Skill assessment service for real-time ranking of met-ocean data products in the IBI area for emergency and SAR operators.

IBISAR DOWNSTREAM SERVICE

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OUTLINE

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03 Context
04 Working Packages & Tasks
05 Workplan
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07 Team & organisation
08 Impact on CMEMS
09 Benefits for targeted users
10 Dedicated webpage

Marine Safety & Environmental Protection

IBI region

Ranking of met-ocean data products
## PROPOSAL GOAL

- Improve, validate and promote the skill assessment service IBISAR

## SERVICE MAIN AIM

- Provide real-time met-ocean product ranking in the IBI area for emergency responders

## SAR OPERATORS NEEDS

- User-friendly automated skill assessment
- Confidence indicator of the forecast >> Easily interpretable metrics

## CMEMS products

- CMEMS MFCs: current velocity forecast within the IBI region
- CMEMS INSITU & Satellite TACs: current velocity (IBI)
- Upcoming High-Frequency Radar surface currents (IBI)

## TEAM

- **SOCIB**: advanced MRI1 & data provider (public)
- **AZTI**: technological centre (private NPO²)
- **RPS**: downstream service provider (private)

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¹ Marine Research Infrastructure; ² Non-Profit Organization
IBISAR PROPOSAL: BY THE NUMBERS

3 Public and private institutions
10 Scientists
5 Working packages
4 IBI-subregions

150 K€ur
18 Months
1 Downstream service
2 Areas of benefits
SOCIB

CONTEXT: SAR AGENCIES NEED DATA CONFIDENCE

Reliable met-ocean observations and forecasting are essential

Easily interpretable metrics

User-friendly automated skill assessment

Simulated trajectories from different models
WORKING PACKAGES & TASKS

WP1: Data Inventory & collection
- T1.1: Identification and compilation of CMEMS products
- T1.2: Identification and compilation of complementary database

WP2: Service improvement, activation, test and maintenance
- T2.1: Development & processing methods to obtain the datasets
- T2.2: Activation of IBISAR service
- T2.3: Monitoring and maintenance of IBISAR service

WP3: Skill assessment validation
- T3.1, 3.2, 3.3 & 3.4: SA Validation in the IBI subregions (WSMED; NIBSH; GIBS; CADIZ)

WP4: Service Promotion
- T4.1: Communication actions (Official mailing; video-tutorial; leaflet; conferences)
- T4.2: Creation of IBISAR Dedicated Webpage
- T4.3: Edition of the Use Case

WP5: Project Management
- T5.1: Technical and administrative coordination
- T5.2: Establishment and provision of the Action Plan
- T5.3: Production of reports
- T5.4: Organization of meetings
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*Month T0 corresponds to May 2018, expected date of notification of the contract.

*Month T0+18 corresponds to November 2019 and to the end of the contract.

*Month T0+30 corresponds to November 2020 (12 months after the end of the contract).
### SERVICE PROMOTION

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### PROJECT MANAGEMENT

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7 P2= letter to the Member States; L4 = copy of the letter informing about the demonstration. [Service and Deliverables required for this lot-7]
8 C1= EEOS Conference, 21-23 November 2018, Brussels (to start presenting the recently launched Dedicated Webpage and the service itself) or C2= attendance to the National User Forum Meeting celebrated on an annual basis during the last quarter of the year. Attendance to an additional relevant conference (C3) is going to be considered over the year 2019.
9 P1= hyperlink to the draft of dedicated webpage; P1'= hyperlink to the dedicated web page. [Services required for this lot -7]
10 L5= "Use Case" form. [Deliverable required for this lot -7]
11 Invoicing Management: 1st= first advance payment (20%) depends on the validation of the Action plan (L1); 2nd= second advance payment (30%) after the validation of the intermediate report (L2) and the hyperlink to the draft of the dedicated webpage (P1); 3rd= third advance payment (20%) after the validation of the update of the action plan (L1'); 4th= last payment (30%) depends on the validations of the final report (L2'); the hyperlink pointed on the dedicated webpage (P1'); the delivery of the "Use Case" form (L5) and of a copy of the Letter sent to the Member States (P2)
12 L1= action plan over the 18-month period. L1'= updated version of L1. [Deliverables required for this lot -7]
13 L2= intermediate report. L2'= final report. L3 = report with annual user statistics. [Deliverables required for this lot -7]
14 Meetings will take place via videoconference. KO = Kick-off meeting planned just after the notification of the contract. MM= Mid-term meetings (one of them will be a face-to-face meeting). FM= Final meeting. EP = End of action.
IBISAR SERVICE: MAIN ELEMENTS

