GOBIERNO DE ESPAÑA
MINISTERIO DE HACIENDA Y FUNCIÓN PÚBLICA
SECRETARIA DE ESTADO DE PRESUPUESTOS Y GASTOS
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BUENAS PRÁCTICAS
Actuaciones Cofinanciadas

SMartiago Project
(Concello de Santiago de Compostela)

Programa Operativo Plurirregional de España

Año 2022

Fondo Europeo de Desarrollo Regional

GOOD PRACTICE REPORT OFTHE "SMARTIAGO PROJECT"

The action "SMARTIAGO PROJECT (CONCELLO DE SANTIAGO DE COMPOSTELA)" is presented as a good practice.

The SMARTIAGO project is carried out in development of the agreement signed on 4 December 2017, between the then Ministry of Economy, Industry and Competitiveness (now, Ministry of Science and Innovation) and the City Council of Santiago de Compostela, for the SMARTIAGO project, which has a total budget of 6.180,000 euros, 80% co-financed, €4,944,000 with the European Regional Development Fund of the European Union, Line for the Promotion of Innovation from the demand side, under the Multi-regional Operational Programme of Spain 2014-2020, being the City Council of Santiago de Compostela the beneficiary of the programme.

It is also co-funded by 10% by the Galician Innovation Agency (GAIN) of the Xunta de Galicia, on the basis of the agreement signed on 26 August 2019.

This is a Public Procurement of Innovation Project (PPI), a pioneer in Spanish city councils and the first in a UNESCO Heritage City, led by the City Council of Santiago de Compostela, through which innovative and technological solutions are sought, sustainable and continuous over time to respond to the future needs of public services in this Heritage City, with a marked national and international tourist influx.

The City Council of Santiago de Compostela is looking for solutions to respond to the needs of its citizens, through the development of solutions that are not yet commercialised to define the city's mobility strategy and rationalise the current last mile logistics services (final distribution), to define a new decentralised model for the collection and treatment of the organic fraction of solid urban waste and to enhance the historical heritage through lighting, combining the principles of energy saving and heritage conservation.

These three objectives will be achieved through the development of an intelligent urban mobility solution (Smart mobility), which favours more fluid mobility, the development of an intelligent container for the collection of the organic fraction of solid urban waste (SUW) and the development of an intelligent ornamental lighting system with the capacity to curb the appearance and growth of biofilm, which causes the deterioration of the city's historical and heritage elements. Biofilms are communities of microorganisms that grow attached to an inert surface (as in this case, granite stone) or living tissue, creating resistance and posing a danger in terms of hygiene and safety in different environments. In the case of granite façades and surfaces, their colonisation leads to deterioration that requires periodic cleaning, which is aggressive towards the monuments and also has to be carried out periodically because the micro-organisms grow back.

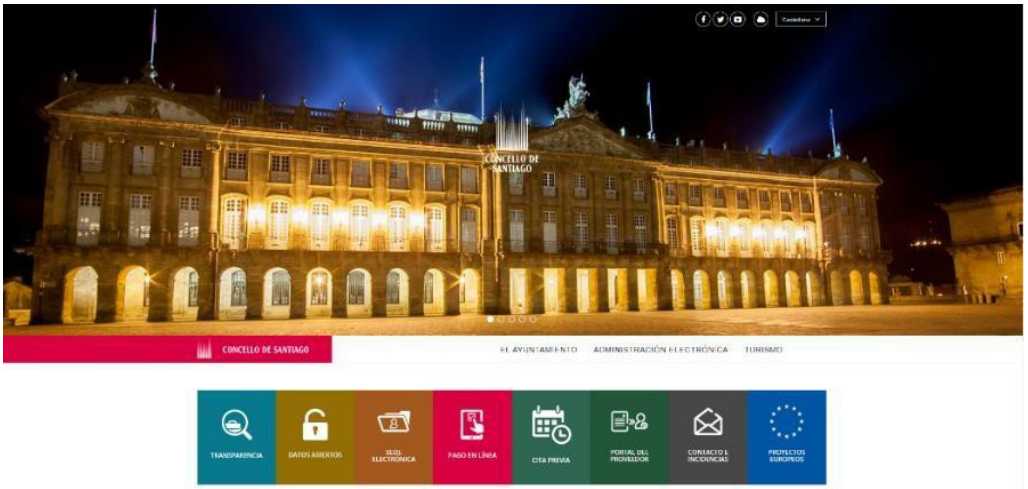
Two livings labs or testbeds and experimentation environments have also been created where users can co-create innovations, in terms of promoting pedestrian mobility and last mile logistics.

