



Irizar
lighting the road

PEOPLE & COACHES

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We are continuing to deliver the strategy we defined in 2009, which is based primarily on the development and strengthening of the brand by incorporating technology for the development of Irizar brand integral products.

We are continuing with our foot on the accelerator of research and development and its application to new products, which in 2016 saw our i3 and i4 hybrid models hit the market, providing a solution to the pollution problems of rural environments and the needs of our customers.

We have already produced the first units of the class 2 i4 model and before the end of the year we will deliver about 30 units of this model and the Irizar i3 model also in the hybrid version.

Following our entry into the USA market with coaches manufactured in our parent plant, this year we also started to manufacture integral coaches in the Mexico plant for customers in that market.

Our parent plant in Ormaiztegui will continue to grow, once again, leading the Group with output in excess of 1300 units, although the highlight of the year has been the enormous growth at the plant in Mexico - due mainly to start of production of our new flagship, the Irizar i8 model. This will lead us, for the first time in our history, to production of over 1000 units.

With regard to the electric buses business, a new company has been founded within the Group - Irizar e-Movility - and we are continuing to work intensively in the construction of the new electromobility plant and on the development of our product range. We have already completed the first prototype of the articulated electric city bus and we are ready to start mass production from next year.

We are continuing with our commitment to major R & D programmes in electromobility as we are convinced that this business line will generate strong growth in the Group in the coming years.

And this year, after the arrival of the i8 last year, the new Irizar i6 has arrived - demonstrating our new product range and technology vision.

The new Irizar i6 has arrived on the scene in the wake of the i8. This model, like our flagship, incorporates the same technological solutions as its big brother, to offer solutions for new requirements in safety, maintenance, diagnostics, etc.

The technology of this coach goes way beyond the model it replaces - the Irizar pb - and adds a clean and beautiful design that is consistent with the new lines started with its older brother. With more personality than the current i6, it is safe, reliable and comfortable and incorporates the new generation of i6 seats as a standard feature.

We are therefore continuing along our path of solid growth with a commitment to our customers and to society, which we demonstrate by trying to offer more value added in key areas in the world today such as safety, comfort and sustainability.

Thank you very much,

José Manuel Orcasitas
Irizar Group CEO

New Irizar i6

Irizar i6





The inspiration for a renewed spirit

Welcome to our new i6! Irizar is now going even further in the spirit of innovation, supported by the most advanced technological solutions and attention to detail, that is the hallmarks of the brand - as illustrated in the company's product catalogue, with its wide range of integral, hybrid and electric buses and coaches.

The concept of renewal of the Irizar i6 is the response to an exercise that is both relatively simple and extremely demanding: simple because it was only a matter of time before the Irizar i6 adopted the features of the impressive i8; and demanding, because the renewal also had to be given a soul - the soul of the new models of the brand.

So, the beating heart of this aesthetic revolution is cutting-edge technology that capitalizes on the inherent values of the Irizar i6 - the quality, robustness and reliability of a model with its own personality.

Design, technology and sustainability are the expressions of the renewed spirit that pervades the brand and which seeks to inspire confidence in those who are the organic elements of any bus: the owners, drivers and passengers. Because our motivation is inspired by people.

A visual language of its own

A new semiotics for a new Irizar i6. Inspired by its own visual style, the appearance of the new i6 epitomizes the imprint with which Irizar wishes to emphasize this new phase.

The design of the front is characterised by new LED headlamps and by the detail of the exclusive trapezoidal integration of the adaptive cruise control system. The lines are more pronounced and aggressive, sculpted on rigid and soft surfaces. Different elements, such as the front fog lamps and the position lights on the ceiling, are harmoniously integrated. A renewed, strikingly fresh result which emphasizes and adds nuance to the familiar face of the Irizar i6.

A delicate crease along the side communicates a sense of optimization and high quality. A feeling echoed in improved and modern details and trims.

The improvements that the Irizar i6 proudly displays at the rear emerge from delicate and modern angular details. Like the i8, its aesthetic concepts are infused with a personal stamp communicating greater attractiveness to the market. The overall effect is an unmistakable Irizar i6 - stronger and more dynamic.

The lines are more pronounced and aggressive, sculpted on rigid and soft surfaces. Different elements, such as the front fog lamps and the position lights on the ceiling, are harmoniously integrated.

Technology: the heartbeat beneath the skin

Challenges demand responses. Irizar technology provides them.

Irizar has responded to challenges arising from traffic conditions and from the need to optimize resources: indoor and outdoor full LED lighting.

The multiplexed architecture and CAN communication protocol that coordinates all the coach electronics, enables diagnosis and data collection using the OBD connector and provides the systems with a level of intelligence. The AEB-LDW driving-assistance systems consisting of the touch-screen control and HMI console, from which the entertainment and comfort systems are managed, are also worth mentioning.

Other challenges relate to wellbeing and safety - in other words, the experience of a calm and pleasurable journey. In this case, the solutions that Irizar has developed seek to enhance passenger satisfaction: exclusive capacitive switches in the diffuser ceiling and innovative air intake systems on the roof and beneath the bus, for increased performance of the driver and passenger air conditioning systems.





Easier driving

The driver is the star of the show. A comfortable seat and a feeling of relaxation is how it starts. The driver's seat is designed for rapid positioning in the most ergonomic posture. Seat and steering wheel positions can be adapted to all sizes. The switch panel is fully multiplexed with new icons and colours for easy identification. Dials and information screens are also positioned ergonomically.

An optional MMI system, exclusive to Irizar, facilitates the management of all the systems through the use of a joystick, buttons for quick access to menus and a 7" colour touch screen to the left of the driver.

The comfort of the driver at the controls of the Irizar i6 is also enhanced by optimal visibility of the rear-view mirrors and the ability to regulate the air conditioning vents. In short, features to pamper the driver, making his/her work easier through enhanced wellbeing - which means improved safety for all passengers.

A space designed for optimum comfort and functionality.



Concern for inner wellbeing

Achieving a sense of wellbeing at the start of each journey and ensuring that it lasts till the end is the foundation of the interior design of the Irizar.

The front of the ceiling has a large 22" high resolution flat screen monitor, a clock and toilet indicator light. Access is illuminated by LED lights and on brackets and the ceiling making it easy for passengers to enter and exit. It offers "soft touch" capacitive switches and LED reading lights. The ceiling coatings are light grey, to enhance the luminosity of the interior. The overhead luggage compartments are notably spacious and illuminated by a row of LED lights. Like the new bumpers, the air conditioning vents have a trapezoidal design and offer lower openings to increase passenger comfort.

Other facilities and features include: internal height of more than 2m, more space between seats, excellent visibility for driver and passengers, antiglare electric blinds, integration for catering equipment, enhanced air conditioning performance, larger, higher resolution flat screen fold-down and central monitors...

The new seats round off the renewed aesthetics of this Irizar i8. Although the visual elegance of the seats cannot be ignored, concepts such as comfort and functionality have been prioritised. More ergonomic lines arising from development models and rigorous testing. Wider headrests. Impeccable stitching with elegant seams that fit perfectly with the decor of the inside of the vehicle. The end result, a seat that transmits comfort and elegance.



>> FRONT COVER - NEW IRIZAR I6



Safe, reliable and comfortable

Ensuring as safe a journey as possible is a central tenet of the design of all Irizar vehicles. As with all the other models of the brand, the Irizar i6 complies with the R.66.02 safety regulation and has the most modern systems for active safety, to guarantee stability and reduce risks in unforeseen circumstances.

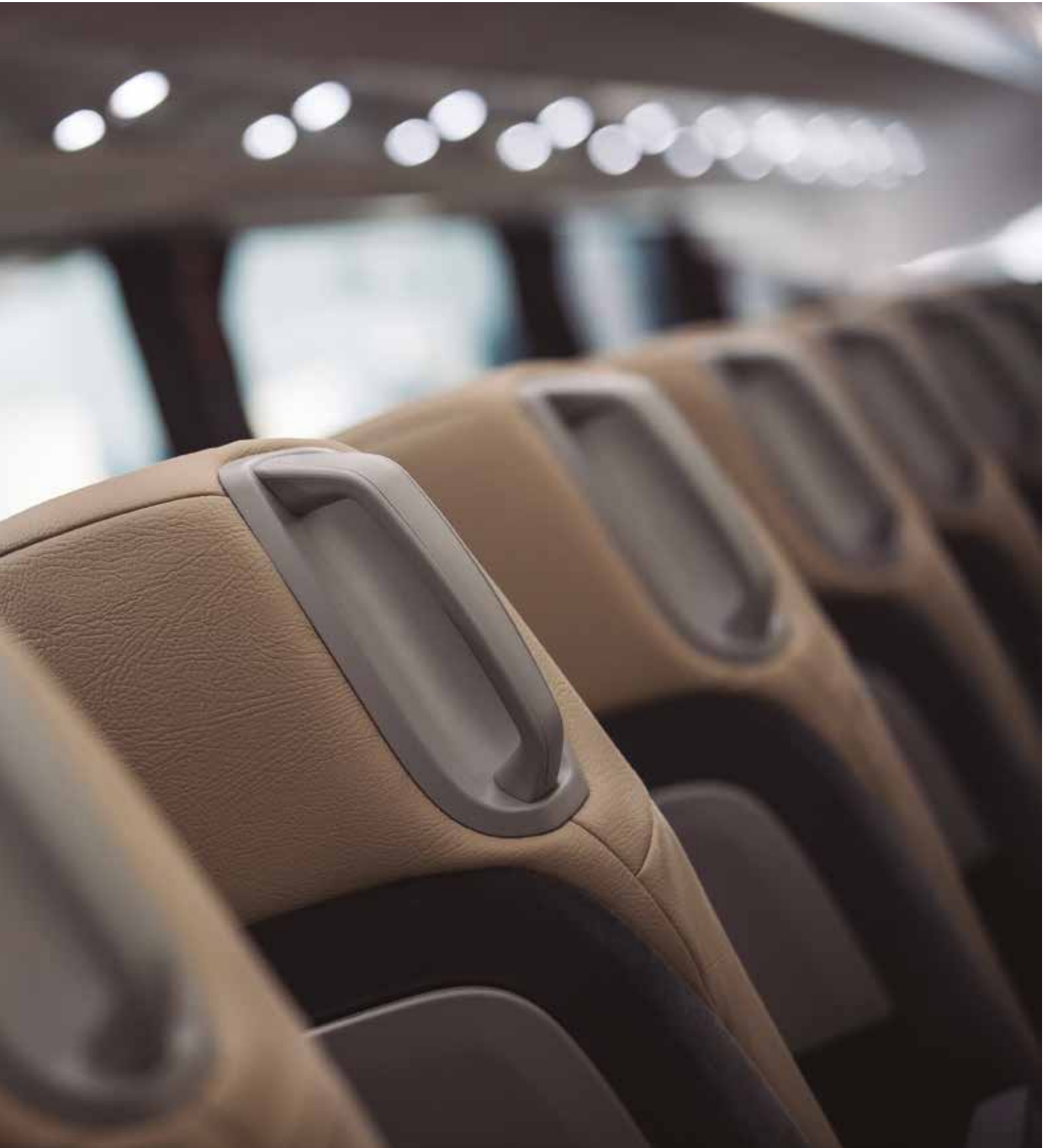
ESC stability control provides active torque checking and optimally distributes braking force to each wheel independently, thus preventing loss of control when manoeuvring abruptly on slippery surfaces. The advanced emergency braking system (AEBS) identifies the need to apply maximum braking force and acts automatically to minimize stopping distance. The lane departure warning system (LDW) detects unintentional departures from the lane in which the vehicle is travelling and alerts the driver by vibrating the seat. Optionally, adaptive cruise control, ACC, which is useful in heavy traffic, maintains a constant distance from the vehicle in front and is able to stop the vehicle completely.

