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BUENAS PRÁCTICAS

Actuaciones Cofinanciadas

NEUROCITY. ISUD STRATEGY CAPACITAT

Sant Boi de Llobregat City Council

**Programa Operativo
Plurirregional de España**

Año 2022

Fondo Europeo de Desarrollo Regional

GOOD PRACTICE ISUD STRATEGY CAPACITAT CITY COUNCIL OF SANT BOI DE LLOBREGAT

PERFORMANCE: TOWARDS A SMART AND SUSTAINABLE CITY MODEL

This **Good Practice has consisted in a platform to improve mobility in Sant Boi** as the first step towards a smart and sustainable city model, **in order to position citizens at the centre of the sustainable city strategy**, providing technological solutions to improve life, and transforming the city into a more habitable and healthier environment. The operation has received the name of NEUROCITY and was part of Thematic Objective 4: Promote the transition to a low-carbon economy.

Transport and mobility represent 48% of the total emissions of Greenhouse Gas (GHG) of the municipality, being the main carbon emitting sector. An improvement in traffic flow has enabled a reduction in GHG emissions in the sector and favoured the transition to a low-carbon economy.

With this operation completed and running, an application has been created for the intelligent management of mobility and an analysis platform for the data received from the regulators, which allows traffic to be managed in real time and predictive analytics to be done. The regulators, which are cameras installed in traffic lights, count the number of vehicles and measure speed, allow remote control of the main traffic entrances and exits in the city, and be able to influence or divert traffic in the event of contingencies due to emergencies, or natural catastrophes, or of any other type.

The deployment of the fibre optic canalization to connect most of the traffic light groups in the city has also been completed and the work has been used to create and signpost new sections of bike lanes.

In addition, a remote monitoring system for energy, temperature and humidity consumption has been supplied and implemented in various municipal buildings, which allows the automatic collection of consumption data recorded in the field, sending data to a storage centre and its management through a software application.

Finally, an information system has been implemented for the management of waste collection and street cleaning that provides data collection and management control through equipment on board vehicles and containers.

The acting **has had a cost of €1,800,000 and the co-financing aid from the ERDF has been €900,000**. The NEUROCITY operation, consisting of different projects, has had an impact **on the population of Sant Boi as a whole, a total of 84.584 people**.

The **criteria for identification and selection** of this Good Practice are the following:

1. THE ACTION HAS BEEN PROPERLY DISSEMINATED AMONG THE BENEFICIARIES, POTENTIAL BENEFICIARIES AND THE GENERAL PUBLIC

The platform for improving mobility in Sant Boi, consisting of various actions, is called NEUROCITY and is aimed at all the citizens of Sant Boi. Dissemination of its execution, its use and operation with the new inaugurated service has been made.

Regarding the regulatory **communication**, the announcements of contracting procedures and the administrative documentation of the files have been published on the website of the Contractor Profile of the Generalitat de Catalunya and in the DOGC (Official Gazette of the Generalitat de Catalunya) in relation to which the files are part of of the Capaci[u]tat project and is co-financed by 50% by the ERDF.

Regarding the actions of **communication to disseminate the activity**, during the construction, the work signs have been placed with their co-financing from the ERDF of the actions of this Good Practice, several permanent plates along the route, and the multi-service cabinets containing the sensors have been marked with the permanent plate design. Examples of construction signs, permanent plaques and fibre path sensor cabinets:



Multi-service cabinets for the traffic light sensors installed on the Ronda de Sant Ramon.

Has been communicated through the **website EDUSI Sant Boi** next to the emblem of the European Union and the motto "A way of making Europe" "<https://edusi.santboi.cat/2019/06/17/plataforma-per-a-la-millora-de-la-mobilitat-neurocity/>



It has also been disseminated in the **Viure Sant Boi municipal magazine**, published by the Sant Boi de Llobregat City Council, with a circulation of 34,000 copies, is distributed to all addresses in the city and has its electronic version in the [City Council website](#).

Specifically, reference is made to the action co-financed with ERDF in these editions:

Double central page in the [Viure Sant Boi in June 2019](#), describes the 2018-2022 projects co-financed with ERDF: Fibre optics for smart mobility management and smart city technology.



[Viure Sant Boi](#), June 2017

Reference to the improvement of mobility to combat climate change.



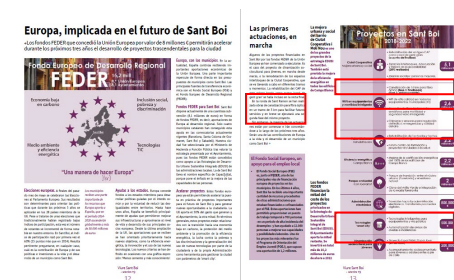
[Viure Sant Boi](#), March 2019

[Viure Sant Boi](#), April 2019.

