

SECRETARÍA DE ESTADO DE PRESUPUESTOS Y GASTOS DIRECCIÓN GENERAL DE FONDOS EUROPEOS

MINISTERIO DE HACIENDA





Una manera de lacer Europa

BUENAS PRÁCTICAS Actuaciones Cofinanciadas

BEI INTELLIGENT ELECTRIC BUS in the city of Vitoria-Gasteiz

Basque Government

Programa Operativo de País Vasco

Año 2023

Fondo Europeo de Desarrollo Regional

BEI INTELLIGENT ELECTRIC BUS IN THE CITY OF VITORIA-GASTEIZ

PRESENTATION

One of the objectives when establishing the **Mobility and Public Space Plan** is to improve and boost the municipal public transport in the city, making it more sustainable and efficient. BEI is a transport that combines the high capacity, comfort and accessibility with commitment to zero-emission electric mobility. BEI is a FTB (Fast Transit Bus). The establishment of BEI is a project with interinstitutional collaboration between the Municipality of Vitoria-Gasteiz, the Provincial Council of Álava and the Basque Government co-financed with ERDF funds.

Cost of the actión 48.752.426 € total investment

23.571.883€ ERDF contribution

Benefits of BEI

A city with cleaner air

BEI is a zero-emission means of transport, does not emit fumes, does not pollute, and reduce noise pollution. It helps us breathe cleaner air and foster more sustainable urban development. The 100% electric bus is the Irizar i2e model, which offers a sustainable and eco-efficient solution to meet the urban mobility needs of cities. The advantages of this bus are efficiency and reliability.

A place for everyone

The fleet consists of 13 buses of two different sizes, 7 articulated vehicles of 18 meters and 6 other vehicles of 12 meters. The 18-metre vehicles can accommodate 139 people: 36 seated and 101 más exacto standing and 3 baby carriages or wheelchairs; while the 12-metre vehicles have space for 90 people: 22 seated, 65 standing and 3 baby carriages or wheelchairs. Both are large and spacious to make the trip more comfortable.

BEI arrives earlier

BEI connects the city's neighbourhoods more quickly using more efficient routes. Frequencies has been improved so bus journey and waiting time at the bus shelters have been reduced. Much of the route has exclusive lanes and its own traffic lights in order to affect vehicle traffic as little as possible.

BEI is very intelligent

BEI is an intelligent means of transport. The bus shelters are equipped with an information system to know exactly the waiting time at bus shelters and possible incidents, BEI also has an automatic guidance system to make the approach to bus shelters more exact. Bus shelters screens are available to consult weather prediction and moreover buses are equipped with led screens with information about the journey

A better city for all people

The implementation of BEI has been very beneficial for Vitoria. The bus shelter improvements have involved, at the same time, improvements in pavement, and shows us a friendlier image of the neighborhoods.

A more comfortable ride in a more accessible vehicle

The wagons are large and spacious and the futuristic design, chosen for the comfort of passengers, makes BEI experience comfortable. Each vehicle has two accesses at the front and two at the rear in vehicles of 18 meters, while in those of 12 meters there are three doors. They are sliding doors with open button. All the accesses have platforms whose deployment requests each traveler by pressing a button.

It is considered a Good Project Practice as it meets the following criteria:

CRITERIA 1. The role of the ERDF funds has been adequately dissaminated to potencial beneficiaries and the general public

Diffusion

The following elements have been installed in each of the buses:

Inside de bus:

- Permanent informatión plaque.
- Digital display screens with information about ERDF co-financing

Outside the bus:

- The vehicles have been vinylised on their back side with the European Union logo

On the bus shelters have been installed

- 46 informative poster with ERDF co-financing information

- In the facilities of the TUVISA Electromobility Center (CET) have been installed

- 2 permanent plaques with information about project co-financiation, one inside the building and the other outside the building

Other media:

- 130,000 information flyers were made and mailed to population.



BEI Flyer, 130,000 units have been mailed



Permanent information plaques the bus



2 Permanent information plaques, outside CET building



Temporary sign during construction



Digital display screens with information of ERDF co-financing



Permanent plaques inside CET facilities



Informative poster with information of ERDF co-financing



Institutional visit to the CET



Media visit to CET facilities

Dissemination of BEI project information through the media



Visit of the Management Authority and European Commission. The event was attended also by the Vice-Minister of Economy and European Funds of the Basque Government

Spreading the Message

europa

La Comisión pone en marcha un mecanismo para aprovechar el talento en Europa

Ayudará a las regiones de la UE a hacer frente al impacto de la transición demográfica

> POLÍTICAS EUROPEAS

La Considió Enropea CID está oniendo en marcha el Mocanie-ce opotará a lar regiones de la UE instadas por la disminiación activados ela de en poblición en edad de alograr formas, nelesery atras presonas, las capacidades y las impetencias necesarias para er finante al impacto de la transie in demográfica.

