

*Una manera de hacer Europa*



# BUENAS PRÁCTICAS

## Actuaciones Cofinanciadas

ELETRIFICACION OF THE RAILWAY CORRIDOR BETWEEN  
S'ENLLAÇ-SA POBLA

Serveis Ferroviaris de Mallorca (SFM)

# Programa Operativo de Illes Balears

Año 2020

## Fondo Europeo de Desarrollo Regional



# ELETRIFICATION OF THE RAILWAY CORRIDOR BETWEEN S'ENLLAÇ-SA POBLA

## Basic project description

Serveis Ferroviaris de Mallorca (SFM) is the public company of the Govern de les Illes Balears responsible for managing the services and railway infrastructures of the island of Mallorca. The co-financed action consists of **electrification of the railway corridor of the section between the stations of S'Enllaç and Sa Pobla** on the island of Mallorca.

The implementation of this transport infrastructure, which crosses the municipalities of Llubí, Muro and Sa Pobla, has involved the upgrading of 14 km of catenary and the construction of two substations of traction in Sa Pobla and Llubí, with the aim of transforming the electric power from company to the characteristics appropriate to the railway. In addition, transformation centres have been installed at the stations of Muro and Sa Pobla, a low-voltage power station in Llubí, the installation of the overhead contact line (catenary) along the entire route and the modification of existing power lines that cross the railway. A fibre optic network has also been installed for the transmission of information.

Until now, the Palma-Sa Pobla railway line has combined two systems: the electric train to the town of Inca and the diesel train for the rest of the route, so the users who followed to Sa Pobla had to change cars at the S'Enllaç station and take the route on diesel.

With the commissioning of this service, the electrification of the entire public rail network of Mallorca has been completed.

The cost of the action amounted to **EUR 12,198,291.46** with a total aid of **EUR 6,099,145.73** from the European Regional Development Fund (ERDF).

The replacement of the old railways by electric convoys means, for this section alone, a **reduction in emissions of 180.7 tonnes of CO<sub>2</sub>** he atmosphere per year.



Below are the arguments that make this project considered good practice, in accordance with the criteria defined for this purpose.

**Criterion 1. High dissemination among beneficiaries and the general public.**

The project has a high dissemination of the contribution of European funds to economic and social development, both to potential beneficiaries and to the general public, and has been widely disseminated through the various information and publicity measures developed.

The **mandatory measures** that have been implemented have been implemented in accordance with Community legislation. Among others, the following should be noted:

During the **tendering and award process**, the EU's contribution to the co-financing of the action was highlighted through the publication of the information on the website of the Govern de les Illes Balears, as well as in the notice of tender for the works published in the Public Sector Recruitment Platform of the Ministry of Finance, which mentions the ERDF's co-financing of the action.

Information on the project and its financing by the ERDF is available on the **website of Serveis Ferroviaris de Mallorca**, in the section for the European Funds.

[http://82.194.85.213/user31/SFM2013/seccions.php?register\\_vars\[sec1\]=24&register\\_vars\[sec2\]=0&register\\_vars\[sec3\]=0](http://82.194.85.213/user31/SFM2013/seccions.php?register_vars[sec1]=24&register_vars[sec2]=0&register_vars[sec3]=0)



During the execution of the work a **temporary information poster** was placed on the project, which has been replaced by a **permanent plaque** installed after the performance has been completed and which is located at the entrance of the new block, in a place visible to the public.





In addition, **other actions and measures** in the field of communication and information have been carried out to strengthen and give greater visibility to EU co-financing for action, including the following.

In order to be able to inform the public about the action, emphasising its co-financing by the European Union, a **portable roll-up identifying** the action used each time a communication act is carried out has been published. In addition, images of the ERDF co-financing in the project have also been projected in **marquee and monitors inside train wagons**.



In addition, **small promotional material**, such as external battery units, has been developed to carry out charges for electronic devices that include, as required by the regulations, the emblem and the reference to the European Union.

Also, for the sake of its work to disseminate the electrification projects of the sections with the financial contribution of the EU and in order to reach all segments of the population of the Balearic Islands, such as young people, SFM has published a **children's comic**.



*Còmic*



*Power Bank Unit*

On October 29, 2018, the **official opening ceremony** and the launch of the performance took place at the Sa Pobla Station. It was attended by regional and local public authorities, citizens and the media. The European Union's contribution to infrastructure construction was mentioned in parliaments.



Several **advertising campaigns** have been conducted in various media outlets in the **Balearic Islands**. All of them have also collected information on the implementation of the action, from the laying of the foundation stone to progress in its implementation, in the written press and in regional radio and television broadcasts, as can be seen from the following link:

<https://ib3.org/al-juliol-els-trens-de-serveis-ferroviaris-de-mallorca-seran-totalment-electrics.html>



Propera estació...  
**El futur!**  
L'electrificació de la xarxa ferroviària, una realitat.

