload transport	Cable siting
Sediment/contaminant studies	Baseline for environmental impact studies
Subsurface geotechnics	Foundation design
Tidal range, water level	Resource characterisation
Wave height and period	Wave regime characterisation (model calibration & validation)
Tidal current (power)	
Multibeam acoustics (bathymetry)	Inputs to models that support multiple requirements



- ❑ Data relevant to environmental threats or risks in the Mediterranean? **Not relevant!**
- ❑ Main gaps/needs to be tackled so observation systems better fit challenges? **Clarity about the problem to be addressed is essential to evaluate the effectiveness of current capability before trying to fill gaps and address future needs.**
- ❑ Importance of the role of national observing systems in the framework of EOOS? **Essential - as national observing systems designed to meet national needs.**
- ❑ Which technological advancements will impact ocean observations in next 10 y? **Minaturisation, battery capacity, cloud computing, machine learning/AI, IOT, robotics, visualisation, augmented reality**

## ☐ Main take home messages from your project

- Clear focus on user requirements – define the problem/question
- Engineer the solution to the problem
- Define fit for purpose solutions – ‘what level of confidence is required in the product?’
- Observing systems
  - Distinguish between operational systems– ‘it does what is says on the tin’
  - And observing systems requiring ‘further product development’
- Data intensive science techniques demand high capacity and dynamic data infrastructures