

Irizar will present the new generation of coaches and buses equipped with Euro VI engines as well as its latest technological advances

On 18 October, IRIZAR, a global reference in the production of buses and coaches, will present the new generation of coaches and buses equipped with Euro VI engines as well as its latest technological advances.

Kortrijk (Belgium), 18 October 2013

IRIZAR will be present this year in Kortrijk at the 22nd biennial edition of the International Bus and Coach Fair with a stand measuring more than 1,000 m² that will include an Irizar PB coach, an Irizar i6 and an Irizar i4, all in the complete bus version and with Paccar-DAF Euro VI engines.

A complete bus version of the Irizar i6 and the new Irizar i3 on a Scania Euro VI chassis will be on display at the main entrance of the venue as proof of Irizar's strategy of continuing to work together with different chassis brands. Both vehicles are right-hand drive and adapted to the needs of the British market, where Irizar is the leader.

The coaches are equipped with the latest technological advances in the area of safety systems, energy efficiency, fleet management and entertainment.

With the theme of **“Fast forward to tomorrow with Irizar technologies”**, Irizar will show the strong advances it has made in terms of the technological level at the Irizar Group with the aim of working on innovation with a long-term vision, which has resulted in the creation of the Irizar Group's new Research and Development Centre - Creatio.

Together with Datik, a company that joined the Irizar Group in 2011 and that designs and installs Intelligent Transport Systems (ITS) and Solutions for managing and increasing the safety and efficiency of railway and roadway transport, the following will be presented:

- EcoAssist, a solution installed in coaches that contributes towards driving that is more efficient, safe and environmentally responsible and also helps lower fuel consumption, and
- Magic-Eye, a device for detecting driver fatigue.



Euro VI New generation of Irizar brand integral coaches

The next generation of Irizar brand integral design coaches, adapted to the Euro VI regulation, is now available.

Adapting the Irizar integral design coaches to the imminent entry into force of the new regulation (January 2014) has not just focused on integrating Euro IV engines. Efforts have also been made to work in greater depth to optimise essential features such as safety, consumption and weight. The result: the next generation of integral design coaches.

The success of the Euro V integral design coach is clear, proven by the fact that over one hundred units have been purchased and are being run by operators in eight European countries. Following the numerous driving tests that have been carried out we continue to incorporate improvements and innovations to ensure that we always offer the best products.

The large amount of important information gathered over the years, the knowledge acquired, the information offered by our collaborators and obtained from our own tests, plus the resources devoted to the Euro VI project, are undoubtedly key to ensuring the next generation of vehicles have the best attributes in terms of handling, driveability, low consumption, optimum weight distribution, safety and reliability.

Although the cubic capacity and weight of the engine and the cooling and exhaust systems are greater than in the Euro IV, we have managed to minimise the impact of the total vehicle weight, maintaining current levels and improving distribution, moving it to the front axle when necessary. In addition, fuel consumption is maintained at optimum levels, achieving one of the best rates on the market. Comfort has been improved, reducing vibrations and noise levels, also improving the coach's road handling. Improvements can also be seen in the location and accessibility of some components.

With regard to active safety, special mention should be made of the coach's ACC, LDW, DFD, etc. A next generation diagnostic tool has also been incorporated that creates a remote Irizar connection via SIM or WIFI.

The next generation of Euro VI coaches includes Irizar Pb, Irizar i6 and Irizar i4 models. We have decided to continue collaborating with Paccar-Daf, ZF and Vdo Continental as our main partners on the project and we will also continue our expansion into those markets we see as strategic.

New accelerated durability tests, equivalent to 1.5 million kilometres, are currently under way at the IDIADA, Applus+ installations, one of the most prestigious institutes in the world, producing optimum results.



PACCAR-DAF Euro 6. MX11, MX13 ENGINES

Coach segment – Irizar i6 and Irizar PB integral

- MX11 271, 271kw/369 hp (1.650 rpm), 1.600 Nm(1.000 – 1.650 rpm), i6(solo U.K.)
- MX11 291, 291kw/396 hp (1.450-1.700 rpm), 1.900 Nm(1.000 – 1.450 rpm), i6
- MX11 320, 320kw/435 hp (1.450-1.700 rpm), 2.100 Nm(1.000 – 1.450 rpm), i6, P.B.
- MX13 340, 340kw/460 hp (1.425-1.750 rpm), 2.300 Nm(1.000 – 1.425 rpm), i6, P.B.

