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# PANORAMA Italia | Malta

Operational Programme Italy-Malta 2007-2013



## IN THIS NINTH NUMBER

The themes within this ninth issue of the newsletter focus on the protection of the population from natural and man-made risks, the coordination of rescue procedures, the acquisition of new instrumentation, air safety, and the general health of the sea between Sicily and Malta.

The **Calypso** and **Vamos Seguro** projects, given the strong performance have been identified as ideal candidates for developing additional activities which enhance the results already obtained by the same projects. The aim of these additional activities, as always, is to improve on the characteristics of the cross-border territory. **SIMIT**, one of the programme's strategic projects, will present the final results of its activity in October this year.

### >> THE INTEGRATION OF SICILIAN AND MALTESE CIVIL PROTECTION SYSTEMS

through a joint operations plan and the dissemination of a civil protection culture among the population:  
 the **SIMIT** project

### >> HIGH FREQUENCY TECHNOLOGY FIGHTING OIL-SPILL POLLUTION

for watching over health and safety in the Sicilian Channel: this is a follow on of the **CALYPSO** project

### >> MONITORING OF THE VOLCANIC ASH CLOUDS

so as to guarantee the safety of air traffic over the Sicilian Channel area thanks to new technologies and instruments:  
 the continuation of the **VAMOS SEGURO** project





**THE PARTNERSHIP** aimed at creating an integrated system of civil protection between the Maltese and Sicilian authorities to prevent and mitigate natural and man-made risks.

The area between south east Sicily and Malta is characterised by significant coastal erosion and is crossed by the active Ibla-Malta fault line able to generate high magnitude quakes. SIMIT has put in place actions aimed at the prevention or mitigation of natural and man-made risks and support better management of emer-

gency operations, contributing to, and spreading a civil protection culture and one of respect for and safeguard of the environment.

Beginning with the processing of risk scenarios, the territory highlighting strong and weak points in relation to the various types of possible scenarios.

Furthermore, the project set up a joint action plan that involved the agencies which operate within the cross border areatesting the operational management procedures in the event of a natural and/or man-made state of emergency. The project also reviewed the quality of these operational plans through joint simulative exercises.

The above-mentioned actions were also accompanied by updating the administrative, technical and management backup systems. In addition to this, an information and dissemination plan between the civil

protection agencies of Italy and Malta was developed outlining the best way that citizens in the stricken area should behave in an emergency. Another major benefit of this project was the exchange of knowledge between the agencies of the two member states.



**WHERE:** Palermo, Catania, Malta.

**THE PARTNERS:** Regione Siciliana - Dipartimento della Protezione Civile (lead partner); Università di Palermo; Università di Catania; Emergency Services in Malta - Civil Protection Department of Malta; University of Malta.

**SIMIT IN NUMBERS**

**Technical-scientific instrumentation acquired:**

- 1 portable computerized seismic station (tromino);
- 1 video monitoring system of coastal erosion;
- 1 optical table.

**2 exercise drills and 1 base camp equipped with:**

- 20 tents complete with bedding, field kitchen, showers and toilets;
- 80/100 places for the volunteers.

**What is more?**

- 2 civil protection plans for the islands of Gozo and Lampedusa;
- 1 cross-border civil protection plan;
- 1 24 hour HF station connecting the Sicilian and Maltese operations rooms;
- 1 Seis Comp3 software able to locate a quake in real time and send an alarm to the competent Sicilian and Maltese authority;
- 2 surveys analysing the vulnerability of the Maltese Islands and Lampedusa;
- 1 survey of the excitation and propagation characteristics of seismic waves in Sicily, in the Sicilian Channel and in the Maltese Islands.

**>> SIMIT - Costituzione di un sistema integrato di protezione civile transfrontaliero italo-maltese**



**THE FIRST THREE DAY ITALY-MALTA INTERNATIONAL OPERATIONAL EXERCISE IN GOZO**

A group of about 450 Maltese and Sicilian rescuers and volunteers simulated the effects of a catastrophic earthquake, 7.6 on the Richters scale that hit the central Mediterranean for 20 seconds south west of Malta.

The exercise took place at Gozo Heliport (Malta) 3 - 6 September 2015.

