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MINISTERIO DE HACIENDA Y FUNCIÓN PÚBLICA
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Actuaciones Cofinanciadas

Infrastructure and equipment project for the creation of a CIAR Airborne Research Center

National Institute of Aerospace Technology

Programa Operativo Plurirregional de España

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Infrastructure and equipment project for the creation of a CIAR Airborne Research Center (hereinafter CIAR)

Rozas Airborne Research Center (CIAR) is located in Castro de Rei, Lugo. The creation of this Center is a joint initiative of the National Institute of Aerospace Technology "Esteban Terradas", the Xunta de Galicia through the Galician Agency for Innovation and the Galician Institute for Economic Promotion and the Ministry of Economy and Competitiveness (currently Ministry of Science and Innovation).

CIAR project is framed within the agreement between the Ministry of Economy and Competitiveness (currently the Ministry of Science and Innovation) and the National Institute of Aerospace Technology "Esteban Terradas", with a total budget of € 5,720,000, co-financed by 80% (€ 4,576,000) with the European Regional Development Fund (ERDF), through the Multiregional Operational Program of Spain (POPE) 2014-2020.

Within the framework of this program, it has opted to promote the Public Procurement of Innovation (PPI) as a tool to ensure that the Airborne Research Center has become a pioneering Test Center where not only the Aerial Platforms for Research (PAI) are integrated but also the new developments with remotely piloted systems or UAS (Unmanned Aerial System).

The project consists of providing innovative instrumentation, technology and services for the creation of a Test Center for manned and unmanned aircraft. With this, research, certification and qualification tests can be carried out (efficiently and safely) on these aircraft, their systems and airborne subsystems (which are incorporated as work tools for different applications both in the field of R&D&I as well as new technological developments). With this action, co-financed by European Funds, a unique Center in Europe has been achieved thanks to its infrastructures, facilities, technology and innovative services offered to users of the Center (public and private entities, companies, SMEs, universities, etc.). It is worth noting the improvement of the area and the creation of high-quality employment.

During this period, CIAR has had 127 days of testing unmanned systems of different types, from different companies and public bodies (INDRA, Babcock, Boeing, Universidad de Santiago, SCR, Aeromedia, INTA, FUVEX, Correos, etc.) , trainees thanks to the Collaboration Agreement with CIFP of As Mercedes of the Aeromechanics Course, different users for research into the study of data comparisons with our instrumentation, visits by different students from the Galician Universities, Vocational Training, compulsory secondary education, high school, to take an interest and study the capabilities and potential of this Center and also, Events, Conferences, Workshops…

We consider this project to be a good practice due to the following:

1. The action has been conveniently disseminated

We consider that it meets this criterion and that the ERDF role in the action has reached citizens and the entire set of companies and public and private, national and international organizations.

The European aid received is reported on the INTA institutional website: https://www.inta.es/INTA/es/feder/ and also on the website created for the project: https://www.inta.es/CIAR/en

Illustration 1.1. INTA website: https://www.inta.es/INTA/es/feder/ (Space dedicated to the publication of projects subsidized with ERDF funds). 1.2. CIAR website: https://www.inta.es/CIAR/en/ (Space dedicated to the dissemination of CIAR).

In addition, permanent boards have been placed in the different infrastructures of the Project, where the ERDF co-financing is disseminated:

Illustration 2: ERDF advertising boards, infrastructures, instrumentation and services that all who visit the facilities can see.

Also, in order to expand the dissemination measures, a video was prepared. The video clearly informs that the Project has been possible thanks to the contribution of the ERDF, which has co-financed it with 80% of the total Budget. The video can be viewed on Youtube, URL https://www.youtube.com/watch?v=da4jqHh-Cqs , on the CIAR Project website, and on social media such as Twitter and Facebook.