Criteria for good practice

1. The action has been adequately disseminated to beneficiaries, potential beneficiaries and the general public.

The contribution of ERDF funds was decisive for the realisation of this innovation project. All the solutions developed in the framework of the project have been advertised with the appropriate structure according to the regulations governing the information of the ERDF Community funds that co-financed the project. Each and every one of them was placed in a visible place, either a sticker or a plaque, depending on the physical space available in each of the elements, referring to the funds supporting the operation.

In addition to complying with the regulatory requirements in terms of communication, the City Council of Santiago de Compostela has publicised its status as a beneficiary of ERDF funds by placing information plaques in its facilities, as well as information on the aid



received on its websites, both on the website of the City Council itself (beneficiary: http://www.santiagodecompostela.gal/) and on the specific website of the project (https://smartiago.santiagodecompostela.gal/).

Illustration 2. Santiago de Compostela City Council website

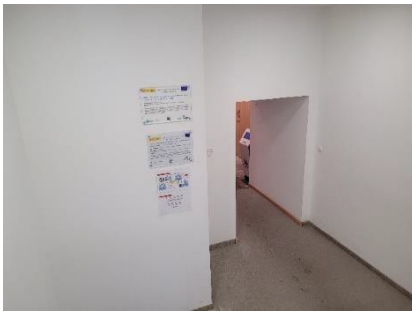


Illustration 3. Information plaque on Municipal ffices

Illustration 4. Information plaque on Municipal Offices

Illustration 5. Information plaque Challenge 1 Mobility

Illustration 6. Information poster Challenge 1 Mobility

Illustration 7. Information poster Challenge 1 Mobility

Illustration 8. Challenge 1 Mobility Information Board

The importance of ERDF support for innovation and technology projects in order to be more competitive was also reported in the press in several articles.

Similarly, the progress of the project, as well as its funding, has been disseminated through the most relevant social networks:

- Facebook: https://www.facebook.com/Smartiago
- Instagram: https://www.instagram.com/smartiago_/?hl=es
- Twitter: https://twitter.com/Smartiago_
- YouTube channel: https://www.youtube.com/@smartiago3428

Illustration 9 Project Facebook profile

Illustration 10 Project profile on Twitter

The Smartiago project was also disseminated through different face-to-face and online events during the pandemic period, such as the presentation of the Preliminary Market Consultations, held in person and attended by 130 people, the presentation of the autonomous electric vehicle at the Green Cities and S-Moving Fair, held in person and attended by 60 people (at the stand with an interest in the vehicle, with thousands of people attending the fair), the Smartway presentation event, held in person and attended by 30 people, and the Smartway presentation event, held online and attended by 30 people, held in person and attended by 60 people (the stand was attended by thousands of people interested in the vehicle), the Smartway presentation event, held online and attended by 30 people, and the final event of the Smartiago project. Face-to-face.

Attendees: 42.

Illustration 11 Final event of the project

In addition, in order to further disseminate the project, nominations were submitted for various European innovation awards, including being a **semi-finalist** in the European Innovation Procurement Awards (organised by the European Innovation Council, in the Innovation Procurement Strategy category) and in the 13th edition of the @Aslan Awards for digitisation in public administrations, in the IoT and sensorisation category. The project **won** the Procura+ Awards in the Innovation Procurement of the Year category (organised by Procura+ Network).

2.The performance incorporates innovative elements

The innovative elements that are part of the Smartiago project contribute to the improvement of public services for the citizens of Santiago de Compostela in the areas of solid urban waste (SUW), mobility and ornamental lighting, through the implementation of solutions based on research and development (R&D), using public procurement of innovation (PPI). The City Council of Santiago has combined innovative technological solutions with the development of technologies that are not yet available on the market in three areas:

1. Municipal solid waste: whose objective is to achieve a decentralised deposit and treatment model for the organic fraction of waste through an intelligent waste collection system, which characterises waste in real time, with prediction of container filling and container opening via wireless communications.
2. Mobility: with the aim of rationalising the current model for loading and unloading goods, especially in the historic centre. To this end, a technological solution for Smart mobility has been developed, consisting of the development and installation of elements in the heritage environment, without damaging or modifying it, which

will make it possible to control the weight of delivery vehicles, automatically control all the accesses to the heritage city, predict the conditions of influx of people or traffic and predict the levels of environmental and noise pollution from combustion vehicles.

Similarly, within this vertical, autonomous electric vehicles have been developed for last-mile logistics, in other words, for last-mile delivery to the final recipient, which will be tested within the framework of a living lab created on this subject, as well as a digital twin, i.e. a virtual simulation of an environment, dealing with pedestrian mobility in the city at a general level, which will also have a test bench open to the ecosystem in another living lab or experimentation environment.

3. Lighting: With the aim of enhancing the value of heritage, combining the principles of energy saving and heritage conservation. To this end, biostatic LED lighting has been developed that inhibits the growth of microorganisms on the façade of heritage elements, saving on maintenance costs and improving their conservation.

