

Irizar, first European manufacturer of buses and coaches to deliver two zero-emission electric urban buses to Barcelona city within the ZeEUS project

In Ormaiztegi, 16 October 2014

The two Irizar i2e buses fully developed with our own technology will become part of the TMB service for a long-term trial period within the ZeEUS project framework. That way Irizar fully complies with the great challenge proposed within the mentioned project.

The event that was also a technical day was celebrated in Congress Room of the Caixa Forum in Barcelona before the local authorities, press, companies and clients associated to ATUC and an institutional presentation by the Mayor of Barcelona and the delegates of the European Commission and for the UITP.

Then the buses that were parked in the street made a trip around the Montjuic neighbourhood.

The agreement with TMB includes the transfer and purchase of these two units after the trial period has finished.

Proprietor technology – European Know How

The Irizar i2e is the first urban bus fully developed with our own technology. It is the result of the continuous work of the Group companies together with the technological centres of the Basque Technology Network.

In addition to Irizar, the other companies of the Group have joined their efforts to promote the Irizar i2e. Hispacold, manufacturer of acclimatisation equipment; Jema, specialised in electronics; Datik, technological company developing intelligent transport solutions; Masats, manufacturer of accessibility systems, and CREATIO, R&D centre of the Group.

Innovation in sustainability

The i2e is the fruit of the strategic commitment for innovation in sustainable mobility of the group and has arrived with the intention of being positioned as leader in urban mobility with this firm commitment of contributing to sustainability and environmental improvement in cities.

The Irizar i2e is already available for the clients and it is now a reference for sustainability and eco efficiency aimed at urban mobility, responding to current and future city transport needs.

Since 60% of the population in the European Union live in cities, the elimination of contamination is one of the great challenges facing urban centres. Circulation of fuel vehicles is the cause of 40% of the emissions of CO₂ and of 70% of other contaminants. Each electric bus will reduce the annual emissions of CO₂ by 88 tons and it saves 33,000 litres of fuel.

There are increasing levels of acoustic contamination, and today, more than ever, we need efficient means of transportation that are ecological, silent, environmentally friendly, and help improve the quality of life of people in cities.

The Group understands that the no-contamination decision of cities cannot be reversed, which is why four years ago it decided to enter the world of urban buses directly with zero-emission electric buses. For this reason, and because it does not contribute to acoustic contamination, we are certain that the Irizar i2e is the ideal transportation alternative for cities and their residents.

Another feature is the recyclability of its components. It has been developed according to the principles of ecodesign, applying environmental criteria to the design of the bus. Its batteries are also 99% recyclable.

Long range

The Irizar i2e has been designed to offer autonomy between 200 and 250 km with a single charge at the end of the day. Just five hours of charging guarantees between 14 and 16 hours of driving in dense urban and interurban working conditions, with an average speed of 17 km/h.

The data recorded in the case of the first bus delivered in July to San Sebastian and the first to Barcelona in August guarantee these ranges:

- San Sebastian. At an average commercial speed of 17 km/h, it guarantees a range of 250 km, with the same level of comfort in non-extreme climates, in other words 16 hours of operation.
- Barcelona. At an average commercial speed of 10 and 11 km/h, it guarantees a range of 160-180 km, with the same level of comfort in non-extreme climates, in other words 16 hours of operation.

In order to optimise energy consumption, it incorporates pioneer technologies created by Irizar. Eco Assist is a system that helps the driver in real time and contributes to optimising the vehicle energy consumption and increasing its range.

Irizar safety and reliability

The Irizar i2e has been designed to meet the most demanding active and passive safety requirements. It is the first electric bus on the market that

complies with the R.66 rollover safety norm. Its rigid and robust structure has been designed to withstand side or front collisions.

The bus is as robust and reliable as the rest of coaches with the Irizar brand. It has undergone tough accelerated fatigue and reliability tests in one of the most prestigious applied automotive research institutes with excellent results. In addition to introducing the most advanced technologies in design, materials, components, and production processes, the bus has maximum quality finishes.

Optimal profitability

The Irizar i2e offers maximum profitability due to its electrical consumption by incorporating the most innovative energy technologies. With a nominal power of 230 kW, the onboard energy in the vehicle is 376 kWh, providing a range between 200 and 250 km depending on the driving cycle and weather conditions.

The energy storage management system, developed by Jema Energy, manages the relation between battery and super condensers to maintain the charge status of both components within an optimal range as well as extending the useful life of the components, resulting in improved operational costs.

The Irizar i2e batteries are 99% recyclable. This is a tested and reliable technology.

Furthermore, the design of the bus has taken into account the weight distribution and maximum accessibility to the components for easy maintenance.

The battery charger has a combo2 type cable and allows fully charging the batteries in 5 hours.

ZeEUS project

The launching of these two buses is framed within the ZeEUS project (Zero Emission Urban Bus System), financed by the European Union and coordinated by the International Association for Public Transport (UITP), consisting of a series of intensive tests with latest generation electric or pluggable hybrid buses that will take place in eight different cities, to give a decisive impulse to research and innovation in clean technologies applicable to urban transport. Barcelona Metropolitan Transport (TMB) will lead the test in association with two bus manufacturers, which include Irizar, and with the collaboration of Endesa, Enide, the Polytechnic University of Catalonia, Idiada, and GMV. London, Glasgow, Stockholm, Munster, Pilsen, Bonn, and Cagliari in Italy, are the other cities where the experimental tests will be carried out.

This initiative is very important for Irizar since, in addition to being one of the most important programmes undertaken in Europe, it will be an ideal showcase for introducing the Group's technology. It will also allow Irizar to evaluate its product in operation and optimise its performance.