

## ACQUISITION OF SCIENTIFIC EQUIPMENT

The co-financed action consists of the acquisition by the SOCIB (Balearic Islands Coastal Observing and Forecasting System) of scientific equipment. It is a CTD probe, a set of auxiliary sensors, 18 oceanographic bottles, as well as 4 autonomous robotic platforms of oceanographic sampling (GLIDER).

SOCIB is a joint initiative between the Ministry of Science and Innovation and the Balearic Government that promotes science, technology and society to respond to scientific priorities in the marine and coastal environment.

To carry out its function and in accordance with its Strategic Plan 2017-2020, this entity requires scientific equipment to carry out oceanographic sampling missions.

For SOCIB researchers, knowing the salinity, temperature and pressure of seawater is an extremely important fact for successful research. This requires that the oceanographic vessel be equipped with tools to facilitate this task and that studies on marine currents and on biological processes occurring in the oceans can be carried out. The **CTD** probe allows water samples at different depths to be taken into open bottles into the sea. A closing mechanism allows the water sample to be captured at the desired depth that can be analysed in the laboratory and measuring certain aspects that cannot be assessed in situ by a sensor.

The **GLIDER** is an autonomous underwater sampling system that allows the observation of essential oceanographic variables up to 1,000 meters deep and incorporates state-of-the-art technology. This platform operates by measuring temperature, salinity, oxygen, etc. for a period that can reach 2 months and in a depth range up to 1,000 meters. On board, it has installed sensors, such as CTD, biogeochemical sensors, etc.



The total eligible cost of the action is EUR **946,425 financed** by the European Regional Development Fund (ERDF).

The number of researchers working in the facilities where the subsidised equipment is located is a total of **6**.

The following are the arguments that make this project a good practice, in accordance with the criteria defined for this purpose.

## Criterion 1. High dissemination between beneficiaries and the general public.

The project has a high dissemination of the contribution of European Funds to the development of this investment, both among potential beneficiaries and among the public, and has been widely disseminated through the various information and publicity measures developed.

Among the **mandatory measures** that have been carried out in accordance with European legislation, the following should be noted:

During the **tendering and award process**, the EU contribution to the co-financing of the action has been highlighted in the respective contract notices, where co-financing by the ERDF is mentioned.

A specific section for the European Funds has been created on the **SOCIB's website**. It includes information about the project and its funding by the ERDF, including the corresponding logos.



Once the action has been completed and in order to comply with the regulations on the information and communication measures laid down in the European legislation, a **permanent plaque** with the regulatory dimensions has been placed at the entrance to the SOCIB's premises in a place visible to the public



**Other actions and measures** in the field of communication and information have also been carried out to strengthen and give greater visibility to the European Union's co-financing of the action, including the following:

In various media in the Balearic Islands, in its online version, **news** about the implementation of the action and its progress has been published.



Social networks have been used to advertise and communicate the results of the research carried out thanks to this equipment. Facebook and Twitter have been used.



Information about the project and the ERDF contribution to its implementation has been published in issue 9 of the **Bulletí de Fons Europeus de les Illes Balears** published by the Directorate-General for European Funds in its 2020 edition of AUGUST.



This action has also been disseminated through the system of mapping co-financed projects of DG European Funds, located on its website ([http://www.caib.es/sites/fonseuropeus/ca/portada\\_2016/?campa=yes](http://www.caib.es/sites/fonseuropeus/ca/portada_2016/?campa=yes)). This online application, which is accessible to anyone, allows viewing, not only the geographical location of the investment, but also offers systematised data of the investment made.

## Criterion 2. Incorporation of innovative elements.



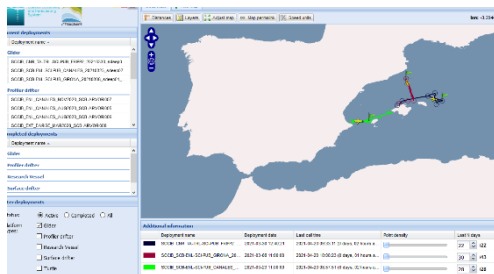
One of the most innovative elements of the action is the information collected by the different equipment, instruments and platforms acquired, can be sent in real time, via the Iridium satellite network, and modify, if is necessary, the behaviour of the Glider (tracking, sampling frequency, etc.).

