

## Why this volume?

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The European Commission has launched the ambitious **European Missions project** as one of the most innovative parts of the Horizon Europe Program and with the aim to contribute to the European Green Deal as well as to the Sustainable Development Goals.

The inspiration comes from the famous Apollo mission to put a man on the Moon, and bring him back safely to Earth. The EU missions' idea is similar but is tackling main European **societal challenges**, more precisely the following 5 challenges: fighting cancer, adapting to climate change, protecting our oceans and waters, living in greener cities and ensuring soil health and food.

The Missions' aim is to achieve a sustainable Europe for all, by translating challenges into concrete actions and results; to do that, there is the need to stimulate a collective effort, a general emotional involvement, together with multidisciplinary projects, public-private ambitious efforts and disruptive changes.

For each Mission the Commission appointed a Board of experts, coming from innovation, research, policy, civil society and relevant organizations, to prepare a proposal for the next ten years.

The **“Healthy Oceans, Seas, Coastal and Inland Waters”** Mission is one of the five; the corresponding board is chaired by Pascal Lamy. The board has decided to rename the Mission, in a more friendly way, as **“Starfish 2030: Restore our Ocean and Waters”**. The choice to use a starfish as symbol has various motivations: all kids know and love starfish, even if they do not live near the sea; the starfish with its five arms gives the idea of a synergic and joint approach and, finally, the starfish is a sentinel of climate change.

At the European Research & Innovation Days in September 2020, the Missions' visions and proposals were officially presented and the corresponding reports published.

For Starfish 2030, the purpose of the report is very clear: “Healthy ocean and waters are taken for granted. Yet, they are in trouble and need to be restored. We call on all European citizens and policy makers to take responsibility for protecting and regenerating rivers, lakes, seas and ocean and demand urgent systemic change from our politicians and leaders.”

After an analysis of threats and risks for seas and waters and of the impact of human activities, the report proposes **5 main objectives for 2030** (Fig. 1):

- **Filling the knowledge and emotional gap,**
- **Regenerating marine and freshwater ecosystems,**
- **Zero pollution,**
- **Decarbonising our ocean, and waters**
- **Revamping governance.**

These five objectives are mutually supportive and if they are tangibly obtained, the Mission Starfish 2030 will enable the restoration of the water cycle of the whole hydrosphere.

For each of the five objectives, a set of ambitious, concrete and measurable targets has been defined. They specifically address the actors, activities, tools and systems that need to be called upon to reach each objective. These targets are considered the indispensable components of a holistic approach to systemic change. Achieving these objectives will require a multitude of solutions and collaboration between a wide range of actors.



Fig. 1 - The Starfish Mission five objectives.

The Mission's concrete action plan is now in its starting phase thanks to the Implementation Plan that the Commission is preparing, to the new proposals for "Lighthouse demonstrators" and the Horizon Europe calls.

With this volume the National Institute of Oceanography and Applied Geophysics – OGS - intends to enhance a general discussion on the state of seas, lakes and rivers in Italy and to comment on **what the Italian Starfish Mission should be**, presenting **ambitions** and **vision** in a specific national perspective. To do that we asked some visionary people to express their ideas and proposals for the future Italian marine and maritime blue world.

The volume contains 25 articles, organized according to the 5 starfish objectives (plus a chapter on the general context).

The main characteristics of the volume can be summarized in the following concepts:

## 1. Holistic approach

It is fundamental to bring out the importance of seas, oceans and waters and the strict correlation between humans and the whole hydrosphere. The concept

is easy: we cannot be healthy if the sea and waters are not healthy. And we all have the responsibility with our actions to defend and restore seas and waters. To do that there is the need for a holistic approach and for a collective visionary, courageous and disruptive new way of thinking.

## 2. Value of diversity

The volume collects opinions from different authors: scientists, businessmen, citizens, sportsmen, each one with his own style, vision, experience and point of view. Only if we succeed in building a collective, multidisciplinary and multi-actor knowledge will we be able to create a sustainable future for our seas and waters.

## 3. Italy is its Seas

The volume wants to offer an easily readable integrated overview to be of inspiration for many readers: policy makers, researchers, citizens and, mainly, young generations. At national level, we must get ready for the next steps of the mission implementation plan and of the future lighthouse demonstrators, in the spirit of the UN Ocean Decade. To do that, a better collective awareness of the importance of marine and maritime sectors for Italy and a more integrated and visionary approach must be pursued.

We hope the volume will contribute to stimulating ambitious national thinking together with political support, citizens' involvement and a scientific, innovative and sustainable approach to the marine and maritime Italian sector. The time to act is now!

Thanks to all the authors for their precious contributions.

### REFERENCES

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