



# SUSTAINABILITY REPORT



# Contents



Letter from Irizar Group CEO

Getting to know the Irizar Group

Irizar: 130 years envisioning a future of excellence and sustainability

Sustainable competitiveness: Priority and strategic commitment

Strategy and involvement in sustainability at Irizar

Corporate

With our customers, passengers, and citizens

With our personnel

With external partners, supply chain, and alliances

With the environment

With society in general



Esta es nuestra Comunicación sobre el Progreso en la aplicación de los principios del Pacto Mundial de las Naciones Unidas.

Agradecemos cualquier comentario sobre su contenido.

# For a **more sustainable** world



In this Sustainability Report 2018 we want to reflect, with great satisfaction, our renewed commitment, beginning in 2013, with the ten principles of the United Nations Global Compact on human rights, labour rights, the environment, and the fight against corruption. In it, we represent the bases and main initiatives for SUSTAINABILITY (economic, social, and environmental) that we carry out with our customers, passengers, citizens, external partners, society, and the environment.

Irizar is a diversified international industrial group that is currently present in the passenger transport, electromobility, electronics, energy, electric motors, and connectivity business areas. All Irizar Group companies base our future strategy on three main pillars: brand, technology, and sustainability. We have a few Strategic Thoughts shared by all with a clear approach to progress towards sustainability.



This year, in which we celebrate our 130th anniversary, for the first time, we have expanded the scope of our report to including the strategy of the entire Irizar Group.

Among the new initiatives and advances Irizar has undertaken in 2018 towards a more sustainable world, as reflected in this document, we would like to highlight that:

- We have started our approach to Agenda 2030 and have approved, within our strategy, the undertaking of our contribution to Sustainable Development Goals (SDGs).
- We have created our first code of ethics and we continue to make progress to enrich it.
- We have opened Irizar-emobility, the first factory in Europe dedicated entirely to electro-mobility solutions, designed based on eco-sustainability concepts.
- The Irizar ie tram, zero-emission articulated bus, received the Bus of the Year and Ecological Industrial Vehicle of the Year awards in 2018 in Spain.
- We have achieved significant reductions in consumption and emissions of our integral buses, for both hybrid and diesel engine models.
- We have progressed in our firm commitment to Eco-innovation. After completing the Life Cycle Analysis (LCA) of our integral i4 coach, we issued the Environmental Product Declaration (EPD), making us the first coach manufacturer with an EPD certified by the International EPD System based on international Standard UNE-EN ISO 14025.
- We have strengthened our focus and continuous effort in Circular Economy.
- We continue to participate in major European projects to shape the future of mobility.
- We have begun progress towards digital transformation, or industry 4.0, which is implemented as a project for the future and affects all the work areas of our organisation. This is a new phase for industrial development indicating significant changes. It is in this context that the analysis and diagnosis recently initiated in several

Irizar Group companies is framed. The objective is the definition of the future transformation plan, which will begin by identifying and assigning actions and priorities in the short term.

- We have increased communication and awareness actions for sustainability with Irizar personnel in aspects of gender equality, Sustainable Development Goals (SDGs) and human rights.
- In keeping with our Mission, we have continued to incorporate talent and create employment in our local environments.

Although we are fully aware that there is still much to do, we are proud of what was accomplished in 2018 and of the strategic lines established towards the achievement of a more sustainable world.

All this has been possible due to the great work carried out by all Irizar personnel, our customers, and external partners.

Congratulations to everybody!.

*José Manuel Orcasitas Landa*  
*CEO Grupo Irizar*



# Getting to know the Irizar Group

- 2.1. Presentation of the Irizar Group
  - 2.1.1. Creatio
  - 2.1.2. Business areas
  - 2.1.3. A group in continuous sustainable growth
  - 2.1.4. Production plants
  - 2.1.5. Branch offices
- 2.2. Brand, technology, and sustainability
  - 2.2.1. Strategic thoughts
    - Our mission
    - Our vision
    - Our commitments
  - 2.2.2. Brand
    - Stability and growth
    - Industrial diversification strategy
    - The customer, at the heart of the strategy
    - Innovation as a sign of identity
  - 2.2.3. Technology
    - Cutting edge
    - Commitment to sustainable mobility with proprietary technology
    - Organisational culture that drives technological innovation
  - 2.2.4. Sustainability







# Irizar Group

The Irizar Group is a business group with an international presence, which is currently involved in six sectors: passenger transport, electromobility, electronics, electric motors and generators, connectivity, and energy.

The Irizar Group is comprised of 7 brands (Irizar, Irizar e-mobility, Alconza, Datik, Hispacold, Masats, and Jema) with operations in 13 production plants in Spain, Morocco, Brazil, Mexico, and South Africa, in addition to its own R&D centre.

A Group comprised of more than 3350 people, with a commercial presence in five continents and with an aggregate turnover of 750 million euros.

Irizar, S. Coop is the parent company of the Group and its central headquarters is located in Ormaiztegui (Gipuzkoa, Spain) where Creatio, the Group's Research and Development Centre, is also located.

Founded in 1889, today, the Irizar Group is well-established. It is geographically and industrially diversified, continuously growing and firmly committed to the brand, technology, and sustainability

## Creatio

Creatio, the Irizar Group Research and Development Centre, enhances the Group's capacity for applied research and technological development for products and systems. Creatio works on long-term innovation, with the aim of improving sustainable competitiveness in the future and generating wealth and employment as it grows.

Creatio is the result of the constant commitment to industrial innovation as a key part of the Irizar Group's strategy. 2009 saw a strategic revolution take place, which helped Irizar to grow and become stronger. It was committed to the brand, so it became a manufacturer of integral buses. It was also firmly committed to technology, which led to the creation of an R&D Centre that reinforces the capabilities of the entire Group.

## A group in continual sustainable growth



**Founded in 1889**  
130 years of history



**More than 3,350 people**



**7 leading brands**  
Irizar, Irizar e-mobility, Hispacold,  
Masats, Jema, Alconza, Datik y Creatio



**750 M euros**  
turnover in 2018



**13 production plants**  
Europa, México, Brasil, EEUU, Sudáfrica



**Commercial presence on  
5 continents**





# Business areas

## Passenger transport

Irizar provides a wide range of coaches and buses and technological solutions ranging from integral coaches and 100% electric buses, to hybrid technology in Class II vehicles for urban and intercity services, in addition to conventional coaches.

Components and systems are also being developed within the Group for road and rail passenger transport. Masats specialises in accessibility and infrastructures and Hispacold develops climate technology, air purifiers, and defrosters. Datik develops devices that capture and manage the information generated by vehicles that assists driving, diagnostics, and predictive and preventive maintenance.

## Electromobility

With Irizar e-mobility, the Group provides comprehensive mobility solutions to cities and citizens, including both 100% electric zero-emission buses as well as the main infrastructure systems needed for charging, power, and energy storage. Irizar e-mobility has also launched a truck designed for different industrial uses in cities.

## Motors and generators

Alconza is dedicated to the development and manufacture of drive and power generation systems for the marine, hydraulic, and industrial sectors.

## Electronics

Jema offers power electronics applied to network and transport quality and electronics for coaches. In the bus and coach sector, it develops 100% multiplexed electronic architecture that makes every system intelligent to provide new functionality, reduce wiring, and facilitate vehicle diagnostics. Also of note are the AEB-LDW driving assistance systems and the HMI control and console.

## Energy

Jema is mainly involved in the design and manufacture of power supplies for Big Science and the conversion of renewable solar, wind, and hydroelectric power into energy that is suitable for storage and subsequent use in the grid.

## Connectivity - Artificial Intelligence

Datik unites intelligent driver assistance systems with a range of optional equipment to offer drivers and passengers an optimal form of mobility. Extensive experience in machine vision and deep-learning enables Datik to offer fleet management, preventive and predictive maintenance, and autonomous driving systems.



**Sales and after-sales networks**  
worldwide



**1 R&D centre**



**8 distribution and after-sales companies**

Irizar Autocars, Irizar UK, Irizar USA, Irizar Benelux, Irizar Asia Pacific, Datik Mexico, Jema USA, Hispacold Mexico



**Financial stability**

**6 activity sectors**

Passenger transport, electromobility, electronics, energy, electric motors, and connectivity

## Production plants



### Irizar Mexico

In 1999 Irizar Mexico was created in the city of Querétaro. It serves the high-end market with the Irizar i5, i6, i6S, and i8 models and is the habitual supplier for the largest ground transport and passenger companies. Currently, Irizar Mexico is a strong leader with a market share exceeding 50%.



### Irizar Brasil

In 1998, Irizar Brasil was created, in the town of Botucatu, with the objective of undertaking the Latin American market. Positioned in the luxury coach segment with the Irizar i6 and i6S models, Irizar Brasil is consolidated as a project with a strong commitment to exports. From Brazil, the Group serves the markets of South America, Central America, Africa, and Oceania.



### Irizar Marruecos

In 1996, the company Irizar Maghreb was established in Morocco. In 2002, the Irizar Century model was launched, and in 2008, a new plant was opened in Skhirat, with a production capacity of 1,000 coaches per year. In 2013, it began manufacturing buses for Europe. Following the launch of the Irizar i6 in 2014, and the Irizar i6S in 2017, Irizar Morocco is consolidated as one of the most expansive projects at the international level, being market leader in the luxury coach segment.



### Irizar South Africa

Irizar Southern Africa was created in 2004 in the city of Centurion (Pretoria). The plant serves the markets of South Africa, as well as neighbouring countries such as Namibia, Zimbabwe, Botswana, Zambia, Malawi, and Mozambique, among others. It covers the luxury coach segment with the Irizar i6 and i6S.





### **Irizar HQ**

Wide range of biodiesel, hybrid, electric, and conventional integrated coaches and buses.

### **Masats**

Accessibility systems for public transport vehicles.

### **Alconza**

Motors and generators for the marine, hydroelectric, and industrial sectors.

### **Datik**

Integral fleet management IoT connected systems.  
ADAS solutions (Advanced Driver Assistance Systems).  
Autonomous vehicles

### **Jema**

Power electronics applied to network and transport quality. Power supplies for Big Science.  
Renewable energy, storage, and Smart grids  
Electronics for coaches.

### **Irizar e-mobility**

Integral electromobility solutions for cities. 100% zero emissions, electric vehicles, charging systems, electric drive, energy management and storage.

### **Hispacold**

Air conditioning systems for buses, coaches, and railway vehicles.

### **Creatio**

Irizar Group's Research and Development Centre, which was created in order to enhance the Group's applied research and technological development capabilities both for its proprietary products as well as for the main coachwork components.

## **Branch offices**

### **Irizar Benelux**

Created in 2018, it offers sales and after-sales service for integral electric buses and coaches throughout Benelux.

### **Irizar Asia Pacific**

Since 2006, Irizar has been present in Oceania, based in Melbourne, offering service to New Zealand and Australia.

### **Datik Mexico**

The affiliate Datik, in Mexico, responds to the great demand of the Mexican market, offering a close sales and after-sales service adapted to Mexican customers.

### **Jema USA**

Based in California, it offers customised services in the photovoltaic, storage, and advanced services sectors. Additionally, it has references throughout the US in each of these sectors.

### **Hispacold Mexico**

Founded in 2002, it is dedicated to the manufacture and supply of air conditioning systems for buses and coaches.

### **Irizar UK**

Founded in 2011, it distributes the full range of integral vehicles in the UK market.

### **Irizar Autocars**

Founded in 2011, Irizar Autocars offers sales and after-sales service to the French market with the full range of Irizar integral, electric, and hybrid vehicles.

### **Irizar USA**

Created in 2016 and based in Las Vegas, it covers the US market with the Irizar i6 model.

### **Irizar Italia**

Created in 1993 and based in Rimini, it offers service and a complete after-sales network throughout Italy.

# Brand, technology, and Sustainability

Brand, technology, and sustainability are the three main building blocks on which the Irizar Group's future strategy is based. An inspirational framework that shows us the way to the future and defines our commitment to remain one of the world leaders in the sectors in which we are present.

At the base are Strategic Thoughts, which are the fundamental principles that guide both the strategic decisions and the organisational culture of the Group. Strategic Thoughts are reviewed periodically (taking into account aspects of the economic and social environment, the sector, market, competition, and the other internal and external stakeholders) and defined and shared by all the people in the organisation. Each year, a specific meeting is held with all the people of Irizar in which a full day is dedicated to reinforce the knowledge of these Strategic Thoughts.

Likewise, annual assemblies are held at all Irizar Group companies where strategy is the most important aspect.

In the in-depth reviews of Strategic Thoughts conducted every three or four years (the last one was in 2016), SWOT analyses are carried out for the areas of improvement, resulting from the participation of personnel representing all the work teams at all levels (management team, board members, direct and indirect employees), that translate into action plans to be implemented in each organisation.

Additionally, an Ideas and Objectives Plan (IOP) is annually established for all management areas of the organisation, deployed at the level of the entire corporation, and becomes the main focus of actions and monitoring for management.





# Strategic thoughts

## Mission

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Our mission is to continuously strengthen our business project and brand in order to grow and generate wealth and employment in our environment.

It is key to achieve a high degree of customer satisfaction by establishing a close relationship with them where we can provide the guarantee of an established project in which they can trust.

The flexibility to adapt to the needs of our customers by providing them with the products and services they require is a strategic factor that sets us apart from our competitors and enables us to earn their loyalty.

What's more, we strive to maximise satisfaction among Irizar Group employees, our external partners, and for society as a whole.

We work and will continue to work in Irizar S. Coop.'s cooperative framework and in a framework of communication and participation in the management and results of the other Group companies.

## Vision

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Our vision is to provide buses and coaches with a marked differential value in safety, reliability, comfort, and profitability for our customers, passengers, and society and set the standard in service, quality, design, innovation, technology, and sustainability.

We also strive to set the standard for providing value to our customers for all Group activities.

## Commitments

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We work hard every day to reach a position of leadership that benefits our customers. We work as a team with personnel who are committed to the customer and to the Group's strategy. We promote efficiency, communication, participation, self-management, and managerial excellence.

We create environments where everybody involved in our projects can give their best according to their talents, abilities, and aspirations. This is key to our future success.



## Stability and growth

Our commitment to the customer, innovation, and technology has 130 years of history, and it has enabled us to grow in size and capabilities, becoming a solid Group that builds trust. Our future strategy is based on sustainable growth in the areas in which we operate, as well as on opening new markets, provided they contribute to profitable products and services that help strengthen our brand.

## Strategy of **industrial diversification**

Initiated in 2009, its goal is to strengthen the Group and all its brands, prioritising entry into other sectors with high development potential. In this way, we develop new capabilities that enable us to renew and expand the range of products and services, and adopt measures to increase efficiency and competitiveness in all our businesses based on enhancing synergies within the Group in order to create wealth and employment

Furthermore, we are immersed in leading and positioning ourselves at the forefront of new technologies related to innovative concepts and services such as electromobility, working to improve urban environments, and the health and quality of life of the people who inhabit them.

## **Innovation** as a sign of identity

Innovation is one of the hallmarks of our corporate identity. It is part of our culture and extends to management, product, and service levels, as well as sustainability, technology, and image.

We encourage innovation and creativity not only in what we do, but also in how we do it. Accordingly, we are constantly progressing, at the Group level and in each organisation that comprises it. We are not only increasingly more agile, flexible, and adaptable but also better able to anticipate future challenges while adding value to our brand and stakeholders.



# The **customer**, at the heart of the strategy

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The main strategy of the Irizar Group is customer satisfaction and loyalty. We do this by adapting to their needs and offering them the assurance of a solid project on which they can rely. All of this as a customer-focused organisation and based on proximity and building direct relationships for the purpose of earning their loyalty and trust. Customisation is one of the strengths of the Irizar Group. We offer the option of unlimited customisation to customers, which, undoubtedly, is another differentiating aspect.

We are committed to a leadership position for all our businesses, which in turn benefits our customers. From the commitment of personnel, we focus on customer satisfaction, through efficiency, managerial excellence, and communication. We create environments in which everyone can contribute based on their talents, abilities, and aspirations. These are the keys for our future success.

We offer the best added value, placing, at your disposal, Irizar's cutting-edge technology and brand products and services. These are created and developed from the knowledge of the entire Group, aimed at the Premium market, and differentiated in terms of safety, reliability, sustainability, technology, and profitability. Design and innovation are part of Irizar Group's DNA.

"We adapt to their needs and offer the assurance of a solid project on which they can rely. All of this as a customer-focused organisation and based on proximity and building direct relationships for the purpose of earning their loyalty and trust".



## Commitment to **sustainable mobility** with proprietary technology

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Our commitment to sustainability has led us to create the Electromobility Department that provides turnkey solutions using proprietary technology developed by the companies that comprise the Irizar Group. Our projects include zero-emission electric vehicles, their main systems and components (battery and powertrain modules), smart charging solutions adapted to needs, connectivity, and repair and maintenance services.

In addition to zero-emission buses and commercial vehicles, we have one of the widest ranges of products and technological solutions that include hybrid coaches, also developed with our proprietary technology. Also, we are currently immersed in large-scale European projects to reduce combustion engine emissions and shape the future of sustainable mobility.

Our sustainable mobility solutions are transforming our cities and our planet. Irizar is determined to encourage the use of efficient, clean, and accessible transport that is committed to the environment, the well-being and health of people, and that enable the creation of better urban environments.





# State-of-the-art **technology**

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The Irizar Group is heading towards the future and is committed to its own distinctive and distinguishable technology, geared to the smallest detail.

Creatio, the Group's Research and Development Centre, is the hub of the Group's enormous technological capability. Together with the technology developed by each of the companies that make up the Irizar Group, it addresses all the aspects involved in the design and implementation of products and systems, facing the most unique challenges, increasingly complex customer demands, and sustainability. This technological capability places the Irizar Group in a leading position and enables it to participate in important and ambitious projects at the European level to outline future directions in mobility and in other business areas.

## **Organisational culture** that drives technological innovation

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As we saw in the section dedicated to the brand, promoting integrated innovation in our corporate culture, and extending it to every level, enables us agile, flexible, and adaptable organisations in the Group. This drives and facilitates our continual progress in technological innovation and enables us to lead the way for the technological challenges of the future.



# Sustainability

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Sustainability, as a fundamental pillar of our strategy for the future, drives and commits the entire Group to work to contribute to the construction of a better and more sustainable world.

We are convinced that long-term sustained business success in the Group is only possible if our culture and business performance is governed by:

- Corporate integrity
- Shared ethical principles, which guide of our way of doing things and relating to each other and to the other stakeholders (customers, external partners, and society as a whole).
- Sustainability (economic, social, and environmental) integrated into our global business strategy.