Announcement of the beginning of the installation of the fibre optic network.



[Viure Sant Boi](#), September 2019



[Viure Sant Boi](#), February 2020

Communication of the NEUROCITY operation, what it consists of and the improvements it will bring to the city.

Social networks:

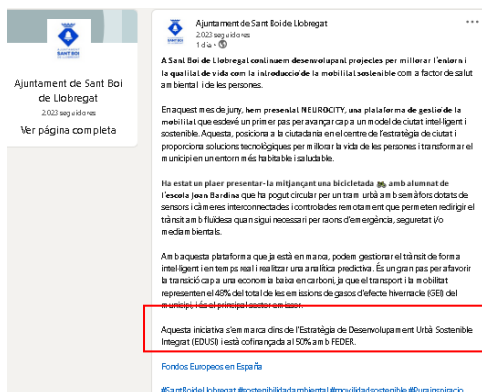
[YouTube](#), 06.19.23

Video of the bike ride with the students of the Joan Bardina secondary school with a tour of a route with interconnected traffic lights and an explanation of the platform for improving mobility as the first step towards a smart and sustainable city model.



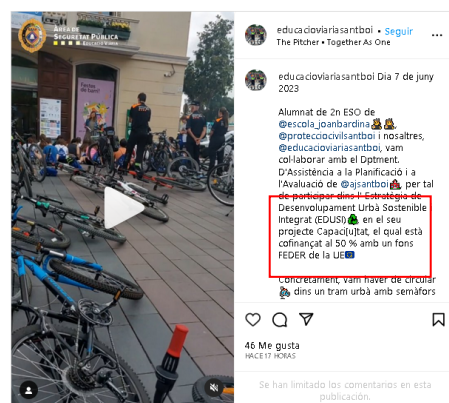
[LinkedIn](#), 06.21.23

Post from Sant Boi Town Hall about the action performed.



[Instagram](#), 06.07.23

Video posted from the Road Safety Team of the Local Police of the bike ride with students from the Joan Bardina School along a route with traffic lights connected with fibre optics.



Merchandising:

Recycled cotton backpacks and recycled plastic bottles.



2. THE ACTION INCORPORATES INNOVATIVE ELEMENTS

The main innovative element is the implementation of a connectivity model capable of supporting the different Action Plans derived from its city strategy, committed to improving public services and the quality of life of its citizens and their safety.

Another element of innovation is the data analysis platform or application that allows real-time traffic management, with remote control and predictive analytics, which will also provide information to citizens.

An extensive network of ducts has been installed with the aim of extending the fibre optic network, an essential condition to provide connectivity to all municipal facilities, not only referring to traffic, but also to equipment.

Regarding the laying of the fibre optic cable network, Phase I of the Telecommunications Network Deployment Project of the Master Plan has projected where to install this cable and a ring with the switches, and with this installation already finished it will be the beginning to grow towards a smart city.

It has been installed the multi-service cabinets that integrate inside: traffic light regulation, electrical connection, lighting, communications, irrigation system, etc. with the capacity to increase subsequent services, and which also improves accessibility on sidewalks, and public space in general, by freeing up different elements scattered in said spaces, concentrating on a single.

3. THE RESULTS OBTAINED WITH THE ACTION ARE ADAPTED TO THE ESTABLISHED OBJECTIVES

The City Council had made the strategic decision to turn Sant Boi into a smart and resilient city, and for this it was necessary to guarantee the continuity of critical services.

Prior to the action, there were several traffic light groups in Sant Boi, with 60 traffic regulators, fully operational, but all working in isolation and without any connection to a traffic control centre. With ISUD Strategy funds, it has been possible to address a qualitative leap in traffic management.

In the first place, an extensive network of ducts has been installed with the aim of extending a fibre optic network, an essential condition to provide connectivity to all municipal facilities, not only referring to traffic, but also including equipment.

In the future, this network will provide the necessary means for the City Council to do communications related to municipal services on it so that they can be provided in a modern, efficient, sustainable, reliable and healthy manner.

Among the critical services referred to, road safety and, in general, mobility based on reliable communications. For this reason, it was necessary to adapt the traffic management system and the communications network that supports it, to provide them with the required robustness, redundancy and flexibility.

Secondly, some regulators have been installed that will allow multiple functionalities in the future and that, in a single cabinet, will unify the traffic light and lighting connections, currently separated, the automated irrigation network, etc. And all of them equipped with a single protection and monitoring equipment, including the UPS.