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

Through these actions, direct benefits are achieved for the citizens, who will see their quality of life improved in terms of mobility in the municipality, waste management, reduction of atmospheric emissions, as well as contributing to energy saving and improving the environment, especially with regard to the conservation of historical heritage.

4 Contribute to the resolution of a problem or weakness detected in the territorial area of implementation.

The project presented responds to several weaknesses detected in the city of Santiago de Compostela, where mobility problems converge due to the fact that the historic centre houses pedestrians and vehicles in its narrow streets, in addition to a high influx of tourists and pilgrims concentrated in a few streets and squares and a disorderly use of loading and unloading spaces in the heritage city; in terms of solid urban waste, as the city started from a very poor percentage of separation for recycling (13%) and very far from the targets set by the EU for 2030 (50%); as well as in terms of lighting, as specific needs became relevant for the historical heritage of the municipality, as the biological colonisation of the heritage facades (mosses and algae) deteriorated them and made maintenance and cleaning much more costly, as well as contributing to the deterioration of the monuments due to their aggressiveness.

Therefore, the actions have contributed to reversing these situations and improving sustainable mobility, facilitating traffic and allowing the integration of delivery vehicles and pedestrians in the same area, as well as providing sustainable lighting that contributes to the conservation of the city's characteristic heritage, preventing its deterioration.

5. High degree of coverage of the target population.

The action not only covers the needs of the urban agglomerations of Santiago de Compostela as a whole, but also contributes to the improvement of the state of the city, and specifically of its historic centre, the main tourist attraction, which is visited by more than 3 million tourists every year, which increases the degree of coverage achieved by this action, which goes beyond the isolated benefit of the inhabitants of the aforementioned municipality.

Failure to carry out this type of action would seriously affect the quality of life of the residents of Santiago de Compostela, as well as the generation of environmental problems related to the inadequate separation of solid urban waste, greenhouse gases associated with unsustainable mobility and the deterioration of façades and historical-artistic monuments due to the biological colonisation that covers them.

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

The implementation of this action has taken into account environmental sustainability criteria as mentioned in the previous sections, in which special emphasis was placed on the contribution in terms of reducing mobility with polluting vehicles, in terms of waste management, as well as contributing to energy saving and improving the environment, in line with current regulations on environmental quality.

Through the implementation of the action, the horizontal criteria of equal opportunities have been taken into account, as it benefits the entire population of Santiago de Compostela without any discrimination, and as an example of this, access to information on the action has been facilitated for all citizens, through dissemination on websites and the most widely used social networks.

In the same way, the implementation of the Smartiago project has had the orientation to the citizen as a central argument, since it means an improvement in the services and benefits of social and environmental content for the citizens, so that in addition to the search for direct benefits on people, such as the promotion of positive environmental results with all that this entails, the objective of the project's three lines of action, the achievement of stakeholder satisfaction, or the reduction of public spending, they seek other indirect and reputational benefits such as those urged by the European Parliament of a social and environmental nature, which correct market imperfections.

Another of Smartiago's objectives was to attract companies and talent to the city with high added value by focusing on technology and innovation developments, which has resulted in the creation of innovation ecosystems that will now be continued through the living labs that have been set up.

Therefore, through the Smartiago Project, social and environmental goals have been achieved, providing citizens with more advantageous services in terms of value for money to meet their demands, which will allow a series of savings in the entity that can be used for other initiatives, including those of a social nature.

7. Synergies with other policies or instruments of public intervention

In terms of synergies with other policies, these actions also contribute to the fulfilment of the different actions envisaged in Galicia's innovation policy, as defined in the Smart Specialisation Strategy, which includes a specific instrument to promote CPI within the Galicia Transfire programme, with the aim of stimulating the capacity of Galician public administrations to purchase knowledge-intensive products and services.

This action also reinforces the investment made by the Xunta de Galicia, in the actions for the promotion of Public Procurement of Innovation by the various public entities of the Autonomous Community of Galicia, to identify, select and finance R&D&I actions that contribute to the achievement of new improvements in public services used by the population.

On the other hand, several of the actions developed within the framework of the project have been the seed of new innovation policies within the City Council of Santiago de Compostela. Thus, the combination of the Smart mobility, digital twin and autonomous electric vehicle projects have been the seed of the future Last Mile Mobility Strategy of the city, which aims to create a logistics centre for last mile goods delivery in the crown of the historic city and which will use vehicles that are more respectful of the environment and the historical and artistic heritage for deliveries.

On the other hand, the Cromalux project (intelligent lighting) will be part of the new ornamental lighting actions in the Historic City, also serving to illuminate the monuments in the old part of Santiago de Compostela, to prevent their deterioration and prolong the phases of aggressive maintenance that must be used to eliminate the biological colonisation that populates the granite façades of the city's monuments.

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