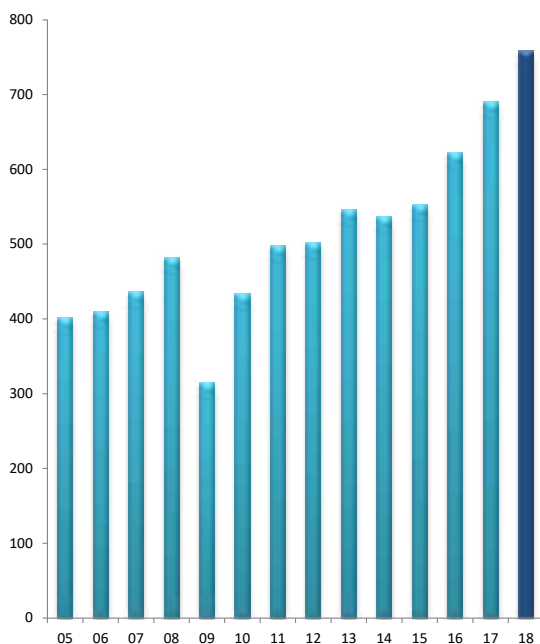
For this reason, we seek to progress in creating a true culture of sustainability, integrated at the level of the Irizar Group in daily management.

These ethical principles are present in decision making and are the backbone to make our sustainable competitiveness possible.

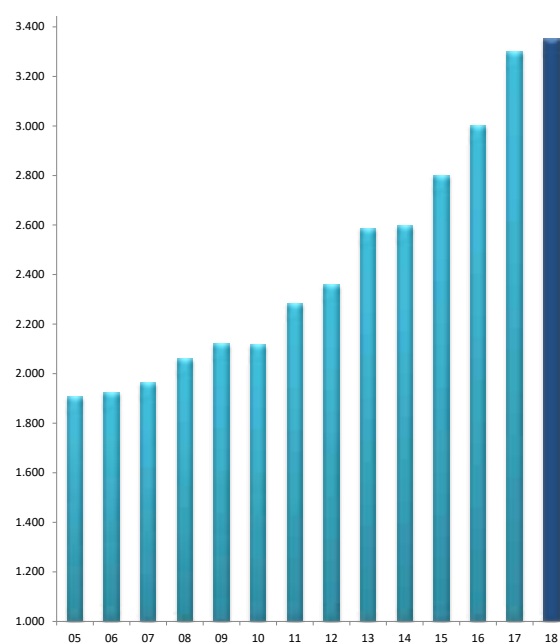
**“Sustainability, as a fundamental pillar of our strategy for the future, drives and commits the entire Group to work to contribute to the construction of a better and more sustainable world.”**



**Evolution of aggregate turnover  
(millions of euros)**



**Job Creation**



This graph is the best evidence (indicator) of our Sustainable Competitiveness (economic, social, and environmental) and a reflection of consistency with our Mission. Despite the crisis and the drop in sales, Irizar maintained employment in 2009.



Esta es nuestra Comunicación sobre el Progreso en la aplicación de los principios del Pacto Mundial de las Naciones Unidas.

Agradecemos cualquier comentario sobre su contenido.

Irizar S.Coop. joined the United Nations Global Compact in 2013, and every year, we've renewed our firm commitment to the ten principles set out by the global agreement (human rights, labour rights, the environment, and the fight against corruption).

In 2018, we began our approach to the United Nations Agenda 2030 and recognised the opportunity of the 17 Sustainable Development Goals (SDGs) and the involvement of the private sector to overcome the main challenges that global society faces, including the fight against climate change, the eradication of poverty, and economic and social progress.

We discuss the Irizar Group sustainability strategy in detail in section 4. "Sustainable Competitiveness: Priority and strategic commitment".



The background of the slide features a serene sunset scene over a body of water. The sky is a gradient of warm colors, from a pale yellow near the horizon to a soft, hazy blue at the top. The water in the foreground is dark and textured with gentle ripples. On the right side, a dark silhouette of a pyramid is visible against the horizon. Two parallel diagonal lines, one gold and one white, run from the top right towards the bottom left, framing the text on the left side of the slide.

# 130 years

Envisioning a  
future of ex-  
cellence and  
sustainability





# 130 years envisioning a future of excellence and sustainability

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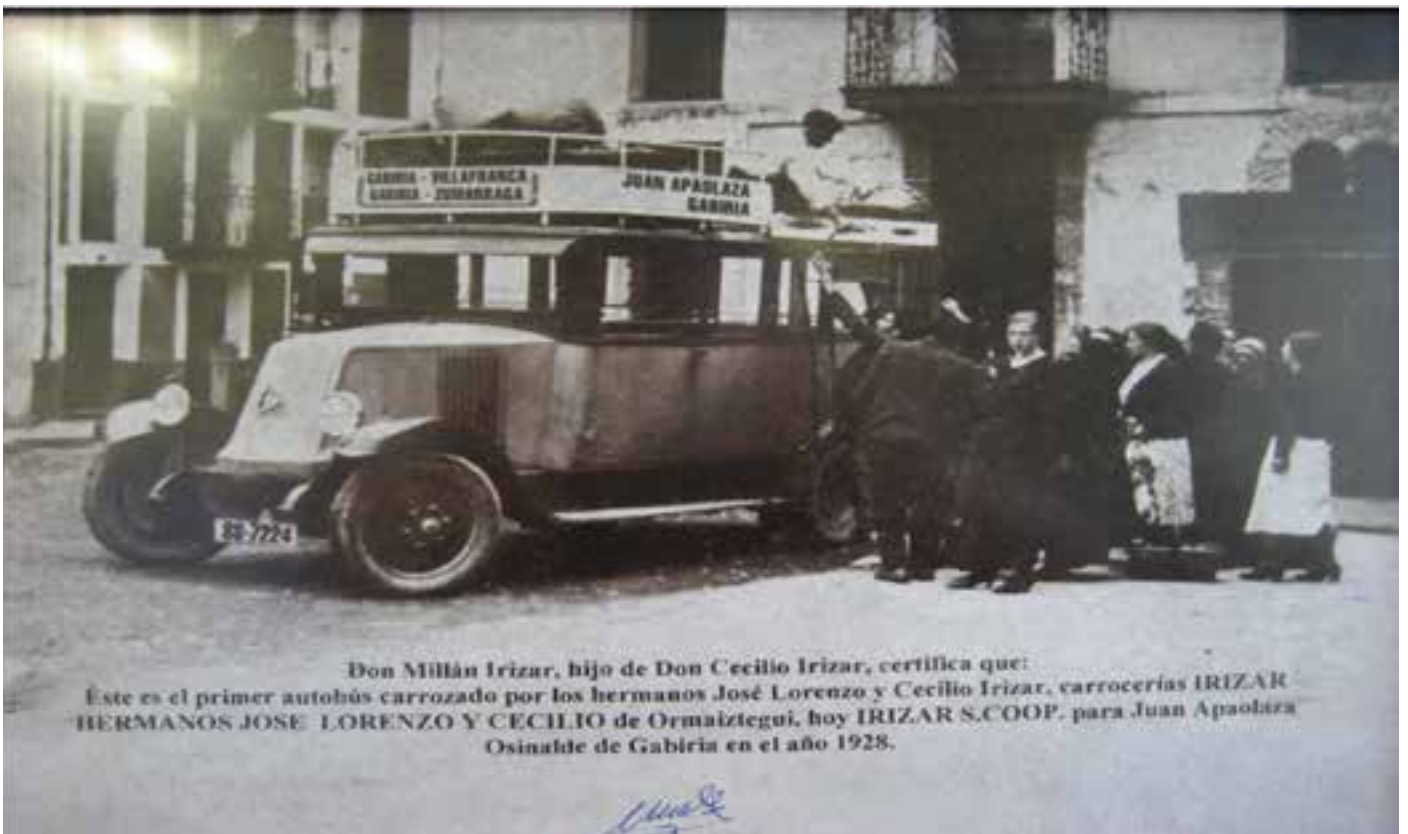
Since 1889, Irizar has been experiencing an exponential evolution

## 1889

Irizar was created in 1889 and its founder, a Gipuzkoan entrepreneur named José Antonio Irizar, was the one who decided to take the company from manufacturing iron fittings for carriages into the world of passenger transport. In the late 19th century, the family business stamped its perfectionist hallmark and immersed itself in manufacturing elegant carriages and stagecoaches, an activity that it carried out for almost three decades.

## 1928

In 1928, the first mechanically powered vehicle was built. It was a 22-seat vehicle with bodywork on a chassis a customer, Julián Apaolaza, acquired in France.



# 1963

## Irizar becomes a cooperative

A decision that was adopted to involve people in the future of the company, thus, enabling members to participate in management. Cooperativism focuses on four important values: cooperation; the people who comprise the cooperative act as owners and protagonists; participation, which is reflected in a commitment to the management, social responsibility, and solidarity distribution of wealth; and innovation, directed towards permanent renewal in all areas. These values are staples of the daily culture of the Irizar Group.

# 1970-1980

## During the seventies and eighties

Irizar continues to be immersed in constant innovation and is positioned as one of the best companies in the national coach building sector.

## The 90's

In the 1990s, Irizar experienced strong growth and began its internationalisation process.

Irizar Mexico, Irizar Brasil, Irizar Maroc, Irizar Asia Pacific and Irizar Southern Africa were created.



## 1994

In 1994, it became the first European coach manufacturer to obtain the Company Quality Certificate in accordance with international Standard ISO9001.

## 1995 y 1996

In 1995 and 1996, Irizar received two National Prince Felipe Awards for business excellence in design and total quality management (TQM), awarded by the Ministry of Industry and Commerce of Spain.

## 1998

Our commitment to the environment dates back to 1998 when Irizar became the first European coach manufacturer to obtain ISO14001 certification.

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## 2000

In 2000, Irizar earned the prestigious **European Award for Business Excellence** (European Quality Award) granted by EFQM (European Foundation for Quality Management), being the first large Spanish company not belonging to a foreign multinational group to achieve it. This is a consequence of the extensive strategic reorganisation of the company started in 1994, and the establishment of a mission to generate wealth and employment through the satisfaction of all our stakeholders (customers, personnel, and society as a whole).



## 2002

In 2002, Irizar was recognised for its strategic decisions by The Harvard Business School Institute where the Irizar case is taught.

## 2004

In 2004, it received the **Corporate Social Responsibility Award**.

## 2009

In 2009, at the height of the crisis, a strategic revolution took place as Irizar made the decision to become an integral coach manufacturer with a sustainable vision.

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## 2009 y 2013

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In parallel, an enormous effort towards industrial diversification and technology was undertaken because they were seen as urgent needs for carrying out the strategy. As a result of this policy, Jema Energy, Datik and Alconza were incorporated into the Group between 2009 and 2013. These companies are engaged in power electronics, ITS solutions for transport management, and rotary electrical machinery, respectively. The incorporation of these companies into the Group strengthened its technological position, enabling it to continue making steady headway in the development of its proprietary conventional coaches and electric buses.



## 2011

In 2011, the full range of Irizar integral coaches was launched. At the same time, the decision was taken to start the sustainable mobility project for cities.

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## 2012

Creatio, the Irizar Group's Research and Development Centre, was founded in 2012 to enhance the Irizar Group's applied research and technological development capabilities, both for the firm's integral products and its major bodywork components. It also launched a Trainee Programme for attracting talent to join the group and lay the groundwork for future knowledge within the Group.



## 2013

It joined the United Nations Global Compact (human rights, labour, environment, and anti-corruption).



# 2014 and 2015

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In 2014 and 2015, two key elements aligned with the construction of this brand were addressed. In 2014, the new modern facilities at the Ormaiztegui (Spain) headquarters were inaugurated. The facilities were created by and for the customer, thus enhancing their image in a way that is consistent with the market promise that Irizar wants to project.

In 2014, the Irizar Group's first 100% electric, zero-emission bus was launched. In 2015, Irizar presented the Irizar i8, a new high-end coach that was the result of multiple technological solutions developed within the Group and the meticulous attention to detail that comes from the brand's experience and innovative spirit.

Additionally, for the first time, Irizar attended the international Busworld fair with its full range of integral coaches and buses equipped with the Group's latest technological advances in safety systems,



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## 2016

In 2016, the first coaches with hybrid technology were launched on the market. Irizar is the recipient of the National Environment Award in the product-service category in Spain and was a finalist in Europe representing Spain. It is also recognised for best practices for climate change in Euskadi.

## 2017

In 2017, the 18-meter articulated vehicle was presented. 100% electric zero-emission vehicle with fast charging by pantograph was presented and Irizar won the International Award for Best Coach of the Year and was nominated coach manufacturer of the year in Europe. These events were followed by the Bus of the Year and Ecological Industrial Vehicle of the Year awards.

## 2018

The Irizar e-mobility factory was inaugurated, the first factory designed entirely for electromobility solutions in Europe.



## 2019

In 2019, it joined the Klima 2050 initiative: A commitment acquired by the European Union, the KLIMA 2050 Strategy of the Basque Country sets a reduction goal of 40% of greenhouse gas emissions by 2030 compared to 2005, and 80% by 2050. Likewise, in 2050 it is expected to reach renewable energy consumption of 40% of final consumption by 2050.

This year, Irizar obtains the Environmental Product Declaration, thus becoming the first company in the sector in the world to obtain this certification.

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We continue on our path of solidity and growth offering all our customers maximum added value in terms of brand, technology, and sustainability, while competing to create wealth and employment in our local environments.

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# Sustainable Competitiveness at the Irizar Group

## Priority and strategic commitment

- 4.1. Sustainability as a cornerstone of the strategy
- 4.2. Global future sustainability strategic framework
  - 4.2.1. Corporate
  - 4.2.2. With our customers, products, and services
  - 4.2.3. With our personnel
  - 4.2.4. With external partners, supply chain, and alliances
  - 4.2.5. With the environment
  - 4.2.6. With society in general
- 4.3. Articulating and facilitating everyone's commitment to sustainability



# Sustainability as a cornerstone of the strategy

As seen in Chapter 2 Getting to know the Irizar Group, sustainability, as a fundamental pillar of our strategy for the future, drives us and commits the entire Group to contribute to the construction of a better and more sustainable world.

Our future success depends on all the organisations that comprise the Group going far beyond the search for economic profitability and compliance with applicable legislation (local, regional, national, foreign, and international laws) and internal regulations.

Sustained long-term business success of the Group is only possible if our culture and business performance is governed by ethical principles. We strive to create a true culture of sustainability (economic, social, and environmental), integrated at the Group level in the daily management of all the organisations that comprise it and in our relationships with all stakeholders (personnel, customers, passengers, citizens, external partners, the environment, and society in general).

## Global sustainability strategic framework for the future

In addition to the individual progress and initiatives in sustainability for each Group company, the focus and long-term trajectory of continuous progress at Irizar S. Coop (discussed in more detail in this report) serves as a reference and facilitates the foundations for a common sustainability strategic framework for the future, and motivates the implementation of sustainable actions for the management of the other companies in the Group.

Irizar S.Coop. has been a member of the United Nations Global Compact since 2013 (the largest voluntary initiative for corporate social responsibility in the world). Each year we issue a Sustainability Report, in which we renew our firm commitment to the 10 principles proclaimed by the Global Compact (referring to human rights, labour rights, the environment, and the fight against Corruption). We include the main initiatives that we are carrying out with our stakeholders (personnel, customers, passengers, citizens, external partners, society, and the environment).

These 10 principles inspire us to advance our responsible actions and help us to better manage risks.

<https://www.unglobalcompact.org/what-is-gc/mision/principles>

In 2018, we began our approach to the United Nations Agenda 2030 and recognised the opportunity of the 17 Sustainable Development Goals (SDGs) and the involvement of the private sector to overcome the main challenges that the global society faces, including the fight against climate change, the eradication of poverty, and economic and social progress. Accordingly, since 2019, we have begun to integrate our contribution to the achievement of the SDGs into our strategy and management.

We believe that contributing to the advancement of the United Nations Agenda 2030 will not only give us the satisfaction of being able to contribute our small part to transforming the Earth into a more sustainable and prosperous place, but also, if we align and prioritise our contribution to the SDGs with our context and business objectives, it will provide significant business opportunities.



<https://sustainabledevelopment.un.org/sdgs>

Furthermore, we are partners of the Spanish Network of the Global Compact, (Multistakeholder association that acts as a focal point for the United Nations Global Compact in Spain). Proactive participation enables us to show a greater commitment to sustainability, interact with the main agents of change (not only at the Spanish level but also internationally), generate shared values between the company and its environment, learn and share best practices, and strengthen relationships with stakeholders.

<https://www.pactomundial.org>

Our annual Sustainability Reports, issued since 2013, detail all our commitments and progress. The reports are published in different internal and external media around the world, as well through our website and that of the United Nations, in a clear commitment to transparency.

<https://www.unglobalcompact.org/what-is-gc/participants/19510#cop>



"En el nuevo escenario, las empresas son un actor clave para alcanzar los Objetivos de Desarrollo Sostenible"

António Guterres - Secretario General de Naciones Unidas

El 25 de septiembre de 2015 se aprueba por Naciones Unidas la Agenda 2030.

La Agenda 2030 se compone de 17 Objetivos de Desarrollo Sostenible y 169 metas a cumplir en el año 2030.

Su objetivo es transformar el mundo en un lugar más sostenible y próspero.

Aborda las 3 dimensiones de la sostenibilidad: social, económica y ambiental.

## LOS DIEZ PRINCIPIOS del Pacto Mundial de Naciones Unidas

Los Diez Principios del Pacto Mundial son los valores esenciales desde el nacimiento de la iniciativa en el año 2000.

Se fundamentan en diversas declaraciones de Naciones Unidas y gozan de consenso universal.

Las empresas que se unen a la iniciativa aceptan estos Diez Principios comprometiéndose a implementarlos a nivel interno.



1. Apoyar y respetar la protección de los Derechos Humanos.
2. No ser cómplices en la vulneración de los derechos humanos.
3. Apoyar la libertad de afiliación y el reconocimiento efectivo del derecho a la negociación colectiva.
4. Apoyar la eliminación de toda forma de trabajo forzoso o realizado bajo coacción.
5. Apoyar la erradicación del trabajo infantil.
6. Apoyar la abolición de las prácticas de discriminación en el empleo y la ocupación.
7. Mantener un enfoque preventivo que favorezca el medioambiente.
8. Las empresas deben fomentar las iniciativas que promuevan una mayor responsabilidad ambiental.
9. Favorecer el desarrollo y la difusión de las tecnologías respetuosas con el medioambiente.
10. Trabajar contra la corrupción en todas sus formas, incluidas extorsión y soborno.

## Sustainability: Priority and strategic commitment

In the in-depth reviews of the Strategic Thoughts conducted every three or four years, SWOT analyses are carried out taking into account aspects related to the economic and social environment, the sector, market-customers, partners and competitors, and all other stakeholders. This serves to establish priorities and define actions with the objective that the Group's strategy is aligned with everyone's expectations and thus guarantees their needs, sustainable growth of the business, and generation of value, wealth, and employment, as it reflects our mission.

The Irizar Group is exposed to risks that are directly related to the productive or commercial activities of its divisions or that result from external influences. These are risks that may prevent the Group, or any of its business areas, from achieving its objectives. At times, the risks translate into opportunities that must also be identified and exploited. Therefore, in the Irizar Group and all its business areas, risk and opportunity analysis is immersed in the culture, strategy, and management of each of the teams and processes. It is automatically integrated into strategic plans and decision-making to prevent illicit practices or those outside our framework of ethical action.

While there are differing degrees of progress as regards sustainability in each Group company, we are laying the foundations and implementing the following strategic framework for future global sustainability, which covers actions at all levels (corporate, transversal, and stakeholder). This Group strategy that we are outlining will contribute to our sustained progress on the path to sustainability.