In the most extreme situations the behaviour of other road users is unpredictable, so it is reassuring to know that the structure of the new Irizar i6 has been designed to offer resistance to roll and head-on collision by optimising weight distribution. Furthermore, the design of the driving position, its spaciousness, ergonomics and accessible controls, is a fundamental safety element.

The new i6 follows the Irizar philosophy. It is a robust but light, quiet and reliable coach.

The structure of the new Irizar i6 has been designed to offer resistance to roll and head-on collision by optimising weight distribution.







Maximum profitability

At Irizar we know that fuel is the major cost component for operators, so we have made every effort to reduce consumption.

The new generation of DAF EURO VI OBD-C engines with reduced internal friction, modified fuel injection system and other refinements, together with the software of the automated 12-speed gearboxes, provides significant reductions in fuel consumption.

The aerodynamic design of the unit is another longstanding brand differentiator. With a lower coefficient of air friction due to a narrower front with less air intake, the spare wheel cowling, reduced weight by using high-tensile steels, and the alloy wheels, all contribute to the aim of making the Irizar i6 the most efficient coach in the luxury sector when it comes to fuel consumption.

With the concept of maximum profitability in mind, we have worked on repair and maintenance costs. Service intervals have been extended, and the i6 can be driven for up to 100,000 kilometres without an oil change. We have also made great strides in reducing the cost of serviceable parts and coachwork.

Moreover, we can provide coaches with the most advanced technology for comprehensive monitoring and control of costs and efficiency, to help transport companies optimize the performance and profitability of each fleet.

And of course, the service network continues to expand and offers an Irizar-authorized workshop within range of every operator. Our priorities include ensuring that the Irizar i6 maintains a high residual value, so that our customers receive an attractive return on investment, and to minimise CO2 emissions. Deciding to buy the Irizar i8 is, without doubt, a choice that brings great value.



Customisation

The new Irizar i6 follows the Irizar philosophy by allowing a maximum level of personalization. 6 lengths, 3 types of WC, new seats with optional movement, a range of entertainment systems, new interior coverings in countless colours and finishes. In short, a model that can be tailored to any needs. Maximum adaptation capacity. Customers can fully personalise the coach to suit their requirements exactly.

The service network continues to expand and offers an Irizar-authorized workshop within range of every operator.



Integral

***The Irizar brand:
Reliable solutions
for the needs of
customers and
society***

The brand is our greatest asset and an undisputed icon of our strategy to maximise the value of our customers, providing them with the best products and services tailored to their needs and offering them the guarantee of a solid project in which to trust. All this forms part of a strategy based on customer relations and building a direct relationship in order to gain their loyalty and trust.

We offer our customers high added value by providing them with products created and developed thanks to the knowledge of the entire Group.

is the main element of our growth strategy in Europe and the United States.

We also focus our efforts on caring for Irizar's image, both in our manufacturing plants and in our other facilities such as Show Rooms, coach delivery buildings, etc.

We are making great efforts to communicate our brand by improving all aspects of our image in fairs and new product introductions, corporate and product catalogues, corporate presentations, Group websites, etc.

Irizar technology and service

Creatio (Irizar's Research and Development Centre) works for the long-term on applied research projects and technological development of transport focusing on sustainable mobility and implementing the solutions of tomorrow.

Since the Irizar Group presented its first integrated model, the Group's commitment to technology has been beyond dispute and underpins our commitment in the area of mobility.

Today we can say with pride that we developed from a coach building company to one that offers a wide range of products and technology solutions ranging from 100% electric buses, to hybrid technology in class II bus models for urban and intercity services and standard buses and coaches. This means we are able to cover all transport segments, discretionary and public transport, urban, intercity and long-distance and we are leaders in the field of sustainable mobility.

The milestones that have contributed to what the Irizar brand represents today: a benchmark in the industry whose products prioritise safety, sustainability, profitability, reliability and quality, starting in 2009 and continuing recently in 2014 with the advent of the Irizar i2e electric, in 2015 with the arrival of the Irizar i8,

We offer our customers high added value by providing them with products created and developed thanks to the knowledge of the entire Group. These products, aimed at the Premium segment, provide a differential in terms of safety, reliability, sustainability, technology, service and profitability. Design and innovation are part of Irizar's DNA.

New strategic lines include the development of Irizar brand and technology products and a clear commitment to industrial diversification and increasing our technological capacity that are already part of our culture and identity.

Irizar brand integral coaches and buses are the ultimate representation of our brand. At present, the entire range of integral coaches is available to all our worldwide customers. This



in 2016 with the launch of the new Irizar i6, the Irizar i4 and i3 hybrids and the first prototype of the 18 metre articulated bus; so we are now able to offer a new and complete generation of buses and coaches.

Irizar brand coaches, following their development in Europe, are now beginning their journey through Spain, Portugal, Italy, Mexico and USA.

The Irizar service has an after-sales network of more than 1100 official assistance points in 5 continents.

Beyond a personalized service When and where and we are needed

After a great effort to develop an effective after sales network in these markets the deployment of our Irizar brand products has begun.

The Irizar service has an after-sales network of more than 1100 official assistance points in 5 continents, more than 700 points in Europe and around 100 points in Spain and Portugal covering all areas and territories where the brand's coaches travel with highly qualified staff. This includes a comprehensive repair, tune-up and maintenance service of maximum guarantee, operating 24 hours a day, 365 days a year. We also have workshop vans, cutting-edge diagnostics software and modern technical and logistical centres for handling spare parts orders and supplying the required parts to any location around the world in minimal time.

Customers also have access to the IService tool - a web platform for managing the servicing (use, maintenance and repair) of the vehicle and offers the possibility of on-line access or access via mobile phone or tablet to conveniently review the technical documentation relating to your coach, the service manual, the workshop manual, pneumatic and electrical information as well as the support network to facilitate repairing the vehicle.

It also allows viewing the personalized spare parts catalogue for each vehicle, graphics, visual and listed by families and components and even managing the ordering of spare parts, their monitoring and delivery via Eshop.

Moreover, Irizar brand products offer a range of service options beyond the vehicle itself:

- Training of technicians and drivers. We regularly deliver training courses for technicians and drivers on the innovations and technologies that are incorporated into our products.
- Repair and Maintenance contracts tailored to the needs of each customer, who is therefore free to focus on the logistics and delegate the care of the vehicles to the manufacturer, so that they are always on the road. In this case, their residual value greatly increases.
- Bespoke financial solutions for each customer.
- Warranty extensions of up to 4 years or 1,000,000 km.
- Buy back - Trade back, including the repurchase of units after a contractually predefined period.

Moreover, Irizar has a fleet of used vehicles in its different distribution centres.

Current range of Irizar integral buses and coaches

Fully-equipped and standard versions

The Irizar i8
Luxury coach by excellence

The new Irizar i6

Fully-equipped, hybrid and standard versions

The Irizar i4
The Irizar i3

100% electric version

The Irizar i2e

The Irizar i2e
Irizar's 18 m articulated bus (BRT)



Mexico, better market for the Irizar Group

In 2016 over 1,000 units will be delivered in Mexico, thus strengthening its position as the leading market of the Irizar Group.

It has not even been a year since the release of the Irizar i8 in Mexico and it has already positioned itself as the undisputed leader in the luxury segment following the large volume of confirmed orders to date and its presence in major luxury transportation services in Mexico .

Following the challenge involved in the development and simultaneous release of the i8 in Europe and Mexico, thus demonstrating the relevance of the Mexican market in the Irizar Group's strategy, the firm commitment to the Mexican market has been rewarded with the great success of the new model and the recognition of our customers in Mexico.



Irizar brand integral coaches

The Mexico plant is the second, after Irizar Ormaiztegui, to begin production of integral coaches. Thus, the Irizar i8 model was introduced in Mexico in its integral version, demonstrating clearly the technological capacity of the plant for the manufacture and servicing of integral coaches

This is a hugely important strategic step in a market of key importance for the brand where, from this year, it will be possible for customers wishing to obtain integral coaches to do so through Irizar.

Currently the supply of integral coaches has expanded because, following testing of the durability of the i6 integral model, this is already available on the market. We are therefore moving ahead with the strategy of strengthening the Irizar brand in Mexico with products of high added value in technology and reliability.

