

The Ligurian Cluster for Marine Technologies (DLTM): matching local research and industrial needs on oceanographic data



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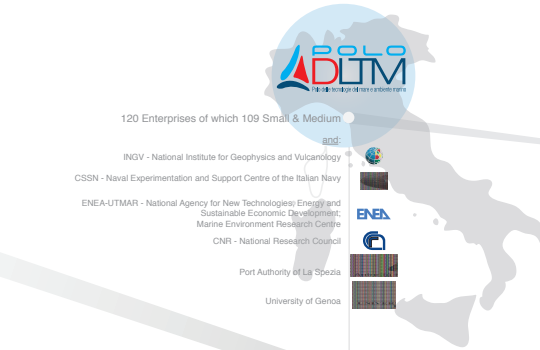
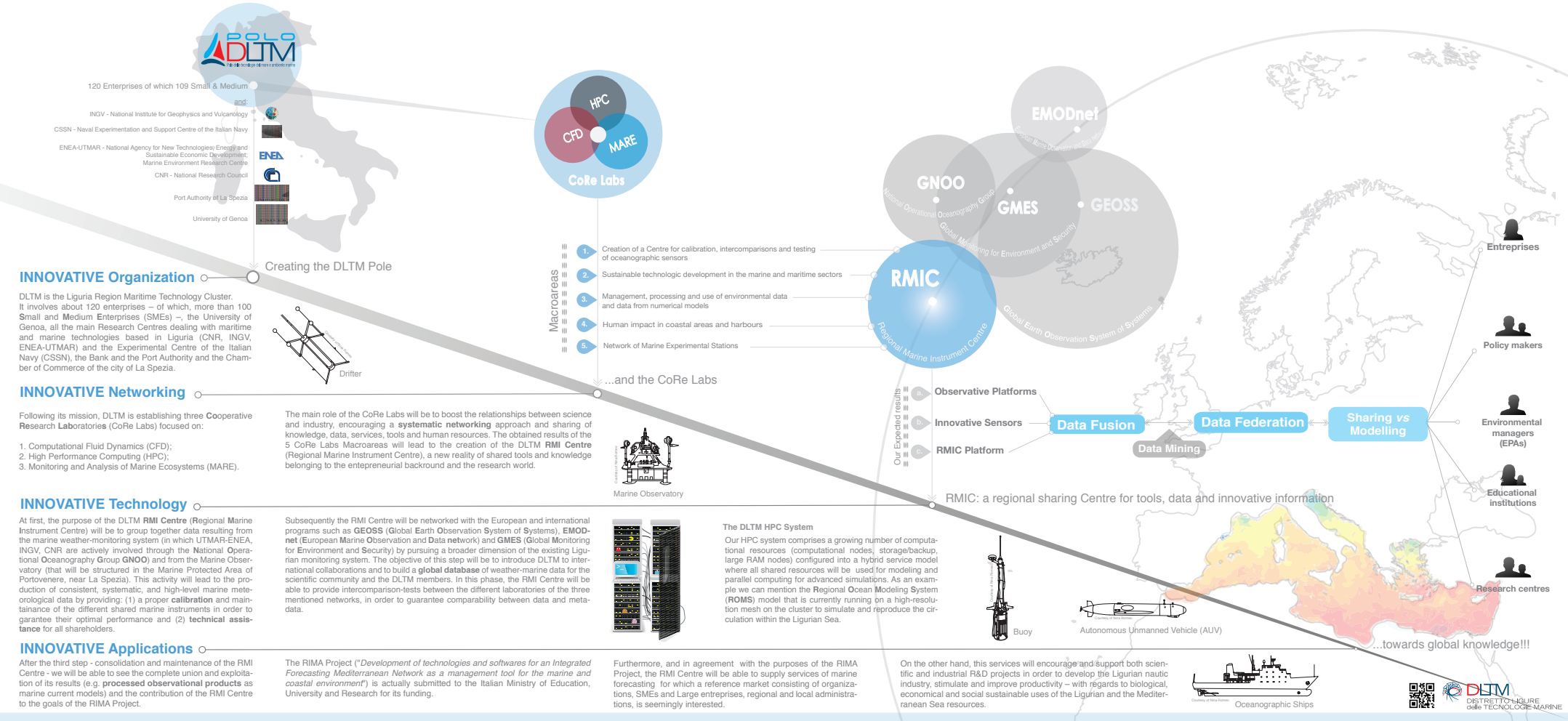
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INNOVATIVE Organization

DLTM is the Liguria Region Maritime Technology Cluster. It involves about 120 enterprises – of which, more than 100 Small and Medium Enterprises (SMEs) –, the University of Genoa, all the main Research Centres dealing with maritime and marine technologies based in Liguria (CNR, INGV, ENEA-UTMAR) and the Experimental Centre of the Italian Navy (CSSN), the Bank and the Port Authority and the Chamber of Commerce of the city of La Spezia.

INNOVATIVE Networking

Following its mission, DLTM is establishing three Cooperative Research Laboratories (CoRe Labs) focused on:

1. Computational Fluid Dynamics (CFD);
2. High Performance Computing (HPC);
3. Monitoring and Analysis of Marine Ecosystems (MARE).

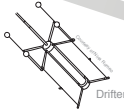
INNOVATIVE Technology

At first, the purpose of the DLTM RMI Centre (Regional Marine Instrument Centre) will be to group together data resulting from the marine weather-monitoring system (in which UTMAR-ENEA, INGV, CNR are actively involved through the National Operational Oceanography Group GNOO) and from the Marine Observatory (that will be structured in the Marine Protected Area of Portovenere, near La Spezia). This activity will lead to the production of consistent, systematic, and high-level marine meteorological data by providing: (1) a proper calibration and maintenance of the different shared marine instruments in order to guarantee their optimal performance and (2) technical assistance for all shareholders.

INNOVATIVE Applications

After the third step - consolidation and maintenance of the RMI Centre - we will be able to see the complete union and exploitation of its results (e.g. processed observational products as marine current models) and the contribution of the RMI Centre to the goals of the RIMA Project.

Creating the DLTM Pole



The main role of the CoRe Labs will be to boost the relationships between science and industry, encouraging a systematic networking approach and sharing of knowledge, data, services, tools and human resources. The obtained results of the 5 CoRe Labs Macroareas will lead to the creation of the DLTM RMI Centre (Regional Marine Instrument Centre), a new reality of shared tools and knowledge belonging to the entrepreneurial background and the research world.



The DLTM HPC System
Our HPC system comprises a growing number of computational resources (computational nodes, storage/backup, large RAM nodes) configured into a hybrid service model where all shared resources will be used for modeling and parallel computing for advanced simulations. As an example we can mention the Regional Ocean Modeling System (ROMS) model that is currently running on a high-resolution mesh on the cluster to simulate and reproduce the circulation within the Ligurian Sea.

Furthermore, and in agreement with the purposes of the RIMA Project, the RMI Centre will be able to supply services of marine forecasting for which a reference market consisting of organizations, SMEs and Large enterprises, regional and local administrations, is seemingly interested.

On the other hand, this services will encourage and support both scientific and industrial R&D projects in order to develop the Ligurian nautic industry, stimulate and improve productivity – with regards to biological, economical and social sustainable uses of the Ligurian and the Mediterranean Sea resources.

