# Sextant: the French Spatial Data Infrastructure for Marine Environment

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Access to ocean and marine data is a major issue both for marine related researches and for marine environment management and spatial planning in application of Water Framework Directive (WFD) and Marine Strategy Framework Directive (MSFD).

In the framework of these initiatives, advances have been achieved both in the national and transnational cooperation: data policies, share of environmental data and also in the technical implementation of distributed spatial data systems (metadata management, portal accessing distributed repositories,…). These systems are now operationally robust and support the European Commission DGl-Mare actions such as the European Marine Observation and Data Network (Emodnet).

Ifremer has developed a spatial data infrastructure for marine environments, called Sextant. Sextant is a portal to manage, share and retrieve geographical marine information in order to support marine studies and decision making in fields such as biodiversity, marine renewable energy, integrated coastal zone management, fisheries, coastal and deep-sea environment, exploration and exploitation of the seabed.

Technologies used have been chosen to be compliant to Inspire directive both for discovery, data access and data visualization services. Standardization has been considered as a key point for the success of the integration of very large partnerships in data management

The main functions of Sextant are:

- the 'Catalogue' allows end-users to search one or more metadata according to different criteria (geographic extent, theme,…). To promote the share and distribution of datasets we have normalized the data description (ISO 19115), the XML encoding (ISO 19139) and access to catalogs (CSW). Moreover 95% of the metadata are Inspire compliant;
- the Web GIS interface allows end-users to create maps including several layers from internal and external sources. The portal access to local or remote OGC services displaying data by WMS;
- the download basket allows end-users to download the selected data in various formats and projections for use in GIS software;
- the possibility of creating a web portal for each thematic catalogue.

## Some projects using Sextant

To promote the dissemination of marine environmental data sets, some European programs are using Sextant for its catalogue fonctionnality, such as Seadatanet, Emodnet or MyOcean.

We can also mention two Interreg projects, localized on the Channel marine area, wich are using Sextant as web GIS tool : CHARM and PANACHE.

The multidisciplinary integrated approach of the CHARM project (CHannel integrated Approach for marine Resource Management) between France and England offers decision makers a status report of the English Channel ecosystem and a range of tools based on scientific knowledge for the sustainable management of living marine resources. Through a personnalized Sextant webportal, the whole set of georeferenced data produced during the CHARM project is made accessible to managers, agencies and any stakeholders.

The main aim of the PANACHE project (Protected Area Network Across the Channel) is to develop a stronger and more coherent approach to the management, monitoring and involvement of stakeholders for marine protected areas in the Channel. This project is closely aligned with the ValMer project and together both projects will focus on better management, sustainable use and protection of the Channel marine area, using the same webGIS tool based on Sextant.