La CE considera que Europa La CE considera que Europa en talento, pero también que a lesdo en cuerto también que indo en cuerto apué a lu de est lién demospifica. Itaro en aria in necesarie en las regiones entre decen ans disminución de la por-in de personas con educación puede ni reagadas en ción activa y una biga proper-in de personas con educación regiones puede in enil^o. El mográfio irra cua rando la r

los retos estructurales se podría **atraer** a más

si no se afronta esta transición, "generará nuevas y crecientos dis-paridades territoriales a medida que las regiones envejencan y us queden recagadas en cuanto a la cantidad de su mano de obra y a sus capacidades. Esta transición os de El



El FEDER cofinancia el BEI de Vitoria-Gasteiz, referente de la movilidad eléctrica en Euskadi

El Centro de Electromovilidad de Tuvisa ya funciona a ple-no rendimiento como núcleo de operaciones del Bus Eléctri-co Inteligente (BED) de Vitoria-Gasteiz. El BEI es un proyecto de colaboración interinstitucional que ha contado con la co-financiación de la Unión Europea en el POPV FEDER 2014-2020, con recursos REACT-UE.

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starre ría la construccio enta (Unided Funci invisiones del Cen tidos entre la zona de cargo y estacionamiento los autobasen 100% eléctricos (14 partes de galerta), el especie multivas para trabajos de menimiento, el túnel de lascata y las zonas de a el personal trabajador antación del BEI de Vita ratio de calabor Vitaria-Bostelz, es le institucional en-

La implantación del BEI es un buen ejemplo de colaboración entre las instituciones que han financiado el proyecto



News published in the newspaper Estrategia empresarial on 17/01/2023 digital version and paper version

BEI which is co-financed with ERDF funds is a benchmark for electric mobility in the Basque Country referente de la movilidad eléctrica en Euskadi

News published in the newspaper El Correo on October 26, 2021:

The City Council presents the main features of BEI in audiovisual format.

News published by Europapress on October 26, 2021:

Vitoria City Council uses videos to show the main features of BEI de Vitoria

News published by EITB on June 20, 2019

Así es el BEI, el Bus Eléctrico Inteligente que circulará por Vitoria el próximo año

News published by the magazine Companies for sustainable mobility on May 24, 2022

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BEI, the Intelligent Electric Bus will circulate in Vitoria next year



I 145 de febrero de 2023 I estrategia 33

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el euro y entra

en el espacio Schengen

esde el 1 de enero moneda de Groad 10 pieno de la C pea en su proces

News published in Interempresas magazine on January 12, 2023

The Tuvisa Electromobility Center is now operating at full capacity

Spread the project information via institutional websites

The project has had a high diffusion of the contribution of European funds

During the bidding and awarding process of the action, the co-financing with ERDF funds has been highlighted.

The project, the start of the works, the start-up of BEI, the inauguration of BEI and the institutional visit of the CET Electromobility Centre have been publicised on the institutional pages and social networks of the Basque Government and the Vitoria-Gasteiz City Council.

In addition, it should be noted that BEI has been awarded at the EMS Sustainable Mobility Awards "Driving Change" organised by the Companies for Sustainable Mobility platform.

The Basque Government has mentioned the co-financing of this project with ERDF funds both on the Euskadi.eus website and on the Irekia website, as an example the following links are provided:

- News published by the Basque Goberment
- <u>Vitoria-Gasteiz presents BEI's definitive vehicle, its new image and a website</u>
- <u>Vitoria-Gasteiz electromobility center is put into operation to host the Smart Electric</u>
 <u>Bus units</u>

On the website of the Vitoria-Gasteiz City Council and on social media, information about the project and its financing by the ERDF is included, also the European logos

- <u>City Council webside</u>
- <u>Coincil facebook</u>
- <u>Council blog</u>

Spread the project information via a promotional video that mentions co-financing with ERDF funds



CRITERIA 2 The action incorporates innovative elements

Energy savings and sustainability

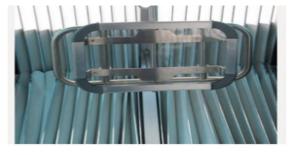
Vehicles are charged during the journey through 4 interoperable ultra-fast charging stations.

Innovation:

BEI is an innovative transport. It incorporates information systems both at stops and inside vehicles.

<u>Diseño</u>

The design of BEI seeks to offer the user the feeling of openness, luminosity and comfort.



Space for passenger support in the area



Wheel arch fairing to improve aerodynamics and energy efficiency



The design of BEI seeks to offer the user the feeling of openness, luminosity and comfort.





Security camera inside the vehicle and USB ports to charge the mobile phone on board

The ceiling is illuminated in a light blue tone that gives a greater sensation of control and at night it is more visible.







Digitalización de los procesos de gestión

BEI has a built-in software system to manage issues such as driving efficiency or consumption by lines and types of vehicles, among other aspects. It also allows this data to be downloaded to a central system, in real time, for analysis, so that, through different driving efficiency indicators, driving guidelines can be established to make driving more efficient and to reduce energy consumption. This special software is designed to

CRITERIA 3 Adequancy between results and established objetives:

Posted on March 29, 2022

The launch of BEI raises the usage data for TUVISA line 2 to pre-pandemic numbers, with 233,112 travelers during its first month

Posted on February 1, 2023

BEI line closes its year of implementation with 2.7 million trips, 3.15% more than TUVISA line 2 in the same period of 2019

"The numbers reflect the good reception of users to this line. The people who use the service have valued the speed, frequencies, comfort and safety that this new mode of transportation offers," says the president of TUVISA, Raimundo Ruiz de Escudero..

