Call Title: 3 - Earth Observation Services and associated Modelling, forecasting and associated services

Final Results

Project Code	Title	Project Promoter	Partners	Donor partner	Budget			Description	Final Score (points)	Ranking Position	Recommendation of the Selection Committee	PO Appproval
					Total cost	Total Eligible Cost	EEA Grant					
Type I PT02_Aviso3_0008	Project Type I - Sentinel Data reception	EDISOFT - Company Services and Software Development, S.A.			412.565 €	409.230 €	266.000 €	The scope of the proposed project is defined as the needed upgrades to the Santa Maria Acores Ground Station which enable Sentinel Data reception and archiving, coming from Copernicus Satellites. This ensures the provision of National territory with a Copernicus Collaborative Ground Station. Portuguese EEZ is one of the largest in Europe and therefore it is essential to have operational capabilities to perform regular monitoring activities. Sea pollution, Maritime illegal activities, etc are issues that must be countered to ensure safety and security for national waters. There are different systems based on Satellite observation that might be deployed, enabling efficient responses these threats. Therefore, it is important to provide National Authorities with the capacity to deploy mechanisms in a timely manner. This project will enable the Sentinel imagery reception in Near Real Time with high availability, creating enhancing the possibility for the development of National Space Based Monitoring services.	4,108	1°	Selected	09-01-2015
Type II PT02_Aviso3_0003	Creating a Portuguese Infrastructure for storing and disseminating data Sentinel (IP Sentinel)	Directorate General of the Territory (DGT)	The Portuguese Sea and Atmosphere Institute (IPMA)		350.000 €	346.749 €	294.737 €	The European Space Agency (ESA) has developed an ambitious program of Earth Observation (EO) called Copernicus program. Its implementation involves the construction, launch and maintenance of a set of remote sensors called Sentinel. ESA promotes the creation of national infrastructure, called National Mirror that allow store and disseminate the data collected by these sensors. In response to this purpose, DGT and the IPMA, complementing their different areas of expertise, are formed as partners in the presentation of this application, which has as main objective the creation of this infrastructure for Portugal (IPSentinel). This platform also will be a repository for a set of services and information derived, created by experts and made available to the user community. Whereas if you want the technology infrastructure can accommodate a very high volume of information, DGT and the IPMA will seek a specialized technology partner in this area that can guarantee service levels deemed necessary to the project. The coordination and management of the infrastructure will be in charge of both institutions. The creation of derivative products from the Sentinel images will be the responsibility of the two institutions, which complement each other in their areas of operation. DGT is active in the fields of geodesy, geographic information production, land use and urban planning; the IPMA focuses on the areas of the sea and the atmosphere. The partnership between the two entities allows an optimization of existing resources, complementing knowledge and methodologies.	3,653	1°	Selected	09-01-2015
Type III PT02_Aviso3_0001	AMOS - ADVANCED METEO-OCEANOGRAFIC FORECASTING SERVICES FOR SEA	HIDROMOD, Modelling in Engineering, Lda		NAVTOR AS (Norway)	236.187 €	235.152 €	199.879 €	The first goal of the present proposal is to make available a sea storm warning service covering Portugal's mainland and autonomous regions at scales compatible with the coastal uses and activities. The service will have the ability to communicate with different data sources and provide detailed daily forecast of: • Meteorology (wind, precipitation, visibility, etc.): • Oceanography (sea temperature, currents, water levels and salinity) • Waves (Hs, T, Dir, spectral parameters); These services may be used to provide advice (and warning) to the navigation, fishing, coastal recreational activities, coastal erosion and flooding. Once the system will be running operational providing daily forecasts for the next days it may be used not only to issue alerts but also to provide high resolution forecasts for the remaining periods. The system may also be used to support to other activities such as providing proper meteo-oceanographic conditions capable to act as the basis for oil spills tracking forecasting system and for the identification of most probable places for fish stocks location. The services that will result from the partnership with NAVTOR will make possible to include the oceanography and wave clime forecasts in the NAVSTATION platform, which is already widely used as a basis for the Electronic Nautical Charts on Board, including chart update history, vessel track and service management, etc. NNS is a Digital Chart table made specifically for integration of relevant information to the Navigator. This will help to disseminate the produced sea storm warnings directly to the vessels commandants and will also create an extra potential market for the services.	4,393	1°	Selected	09-01-2015