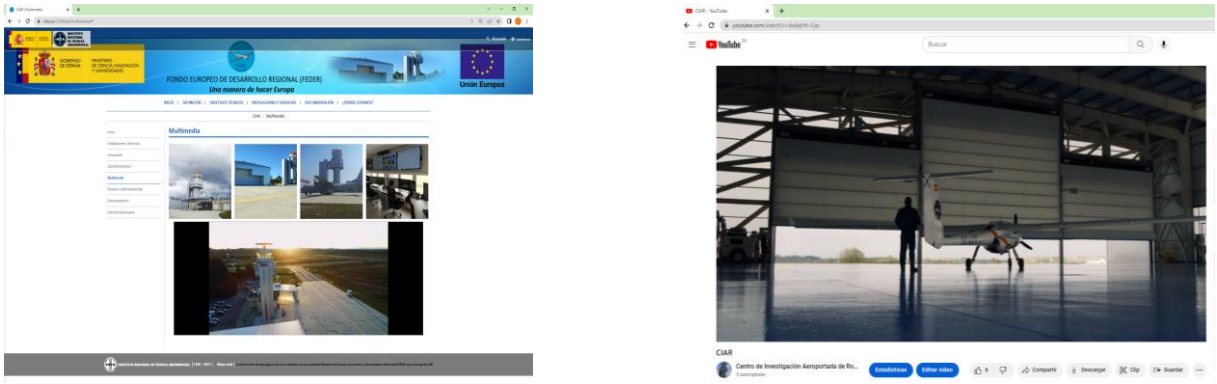

Illustration 3: CIAR video on web and social media

In addition, the "Opening Ceremony" has been carried out, published by different media (radio and press) to reach the largest possible number of public. It was divided into two parts:

- The open days on December 10th and 11th, 2019 for general public, duly publicized in the press and on social media. This action was aimed so that interested people could see the TestCenter and have knowledge of the potential of CIAR and European co-financing so that this project could be carried out.
- The official Inauguration Act on December 18th, 2019 with participation of all the official organizations that participated in the implementation of CIAR, as well as companies in the sector, universities, authorities of the state administration, authorities of the regional administration, local authorities, foundations, public research organizations, educational centers, etc. The opening ceremony of CIAR was attended by 189 people and there were guided visits to the Center, to show all the social agents in attendance the achievement of the Project.

Illustration 4.1. Dissemination during the open day in the CIAR Room Illustration 4.2. Official Inauguration Act

The Center's capabilities and financing through ERDF funds have been the basis of communication in different media used to publicize the event and to cover it. The opening ceremony was covered by the following media during the event: TVE, Agencia EFE, TVG, RNE (Lugo), Radio Galega, La Voz de Galicia and El Progreso.

The action has been disseminated in 59 events held with an average of 50 people per event, through the media (web news, press releases, promotional video, radio, social media ...), publications of leaflets, book, international journal, BOE and OJEU (of the whole procurement process). Illustrations 5 and 6 are shown as an example.

Illustration 5:International journal article "Aerospace Testing International"

Illustration 6:El mundo, 17.12.2019, Internet advertising Banner

Finally, the preparation of merchandising was commissioned, containing the slogan and emblem of the European Union, to offer as a souvenir to the visitors of the Center, which since its inauguration has increased in number, and has already been visited by different groups of students from universities, schools, public and private companies. Illustration 7 is shown as an example.

Illustration 7: Some merchandising items

2. The action incorporates innovative elements.

It should be noted that the procurement instrument used has been the Public Procurement of Innovation (PPI), which implies, in itself, acquiring R & D & I (Research, Development and Innovation) solutions to obtain innovative services for future users of the testing facilities and instrumentation, as well as to improve the performance of the Center to make it a national and international reference. All the cutting-edge instrumentation and equipment installed incorporates technological solutions and R & D & I based on systems, which exceed those currently available in the market. Regarding technology and innovative services for users, we highlight:

Shared airspace management system for manned and unmanned aircraft with a specific simulation tool.

Control center, which has a secondary surveillance radar, integration software for all the Center's data sensors, data recording and visualization systems, support for flight planning and test operations using innovative software consisting of in a series of tools to reduce the time required to prepare the instruments necessary for the tests.

Weather service that helps to plan flight tests by providing real-time data and 24- and 36-hour forecasts.

An innovative communications system, since Voice over IP technology has been adopted.

Illustration 8.1: Control tower 8.2. Innovative Weather System

Illustration 9.1. Control center. 9.2. Antenna tracking system

The set of innovative technology, its innovative services offered to potential users, the infrastructures designed for this type of tests and the location free of commercial air traffic and free of electromagnetic elements makes CIAR an innovative Test Center.

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

The established objectives were based on the need to create a Test Center for Unmanned Aerial Systems where tests could be carried out in a safe environment, as well as to strengthen the aeronautical industry in the area.