### Corporate

- To direct all our efforts towards the search for long-term sustainable competitiveness, economically, socially, and environmentally. To act sustainably to become more competitive every day, generate wealth and long-term employment, and meet the needs of our customers, external partners, personnel, and society as a whole. Likewise, we propose to protect the environment and preserve our surroundings for future generations. Because today's decisions can change the course of history and the future.

- To continue advancing in the integration of sustainability into the strategy and daily management of each Group company, in line with the ten principles set out by the United Nations Global Compact (in reference to human rights, labour rights, the environment, and the fight against corruption). These 10 principles inspire us to advance our responsible actions and help us to better manage the risks to which the Irizar Group is exposed.

- Continued commitment to permanent dialogue with all stakeholders for all Group companies. This dialogue helps us to listen to their concerns and needs and identify future trends to build trust and increasingly consolidate our relationship with them. At the same time, it is an ideal way to demonstrate and exchange, transparently, our concerns and our fields of action, as well as the joint challenges we face in the management of sustainable growth.

Debates are carried out through different communication channels with periodic meetings where lines of action and objectives are shared, as well as the deadlines for their fulfilment.

The following are important stakeholders for us:

- Customers
- Suppliers
- Personnel employed at the Irizar Group
- Retirees who worked with us
- Sales distributor affiliates
- After-sales service partners: technicians and workshops
- Partners (R&D centres, banks, sectoral associations)
- Institutions, local and national governments.
- International institutions
- Local and national associations
- Media outlets (press, etc.)
- Social entities (colleges and universities, culture, sports, associations, NGOs)



- Sustainable growth in the areas in which we operate, as well as for opening new markets, provided they contribute to profitable products and services that help strengthen our brand.
- To promote and ensure (from senior management, with the support of and working in collaboration with the other corporate governance bodies of each company) that this commitment and sustainable action, beyond the personnel who work at each Group company, is extensive for customers, suppliers, external partners, and stakeholders. Because risk reduction is vital to guarantee our reputation and the success of the long-term corporate strategy.
- To advance in transparency, good governance, and integrity. Therefore, we rely on our open culture and our firm conviction that only business activities that respect corporate ethics and sustainability constitute the only possible foundation for achieving sustained business success beyond compliance with internal regulations and applicable legislation (local, regional, national, foreign, and international).
- To progress in the deployment of our Principles and Ethical Conduct Guidelines of the Irizar S. Coop. Code of Ethics for the personnel that comprise the Irizar Group and disseminate it to all national and international stakeholders to better understand our commitment while encouraging their ethical and responsible action.
- To advance in compliance with the United Nations Agenda 2030 and strategic contribution to the Sustainable Development Goals (SDGs). In addition to contributing to the common good, we are convinced that if we align and prioritise our contribution to the SDGs with our own business context and objectives, it will offer us significant opportunities.
- To disseminate the SDGs to the personnel of all Group organisations, and increase the level of commitment to each.

All this implies, in all our internal and stakeholder relationships, that we must:

- Respect and promote compliance with human rights, as recognised in the Universal Declaration of Human Rights.
- Act according to the fundamental labour principles and rights set forth in the declaration of the International Labour Organisation (ILO).
- Promote the spirit of respect for the environment and the protection of the nature contained in the Rio Declaration on Environment.
- Combat corruption in all its forms, in accordance with the United Nations Convention against Corruption.

### With our **customers, products, and services**

- To ensure day-to-day satisfaction and loyalty of our customers, passengers, and citizens, with continual proximity and offering the best products and services taking into account aspects of sustainability as part of our strategy.
- To create and develop advanced products and services thanks to the knowledge of the entire Group, which provide a differential in terms of safety, reliability, sustainability, technology, and profitability.

Irizar Group electromobility is an excellent example of our goals towards a sustainable world. Aware of the environmental and health damage that industrial development and public transport has subjected to the planet and people, the Irizar Group has begun to lead the transition of change by developing comprehensive solutions for pioneering sustainable mobility that is without polluting emissions (zero emissions), noiseless, efficient, reliable, accessible, and completely safe. We are moving forward in the redesign of our batteries to make them more sustainable.

- To encourage our customers and all external partners involved in the supply chain (sales, distribution, and after-sales) of our products and services to act in a sustainable and ethical manner.

### With our **personnel**

- To commit ourselves to the personnel that comprise each company and the Irizar Group: offering fair and attractive working conditions, increasing continuous training, development of professional life, improved work/personal life balance, building trust, communication, teamwork, equality, diversity, and participation in business management and profit.
- To continue to prioritise and dedicate resources to an Occupational Safety and Health system that is integrated into the day to day management of each company, prioritising occupational safety and health over other aspects.
- To contribute actively to the environmental balance, working to minimise any impact derived from our activities while preserving the natural environment.

### With external **partners, supply chain, and alliances**

- Our priority is to establish stable relationships with external partners capable of offering products and services that help us improve our brand and sustainable competitiveness. These relationships are always based on ethical principles and maximum professionalism.
- We pursue a long-term integrated sustainability strategy at the Irizar Group level throughout the entire supply chain.
- Beyond the framework of our product and service supply chain, we promote the establishment of long-term strategic relationships and alliances with all external stakeholders (passengers, citizens, external partners, environment, government institutions, NGOs, and society as a whole).



Research and development



Supply chain



Production



Logistics and transport



Sales and utilisation



Disposal and recycling





### With the **environment**

- To continue to make significant progress in all aspects related to the improvement of the environment, in both the treatment and reduction of waste, as well as in emissions, etc.
- To make efficient cutting-edge environmental products and technologies applied to the entire product life cycle available to all.
- To collaborate with society, the environment, and institutions in the design of positive socially and environmentally sustainable development. Our active commitment must be applied to its care and protection.
- All personnel must make adequate and economical use of natural resources, so that our activities have the least possible impact on the environment.

### With **society** in general

- In keeping with our mission, the best reflection of our commitment to sustainability is our commitment to the growth and creation of wealth and employment, creating quality jobs for people in the local environments and countries where we are present.
- All of our achievements are based on our financial efforts, as well as the dedication of the personnel that comprise Irizar, which contributes to building a better socio-economic environment and a better society, of which we are an integral part. Our relationship with society is based on respect. It is open and participative while collaborating in culture, sports, and education in our immediate area as well as in solidarity actions.

Efficient and cutting-edge environmental products and technologies applied to the entire product life cycle



# Articulating and facilitating the **commitment to sustainability for everyone**

Sustainability is a commitment shared by all, which is why for years it remains based on the culture of the personnel that comprise the Irizar Group.

The ultimate responsibility for the sustainability of the Irizar Group lies with its General Director, who, along with the entire management team and through the Boards of Directors, determines the strategy and ensures its implementation for all Group companies. These teams are also responsible for ensuring compliance with all internal laws and regulations, as well as proper risk management and control.

Sustainability is currently a factor in all projects and decisions in which these teams are involved.

We are committed to implementing our policy and enforcing our internal regulation for all our production plants and Group companies at the international level.

At Irizar there is a strong dynamic in meetings that become ideal forums to explain the objectives and corresponding follow-up based on the annually approved action plans.

Furthermore, there are self-assessment systems backed by internal and external audits that enable the monitoring of compliance with commitments, operational performance, and achievement of objectives.

The management team monitors progress in sustainability.

**The ultimate responsibility for the sustainability of the Irizar Group lies with its General Director, who, along with the entire management team and through the Boards of Directors, determines the strategy and ensures its implementation**





# Strategy and involvement in sustainability at Irizar

- 5.1. Corporate
- 5.2. With our customers, passengers, and citizens
- 5.3. With our personnel
- 5.4. With external partners, supply chain, and alliances
- 5.5. With the environment
- 5.6. With society in general



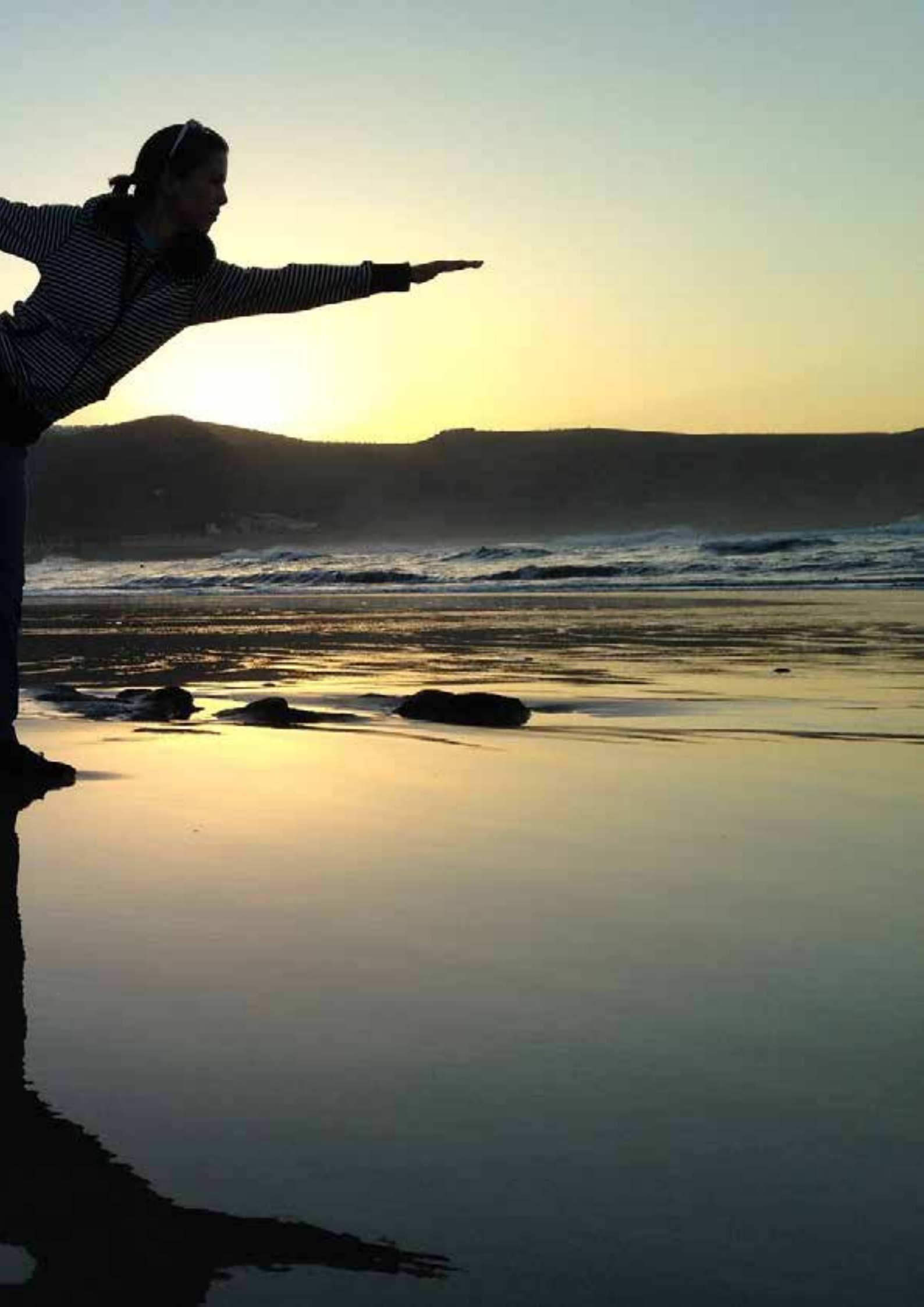




# Corporate

- 5.1.1. Code of Ethics
- 5.1.2. Agenda 2030 and Sustainable Development Goals
- 5.1.3. Alliances and collaboration in forums to promote sustainability
- 5.1.4. Promoting competitiveness at the Irizar Group





# Code of Ethics

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We have created our first code of ethics and we continue to make progress to enrich it.

Its basis is that:

- We are committed to contributing to the construction of a better and more sustainable world. We are very clear that long-term business success is only possible by applying our global strategy based on brand, technology, and sustainability, and that our actions must take ethical principles into account.
- We understand that what we do in our business is not enough, but rather how we do it.
- Ethical principles guide our way of doing things and relating to each other and to the other stakeholders (customers, external partners, and society as a whole). They are present in the decision making of Irizar personnel and are the backbone that makes our long-term sustainable competitiveness possible.
- We uphold an open and transparent culture with the firm conviction that business activities with respect for total integrity are the only basis possible for achieving sustainable economic success.
- We are convinced that the main instrument to strengthen integrity is an organisational culture based on principles shared and assumed by all personnel working at Irizar, as it constitutes the best preventive element against bad practices and illegal or criminal behaviours in organisations.
- The Code of Ethics is designed as an instrument that helps strengthen an open culture, transparency, good governance and business integrity and focuses on corporate commitments, ethical principles, and guidelines for good conduct.
- Beyond compliance with legislation, we are also committed to international conventions such as the United Nations Global Compact and its principles related to human rights, labour rights, the environment, and anti-corruption.

## Agenda 2030 and Sustainable Development Goals

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In 2018, we started our approach to Agenda 2030 and have approved, within our strategy, to begin to address, in 2019, our contribution to the Sustainable Development Goals (SDGs).

In the chapter dedicated to sustainability with our personnel (5.3), we have included our training and dissemination actions carried out in 2018 for Agenda 2030.



## Collaboration in forums to promote sustainability

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Since February 2018, we have been members of the Global Compact Network Spain.

Proactive participation enables us to show a greater commitment to sustainability, interact with the main agents of change (not only at the Spanish level but also internationally), generate shared values between the company and its environment, learn and share best practices, and strengthen relationships with stakeholders.

We would like to mention Irizar's participation in different activities such as, working days, organised by the Global Compact Network Spain and the Spanish government; Open Doors Days at Irizar, sharing experiences with companies, educational centres, and universities; and benchmarking of SDGs, to learn along with other companies.

Additionally, we have attended different external forums related to sustainability, which include our participation as speakers on "Responsible business and strategic management of CSR", held at Deusto Business School.

## Promoting competitiveness at the Irizar Group

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In addition to the individual progress and initiatives in sustainability for each Group company, the focus and long-term trajectory of continuous progress at Irizar S. Coop serves as a reference and facilitates the foundations for a common sustainability strategic framework for the future, and motivates the implementation of sustainable actions for the management of the other companies in the Group.

Starting in 2018, the most important work in sustainability has been, as stated in chapter 4, Sustainable Competitiveness at the Irizar Group: Priority and Strategic Commitment, to establish the foundations and implement a strategic framework for global sustainability for the future, which includes actions at both corporate and transversal levels as well as with each stakeholder. This Group strategy that we are outlining will contribute to our sustained progress on the path to sustainability.



# Customers, products and services

## 5.2.1. The customer, at the heart of the strategy

- A customer-focused organisation
- Support throughout the entire process: from beginning to end
- A very competitive TCO (Total Cost Of Ownership)
- The Irizar design
- Their opinions are fundamental

## 5.2.2. A sustainable focus for future products and services.

- Irizar brand integral coaches
- Irizar brand hybrid coaches
- Hybrid-electric technology
- Eco-innovation
- Future generations of coaches

## 5.2.3. Safety and comfort, another priority

## 5.2.4. Irizar Group electromobility, zero CO2

- Turnkey
- Range of electric vehicles
- Irizar batteries
- Energy storage and management
- Electric drive system
- Charging infrastructures

## 5.2.5. Autonomous driving: Steps towards the future

- Urban vehicles
- Medium and long-distance coaches

## 5.2.6. Other large scale projects

- Energy efficiency
- Power storage
- Fast and smart vehicle charging infrastructure
- Interoperability
- Connectivity - Big Data



# The **customer**, at the heart of the strategy

Our main strategy is customer satisfaction and loyalty. We focus on offering customers, passengers, and citizens high added value by providing cutting edge products and services created and developed through contributions from the entire group. These products and services, aimed at the Premium segment, are differentiated in terms of safety, reliability, sustainability, technology, and profitability. Design and innovation are part of our DNA.

We work hard every day to build customer satisfaction and loyalty through proximity and providing guarantees of stable and reliable projects.

The flexibility to adapt to their needs and the unlimited customisation we offer are differentiating factors with added value to achieve their loyalty.

## A **customer-focused** organisation

From the commitment of all personnel of the organisation, we focus on customer satisfaction, through efficiency, managerial excellence, and communication. We are committed to a position of leadership in all our businesses, which, in turn, is beneficial for our customers. We are a customer-focused organisation ensuring transparent business ethics. These are the keys for our future success.

## **Asistencia** en todo el proceso

We provide customised service solutions designed and created to offer the customer the best financing and repair and maintenance contracts, as well as collection of their used vehicles. The service network is continually expanding and it is currently possible to find an approved Irizar warranty workshop in all places where its vehicles operate.

We offer customers support, close consultation, and the most advanced technology for comprehensive monitoring and control of costs and efficiency, which result in optimisation of vehicle reliability and availability.

We have a help desk in each European country and a central help desk with 24h support, 365 days of the year. Our comprehensive repair, commissioning, and maintenance service is recognised by our customers for providing maximum guarantee with a differential service value: 24 hours a day, 365 days a year.

Comprehensive electronic management, operating assistance and remote diagnostics systems, passenger information, ticketing, passenger count, video surveillance, and eco driving are other added values, which, in addition to enabling complete monitoring of vehicle costs and efficiency, contribute to safety during driving while optimising fleet performance and profitability.



## A very competitive **TCO**

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At Irizar, we understand that fuel is the major cost component for operators, so we make every effort to reduce consumption. The new generation of coaches offers the minimum TCO (total cost of ownership), with the following basic elements: minimum fuel consumption, long oil and filter change intervals (up to 150,000 km), maintenance-free particle filter with automatic regeneration up to 700,000 km, very competitive spare part prices, and a large number of service points throughout Europe.

The residual value of our vehicles is very high, which also reduces their financing cost.

## The Irizar **design**

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Design has become an icon of our brand, and is one of the main features that characterises Irizar in all areas, buses, coaches, image of the facilities, production plants, etc.

The spectacular design, based on aerodynamics, that optimises consumption and confers prestige to its owners, is one of our strengths. All Irizar vehicles stand out for their large and distinctive personality and overwhelming visual impact.



## Their **opinions** are fundamental

We have passenger transport operators that integrate their vast experience and knowledge, as well as their needs, in our innovation projects, making them participants in the design and development of future solutions.

We also strive to collaborate with them to share opinions and experiences, and discuss their economic, ethical, environmental, and future concerns. Our goal is to achieve a productive dialogue that benefits both parties.

### The customer, integrated in internal processes

At Irizar, we have Customer Relationship Teams deployed all over the world and Customers Line Teams in the internal processes of the organisation. The objective of all this is to channel their needs to guarantee the development of products and services of the future.

Customer Relationship Teams maintain direct and close daily relationships with them, making them the main source of information and knowledge as regards their current and future needs. This knowledge flows, and is shared by the entire organisation, through different channels and processes established specifically for this purpose.

The dynamics of periodic Customer Line Team (ELC) meetings is one of the most important at Irizar. Each Customer Line Team is comprised of customer relations, purchasing, supply and logistics, production quality, and after-sales service teams. Each team is responsible for meeting or exceeding the expectations of customers, who, in turn, are naturally integrated into the process.

