

MARINE SCIENCE CONTRIBUTION TO SOCIETY AND INDUSTRY

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Seas and Oceans are of major importance for Europe's economic, social and environmental development, and marine sciences and technologies are critical for addressing future global challenges. These challenges include protection of the environment and, in particular, fragile ecosystems, the increasing need for raw materials and energy, and the prevention of natural and anthropogenic risks.

To properly address these challenges, actors from society, industry and the scientific community must be jointly mobilised. Examples will be used here to illustrate how marine science can make a difference in areas such as exploration of the deep sea, the exploitation of mineral and fossil energy resources, marine renewable energy, and blue biotechnology with its numerous potential contributions to societal needs (food, health, energy, marine environment). Opportunities for innovation by small and medium enterprises will also be discussed including, for example, aquaculture development to counterbalance fishing overexploitation. This will require a more pronounced research support to boost European competitiveness. Also critical will be the sustained monitoring of marine environments and ecosystems, which blends the needs for more scientific knowledge with the operational monitoring to address institutional obligations and the validation of technologies to be developed with industry.

In addition we should not forget a major cross-cutting challenge: the supply and access to all marine data and related scientific information. Such data has been traditionally collected by the scientific community to meet its own research needs but observational data and information is becoming increasingly operational and open to all end-users. A new model, able to promote a better linkage of the actors from research, technology and the wider community of users needs to be developed.

To conclude, we face a growing number of complex challenges, which will require a much better networking of all the concerned actors. Through the implementation of a European Joint Programming Initiative of the Member States for 'Healthy and productive seas and oceans', the setting of common platforms and public/private alliances with partners from the maritime and the industrial sectors, the provision for scientific expertise in support to public policies, marine sciences can contribute to these critical and challenging issues.