Following the phases of product approval, the first units of the integral Irizar i8 have already been delivered to customers and have travelled many thousands of kilometres throughout Mexico with very satisfactory results.

The main advantages of the integral coach are its dynamic behaviour, comfort and fuel economy, key factors in the decisions of Mexican coach companies.

The technological improvements introduced in the i8, a more comfortable interior for passengers, with luxury finishes and specific enhancements to the driver's position, makes the i8 the most profitable coach for Mexican transporters, both for the reliability that it offers operators and the passenger safety and comfort it provides.

With the success of this model, Irizar reaffirms its position as the undisputed market leader, providing a product range that is perfectly tailored to the needs of Mexican companies and with the i8 as the ultimate expression of our brand values, such as safety, reliability, comfort and profitability.

15 m Irizar i6 for Intercape

In July of 2016, Irizar South Africa finalised an order of fifteen i6 Plus coaches with the operator Intercape Ferreira Mainliner the premier long distance luxury coach operator in the Southern African region, with headquarters in Cape Town.

Safety, comfort and passenger experience have formed the bedrock of Intercape's product philosophy. This has been defined by the continuous evolution of specification incorporating new features to continually draw the eye and the passenger. These have ranged from customized seat colours to the repositioning of entertainment systems and the addition of dedicated crew compartments.

Intercape were the first operator to embrace the use of steering tag axle chassis and to adopt the 15m length as a fleet standard. By repositioning the toilet cubicle to the rear and eliminating the centre-mounted door of previous specifications, a capacity of 60 passengers can be achieved without compromising the comfort and spacing of passengers accustomed to other vehicles in the Intercape fleet. This configuration also allows the greatest proportion of the underfloor space to accommodate passengers' luggage and parcels. This has proved very lucrative on international routes where a premium for oversized luggage can be charged.

As a leader in safety, all Intercape units receive tracking systems, on-board incident cameras are fitted too. All units also receive an aftermarket fire suppression system fitted into the coach's engine bay. 3 point retractable seat belts will feature on all passenger seats, a first for the intercity and cross border market in Southern

Today, Intercape is now the benchmark for luxury coach transport in SA with a fleet poised to exceed 200 coaches.

Africa and far in excess of the mandatory requirements of the region.

The latest arrivals for Intercape will continue to raise the standard of the industry. They will be the first units deployed in South Africa in the i6 configuration designed to maximise the luggage capacity of the coach. The new configuration promises both profitability and a competitive advantage to Intercape.





Intercape

Internal LED lighting will be able to cycle through a range of soothing colours to improve the ambience on board. Also, the standard on-board entertainment system will be supplemented by on-board Wi-Fi.

For the first time on Intercape individual USB charge sockets are provided for all passengers.

In all, the new order will offer an unprecedented array of features to Southern Africa's travelling public. The coaches are destined to be a source of great pride for the Intercape fleet and a new showcase for Irizar in Southern Africa.

Founded in 1979, Intercape is a second generation family owned company under the stewardship of Mr Johann Ferreira who joined his father in the business in 1986. From very humble beginnings, (the first service being an airport shuttle service between Cape Town airport and the City Centre,) the company expanded to offer intercity services in 1986.

Intercape is now the benchmark for luxury coach transport in SA with a fleet poised to exceed 200 coaches and services an extensive route network to all major cities in South Africa as well as regional routes to Namibia, Botswana, Malawi, Zimbabwe, Zambia and Mocambique. The regular route services are complemented by a charter division. In addition, within South Africa a parcel/courier service forms part of the product offering.



Irizar Morocco

Irizar Morocco continues to build on its growth in the Moroccan market where it is the undisputed leader in the luxury coach segment, with a market share close to 100%.

The Irizar brand has become the automatic choice for any coach investment or purchase in Morocco and is a symbol of profitability due to its design, reliability, safety and comfort. Close business relationships with each chassis manufacturer means that any variation in coachwork can be implemented depending on customer needs.

The flagship of this leadership at the service of the customer is the company CTM, which every year puts its trust in Irizar. CTM (Compagnie de Transport au Maroc), established in 1919, is the leading private road passenger transport company in Morocco; with divisions in long distance and tourism transport, it is a pioneer in Morocco in long distance services to Europe and in online electronic payment media and automatic operation systems.

Irizar Morocco has facilities whose technology, infrastructure and equipment enable it to offer products at European standards of quality.

In August this year an expansion of more than 3000 m² was completed - 20,000 square metres of space is now available to accommodate Irizar's latest generation of forming machinery production tools.

Two new paint booths have also been installed to increase production capacity in response to the needs of both the local market and for export markets thus supporting Irizar Ormaiztegui in meeting the high demands of the European markets.

To meet these objectives optimally it has been necessary to intensify training plans for all Irizar Morocco staff.

The frequency of audits and their results ensure compliance with the quality standards of the Irizar Group.

During 2017 there will be a further increase in the range of products manufactured locally for different export markets.

Creation of Irizar e-mobility, the Irizar Group's new company



Created in 2016, Irizar e-mobility is the Group's new company, whose business is focused on offering integral electromobility solutions for vehicles as well as their main components and systems for cities.

It combines the knowledge and experience of all the Group's companies to create comprehensive urban mobility solutions: 100% electric buses and the major infrastructure systems required for charging, traction and energy storage, all of which are designed and manufactured with the Group's 100% European technology and with Irizar's warranty and service quality.

The product range includes 10.8m and 12m city buses, which have been operating since 2014 in various European cities, articulated or bi-articulated buses and other electric vehicles to serve cities. Irizar e-mobility's 100% electric, 18m BRT (Bus Rapid Transit) prototype has just started durability and reliability testing prior to its marketing. This high-capacity integral vehicle developed entirely by the Group is set to lead the market thanks to its profitability, safety and reliability.

We aim to promote the use of clean and accessible transport which is committed to the environment and the well-being and health of people, creating better urban environments. It is committed to reducing noise pollution, to achieving low fuel consumption which reduces costs and to zero-emission vehicles. This is why "for a better life" has become our motto.

Irizar e-mobility will have a new, modern plant located in Aduna (Guipúzcoa). Currently under construction, it occupies a gross floor area of 18,000 m² within a 37,000 m² plot and is scheduled for completion by the end of 2016.





Today, at Irizar e-mobility we are ready to become a benchmark in sustainable urban mobility by providing turnkey, sustainable, efficient, reliable, safe and high-quality solutions with cutting-edge technology.

Own-brand technology European know-how

The Group companies provide a comprehensive and independent own-brand technology capable of solving all those aspects involved in the design and development of products and systems, in compliance with all European regulations and becoming involved in European projects in order to bring it to the forefront.

Irizar, coach and bus manufacturer; Hispacold, producer of climate control equipment; Jema, specialised in high-end power electronics; Datik, technology company developing intelligent transport solutions; Masats, dedicated to climate control and

accessibility systems; and Alconza, dedicated to electrical motors and generators for the off-shore marine, hydraulic and special purpose industrial generation sectors and the Creatio R+D Centre have joined forces to promote the development of city buses and are responsible for the design, development and supply of the major components and systems of the vehicles.

Our range of Irizar e-mobility products offers first-class technology, developed in Europe, with cutting-edge design that incorporates pioneering technologies in the sector and which have been tested by European city operators since 2014 with satisfactory results.

Turnkey solutions

Thanks to our broad sectoral diversification, at Irizar e-mobility we offer a turnkey project that meets 100% of customer requirements.



In addition to conducting energy studies of the operator's lines in order to determine how much energy to load the bus with to ensure optimal range, and of the means and infrastructure necessary, we develop charging stations, coordinate works and even offer cloud-based fleet management systems and financing packages. The Irizar Group accompanies the customer throughout the project's life cycle offering comprehensive vehicle and infrastructure maintenance.

It is currently actively involved in a European project to ensure the interoperability of electric buses by means of standardised charging infrastructures in cities.

It is committed to reducing noise pollution, to achieving low fuel consumption which reduces costs and to zero-emission vehicles. This is why "for a better life" has become our motto.

A photograph of a marina with several sailboats docked. The boats are white with blue and green accents on their masts and rigging. They are moored in front of a multi-story stone building with windows. The water is dark blue and reflects the boats and the building.

Irizar receives the National Business Award for the Environment

The Spanish Section of the European Environmental Awards, coordinated by the Ministry of Agriculture, Food and Environment, via the Biodiversity Foundation, has granted Irizar the National Business Award for the Environment in the product-service category. The award allows Irizar to participate as Spain's representative in the European finalists phase.

With this recognition we put a value on the steps taken by Irizar in matters involving the environment and electromobility. Especially in the development and manufacture of the 100% electric urban bus, the Irizar i2e, which incorporates technologies that contribute to greater energy efficiency and autonomy of urban buses.

These awards, organised by the European Commission since 1987, reward companies that successfully combine the economic viability of business with environmental protection. Doing so by introducing innovations into management, into processes, products or services offered, fomenting business cooperation or combining business and biodiversity.

Moules frites à partir de 7.90 €

Le Bus de l'avenir

100%
ÉLECTRIQUE

RTM
PARTENAIRE
L'INNOVATION





Jema Energy actively participates in the largest private nuclear fusion project in the world, located in California, USA

Jema Energy is developing the main power systems for the largest experimental private nuclear reactor that the company, TriAlpha Energy, Inc. owns in Orange County, California.

Specifically, Jema Energy has been awarded the contract for the Power Sources of the main magnets and the Power Sources for the reactor's Plasma Formation Electrodes called the C2W that TriAlpha is building in southern California. Prior to these contracts TriAlpha had commissioned Jema Energy to design a conceptual design of a complex main power system for the reactor.

These important developments just go to show how Jema Energy continues to be a world referent in the exclusive world of Nuclear Fusion Energy.