The Customer Line Teams meet every three months with the entire management team. In addition to monitoring the indicators and objectives established annually regarding production and service activities, the management team provides detailed information on activities; markets; innovation projects; environmental, safety, and health projects; and other topics of interest for all.

### Always informed

We have a very close relationship with our customers. We keep them constantly informed about our product and service innovations and about the initiatives and results carried out for all sustainability issues through meetings, communications, and marketing actions.

### Quality and After Sales Forums

The Quality Forum is the work team in which decisions regarding product quality are made.

The forum meets monthly and is directed by the Quality Manager. The Quality Forum is comprised of the top managers of the organisation (General Director, Industrial Director, Production Director, Commercial Directors, Purchasing Manager, Product Innovation Manager, Engineering Manager, After Sales Manager, Quality Manager, and other Commercial Equipment and Industrial Department personnel). This is an open forum, to which all the personnel that comprise Irizar are invited to participate.

In addition to exhaustive monitoring of the quality and environmental objectives set out in the annual plans, a review of the corrective actions of the main incidents presented by customers is also carried out.

The incidents reported by the customers of the different markets are previously assessed in the After-Sales Forum, and the most relevant are transferred to the Quality Forum for the opening of corresponding action, supervisor, and compliance date.

Additionally, the conclusions and decisions taken at these meetings are shared with the commercial teams and Quality Managers of the other Irizar Group external plants. In the constant search for shared learning and synergies.

### Customer satisfaction surveys

We periodically conduct customer surveys to verify if we are meeting their expectations in terms of products and services, with the aim of improving any aspects that customers consider weaker. In addition to answering very specific questions about the products and services offered, we provide the possibility to comment on any aspects they consider important for the future. This allows us to gain additional information for continuous improvement.

The results of the surveys carried out have been positive and reveal a high level of satisfaction. But they are also a valuable tool for improvement. And, as a result of the analysis of the surveys conducted in 2017, we have carried out new actions in 2018 integrated into the Quality and After Sales Forum plans.

### Training

We are currently teaching driving courses and examining the impact that optimal driving habits have on fuel consumption savings and, consequently, on environmental impact.

Objective comparisons of fuel consumption analyses carried out on monitored vehicles show considerable reductions from efficient driving.

These courses not only contribute to reductions in operating costs, but also help achieve safer and more efficient driving techniques.



## A **sustainable focus** for future products and services

We develop and manufacture proprietary premium brand and technology products with a holistic approach to protect the environment. All our efforts are aimed at minimising the emission of pollutants and the impact of our vehicles on the environment.

The life cycle of our products include development, choice of materials and the supply chain, production, use, and finally, the end of vehicle life.

Today, we have one of the widest ranges of products and technological solutions on the market: zero-emission electric buses, hybrid or biodiesel technology, and integral and conventional coaches. All of this enables us to cover all sectors of public passenger transport, from occasional services to regular public commuter services, encompassing urban, intercity, and long distance routes.

Currently, the Irizar Group is focusing all its efforts on continuing to advance in the creation of different technologies in order to offer pioneering solutions to the different mobility needs of customers worldwide.

### **Irizar brand** integral coaches

Irizar brand integral coaches and buses are the ultimate representation of our brand.

The Irizar i8 coach is recognised as "Coach of the Year 2018" in Europe. The arguments for this recognition speak of a "powerful exterior and interior design with great customisation capability, ergonomic seats, comfortable, wide interior..." and unbeatable behaviour in braking and turning radius." The environmental considerations are very positive in relation to "maximum vehicle capacity, reduced energy consumption, and minimal levels of vibration and noise, even on sharp bends." Regarding technology, "the dashboard is a benchmark, multiplexing keys and adding an HMI for the first time as standard. Safety: Full LED headlights, as well as pioneering systems such as AEBS, LDW, TPTMS, ACC, and DFT as options. In addition, it meets R/66.02. The section on total vehicle costs include: "the purchase price, depreciation and residual value, consumption, and repair and maintenance costs".



### **Intelligent and efficient** coach generation

In 2018, we introduced the latest generation of Irizar coaches, which are the result of great improvements made to coaches and the incorporation of new Paccar-DAF engines and the new range of ZF transmissions. A generation of more sustainable coaches with lower consumption and emissions; connected, predictive, reliable, silent, and with a reduction in Total Operating Costs of more than 5%.

Another innovation incorporated into the coaches is the new virtual cockpit by Irizar.



## Improvements to the latest generation of Irizar coaches

**5%**

Total Operating Costs

Our power on demand **technology** has **further reduced consumption**, increased component life, and lengthened maintenance intervals as much as possible.

**6%**

fuel reduction

Increased **passenger capacity and comfort**.

More sustainable

Integration of the **most advanced emission reduction technology** in advance of the new European regulations.

**Improved weight distribution** and manageability. Overall weight has been reduced by more than 300 kilos.

Maximum **comfort** for the driver.

Repair and maintenance

Improved **access to the engine** compartment to reduce repair and maintenance costs.

Our smart technology enables predictive driving to adapt to the topography and road conditions and to use the smartest gear changing strategy.

Reduction of noise and vibrations.

Long **service intervals**.

We have begun to monitor all the integral diesel buses of our brand, and the results obtained will enable us to have a consumption reference, depending on the different vehicle configurations, as a starting point for improvement. The data obtained up to 2018 is very positive:

Our vehicles operate with Euro6D engines and automated or automatic gearboxes to minimise consumption and facilitate the work of drivers, making driving more efficient.

**In the last three years (from 2016 to 2018), consumption and emissions have been reduced by more than 10%.**

**The average consumption of a 12 m coach of 19.5 Tm is less than 23L/100 km. We can say that these results position us as a reference, among the best.**

## Irizar brand **hybrid coaches**

In 2016, we launched the Irizar hybrid line to the market, becoming the first European company to launch an inter-urban class II hybrid coach.

This is a parallel hybrid technology. A latest generation diesel or bio-diesel engine (HVO, Hydrogenated Vegetable Oil diesel) is combined with an electric motor that provides power or generates electricity and, depending on the situation, the engines can act either individually or combined to achieve optimum efficiency and performance. Use of latest generation plant-derived biodiesel (HVO) that eliminates sulphide emissions.

These coaches offer:

- A reduction in CO2 emissions of around 157gr/km compared to conventional buses and coaches with combustion engines. It prevents the emission of approximately 2.5 tonnes of CO2 during its entire service life (estimated at 100,000 km/year for 15 years).
- A 20% decrease in consumption compared to a conventional diesel coach, which enables our customers to save 6000 litres/year of diesel. This also impacts CO2 emissions, which are reduced by around 170,000 gr/year.

We have begun to monitor all hybrid integral coaches of our brand and the results obtained will enable us to have a consumption reference, depending on the different vehicle configurations, as a starting point for improvement. The data obtained up to 2018 is very positive:

From 2017 to 2018

**Reductions of up to 20% in consumption and emissions.**

## Eco-innovation

As we anticipated in the previous Sustainability Report, at Irizar we have made unstoppable progress for years in research and development of new technologies for manufacturing coaches and new materials that enable us to position ourselves as European benchmarks and cutting-edge in eco-innovation and eco-design for the entire product life cycle and recyclability.

Ecological design implies the integration of environmental aspects from the very conception of the product in order to limit its impact on the environment. This integration, based on a global approach, must take into account all stages of the product life cycle and the mechanisms aimed at reducing its environmental impact, identifying technologies, ways to improve the choice of materials, and encouraging the use of clean materials.

After the advances prior to 2018, in terms of:

- **Strategic Environmental Vigilance:** We carried out a Strategic Environmental Vigilance study with the goal of staying consistent with the criteria established in the environmental sustainability policy, and in regards to the environment, and also to become aware of the situation of the competition and options for the industry in Europe. This made it possible for us to identify the opportunities and threats for Irizar in regards to the environment and subsequently make decisions and take action for proper management of the risk derived from them.
- **PCR - Product Category Rules:** We have great competitors with respect to the products we manufacture and market. To become a benchmark company within the environmental framework, since no other European competitor has previously published an EPD eco-label (environmental product declaration), we need to preliminarily establish PCR, or Product Category Rules, as the first in taking the step towards such declarations for the European sector.
- **LCA - Life Cycle Analysis of a coach** Based on this LCA and other relevant information, during 2018, we began preparation of an Environmental Product Declaration (EPD) that adds a new dimension in the market: reporting on the performance or environmental scope of products and services.

In 2019, Irizar obtained the first Environmental Product Declaration (The International EPD System), which makes it the first company in the sector worldwide to achieve this certification in the environmental area.

The Environmental Product Declarations (EPD) have been developed in accordance with ISO 14025, and

they add a new dimension in the market: to provide information about the environmental performance or scope of products and services. They are created and registered in the context of the Type III Eco-Labeling Programme under the International EPD System.

EPDs are issued based on the following reference standards:

- UNE-EN ISO 14040:2006. Environmental management. Life cycle analysis. Principles and frame of reference
- UNE-EN ISO 14044:2006. Environmental management. Life cycle analysis. Requirements and regulations.
- UNE-EN ISO 14025:201. Environmental labels and declarations. Environmental declarations type 111. Principles and procedures.
- Product Category Rules for preparing Environmental Product Declarations for Public and private buses and coaches (PCR 2016-04).

EPD declarations provide differentiating advantages to customers and markets as they scientifically and independently evaluate the coach from an environmental perspective in terms of impact throughout the life cycle, energy consumption of renewable fossil resources at each stage of the life cycle, and pollutant emissions or hazardous substances from manufacturing. It also evaluates the environmental benefits of the product and environmental management or eco-design systems in the organisation or the way to manage the end of life of the product.

Furthermore, it contributes to establishing measures aimed at reducing CO<sub>2</sub> emissions and other pollutants of our products throughout the life cycle, based on the use of materials that are increasingly respectful of the environment, weight reduction, and fuel consumption. Efficient and sustainable driving habits also result in the achievement of these objectives.

This life cycle analysis project began with the integral Irizar i4 model and is being applied to the rest of the Irizar Group's product range.





### Recyclability

New electromobility solutions require us to modify the method of manufacturing buses, prioritising the ability for components to be removed and recycled, substituting traditional systems with a new modular screw-in type method, with vehicle recyclability and recoverability rates greater than 90%, in accordance with standard ISO 22628 "Road vehicles. Recyclability and recoverability calculation method".

### Future generations of coaches

The impact that CO2 emissions from transportation means have on global warming is a fact. At Irizar, we work taking into account the objectives of the European Commission to alleviate this phenomenon. Our technologies are aimed at eliminating greenhouse gas and noise emissions; This is the reason that, today, we continue to invest in reducing this impact from our diesel and hybrid combustion vehicles.

The European Commission has a computer simulation program (VECTO) that aims to provide truck and coach manufacturers with a standard tool to measure fuel consumption and CO2 emissions and, consequently, establish objectives for drastic reductions (see table of objectives).

While currently VECTO declarations are directed at the truck sector, Irizar is already investing heavily in a new generation of vehicles, to reduce the level of CO2 emissions (fuel consumption), using truck targets as a reference, ahead of future regulations.

Currently, the Irizar Group collaborates with large European brands in national and European research and development projects for new vehicle generations that will reduce polluting emissions.

#### The main lines of research are currently focused on:

- Class II hybrid buses, 100% electric, and custom control modules.
- Aerodynamic
- Weight
- HVAC (Heating and air conditioning)
- Efficiency of the kinematic
- Electrification, control, and efficiency of all auxiliary components

**2019**

Initial monitoring of trucks and definition of average objectives for 2025, based on monitoring results.

**2020**

Initial reporting of truck consumption and monitoring of buses.

**2022**

Review of the situation and redefinition of objectives, as necessary, by 2030. Definition of objectives for coaches and buses.

**2025**

15% reduction in trucks, based on 2019.

**2030**

30% reduction in trucks, based on 2019.

*VECTO emission reduction objectives*



# Safety and comfort, another priority

## Accident free driving

Avoiding problems on the road is a requirement for our vehicles, and active and passive safety are strategic aspects for new product and service developments. From the design phase, we invest adequately in technology and innovation to be leaders in this field and to guarantee the highest levels of safety for both the driver and passengers.

Irizar buses and coaches are designed based on the most advanced technologies in terms of safety, design, materials, components, and production processes and are subjected to the most rigorous fatigue and reliability tests at one of the world's most prestigious applied research institutes with excellent results.

### Passive safety

Irizar buses and coaches have been designed to withstand rollovers and head-on collisions by optimising weight distribution.

Additionally, all Irizar brand coach models comply with safety regulations R.66.02.

We also offer ongoing training to fire departments for the purpose of teaching them the best way to stabilise coaches and their risk components so that they can perform the best possible extrication techniques.

### Active safety

All Irizar brand coach and bus models are equipped with the most advanced active safety technologies on the market in order to help, warn, and assist drivers and avoid risky situations. Highlights include stability control (ESP), Adaptive and Predictive Cruise Control (ACC + PCC), Advanced Emergency Braking Systems (AEBS), Lane Departure Warning System (LDW), Tire Pressure Monitoring

System (TPTMS), in addition to full LED headlights, Driver Fatigue Detector (DFT), optional Predictive Shifting (PS),

and video surveillance for image recording and anti-theft devices.

Other options include video surveillance for image recording and anti-theft devices, remote download of driver and vehicle cards, and audible alerts for pedestrians in the case of silent buses and coaches.

*More information regarding safety in the section on autonomous driving.*

### Comfort

The spaciousness and optimal layout of the passenger compartment, the carefully designed ergonomics of the seats, the reduced levels of noise emission and vibrations, the climate control, and versatile fixtures and fittings all enhance passenger comfort.

The spacious and ergonomic driver's position with accessible controls, electronics integrated into a single central console (MMI), and high visibility rear-view mirrors, in addition to Irizar's modern and innovative virtual cockpit. Now, we've added the modern and innovative Irizar virtual instrument panel.





## Irizar Group **electromobility** , zero emissions

Currently, the Group offers a wide range of zero-emission vehicles, buses, and electric trucks.

**Our sustainable mobility solutions are transforming our cities and our planet. With no polluting emissions, no noise, efficient and accessible ... the transport of the future is here.**

This is, without a doubt, a highly significant strategic decision as far as innovation in sustainable mobility for the future of our cities. Contributing strongly to improving the quality of life of citizens by making their environment more sustainable is our commitment to the future. Therefore, in 2011, we started our electromobility business line, under which, we combined the knowledge and experience of the entire Group.

Irizar e-mobility was founded with the aim of providing comprehensive electric mobility solutions for cities, both in terms of manufacturing zero-emission buses, and manufacturing and installing the major infrastructure systems necessary for charging, power, and energy storage. All of which have been designed and manufactured using 100% Group technology and come with the Irizar guarantee and service quality.

At Irizar e-mobility, we have decided to promote the use of efficient, clean, and accessible transport which is committed to the environment and the well-being and health of people and which enables the creation of better urban environments. We place special emphasis on reducing noise pollution, obtaining low consumption, which reduces costs, and developing zero-emission vehicles. All these objectives serve to highlight the meaning of our motto, "for a better life".



## Turnkey

At Irizar e-mobility, we offer totally customised turnkey projects, designed and created to meet customer needs. The operator, therefore, has the differentiating benefit of having a single point of contact at every stage of the project, including after-sales service, maintenance, and custom repair, which also translates as optimised vehicle reliability and availability.

## Smart technology

With our proprietary technology we can provide constant updates for the systems included with the goal of effectively meeting the challenge of maximising the useful life of every vehicle in order to optimise the value of your assets.

There is an Irizar exclusive and high-quality after-sales service in all cities where electromobility solutions are installed, with customised R&M packages and managed by local technical experts and employees, thus helping to create local wealth and jobs.

## We provide consultation services

We carry out energy studies of operator lines, and with the data provided by these studies (operating data, speed, line characteristics,

ography, line, etc.) we advise on energy requirements, optimisation strategy, power parameters, charging solutions and times, and battery life. We also offer the possibility to coordinate the civil engineering works.

The **predictive and comprehensive maintenance** of the main systems and components of the vehicle that directly impact life cycle costs, insofar as they optimise the performance and availability of the vehicle, and the residual value of the asset. We do this, in essence, by using diagnostic tools that are capable of monitoring the vehicle (doors, batteries, air conditioning, and heating, pantograph, power train, etc.) and which provide bus availability and reliability statistics, optimise maintenance time, and carry out real-time monitoring of the system.

## EcoAssist

This reports system data, which can enable consumption reductions, helping to identify sections of routes with more instructions provided to the drivers. Energy monitoring gathers specific data on the exact energy consumption per route which enables future calculations to be made and issued, plus automatic reports that identify areas of improvement for reducing consumption.





Irizar e-mobility's vehicle range currently includes three models: Irizar ie bus, Irizar ie tram, and Irizar ie truck. These incorporate systems and components developed with Group



The Irizar ie bus offers a sustainable and eco-efficient urban mobility solution for current and future needs of city transport. The versions developed so far are the 10.8 m, 12m, and 18 m articulated.



The Irizar ie tram is a 100% electric, zero-emission bus with the appearance of a tram that combines the large capacity, ease of access, and internal configuration of a tram with the flexibility of a city bus. This model is available in 12m and 18m articulated versions with a maximum capacity of 155 people.



The Irizar ie truck, a truck designed for different industrial uses in cities with a focus on electromobility. It will initially be used for collecting municipal waste. Current versions include zero-emission, gas, or HVO range extender trucks.

## Irizar batteries

### Energy storage and management

Irizar has developed, using proprietary technology, a battery management and storage system incorporated in hybrid and electric vehicles. They include lithium ion technology with a modular concept, designed to meet the needs of any operator. Also included are liquid cooling systems that enable optimisation of useful life and the possibility that vehicles can operate in extreme weather conditions. This is a robust and safe system that complies with the latest European regulations: R100 v2, R10, and UN38.3. The different solutions we offer on the market are:

- **Energy pack for slow charging.** Designed so that the vehicle can travel the maximum number of kilometres and complete the operation with a single daily charge.
- **Nano pack for fast charging.** The perfect ideal pairing between battery charge and power for mixed operations, where the vehicle has sufficient battery life to operate during peak hours. The charge may be both slow and fast.

**Power pack for ultra-fast charging.** This is the solution for 24/7 operation with charging of up to 600 kW.

The Irizar battery pack is a highly recyclable product. Treatment of all its components is ensured through a controlled process, while the possibility of use for other types of applications is evaluated.

Additionally, Irizar is constantly searching and researching increasingly efficient products with the least environmental impact.

### Raw Materials

In order to provide a solution for all types of customers in terms of energy and/or power available in vehicles, translated into autonomy and high demand at the current level, respectively, the appropriate cell is selected. Cells are only purchased from reputable manufacturers, once it has been proven that the extraction of raw materials is in line with Irizar's sustainability strategy.

### Second battery life

Irizar e-mobility, in collaboration with the Cidetec Technology Centre, is participating in projects related to the analysis of the second life of batteries, which are currently dedicated to servicing urban electric bus applications. For the selected application, it is estimated that the batteries will reach the end of their useful life at an approximate SoH (State of Health) of 80%. It will then be necessary to replace them and assess their use for other types of applications with less severe electrical specifications, such as seasonal applications, electrical storage for photovoltaic systems, or electric vehicle charging systems.