Poste don Merch 14, 2023

BEI transported 375,000 people in February, a 38% increase compared to the same month in 2019

It should be noted that the main objective has been met, which is to encourage the use of public transport and sustainable mobility.

The implementation of BEI in Vitoria-Gasteiz represents a profound transformation in the means of transport because it reduces the time needed to make any journey, which means a significant increase in the rates of use of collective public transport.

These actions seek to prioritise the use of public transport to the detriment of private cars with the aim of reducing the use of fossil fuels and increasing the consumption of cleaner energies; as well as the reduction of pollution and noise, improving the quality of the environment and improving the health of the inhabitants, and the usage ratios are showing that the most optimistic objectives have been exceeded.

CRITERIA 4 Contribution to the resolution of a problema or weakness identified in the área of implementation

BEI will make streets of Vitoria-Gasteiz safer. The Smart Electric Bus will pass through 61 intersections: 29 of them will have more traffic lights than before, and 14 that did not have traffic light regulation will have it as of the implementation of BEI.

The thirteen convoys that will provide the service incorporate several state-of-the-art elements related to their own and others' safety. These include automatic driver assistance systems with visual and audible alerts for the driver, sign reading assistance, intelligent multi-view cameras, and a host of other features that make BEI even safer.

The implementation of BEI has led to a significant reduction in car traffic in Vitoria-Gasteiz and trafficrelated noise pollution.

Social impact:

- -25% travel time
- Greater connectivity between 14 neighborhoods and significant points of the city (hospital and outpatient clinics, bus station, sports complex, shopping center)

Environmental impact: 100% electric vehicles (lower noise pollution and CO2 emissions). The electric bus routes run in separate lanes.

CRITERIA 5 High degree of coverage of the target population

The population of Vitoria is 248,146 people

The population benefiting from this action is the entire population of Vitoria, as traffic in the city has been reduced and allows Vitoria to enter the ranking of the ten least polluted cities in Spain

CRITERIA 6 Consideration of the horizontal criteria of equal opportunities and nondiscrimination, as well as environmental responsability and sustanibility:

Equal Housing

Equality of opportunity and mobility, understood as access to transport systems, are intimately linked. Public transport is a tool of social equity that guarantees the fulfilment of people's basic rights, hence its consideration as an essential sector.

For population groups far from education or employment centres, it is essential to have an affordable and flexible transport that allows them to access them.

BEI line also runs through several neighbourhoods of the city that were built mostly before 1980 and have a vulnerable and ageing population, for which BEI facilitates mobility.

Gender perspective

At least 40% of women surveyed in the framework of the Macro Survey on Violence against Women conducted by the Ministry of Equality in 2019, claim to have suffered sexual harassment at some point in their lives. In addition, 8 per cent of the women surveyed reported having suffered some form of sexual violence on public transport. These latest data highlight the risk women face daily when using public transport.

Therefore, the arrangement and selection of the (translucent) material of the seats of BEI system was made with a gender perspective, in order to prevent sexual harassment and to promote the safety of women in public transport.

The application of the **gender perspective** in BEI operations is also reflected in other lines of action, such as stops.

1. Intercoms: allow citizens to be attended in real time

The stops, in addition to having ticket purchase machines and BAT card recharging, all of them have an Intercom service that offers a help and attention to users, ensuring communication and attention to citizens, especially the safety of women in real time

2. better illuminated

The improvement of lighting of BEI line stops increases the safety of users. The stops are better marked and illuminated and increase the feeling of security between the passage, especially at night.

Sustainability:

BEI is a zero-emission electric transport with low levels of noise pollution. This entire tour will also be a green corridor, with the planting of more than 900 trees planted new trees and 15,000 shrubs and flowering plants

Accessibility:

The buses are large and spacious, with a futuristic design. To ensure the accessibility of all people, People can get inside through platforms situated in front of bus shelters. All doors can be used, both front and rear.

TOUR VIRTUAL 360°

Irizar ie tram - Tour virtual 360° - Irizar e-mobility (irizar-emobility.com)

CRITERIA 7 Synergies with other policies or instruments of public intervention

At the regional level, the action is part of the Basque Government's **2021-2024 Energy Transition and Climate Change Plan.** This Plan sets out the framework for the next four years to work on all aspects of climate change

The project also matches with the challenges of **Euskadi Basque Country 2030 Agenda** in line with the **Sustainable Development Goals (SDGs) promoted by the United Nations**.

The action matches with the **Basque Country 2030 Environmental Framework Programme** whose slogan: Transforming our society in the key of sustainability, proposes actions to promote the efficient use of resources through the transition to a clean and circular economy, to stop climate change, reverse the loss of biodiversity and reduce pollution.



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