The operational plan was drawn up by the Civil Protection Department Malta which hosted the event that saw two Sicilian delegations taking part. The first, from the port of Pozzallo, was made up of voluntary civil protection rescuers and officials from the regional civil protection department with all the equipment necessary to set up the displacement camp (tents, toilets/showers, field kitchen).

The second delegation was made up of voluntary

rescuers, personnel from the regional civil protection department, 7 police officers from the Disaster Victim Identification Unit, 4 members of the national fire brigade, 2 from the Sicilian regional command and 2 from the USAR Unit, Pisa which is certified under the European civil protection system.

DRPS's SORIS was also involved in the management of the exercise setting up a 24 hour TIC communications station with Gozo and an information, communications platform designed to kick in after the resumption of the cell phone networking system. The activities were followed personally by two department heads, John Rizzo for Malta and Calogero Foti for the Sicilian Region.

A second exercise was carried out on Lampedusa 28 - 30 September 2015 to simulate joint action for



the protection of property and people following a tsunami.

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Jointly optimizing operational procedures and disseminating the civil protection culture.



The high frequency radar system CALYPSO set up within the Italy Malta OP 2007-2013 will be developed with the installation of a fourth antenna north west of Pozzallo (Ragusa).

Operational since October 2013, the permanent HF system – as of today made up of three antennas, one installed in Pozzallo's port area and the other two on Malta at the Ta' Barkat and Ta' Sopusites – allows the early identification of possible oil spills thus safeguarding Sicilian and Maltese coastlines and their subsequent socio economic development. The antennas also monitor surface

marine currents in the channel between Sicily and Malta with the aim of supplying governing bodies with continuous data so as to optimize

intervention in the event of an accidental or deliberate oil spill and/or Search and Rescue operations. The CALYPSO FOLLOW-ON partnership – made up of the University of Malta, Università di Palermo (Polo Territoriale Universitario della Provincia di Trapani, Istituto per l'Ambiente Marino Costiero – CNR di Capo Granitola, Cutgana dell'Università di Catania and ARPA Sicilia – is at present involved in increasing the performance of the current Calypso network i.e. installing a fourth HF station and in processing radial data and archiving results through a second hardware/software system in Sicily which ensures the

repetition of data, its processing and archiving.

The project leader Aldo Drago of the University of Malta and partnership representatives – G. Ciraola from University of Palermo, F. Raffa from Iamc-Cnr, R. Sinatra from University of Catania and D. Ruvolo from ARPA Sicilia – have emphasized that thanks to Calypso Follow-on it is possible to improve dedicated web services, create an app for mobile systems, validate further surface current measurements made by the Calypso network, upgrade the HF systems currently installed, maintain the existing network and carry out further training of personnel.

All of this will guarantee the system's perfect operability even after the programming period 2007-2013.



THE PLACES - THE PARTNERS

**Data gathering sites:** Ta' Sopus - Nadur (Gozo), Ta' Barkat - Xghajra (Malta), Pozzallo port (Ragusa), an area north west of Pozzallo.

**The partners:** University of Malta - Physical Oceanography Unit, IOI-Malta (lead partner); Università di Palermo - Polo Universitario di Trapani; Consiglio Nazionale della Ricerche - Istituto per l'Ambiente Marino Costiero; Università di Catania - Centro Universitario per la Tutela e Gestione degli Ambienti Naturali e degli Agroecosistemi; Agenzia Regionale per la Protezione dell'Ambiente.

**>> CALYPSO - HF Radar Monitoring System and Response against Marine Oil Spills in the Malta Channel**

Website:  
[www.capemalta.net/calypso](http://www.capemalta.net/calypso)  
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CALYPSO Follow On: Cooperation to improve safety in the Sicilian Channel.



**SAFEGUARDING THE ENVIRONMENT AND HEALTH OF CITIZENS**

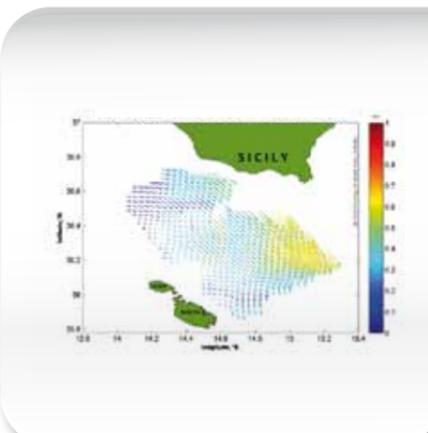
In September 2015, a meeting to present the Calypso Follow-on project was held in Malta where the whole partnership planning team was present. Two important aspects emerged during this meeting: the first tied to **environmental safeguard related to the general health of the sea**, the second aspect was in relation to the **protection of the health of citizens** in the cross-border area.

