

*Una manera de hacer Europa*



# BUENAS PRÁCTICAS

## Actuaciones Cofinanciadas

Civil UAVs Initiative

Galician Innovation Agency

**Programa Operativo  
Plurirregional de España**

Año 2022

**Fondo Europeo de Desarrollo Regional**



## **THE CIVIL UAVs INITIATIVE - ACTION**

The "Civil UAVs Initiative" is a program promoted by the Xunta de Galicia, through the Galician Innovation Agency. It aims at the innovative use of unmanned aerial vehicles (UAVs), commonly known as drones, to improve the performance of its public services.



The action is structured internally into five priority blocks: Efficient management of land resources, agriculture, livestock and biomass; efficient management of aquatic resources; efficient management of territory, cultural heritage and tourism; efficient management of emergencies, as well as, management and control of air traffic. Participants in the action include the Xunta de Galicia's different sectoral departments (Rural Environment, Marine, Emergencies, Environment and Territorial Planning, Tourism, Heritage and Health) that aspire to improve the provision of their public services through the use of unmanned vehicles.

This operation materialized with the signing of an agreement between the Ministry of Economy and Competitiveness, currently the Ministry of Science and Innovation, and it has had a total budget of €20M, of which 80% (€16,000,000) was co-financed by the European Regional Development Fund (ERDF) within the Multiregional Operational Program of Spain 2014-2020.

The Civil UAVs Initiative action, developed by the Galician Agency for Innovation (GAIN), is considered a Good Practice according to criteria defined for this purpose, for the following reasons:

### **1. The action has been properly disseminated**

The dissemination of the Civil UAVs Initiative carried out by GAIN was achieved using different means to reach the largest number of stakeholders and the general public, interested in participating in the development of innovative solutions. Access was free to all events organised. Any citizen interested in attending was able to register and participate in the events.



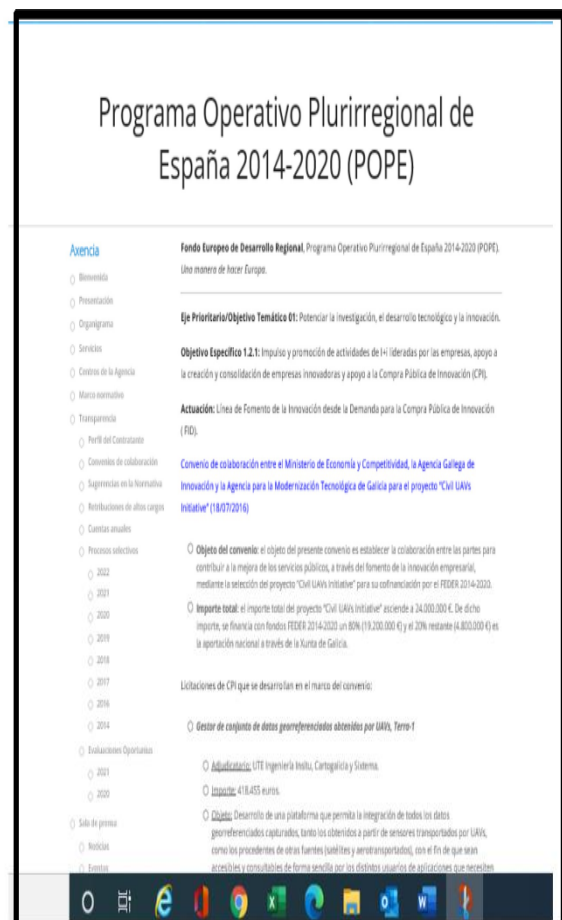
To this end, several public events **such as workshops and presentation days** were organized during the 2016-2020 period, with a total attendance of more than 1,100 persons. The situation generated by COVID-19 throughout 2020 prevented the organisation of a large number of events in the planned format, to communicate the projects' final results, at closure.

