



EUROPEAN COMMISSION

INFORMAL MEMO

Brussels, 08 October 2013

## **EU will make maritime surveillance more efficient to avoid another Lampedusa**

***Following the tragic events in Lampedusa, European Commission President Manuel Barroso, has today recalled that the EU is subsidizing a research project to make border surveillance system along Europe's 70 000 km coastline more efficient. Moreover, in times of budget restraints some Member States have difficulties to finance expensive maritime surveillance. Given the high level of resources needed for surveillance of all vessels, including seafaring immigrants, and the complexity of such coordination between national authorities, border surveillance is an extremely challenging area. But as stated by Antonio Tajani, it is a challenge we must meet, to protect human life. The Commission is therefore currently working on a research project, called Perseus, to better coordinate maritime surveillance at EU level and also on the next step of the Copernicus programme, to enhance the EU's ability to observe our seas from space. PERSEUS tries to integrate existing maritime surveillance systems (such as the Spanish SIVE) and platforms (aerial and naval) for more extended and effective continuous surveillance.***

### **Copernicus "Sentinel" satellites will enhance maritime surveillance**

Maritime surveillance is one of the priorities for the security dimension of the EU's Copernicus (earth observation) programme in space. Copernicus facilitates EU level maritime surveillance by combining output from its own satellites with data collected from non-space sources, such as ground stations and sensors installed on buoys or floats, aboard research vessels or "ships of opportunity", and on research balloons or aircraft.

Copernicus is a European Commission space project for earth observation through satellites and ground infrastructures. It started in 1998 with a total investment of 6.8 billion euros up to 2020 (5 billion from the Commission budget). It aims at providing precise information and data on security and environment.

In the first half of 2014 Copernicus's maritime monitoring capabilities will be further enhanced by the launch of the first of Copernicus's Sentinel satellites, infrastructure developed to provide the unique set of observations the Copernicus programme needs. Sentinel-1 will provide all-weather, day and night radar imagery for land and ocean services.

Copernicus is developing maritime surveillance services in support to FRONTEX, aiming at monitoring south-European maritime and Eastern land borders (EUROSUR regulation) with

the support of space data merged with other sources of intelligence. The objective is to supply information to Member States maritime patrols, helping them to intercept medium to large vessels used for irregular migration and navigating from a distant third-country port to EU territorial waters.

The Commission is also currently undertaking two FP7 projects (SAGRES - maritime and LOBOS - land) aiming at contributing to operational services led by FRONTEX in cooperation with the European Maritime Safety Agency (EMSA) and the European Union Satellite Centre (EUSC), as from 2015. The scope is to provide information ex-ante. This will complement the real time information that is undertaken by traditional means and allow and effective deployment of maritime patrolling and aircraft observations, as demonstrated in exercises such as PERSEUS.

In addition to the maritime surveillance services, Copernicus is providing a Marine service that can deliver the national coast guards with data useful for rescue operations such as maps, the maritime traffic and the state of the ocean, such as prevalent currents. The Italian Authorities have accepted the assistance proposed by MyOcean, the present marine service. They are now, together with Italian coast guards activating their downstream chains to assist the search and rescue modules.

### **Galileo and Egnos essential for rescue operations**

The European Commission is developing the satellite navigation system Galileo and the augmentation system Egnos (European Geostationary Navigation Overlay Service). Egnos is operational since 2011. Four satellites of the Galileo constellation are already operational and the first services will start by 2014. The total investment for these projects from 2007 to 2020 is 11 billion. Galileo and Egnos will soon play a major role in the search and rescue operations in the Mediterranean sea.

### **Perseus project – sharing EU surveillance of maritime borders**

Since January 2011 a specific cooperative EU research project known as PERSEUS (Protection of European BoRders and Seas through the IntElligent Use of Surveillance) is examining how to enable shared surveillance of maritime borders and collaborative actions.

PERSEUS aims to enhance the EU's capabilities to identify unusual behaviour of vessels at sea, as well as to improve communication between Member States' national coordination centres for sea monitoring. It aims to use advanced data exchanges to integrate national and European maritime surveillance systems and assets, and provide innovative technologies to detect small boats.

**The intention is that research conducted during the PERSEUS project will eventually enable the European Commission to propose standards to Member States for the further development and deployment of more effective European maritime surveillance systems.**

This project is one of the most significant initiatives of the EU's 7th Framework Programme, with a Commission funding contribution of over €27 million. Its consortium, coordinated by Indra, is composed of more than 30 highly varied partners - industry, research centres, border surveillance authorities, national interior ministries and also the

Peace Research Institute in Oslo - from 12 countries, 5 of which cover most of the southern European maritime border.

### **How does the PERSEUS project work?**

PERSEUS operates via the intelligent and integrated use of new and existing surveillance systems and technologies, primarily by integrating national maritime surveillance systems and linking National and Regional Control Centres (NCCs and RCCs) – both those currently existing and those yet to be created.

PERSEUS is supported by ground, aerial and sea platforms: Maritime Patrol Aircrafts, Unmanned Air Vehicles, Maritime Patrol Boats, Mobile Sensor Stations, etc. It is also facilitated by an upgraded, easy to deploy and low-cost communication network based on secured, protected and extendable Virtual Private Network (VPN)

### **Successful demonstration of PERSEUS capabilities off Spanish coast**

In September this year PERSEUS held a demonstration exercise in the Spanish Alboran Sea which unexpectedly encountered and tackled a real life illegal migration incident. Participants, watching remotely from the Spanish Guardia Civil's control room facility, were able to track the deployment of sea and land based assets, in response to unusual sea activity. These included the MRI - a plane developed by INDRA specifically for maritime surveillance - and the Atlante UAV which was developed by AIRBUS.

However, during the test exercise the Guardia Civil were alerted to the potential presence of a real "patera" near the coast of Morocco. PERSEUS's Maritime Patrol Aircraft (MPA) quickly detected the boat about 80 NM from the Spanish coast, in Moroccan seas. The resulting pictures and video streams were transmitted in real time from the Perseus stations to the Spanish National Coordination Centres (NCC) and Regional Coordination Centres. This enabled Moroccan authorities to be quickly informed and a rescue operation performed.

During the same demonstration exercise the Spanish received an alert that another small boat carrying immigrants had been seen several nautical miles to the north. In this occasion the MPA, with the aid of on board radar and electro optical systems, detected a boat at about 60 NM from the Spanish coast. Again the images and video streams were transmitted in real time to the Spanish NCC through the satellite communication channels used by the PERSEUS project. Quick identification provided by the pictures and video allowed for an early rescue operation for 53 African immigrants, including 16 women and two infants.

This outstanding result during the "Western Mediterranean exercise" was achieved by national coast guards thanks to the upgrades and systems deployed by PERSEUS, which were specifically aimed at detecting small boats in high seas/pre frontier area.

In 2014, another demonstration is planned to take place in Greek waters of the Eastern Mediterranean, to show PERSEUS's capabilities in a different set of circumstances.

For more information on PERSEUS demonstrations: [http://www.perseus-fp7.eu/wp-content/uploads/2011/09/PERSEUS\\_2013\\_04\\_Newsletter\\_V.13WEB1.pdf](http://www.perseus-fp7.eu/wp-content/uploads/2011/09/PERSEUS_2013_04_Newsletter_V.13WEB1.pdf)