

PROJECT

Renewal and updating of flow-through system for the observation of environmental status of the marine environment from merchant ships

Kommerts-laevadele paigaldatud merekeskkonna seisundi pidevmõõtmiste aparatuuri uuendamine ja täiendamine

Funding: National (Estonia)

Duration: Aug 2012 - Jun 2014

Status: Complete



Objectives:

In recent decades, the use of alternative methods to monitor the marine environment has increased. One of the ways to increase the amount of data collected, to ensure better operation of the measurements and to save costs is that commercial vessels are equipped with autonomous seawater throughflow systems, known as "watercourse", using Ferryboxes.

The physicochemical properties of the marine environment are measured at predetermined intervals as the vessel moves, and seawater samples are collected with a programmable sampler for laboratory determination of chemical and biological parameters. Laboratory methods also regularly validate with flow sensors data collected. Vessels operating in Estonian waters have been using such flow systems since 1997.

The aim of the project is to improve the quality of measurements and to achieve their long-term stability. To this end, it is planned to replace the chlorophyll and turbidity fluorescence meter for seawater, and install a new fluorimeter with an additional sensor for the determination of dissolved organic matter and an automatic purification system to reduce biological contamination between maintenance cycles.

A water flow meter shall also be fitted for the purpose of measuring stability. The input modules connect the new sensors to the functional BlueBox data storage system. A portable turbidity meter shall be purchased for laboratory measurement of seawater turbidity.

The project also includes participation in a Ferrybox pan-European seminar. The project is linked to the EU Marine Strategy and Water Framework Directives and the HELCOM Action Plan, which set specific objectives for achieving good environmental status of the marine environment. Data collected from commercial vessels are usable in the physico-chemical and biological state of the environment as indicators.

Other funding sources: Environmental Investment Center

Lead Organisation:

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Organisation Website:

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Technologies:

Information systems
Online portal for maritime research

Development phase: Research/Invention

STRIA Roadmaps: Other specified

Transport mode: Water transport (sea & inland)

Transport sectors: Freight transport

Transport policies: Environmental/Emissions aspects

Geo-spatial type: Other