JERICO

Joint European Research Infrastructure network for Coastal Observatories

A proposed EC-project in response to the call CAPACITY – Research Infrastructures INFRA-2010-1.1.20

Research infrastructure for coastal research including for Integrated Coastal Zone Management and Planning

Patrick Farcy (IFREMER), Wilhelm Petersen (GKSS)

The project is evaluated and has an overall mark of 13.5/15

The list of selected projects will be known at the end of this week
Towards a long-term and sustained European network of coastal observatories

EC umbrella (directives, policies, communications)

Oceanic modelling
Marine Core Services (DG ENT / GMES)
Coastal modelling
Coastal and shelf seas continuous in situ measurements

National/regional activities/projects

MY OCEAN

Fisheries data
Social/commercial activities

Rivers discharges

MY OCEAN

Marine data thematic centers

SEADATANET (I3) standards and web portal

WISE-Marine (DG ENV)

EMODNET (DG MARE)
**JERICO Aims:**

<table>
<thead>
<tr>
<th>Networking Activities</th>
<th>Enhanced structure and integration</th>
<th>Enhanced sustainability</th>
<th>Sharing of knowledge</th>
<th>Cooperation</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Define a common strategic vision for coastal observatories</td>
<td>• Facilitate optimal use, and inter-operability, for existing equipment</td>
<td>• Advance training in modern equipment</td>
<td>• Develop International cooperation also outside Europe</td>
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<td></td>
<td>• Facilitating coordinated infrastructure access to European researchers and broaden services and facilities</td>
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<td>• Intensify dialogue and interactions with industry and policy makers as well as citizen awareness</td>
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<td></td>
<td>• Establish a European Virtual Infrastructure</td>
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<td>• Promote interactions with other infrastructures and European projects (EuroArgo, Emso, SeaDataNet, MyOcean, …)</td>
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<table>
<thead>
<tr>
<th>Trans National Access</th>
<th>Wider access</th>
<th>Joint Research Activities</th>
<th>Joint development</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• To observatory infrastructure</td>
<td>• Study on optimization of the coastal observing system of systems</td>
<td>• Innovative sensors or systems to enhance interoperability</td>
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<td></td>
<td>• To mobile coastal observing systems (gliders, …)</td>
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<td>• Innovative software for a better exploitation of mobile systems</td>
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<td>• To added value data and services</td>
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JERICO: content and organisation

- Networking activities (NA)
- Trans-National Access (TNA) – Service Activities (SA)
- Joint Research Activities (JRA)
- Management (M)
JERICO Networking activities (NA):

- **WP1**: A common strategy, including definition and implementation aspects
- **WP2**: Strengthening regional aspects
- **WP3**: Harmonizing technological aspects
- **WP4**: Harmonization operation and maintenance methods
- **WP5**: Data distribution
- **WP6**: Public outreach and education
<table>
<thead>
<tr>
<th>No.</th>
<th>Participant organisation name</th>
<th>Acronym</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Institut Français de Recherche pour l’Exploitation de la Mer</td>
<td>Ifremer</td>
<td>France</td>
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<tr>
<td>2</td>
<td>Finnish Environment Institute</td>
<td>SYKE</td>
<td>Finland</td>
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<tr>
<td>3</td>
<td>Institute of Hydro-Engineering of the Polish Academy of Sciences</td>
<td>IBWPAN</td>
<td>Poland</td>
</tr>
<tr>
<td>4</td>
<td>Danish Meteorological Institute</td>
<td>DMI</td>
<td>Denmark</td>
</tr>
<tr>
<td>5</td>
<td>Norwegian Institute for Water Research</td>
<td>NIVA</td>
<td>Norway</td>
</tr>
<tr>
<td>6</td>
<td>Institute of Marine Research</td>
<td>IMR</td>
<td>Norway</td>
</tr>
<tr>
<td>7</td>
<td>Dutch research institute for water, soil and subsurface issues</td>
<td>DELTARES</td>
<td>Netherlands</td>
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<tr>
<td>8</td>
<td>Istituto Nazionale di Oceanografia e di Geofisica Sperimentale</td>
<td>OGS</td>
<td>Italy</td>
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<td>9</td>
<td>Consiglio Nazionale delle Ricerche</td>
<td>CNR</td>
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<td>10</td>
<td>University of Malta</td>
<td>UOM</td>
<td>Malta</td>
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<td>11</td>
<td>Hellenic Centre for Marine Research</td>
<td>HCMR</td>
<td>Greece</td>
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<td>12</td>
<td>Natural Environment Research Council</td>
<td>NERC</td>
<td>UK</td>
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<td>13</td>
<td>National Institute for Geophysics and Volcanology</td>
<td>INGV</td>
<td>Italy</td>
</tr>
<tr>
<td>14</td>
<td>Institute for Coastal Research</td>
<td>GKSS</td>
<td>Germany</td>
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<tr>
<td>15</td>
<td>Management Unit of the North Sea Mathematical Models</td>
<td>MUMM</td>
<td>Belgium</td>
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<td>16</td>
<td>The Secretary of State for Environment, Food &amp; Rural Affairs</td>
<td>CEFAS</td>
<td>UK</td>
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<tr>
<td>17</td>
<td>Swedish Meteorological and Hydrological Institute</td>
<td>SMHI</td>
<td>Sweden</td>
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<td>18</td>
<td>Consejo Superior de Investigaciones Científicas</td>
<td>CSIC</td>
<td>Spain (Balearic)</td>
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<td>Royal Netherlands Institute for Sea Research</td>
<td>NIOZ</td>
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<td>Marine Institute</td>
<td>MI</td>
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<td>Blue Lobster I.T.</td>
<td>BL</td>
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<td>22</td>
<td>AZTI Technalia</td>
<td>AZTI</td>
<td>Spain</td>
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<tr>
<td>23</td>
<td>Institut National des Sciences de l’Univers – Centre National de la Recherche Scientifique</td>
<td>INSU/CNRS</td>
<td>France</td>
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<tr>
<td>24</td>
<td>Instituto Hidrográfico</td>
<td>IH</td>
<td>Portugal</td>
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<tr>
<td>25</td>
<td>Institute of Oceanology - Bulgarian Academy of Sciences</td>
<td>IO-BAS</td>
<td>Bulgaria</td>
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<tr>
<td>26</td>
<td>Puertos del Estado</td>
<td>PUERTO</td>
<td>Spain</td>
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planned total budget: ~9 M€
JERICO workpackage links
FERRYBOX IN JERICO
WP3 : HARMONIZING TECHNOLOGICAL ASPECTS