Type / ID	Project	Promoter	Partner 1	Partner 2				Score	Rank	Status	Date
Type III R1 - PT02_Aviso3_0005	SURGE - Operational system for the forecast of storm SURGEs in the Portuguese and Icelandic waters	The Portuguese Sea and Atmosphere Institute (IPMA)	National Civil Engineering Laboratory (LNEC)	Icelandic Meteorological Office (IMO)	232.594 €	232.445 €	197.578 €	4,230	2°	Not selected for funding (Financial allocation not available)	
Type III R2 - PT02_Aviso3_0006	Integrated Early Detection Coastal Storms (SIDeTeCt)	Instituto Superior Técnico (IST)			195.120 €	184.120 €	156.502 €	4,140	3°	Not selected for funding (Financial allocation not available)	
Type III R3 - PT02_Aviso3_0002	ISMOC - Implementation of a Meteo-Oceanographic Monitoring System (modular) Coastal	Regional Agency for the Development of Research Technology and Innovation (ARDITI)	CIIMAR - Interdisciplinary Centre for Marine and Environmental Research APRAM - Administration of the Autonomous Region of Madeira, SA		238.638 €	235.294 €	200.000 €	3,830	4°	Not selected for funding (Financial allocation not available)	
Type IV PT02_Aviso3_0009	Project Type IV- Oil Spill and Illegal Fishing	EDISOFT - Company Services and Software Development, S.A.			335.643 €	329.265 €	214.022 €	4,113	1°	Selected	09-01-2015

The promoter/project descriptions (center column):

SURGE (R1 - PT02_Aviso3_0005): SURGE will implement operational forecast systems for storm surges in the Portuguese and Iceland waters and demonstrate their usefulness for local risk prevention through a pilot application to a vulnerable coastal lagoon. In combination with the monitoring network in operation in the consortium institution, these forecast systems will provide early warning of sea storms with potential significant impact on the marine and coastal areas of the two countries (including the Portuguese autonomous regions), accounting locally for all relevant impacts (storms, tides and wind). Results will be disseminated daily on partners' web pages.

The project legacy includes a set of storm surge operational models, that will run daily by each of the 3 partners: IPMA will run the model versions for a large fraction of the North Atlantic, and regional covering mainland Portugal, Madeira and Azores archipelagos. IPMA will disseminate the results to the public and the Civil Protection Agency. LNEC will provide results in estuaries and regions adjacent to the main harbours. Finally, IMO will provide similar services in Iceland. A workshop for private and public stakeholders will be organized. An operational system for Ria Formosa will be created and results disseminated by LNEC. Maps of extreme water levels will be produced for the Portuguese and Icelandic Coasts, corresponding to different return periods. Remote sensing aata for a set of storm surges (including some of those occurring during the winter 2013-14) will be produced; comparison of remote sensing data with model storm surge results will document the model quality.

SIDeTeCt (R2 - PT02_Aviso3_0006): The current climate change to global level and in Portugal lead increased frequency of extreme weather events such as maritime storms impact on coastal areas, producing damage to population, economy and infrastructure. Early detection services storms are needed to support the adaptation policy and decision making in accordance with the EU strategy COM / 2013/0216 and National Marine Strategy 2013-2020.
purpose:
Implement an early detection service sea storms with significant impact on the marine and coastal areas of mainland Portugal and the Autonomous Regions.
Expected results:
Improved climate information, prediction of weather and meteo-marinas conditions, support for decision-making.

ISMOC (R3 - PT02_Aviso3_0002): The Autonomous Region of Madeira has been hit by severe storms in recent years and is completely devoid of monitoring means weather and oceanographic. Without quality information, it is difficult to make appropriate decisions in the case of any event that threatens human materials and goods lives. In December 2013 a southern storm caused substantial damage to port infrastructure and claimed at least one human life. Were inoperative the few buoys anchored ondografo along the coast. However, to anticipate and adequately monitor the storms is key information (simultaneously) on the field of winds, waves and currents, not only a point but a wider area enabling the monitoring of its evolution during its approach to the island. To help in decision-making is necessary to supplement the measures with calibrated forecasting models. Historical and representative measures of regional phenomena become essential for the validation and calibration of predictive models. We propose in this project to build a support system pioneer decision integrating models and observations, aided by rapid diffusion of information systems for decision-makers.

APRAM has experience in The buoys operation ondografo since 1986, CIIMAR / CIIMAR-Madeira has operational forecast models and decision support systems since 2009 and the ARDITI consolidates all regional institutions with activities in the sea area in a consortium called OOM-Ocean Observatory Madeira. In addition to managing the consortium to ARDITI has a esperience team in administrative and financial management of national and internacionas projects. Given the funding limit only after obtaining the first results will be made efforts to attach the contribution of researchers from the Institute of Geophysics at the University of Bergen, Norway.

Project Type IV (PT02_Aviso3_0009): The proposed project aims the implementation of a capacity for early detection of oil spills and illegal fishing in oceanic areas using satellite (mainly Copernicus Sentinel imagery), down-linked in real time in the Santa Maria (SAMA) Ground Station, and non-satellite data. The expected results will be the operational availability of enduring oil spill and illegal fishing monitoring services and the delivery of all related documentation. This will contribute to solving two problems: man-made illegal discharges of oil spill at Sea and Illegal and Unreported (IUU) fisheries activity, both severe environmental and economical problems. These services answer to the priorities set in the Portuguese National Strategy for the Sea 2013-2020 and also to the initiatives under the European Commission "Horizon 2020" and ESA. The target users of the proposed services are all Public National and Trans-national authorities with responsibilities in the Sea, Environment, fisheries and other.