This innovative Reactor C2W design by TriAlpha Energy supposes an authentic revolution in the world of Nuclear Fusion. Its peculiar cylindrical shape and the fuel used (Hydrogen and Boron-11),

present many advantages over Deuterium and Tritium used in traditional designs, along with the most efficient fusion reaction and the complete lack of **radioactivity** derived from the generation of neutrons. The unique final component for the fusion reaction are 2 low energy Alfa particles, thus the company's name.

TriAlpha deems that the fusion energy can be sold and distributed in the electric grid starting in the decade of 2040. This type of energy will be cheap, clean and abundant. This will be the end of fossil fuels and will suppose, for the most part, the greatest antidote to climate change.

Nuclear fusion, as opposed to fission, is the process through which various atomic nuclei of similar charges join and form a heavier nucleus. Simultaneous a huge amount of energy is released and absorbed, allowing the matter to enter into a plasma state. Even though fusion has a little defined scientific prestige, its evidence from daily use is undeniable: the sun is a titanic fusion reactor that constantly groups hydrogen nuclei to form heavier elements and send us the resulting product in the form of energy.

The fusion generates three to four times the energy of nuclear fission. It's fuel is not toxic or a fossil fuel, and is not really exceptional, since fusion works on common elements like



hydrogen, which is an abundant element in the universe. In the case of any contingency, the fusion reactors don't meltdown, but just stop. They produce very little to no radioactive waste. It also doesn't contaminate, since the result of fusion is helium.

What makes fusion complicated is that the atomic nuclei do not allow themselves to fuse. Atomic nuclei are made up of protons (and normally neutrons) to obtain a positive charge. Since they repel the elements of the same charge, you have to force atoms to join, and for this you need to heat them until they are moving so fast that they release their electrons and become a strange cloud of free electrons and a naked nucleus called plasma. If the plasma reaches truly high temperatures, some of the nuclei crash into each other with enough strength to fuse.



Third generation of the Datik Computing Board (DCB)

Datik takes a step forward with the launch of the third generation of the Datik Computing Board (DCB) to improve transport solutions.

Datik is a technology company specializing in comprehensive transport solutions and has recently launched the third generation of its (Datik Computing Board).

It is a single device serving all the needs of transport operators. The existing services of the previous generation and those based on geolocation, allowing control and improvements in the punctuality offered to passengers, and advanced telemetry, which helps reduce the costs of consumption and improves the planning and control of preventive and corrective maintenance of the fleet, are supplemented in this third generation by Videosurveillance, Onboard WiFi, the GPS navigator and Voice communication with a single SIM.

The device is a great help for the driver as it offers permanent connection to the control centre via a 7" touch screen.



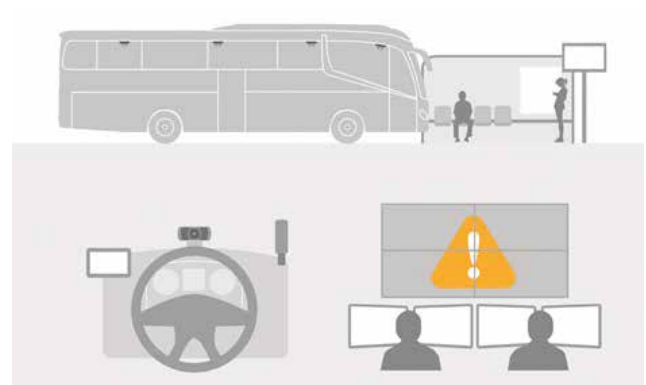
Also, detection, visualization and automatic recording of risk situations helps fleet managers to minimize risk in their operations.

The Internet connection is a significant feature which is much appreciated by passengers.

All the tools required for fleet management are embedded in the iPanel, a Cloud Computing based tool which reduces the investment in infrastructure for users by providing them, at the same time, with full control of the business without requiring staff with expertise in information technology.

It minimizes time spent on management by providing data in simple form, which adds value for the operator and enables more efficient and safer fleet management.

The first tests with this new equipment are already being conducted with benchmark customers in Spain and Mexico and the expectations raised suggest that we are moving towards a superb solution for our customers.





Hispacold strengthens its position as a supplier of air conditioning equipment for the rail sector

HISPA@LD
Railway HVAC Systems

IRIS
Certification

IRIS certification in the railway sector

Hispacold has the IRIS (International Railway Industry Standard) certification of the Union of European Railways (UNIFE), thus fulfilling international quality standards and meeting the demand for reliability and management capacity in the railway sector.

The railway sector has highly demanding quality, safety and business requirements. Proof of this is that in 2005, on the initiative of the UNIFE (Union of the European Railway Industries), with the support of the leading manufacturers and system integrators, the IRIS (International Railway Industry)

Standard was drafted, based on Management Standard ISO 9001 but incorporating the specific and much more demanding requirements of the railway industry.

This standard was created to improve competition and ensure higher quality standards, highlighting its uniformity in the assessment guidelines, with more stringent audits. In fact, obtaining IRIS is recognized worldwide and is considered an improvement in the prestige and image of the organization.



With this certification, Hispacold shows its commitment to continuous improvement and high quality, as confirmed by the other certificates that it has obtained, which guarantee its management systems such as ISO 9001 since 2001, Environment ISO 14001 since 2007, Welding EN ISO 15085 since 2009 and, more recently, Health and Safety OHSAS 18001 since 2015.

Supplier of Civity Intercity trains for the United Kingdom

Hispacold Railway HVAC Systems has been awarded a contract for the air conditioning of the Civity range of trains to be produced for the UK.

Civity trains are EMU platforms for intercity services, with high demands in every way - these are trains with different wagon models: first class, catering area, standard second class, toilets, bike areas. The trains reach a maximum speed of 200 km / h.

The Hispacold air conditioning equipment must comply with the EN 13129 thermal comfort standard, which means added technical complexity in multifunctional coaches with many kinds of passenger accommodation within the same train.

Furthermore, the air conditioning systems must meet important requirements regarding noise levels, thermal regulation and approval by the authorities of the United Kingdom

Also in the Istanbul metro

One of the latest awards, a strategic project in Hispacold's railway division is an air conditioning contract for 21 trains for line 5 of the Istanbul metro system. Each train consists of 6 cars equipped with two semi-embedded HVAC systems, which means the supply of a total of 252 air conditioning appliances, with installed cooling capacity of 75 kW per coach.

This project has been a major challenge for Hispacold, as in addition to complying with some tight deadlines, it has also had to meet a location commitment, which has enabled Hispacold to become the leading European manufacturer with a certificate of Turkish origin.



New range of platform doors



Masats increases its range of products for passenger safety with its new range of platform doors.

At the InnoTrans fair, held in September in Berlin, Masats launched a new range of products aimed at a market with high growth potential: platform screen doors (PSD), a barrier system which is located on the edge the platform and is coordinated with the doors of the vehicle arriving at the station.

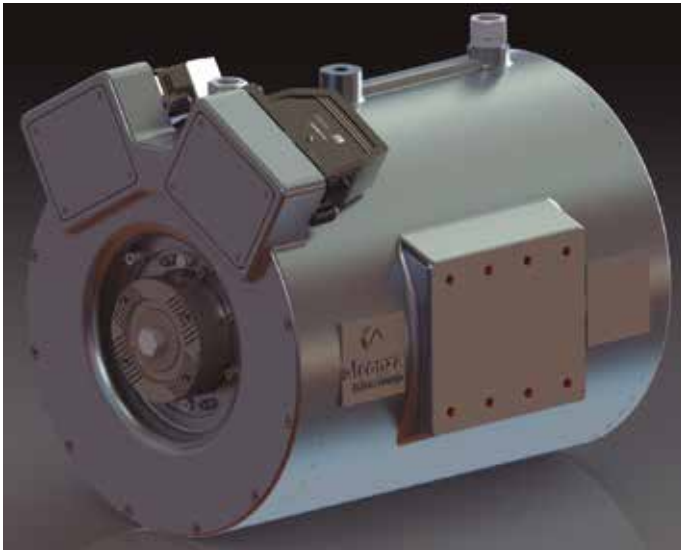
PSDs enhance safety, as they avoid people falling onto the road. At the same time they improve the climate control of the station, reduce noise and improve air quality on the platform.

The Masats PSD systems offer a design that can be tailored to different platforms and modularity for easy assembly and installation. The doors offer a full range of options for adaptation and use of the surface of the barrier for different purposes, such as advertising panels, first aid, etc.

The design of the barrier is modern and offers the highest level of safety (SIL) and reliability (RAMS).

The Masats PSD system is equipped with a new generation of electronic controllers developed for railway systems that meet the highest industry standards (EN 50155, EN 45545) and which can simultaneously manage the movement of two motors, with or without brushes.

New range of permanent magnet marine propulsion electric engines



The new range of engines will reach up to 4500 kW, covering a range of speeds up to 1500 rpm and will be equipped with anti-shock rating, including a new and disruptive added value.

Alconza therefore offers an innovative, sustainable product, encompassing advanced development and technological progress in a market that is closed to most manufacturers of permanent magnets due to the technological limitations of their solutions.

This new generation of engines offers major benefits to the customer because it reduces the weight and volume per unit of power, saves space inside the vessel, increases the efficiency of the overall system, saves on installation costs, reduces points of failure, substantially optimizes the infrastructure assembly and also achieves lower noise levels, thus significantly increasing passenger comfort.

A new solution that is fully consistent with the Alconza strategy in terms of environmental sustainability. It significantly reduces the marine footprint of different ships and following the emissions reduction requirements promulgated by the International Maritime Organization, Alconza has made a commitment to 100% electrical navigation to reduce the consumption of fuel and pollutant emissions by 100%.

Thanks to its expertise and experience in the sector over more than fifty years of industrial activity, Alconza has developed a new range of permanent magnet marine propulsion engines which will be available from later this year.

After the design, development and manufacture of permanent magnet traction motors in the Irizar e-mobility project, Alconza has immersed itself fully in the implementation of this new technology in the marine sector where classical induction engines have a leading role today and has decided to commit to the release of permanent magnet synchronous machines for marine propulsion, as a solution and genuine alternative to existing engines.