Task 3.1: Ferrybox (FB)

Objectives

- review current status and best technical practice of FB systems
  - state of the art, input to Joint Research Activities (JRA)
  - best practise, identification of gaps
- harmonizing issues between systems
- harmonizing data (e.g. for better comparability)
- technical solutions for integrating new sensors (partly developed in WP10)
- define consensual procedures for using FerryBox data in validation of earth observation data
Task 4.3: End to end quality assurance

Subtask 4.3.2: Ferry Box (NOCS, GKSS, SYKE)

- FerryBoxes are characterised by the measurement of core variables (T, S, Chl a, Turbidity) which are currently measured with different sensors by different operators. This equipment diversity is true for additional measurements (e.g. nutrients, O2) which are not on all FerryBox operations. To enable regional comparisons, this diversity in sensors and variables requires transparency in best practices in all phases of the setup (e.g. sensor type, deployment, housing, calibration etc). Such transparency will enable adoption of common procedures and hence lead to quality assurance.

Task 4.4: Running costs

Subtask 4.4.2: Ferry Box (NIVA, NOCS, GKSS)

- Similar Ferry Box systems are operated across Europe. Due to their relatively small variability (number of sensors etc) these systems provide an excellent example for running cost analysis and comparison. During JERICO different systems will be analysed in terms of costs and compared particularly across different areas.
NavOp Project

OBJECTIVES:

• Observation of physical and biogeochemical parameters along regular routes of ships of opportunity
• Validation of the hydrodynamic and ecosystem models
• Validation and colocalization of satellite observations
• Monitoring of the biogeochemical parameters of the coastal Sea-water (European Marine Strategy)
• Validation of the forecast models (PREVIMER)
• Information and consciousness-raising of passengers aboard the Brittany Ferries ships
• Supply of the database Coriolis
NavOp Project

AREAS:
• Western English Channel
• Celtic Sea
• Bay of Biscay

RESOURCES:
• 1 Ferrybox 4H-JENA+Sampler on the MV ARMORIQUE (Roscoff-Plymouth)
• 1 Ferrybox 4H-JENA on the MV PONT-AVEN (Roscoff-Plymouth-Cork-Santander)
NavOp Project

PARTNERS:
• Station Biologique de Roscoff (CNRS-INSU-Université Pierre et Marie CURIE)
• Ifremer (PREVIMER)
• Brittany Ferries

SCHEDULE:
• March-April 2010 - Acceptance Tests in laboratory and handling of devices
• June 2010 - Installation aboard the MV ARMORIQUE
• September 2010 - Installation aboard the MV PONT-AVEN
Welcome to the Website of the European Ferrybox Community

Why a FerryBox (FB)?
Objectives
Ferry Box Principle
Ship Routes
FerryBox Institutions
FB Online Data
FB Applications
EU-Project “FerryBox”
FB Future Perspectives
Other FB Links
Observation Networks
Publications
Companies
Internals

This website will assemble all kind of information concerning Ferrybox systems. It is intended as well for FerryBox operators and users as for the general scientific public to get information on existing systems in Europe, new developments and some exemplary results.
The ferry Color Fantasy is presently operating the Ferrybox system in the eastern Skagerrak. The ferry operates daily between Oslo in Norway and Kiel in Germany by the ferry company Color Line. Onboard the ship the Ferrybox-system measures continuously water quality along the route.

Realtime monitoring from MS Color Fantasy (satellite connection)

Color Fantasy started the measurements on the route Oslo-Kiel in May 2003 after that MS Prinsesse Ragnhild and Color Festival had operated the routes Oslo-Hirtshals and Oslo-Fredrikshavn since August 2001. The Ferrybox system measures continuous temperature, salinity, oxygen, algal content and particles, and the data is transferred via satellite link to NIVA.

This line was operated through several EU-project in 2003-2005. The data are used in the aigal monitoring program and in the ESA and Norwegian Space Agency project VAMP for validation of satellite data products. The data from the ferry also supports other long term monitoring projects in the Skagerrak and Oslo Fjord area, and the monitoring programs for the Outer and Inner Oslofjord.
Summary:

• JERICO infrastructure project, duration 4 years, start 2011?
• Harmonizing FerryBox activities (systems, instruments and data)
• Harmonizing FerryBox data exchange common regional databases??
• Extend FB systems to new parameters (e.g. pCO2...)
• new French FB systems in the Atlantic in 2010