In this first stage, the action has focused on the regulation of the Ronda de Sant Ramon. This equipment allows the optimization of road circulation facilitating the generation of green waves in one direction or another depending on the time of the day. Although in Sant Boi de Llobregat there are no major internal problems of road collapses, dysfunctions had been detected in the Ronda that could be corrected with better synchronisation of the traffic light groups, which these new regulators allow. The work has been used to create and signpost new sections of bike lanes.

With the extended fibre optic network, traffic cameras have been installed with different features: vehicle counting (capacity), licence plate control, incident display, etc.

With all this, it is possible to make a more precise management of public space, the use of which is optimised to dedicate it to the most priority uses for citizens.

Before the action, the City Council had a telemetry system for energy consumption in some municipal facilities. In this operation, the energy consumption monitoring system has been installed in 28 more buildings and has been expanded in 2 existing ones. Now there is a system for the remote monitoring of energy, temperature and humidity consumption, the automatic collection of consumption data registered in the field, the shipment to a storage centre and its management through an application of software.

The City Council has entrusted the provision of urban solid waste collection and street cleaning services since 1989, as well as the management of these services to the municipal company Corporación de Empresas y Servicios de Sant Boi, SA (Coressa).

With the intervention, a new Information System for the Management of Waste Collection has been provided that produces automated information on the service that makes it possible to control management both from the City Council and from Coressa and obtain information for improving services. It consists of equipment on board the vehicles that provide the service and in the containers to control the position, routes, emptying, weighing, cleaning, collecting incidents, work orders, etc., and provides automated service information for control and improvement of this management.

4. CONTRIBUTES TO THE RESOLUTION OF A REGIONAL PROBLEM OR WEAKNESS

Before executing the NEUROCITY operation, the City Council of Sant Boi de Llobregat did not have a connectivity model capable of supporting the different Action Plans derived from its city strategy, committed to improving public services and quality of life for its citizens and their security. In other words, the Urban Resilience strategy that the Municipal Corporation had adopted as a fundamental principle for the development of its Action Plans.

On the other hand, an improvement in the flow of traffic allows a reduction in Greenhouse Gases in the sector and favours the transition to a low carbon economy.

The Telecommunications Master Plan was conceived as one of the fundamental components on which the rest of the sectoral or vertical actions are based, providing the municipality's urban connectivity strategy for these actions and specifying technical solutions for short and medium-term needs.

To undertake these actions, the City Council had the need to complete the connection of its channelled telecommunications network, with the aim of interconnection by means of new technologies. Thus, the necessary actions have been performed in various strategic points of the city. This infrastructure has made it possible to have all the main roads connected and all those where there is a traffic light regulation, as well as the connection of the city's facilities.

With this connection made, a telecommunications system has been implemented for the management of urban mobility through sensors, which corresponds to a basic municipal competence, public roads, and which affects road safety, maintenance of public roads and road access to the urban nucleus, the organisation of public transport, the control of road discipline, and traffic control.

In other words, the increase in energy demand and the limitation of non-renewable energy sources, it was urgent to propose strategies to improve efficiency and energy savings with the aim of reducing the consumption of fossil and polluting energies. With the implementation of the new monitoring of energy consumption in municipal buildings, their consumption is obtained automatically and in detail, sent to a data storage centre and managed, prioritising and implementing saving measures.

And continuing the deployment of information systems for basic services, in waste management and street cleaning, it was also necessary to have the transmission of the positions of equipment and vehicles through communication and geographic positioning equipment.

In this installed electronic identification system by radio frequency, the receivers and transmitters are located in the same operating organs of the equipment and cannot be manipulated. The identification of the container network is obtained for all fractions and of the fleet of vehicles and machinery of the service, it allows the reading and identification of the containers at the time of performing a service. The identification of the containers is done in each service and is automated by the vehicles assigned to the collection services, including washing equipment. The information recorded through electronic equipment and on-board devices is received and stored to be consulted and processed in the database of the system, both for geopositioning of the fleet and for container identification.

5. IT HAS A HIGH DEGREE OF COVERAGE OF THE POPULATION AT WHICH IT IS DIRECTED

These actions are part of the NEUROCITY operation. The objective of this operation has been to reach all the citizens of Sant Boi, a total of 84,584 people.

Through the actions done to implement the completion of the laying of the fibre optic cable that now reaches all the neighbourhoods of the municipal area, all the citizens of Sant Boi de Llobregat have been favoured as a whole.