The new flagship Irizar i8 is a huge success

Irizar i8

**more
than 1,200
coaches**

Just a few months after introducing the Irizar i8 (Irizar's new luxury coach) have sufficed to confirm it as a great success. By purchasing this coach with state of the art technology and capable of offering great luxury with maximum passenger comfort and safety, loyal customers as well as many new European operators are putting their trust in the Irizar brand.

Student Agency and Lux Express from the Czech Republic and Estonia respectively, Arotrans or Oscar from Poland, Stewarts, Clarkes, Ellisons, Guideline from the UK, Faure and Thermevasion from France, De Wilge from Belgium, Rod Billet from Denmark, Tarsin from Romania, Federico, Liscio, and Canil in Italy and Esteban Rivas, Agostense, Jesus Abadia, Donato, Autocares Benito, Ramila and Estebanezaja from Spain have been added to the list of clients that have purchased the company's new flagship, the Irizar i8.



*The Irizar i8, awarded
"Coach of the Year 2016 in Spain"*



The main reason why this new coach model is selected by our customers is because they wish to be at the cutting edge, to be benchmarks in their image and offer passengers a luxury service that is also unique, safe, modern, personalized and comfortable.

The delivered vehicles include integral and on chassis version coaches and incorporate a wide range of options and specifications, making each coach a unique vehicle for each of the operators.

The Irizar i8, awarded "Coach of the Year 2016 in Spain", is a luxury long-distance vehicle, for regular lines and other special services, and is equipped with the most advanced technology on the market. It is the new flagship of the brand and incorporates an impressive exterior and interior design along with cutting-edge technology.

The UK launched the i8 Integral to over 80 operators in January, at a sparkling event at the factory in Ormaiztegui. The coach has since received great acclaim with orders being received from several premium companies, including Chandlers and Greys of Ely, with full touring specification, and Ellisons, Clarkes and Stewarts for luxury corporate and sports team applications.

The model was introduced in Mexico towards the end of November and since then it has been a continued success to the point of generating nearly one thousand orders in a country where all the large operators place their trust in Irizar to cover their high-end service needs.

The UK launched the i8 integral to over 80 operators in January at a sparkling event.





An ideal vehicle for the world of sport

This new coach model has received an enthusiastic welcome among sports teams in Europe. The European Cup winners, players from West Ham United, Olympique de Lyon, Eibar, as well as the French cycling team Uci-Protour, AG2R, Watford FC, Reading FC and several other English Premier League teams have recently purchased one.

The London team recently unveiled its new 13.2m Irizar i8 at the Olympic Stadium. The coach was purchased through the operator Guideline, for many years the official carrier of the English national team.

The vehicles are fitted with a wide range of comfort and entertainment features, all adapted to meet the needs of players and technical staff, doctors and physiotherapists.

From Irizar we wish them every success in their new venture.





Portugal, a growing market for Irizar

With more than eighty units to be delivered this year, Irizar is consolidating its presence in Portugal where its market share exceeds 50%.

Large, medium and small companies are showing a clear preference for Irizar, with full confidence in the brand which is therefore becoming the provider of choice thus highlighting Irizar's image of high quality and service.

Irizar's customers for the discretionary and line segments include the Barraqueiro Group and the Transdev Group - two large companies that hold most of the Portuguese market share.

Other loyal customers of Irizar include the Rodonorte group, with more than 500 coaches and others such as Landim and SAM with over 100 coaches.

And this year, the Irizar fully-equipped coach has also come to Portugal

On 5 June delivered its first 5 fully-equipped vehicles in Portugal for the company Greenbus. Greenbus is a company providing transfers and has bought five Irizar i6 fully-equipped units, 12 metres long with 55 seats and a 435 HP DAF engine, to operate in the Algarve.

The after-sales network for these products is already in place so that the service coverage now covers the whole of Portugal with service points from the Algarve to Porto.

Special mention also for the AGTbus company, considered one of the best tourism businesses in Portugal and which is also the Official Irizar Service in the Lisbon area.

Among medium and small business there is another large group of companies who are faithful to Irizar throughout the country and the islands, including some of the country's local authorities.

Irizar's customers for the discretionary and line segments include the Barraqueiro Group and the Transdev Group.



Irizar i4
hybrid

The hybrid Irizar coach, a new technology solution of the Group

Irizar was the first European company to launch a class II hybrid coach.

Irizar has developed this range of products to provide a sustainable response to current and future transport needs in big cities and their surroundings.

The result of this innovative effort has been the launch of the first hybrid commuter vehicle using class II hybrid technology for short and medium haul lines in the low entry and high floor with luggage compartment versions.

These coaches improve the environment and provide the operator with a reduction in consumption of about 20%.

The Irizar i4 hybrid is about 13 metres long, with central double doors, platform for people with reduced mobility (RMP), 53 seats and up to 7 cubic metres of luggage space, depending on the floor height version. It is also available in single leaf rear door version with 55 seats. In both cases there is space for a RMP.

The Irizar i3 Hybrid is a low entry bus of 13 meters with 45 seats and a platform for People with Reduced Mobility. As this is a short-haul commuter vehicle, it offers modularity that allows for adjustments in passenger capacity to suit customer needs.

In both solutions the engine is a Cummins 300 HP that already meets the Euro 6-C standard which will come into force in January 2017. The hybridization package is the Eaton Fuller 6-speed model with EDRIVE (44/65 kW) electric motor and MGL batteries.

The vehicle is supplied with front axle with independent suspension, multiplexed electrical system, Alcoa aluminium wheels and 295/80 tyres. Meets the UN ECE R66.02 regulation and the school transportation standard.

The first units will be delivered in the final quarter of 2016 and will be used for the lines of the Madrid Transport Consortium.

The companies that have shown their trust in this new Irizar product and on whose lines these units will begin operating are Larrea, Etasa and Alacuber of the Avanza group, Julian de Castro, Beltran and CEVESA.

This year the first 30 units will be delivered in Spain.

On the other hand, we are seeing a lot of interest in these hybrid coaches in our markets in Europe, which makes us think of major new possibilities for development of hybrid coaches in the medium term in all our markets.

We anticipate a strengthening of our brand in a specific segment with high growth potential, focused on the significant reduction in emissions levels on the edge of cities.

Technical data:

| KINEMATIC CHAIN | |
|--------------------------|---|
| ENGINE: | Cummins 6.7l 6 cylinders Euro 6 OBDC. 206 – 221 Kw (280 – 300 hp), 1000 – 1200 Nm. Start and Stop |
| GEARS: | 6 vel automated Eaton Fuller |
| HYBRID PACKAGE: | eDrive electric motor: 65 KW and 500 Nm Lithium ion batteries |
| AXLES: | Front: ZF R82 independent. Rear ZF A 132. Air springs: Vibracoustic. Shock absorbers: Koni |
| WHEELS AND TYRES: | Alcoa blue label and Michelin |
| STEERING: | ZF |
| COOLING SYSTEM: | Nissens with brushless PME fans |
| HVAC: | Hispacold with hydraulic-pump driven compressor |



The articulated 18 m Irizar i2e

The Irizar family of electric buses is growing with the articulated 18 m Irizar i2e.

The Group's first BRT (Bus Rapid Transit) is already undergoing durability testing before mass production starts. Its marketing will begin in 2017.

Despite the higher cost of this bus compared to a conventional or hybrid bus, if we consider the total operating costs over its lifetime, operators will recoup their investments many times over.

This bus provides electric urban mobility solutions for high capacity lines. An 18m vehicle with 100% electric motor and zero emissions whose main components and technological systems have been designed and manufactured by the Irizar Group.

It also incorporates the most advanced active safety elements on the market and, in most cases, replaces the tram in terms of flexibility and profitability advantages.

The bus charges its batteries using a pantograph which enables recharging during movement in cities in opportunity recharging stations. These stations have also been developed and manufactured by the Irizar Group.

Charging is performed continuously once or twice per cycle so battery life is no longer a problem for the operator.



For recharging in the depot, which is residual, Irizar has an intelligent charging system equipped with a small control centre that efficiently manages all recharging conditions / restrictions for the entire fleet of electric buses. The system identifies the different charge requirements of each bus in order to optimise the total power required.

The charging strategy that must be adopted by each operator depends on four factors that the client must take into account: state of charge of the vehicle when it enters the depot, time available for charging, number of buses requiring charge and the power available for charging.

Irizar staff carry out customer training on the different design options for charging in depot with and without pantograph for maximum efficiency of the facility at minimum energy cost.





Helping to transform society

As a hundred year old company we have always thought and we continue to think about the future by focusing our efforts on Sustainable Competitiveness (economic, social and environmental).

We have been committed to sustainability for many years, but we took the most important step in 2011 when we committed to creating a new business area focused on electromobility - this is shaping the present and will continue to shape much of the Group's future.

Just 5 years after that decision, we have created a new company - Irizar e-mobility - and we are ready to be part of the transformation of transport systems in cities where current levels of air and noise pollution make it difficult for citizens to have an adequate quality of life.

The decision contributes to improving the quality of life of citizens by making their environment more sustainable.

And we're not thinking only about 100% electric buses and other electric vehicles for cities but also about the necessary systems for charging, traction and storage of the energy of the buses.

The main benefits that for citizens are:

- The Irizar i2e's electric technology eliminates direct emissions of greenhouse gases (GHGs) and toxic substances such as NOx and particulates when operating in urban areas, which contributes to a healthier and more sustainable urban environment.

0% direct emissions in the urban environment.

- Very low carbon footprint of **8.45 g CO2 eq./km.p (per passenger kilometre)**.

86% reduction in the carbon footprint compared to a diesel bus.

Prevents the emission of around 800 tonnes of CO2 during the entire service life of a bus.

- Elimination of the noise of the combustion engine, with no exterior noise emission for passers-by when stopped and when starting (OdBa), while the average noise emission of a bus with a conventional combustion engine is 68 dBA.

When driving, the noise produced by the wheels is similar, so Irizar i2e reduces noise emission by 20%.

