CREATIO
The Irizar Group's Research and Development Centre

Our strategic commitment to technology and long-term innovation has resulted in Creatio, a Research and Development Centre that has been established to promote the Irizar Group's applied research capabilities and technological development for the brand's complete products as well as for main bodywork components.

The Creatio technological centre was founded this past October by Irizar and the following joint ventures: Jema, aimed at power electronics, and Datik, a technological firm that develops Intelligent Transport Solutions (ITS) aimed at managing transport. All of this is the result of the industrial diversification policy we launched in 2009 with the dual objective of strengthening our operations and minimising the concentration of risk by entering sectors with a high potential for development, such as the energy, electronics and communications industries.

Creatio combines the synergies and technological capabilities of these companies, and aside from working on more traditional projects, such as systems integration, it will firmly support the group in its new developments in the area of Irizar complete and electric buses.

Existing research lines can be summarised as:

- Propulsion
- Electro-mobility
- Energy generation and storage, vehicle load systems
- Intelligent Transport Solutions (ITS)

It is currently involved in projects

- **Etorgai IEB (Irizar Electric Bus) project**, launched in 2011 to develop an all-electric city bus. The objective is to have the necessary technology so we can compete in the city bus market with an all-electric Irizar bus that will basically be designed at Creatio.

creatio
IRIZAR INNOVATION CENTER

Together with Jema, Datik and the IK4-Vicomtech, IK4-Ceit and Tecnalia technological centres, we plan to deliver an electric bus to the San Sebastian transportation operator DBus in July 2014. This will be a 100% electric bus with a range of 250 to 300 kilometres. To do so, we have developed a power train based on actual driving cycles, optimising the propulsion and energy storage needs, while significantly reducing the vehicle's weight by using aluminium as the primary material of the structure.

This first unit will include an active safety system that will provide safer driving by detecting obstacles and traffic signals, as well as a storage system capable of efficiently identifying and managing energy flows and peaks.

- **European ZeEUS project** (still under evaluation) Next year, two electric city buses will be delivered in Barcelona as part of the European ZeEUS (Zero Emission Urban Bus System) project within the Seventh Framework Programme and the European Green Cars initiative, which has the aim of demonstrating the economic, operational, environmental and social viability of electric buses as a real mobility alternative in urban settings.

  It has 42 members, a €13.6 million budget and an execution period of three years. The project will test the validity of zero emission technologies in eight European cities (London, Glasgow, Stockholm, Münster, Barcelona, Rome, Plzeň and Bonn) with different meteorological and orographical settings. This is a highly relevant initiative for Irizar since, aside from being one of the most important programmes being undertaken in Europe, it will be an ideal showcase for introducing its technology, aside from being a medium through which to test the market and assess its own product.

- **Innpacto.** Project granted by the Centre for Technological Industrial Development (CDTI) this year.

  This is a research line focused on electric buses in which the University Institute of Automobile Research (INSIA) assists us in performing bench tests on storage and propulsion systems. This includes classifying routes, on-board elements and sensors for measuring the energy needs of each component, and to track, design and dimension what we need in order to offer the product to an operator.

  Through Creatio, we continue submitting bids for new tenders, and we have launched a Trainee Program to obtain highly qualified individuals who will join the centre in accordance with our needs.