								Description	Score	Rank	Status	
Type IV PT02_Aviso3_0010	Integrated Management of Stroke Risk by Vessels (Sigride)	Instituto Superior Técnico (IST)	Action Modulers - Security Consulting Ltd Foundation Gaspar Frutuoso (FGF)		213.528 €	207.862 €	176.682 €	GIS computer infrastructure creation for risk management incidents with oil spills at sea and coastal areas in Portugal, supported by operational modeling and consists of: • Automatic simulation from oil slicks detected by satellite • assisted simulation "on-demand" • analysis and monitoring of risk of coastal contamination due to vessel traffic The system allows: • Improved efficiency in the production and analysis of results, shortening response times compared to detected spills • Improve investigation of pollution sources • holistic characterization of the risk of coastal contamination considering coastal diversity, shipping and conditions weather and oceanographic The project fits with the Mar-Portugal Action Plan 2013-2020 of the MNE (monitoring strengthening marine) and the H2020 program (BG-07-2015 initiative), increasing detection and monitoring of oil spills Target groups: coastal water management authorities; tackle pollution at sea; researchers and scientists; companies The partnership will contribute to technological innovation and modeling: IST: component probabilistic model of drift; calculation algorithm and risk characterization of coastal contamination; Automatic tracking of detected spills; forecast weather and oceanographic network Action Modulers: GIS interface; simulation "on-demand" spills; integration model containment barriers model with drifting Azores: Components of forecasting weather and oceanographic network (Azores + automatic validation): coastal vulnerability (Islands) increased cooperation and knowledge transfer between universities, research and business	4,043	2°	Not selected for funding (Financial allocation not available)	
Type IV PT02_Aviso3_0004	EODIFS:EARTH OBSERVATION BASED DETECTION OF ILEGAL FISHING AND SPILLS	GMVIS SKYSOFT, S.A.	HIDROMOD, Modelling in Engineering, Lda		231.169 €	231.169 €	196.494 €	The current project aims to present a new service and system concept with capabilities to provide consistent surveillance monitoring of marine pollution (mainly oil) and illegal fisheries in oceanic waters. The system would benefit from the current state-of-the-art and the experience gathered by some operational systems that are being currently managed by European and/or national authorities. Example is the SafeSeaNet and CleanSeaNet services managed by EMSA. The system design will be based on the requirements consolidated along project lifetime by analysing the current state-of-the-art (what technologically and technically feasible), user needs and the policy & legal framework that attain end-user activities (oil tankers and fishermen). Some of those requirements are well-know, especially time delivery, but re-analysis will be redone. For those challenging specifications that can not be properly covered by the current state-of-the-art, R&D tasks will be developed. The proposed solutions will be characterized by a theoretical framework with limited practical issues. The outcome of the project will be a consistent and comprehensive service catalogue that improves coverage, reduces the ratio of false alarms and enhances interoperability with other systems. It will enable users to tailor the available services to their own needs. As such, this catalogue of services would be integrated into existing system platforms or into new architecture that would provide performance beyond current standards. The project would have a positive impact on the procedures that authorities adopt when dealing with oil spills and illegal fisheries.	3,855	3°	Not selected for funding (Financial allocation not available)	
Type IV PT02_Aviso3_0007	PROTECT - "PeRsistence AutOnomous MoniToring and InspEction using RobotiC sysTems	Faculty of Engineering, University of Porto	Norwegian University of Sience and Technology (Norway) - do not participate on project costs		261.968 €	254.118 €	216.000 €	This project aims to provide a novel capability for maritime and surveillance which is cost-effective, scalable and leverages the latest in robotic hardware and software. In so doing, it expects to provide a viable approach to monitor Portugal's extensive maritime areas by providing ground-truth and persistence presence. Traditional manned ship-borne approaches cannot scale towards such tasks; it needs autonomous robots to provide scaling, cost-effectiveness and persistence especially in harsh environments. In particular, this project will build a closed-loop software and hardware system, which will use aerial (from UAVs)/satelite imagery to monitor large spatial areas e.g. the Marine Protected Areas off the Azores, provide in-situ presence with a green energy autonomous robotic platform, all os wich would be coupled with shore-based advanced image processing, automated planning and machine learning algorithms for targeted surveillance. The project team comes with substantial intellectual heft and along with Norwegian partners have extensive experience in controlling and operating autonomous platforms in real-world environments. This project will strengthen and extend the existing strategic collaboration between the University of Porto and AMOS/NTNU in several ways: 1) Develop and demonstrate robotic systems for persistent oceanic with applications to surveillance and monitoring in remote areas; 2) Develop system's capabilities and the operational know-how for future sustained and cost-effective presence in the Atlantic and Artic oceans; 3) Develop an effective model of cooperation targeted at accelerating the transition of new developments to operational use in harsh environments.	3,713	4°	Not selected for funding (Financial allocation not available)	
		Total - Selected			1.334.395 €	1.320.396 €	974.638 €					
		Total - Not Selected			1.373.017 €	1.345.008 €	1.143.256 €					