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

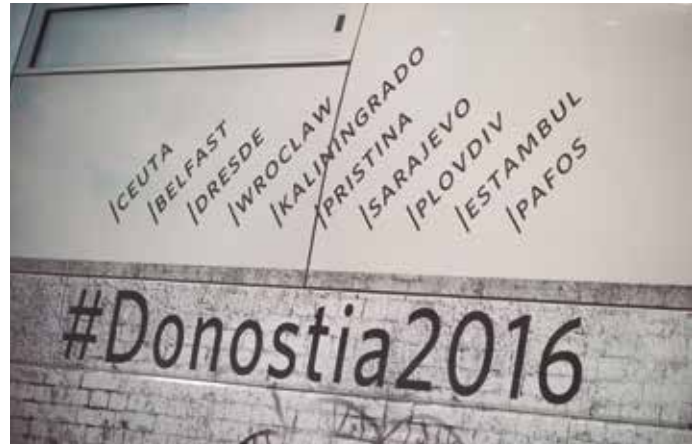
Moreover, the most important initiatives undertaken in the last two years to improve the environment include:

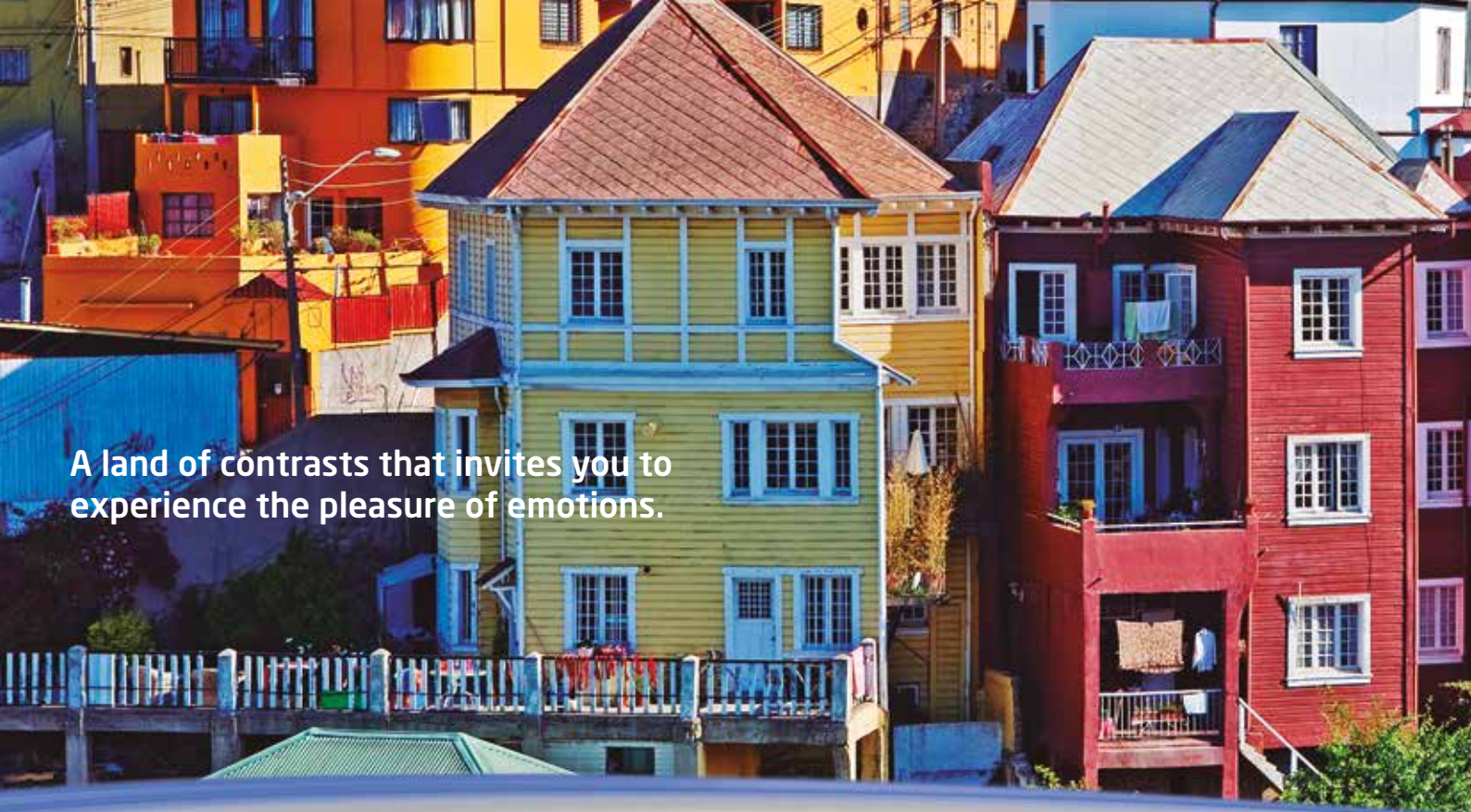
- 20% increase in staff. In the last two years, 150 people have been recruited, steadily increasing the workforce by 20%. Of these new hires, 99 correspond to higher-level vocational training profiles and the remaining 51 people are Masters graduates hired, above all, to increase our technological capability and ability to carry out our R&D projects.

Talent management. Broadening the knowledge of the Group. There is a continuous flow of personnel through the production plants and companies of the Irizar Group to support, promote and take advantage of the synergies in the activities and actions that are carried out within the strategic lines. This leads to increased staff knowledge and skills ensuring the future success of the company and providing flexibility that enables it to move forward constantly.

- International cooperation in projects with 20NGOs. We continue to contribute to education, maintenance tasks, infrastructures and attention to the most underprivileged groups.
- Collaboration with 40 non-profit associations working at local and provincial levels on projects, including Caritas, food banks, Red Cross.
- Donation of a bus to the Europa Transit Project, within the framework of the European Capital of Culture Donostia/San Sebastian 2016. Europa Transit travels to ten European cities that have been or are currently at war or where there is or has been a conflict. In representation of the Faro de la Paz and with the mission of disseminating the values of mutual empathy and understanding, Europa Transit travels to Ceuta, Belfast, Dresden, Wroclaw, Kaliningrad, Pristina, Sarajevo, Plovdiv, Istanbul and Paphos.
- Collaboration with the Albaola sea factory, Irizar has joined in with initiatives to support the reconstruction of the Nao San Juan, by sponsoring the whaler's rudder and foresail. Manufactured in Basque Country, the whaler San Juan is an example of the first transoceanic cargo ships that sailed from Basque Country to TerraNova. A reflection of the global splendour and hegemony of the Basque maritime industry, it sank off the coast of Canada in 1565. Over 400 years later, the Canadian archaeological team of Parcs Canada finds the wreckage and studies it. After more than 30 years of study, it

is the best known merchant vessel of the XVI century and has become an icon that symbolizes UNESCO's Subaquatic Cultural Heritage. As part of the European Cultural Capital of Donostia/San Sebastian 2016 and with the scientific support of the Government of Canada, the nao San Juan is reconstructed at Pasaia.





A land of contrasts that invites you to experience the pleasure of emotions.

Chile. Variety is the key

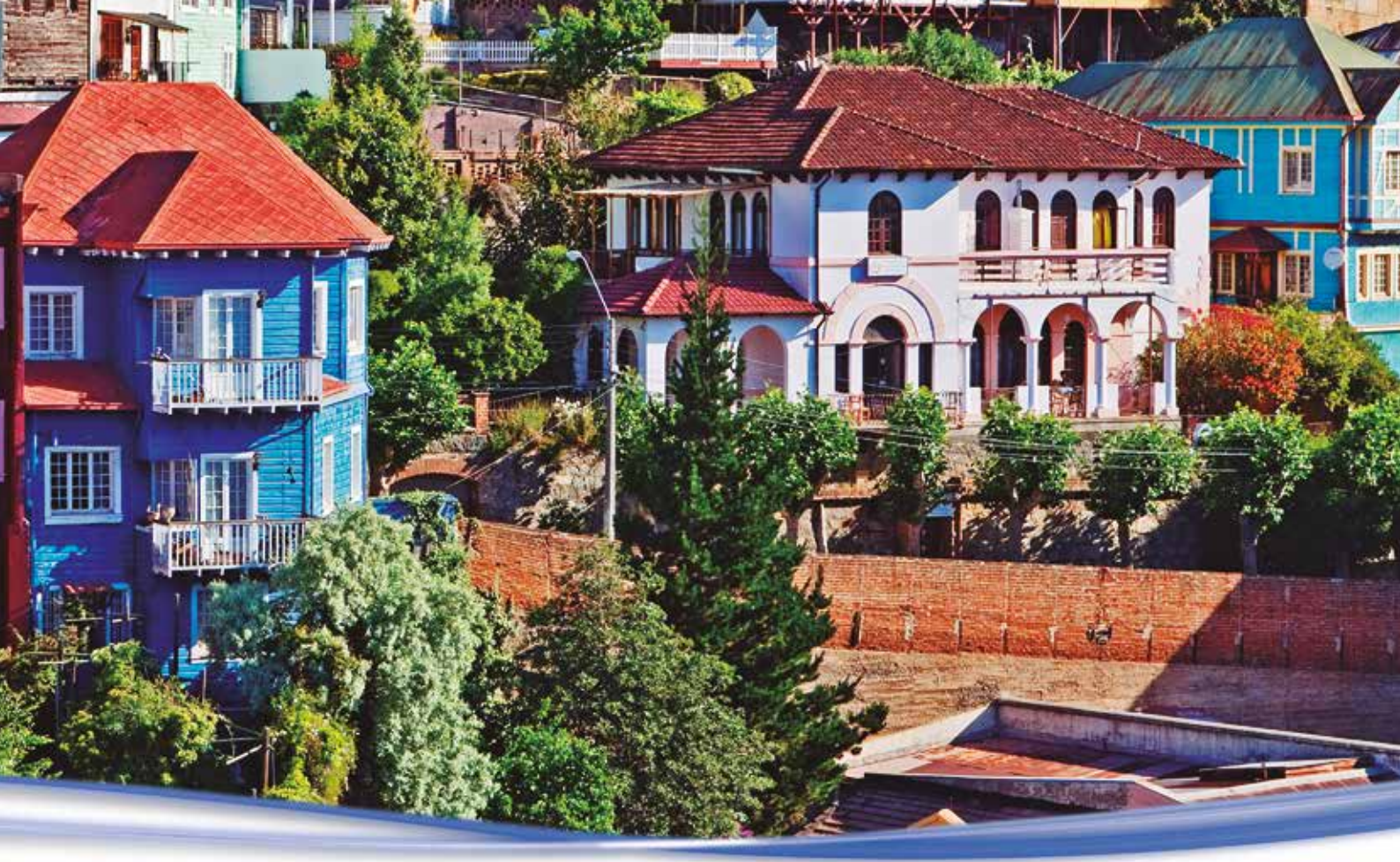
From peaks to plains, deserts to glaciers, from crowded urban centres to a complete absence of buildings. Chile offers scenarios of dramatic beauty: dense mountains in the east, seemingly endless deserts in the north and a network of fjords in the south.