**AVÍS DE POSADA EN TENSIÓ**  
Posada en tensió a 1500 V de la línia ferroviària Enllaç-sa Pobla i altres instal·lacions associades a l'electrificació del tram.

**Tram:** Des del PK 33+700 (estació d'enllaç) fins al PK 45+875 (estació de sa Pobla).  
A partir de les 00:01 h del dia 20 d'agost de 2018, els conductors d'energia (cablejat, catenària i subestacions) pertanyents al tram Enllaç-sa Pobla, entre el PK 33+700 (Enllaç) i el PK 45+875 (sa Pobla), s'han de considerar en tensió. S'adverteix tot el personal afectat i el públic en general que qualsevol contacte amb aquests conductors, tant directament com mitjançant ferros, filferros, peces metàl·liques o qualsevol altre element conductor, pot provocar la mort per electrocució.

**AVISO DE PUESTA EN TENSIÓN**  
Puesta en tensión a 1500 V de la línea ferroviaria Enlace-Sa Pobla y demás instalaciones asociadas a la electrificación del tram.

**Tramo:** Desde el PK 33+700 (estación de Enlace) hasta el PK 45+875 (estación de Sa Pobla).  
A partir de las 00:01 h del día 20 de agosto de 2018, los conductores de energía (cableado, catenaria y subestaciones) pertenecientes al tramo Enlace-Sa Pobla, entre el PK 33+700 (Enlace) y el PK 45+875 (Sa Pobla), deberán considerarse en tensión. Se advierte a todo el personal afectado y al público en general que cualquier contacto con los citados conductores, tanto directamente como mediante hierros, alambres, pizas metálicas o cualquier otro elemento conductor, puede provocar la muerte por electrocución.

G CONSELLERIA TERRITORIAL, ENERGIA I MOBILITAT  
 FONS EUROPEU de Desenvolupament Regional  
 UNIO EUROPEA  
 SFM

In the same way, various **informative notes** have been produced and **news** has appeared in the various media and on the website of the Govern de les Illes Balears.

## El tren eléctrico a sa Pobla pasa las últimas pruebas antes de su estreno en octubre

► Las obras de electrificación hasta la estación, que han tenido un coste de 11,8 millones de euros, están totalmente ejecutadas

### Sa Pobla

■ La cuenta atrás para la puesta en marcha definitiva del tren eléctrico hasta la estación de sa Pobla ya se ha iniciado. Los técnicos de Serveis Ferroviaris de Mallorca (SFM) están realizando las últimas pruebas de las nuevas instalaciones habilitadas en el corredor con la intención de estrenar el servicio finales del próximo mes de octubre, si bien esta previsión "puede variar" en función del resultado de las comprobaciones, según apuntan fuentes de la empresa ferroviaria.

Las obras de electrificación entre la estación de enlace y la terminal de sa Pobla se iniciaron hace poco más de un año por parte de la UTE formada por Arvi, Estífige y Tellec.

El presupuesto de las obras y de las actuaciones complementarias ha ascendido a 11,8 millones de euros, de los que 9,9 corresponden a las obras de electrificación y 1,6 millones al convenio para el suministro eléctrico. Los 500.000 euros restantes se han invertido en dos convenios para la resolución de interferencias. El cincuenta por ciento de la inversión total ha sido financiado por los fondos europeos Feder.

El tren eléctrico llegará a Manacor más tarde que a sa Pobla, ya que las obras todavía no han concluido en el corredor



Imagen de la nueva subestación de tracción construida en sa Pobla.

A **video** on the execution of the work was also released in June 2018 and can be seen on the Youtube channel which includes EU logos and emblems. The video can be viewed on this link: <https://www.youtube.com/watch?v=v8UnCTpBtj8&feature=youtu.be>

Similarly, the fourth issue of the **Newsletter of European Funds in the Balearic Islands** will also include information on the project and the ERDF contribution in its implementation, paying particular attention to the results achieved as a result of this investment.



Video in Youtube



Newsletter European Funds (Nº 4, December 2018)

**Criterion 2. Incorporation of innovative elements.**

The main innovative element is related to the **technology used** that allows annual energy savings of 25 % and a reduction of 30 % in the maintenance costs of trains compared to diesel units.

In addition, remote power **remote control units** and a 15 kV medium voltage ring have been installed to allow permanent monitoring from the control centre in case of power failure. **Fiber optic** has also been extended along the way to be able to transmit the information.