### Recycling of batteries

In parallel, the issue of recycling is also being addressed in collaborations with several European companies, where final treatment of each component is ensured, controlling each process for safety and environmental aspects.



## Careful management of resources

In addition to the manufacture of zero-emission electric vehicles for their use phase, our focus is also on reducing CO<sub>2</sub> emissions and other pollutants throughout the life cycle of our electric vehicles. We have focused our efforts on optimising the efficiency of the three key aspects that contribute to the overall environmental impact of the bus: the drive system and the batteries, the raw materials used, and the management of all its components at the end of its service life.

The electric drive system has an energy efficiency of around 70% compared with 30% for a conventional diesel bus, which means only half the consumption is required to travel the same distance.

The electric mix used during the operating phase determines the final impact of the vehicle, since the greater the use of renewable energies in the production of the electricity used to charge the batteries, the lower the environmental impact of this charge and, consequently, the lower the environmental impact of the life cycle of the vehicle.

Furthermore, we have modified our method of manufacturing buses, prioritising the ability for components to be removed and recycled, changing the traditional weld system with a new method based on modular screw-in type, with vehicle recyclability and recoverability rates greater than 90% in accordance with standard ISO 22628 "Road vehicles. Recyclability and recoverability calculation method".

The aluminium structure that is bolted to the chassis eliminates permanent welding and facilitates its separation and independent management at the end of life of the vehicle.

The electric bus has a longer service life and lower maintenance requirements as the use of fewer mechanical moving parts increases the service life of the drive system. In the ie bus, only the motor rotor turns since it does not have a gearbox or clutch.

The inverters and the rest of the components of the ie bus's drive system have a service life that is equal to or greater than that of the bus; however, this is not the case for combustion vehicles. Joints have been replaced by polyurethane-based adhesives with recyclable mechanical fasteners.

All components used comply with the regulations of the European Union (REACH Registration, Evaluation, Authorisation, and Restriction of Chemicals). REACH addresses the production and use of chemical substances and their possible impact on both human health and the environment.

Recyclability rates of the components and materials comprising the ie bus model is 98.92%, according to the results of an analysis carried out through iHobe (Basque Government Environmental Management Partnership).



### New battery installations

The Irizar Group is currently designing new facilities for the development and manufacture of batteries incorporated in the brand's electric and hybrid vehicles and proprietary technology. These facilities are located a few meters from the final assembly warehouse. And during construction, all the specific design requirements are being taken into account for different areas such as insulation, temperature, safety, and extinguishing systems, of which we are knowledgeable at this time to guarantee the entire manufacturing process from the cell, through the module, to the final UBP. These facilities will be finished by the end of 2020.

In this project, we are also collaborating with the Cidetec Technology Centre with the objective of identifying the necessary training, equipment, and specific tools for its implementation.

The knowledge of fire departments is also important when defining emergency action protocols. Therefore, different performance simulations have been carried out for different events so as to analyse the different behaviours of the battery modules. A series of conclusions have been drawn from these tests that have been taken into account when designing future battery manufacturing facilities.

### Electric drive system

Unlike other projects which are constrained by more standardised motors, the motorisation of Irizar e-mobility vehicles has been developed using proprietary technology created exclusively for our products so that it adapts perfectly to the products' requirements. The powertrains are manufactured by companies that belong to the Irizar group.

### Connected vehicle

This system enables safe communication with the driver which helps them to be more efficient, improving their daily work as well as the service provided to the passengers. This solution assists the driver when approaching stops, at stops, and when pulling out. It also improves safety, comfort, and punctuality.

The electric air conditioning system, as well as the electric or manual doors and ramps, with which the vehicles are equipped, are also manufactured in the Group.

## Charging infrastructures

Availability of different charging options.

**In-depot charging** The easiest and most traditional charging method involves plugging the bus in, usually overnight, while the bus is stopped. Available for use outdoors as well as indoors.

It also offers the possibility of complete automation of the slow in-depot charging through the installation of structures with contact vaults above the parking spaces, replacing the outlet solution that requires a manual connection by an operator. The automation of the contact between the vault and the pantograph of the parked bus allows instant charging. This alternative solution reduces the presence of cables on the ground and, therefore, improves the safety of the operators.

**Pantograph charging.** Recommended when the vehicle does not have sufficient range to complete the route and it is necessary to charge vehicles during travel as well as in the depot. The charging stations are located at strategic points throughout the cities, at the end or start of each line, in order to charge several buses or lines.

**Smart charging system.** Control centre that efficiently manages all the charging conditions/restrictions in the depot. The system identifies the different charging requirements of each bus in order to optimise the total power required.

### Interoperability

The Irizar Group's charging solutions are interoperable in accordance with ISO 15118, DIN70121, OCPP 1.6 CE mark, EMC 61000-6-2, 61000-6-4, IEC 61851, IEC 61000



# Autonomous vehicles

## Steps towards the future

Connectivity and digitalisation will play a crucial role in the future of mobility; autonomous vehicles and new and more efficient services will shape this future.

Six levels (0 to 5) have been defined internationally to classify autonomous driving as described below. This classification system defines the degrees of automation of vehicles as well as the requirements that drivers must meet.



### Level 0 Without automation

Drivers continuously perform all the tasks associated with driving.



### Level 1 Driver assistance

The driver assistance system carries out a specific task while the driver performs all other driving tasks.



### Level 2 Partial automation

The driver assistance system performs lateral and longitudinal dynamic driving using vehicle environment information, while the driver performs all other driving tasks.



### Level 3 Conditioned automation

The automated driving system performs all driving tasks with the expectation that the driver responds adequately to the request for intervention by the driver.



### Level 4 High automation

The automated driving system performs all driving tasks, even if the driver does not respond adequately to the request for intervention by the driver.



### Level 5 Full automation

The driving system performs all driving tasks under all road and environmental circumstances.

The Irizar Group is already trying to introduce different levels of automation for both buses and coaches in the coming years.





## Urban vehicles

As for zero-emission urban vehicles, it is actively involved in:

- The Automost project (2016), "Automated guidance for dual transport system", seeks to develop technologies that enable the automation of vehicles for urban and industrial transport applications, in order to significantly increase efficiency, safety, and sustainability. It is financed by the CDTI (Centre for Industrial Technological Development) of the Ministry of Economy of Spain.
- In this case, a demonstrator electric urban vehicle, the Irizar ie bus, is being designed with dual driving modes - manual and automatic (autopilot for urban environments) - that will function as a commercial shuttle at the cruise terminal of the port of Malaga. Testing will take place for several months in real traffic conditions.
- The HiAdvice project (2017), funded by SPRI, aims to design a prototype hybrid vehicle.
- The vehicles equipped with autopilots will still require the attention of the driver, but it is hoped that the experience accumulated will lead to the development of specific automation functions in which the driver can move away from his position, for cleaning purposes, or for parking and manoeuvres in depots.
- Autodrive is a European Commission funded programme involving a consortium of more than 40 companies from the automotive world.
- AutoDrive brings together leading companies, suppliers, manufacturers, and research centres from the European semiconductor industry to create a pan-European ecosystem with the critical mass needed to create standards and provide components and sub-systems for driverless vehicles.

## Medium and long-distance coaches

As regards automation of medium and long-distance coaches, it has begun to implement advanced driver assistance systems (ADAS).

Some functions that are being developed are the recognition of traffic signals; intelligent headlight control; signal recording; detection of bicycles, animals and pedestrians; and lane change assistance, among the main ones.

## Other large scale projects

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We also participate, via major European brands, in important European projects that outline the future of sustainable mobility for cities and public passenger transport.

These projects relate to improvements in energy storage systems, energy efficiency, standardisation of charging systems, connectivity, and Big Data (artificial intelligence), which are basic in the new generation of clean, efficient, fast, standardised, and smart transportation.

### Energy efficiency

**EBSF2** (European Bus System Of The Future 2): The European Bus System of the Future 2 project, financed by the H2020 programme of the European Commission, involves the development and validation of different solutions combining the organised efficiency of bus systems with the objective of reducing the energy consumption of electric buses.

Currently work is being carried out to demonstrate advanced energy efficiency techniques in electric vehicles (A/C system, eco-assistant, and smart management of auxiliary elements). This great European demonstrator is testing, among others things, technologies developed by Irizar in the area of assistance for efficient driving.

### Power storage

#### **SADE: Safe Storage Systems**

This project has been co-financed by the Ministry of Energy, Tourism, and Digital Agenda as part of the National Plan for Scientific Research, Development, and Technological Innovation.

The project aims to research and develop a battery-pack solution designed for the urban mobility opportunity charging strategy. The development will have a working prototype, to be validated and tested on a laboratory scale.

### Fast and smart vehicle charging infrastructure

**ASSURED:** Fast and smart vehicle charging infrastructure for large vehicles. The proposal for the

of the Green Vehicle work programme. A consortium of 40 participants from 12 EU member countries will carry out the work.

The general objective of ASSURED is to analyse the needs of cities, operators, and end users in order to define the characteristics and requirements for the new generation of heavy-duty electric vehicles (buses), medium-duty trucks, and light vehicles to operate in urban areas. In this way, better cost improvements may be obtained, as well as developing the new generation of high-voltage modular charging systems for electric vehicles as well as innovative charging management strategies.

### Interoperability

System interoperability is also key. The ITxPT project offers this standards-based open architecture that enables systems to communicate while encouraging suppliers to cooperate.

All our systems are interoperable and integrated, based on the ITxPT standards of Information Technology for Public Transport launched by the UITP (International Association for Public Transport) in 2013. ITxPT aims to implement standards for plug-and-play IT systems applied to public transport.

### Connectivity - Big Data

#### **eFleet**

Based on the premise that the electrification objectives of urban bus transport are not achievable with current technology, the Irizar Group is proposing the eFLEET project to develop technologies and strategies to create eMobility solutions (100% electric buses for public transport) that are modular, flexible, and scalable to facilitate mass deployment of medium/large fleets of electric buses, while minimising the impact on the electricity grid and reducing initial and operating costs. eFLEET is an important strategic challenge as it seeks to unlock the limitations of a booming market in which the Irizar Group has been positioning itself since 2011.

ASSURED project addresses "The integration of electric commercial vehicles into the fast-charging infrastructure"

18 m articulated bus – **Elimination of 120 tons of CO<sub>2</sub>** in the atmosphere every year.



The ie bus has a very low carbon footprint of 8.45 g CO<sub>2</sub> eq/km.p (per passenger kilometre). Compared to a conventional fossil fuel powered bus, around 800 tonnes of CO<sub>2</sub> are prevented from being emitted during its entire service life.

This figure is the difference between the emissions associated with the electrical consumption of batteries and burning fossil fuels.

**86% reduction of carbon footprint** compared to a conventional diesel bus.



## Noise

Electric technology eliminates the noise of the combustion engine, which means there are no exterior sound emissions to annoy pedestrians when the bus is stopped and starting (0 dBA). When driving, noise emission is reduced by 20%.

A study conducted in Sweden in 2014 by the Swedish company Koucky & Partners A.B entitled "Quieter buses socioeconomic effects" concludes that replacing 240 conventional buses with electric buses reduces noise pollution by 1.3 dBA, which translates into an annual socioeconomic saving of €52,650 per kilometre, with a reduction in costs of 27%.



# With our personnel

5.3.1. Framework for our strategy and involvement with personnel

5.3.2. Creation of quality employment

- o In keeping with our mission
- o Creation of employment and evolution of workforce
- o Employment quality and evolution
- o Participation in economic profit and management
- o Improvement of work/life balance
- o Job creation

5.3.3. Communication, transparency, and participation

- o Leadership and teamwork
- o Communication and transparency

5.3.4. Education and training

5.3.5. Gender equality and diversity

5.3.6. Efficient and sustainable mobility

5.3.7. Health and Safety

- o Occupational Hazard Prevention System
- o Ergonomics-Comfort Programs
- o Other health and wellbeing services







## Framework for our **strategy and involvement** with personnel

Personnel are undoubtedly the key actors in the achievement of sustainable results in the medium and long term; economically, socially, and environmentally. High levels of satisfaction and motivation for all Irizar personnel is the way to achieve a culture of managerial excellence, sustainable competitiveness, and future success of the Irizar Group.

In keeping with this conviction, we work to strengthen the professional capacities of all personnel, in the belief that each person and his or her talents are essential to achieve both our mission and our strategic challenges for our objective of contributing to building a better and more sustainable world.

We uphold an open and transparent culture with the firm conviction that business activities with respect for total integrity are the only basis possible for achieving sustainable success. As we've indicated in previous chapters (4. Sustainable Competitiveness and 5.1. Strategy and involvement in corporate sustainability), we are convinced that the main instrument to strengthen integrity is an organisational culture based on principles shared and assumed by all personnel that comprise Irizar, since it constitutes the best preventive element against bad practices and illegal or criminal behaviour.

Therefore, starting with the example of the company senior management, it is vital to continue promoting our real commitment to all personnel:

- Offering attractive, fair working conditions (both in human rights and labour standards) with long-term perspectives. We can affirm that a very high percentage of new hires to the Irizar Group is aimed at permanence and stability.
- Investment in long-term talent. Constant work to improve the quality and attractiveness of employment and to incorporate, develop, and retain highly qualified personnel.
- Pushing continuous training and development of professional life. Strengthening each one's abilities in the belief that all personnel and their talents are paramount. Increased training, adaptability, and flexibility are key to responding to changes, situations of uncertainty, and new challenges of the future. Digitalisation and automation are undoubtedly new scenarios to which we must adapt.

- Promoting trust, communication, leadership, participation, self-management, and teamwork. To create a working environment where everyone can contribute something more to the business project based on their possibilities and dreams. We believe this is the way to encourage each person to carry out their part of the process responsibly and professionally and, in the end, ensure that personnel are committed (to the project, mission, vision, keys, and common values) to achieving the established objectives.
- We stand for equality, non-discrimination, and respect for diversity.
- Improvement of work/life balance: personal, family, and professional. Flexibility of work hours, reduced work hours, and the possibility of work leave. Maintenance of health, safety, and long-term performance.
- Encouraging each person to contribute actively to the environmental balance, working to minimise any impact arising from our activities, and to the preservation of the natural environment.
- Making participation a reality for the design of the Company's strategy for the future beyond mere performance in daily operations.
- Sharing of business economic profit, also available for employees who are not members of the cooperative. We offer, without a doubt, important advantages and attractiveness that differentiate us from other companies in the local environments where the Irizar Group is present.



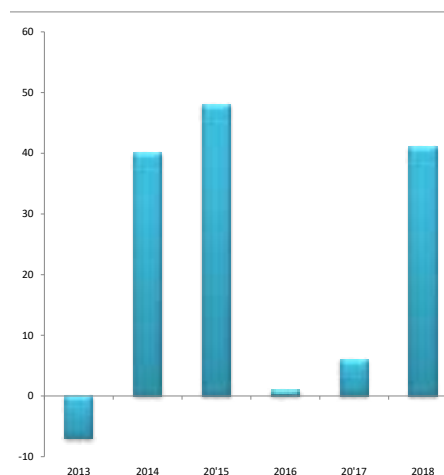
# Creation of **quality** employment

## In keeping with our mission

The Irizar Group strategy is the unequivocal commitment to the growth and creation of wealth and employment, with personnel in the local environments and countries where we are present. In line with this, and as can be seen in detail in chapter 2, "Getting to know the Irizar Group", the best reflection of our strategic commitment to sustainability is the employment evolution graph with a continuous and sustained increase in jobs even during the most unfavourable moments of the crisis (2009 in particular).

The digital transformation of the company is implemented as a future project and will affect all work areas of our organisation. We must, therefore, think about incorporating digital talents with the aim of creating a new culture of management and organisation while helping all our personnel to integrate new work and learning methods.

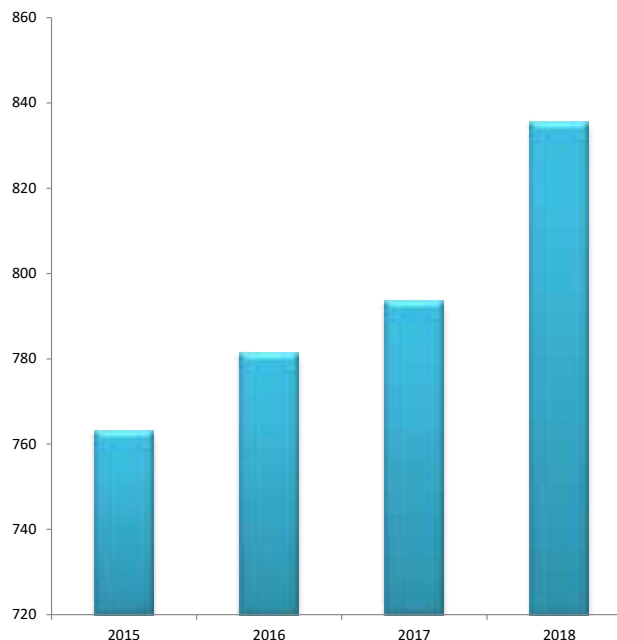
## Creation of net employment



We have increased our workforce since 2014, which has resulted in the creation of net employment for 41 people in 2018 and 136 people in the last 5 years (since 2014).

## Job creation and evolution of workforce

### Job Creation



## Workforce distribution by gender

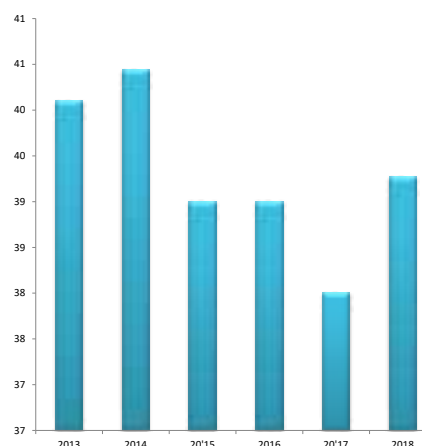
The majority of people incorporated in 2018 come from higher-level training cycles of industrial sectors, and the rest are, primarily, industrial engineers.

Women	Men	Total
65	770	835
7,78%	92,22%	100%

	Men	Women	Total
2015	701	61	763
2016	714	66	781
2017	728	65	793
2018	770	65	835

In 2018, the Irizar S.Coop. workforce grew by 42 personnel.

## Average age of workforce





## Other 2018 report data

### Average age of workforce by gender

2013	2014	2015	2016	2017	2018
40,1	40,44	39	39	38	39,27

### Workforce distribution by age

<30	30-39	40-49	>50	Total
153	266	313	101	835

### New hires by category and gender

A total of 61 personnel were hired in 2018 at Irizar S. Coop., of which 17 correspond to advanced training cycle profiles and 78 employees are advanced level graduates.

	Women	Men	Total
Direct	2	59	61
Indirect	8	9	17
Totals	10	68	78

### New hires by age

<30	30-39	40-49	>50	Total
52	23	3	0	78

### Employment separations by age

<30	30-39	40-49	>50	Total
15	9	0	11	35

### Employment separations by category and gender

	Women	Men	Total
Direct	0	15	15
Indirect	9	11	20
Totals	9	26	35

## Employment quality and evolution

As shown by the indicators, we promote the incorporation of people to Irizar dedicated to permanence and stability. We prioritise the quality of hiring, thus, new hires are permanent.