The 20 must-see places in Chile:

The route starts in Valparaiso, with its unique funicular railways, then passes through Santiago, a cosmopolitan full of interest for tourists, then back on the road by bus to Temuco, in Chilean Patagonia, to visit the Conguillio National park and the active volcano of Llaima.

1. Valparaíso, Chile's main port

This emblematic Chilean port has an intense life that is at the forefront of gastronomy, design and charming boutique hotels. Going up and down its hills is a true outdoor experience that can be enjoyed in each of its nooks and crannies. Valparaiso is Chile's main port and its architectural forms, built on the slopes, led to it being declared a World Heritage Site by UNESCO in 2003.



2. Santiago, moving up the region's quality of life ranking

Silently, the Chilean capital has been moving up to the top of the quality of life rankings in the region. The urban character of this southern metropolis has given it a superb brand power in which it stands out as a clean, orderly and safe city. With its majestic backdrop of the Andes, Santiago has managed to modernize without losing a certain provincial charm and has preserved part of its colonial past. Santiago has many neighbourhoods that were formed by different types of social interaction and the public space has given life to something that goes beyond a simple set of houses, streets and trees. Some of these neighbourhoods offer high quality architecture and have become true icons of the city.



3. Frutillar, art and culture on Lake Llanquihue

The small town of Frutillar, on the shores of Lake Llanquihue, towards the South of Chile, was recently declared a typical area, mainly for its German heritage. The designation aims to preserve the heritage and architectural values derived from German colonization and to protect the natural areas associated with the lake and the surrounding slopes. Frutillar also boasts the Theatre of the Lake, a top-ranking international artistic and cultural centre that receives more than 150,000 people participating in the 250 activities that it puts on throughout the year. Guided tours provide insight into the architecture and the challenges presented by the project at the time of its construction, as well as the complex technology of its facilities.



4. Tierra del Fuego, one of the earth's unknown and untouched places

Tierra del Fuego, Chile's largest island (29.484 km²), an area of oil prospecting and sheep shearing, is still one of the most unknown and unspoilt places on earth. Its wide pebble-filled roads wind across the pampa towards endless horizons, seemingly with no specific destination. Among Tierra del Fuego's cultural routes, the highlights are the estancias route, the wood route, the glaciers route and the Darwin route (and the naturalist's epic round the world voyage). The Selknam route and the hunting and fire territories. The wetlands Route of birds and waters, all proposals that are being developed within a framework of unspoiled nature, which also includes the Karukinka Natural Park, a benchmark for biodiversity conservation.





5. From the village of Cochamó the view is spectacular, with the Reloncaví River estuary and the Yates volcano in the background

Experts consider the Cochamó valley to be one of the best new rock climbing destinations on earth. Scenes such as El Arco, a rock formation complemented by a forest of ancient larches - and the endless granite walls of La Junta will enchant outdoor enthusiasts who love to explore places that are virtually undisturbed by humans. This adventure playground is 92 kilometres to the east of Puerto Montt and offers a host of activities related to the most authentic nature of Chilean Patagonia. Cochamó doesn't just offer endless climbing routes at all difficulty levels - it also hosts pristine rivers such as the Puelo and lake Tagua Tagua, with fishing reserves for chinook salmon and rainbow trout.





6. Fiesta de la Tirana, one of Chile's most traditional celebrations

In the midst of the Tamarugal Pampa, more than 1,500 kilometres north of Santiago, the Fiesta de la Tirana takes place. This impressive event transforms the small town of the same name into a pilgrimage centre that attracts more than 150,000 people - believers and other visitors - who come to worship the Virgen del Carmen. The Fiesta de La Tirana, which takes place in July, is one of Chile's most traditional events. It is a mixture of dancing, music and offerings that are part of the cultural melting pot of the peoples of the north and its significance reaches as far as the communities of the faithful of Bolivia and Peru and attracts travellers from Argentina, Europe and the United States.



7. San Pedro de Atacama, a haven of life in the arid desert

311 kilometres from the city of Antofagasta, the oasis of San Pedro de Atacama, is a haven of life in the midst of the barren desert. Its natural surroundings offer a sublime spectacle of contrasts. The environment reflects a unique geography, with smooth plains that end in mountain ranges and volcanoes rising to over 6,000 metres and contrasting with the endless white salt deposits formed by groundwaters that never reach the sea. San

Pedro de Atacama, a traditional destination for backpackers, is one of the most sought-after destinations among foreign tourists, with its mix of the remote and inhospitable desert landscape, geological and archaeological interest and a wide range of hotels.

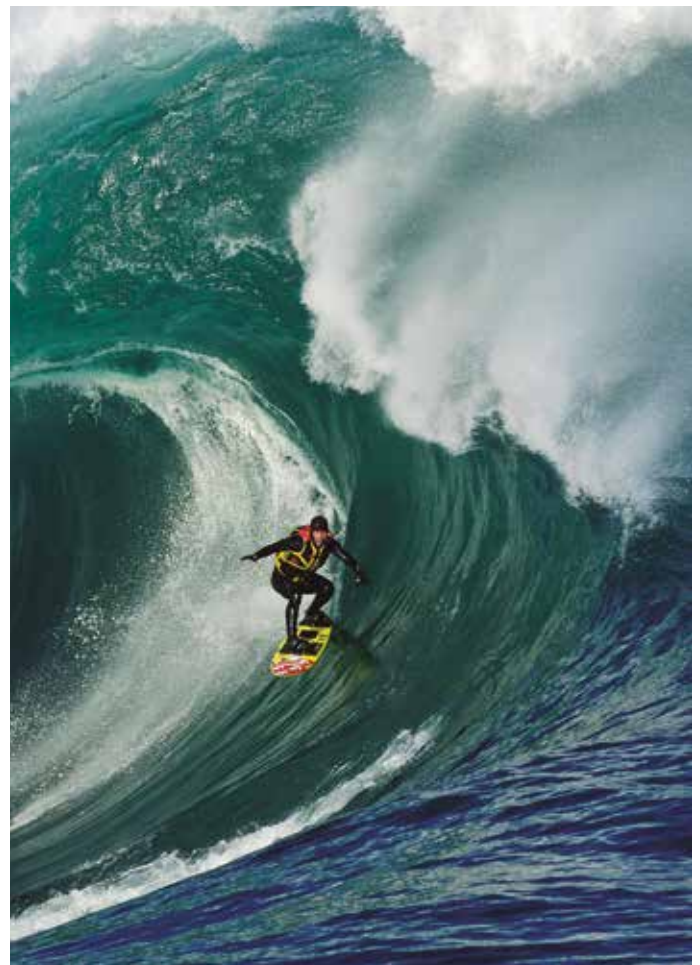


8. *The Chiloé islands - fields, sea and forests*

Chiloé is 1,186 kilometres from Santiago and 90 kilometres south west of Puerto Montt. Chiloé is reached by a 30 minute ferry journey across the Chacao channel that separates the mainland from the northern coast of Isla Grande de Chiloé. This island is part of the archipelago of the same name, which consists of around thirty islands, some of which are uninhabited. The geography of the island comprises fields, sea and forests, with a unique culture that is reflected in its buildings, gastronomy and mythology. The colourful houses built on stilts above the water, are one of the great hallmarks of the island as well as its churches, all built in wood between the eighteenth and nineteenth centuries.. While there are more than 80 typical churches on the island, only 16 of them have been declared World Heritage Sites by Unesco.

9. *Pichilemu, Chile's surfing addiction*

Pichilemu is the number one destination for surfing tourism in Chile. It is a traditional seaside resort in the south-central area with one of the richest areas in the world for perfect, long, constant and cold waves. Almost the whole area is rural. There are no large cities or ports, just a few industries and a number of fishing villages. Six kilometres south of Pichilemu is Punta de Lobos, which has become one of the most fashionable beaches in Chile.. It is also the birthplace of the Punta de Lobos wave and every day surfers from around the world can be seen gliding over tons of salt water.





10. *Nevados de Sollipulli eco-dome camp*

84 kilometres east of the city of Temuco, in the midst of the Andes, is Nevados de Sollipulli, a camp of eco-domes surrounded by ancient forests. This type of 'igloo' is designed to offer all the comfort of a hotel. The idea is that every traveller, after a good rest, will be ready for the ultimate challenge: the ascent of the Sollipulli volcano, a 2,282 metre peak, with the reward of a huge snowy crater and a 360 degree panorama providing a view of the volcanoes in the area - Llaima, Lonquimay, Villarrica and, on the Argentine side, el Lanín. A unique and amazing adventure. It lasts a whole day, but there is also the option to spend two nights on the mountain, to cross the glacier that stretches across the crater, more than 4 kilometres in diameter.