They are combined with ZF ASTRONIC 12s or ZF ECOLIFE(only MX11) gear box

Intercity. Irizar i4 integral segment

- MX11 240, 240kw/326 hp (1.650 rpm), 1.400 Nm(1.000 – 1.650 rpm), i4
- MX11 271, 271kw/369 hp (1.650 rpm), 1.600 Nm(1.000 – 1.650 rpm), i4, i6(only U.K.)
- MX11 291, 291kw/396 hp (1.450-1.700 rpm), 1.900 Nm(1.000 – 1.450 rpm), i4, i6

They are combined with ZF ASTRONIC 12s or ZF ECOLIFE gear box

Transmission

- AS Tronic 2100-2700 12 speed manual robotized or fully automatic with power intarder
- ZF Ecolife 1700-2000 six speed fully automatic with power intarder (only with the optional DAF PACCAR PR 9.2 litre engine)
- ZF RL75EC independent front suspension
- ZF AV132 rear axle

Brakes and suspension

- Wabco ECAS, EBS, ABS / ASR



L'Irizar i3

A year after the official launch of the Irizar i3 Low Entry coach in the Spanish market at the FIAA, the conventional version of the Irizar i3 is now available for commercialisation in European markets in a first phase.

The unit presented at the international Busworld fair that will take place in Kortrijk (Belgium) is the first unit produced for Great Britain, built on a Scania Euro VI chassis and it is adapted to the needs of the operators in such market.

The Irizar i3 is a vehicle that complements the product range with a new low entry. It has been created to address the customer needs of this segment. We worked together with customers to search for a more functional product that would cover the Low Entry range, which is a growing market segment, with a full guarantee and customisation possibilities.

The main features are related to accessibility and the ability to adapt to the configurations requested by each customer. In the front, customers can choose between an entrance with a single door or a double-sheet door, depending on how the coach will be used. The reduced height between the ground and the floor (320-340 mm) also helps improve accessibility.

The model has a more versatile interior, offering more configuration alternatives in terms of the number of seats and standing passengers. There are no steps between the front and central doors, which facilitates access tremendously.

Equipped with an integrated access ramp in the central door, our coach has an area for people with reduced mobility and baby carriages. Its interior design, made using anti-vandalism materials, facilitates cleaning and maintenance. The front is modular and removable, which facilitates repairing and replacing components that have a greater risk of damage from accidents.

We have optimised its weight and distribution, maintaining the safety and rigidity attributes intact. The structure has been designed as per the R66/01 roll-over resistance regulation, and some of the aspects that have received the most attention include improving performance in the case of a frontal crash and the rigidity of the ceiling.

The driver position is very ergonomic and comfortable, and has extensive visibility. The vehicle includes an integrated acclimatising system and offers maximum comfort for passengers. This coach can be certified in class I and class II.

In terms of the design, we have created a product that, despite the high degree of front accessibility, maintains all of our characteristics. As for the rest, our new Irizar i3 model adds functionality while maintaining all the attributes of the product family and what this represents in terms of safety, reliability, profitability, service and the Irizar guarantee.



Latest Irizar Group News

Irizar predicts an increase of around 15% on its 2012 record turnover

Irizar Group, the world renowned bus and coach manufacturer, predicts record turnover of 550 million euros, around 15% increase on the previous year's figure.

2012 closed with a turnover of 504 million euros and this year the company will set a new record with 550 million euros, representing growth of around 15%.

This growth is once again due to sales across all business areas: Irizar Ormaiztegi, overseas factories and the group's companies.

Geographical and industrial diversification, a firm commitment to technology, and brand strength are the keys to Irizar's success, a company that has grown over 124 years from being a family business manufacturing elegant carriages and stagecoaches to a business group that employs 3,400 staff in production plants in Spain, Morocco, Brazil, Mexico, India and South Africa, with a sales presence in over 90 countries and predicted sales of almost 6,000 coaches this year.

Also, strengthening the brand and our customer loyalty strategy across all the Group's businesses, developing increasingly close relationships to offer customers the products and services that they need, are key to our results and the strength of our Group.

Irizar Mexico continues surpassing production records, and in 2013, it will reach the historic number of 900 units and will be able to penetrate the Mexican market to the degree that most carriers in Mexico have Irizar units, which are considered to be the most profitable and advanced on the market. These aspects are widely valued and recognised by leading Mexican carriers, making it possible to maintain most of the initial customers throughout these years, while expanding them with new ones to reach the 60% market share Irizar currently holds.

After the successful launch of the Irizar i6 model in 2012, Irizar has completed the range with the new generation of coaches it began with the Irizar PB in 2007 and followed with the Irizar i5 in 2008.

Irizar Brasil expands its domestic and export markets. The 2012 launch of the Irizar i6 and its positioning strategy in the Premium segment, directly below the Irizar PB, for the Brazilian markets as well as in the leading markets the group serves from Brazil, has strongly boosted Irizar's market share in Brazil as well as in the country's natural export markets.

As a result, in 2013 Irizar Brasil will reach the highest production record for its 16-year history.



Its primary export markets this year will continue to be Chile and Australia. These are very demanding markets in terms of safety regulations and quality, which drives us to improve on a daily basis in order to fulfil customer needs.

One of the keys for the growth has been the Irizar i6, which was launched in October 2012 in Rio de Janeiro. This coach has been adapted to the demands of leading transportation operators and maintenance supervisors for line, tourism and private services, making it a symbol of safety, comfort, reliability and profitability.

