

INTEGRATED SERVICE CONCEPT TO HELP RETRIEVAL OF OIL SPILL ORIGIN

J.-Y. Le Bras¹, D. Paradis², P. Daniel², V. Kerbaol³, V. Toumazou⁴, F. Parthiot⁵

¹*CLS, Ramonville Saint-Agne, France*

²*Météo-France, Toulouse, France*

³*Boost Technologies, Plouzané, France*

⁴*Mercator Océan, Ramonville Saint-Agne, France*

⁵*Cedre, La Seyne sur mer, France*

Abstract

The European Maritime Safety Agency (EMSA) has been providing since April 2007 the Cleanseanet operational service for marine oil spill detection and surveillance of European waters. Possible evolutions of this service are studied in MARCOAST, a GMES project of the European Space Agency.

As responsible of a cross-cutting task for oil spill services evolution in MARCOAST, CLS has promoted the concept of an integrated oil spill service chain. The expected advantages would be to increase service performance and homogeneity, make easier integration with identification & tracking systems, make easier the way to certification, make more manageable accident use cases and data access, and eventually to help retrieval of oil spill origin.

The French Maritime Affairs being interested by this last subject, a demonstrator has been developed with the support of the French Space Agency for installation in several French maritime surveillance centres (CROSS). The demonstration is operated in the Marcoast context and relies on data provided through the end user infrastructure, CLS acting as integrator of services provided by Boost technologies for SAR detection, Météo-France for oil spill drift forecast, Mercator-Océan for provision of oceanographic data, CEDRE for validation.

The paper will present the architecture principles, with focus on the role of a GIS and a database as backbone components, in particular for validation and off-line analysis. It will then introduce the operational concept, highlighting the interest of the integrated approach in case of a dual SAR operation (example of ENVISAT and ERS).

It will eventually address other areas of evolution such as impact of new regulations such as LRIT system as reported in IMO report MSC81(25), the creation of particularly sensitive areas with obligation for tankers to report to MRCCs when entering/exiting such zones, the addition of in-situ means such as ARGOS buoys for use in accidental pollution for validation.

The paper will be illustrated by concrete cases through trials performed in summer and autumn 2007 with deployment of ARGOS buoys, drift model animations, examples of coupling SAR images and AIS data. Coupling differences between detected and reported positions will be discussed.