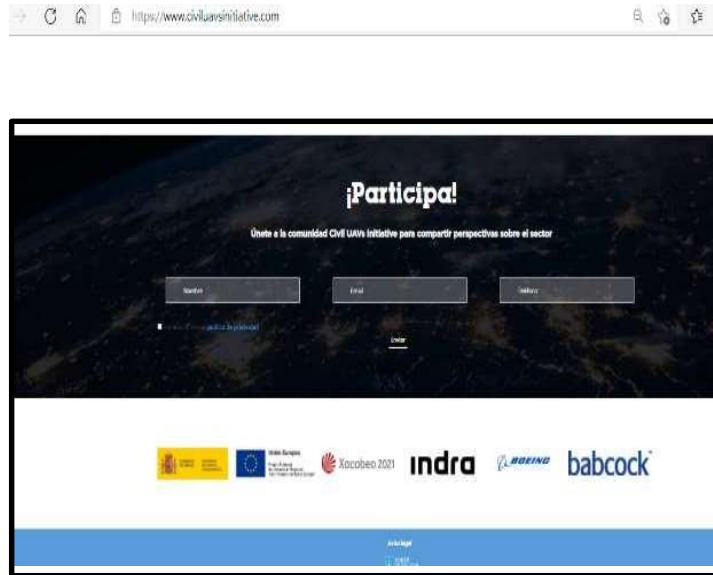


Two technical forums were held in which companies and research centres developing innovative products and services exhibited their scientific-technical results in the different *Civil UAVs Initiative* projects co-financed with ERDF funds.



Another route followed to disseminate ERDF co-financing of this project was through GAIN's **website** in the corresponding European funds section, as well as, on the website created for the initiative (<https://www.civiluavsinitiative.com/>).





The project was also presented on **social networks** such as Twitter, Facebook and Instagram; to which news related to the ERDF funded projects of the Civil UAVs Initiative were uploaded.



To reach a larger audience, the talks given by participating managers and technicians when presenting objectives and results were recorded and published on Internet video platforms such as **Vimeo or YouTube**

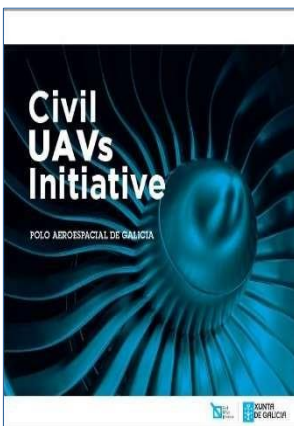
Insofar as the dissemination of the initiative through press releases and news in the media is concerned, both printed newspapers and those published digitally on the Internet were used:

Dissemination was also done through announcements of the tenders on the Public Contracts Platform and in the Official Newsletters and Journals. These announcements included information on the European co-financing of the project.

The events organised included different supportive elements such as posters, leaflets, and serigraphs



A brochure was published in Spanish and English to inform citizens about the main objectives of the initiative co-financed with ERDF funds, and promotional material was distributed to the public during the events held.



## 2. The action incorporates innovative elements.

The actions co-financed with ERDF funds within the framework of the *Civil UAVs Initiative* incorporate innovative elements with regard to the products and services developed, as well as, a novel contracting instrument: Public Procurement of Innovation, which implies the acquisition of innovative solutions heretofore unavailable in the market, to improve provision of public services.

The products and services developed within the *Civil UAVs Initiative* incorporate a high degree of innovation because they are based on the use of unmanned vehicles, both aerial (drones) and aquatic, to achieve new applied benefits such as precision mapping of the Galician territory in less time; rapid information gathering on the most common pests that affect Galician forests to facilitate treatment of the affected trees; new economic and efficient ways of ensuring that fire safety strips around urban centres are free of vegetation, deployment of drones or unmanned boats in emergency alerts at sea so that these vehicles reach points where manned air or aquatic vehicles cannot reach; etc.

## 3. Adequacy of the results obtained to the established objectives

The results fully accomplished the objectives set initially, since innovative solutions were achieved for improving the provision of public services by making them more modern and efficient. In addition, the impact of the innovative services and products developed with ERDF funds benefit the entire Galician population because they affect different high impact areas in the region, such as control and safety of the fishing fleet, control of maritime and inland water quality, forest management, land use

planning, etc.

Moreover, the European funds also benefited companies, many of them Galician SMEs, which participated in the development of the innovative products and services. These will see their position in the market strengthened due to backing by the Galician public administration as their first client purchasing these solutions.

#### **4. Contribution to the resolution of a problem or weakness detected in the territorial scope of implementation.**

The innovative solutions developed within the framework of the *Civil UAVs Initiative*, based on the use of aerial and aquatic unmanned vehicles, address a number of needs identified by the different autonomous departments and introduce important improvements in the provision of public services in different areas such as: territorial planning, fire prevention, search and rescue at sea, forest management, water quality control, etc., health emergencies along the Camino de Santiago, detection and phytosanitary treatment of forest pests, control of fishing tackle and gear, inventory and cataloguing of cultural assets, planning of routes and itineraries of interest, intervention projects, development and evaluation of urban planning, development of territorial planning instruments. Control of the legality of the buildings, infrastructure planning, public transport planning, hydrological planning, study and control of land use evolution; automatic detection of land-use changes.