The supply and installation of telecommunications systems for the control of urban mobility, not only favours the fluidity of traffic and therefore the drivers and occupants of the vehicles and users of public transport, as a consequence it allows the reduction of greenhouse gases that improve air quality, noise, etc. of the whole city. In addition, it is a concrete improvement for residents of the densest traffic areas and has provided more accessibility by reducing elements on sidewalks, concentrating them in the associated multifunctional cabinets.

All the neighbourhoods of the city have equipment, now all equipped with the monitoring of energy consumption, this especially benefits all the users of these buildings.

With the new Information System for the management of waste collection and street cleaning, all the citizens of Sant Boi are once again covered, since this service is provided in all the city's neighbourhoods.

6. THE HORIZONTAL CRITERIA OF EQUAL OPPORTUNITIES AND ENVIRONMENTAL SUSTAINABILITY HAVE BEEN TAKEN INTO ACCOUNT

In the actions of the NEUROCITY operation, the general principle of equality between men and women has been taken into account and has been applied in a general way in all areas, especially in access to goods and services. The objective has been to have a real gender perspective throughout the process of the strategy and the European Funds, paying special attention to the existing gender gap. The communication strategy has also observed this principle, adopting a gender approach and using non-sexist language and images.

The principle of non-discrimination has been followed as a guarantee of equal treatment between people regardless of nationality, sex, race or ethnic origin, religion or convictions, disability, age or sexual orientation. Although it has been an operation aimed at improving the population as a whole in general, care has been taken not to discriminate against people or groups that could be excluded and vulnerable. Due to its nature, this operation has focused especially on sustainable development, through the implementation of transversal measures related to environmental protection, efficiency in the use of resources, mitigation and adaptation to climate change, resistance to disasters, prevention and management of risks. In this way, the NEUROCITY operation has contributed to achieving greater efficiency in the use of resources, saving energy and minimising the consumption of natural resources, decarbonizing the economy, mitigating and adapting to climate change.

7. SYNERGIES WITH OTHER PUBLIC INTERVENTION POLICIES OR INSTRUMENTS

It is linked to the priorities of the Urban Mobility Plan (2015), the Bicycle Master Plan (2010), the Urban Bicycle Strategy (2018) and the 2016-2019 Government Plan of the Sant Boi de Llobregat City Council.

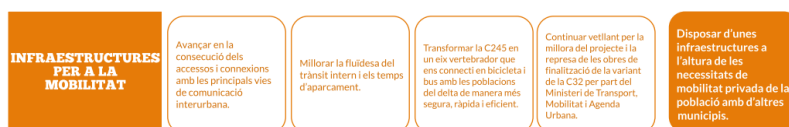
The NEUROCITY operation is aligned with the [City Pact](#), which was approved in plenary session on July 30, 2020 for a social and economic boost to Sant Boi. The City Pact has four Transformation Levers as transversal axes in the policies of the coming years, the third being: the social, economic and environmental sustainability of the actions in the future.

It is also aligned with the [Government Plan 2019-2023 \(2030 City Strategy\)](#), in the field of Sustainable City - to have an excellent city in terms of air quality and a benchmark in the fight against the climate emergency -, with several specific actions: Strengthening the street cleaning service to increase frequency and intensity, Progress towards the objective of a 100% accessible City, the Continuation of the implementation of traffic calming, the Reduction of accidents by promoting speed reduction and road education, the Reduction of emissions by 60% by 2030 and progress towards decarbonization and resilient adaptation, and Making Sant Boi a benchmark city in decarbonised mobility.



It also converges in the field of Transformation of the city, -to be a singular and territorially cohesive city, integrated into the environment and with new infrastructures-: one of its objectives is to improve the fluidity

of internal traffic and parking time and in the long term to have of infrastructures to meet the needs of the private mobility of the population with other municipalities.



To finish, also follow the lines present in the [Urban Agenda Action Plan](#), a roadmap that will strategically guide municipal policies in the coming years towards the United Nations SDGs. The document is linked to the City of Sant Boi 2030 Strategy and aligned with the objectives of the 2030 Agenda and the urban agendas of Catalonia and Spain. It has three strategic axes, the first is Sant Boi, a green and integrated city together with a sustainable and resilient city, and the strategic actions referred to are: 10 – Sant Boi has energy: Remote control and remote energy management in buildings; 14 - Towards a modal change in mobility: Optimising traffic management with new technologies (Smart City); and the third axis dedicated to Digitization and governance together with Sant Boi, a transforming city, with these specific actions: 34 - Sant Boi connects with digital transformation: Smart City Plan; 35 – Digitization of the city: Fibre optic network (2020-2023), Installation of a network of unified multi-service cabinets (2020-2027) and Digitization process of city services (2020-2027).

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