The planned objectives have been fully achieved, thanks to the ERDF funds received, achieving a Test Center for Unmanned Aerial Systems unique in Europe. It is interesting to note that thanks to this action, the activities and potential of unmanned aircraft applications, as a new industry and as work and R & D & I tools, have been shown, leading to the development of approaches to risk prevention in many areas of manned aircraft, risk minimization in certain sectors, and new lines of application development in all areas of R & D & I on remotely piloted aircraft. With this project, it should be noted that society's perception of this type of aircraft in civil applications has been improved, and it has contributed to seeing this field of development and research as something useful for society in general. Not only will this allow to create quality employment with local resources, but also it will permit personnel's qualification through internships of students from Universities, Vocational Training Centers, etc.

4. Contribution to the resolution of a problem or weakness detected in the territorial scope of execution.

It was detected that there was neither in Spain nor in Europe a specific center to carry out tests with unmanned aerial systems in a safe, efficient manner and that met a series of fundamental characteristics regarding to the integration of test data information. With this center specialized in these works in a safe environment and supported by innovative instrumentation and services, users are provided with data from meteorological instrumentation, operational safety, aircraft performance and their sensors, as well as the future need of qualification and certification of those aerial systems and their sensors.

This project favors local development since the regional administration has invested in the area to promote this industrial development, together with INTA Center. Thanks to ERDF funds, it has been possible to have a reference center at the European level in Galicia.

5. High degree of coverage over the target population.

The set of all the communication actions carried out ensures a high degree of coverage on potentialusers interested in using the center: specialized companies for unmanned aircraft (developers, manufacturers and operators), national and international, personnel interested in the world of aviation, students, especially of aeromechanics course and aeronautical engineering degree and general personnel in the area have been able to be informed of the new infrastructure and its possibilities for innovative services, as well as public and private organizations in this field that can take advantage of the services that offers the Center for improvement and development in different fields where society in general will be benefitted from the use of unmanned aerial systems and their applications such as emergency control, maritime surveillance, fire surveillance, environmental studies, as tools for work in height conditions where safety before was at risk, in natural disasters, topographic studies, crop studies, pest studies, etc.

With the publications for the achievement of the CIAR as a Test Center carried out in the Preliminary Market Consultation and the Bidding Documents in different Official Bulletins: BOE, OJEU, we have reached all companies and public and private organizations to participate in the Public Procurement of Innovation process.

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

All companies have been able to participate thanks to ERDF Funds at regional, national and European level. All tenders that have been executed in this project have been published following the provisions of the Spanish Regulation 9/2017, of November 8th, on public procurement, which requires compliance with the criteria of equal opportunities and non-discrimination.

In all different communication actions, equal opportunity criteria have been rigorously taken into account, avoiding the use of a sexist language, discrimination and bearing in mind both the male and female population, both being the target groups of the communication actions. An example is the female voice-over of the promotional video. The start-up of the Rozas Airborne Research Center was carried out by four women and today it is managed by a woman.

Environmental sustainability (requirements of published tenders) has also been met, by reducing environmental impacts, improving the area, protecting the environment, etc. As an example, we have reached an agreement with the Department of Environment of Xunta de Galicia, where we are committed to the conservation of the environment to promote the breeding of a protected bird (Curlew) that nests in the airfield where CIAR is located, facilitating at all times to the Biologists of the University of Santiago their work of field study.

7. Synergies with other policies or instruments of public intervention.

The project has evident synergies with the Civil UAVs Initiative (CUI) project, a pioneering strategic initiative in Europe, also co-financed by European Funds, promoted by the Xunta de Galicia with the support of INTA, which aims to attract investments in the aerospace sector and develop the industry of systems and unmanned vehicles aimed at improving the provision of public services in the civil sector, and with the Business Factory Aero (BFAero), an accelerator of the aeronautical and unmanned vehicles sector in Galicia, that is open to innovative, viable and scalable entrepreneurship projects in this field, where CIAR, through INTA, has signed a collaboration agreement. We have collaborated with these Initiatives and with projects of Universities (Vigo, Santiago), allowing the celebration of several events in our facilities where the financing through the ERDF funds is publicized throughout the Infrastructure and in the presentations of the Center when they come to visit it or to carry out some activity or act.

All of this is aimed at the industrial development of Galicia in the field of unmanned aerial systems, the promotion of innovation and technological development, collaboration with research centers and universities, and as a result of the above, the creation of quality employment, qualified in Galicia and particularly in Lugo.

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