1. Core research themes and interests

Marine Technology Area’s (UTMAR) mission is to provide logistical, technical and technological support to Xunta de Galicia Institutions related to Operational Oceanography, encouraging collaboration and exchange of knowledge and technology in order to optimize resources. UTMAR was created at the end of 2008, since that date, we are actively participating in different international and national initiatives.

Oceanographic Calibration Laboratory
Currently, in the framework of RAIA project (http://www.observatorioriaia.org), we are launching a calibration laboratory designed specifically to calibrate oceanographic instrumentation (mainly temperature, salinity, pressure and DO sensors). RAIA project is developing a cross-border oceanographic observatory in the NW of the Iberian Peninsula, based on the monitoring and prediction of the ocean environment through the use of numerical models and the development of an observational network. In the first two years of the project, a total of 5 new oceanographic-meteorological buoys have been deployed and are nowadays operating and transmitting real-time data. The calibration laboratory will give support to the new observational network, assuring high quality observational marine data and the traceability of measurements. Besides, it counteract the absence of regional and national infrastructures in which oceanographic probes calibration can be performed, being open to any other institution which need this kind of service. Simultaneously, we are launching a maintenance service for oceanographic observation networks, including both management and integration of meteorological and oceanographic instrumentation.

Finally, we are working especially in the design and construction of our own marine technology in order to reduce costs and boost local business and industry.

2. Current maturity of our technology

The VACCA subproject, is the most innovative project we have underway. It aims the development of a low-cost, small size AUV for monitoring coastal areas (50 m max) and easy to use. At this moment, our technology is at research level. It is designed to be used for non-technical staff and it is made with everyday materials (but resistant to the marine environment). We pretend to implement a AUV to operate inside estuaries conditions: adapted to high variation of buoyancy, with fully autonomous navigation and data reporting by GSM and Iridium.

As a complement to the VACCA project, UTMAR is developing a water sampling system, in order to use this kind of technology for water quality control in areas of dredging.

3. Projects and funding

UTMAR, with just two years, consist of a multidisciplinary team, physical oceanographers, a chemist with experience in quality control engineers with experience in robotic, ocean data acquisition systems and composites materials.

We have currently running these projects: VACCA and OCTOPOS Subprojects, which are part of the PSE PROMARES, are integrated by a consortium of companies, technological institutes and universities. They are funded by MICINN and will finish in June 2011. VACCA aims the development of a low-cost, small size AUV for monitoring coastal areas (50 m max) and easy to use and OCTOPOS focuses on the implementation of new technological developments that contribute to the creation of a comprehensive detection, monitoring and forecasting of oil spills and identification of potential offenders in coastal areas, port systems, special facilities and nature reserves.

INNODRAVAL, has been funded by MICINN inside the INNPACTO call. This project aims to address the issue of dredging from different perspectives, including the development of a water sampling system suitable for coupling in an AUV.

RAIA Project and RAIA.co projects, both are an european proposal funded by POCTEP and focus on the development of a cross-border oceanographic observatory in the NW of the Iberian Peninsula.

DRIFTER project, is an european initiative funded by AMPERA program. Hazardous noxious substances (HNS) oil and inert trajectory modelling and monitoring.
Ongoing & Recent Projects

- **AIRSUB**
  - National Project
  - AUV-based Dam inspection

- **FREEsubNET**
  - Marie Curie RTN
  - Vision & sonar base Nav
  - Obstacle Avoidance
  - Mission Control

- **RAUVI**
  - National Project
  - Autonomous Light intervention

- **TRIDENT**
  - European Project
  - Mapping, navigation, intervention

- **MOMARNET**
  - Marie Curie RTN
  - Large-scale photomosaics

- **AQUASUB**
  - National Project
  - 3D Mosaics

- **FOTOGEO**
  - National Project
  - Geo-referenced Photomosaics

- **AREM**
  - National Project
  - Change detection