

The vision: a satellite-enabled 'one-stop shop' for maritime safety and vessel traffic information

Currently, the European Maritime Safety Agency offers a number of services to provide information on maritime vessel traffic in Europe and around the world.

The ultimate aim is to have all EMSA ship-related operational data available using a single interface. EMSA's Maritime Support Services will thus become a 'one-stop-shop' that provides Member States and the European Commission with a comprehensive image of vessel traffic in the European Union, using the latest positioning information from satellites.

For further information, contact:

European Maritime Safety Agency (EMSA)
Cais do Sodré
1249-206 Lisbon
Portugal
Tel: +351 21 1209 200
Fax: +351 21 1209 210
<http://www.emsa.europa.eu>



The Maritime Support Services operations room at the EMSA headquarters in Lisbon: Working 24-7, EMSA delivers information such as vessel tracking information and satellite images of potential oilspills to Member States authorities.



USING SATELLITES TO IMPROVE MARITIME SAFETY AND COMBAT MARINE POLLUTION



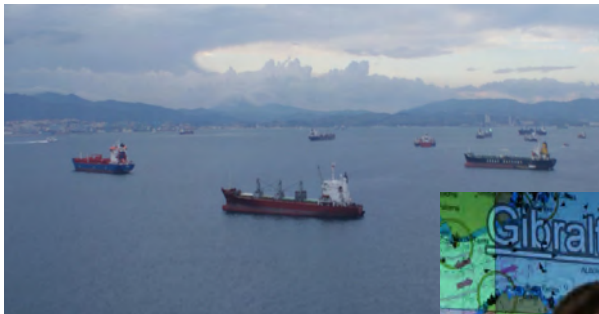
Prepared for:
Galileo Application Days
3-5 March 2010
Brussels

European seas are some of the busiest shipping areas in the world. As well as handling around 90% of EU external trade and around 35% of trade between EU countries, the sea lanes also handle a huge amount of passing traffic.

Furthermore, the environmental and commercial benefits of transferring freight transport off European roads onto ships will encourage further ship traffic, so the improvement of maritime surveillance is needed even more. The European Union has recently established a number of vessel traffic monitoring and information systems. The purpose of these is to ensure that ships in EU waters, and their cargoes, are monitored more effectively than in the past, and that there is a more consistent approach across all EU sea areas. The systems have a number of different functions for tracking vessels and use different technologies to achieve their stated purpose.

Keeping an eye on shipping in Europe

The [European Maritime Safety Agency](#) (EMSA) is responsible for providing vessel traffic monitoring services to the EU Member States, and combines information from different systems to help Member States improve maritime safety. The EMSA managed systems are [SafeSeaNet](#), [CleanSeaNet](#) and [LRIT](#) (Long-Range Identification and Tracking of Ships).



Heavy shipping traffic in the Strait of Gibraltar: At any time, there are over 20,000 commercial vessels in European waters. In what is a truly global industry, there is a need for integrated ways of monitoring seaborne traffic, and satellite technology is playing an increasingly important role.

SafeSeaNet

Ships use positioning devices to help them navigate safely, as well as to avoid collisions with other vessels, using systems such as AIS (Automatic Identification System). They do this by transmitting radio frequency signals that are then picked up, when close to the coast, by receiving stations, or through satellite systems when in the open seas. In the EU, a complete network of AIS receiving stations at national level has been developed through a system called SafeSeaNet which monitors vessels and their cargoes. This system also collects and distributes port and hazmat (hazardous materials) notifications to all coastal States in the European Union, together with Norway and Iceland. In the future, these AIS signals from ships will also be collected by satellite, providing back-up to the terrestrial SafeSeaNet information and extending its range to become a worldwide system.

CleanSeaNet

The [CleanSeaNet](#) satellite service offers 24 Coastal States a near real time marine oil spill detection service by using radar satellite imagery. The service aims at strengthening operational response for accidental and deliberate spills from ships as well as assisting Coastal States to locate and identify polluters in areas under their jurisdiction. The CleanSeaNet service detects over 2100 possible spills a year, which are then analysed and sent to the Member States for follow-up. The alert con-



CleanSeaNet example: In February 2009, the CleanSeaNet service picked up evidence of a suspected oil spill off the Southern Irish coast. Following validation, the polluting vessel was identified as a Russian naval aircraft carrier. The movement of the oil spill was monitored for several days.

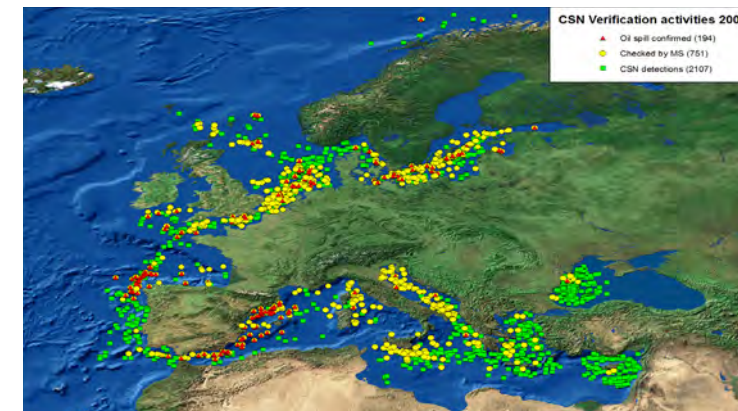
tains satellite images; the oil spill detection analysis results and, if visible, the identity of the likely polluter.

Long-Range Identification and Tracking (LRIT)

Tracking vessels outside the range of AIS coastal networks requires satellite positioning systems. In the maritime sector, the long-range identification and tracking (LRIT) of ships is used to provide information about a ship, as well as its position worldwide. The LRIT system, which came into force on 1st July 2009, is mandatory for all passenger and cargo ships above 300 tons engaged in international voyages.



Originally introduced to enhance security for government authorities by providing an early warning of what ships were approaching their coastal waters, LRIT has also demonstrated benefits that enhance maritime safety, marine environment protection, and search and rescue.



Aggregated image of suspected and confirmed oil spills detected by the CleanSeaNet service during 2009. Satellite images of suspected oilspills are delivered to Member States, where oil spills can be verified, for example by aerial surveillance or a coastguard check. 300 were confirmed in 2009.