This information can be accessed through an App in a simple way that provides relevant information for activities such as: surfing, windsurfing, kitesurfing, diving and knowing the conditions of the beaches.

Open access to all the data generated by the observations, allows the user to discover information, in near real time, of the values of variables such as: sea temperature, wave height/direction, sea level, wind speed/direction, air temperature and pressure, beach images, etc. all integrated and ensuring real-time data availability for researchers and for all the population.

This will enable a more effective response to three key points, such as scientific priorities, technological development, and responsiveness to the needs of society.

## Criterion 3. Alignment of the results achieved with the objectives set.



The importance of these equipment lies in the fact that they are the most important means of measuring the characteristics of the seawater column in oceanographic campaigns and thus allow to collect water samples at different depths and then be analysed in the laboratory and measure aspects that cannot be estimated in situ with a sensor.

The start-up of these teams contributes to meeting the growing need of society for the intensive and near-real time prediction and monitoring of the complex coastal environment, developing, and applying innovative marine sciences and technologies that guarantee a healthy and productive ocean and, in addition, help to understand the mechanisms that regulate them and thus be able to make predictions about their evolution or adaptation.

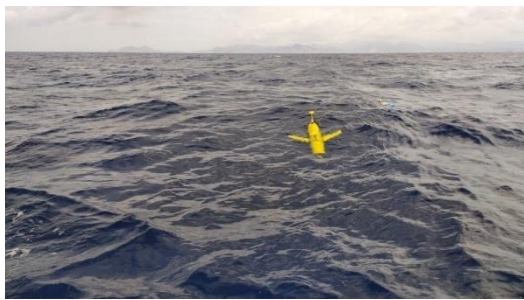




This investment contributes to increasing the number of people engaged in R&D&I activities and to promote the generation of knowledge of strategic areas of interest in the Balearic Islands, such as Marine Science and Technology (CTIE Plan). It should be noted that some of the research groups involved in these tasks have acquired an internationally recognised level of excellence in the fields of applied research (marine science and technology).

#### **Criterion 4. Contribution to the resolution of a regional problem or weakness.**

Investment in R&D&I represent one of the outstanding subjects of the economy of the Balearic Islands. The low investment effort in this area and the weak position in achieving results are a brake on increasing levels of regional competitiveness.



This investment in infrastructure has contributed to increasing the research capacity in the Balearic territory thanks to the support of the SOCIB research group that has allowed the generation of scientific knowledge and the improvement of the supply of infrastructures and technological scientific equipment, contributing to the consolidation of research activity and the knowledge of data on the coasts and sea of the Balearic Islands.

Knowing data on the properties of the sea water in our territory, such as acidity (pH), determines the possibility of knowing the evolution of certain chemical processes and the effect on living beings and marine species such as oysters, hedgehogs, clams, oysters, lobsters, etc.

The dependence of the Balearic Islands on tourism makes it necessary to seek a balance with the environment and to promote research and high technology activities that promote high added values, attract talent, and thus contribute to the quality and sustainability of tourism, on the first hand, and economic diversification, on the other.

#### **Criterion 5. High degree of coverage of the target population.**

The incorporation of highly advanced technological elements that incorporate real-time measurements and data from the Mediterranean Sea allows results obtained in marine research, climate change and coastal carrying capacity to be made available to the scientific community, the administration and the general public.

The generation of knowledge, the presentation of data and information allows the development of a science of excellence that transfers to society a response to the challenges posed in today's world. The research carried out aims to respond to the strategic needs of society, with a transformative impact on sustainability in its three pillars, environmental, social and economic.

