

Preserving Kotor Bay as Natural and Historical Heritage - Analysing Sea Pollution Sources and Raising Ecological Awareness

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KNOW-HOW PROVIDER INSTITUTION . . .Iefluids., Italy
KNOW-HOW RECIPIENT INSTITUTIONS . .Ocean Montenegro; University of Montenegro, Maritime Faculty, Montenegro
TOTAL PROJECT COST.74,794 EUR
CEI GRANT.33,263 EUR
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KNOW-HOW PROVIDER

Iefluids., Italy
www.ief fluids.com

Ief fluids s.r.l is an innovative start-up and a spin-off of the University of Trieste, which deals with developing ad-hoc numerical models for environmental and industrial fluid dynamics and their technology transfer to companies and public bodies.

KNOW-HOW RECIPIENTS

Ocean Montenegro, Montenegro
www.ocean-team.com

Ocean Montenegro is a navigation company, which started with operating cabotage services between ports of the Adriatic Sea. It has established a traffic line between the Mediterranean Sea and West Africa. Ocean Montenegro currently operates in the Mediterranean Sea both through its branch maritime agencies and by directly operating navigation units for harbour services.

University of Montenegro, Maritime Faculty, Montenegro
www.ucg.ac.me/pfkotor

The Maritime Faculty in Kotor focuses on professional education and training in maritime affairs, development of research and creation of scientific thought in seafaring.

SUMMARY DESCRIPTION

Since 2007, Kotor has been part of the United Nations Educational, Scientific and Cultural Organisation World Heritage Protection Programme and in recent years, the area of the Kotor Bay, has seen a considerable increase in the influx of tourists. This has resulted in a dramatic increase in vessel traffic, especially cruise ships, in a particularly complex area. The complexity of the coastline, bathymetry and the ship traffic has also caused some accidents related to maritime traffic, with the release of hydrocarbons into the sea, although on a small scale. Such collisions have a strong impact on the environment and human health, determine the blockade of port activities and require high remediation costs, with a large impact on the Mediterranean area.

The main objective of this KEP project was to protect the threatened area of Kotor Bay and to improve cooperation between Italy and Montenegro by investing in the future of one of the most important, historical, cultural, touristic and strategic places in the Adriatic Sea. The study focused on the definition, modelling and simulation of critical issues in terms of possible diffusion of pollution in the bay from the hydrometric point of view. Virtual simulations were run considering the forces acting on the bay (wind, currents, buoyancy effect, etc.) to depict the flow dynamics in the bay. Analyses about time-space pollutants dispersion were carried out together with a critical analysis of the results. Seminars were organised to raise comprehension related to the bay hydrodynamics and awareness of the pollutant risk due to vessel traffic in the bay. The numerical code has been transferred to the University of Montenegro, Maritime Faculty, and personnel has been trained. A strong connection between the know-how provider and beneficiaries has been established, also through joint participation in sectoral events for presenting the project results. In addition, project partners are also preparing a project proposal related to air pollution for applying to EU funds.