POLLUPROOF

CONSOLIDATING EVIDENCE OF MARITIME CHEMICAL POLLUTION USING AIRBORNE RADAR AND OPTICAL SYSTEMS

Pollution at sea, whether accidental or deliberate, threatens the biodiversity and balance of our oceans. A rise in shipping and its associated gas emissions and cargo residues make it a source of pollution that is a priority at French national (Grenelle de la mer) and European (Directives 2005/35 and 2005/33) level, with the application of the international OPRC/HNS and MARPOL Conventions.

In this context, POLLUPROOF is aimed at improving the capacity of Customs & Excise to detect, locate and classify polluting substances (excluding oil tanker hydrocarbons) and gas and particulate emissions to provide evidence for prosecuting contraventions while ensuring effective accidental spill response.

The methods deployed during the project will make it possible to

- Identify liquid pollutants at sea using (SAR and SLAR) radar sensors and (hyperspectral camera) optical sensors,
- Identify, using hyperspectral analysis, gas emissions from ships' engines and any liquid pollutants emitted.

Tests will be conducted during the project in Cedre test tanks to calibrate optical measurements of liquid pollutants.

Full-scale airborne measurements at sea will also be conducted using radar sensors and hyperspectral optical sensors.

Based on this data, the project will develop algorithms for detecting, locating and classifying pollutants, including perfecting a methodology for gathering evidence (verified by Customs crews).

The results from the POLLUPROOF project will be shared with national and international authorities responsible for controlling pollution.

Partners

Companies

Agenium, Toulouse
Aviation Défense Service, Saint-Gilles
Cedre, Brest

Research centers

Office National d'Études et de Recherches Aérospatiales, Palaiseau [Project Developer]
Recherche et Développement pour la Défense, Québec, Canada

Other partners

Direction générale des douanes et des droits indirects, Montreuil
Marine Nationale Centre d'Expertises Pratiques de Lutte Antipollution, Brest

Funder

- Agence Nationale de la Recherche

Labelisation

05/07/2013

Overall budget

2 285 K€