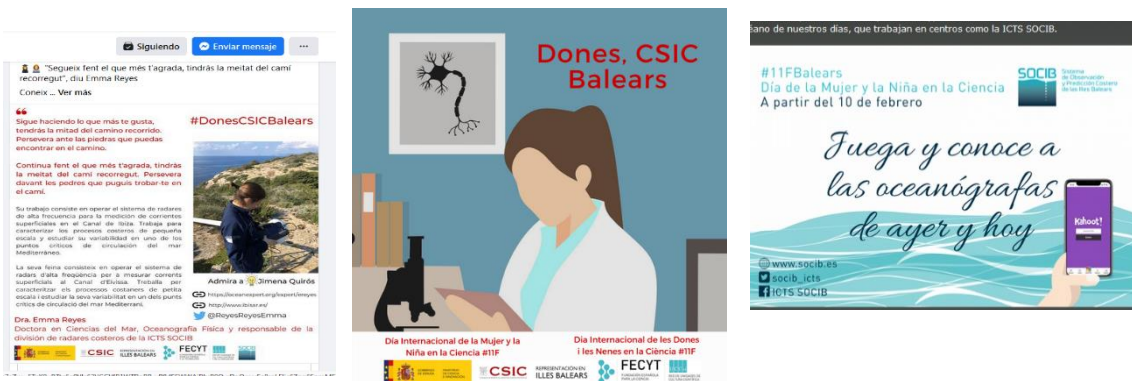


ICTS SOCIB encourages knowledge transfer to facilitate the application of its R&D&I skills within and outside academia, both by other R&D&I institutions and by the productive sector or society at large; involving citizens and social, economic and environmental protection actors in scientific and environmental projects to advance the Responsible Research and Innovation (RRI) of the oceans

**Criterion 6. Consideration of horizontal criteria for equal opportunities and environmental sustainability.**

The Mediterranean Sea is severely affected by the effects of climate change, with a significant impact on water warming, sea level rise and pressure from certain activities, such as overfishing, pollution, urbanisation of coastal areas, beaches, etc.

The scientific equipment acquired by SOCIB has been considered an essential element to be able to assess the state and variability of the balearic sea and to know the impact of climate change in the area and the response of ecosystems to these changes. This will make it possible to understand the oceanic processes involved in climate variability, thus helping to preserve the health of the oceans and their sustainable management



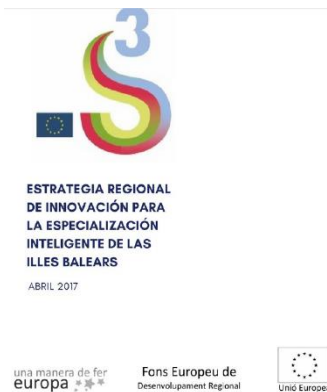
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To carry out their research, the entire scientific community can benefit from the information obtained from the equipment purchased. With this approach in mind, we can say that SOCIB encourages women’s participation in science, contributing to the effective implementation of the principle of equal opportunities between men and women and the elimination of discriminatory behaviour. To this end, it develops actions on access to the promotion and dissemination of women’s careers.

In this regard, it should be noted that SOCIB regularly commemorates the [International Day of Women and Girls in Science](#), which is celebrated on 11 February each year since 2015. In this event, the ICTS SOCIB researchers explain their work in the first person and give advice to those

young people who want to engage in oceanography, in particular, or the study of the ocean, in general. They also share some of the challenges they have faced and their benchmarks in this area. Their testimonies highlight their role in the scientific field, giving visibility to their work within the framework of the new oceanography.

### Criterion 7. Synergies with other public intervention policies or instruments.



The synergies that can be achieved, both at the regional, national and international levels by sharing research with various research groups related to the sea, will yield excellent results in this area.

This project is part of the Intelligent Specialisation Strategy of the Balearic Islands (RIS3) to incorporate innovative marine sciences and technologies as one of the strategic bases for diversifying the economic model of the Balearic Islands and promoting the blue economy.

Related to this action, it should also be noted the importance of the project to build the new headquarters of the ICTS SOCIB in the Port of Palma, which would house the headquarters, offices, laboratories, and workshops of the ICTS SOCIB. This initiative is part of the Pol Marí Project promoted in 2018 by the Govern de les Illes Balears and has the financial support of the European Regional Development Fund (ERDF).