In 2013, we established the Irizar Trainee Program (ITP), a training and development program designed to incorporate professionals in technical areas as well as in areas of production or marketing who, after undergoing a continuous training and evaluation process, will understand our strategy, develop professionally with us, and are hired as permanent employees with the company. This program is designed for mechanical, electrical, and organisational industrial engineers without experience, or with less than one year of experience, with a high level of qualifications.

We also offer scholarships for different specialities and the option of carrying out the final university project with us.

## Personnel employed at the Irizar Group

In collaboration with local vocational training schools, we offer students the opportunity for training programme internships with us. These are very important for students to be able to develop the skills they have acquired and so they can get first hand experience of how a company works.

Job profile diagrams are tools that enable us to carry out evaluations and monitor the performance and leadership of the personnel who join the entire Irizar Group. Evaluations are carried out for all personnel by team members where they are incorporated and by other personnel from different departments who are in direct contact with their duties and/or assignments. These evaluations enable us to measure the development and evolution of personnel for their definitive integration into the Irizar Group.

All personnel enjoy fair labour conditions that are well above the average conditions in the area.

- We compensate the work of personnel with the same principles in all countries where we are present. Salaries are determined based on qualifications and responsibilities. When establishing remuneration, we are not guided by gender or place of origin, but exclusively by the work and responsibility carried out, as well as by the surrounding conditions. The general level of remuneration is very competitive and above the sectoral agreements of the local environment. We offer significant advantages and promotions in areas related with banking, communications, insurance, travel, fuel, spending, etc., which are promoted and negotiated through the Company Board.

Furthermore, Irizar, being a cooperative company, offers the possibility for personnel to join as partners, after a period of three years as an employee or contractor.

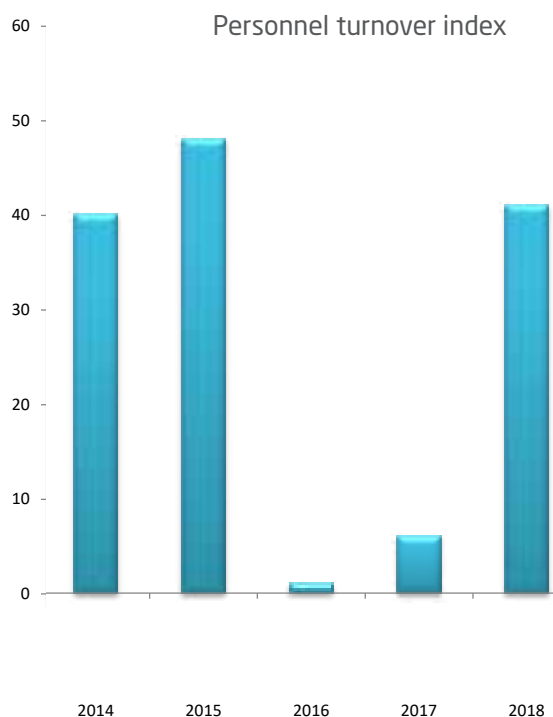
The by-laws that regulate admission as an indefinite member of the cooperative include compliance with established requirements for a three year period as a regular employee, after which, the individual becomes a member for a limited time. They will retain this status for a maximum of four years, at which point they will become a indefinite member, after having successfully passed the applicable periodic assessments (job profile diagram).

### Contract quality (permanent)

2013	2014	2015	2016	2017	2018
95%	90%	83%	81%	84,5%	86%

### Personnel turnover index (Irizar S. Coop)

Turnover rates are very low at Irizar, which is a good indicator of the satisfaction and motivation of our personnel.



## Participation in economic profit and management

In addition to the participation in the profit of Irizar S.Coop for cooperative members, at all the Irizar Group companies, regardless of their business name, all personnel participate in the management and economic profit.

Moreover, the participation of Irizar personnel in decision-making is constant through self-managed multifunctional teams, to address the strategy and daily operations of the management processes in which they are involved.

Additionally, all personnel participate in the strategic analyses conducted periodically at Irizar, as well as in the annual assemblies also carried out in all Group companies, where strategy is the most important aspect.

Strategic Thoughts are reviewed every three or four years (taking into account aspects of the economic and social environment, the sector, market, competition, and the other internal and external stakeholders) and are defined and shared by all the people in the organisation. Each year, a specific meeting is held with all the people of Irizar for which a full day is dedicated to reinforce the knowledge of these Strategic Thoughts.

The process of this analysis includes different working meetings where personnel from the Management Team, the Board of Directors, and direct and indirect personnel participate in the initial phase covering aspects of external debate that affect Irizar's activities such as the macroeconomic situation, analysis of the sector, the market, and competition.

Beyond the ideas of this first analysis, a series of reflections is carried out concerning Irizar's internal situation as well as SWOT (Strengths, Weaknesses, Opportunities, and Threats) in order to reach general conclusions, which are then explained to all Irizar personnel, who have the opportunity to participate in the process through suggestions and proposals, which will subsequently result in actions to improve the competitive position.

## Improvement of work/life balance: flexibility of schedule, reduced work hours, and leave

Since 1995, we promote a culture based on people's trust and schedule flexibility. We offer a flexible schedule where the main objective is the performance and fulfilment of the established objectives and not simply presence.

Irizar personnel have different alternatives to help balance personal and work life, such as schedule flexibility within certain margins, reduced work hours, and/or unpaid leave.

# Communication, transparency and participation

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## Job creation

### New hires

We establish cooperative relationships and maintain permanent contact with vocational training centres and universities in our local environments to facilitate access to employment for young people and to incorporate the best talent.

Relations with the Universities in Basque Country (UPV, MU, Deusto, Tecnum, etc.) are carried out through their different Employment Forums, collaborating in the training and incorporation of students in the job market and teaching conferences and classes in advanced master programs in accordance with the university study plan. All this enables us, on the one hand, to attract the talent of young university students to our organisation, and, on the other, to transfer the characteristics of the profiles of our organisation to universities.

2018 was especially intense in this sense. We presented the Irizar Group to final year students of practically all the universities and training schools in our local environments.

Undoubtedly, this helps to carry out the initiatives detailed in the section dedicated to the quality and evolution of employment at Irizar S.Coop:

- Irizar Trainee Program (ITP),
- Scholarships for different university programs,
- Option to carry out the final project,
- Possibility of internships for advanced training cycles.

### Internal promotions

Whenever possible, at Irizar S. Coop., we open internal promotion processes to fill positions of greater responsibility. These are systematic and rigorous processes with a similar or greater level than the processes for new hires.

## Leadership and teamwork

"We work as a team with personnel who are committed to the customer and the Group's strategy. We promote efficiency, communication, participation, self-management, and excellence in management. We create environments where everybody involved in our projects can give their best according to their talents, abilities, and aspirations. This is key to our future success."

We promote efficiency, communication, participation, self-management and managerial excellence.

## Communication and transparency

Communication and transparency are the cornerstones to ensure the flow of information and shared knowledge regarding corporate strategy, projects, objectives, and monitoring of daily operations. It enables publication of the most important events, advances, and achievements of the company (economic, social, and environmental), evolution of the sector, and socio-cultural activities.

But fundamentally, we believe that internal communication is the way to strengthen our corporate ethics and culture, and generate integration, satisfaction, motivation, and involvement of all personnel. This communication model makes it easier for us to have personnel who are increasingly committed to Sustainable Competitiveness, while having them share in the actions and decisions that affect them.

The structure and communication channels that contribute to guaranteeing the flow of information to/from all personnel, are active and subject to constant review, both in the operation of business processes and for strategic reflections (as detailed in the "Participation" section), taking into account the opinion of all Irizar personnel, both directly and indirectly.





The continuous two-way communication dynamics are part of our management model based on self-managed multifunctional teams to address both Irizar's strategy and daily operations.

Additionally, we have complementary internal communication channels, including:

#### a) Forums at the highest level where all personnel participate.

These are the main mechanisms for communication, carried out directly by the Director General and the management team and where the most relevant information is posted for all Irizar personnel. The following is carried out annually:

- **Two assemblies** where strategic issues are discussed as well as annual action plans and legal issues related with the cooperative. These assemblies are open to all the personnel of Irizar S.Coop, although only employee-members are able to vote. In the two assemblies in 2018, we addressed and approved key points of our sustainability strategy for 2019:
- Continued steady progress with the implementation of the **Irizar Code of Ethics**, which entails a detailed revision of our Ethical Principles and Conduct Guidelines for subsequent implementation for our main external stakeholders that participate in the global supply chain. Both the Ethical Principles and Conduct Guidelines are being agreed upon so that they are common to all Group companies.
- Continued approach to **Agenda 2030** while addressing our contribution to the Sustainable Development Goals (SDGs).
- Meetings of the **Customer Line Team**, where fundamentally a quarterly monitoring of the daily activity is carried out in reference to the annual objectives set, presented by members of the management team or other managers of different teams or functional areas. In these meetings, General Management takes the opportunity to meet with all the personnel in the organisation who have the option of communicating any concerns or issues that directly affect their status as employees. Any dissatisfaction, suggestions, or proposals are collected for analysis and subsequent action.

- **Company Board Meeting Minutes** (representing all personnel), where the decisions made at the Governing Board meetings are communicated, with minutes published monthly. Apart from the issues concerning daily activities and the monthly financial situation, other issues are discussed regarding safety and health, the environment, and social issues.

#### b) Other communication channels

- **TV screens.** Installed in all break areas to complement and offer greater information: general news of the sector, economics, photographs, videos about Irizar and its personnel, culture, and sustainability strategy, visits to our facilities (customers, institutions, and media), and collaborations and support for culture, sport, NGOs, etc.

In 2018, we used them for sustainability to play Irizar videos, campaigns, messages, and activities about: Agenda 2030 and SDGs, celebration of the 70th Anniversary of the Universal Declaration of Human Rights, gender equality, etc.

- **Information centres and electronic panels.** Communications centres and electronic panels have been implemented at access and general visibility points of the installation to post issues concerning quality, internal communications, plant image, safety and health, sustainability, and the environment.
- **Irinet.** Irizar's Intranet is a tool for compiling and centralising all the information posted at Irizar. It also provides services that go beyond daily management, including cultural activities and dictionaries.
- **Internal magazine** - Irizar Berriak. The Irizar magazine is introduced as an efficient tool that is not only directed at personnel working at Irizar, but also to the families and retired personnel for the purpose of creating a vehicle for informing about aspects that are purely related with the external communication with customers and issues of interest for the general public. This magazine is published semi-annually or annually in bilingual format.

## Education and training

In order to undertake our ambitious strategic challenges for the brand, technology and sustainability, we are aware that we must respond to an increasingly high technological demand, the growing complexity of our activity, and our entire value chain (commercial, design and development, execution of products and services, etc.),

This growing need to anticipate the future requires increasingly more specialised training capable of adapting to the changes and new challenges that we undertake each year. Accordingly, Irizar works constantly in favour of quality education.

We provide rigorous multidisciplinary training plans tailored to people with the particular aim of maintaining and improving their qualifications, profile, and versatility, understanding that all this undoubtedly leads to the benefit of increased knowledge of the quality of our products and services and the improvement of our sustainable competitiveness.

This is because innovation is part of our culture and we want to expand the limits of knowledge, discover new ways of creating truly differentiated products and services, to go one step ahead, and to be able to respond to the training needs that arise from our strategic reflections (annual and medium/long term) and the ideas and suggestions of our stakeholders.

### At the level of internal communications we highlight:

- Reception plan for new hires, which includes educational training sessions to promote more effective integration in the company: knowledge of the Irizar culture and strategy, the Integrated Quality and Environment Systems, Safety and Occupational Health, and other internal policies and regulations.
- Training in versatility of direct personnel. This entails increasing theoretical and practical knowledge to handle working in other positions. It also facilitates the ability to respond to the personal preferences of each worker, to face new market demands, to improve the quality of our products and services and, to be able to act preventively as regards ergonomics by facilitating postural changes and other measures to enhance health and safety.
- Continuous flow of personnel among production plants in different countries and companies of the Irizar Group to: support, promote and take advantage of synergies in the activities and actions carried out within the

strategic and work lines proposed, with the fundamental objective of increasing knowledge and capabilities while maintaining continual training in aspects, innovations, and solutions incorporated in products and services, management, image, sustainability, and technological implementation.

- Continuous training and certification in critical manufacturing processes (welding, bonding, and painting) of direct personnel, with the collaboration of our integrated suppliers and/or specialised external companies.

Internal training plans are complemented by continuous training programs carried out by external professionals. Their intensity and content is more variable and more linked to changes in strategic focus, new lines of products and services, and new markets, etc. Its quantitative evolution is shown in the following table. Training in 2018 was highlighted by languages and vehicle operation.

	Horas	Nº de personas
2013	5779	210
2014	6551	264
2015	4701	166
2016	4546	222
2017	4119	236
2018	3122	135

Beyond professional level training, we carry out initiatives for awareness, training, and personal enrichment. Among which we highlight:

- Efficient driving courses.
- First Aid courses.
- Forums on healthy living habits.
- Sustainability awareness courses and campaigns: Human rights, environmental aspects, equal opportunity, etc.



# Gender equality and diversity

Respect for diversity, gender equality, non-discrimination in employment, dialogue, professional development, and knowledge exchange are our priorities, which is reflected in our policy of incorporating new personnel and in our corporate strategy.

All personnel hired at Irizar are covered by the same conditions, including salaries, as long as they are filling positions with the same level of responsibility. This principle is included in the Code of Ethics and personnel policy of the Irizar Group.

We have a multidisciplinary team of personnel whose main objective is the continued strengthening of programs to increase participation of women in management and management teams, and we continue working on a modern equality plan.

We are also cooperating with training centres in the local environment to promote and facilitate increased incorporation of students into company internships. More than 25% of all students from higher education training cycles at Irizar S. Coop. have been women. As our ethical principles reflect, age is not a restriction for the incorporation of personnel at Irizar.

As regards diversity, our statutes include: "The following will not be reasons for denying admission: political, trade union or religious ideologies, (as well as the race, language, sex or marital status of the candidate) unless these are explicitly opposed to cooperative principles and organisation and to the goals, commitments, values, and principles of Irizar, S. Coop."

As an international group, diversity is part of our culture, and we understand that it is an enriching value. It enables greater knowledge of the needs and desires of our stakeholders around the world to consequently adapt our products and services to their needs.

We have personnel from our team assigned to the different production plants around the world, who interact with the Irizar Group headquarters, with closer proximity to international customers. In this way, we have strengthened the Irizar brand worldwide and make foreign projects more competitive.

In addition to the constant flow of personnel between plants, as discussed in the previous point, we utilise the synergies generated through the presence of Irizar in international markets with production plants, with implementations of other Group companies in the countries where we are present. Thus, Hispacold and Masats have emerged in Mexico, as well as those developed by Jema in Brazil, Mexico, and the USA.

All our facilities are equipped to facilitate accessibility of people with disabilities. In this sense, we follow a philosophy that prioritises working with companies or partners that welcome and incorporate persons with disabilities.



## Efficient and sustainable **mobility**

From the General Management, use of collective transport is being promoted as a measure towards reduction of CO2 emissions as well as awareness of all personnel in aspects of efficiency and the environment.

As well, from the Company Board, agreements were initiated in 2018 with bicycle supply companies, to make subsidised electric bicycles available to people at very competitive prices. Agreements concluded in 2019.

These actions are framed within Irizar's commitment to the environment and healthy lifestyles.



# Health and Safety

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This last section of the chapter, dedicated to the strategy and practice of sustainability with our personnel, is undoubtedly the most important.

## Occupational Hazard Prevention System

The Irizar S. Coop. occupational risk prevention system (as with the other Irizar Group companies) prioritises the safety of personnel over any other aspect to which it dedicates the necessary resources. It includes all measures for the prevention of accidents and illnesses related to daily work. Our basic accident prevention tool is a risk assessment of jobs and work processes.

The strategic importance of safety and health for Irizar is demonstrated by:

- Its priority in all assemblies. Data regarding indicators, actions, and investments made to improve health.
- The dynamics, established for more than 25 years, of monitoring by the Health and Safety Committee of all accidents, incidents, audit results (internal and external), inspections carried out continuously and periodically (safety and health, industrial safety of all facilities), and improvement proposals that affect health.
  - o This committee, led by the Health and Safety Manager (who reports to the Management Team), carries out comprehensive management of these sections on a monthly basis.
  - o Among the members of the committee are the Director General, the Personnel Director, the President of the Governing Board of the cooperative, and other members from different fields related to the issue of safety and health, who ensure compliance with all occupational health and safety guidelines and legal requirements.
  - o It is an open committee in which any person from Irizar may participate.
- 100% of injuries, accidents, and incidents are analysed. In this context, actions have been launched with

an investment of €497,500 in 2018 alone and more than €1,000,000 over the last three years. This has increased safety, especially for reducing risks that could result in serious consequences.

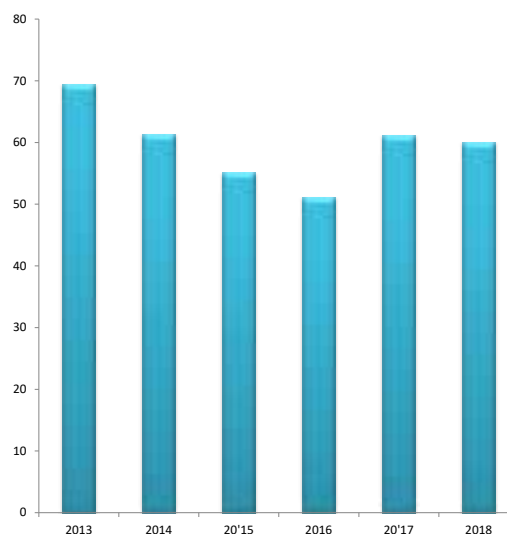
Irizar's prevention service is a joint Osarten service (joint prevention service) where Irizar has preventive activities integrated in speciality areas of safety, hygiene, ergonomics, and psycho-sociology and an external prevention service with Quirón in the speciality area of preventive medicine.

Our goal is to minimise the exposure of Irizar personnel to potential safety hazards through suitable design, ergonomics, engineering, and administrative monitoring; preventive maintenance; safe working procedures; job rotation; and continuous safety training. In cases where hazards cannot be properly controlled by these means, we provide personnel with appropriate personal protective equipment.

The Health and Safety Team provides personnel with essential safety plans, instructions, and procedures focused on prevention and continuous improvement. These guidelines emphasise the obligation to act responsibly and also underline the fact that each person must actively participate in said measures. Personnel may access this information through various means, including computers available in all production areas.

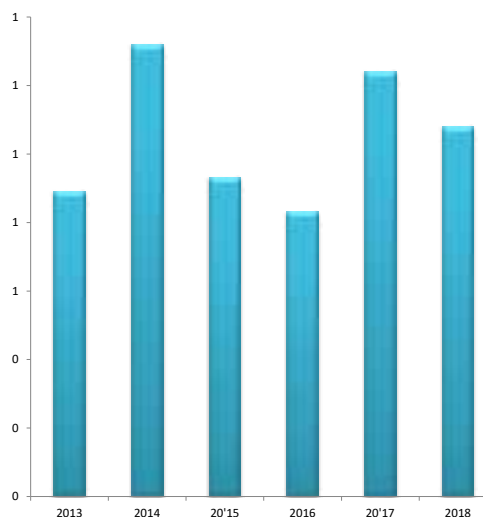
Initiatives are also carried out to raise awareness among personnel regarding existing risks, with emphasis on the culture of work safety, training, workshops, communication campaigns, etc.