### Criterion 3. Adequacy of the results obtained to the objectives set.

The start-up of the project is a major step forward for users since the transshipment has been eliminated, the travel time has been reduced, it has led to a considerable increase in passenger comfort, since the electric train implies a decrease in noise and vibrations and, in addition, it has led to greater reliability in the service offered, as electric trains make it possible to offer better service to the user.



Other results have to do with the decline in waste production and carbon dioxide emissions into the atmosphere. The commissioning of this service will make it possible to improve the service of passengers, increasing the performance of the service and reducing travel time.

### Criterion 4. Contribution to the resolution of a regional problem or weakness.

The transport sector in the Balearic Islands is the main energy consumer sector (58 %) and uses liquid petroleum products as fuel, almost entirely. With a view to reducing greenhouse gas emissions and increasing energy self-sufficiency, the electrification of the railway line has made it possible to achieve **environmentally sustainable transport** by replacing diesel with electricity, as well as reducing the use of private vehicles.



To date, Mallorca's railway network was electrified from Palma to S'Enllaç station and from this stretch to Sa Pobla station, trains had to be changed, resulting in great discomfort for passengers, loss of safety and quality of service.

All this has made it possible to reduce energy consumption, reduce pollution in urban and rural environments and promote sustainable mobility in the Balearic Islands.

This action has made it possible **to reduce the notorious deficit of public transport infrastructure** in the Balearic Islands, improving the connectivity of the affected municipalities (Inca, Llubí, Muro and Sa Pobla) with the rest of the municipalities on the island of Mallorca.



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

Rail transport moves around 6.5 million passengers a year in Mallorca. In any case, the entire **population resident** in Mallorca will be able to benefit from the action, since it involves linking Palma with all the localities that cross the electrified line to Sa Pobra.

## Los usuarios del tren a sa Pobra y Manacor aumentan tras la electrificación

En el trayecto Palma-Manacor, hay un 17,2% más de usuarios y en el Palma-Sa Pobra el crecimiento es del 29,7%

Redacción / Palma. | 30.12.2019 | 12:48

El número de **viajeros de las líneas regulares de tren de Servicios Ferroviarios de Mallorca (SFM)** que cubren los trayectos entre **Palma y Manacor** y **Palma y Sa Pobra** ha experimentado un notable crecimiento desde que se pusieron en marcha los servicios totalmente eléctricos, según informó este lunes la conselleria de Movilidad y Vivienda.

El trayecto **Palma-sa Pobra** es el que ha registrado por ahora un incremento mayor. Desde la



Uno de los convoyes de SFM. B. Ramon

The **thousands of tourists** who visit the island will also benefit, as it will allow them access to the different municipalities.

It is noteworthy that the number of passengers on the Palma-Sa Pobra line has experienced a remarkable growth since the start of the electric service, encrypted by more than 30 % increases.

### Criterion 6. Consideration of horizontal criteria of equal opportunities and environmental sustainability.

Rail electrification has many advantages from an environmental point of view. The main one is **regenerative braking** since electric trains, unlike diesel where braking is mechanical, can electrically brake and recover braking power between trains (20-30 % of the energy used).

In addition, a **significant reduction in greenhouse gas emissions** is also achieved by 60 % (estimated at more than 180 tonnes of CO2 year). Acoustic emissions have also been significantly reduced and less polluting lubricants are used.



From the point of view of **equal opportunities**, it is important to note that SFM has implemented measures against sexist violence in public transport, by signing an agreement in August 2018 containing a series of measures related to inter-urban public transport.



*Agreement between IB Dona and SFM 1/08/2018*

The first action, which has already entered into force, is to offer **discounts on transport**. In this way, women victims of gender-based violence benefit from discounts on travel on inter-urban public transport: bus, train and subway.

On the other hand, other commitments have also been made, which are already materialising, such as disseminating the telephone number 24 h. of the *Institut Balear de la Dona* at train stations and in the offices of service to the user, training train staff in aspects of equality and gender perspective adapted to their work environment in order to establish guidelines for action in situations of sexist and sexual assaults.

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

The electrification of the line Enllaç-Sa Pobla is an investment included in the **Transport Plan of Mallorca**, which is also part of an integrated urban strategy, consistent with the territorial **island plan of the island of Mallorca**, approved in 2011.

The strategic nature of this project is also confirmed by its inclusion in the **Plan for Renewable Energy and Energy Efficiency in the Balearic Islands, Strategies and Action Lines**, of 2014, as well as in the **Action Plan for Mitigation of Climate Change in the Balearic Islands 2013-2020**. It is also part of the Sectoral Transport Management Plan of the Balearic Islands, approved in 2006 and currently under review, as well as the Sectoral Master Plan for Mobility of the Balearic Islands, approved in June 2018.

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