BLAST
[Bringing Land and Sea Together]

EU INTERREG IVB FUNDING PROPOSAL

Introduction

The EU INTERREG IVB North Sea Programme Strategy and Priorities [2007-2013] identifies four priorities:

An in-depth analysis of the opportunities and challenges of the North Sea region [NSR] are the foundation on which the programme priorities and areas of intervention are based. The aim and objectives of the programme will be delivered through 4 priorities and 14 areas of intervention. They correspond with a number of key issues that the programme preparation group has decided are important to address in order to contribute to the prosperity and sustainable growth of the region for the future. The emphasis is on stimulating trans-national cooperation in ways that will provide tangible benefits to the areas concerned and the Region as a whole.

- Priority 1 Building on our capacity for innovation
- Priority 2 Promoting the sustainable management of our environment
- Priority 3 Improving the accessibility of places in the NSR
- Priority 4 Promoting sustainable and competitive communities

The aim and objectives of the European Territorial Co-operation programme will be delivered through these four Priorities.

Project Rationale

At present the North Sea area is managed in an inefficient manner in respect of data and information provision and management. BLAST aims to deliver, through co-operation and participation of all North Sea facing countries, including relevant trans-national bodies; processes and solutions addressing technical and scientific problems covering land-sea integration, vertical datum resolution, harmonisation of navigational information using emergent international standards, combining sensor information from multiple sources to deliver better seabed mapping and to present findings as a series of use cases for testing across various user communities. These solutions will support policy development and decision making in areas such as climate change, flooding, safety, security and coastal change as part of integrated ICZM. Project outputs will support the INSPIRE Directive, Integrated Maritime Policy and the Marine Strategy and lay the foundations of a regional MSDI.

Project Aim

The aim of the project is to develop a Maritime and Coastal cross-sector knowledge and innovation community supporting EU policies affecting the North Sea Region [e.g. Maritime Policy, Marine Strategy, Water Framework Directive]. Through the development of information technology and Geo-spatial information processes and procedures, provide coastal and offshore decision support toolsets and solutions.

Objectives

The main objectives of the project are to:

1. Build a regional e-Navigation framework for the North Sea region through the harmonising of electronic nautical charts (ENC) across national borders. This will deliver improved quality of data, safety of navigation and improve maritime decision making to both sea based and shore based stakeholders.

2. Develop decision support systems for sharing information from different sensors [e.g. LRIT, AIS, satellite information] to better manage and monitor shipping traffic in the region.

3. Develop and demonstrate integrated land-sea data based on digital elevation models [DEM's] across national land and sea borders using multiple information sources and sensor platforms. Such models will provide harmonised datum across the North Sea, common reference systems, interoperable data specifications and pilot the use of the developing S-100 international geographic standard for hydrographic data.

4. Develop a North Sea Regional Marine Spatial Data Infrastructure [MSDI] framework embracing areas such as data capture and management, data interoperability, access to information, data sharing, exchange and dissemination to identified user communities through a co-operative regime. Provide the framework and reference material supporting the requirements of the International Hydrographic Organisation [IHO] MSDI Guide for Hydrographic Offices and the EU INSPIRE Directive.

5. Create a framework for innovation and decision support through case studies development for the North Sea area covering Flooding Visualization, Systems for Disaster Management and Response and Integrated Coastal Zone Management [ICZM].

6. Through instruments outlined in the EU Recommendation for ICZM and results from former North Sea based INTERREG projects [e.g. NorCoast and Forum Skagerrak], develop action and investment plans to mitigate coastal problems and risks by utilising the natural and human resources in the region.

7. Collate and assimilate all activities and results and provide Implementation Reference Documentation to EU stakeholders.

Proposed activities and expected outcomes

1. Demonstrate North Sea Region cooperation sharing sensor information [e.g. LRIT, AIS, satellite information] using EU SafeSeaNet to better monitoring sea traffic in the region. Correlate information providing users with tools to detect abnormal situations in regional sea traffic.

Results: Development of an e-Navigation framework, services [e.g. harmonised data collection to identify vessel movements], tracking outside traditional VTS areas, exchange and integration of hydrographic, meteorological and navigational information for shore to shore and ship to shore users.

2. Evaluate new techniques in the capture of shallow water surveys & incorporate with terrestrial data along the littoral zone. Create harmonized vertical datum across land-sea interface; model cross-border transition between land and sea; create digital elevation models [DEM's] with coastal geology in three pilot areas; evaluate IHO S-100 hydrographic data standard for dissemination of results.

Results: Offshore elevation map, combined land – sea DEM's with integrated topographic model for pilot areas to a common reference datum. Capture new data in coastal zone [CZ] and validate for input to land-sea models. Provide written report on method audit, state of data, improvement plans and best practise for land-sea data interoperability and implementation reference material for stakeholders.

3. Develop framework for design and dissemination of CZ information as reference material to INSPIRE Thematic WG's; harmonise hydrographic data to IHO-Standards and future INSPIRE IR's. Develop North Sea MSDI framework. Develop procedures to test against INSPIRE Annex I-III themes.

Results: Provide test reports, MSDI framework concept for capture, management, access, sharing, exchange and dissemination to user communities of hydrographic/ marine data to ensure compliance with the EU Maritime Policy Directive, the EU Marine Policy and INSPIRE.

4. Create use frame for innovation and decision support on a situational/contingency basis where data are known, understood, are complex, chaotic or disorderly. Create and support pilot cases in themes such as flooding visualization, systems for disaster handling, ICZM and Innovation using GIS.

Results: Trans-national and cultural information handling organization for North Sea area for knowledge discovery and transfer; data mining for thematic action; testing pilot areas and delivery of GIS for innovation.

5. Analyse climate change and adaptation strategies to identify best practise; develop plans for local investment for wind and wave energy development using local resources to demonstrate economic benefit, mitigate against climate change and develop sustainable tourism. Use results to analyse integrated spatial planning for the CZ.

Results: Provision of action/investment plans to mitigate known problems and risks by utilising the natural and human resources in the region ensuring alignment with EU Recommendation for ICZM.

Partners/ Stakeholders

KMS – Denmark [Project Coordinators]
UKHO - UK
SeaZone Solutions – UK
BGS – Great Britain
BSH – Germany
BRG – Germany
Netherlands Hydrographic Service (NLHO)
Netherlands Cadastre and Land Registry Agency
Danish National Space Centre - Denmark
University College London [UCL] - UK
BLOM Aerofilms - UK
Copenhagen Business School - Denmark
T-Kartor AB - Sweden
NHS – Norway
Swedish Coastal Authority
Flemish Hydrography - Belgium