

## The Mar Piccolo Problem

The Mar Piccolo is a coastal basin extending over a surface area of approximately 20.7 Km<sup>2</sup> to the north of the city of Taranto.



As part of the Mediterranean coastal environment, it is of central importance in terms of both the environment and the economy.

The area is characterised by the presence of various and complex animal and plant species, resulting in a high level of biodiversity, also due to its specific hydrogeological features.

The Mar Piccolo has been affected by the intense industrialisation of the city of Taranto, which has resulted in the basin being included among the first fifteen areas classified as being of "high environmental risk". The large industrial settlements gravitating towards the urban area of Taranto include the ILVA steel plant (one of the largest in Europe), the ENI refinery and the Cementir cement manufacturing plant. The area is also affected by the presence of the Arsenal of the Italian Navy.

This intense industrialisation process has caused a huge production of wastewater and waste and has resulted in a severe contamination of the seabed and waters of the Mar Piccolo, especially due to polycyclic aromatic hydrocarbons (PAHs), heavy metals and polychlorinated biphenyls (PCBs).

## Innovation planning

The **Life4MarPiccolo** project proposes to apply a technology based on membrane microfiltration, largely used in other fields but which is used for the first time to remediate contaminated marine sediments and, consequently, the overlying water.

All this is aimed at promoting a synergy between integrated coastal management and marine territorial planning. To this end, an intervention protocol will be prepared for the environmental restoration of Italian and European coastal marine areas with pollution issues similar to those of the Mar Piccolo of Taranto. These include Porto Marghera, Gela, Priolo, Augusta and Manfredonia in Italy, in addition to Ria Formosa in Portugal, Mar Menor in Spain, Étang de Thau in France and the Gulf of Gera in Greece. A multi-determinative diagnostic kit will form an integral part of the intervention protocol, to assess the quality of the marine waters.



# LIFE 4 MARPICCOLO

## A new Life for Mar Piccolo



Project LIFE 14 ENV/IT/000461



**The Life4MarPiccolo project is part of the set of actions aimed at recovering and enhancing the city of Taranto and its territory, aimed at eliminating the current state of degradation of some of its areas**

## Objectives

To test the remediation of a small area of the Mar Piccolo of Taranto (approximately 3,000 m<sup>2</sup>), using a pilot purification system capable of safeguarding the existing ecosystem.

To prove the operational feasibility of a remediation technology with low environmental impact, unlike dredging and capping which, on the other hand, involve high levels of disturbance to already very fragile ecosystems.

To provide the responsible authorities with valid tools for the environmentally sustainable management of the coastal marine areas affected by industrial and/or port activities.

## Planned activities

Preliminary analysis of the preselected site through chemical and chemical-physical characterisation of the waters and sediment

Application for authorisations for the positioning of infrastructure to support the pilot system

Delimitation and preparation of the preselected site

Design, construction and testing of the pilot purification system, powered by photovoltaic energy

Implementation of the pilot purification system

Chemical, chemical-physical and meta-ohmic monitoring of the levels of contamination

Creation of a molecular kit for the rapid and multi-determined diagnosis of the quality of the waters

Production of an Intervention Protocol for the remediation of the coastal marine areas

## The LIFE programme

The Life programme is a European Union financial instrument for the environment that contributes to the implementation, updating and development of the European Union's environmental policy.

Life4MarPiccolo is one of the projects approved by the Life Programme 2014 as part of the Environment Sub-Programme. It is aimed at developing and applying methods and technologies that allow for the addressing of environmental challenges throughout Europe, emphasising the conservation of nature and biodiversity, the efficient use of resources and environmental information.

**Coordinating beneficiary:**



### Project Partners:



**The Mar Piccolo of Taranto, despite the current severity of its environmental situation, is a unique and enchanting beautiful environment.**

**Due to its specific ecosystem, the Mar Piccolo has been included by the European Union among the Site of Community Importance (SCI), under the Habitat Directive 92/43/EEC (SIC IT9130004).**

For further information:

[www.lifemarpiccolo.it](http://www.lifemarpiccolo.it)

[info@lifemarpiccolo.it](mailto:info@lifemarpiccolo.it)