11. *Mapuche territory, the Lake Budi basin*

One hour from the city of Temuco, in the South of Chile next to the Pacific ocean, Lake Budi is one of Araucana's most photogenic and peaceful spots. You can sleep in a 'ruca', sample the local cuisine and learn first-hand the secrets of the Mapuche culture. With more than 100 species of birds, Lake Budi is the southernmost saltwater reserve in the world, with picture perfect flora and fauna. Having been 100% focused on agriculture for years, 10 years ago, the residents of Llaguepull community decided to set up a tourism cooperative. Lake Budi visitors can tour the area on horseback, rowing boats, carts or learn about the medicinal herbs, food, music and textiles of this beautiful enclave of the Mapuche, Chile's main ethnic group.



12. *The Chilean winter is not to be missed - ski resorts, such as Valle Nevado*

Every year, the mountains of Chile are packed with snow and visitors who come to the country for its famous pistes, hotels and gastronomy and hundreds of options for enjoying snowsports. Here we review three examples of different resorts and the activities offered by their facilities and the surrounding natural environment. Portillo is a world famous ski resort, known for its sophisticated hospitality and demanding off-piste skiing, among other attractions. Snow sports complement its traditional wine weeks, themed events that bring together the best vineyards in the central area. Meanwhile, in 2013, the Valle Nevado Ski Resort, unveiled the country's first gondola - which travels 980 metres. The Huilo Huilo biology reserve hosts the Bosque Nevado Snow Adventure Centre. This resort has the only snowpark in South America, open 365 days a year and located on the slopes of the Mocho-Choshuenco volcano.



13. *Visit Chile's glaciers, such as the Grey glacier in the Torres del Paine National Park*

The ice-hike is an adventure sport for areas near to glaciers. The trip involves walking on the ice, with stretches of climbing, sometimes walking in ice caves and along deep crevices. The huge masses of ice can reach 15 to 20 metres above the waterline - a truly amazing experience. The trip to the Grey glacier in the Torres

del Paine National Park goes through stunning locations on a 9-hour walk. This trip shows the size of the huge tongue of ice that is part of the Southern Ice fields - one of the must-see visits in one of the most popular natural parks in Chile.



14. Futaleufú, respect for the river

The small village of Futaleufú in the north of Patagonia has become the international benchmark for white-water rafting in Chile. The classification of its rapids (level IV and V), and an excellent range of hospitality with local character, combine to make Futaleufú an essential destination along the Carretera Austral. A descent of the Futaleufú obviously involves risks. It is a unique and extreme experience, but worth trying. Yes or yes, with experts You can scream like crazy, but you should always take it very seriously. The river awaits adventurers with its intense emerald green colour and fierce rapids with promising names such as Purgatory, Terminator, Dance of the Angels, Jacob's Ladder and Hell.



15. Humboldt Penguin National Reserve, a protected wildlife reserve containing three islands

This protected wildlife reserve has three islands, Choros, Damas and Chañaral, which give life to the reserve, mainly in the colonies of bottlenose dolphins that move through the area. There are 300 protected hectares centred on Caleta Punta de Choros, where boats can be rented to explore Damas island. Caleta Punta de Choros is 115 kilometres from the town of La Serena and the trip takes a little more than one hour, towards the coast. Apart from the charms of its marine life, with the ever playful dolphins, another good reason for visiting the reserve is the diving. The spot conceals pleasant surprises for those who venture into its seabed.





16. *Route of the stars and Alto Atacama, among the best places for stargazing*

For years the north of Chile has been known as one of the best places in the world for watching the skies. The dry atmosphere, the height, the stability of the sky and number of clear nights make Chile a paradise for astronomers. La Serena, Vicuña, Elqui, Coquimbo, Andacollo, Antofagasta, Iquique and other towns have agencies that provide observation equipment for tourists and offer lectures and explanations of astronomy. The clearest skies in the southern hemisphere have led to numerous astronomical, scientific and tourist observatories being installed in Region IV. They include the Tololo observatory, Gemini Sur, the SOAR telescope, La Silla, the Cerro Mamalluca observatory and the Pangu observatory.

17. *Robinson Crusoe is the only inhabited island in the Juan Fernández archipelago*

Robinson Crusoe is the only one of the three in the Juan Fernández archipelago that is inhabited. It has been classified as a World Biosphere Reserve since 1977, mainly because of its endemic flora and fauna, with some species that are in serious danger of extinction. Alexander Selkirk was its most famous inhabitant and his story goes back to the 18th century. After a dispute with the captain of the ship on which he was travelling, he was abandoned to his fate on the island, where he lived completely alone for more than four years. He was rescued and returned to England, where his story was the inspiration for Daniel Defoe's famous story Robinson Crusoe. The Juan Fernández lobster is a delicacy and one of the chief attractions of the area. It has the distinctive features which qualify it as a unique product in Chile and the world.





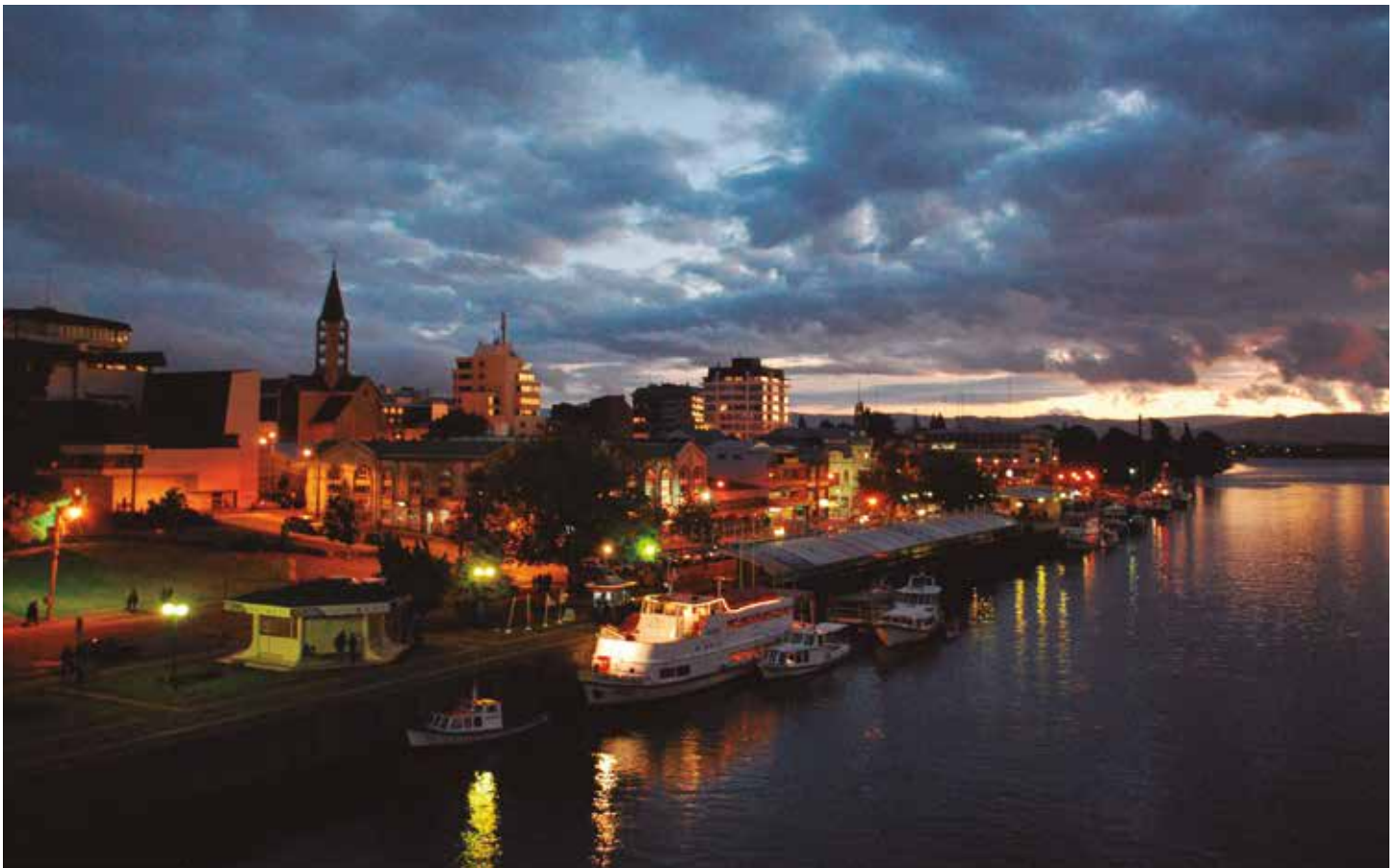
18. *Easter Island, the mystery of Polynesia*

A UNESCO World Heritage Site since 1995, the most remote island on earth, Easter Island, bears witness to a living culture of Polynesian origin that produced immense stone figures, the moai, and a unique cultural heritage. Of volcanic origin, it is a fascinating cultural and archaeological paradise that combines the ancient traditions of a society that, until its discovery in 1722, remained unknown to the West for more than a millennium. Rapa Nui is 3,700 kilometres from the coast, at the latitude of the northern coasts of Chile and is geographically located in Oceania, within the triangle of Polynesia, where its inhabitants originally came from.



19. Valdivia, Chile's most beautiful city?

Many people believe that Valdivia is one of Chile's most beautiful cities. Myth or Reality? With its remarkable water geography, German heritage, vibrant university life, major film festival and one of the leading scientific centres in the country it has more than enough attractions to be included in the category. Its location, only 15 kilometres from the sea, surrounded by waterways and the southern forest, led to its gradual growth into a business epicentre that attracted immigrants of different nationalities, especially Germans. Valdivia is home to southern Chile's first and most important industries.





20. *Torres del Paine National Park, one of the greatest natural destinations on earth*

This national park is in the far south of Chilean Patagonia, 147 kilometres from the city of Puerto Natales, a journey of an hour and a half over dirt roads. It was declared a Biosphere Reserve by UNESCO in 1978 and is the third Chilean national park in visitor numbers. It is a protected area of 242,000 hectares with a moving web of ecosystems of lakes, glaciers, rivers, vast meadows, waterfalls, forests and its unique granite towers that have made Chile one of the prime natural destinations on earth.



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