Frequency index (number of accidents per hours worked)



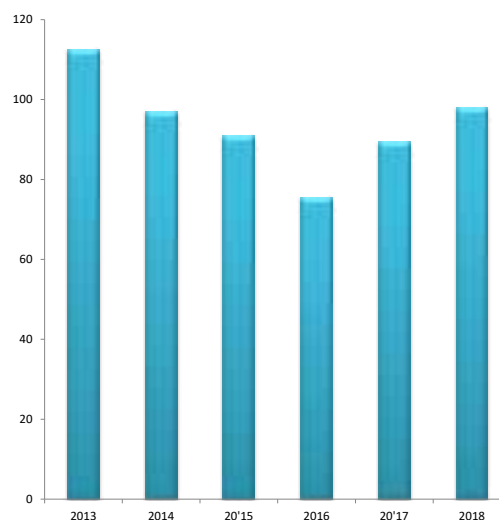
The frequency index (number of accidents per hours worked) improved in 2018 as a consequence of investments made, monitoring of accidents and incidents, improvements in personal protective equipment, and awareness campaigns to increase use.

Severity index (number of days not worked per work accident, based on the number of effective work hours)



The severity index also improved in 2018 (number of days not worked due to work-related accidents, based on the number of effective work hours). The most frequent accidents have been minor, due mostly to bruises resulting from impact with objects, muscle pulls, and sprains.

Incidence rate (number of accidents per number of employees)



#### Workplace accidents resulting in sick leave

	People	Accidents resulting in sick leave
2013	702	79
2014	754	70
2015	786	70
2016	778	67
2017	791	77
2018	836	82

However, as a result of the higher workload (more hours were worked in 2018 compared to 2017) and additional new hires to meet market demands, in 2018, the incidence rate (number of accidents per number of employees) and accidents with disability increased.

In the exhaustive analysis carried out on these causes, we have verified that the number of accidents of new hires increased with respect to the previous year. To prevent this from happening in the future, the 2019-20 Health and Safety Training Plan shall be improved for all new hires.

The objective is to continue improving for the future thanks to the obvious implication of all personnel, and we plan to address the ISO 45001 certification for occupational safety and health.

## Ergonomics-Comfort Programs

Personal ergonomics is an unwavering dogma when applying any innovation to products and/or productive processes, with the primary objective of adapting the job position to personnel.

It is our responsibility to start working on these aspects during the conceptual stage. We invest what is necessary in this field in order to prevent possible injuries. We have invested adequately for years while focusing efforts on providing maximum ergonomics to all jobs with solutions, in many cases, designed and developed with the participation of the employees themselves, in order to prevent possible injuries.

The Irizar ergonomics program includes job rotations as a preventive measure, as required (physical disabilities, weakened health, ageing, etc.). We carry out continuous evaluations and job improvements that have resulted in investments in the implementation of different measures (weightless tools, handling trucks, external manufacturing, etc.) to reduce the handling of loads and repetitive movements, as well as investments directed to thermal comfort.

Below is a summary of the measures implemented in recent years. Most of these are specifically designed with the participation of the Irizar personnel with the aim of offering optimal conditions in terms of ergonomics and occupational health:

### Ergonomics

- Work platforms for sheet metal roof shapers.
- Turners for the manufacture of roofs and roof duct handlers.
- Installation of lifts and adaptation of their regulation systems for postural improvement in structural welding and safety improvements.
- Aluminium shapers to reduce weight.
- Manual handlers for processes involving loads in sheet metal and assembly areas.
- Handling of front and side windows with weightless systems.
- Lifting systems using vehicle columns for ergonomic improvements.
- Handler for installation of seats inside vehicles.

### Hygiene

- Investments in the manufacturing and roof assembly area aimed at thermal comfort by installing evaporative coolers.
- Storage of all APQ10 chemicals.
- Substitution of critical chemicals with non-hazardous chemicals.
- Implementation of motorised breathing equipment for all painting and framing processes with maximum protection.
- Push and pull suction equipment in critical areas with suspended suction equipment for work on vehicles.
- Heavy-duty suction equipment for sanding tasks.
- Automation improvements in cabins to minimise hygiene exposure.
- Status control for filters by automatic notification (4.0).
- Localised suction for dust exposure.

### Safety

- Installation of collective protections for cabin maintenance.



The facilities have also undergone significant improvements to reach the highest levels of ergonomics, thermal comfort, hygiene and health of personnel:

- All facilities have been air-conditioned for all jobs, with improvements to prevent currents in certain work areas for optimum temperatures and working conditions for Irizar personnel in both winter and summer.
- The lighting system has been replaced with adjustable LED technology with the aim of increasing the lumens in work areas.
- It has been equipped with general suction systems for environmental hygienic improvement.
- Installation of glue booths for all work with exposure to glue.
- Improvements to hygiene conditions in the painting section by providing all workers with protective equipment that reduces exposure to chemical agents to inappreciable levels.
- Purchase and installation of defibrillators in all areas and facilities of the Irizar headquarters.

All clothing and equipment used is compliant with the specific UNE Regulations. Personnel participate directly in the selection and improvement of protective clothing and PPE with management carried out through dispensing equipment that continually communicates with the supplier, thus enabling an unlimited PPE ordering system with complete traceability.

In addition to all the health and safety activities that are carried out on a regular basis, and the aforementioned investments, it is worth highlighting the new investments made during 2018:

## Ergonomics

- New and useful accessories for improved ergonomics.

## Hygiene

- Recirculation of outside air with evaporative coolers in paint preparation booths.
- New installation to carry out painting work for luggage compartments.
- Air extraction for the roof drying process inside the cabin.
- New portable suction system for interior finishing touches, to meet the needs of new models.
- Facilities for the improvement of thermal comfort in roof and frame manufacturing.

## Safety

- Improvements in fire detection systems, to adapt to new regulations, for roof, sheet metal, and finish manufacturing areas.
- Improvement of fire protection installations (sprayers) in structural painting booths.
- Automatic filling of forklift truck batteries with distilled water.
- Installation of a nitrogen block in roof manufacturing, to replace the use of bottle carts.
- Installation of railings in paint booths to improve collective protection.
- Completion of the fall protection material in the new warehouse.

In 2018, the first steps were taken towards digital transformation, or industry 4.0, with the incorporation of:

- Design and manufacture of an automatic sander for sanding work in the painting zone.
- Purchase of exoskeleton vests.
- Communication of equipment or critical processes to corresponding areas.

We can affirm that in terms of hygiene and ergonomic-comfort measures, at Irizar, we are at maximum levels, far above the legal requirements and other companies in the local sector.

Our intention is to continue along this line with the involvement of all personnel. Thus, among the objectives planned for 2019 to improve working conditions and facilities, we highlight:

- Adaptation of facilities to new regulations and subsequent industry review of fire protection measures.
- A new air conditioning control system in the workshops and ground floor offices for environmental improvement.
- Automation of booths including structure painting and SAT booths.
- Fire protection installation for the structure painting booth.
- New OHP management program and transfer of data from the current system to the new one.
- Corrective maintenance web application.
- New project for registration and grouping of all climate control equipment in the existing industry files.

## Other health and wellbeing services

- **Medical attention** for persons (occupational and emergency). Irizar provides all its personnel with comprehensive medical care services. In the facilities, we have a medical service, which has the necessary means to carry out measures for the prevention of general health problems, such as occupational illnesses, maintenance of occupational health, and diagnosis and treatment of acute illnesses related to injuries and accidents.

Periodic medical check-ups are carried out with the health monitoring service according to the protocols established as a form of health prevention.

- **Physiotherapy service.** We also have a daily physical therapy service in the facilities as a preventive measure for postural and ageing problems.

- In addition, Irizar personnel are provided with **private health care** and dental insurance through leading companies in Spain with excellent coverage. As an additional service, it offers the option of providing medical and dental coverage to direct family members under absolutely advantageous conditions.

- In parallel, Irizar carries out continuous work to **promote healthy lifestyle** habits through campaigns and advice. In 2017, a "Healthy Habits Programs" was carried out to encourage healthy values and help improve health, both personally and in the workplace. The program was divided into four weeks including Clean Food Week, Physical Activity Week, Motivation, Stress Management, and Mindfulness week, and Anti-Ageing Week.

[www.asisa.es/irizar-saludable](http://www.asisa.es/irizar-saludable)

Proof of this is the availability of fruit for all personnel in the break areas.

- **Dining area.** Irizar has its own food service, offering all personnel the possibility of eating a high-quality healthy diet, including fresh products from local farmhouses and establishments.

Continual improvements are made to the menu and cooking methods in the company dining area (reduced salt, oil, fried dishes, etc.). This has been extremely popular and the number of guests served in the dining area has increased significantly.

Good eating habits are also promoted through TV screens. Among others, consumption of salad is encouraged by setting up a salad bar in the company dining area as a complementary option to the daily menu.

- Physical activity is encouraged with the possibility that personnel participate in representing Irizar in Donostia through: Empresen Lasterketa (company race) and Busti Zaitetz (swimming).





# External partners, supply chain, and alliances

- 5.4.1 Strategy of Industrial diversification: acquisition, alliance, or collaboration
- 5.4.2 Our sales and after-sales network
- 5.4.3 R&D - Future projects
- 5.4.4 Other collaborations with companies in the sector
- 5.4.5 Supply chain
  - Requirements for our suppliers
  - Responsible supply chain process
  - Batteries
- 5.4.6 Continuous dialogue with suppliers and partners
- 5.4.7 Logistics optimisation project at the Group level





# External partners, supply chain, and alliances

In line with our business strategy, alliances with different external partners play an increasingly important role in Irizar's competitive sustainability.

In addition to different types of collaboration we establish with external partners and the supply chain described in this chapter, in the chapter regarding personnel, you can find agreements with universities and training centres. In the chapter regarding society you can see our agreements with the international and domestic social environment.

## Strategy of **industrial diversification**: acquisition, alliance, or collaboration

The diversification strategy initiated in 2009 by the Irizar Group, through the acquisition of existing companies or the creation of others, to serve other markets or new business lines, is aimed at strengthening Irizar S.Coop. and the group, while minimising risk concentration.

This strategy enables development of new capabilities and synergies within the group and the creation of new businesses, wealth, and employment, consistent with the mission.

Diversification will take into account the different factors that may directly affect the Irizar Group; economic risks, those corresponding to the uncertainties inherent in new activities, those derived from the effects of economic and political cycles, and those that involve difficulties or barriers to access certain technologies.

Suitability will take priority over the urgency to enter into new projects; the possible projects of technology transfer or creation of companies abroad for any of the group's products will be evaluated and conditional on long-term viability and profitability. Priority will also be given to entering other segments or sectors with high development potential.

## Our **sales** and **after-sales** network

We are continually expanding our sales and after-sales network worldwide. Therefore, we collaborate and maintain alliances with distributors and business partners, which facilitate distribution and close customer service in the international markets in which we are present.

Additionally, we have decided to implement exclusive after-sales and warranty services in the cities where electromobility solutions are incorporated, with customised R&M (repair and maintenance) packages. These are comprehensively managed and centralised by local technical experts and personnel, thus, contributing to the generation of local wealth and employment.

## R&D - Future projects

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We have the Creatio R&D Centre (Irizar Innovation Centre), located at the Group headquarters, dedicated to enhancing the capabilities of applied research and technological development in cooperation among the different Group companies, for proprietary products as well as for the main coach components. Projects led by Creatio also have the collaboration of external partners.

In addition to these activities, within the Group, we collaborate with external technology and research centres to complement our knowledge and technology: CEIT, CIDETEC, CIKATEK, IDEKO, IDIADA, INSIA, IK4-AZTERLAN, IK4-LORTEK, LEARTIKER, TECNALIA, VICOMTECH, etc. continuously striving to strengthen the Group while improving competitiveness. This cooperative work contributes to the improvement of existing products, development of new products, and cutting-edge solutions in all the business areas in which we are present.

Alongside group companies, we actively participate, via major European brands, in important European projects that outline the future of sustainable mobility for cities and public passenger transport. See section on customer, product, and service projects.

Suppliers are also essential to achieve future goals. We encourage and promote the establishment of effective partnerships. We must be closely linked to suppliers in order to cope with the rapid pace of technological change in our sector. A noteworthy example of this is our alliances with key suppliers for integral coach components, without which the progress we have made in consolidating our strategic commitment to these vehicles would not have been possible.



## Other collaborations with companies in the sector

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It is worth mentioning that Irizar belongs to:

ACICAE is the organisation whose purpose is to dynamise the Basque automotive industry and make cooperation between Basque companies possible in order to provide a group response to the significant challenges facing the sector. It is considered the first automotive cluster created in Europe.

Since its inception in 1993, it has evolved rapidly and has contributed to the six fold growth in turnover in the Basque automotive sector over the last twenty-five years, exceeding 18,390 million euros and 85,000 people around the world.

MLC ITS Euskadi is a private not-for-profit association. Its goal is to improve the competitiveness of its members, companies and agents in the Basque country that work in the fields of logistics and supply chain, mobility, and infrastructures for both people and commodities.

The companies and organisations working in the sector in the Basque country account for 4,882 million euros and 31,309 people.

We started our association in 2017 as a leading company for the Goierri Valley, an industrial alliance for the industrial transformation of the Goierri region of Gipuzkoa (where Irizar S. Coop. is located), through the real and active collaboration of the member companies, sharing knowledge and innovating to guarantee industrial competitiveness and future sustainability for our local area.

The companies included in this alliance are made up of 5800 workers in the fittings, mobility, lifting, energy, electric motor, transport, machine tool, and other sectors. Knowledge of the capacity of the valley makes it possible to consolidate, develop, and manage the wide range of products and integral industrial solutions.

Our strong commitment to the local environment is demonstrated by the 15% of purchases of materials and services made to companies in our province (Gipuzkoa).

We maintain outstanding collaborations at the societal level with several local entities oriented to social and labour insertion, training, and education.

## Supply chain

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Our suppliers and the rest of our external partners are able to offer products and services that help us improve our brand and our competitive position, which makes them key links in our supply chain.

In the field of sustainability, we are committed to reducing social, ethical, and environmental risks in the supply chain. We constantly strive to work closely with suppliers and partners to ensure compliance with our environmental and social sustainability policy and also in their businesses. For us, it is essential that our suppliers and business partners have the same environmental and social standards that we have established for ourselves.

It is also important that our suppliers, and, in turn, their suppliers, are governed by the guidelines of the UN Global Compact or the International Labour Organisation (ILO), establishing contractual commitments that comply with human, labour, and social rights, and implement specific environmental management systems.

**The most important requirements include the prevention of child labour, establishment of ethical standards and anti-corruption policies, and commitment to environmental protection.**



## Requirements for our suppliers

Our sustainability standards have defined the requirements that our suppliers must meet, according to the contractual agreements signed. The most important requirements include the prevention of child labour, establishment of ethical standards and anti-corruption policies, and commitment to environmental protection.

Prevention or at least minimising environmental risks and excessive resource consumption is also important. Therefore, we are driving our suppliers to meet these requirements. This includes, among other things, energy efficiency and material selection requirements, as well as prohibitions on specific substances and recycling requirements for delivered components. We also request that they operate or demonstrate that they are working with an environmental management system certified in accordance with Standard ISO 14001, EMAS or similar.

Current contractual agreements include the following terms:

### Human Rights

- Suppliers must guarantee that they have a sustainability policy governed by respect for human rights; that no one in its workforce is subject to forced or compulsory labour; that it does not tolerate human trafficking, child labour, or discrimination for any reason; that its workers operate in dignified conditions; that wages are fair and benefits are provided; that it accepts freedom of association and collective bargaining; that it maintains an effective fight against corruption and bribery, and that it promotes active policies in matters of health, safety, and environmental management.
- In order to ensure that the sustainability policy is implemented, the relevant processes shall be established jointly and monitoring shall be performed in regular meetings held with the Supplier.

### Unlawful employment

For the provision of services, in accordance with current legislation and regulations regarding the prevention and control of unlawful employment, suppliers shall submit to the purchaser all corresponding certificates in the matter of hiring, social security, social benefits, or labour or union duties, and any other additional documentation required in the order, upon contract execution, and at most, before the start of service provision.

### Occupational health and safety

- The Supplier must comply with current labour legislation and regulations regarding occupational health, safety, and hygiene applicable to the work performed under the Contract and to any work performed by third parties or companies in different facilities.
- Suppliers shall also comply with all internal operating and safety regulations at the purchaser's installation(s) where work shall be carried out for the execution of the contract.

### The Environment

- Suppliers shall deliver the goods and/or provide the services in accordance with current regulations and legal requirements applicable to environmental matters.
- Suppliers must have a certified environmental management system or demonstrate that it is in the process of certification.
- In order to ensure that suppliers incorporate environmental variables in the products and services it supplies to Irizar, periodic meetings shall be carried out with suppliers to identify, among other issues, the criteria for the selection of materials, the recovery or reuse of packaging, the recycling of waste, and the energy efficiency of products.

## Continuous dialogue with suppliers and partners

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### Responsible supply chain process

The Irizar Group promotes and supports responsible processes for acquiring raw materials. In general, and before any agreement is signed, Irizar's new suppliers undergo potential analyses to assess their sustainability performance. The objective is simply to ensure that our sustainability standards in the supply chain are met.

### Batteries

The Irizar Group has begun to develop and manufacture the batteries incorporated in plug-in electric and hybrid vehicles of our brand and technology. This includes the purchase of cells with different chemicals.

As these are materials whose extraction poses a potential risk of human rights violations, we are in constant contact with suppliers to increase the level of transparency in the cell supply chain. At Irizar, we are aware of our responsibility to ensure that the components we receive from suppliers are manufactured in accordance with the principles of sustainability. We attempt to take measures to promote compliance in this regard by counteracting social and environmental risks in the supply chain. We will report on our progress in upcoming reports.

In this sense, our goal for the future is to continue redesigning battery development and manufacturing processes to make them more sustainable.

We design and develop products with the participation of suppliers and partners. With the main suppliers, we establish what we call "logical management per coach", for which these suppliers are integrated in the daily management of Irizar: production planning, purchase orders, merchandise received, and continuous customer revisions regarding confirmed specifications and corresponding items by coach.

In terms of product quality, in recent years, we have developed quality assurance tools, supplier audit systems, and deviation feedback.

We also encourage a high level of integration with suppliers while developing our products and processes by mobilising and exchanging knowledge, specialisation, technology, and resources. There is a strong dynamic in periodic meetings with the main suppliers to ensure compliance with the established annual indicators, as well as to expand the culture of the Irizar Group's environmental approach. This close collaboration guarantees that sustainability standards are met while ensuring transparency and increasing efficiency in all supply chains.

These meetings set the stage for monitoring and training sessions on the importance of sustainability in the supply chain.

Given that purchasing management is a fundamental element to guarantee profitability and sustainable competitiveness, Irizar belongs to AERCE (Spanish Association of Purchasing, Contracting and Supply Professionals). AERCE is a professional association that brings together purchasing managers for medium and large companies, and whose purpose is the promotion, dissemination, and training of techniques and the application of appropriate methodologies for proper and effective management of company purchasing, contracting and procurement.