For example, a solution based on drones has been developed to assist pilgrims suffering from cardiopulmonary arrest along the Camino de Santiago, thereby improving diagnosis time and assistance with a defibrillator, by guiding companions through a video-conference system, to perform cardiopulmonary resuscitation manoeuvres.

In the aquatic field, different innovative solutions based on aircraft and unmanned vessels have been developed to reinforce maritime safety of the Galician fishing fleet through a system that enables early detection of emergency alerts and improves rescue conditions in case of mishaps.

The control of fishing vessel activities has also been improved through a fisheries monitoring system that checks compliance with the working conditions of vessels. Moreover, this solution can be used for actions to detect and control poaching at sea.

Other innovative solutions developed based on drones are applied to the improvement of forest management, more specifically, for automatic identification of tree species and treatment of the main pests that affect pines and eucalyptus; detection of abandoned forest areas and automatic monitoring of fire-fighting strips in Galician forests, particularly in security areas around urban centres.

Other projects carried out, in this case with the participation of Boeing Research and Technology Europe (BRTE) were focused on finding solutions to the main contingencies that unmanned aerial vehicles may face, and proposals have been developed to automatically manage these critical situations, such as loss of communication with the base station or loss of engine power.

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

Considering that the solutions will be applied to a wide range of public services, as already explained in the previous point, a sizeable part of the Galician citizenry as a whole will benefit. For example, inhabitants from all urban centres in the region will benefit from drone monitoring of the fire-fighting strips in Galician forests, to maintain safety zones around urban centres.

Another aspect of interest for public managers was the effective dissemination to all citizens, of the direct benefits generated by the innovative solutions produced in the projects, thanks to the support received from the ERDF. Hence, in order to inform and open participation to all stakeholders, different public events were organized such as workshops, information days, public presentations, etc. and these events were given as much publicity as possible through the different media and social

networks and also by email, so that anyone could attend, with prior registration.

The activity generated by the projects was also used to arouse the scientific vocations of students, especially adolescents. To this end, participating companies with greater attraction capacity, such as Boeing, developed outreach and dissemination activities among young people.

Among the activities carried out, were the so-called "Newton Classrooms", which are specialized rooms for the acquisition of knowledge and skills in the fields of Science, Technology, Engineering and Mathematics (STEM). During a three-week period from October to November, 2019, 339 Secondary School students from the province of Lugo attended training sessions and enjoyed this innovative didactic initiative that also had a flight simulator. These facilities received 835 visits from the general public.

## **6. Consideration of horizontal criteria for equal opportunities and non-discrimination, as well as social responsibility and environmental sustainability.**

A specific website was created to ensure management transparency and universal access to information on the actions of the Initiative co-financed with ERDF funds. Besides offering information on the different innovative technological solutions developed in the Initiative, this website contains a section to announce the new job opportunities in project participating companies; another section contains actions that promote scientific and technological vocations of the youth population; while still another, provides information on the training offer in the region (higher cycle of Vocational Training, Bachelor's or Master's Degree) related to the aerospace sector.

The protection of the Natural Environment has been exemplified in the case of the Eurasian curlew, a bird in danger of extinction, because a few pairs have chosen the vicinity of the Rozas Aerodrome (Lugo) as their only breeding place in Spanish territory. The activity of researchers from the University of Santiago de Compostela has been financed, who, in collaboration with technicians from the regional administration, have designed a program to monitor, protect and promote the scarce reproductive activity of the Eurasian curlew in Spain. The public procurement guidelines and rules were used in the specifications of the recruitment processes, thus incorporating inclusive clauses that promote equal opportunities by inclusion of workers with disabilities in the teams, as well as, conditions to enhance equality and non-discrimination, wherein companies holding the Galician Brand of Excellence in Equality were valued positively.

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

The projects we have referred to in this report are part of the *Civil UAVs Initiative*, a strategic initiative of the Xunta de Galicia for the development of the aerospace sector around the Galician Aerospace Hub. The concrete objectives pursued are the industrial development of Galicia by fostering a new high-tech (aerospace) sector; the promotion of innovation among the Galician industrial fabric; the introduction of improvements in the provision of public services; the provision of support to knowledge centres and universities; and job creation.

The Civil UAVs Initiative is structured as different action programs whose results complement each other, with a view to achieving the objectives pursued. The actions referred to in this report, which have been co-financed by ERDF funds, are part of the *Innovative Solutions Program*. They are also part of the initiative of other programs such as: *R+D Program* (public-private partnership that has mobilised €115M), *Infrastructure Program* and *Entrepreneurship Program*. To date, the implementation of these programs represents a sum total public-private investment of €165M.





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