Irizar Morocco has become a platform of serving coaches to the European market this year. The Irizar Group has started to make reality its objective of serving the European market with coaches from its Morocco plant.

This development will affect mid-range coaches as well as older models such as the Century, which continues to be successful in many countries.

The Group's strategy has shifted to manufacturing the highend products at its Ormaiztegi plant and, depending on market growth, undertaking the rest of the range at the Morocco plant.

The first units of the Irizar i3 Low Entry have already been produced for the Spanish, Portuguese, English and Danish markets. The entire offering of this model will be handled by the Moroccan plant. A batch of 60 Century model coaches on a Scania chassis are also being produced for Poland. All of these units will be delivered this year.

The group has paid special attention to the quality standards offered by ensuring they are the same as those of Irizar Ormaiztegi. In all coach manufacturing processes, between 10 and 20 people from the group's headquarters travel on site in order to reach the objectives set by the first units.



Technological focus for the future

Creatio - Grupo Irizar's new research and development centre

Our strategic, long term commitment to technology and innovation is another significant foundation for the future of Grupo Irizar. A significant leap forwards was made last year when **Creatio**, our new applied research and development centre, was opened.

The technology centre was launched in October of 2012 by Irizar and subsidiary companies Jema, which focuses on power electronics, and Datik, specialising in ITS (Intelligent Transport Solutions) for transport management and active vehicle safety.

It is the result of the industrial diversification policy we began in 2009 with the joint aims of strengthening our activity and minimising risk by entering sectors with high development potential such as energy, electronics and communication.

Creatio unites the synergies and technological capacity of these companies and, in addition to working on more traditional projects such as systems integration and parts, it will firmly support the Group in its new comprehensive electrical Irizar brand integral coach developments.

Research is currently focussed on:

- Propulsion
- Electromobility
- Systems, energy generation and storage, vehicle loading systems
- ITS systems (Intelligent Transport Systems)

Together with the companies mentioned above, Irizar's firm commitment to innovation will also see significant participation from Spanish companies that specialise in temperature control for the transport sector (Hispacold), and doors and lifts for people with reduced mobility (Masats).

Creatio will be based at Irizar's headquarters, in the new expanded installations that will shortly be completed.

This year, the centre needs to hire at least twelve members of highly qualified staff, and this number will increase in following years. For this reason we have set up a Trainee Programme to attract and train young engineers. They will be joined by staff who are currently working in this field at Irizar, Jema and Datik.



Irizar Electric Bus

Special mention should be made of the importance of the fully electric bus project currently in development to the Group's future, the results of which, in the shape of the first units in circulation, will be seen in the middle of 2014.

This is another major step forward in the Group's commitment to sustainable competitiveness and business strength.

The aim is to obtain the technology necessary for Grupo Irizar to be able to compete in the urban bus market, which it plans to enter with its fully electric bus, delivering the three first units in 2014, two to Barcelona and one to San Sebastian.

Projects currently under way:

- **Etorgai IEB (Irizar Electric Bus) Project**, started in 2011, to develop a fully electric Irizar brand urban bus that will essentially be designed by Creatio.

Together with Jema, Datik and the IK4-Vicomtech, IK4-Ceit and Tecnalia technology centres, Irizar plans to deliver a unit of the electric bus to San Sebastian transport operator DBus in July 2014. This 100% electric bus can cover between 250 and 300 km with each charging cycle. To achieve this, a power train has been developed using actual driving cycles, optimising propulsion and energy storage requirements and significantly reducing the weight of the vehicle through the use of aluminium as the main structural material.

This first unit will include an active security system that will achieve safer driving by detecting obstacles and traffic signs, with a storage system capable of efficiently identifying and managing energy flows and peaks.

- **Innpacto**. Project awarded this year by the Industrial Technological Development Centre (ITDC).

In this research line, related to the electric bus, the University Institute of Automobile Research (Insia) at the Polytechnic University of Madrid is assisting the Gipuzkoa-based centre to run bench tests on storage and propulsion systems. It includes characterising routes and on-board and sensory elements to measure the energy requirements of each component, to be able to devise, design and scale what is needed to be able to offer services to operators.

- **European project ZeEUS** (still under evaluation). Two units of the electric urban bus will be delivered to Barcelona within the framework of the European ZeEUS (Zero Emission Urban Bus System) project, part of the Seventh Framework Programme in the



European initiative Green Cars, which aims to demonstrate the economic, operational, environmental and social viability of electric buses as a transport alternative in urban environments.

It has 42 partners, a budget of 13.6 million euros and a three-year duration. The project will demonstrate the validity of zero emissions technology in eight European cities (London, Glasgow, Stockholm, Munster, Barcelona, Rome, Pilsen and Bonn) with different climates and orographic environments. It is an extremely important initiative for Irizar because, besides being one of the most significant programmes undertaken in Europe, it represents the ideal window for showcasing its technology, in addition to being a means for testing the market and evaluating its own product.

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