# Logistics optimisation project at the Group level

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The Irizar Group, through its logistics area, is immersed in a project to adapt and reallocate routes with the main objective of optimising the resources dedicated to the transport of goods to improve efficiency and costs, as well as reduce environmental impact.

The project aims to minimise shipments, optimise container and trailer content, and seek route synergy. For this, routes must be identified, as well as the countries and regions involved, dividing them into three categories: sea, air, and ground shipments.

This year, we are making improvements in packaging and management of merchandise consolidation times in port to increase the capacity of each container sent to the plants in Mexico and Brazil by 10%. This implies a significant reduction of environmental impact generated by the transport of goods from Irizar and its partners.

We will address data on reducing CO2 emissions in future reports.



# The environment



5.5.1. Framework for our strategy and involvement in the Environment

5.5.2. The Environment in our activity

- Consumption of natural resources and energy efficiency
- Consumption of chemical resources
- Waste generation and circular economy
- Clear commitments and objectives for the future

5.5.3. Production installations with completely sustainable energy

5.5.4. Increased environmental knowledge and awareness





# Framework for our strategy and involvement in the Environment

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The most significant principles that govern the Irizar Group environmental policy include the progressive reduction of CO2 emissions and other contaminating substances, as well as the introduction of environmental criteria from the design of its products, encouraging a spirit of respect towards the environment among its employees and partners.

As seen in Chapter 3. "Irizar: 130 years envisioning a future of excellence and sustainability", for decades we have been pioneers in our commitment to the environment and our planet:

**1998:** First European coach manufacturer to obtain the ISO 14001 certification, by undertaking the project to expand the headquarters plant in Ormaiztegui.

**2000:** First large Spanish company to obtain the European Quality Prize awarded by EFQM. In whose assessment they also took into account:

- o Our use of environmental resources in all business processes (and in collaboration with suppliers of our supply chain) and,
- o environmental results indicators since 1996:
  - Perception of social environment (through questionnaires)
  - Conservation indicators and global and local improvement:
    - Atmospheric emissions
    - Waste and recycling during the manufacturing process,
    - Consumption of non-renewable global resources
    - Coach recyclability.

Since 2009, our commitment to the environment has gone much further. In Chapter 5.2 dedicated to Sustainability. With our customers, passengers and citizens", we have commented on the relevance of the environment in the design and creation of our products.

The electromobility business promoted internally in the Group since 2011 is the clearest expression of its care for the environment and the well being of citizens.

In addition to the multiple awards and external acknowledgements received for our buses and coaches, in 2016, Irizar was the winner of the National Environment Award in the product-service category in Spain and was a finalist in Europe representing Spain.



We are continually making progress in energy efficiency, in optimising waste management, and in reducing the environmental impact caused by our business activities and products.

Our awareness for the well being of personnel and the protection of the environment is what governs the behaviour of all the personnel that comprise Irizar.

In keeping with the objective of continuous improvement, for years, Irizar has been undertaking projects of circular economy, energy efficiency, and eco-innovation for which it annually defines improvement actions.

Our awareness for the well being of personnel and the protection of the environment is what governs the behaviour of all the personnel that comprise Irizar.

Progressive reduction of emissions of CO<sub>2</sub> and other polluting substances, as well as the introduction of environmental criteria from the design of products, promoting among their personnel and partners the spirit of respect for the environment.



# The **Environment** in our activity

## Consumption of natural resources and energy efficiency

### Consumptions of Natural

Year	Water (m3/coach)	Electrical power (kWh/coach)	Natural gas (kWh/coach)
2013	9,29	6292,81	9090,48
2014	9,72	5655,24	7914,71
2015	10,68	5240,75	8201,92
2016	8,98	4832,85	8184,06
2017	9,60	4810,74	8207,32
<b>2018</b>	<b>8,84</b>	<b>4682,95</b>	<b>8618,53</b>



### Water consumption

Water consumption is at an all time low thanks to preventive maintenance measures carried out in 2018, which have resulted in a decrease of 8%.

### Energy efficiency

New actions aimed at saving energy are established and reviewed annually. These actions are directed at the production phase with activities to improve consumption or modifications of facilities through BAT (Best Available Techniques) to maximise yields and reduce energy demand, or others aimed at the revision and replacement of energy sources incorporating self-consumption options by installing renewable energy.

- **Electrical power consumption:**

There has been a progressive decrease in electricity consumption (2.7% in 2018) associated with the Energy Efficiency Measures Plan launched in 2013.

This means that in the last five years we have reduced consumption by 25.6%.

- **Natural gas consumption:**

In 2018, we have experienced a slight consumption increase of 5% with respect to the previous year. This is due to the low temperatures in 2018 in Ormaiztegui, which required a higher consumption of gas associated with heating installations and radiant pipes.

However, the 5.2% reduction in the last five years reaffirms the effectiveness of the energy efficiency measures adopted.



## Consumption of chemical products:

### Consumption of chemical

Year	Paint consumption/m2 treated surfaces (kgr/m2)	Solvent consumption/m2 treated surfaces (kgr/m2)
2013	0,404	0,231
2014	0,347	0,196
2015	0,493	0,163
2016	0,450	0,163
2017	0,479	0,139
2018	0,510	0,140



### Solvent consumption

During 2018, solvent consumption remained practically the same as compared to 2017 (a slight increase of 0.76%). Despite the increased consumption of paint, corresponding thinner consumption remains stable, which reaffirms the good job carried out by reducing emissions of volatile organic compounds.

Analysing the evolution and trend of said consumption in recent years, we have noticed that this evolution is very positive and the thinner reduction plan, in place since 2007, is showing good results.

### Paint consumption

Contrary to what has been observed regarding solvent consumption, in 2018 paint consumption was reduced by 6.4% with respect to 2017.

Despite the different productivity factors (mainly the production of integral coaches), which, in 2018, led to a general increase in the consumption of products and resources, such as paint, this has been largely halted as a result of the exhaustive work carried out in the implementation of the paint management plan since 2007.



## Waste generation and circular economy

### Waste generation (kgr/coach)

Year	Hazardous waste	Non-Hazardous waste
2013	241,40	1191,07
2014	234,68	1184,57
2015	286,37	1236,19
2016	285,30	1211,22
2017	306,75	1157,06
2018	320,52	1020,62



Since 2010, Irizar has been immersed in a project for the analysis and development of new solutions to reduce relevant environmental aspects through the recovery of waste (upcycling) and avoid its discard in landfills, thus, obtaining new materials and products of maximum value useful for the activity.

### Generation of hazardous waste

Hazardous waste generation per coach in 2018 increased by 4.5% compared to 2017. This increase is due to various factors that have directly influenced the need for a more thorough cleaning of the paint booths and consequently an increase in resulting waste.

The increase is internally considered logical (quality factors, etc.) and it is expected that, as new models and rhythms are consolidated, consumption and waste will be consolidated and stabilised.

### Generation of non-hazardous waste

In 2018, there was a decrease of 11.8% compared to 2017.

This decrease is a consequence of the circular economy project that aims to minimise waste and improve segregation.

## Waste generation and circular economy

To move forward with our environmental commitment, we seek international reference frameworks.

To move forward with our environmental commitment, we seek international reference frameworks.

Accordingly, as a result of our continued work in recent years of establishing alliances and collaborating closely with the different local and regional administrations, we strengthen our environmental commitment by joining the Klima 2050 initiative: Commitment acquired by the European Union, the KLIMA 2050 Strategy of the Basque Country sets a reduction goal of 40% of greenhouse gas emissions for 2030 compared to 2005, and 80% for 2050. Likewise, in 2050 it is expected to reach renewable energy consumption of 40% of final consumption by 2050.

## Production installations with **completely sustainable energy**

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The Irizar Group integral environmental policy includes the use of renewable energy in its production plants.

An example may be found in the new Irizar e-mobility production plant opened in May 2018. This is the first European electromobility plant where all the energy consumed is supplied by a photovoltaic power centre located in Alava.

It is worth mentioning that the construction has focused specific attention on innovative elements and cutting-edge solutions with a special emphasis on concepts that define eco-sustainability. The slab levelling is of high specification without retraction joints and low permeability in the event of accidental spills. The roof is of induction-fixed sheets. The interior and exterior lighting of the building is LED. Control of production process facilities and equipment (lighting, air conditioning, heating, pneumatics, paint booths, etc.) is centralised. And, the rooms are managed using touch controls.

It includes a warehouse and domestic hot water heating system that works by using the surplus steam from a company located adjacently.

These features have earned the plant a class A energy efficiency certificate, the highest currently available in Europe.

The total energy consumed by the Jema plant comes from this plant.

## Increased environmental **Knowledge and awareness**

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The initiatives we carry out to increase environmental knowledge and awareness of all Irizar personnel, resulting in better environmental results are included in:

- A manual of best environmental practices for the deployment and implementation of environmental variables in the daily management of all Group production plants.
- Annual self-evaluations and audits of indicators and published results for improvement, use of synergies, and decision-making.
- Training and awareness programs on environmental risks and future improvements.
- Initiatives and support campaigns with special emphasis on meeting the sustainability criteria in the extraction and processing of raw materials.

These initiatives are reviewed and updated annually in accordance with the new legal requirements and internal objectives established to enable continuous and progressive improvement.

**Irizar e-mobility.** First European electromobility plant where all the energy consumed is supplied by a photovoltaic energy plant located in Alava.

# Society in general

.6.1. Framework for our strategy and involvement in society in general

- Annual tribute to retirees.
- Activities related with our sector
- Cultural activities
- Educational activities
- Sports activities
- Development cooperation activities







# Framework for our strategy and involvement in society in general

The ultimate goal of our mission in the Irizar Group is the unequivocal commitment to growth and creation of wealth and employment, with personnel in the local environments and countries where we are present. In keeping with this principle, and as detailed in chapters 2, "Getting to know the Irizar Group" and 5.3, "Sustainability at Irizar S.Coop with our personnel", the best reflections of our strategic commitment to sustainability with society are shown in the evolution and job creation graphs for the local environments where we are present.

**"Our relationship with society will be respectful, open and participatory, helping to create wealth and employment, culture, education, and sport in our immediate environment, as well carrying out social work in our immediate surroundings and in the world's most disadvantaged areas."**

Therefore, in keeping with this strategy, we make great efforts, both financially as well as dedicating Irizar personnel, to contribute to building a better socio-economic environment and a better society of which we are an integral part.

Furthermore, as detailed in chapter 5.3, "Sustainability at Irizar S.Coop", with external partners, supply chain, and alliances", also from our supply chain management, we highlight our strong commitment to the local environment (Gipuzkoa), where

- 18% of our purchases of materials and services are from companies in the province.
- We maintain stable relationships with suppliers and subcontractors to drive social-labour insertion for the most disadvantaged persons: disabled, youth, etc.

We collaborate with nearby training centres and universities. We collaborate in activities related to our sector.

In addition, within the framework of our commitment to society, **we allocate more than 1.5 million euros a year to non-profit activities** related to: our industry, education, culture, sport, and primarily domestic and international social cooperation. Not only to boost global development, but also as an avenue for internal growth. The criteria for selecting and specifying the duration of support according to the scope of each collaboration project are determined through the Irizar Company Board, and all employees are informed through the communication channels established for this purpose.

The most significant lines of activity in recent years are listed below, particularly the new initiatives introduced in 2018.

# Annual Tribute to **retirees**

In 2018, retirees attended their annual reunion to receive the tribute that Irizar has been paying them for many years. They enjoy a full day with their friends and colleagues and always bring up memories and anecdotes about old times, while still maintaining a bond with people and business knowledge that have been part of their lives for years.

## Activities in our sector



Through **APRAT** (Traffic Accident Rescue Professional Association), we participate in activities aimed at improving knowledge about coaches amongst public and emergency service professionals when they must intervene in accidents involving coaches.

We have enabled a coach as an demonstrator that we humbly offer for different social initiatives. In 2018, for the third year in a row, it was used as a mobile classroom for the "**Kultura Digital@**" campaign in 5 towns in Gipuzkoa. It was an educational awareness raising campaign promoted by the Regional Government of Gipuzkoa to foster the creative use of technology through teaching programming at an early age (8-16) and, in this way, foster technological pursuits. The figures for the number of participants on the workshops, the media impact of the programme and the degree of satisfaction are clearly positive, which reinforces our opinion about the programme's future relevance and suitability.

In 2018, we continued to actively collaborate in the **Goierri Valley**, initiative, which we joined in 2017. This is an industrial partner in the metal-mechanical sector that is leading the industrial transformation of the Goierri valley (where Irizar S. Coop. is located) by collaborating with participating companies, sharing knowledge, and innovating to guarantee local industrial competitiveness and future sustainability.

Every year we also sponsor **several sectoral associations**: Asetra, Aetram, Atuc, Fecalbus, Fenebus and Consorcio de Madrid for the purpose of promoting and positioning bus and coach as a mode of transportation that is necessary for the future.

# Cultural activities



We support cultural and traditional activities in our immediate environment.

Irizar is actively involved in promoting the use of **euske-ra** (Basque), to increase its use and standardisation, both internally through the Basque Language Plan as well as socially by sponsoring different organisations and activities, including: Kontseilua, Kilometroak, Nafarroa Oinez, Ibilaldia, Araba euskaraz, etc.

Our annual sponsorship of the **Irizar Award for Basque Film** at the San Sebastian International Film Festival has been augmented by sponsorship of the filming of "Oreina" and the documentaries "Natura Bizia", "Emakume Erraketistak" and "Bihar Dok Hamairu – Basque Culinary Project".

With the aim of contributing to the dissemination of music, Irizar collaborates with different entities, among which is the annual sponsorship of the **Orfeón Donostiarra**, with which it has had a relationship for more than a decade.

There are also collaborations with traditional **Basque music** and dance through Euskadiko Dantza Txapelketa.

In 2018, for the fourth year in a row, Irizar collaborated with the Alabaola Basque Maritime Factory, to build historical ships in an innovative space where artisanal ship building techniques are revived and appreciated.

Also noteworthy is the collaboration with Jauzarrea, a fund for the study and dissemination of **Basque culture**, as well as that with the Museo Zumalakarregi of Ormaiztegui, a service of the Provincial Council of Gipuzkoa, whose purpose is to bring the general and specialised public closer to the 19th century in the Basque Country, a period of great social, cultural, economic, and political changes, and the beginning of the contemporary world.



## Education activities



Irizar collaborates in various ways within the field of education.

We actively engage in activities with the objective of sharing our experience with society and generating concerns that may be reflected in the progress of other organisations, educational centres, and people. We do this through the organisation of open days at our facilities and through participation in external conferences (in universities and business schools) and discussion forums among various national and international organisations.

Each year, we continue to sponsor the “**Journey of Life**” **cycle** for the summer courses at the University of the Basque Country. The event is a continued learning and open training cycle, as well as a reflection on the world in which we live with the aim of contributing as much as possible towards shaping a better and desirable future.

Alongside city councils and other companies, Irizar is a member of the **Goierri Foundation**, whose social objective is training and technical, economic, and social development in the Goierriarra region, where Ormaiztegi is located.

Irizar participates in the **Goieki Business Incubator**, whose objective is to support and promote the emergence of new business initiatives in the Goierri region

For the fourth consecutive year, in 2018, Irizar was the mentor company for the **STARTInnova** pedagogical programme promoted by Diario Vasco news organisation, aimed at developing entrepreneurship amongst young people. Aimed at youth between 16 - 17 years old who are studying their baccalaureate and/or undertaking vocational training, the programme encourages entrepreneurial attitudes and promotes greater contact between educational centres and the business community.

Participation in the “**Universal design for learning in complementary schooling programs**”, through two projects with UGLE-Urola Garaiko Lanbide Eskola and Peñascal S.Coop. intended for students aged 14 to 16, who have specific educational support needs due to their personal conditions or school history.

## Sports activities



Irizar S.Coop. maintains several types of annual sponsorships, among which are:

- **Kirolgi Foundation.** A non-profit organisation for the promotion and development of Gipuzkoan sport, focused on performance sport.
- **Guipuzcoano sport** at the highest level in: football (Real Sociedad), basketball (Gipuzkoa Basket Saskibaloia), rugby (Ordizia Rugby taldea) and handball (Bera-Bera).
- **Teams, competitions, and regional tournaments** in: athletics, Basque rural sports, mountain sports, cycling, as well as sports activities and championships carried out in the local area of Ormaiztegi.
- Special focus is placed on **traditional Basque sports**, including the collaboration with Xistera – Club de Clubes de Cesta punta de Euskal Herria.
- **Lasarte Racecourse**, annual sponsorship of the Irizar Award for the winner of the horse race of the inaugural session.

Increasing presence in adapted sports and women's sports. Noteworthy collaborations:

- **HEGALAK Zabalik Fundazioa:** “Programme for improving the quality of life for dependent people who are disabled and/or have an illness, through re-adapting physical activity in Gipuzkoa” and the “Programme for swimming without barriers on the Concha beach in San Sebastian”.
- **Adapted Sports Federation of Gipuzkoa** Through the “Comprehensive project of adaptive and inclusive physical activity aimed at children and young people with physical disabilities in Urola Garaia and Goierri”.
- **Zuzenak** wheel chair basketball
- **Bera Bera.** women's basketball club
- The **Goierri Gorri Futbol Klub** women's football initiative that brings together and strengthens these teams in the Goierri region.



# Development **cooperation** Activities



We place a high priority and make the largest economic contribution to sponsoring various not-for-profit social and assistance entities.

We collaborate with around 30 associations that work locally and throughout the province, including:

- Large associations that we collaborate with on specific projects, such as the Food Bank.
- Provincial associations, mainly patient and family associations
- From the cancer prevention AECC-Association to associations for rare diseases: Butterfly Skin and Stop Sanfilippo.
- Associations that provide care for the elderly.

Along with those already detail in education and adapted sports, in 2018, are the disability support projects carried out with Gureak Fundazioa: "Employability of people with Asperger" and "Ni Zu Bezala-I am like you" (to demonstrate a positive and active vision of disability to the Gipuzkoan children's population).

We cooperate internationally through projects with 25 NGOs in order to contribute to the promotion of education, health, and gender equality, as well as the eradication of poverty, hunger, and inequality.

In addition to continuing with projects already mentioned in previous Sustainability Reports, we would like to present the most significant projects in which we continued to collaborate in 2018:

**Vicente Ferrer Foundation:** Nutrition Counselling and Assistance Program for widowed or abandoned women in the states of Andhra Pradesh and Telangana (India).



[\*Vídeo agradecimiento Fundación Vicente Ferrer\*](#)

**Doctors without Borders:** International crisis in Nigeria. Contribution to the improvement of the living conditions (medical care, food, and water) of women and children who have lost everything and who live trapped in dependent cities as a result of the armed conflict between the Nigerian army and Boko Haran.



[\*Vídeo agradecimiento Médicos Sin Fronteras\*](#)

**UNICEF:** Comprehensive care for children linked to armed forces and groups, who are survivors of gender-based violence and sexual exploitation in the Central African Republic.



[\*Vídeo agradecimiento UNICEF\*](#)





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