The HF system permits governing bodies to locate with absolute precision the source of oil spills both accidental and those caused by illegal activities such as the cleaning of oil tanks at sea in the channel between Sicily and Malta. The HF systems used by the Calypso network are recognized by international communications bodies and have already

been used along the American coasts and in the gulfs of Trieste and Naples.

The second fundamental aspect which came out during the meeting was the power used by the data gathering stations; these do not exceed 40 Watt while the operational frequency of the antenna system is 13.5 MHz.

As a result the electromagnetic field emissions are far below the maximum levels allowed by laws protecting man from exposure to electric, magnetic, and electromagnetic fields and that the network operates in the radiofrequency field commonly used by radio and television transmissions and therefore poses no threat to public health.





**THE AIM** of the second phase in this *Vamos Seguro* project is to improve the monitoring and forecasting system for Etna's ash plumes.

The **VAMOS SEGURO** project regarding the mitigation and prevention of natural risks has been recognised by the European Commission as a best practice among those financed by 2007 – 2013 structural funding.

At the moment the project is strengthening the existing instrumentation and infrastructure so as to guaran-

tee even better safety for flights in the air space between Sicily and Malta.

To reach this objective of increased monitoring of Etna's ash plumes, *Vamos Seguro* is implementing the new LIDAR AMPLE system and acquiring new instruments that enable additional measurements of volcanic clouds.

This is being done in order to improve daily simulations adding a new eruptive scenario closer to Etna's recent fountains of lava and also to create a duplicate of the simulation system in Malta.

The project is also improving its website to a higher performance platform which is able to offer an interface which can be used by a wider public and disseminate data collected during the last two years of planning activities.

The partnership will establish an **"International Study Centre"** at

the LIDAR measuring station at Serra La Nave with the primary aim of studying and disseminating the results of the project.

The centre will have the task of raising the competence of research workers and personnel of the companies involved in monitoring volcanic ash through the implementation of theoretical courses and experimentation in the field so as to guarantee a better acquisition of measuring techniques, a detailed understanding of the instrumentation developed within the framework of the project and an informed use of the results obtained.



**THE PLACES - THE PARTNERS**

**The places:** Catania, Caltanissetta, and Malta

**The partners:** INGV - Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Etneo, sezione di Catania (lead partner); Istituto Nazionale di Astrofisica, Osservatorio Astrofisica di Catania; University of Malta - Physics Department Atmospheric Research.

**>> VAMOS SEGURO - Volcanic Ash Monitoring and forecasting between Sicilia and Malta and sharing of the results for aviation safety**



**WHAT EXACTLY IS A LIDAR "AMPLE" ?**

The *VAMOS SEGURO* project has improved the efficiency of its monitoring actions thanks to the acquisition of a particular type of LIDAR called AMPLE, i.e. Aerosol Multi-wavelength Polarization Lidar Experiment.

LIDAR, in general, is a remote sensing system using laser impulses to determine the distance of an object as well as determining the concentration of chemical compounds in the atmosphere.

The technologically more advanced LIDAR AMPLE system is an instrument designed to sense optically dense strata – a feature of the large volcanic eruptions – using a high repetition rate laser source that allows, at the same power levels, to extend the dynamic range of the signal and get even

more accurate measurements. The characteristic elements of the system are: a laser source that emits a 1KHz repetition frequency rate at several wavelengths and a receiving system able to measure the optical and microphysical properties of the particulate through simultaneous measurements at different wavelengths. Furthermore, the instrument is provided with a fast atmospheric scanning system able to create 3D maps of the optical and microphysical properties of the aerosol dispersed within it and follow its future development improving, therefore, the forecasting capacity of future eruptions. Two examples of the system which are currently in use are as follows: the first is in operation near Shanghai while the second is that used in Sicily by the *VAMOS SEGURO* project.

Website:

[www.ct.ingv.it/vamosseguro](http://www.ct.ingv.it/vamosseguro)

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**We continue to watch over the skies between Malta and Sicily for your flight safety.**