**Users**
- Client Application (e.g. SARMAP)
- Data Portal (e.g. OceansMap)
- IBISAR EDS Skill Assessment

**Data Request Interface** *(Web Service) – EDS Viewer*

**Environmental Data Server**
- Data Acquisition & Normalization Processes

**Data Store**
- Data Request Services: NetCDF, WMS

**Data Sources**
- Drifters
- Observations (HFR)
- Model Predictions
1) Subset model datasets (position & time of drifter data)
2) Trajectory simulation (for all available datasets)
3) Compare pairs observed vs. predicted drifter trajectories

\[ \frac{dr}{dt} = u(t, r) \]

Liu and Weisberg (2011)
Intersectoral PPP (Public-Private Partnership)

**Project Coordinator**
- WP leader 1, 4 and 5
- Scientific excellence with impact on society
- Data management capacities
- Products and services strategy
- Outreach Service

**Project Co-Contractor**
- WP leader 2
- Technical skills (ICT tools)
- Tailor-made products
- User-friendly tools
- Seamless service
- Industry involvement
- Ensure user uptake
- Large client base (25 countries)
- Australia & Asia Pacific, Europe and North America
- > 5000 employers

**Project Co-Contractor**
- WP leader 3
- EU Projects coordination experience
- Coordination of HFR activities at EU level
- Leaders of CMEMS-SE INCREASE

**Collaborator**
- Responsible for IBI INSTAC and MFC
- Key actor in CMEMS, IBI region.
MULTIDICIPPLINARY WORKING TEAM

ADVANCED MRI¹ & DATA PROVIDER (PUBLIC)
- Emma Reyes (Coastal HF Radar, PI)
- Joaquín Tintoré (SOCIB’s Director, Co-IP)
- Baptiste Mourre (Modelling and Forecasting)
- Paz Rotllán (Data Centre – Frontend developer)
- Ismael Hernández (PostDoc IBISAR)

TECHNOLOGICAL CENTRE (PRIVATE NPO)
- Julien Mader (Head of Marine Technologies Area)
- Anna Rubio (Senior Researcher)
- Luis Ferrer (Senior Researcher)

DOWNSTREAM SERVICE PROVIDER (PRIVATE)
- Eric Comerma (Senior Research Scientist)
- Tayebeh S. Tajalli Bakshsh (Senior Research Scientist)
In line with the user-uptake tenders objectives:

- Current user’s loyalty reinforcement:
  - Data accuracy and confidence increase
  - Data potential unlocking
- New communities attraction:
  - Links with potential users
  - Engaging with public authorities and civil society
  - Address potential private sector users

In line with user-uptake priorities:

- An easy access to CMEMS products
- More verification and validation of CMEMS products

Promotion of HFR data and its benefits for:

- INSTAC: surface currents crucial to improve CMEMS areas of benefits
- MFCs: as keystone for validating models and improving them
IMPACT ON CMEMS

• New innovative service:
  • to respond to targeted users
  • to increase applications of CMEMS products
  • to complement other assessment tools (i.e. NARVAL)

• Scientific activities contributing:
  • to the methodologies for surface current assessment
  • to the homogenization of metrics and accuracy values
BENEFITS FOR TARGETED USERS

- Single & user-friendly access point to reliable information.
- Updated inventory of datasets.
- Model evaluation error easily interpretable metrics.
- Better preparation at sea.
- Immediate & more secured response.
- Optimal search area planning.
- Effective resource allocation and search effort.
- Complement of decision-making support tools
DRAFT OF THE DEDICATED WEBPAGE

- Highly functional and user-friendly
- Multi-lingual (EN, ES, FR?)
- Content:
  - Service Overview
  - CMEMS products used
  - Benefits for users
- Link to IBISAR private service
- Contact details
- Link to active social media accounts
- “News” section or embedded Twitter timeline
- “Other related services” section
- Tutorial-video, videos of targeted users

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"Better met-ocean products, for better response"
SOCIB
Balearic Islands
Coastal Observing
and Forecasting
System

THANKS FOR YOUR ATTENTION