

Mafex corporate magazine Spanish Rail Industry

Issue 37. November 2023



Technology, innovation and strategy for the entire rail supply chain



MAFEX INFORMS

Mafex reaffirms the Spanish Rail Industry's commitment to excellence, sustainability and



MAFEX OPEN DAYS

This initiative aims to raise awareness about the work of Mafex, the services it offers and the support it provides to companies in the sector.



INNOVATION

Mafex members present their latest developments in innovation.



MAFEX Sumary

05/ EDITORIAI

06/

MAFEX INFORMS

NEW EDITION OF THE TRANSMEA FAIR-CONGRESS IN EGYPT

An opportunity for the railway industry, which already has an extensive presence in the country.

NEW MAFEX MEMBER

The Association continues to grow, and it reaches a total of 119 members.

MAFEX REAFFIRMS THE SPANISH RAILWAY INDUSTRY'S COMMITMENT TO EXCELLENCE, SUSTAINABILITY AND PROGRESS ON THE 175TH ANNIVERSARY OF THE FIRST RAILWAY LINE IN THE IBERIAN PENINSULA

The Spanish railway industry contributes to 8% of industrial GDP, contributing to the national economy, with a modern and export-oriented industry of railway technology.

MAFEX AND CABEI ORGANISED A MEETING DAY OF THE SPANISH RAILWAY INDUSTRY WITH REPRESENTATIVES FROM THE REPUBLIC OF EL SALVADOR AND THE DOMINICAN REPUBLIC

The objective was to gain an in-depth understanding of how the sector works, as well as the best lessons that can be replicated in the Central American region.

NEW MEETING DAY WITHIN THE FRAMEWORK OF THE "INTERNATIONAL MARKETS FORUM" DEDICATED TO THE POTENTIAL OF THE POLISH RAILWAY MARKET

Poland is one of the key markets for the Spanish railway sector and it offers great business opportunities for the industry.

FREIGHT TO THE TRAIN ARRIVES IN MADRID

The aim of this initiative is to highlight the value of the transport of goods by rail.

THE STARS PROJECT ENDS

The main objective of the project has been to address the aspects related to the adoption of Advanced Technologies in SMEs.

VISIT BY THE INNOVATION COMMITTEE TO THE MADRID LOGISTICS CENTRE WITH METRO DE MADRID

It is one of the leading logistics centres in the Comunidad de Madrid.

NEXT "MAFEX OPEN DAYS" ON 24TH NOVEMBER IN LEIOA (BIZKAIA) AND 14TH DECEMBER IN MADRID

This initiative aims to raise awareness about the work of Mafex, the services it offers and the support it provides to companies in the sector.

S-ACCESS MISSION TO THE U.S.A. AND CANADA

9,

/ MEMBERS NEWS

34

/ SPECIAL REPORT RAIL LIVE 2023 KICKS OFF



The leading experts in the international railway sector will meet at IFEMA in Madrid from 29th November to 1st December. This professional platform will be used to analyse both the present and future of the railway as well as its challenges and opportunities. In addition, an exhibition area of more than 300 companies will present the latest innovations and cutting-edge solutions from the businesses.

186

/ SUSTAINABILITY

MAFEX MEMBERS PRESENT THEIR LATEST DEVELOPMENTS IN SUSTAINABILITY

/3

INNOVATION

MAFEX MEMBERS PRESENT THEIR LATEST DEVELOPMENTS IN INNOVATION

34/

MEMBERS GUIDE





www.caf.net



TRUST IN MOTION

WHEN YOU MOVE IN GOOD COMPANY, THE JOURNEY IS ALWAYS BETTER.

We are your partner. A company that offers one of the widest range of rail and bus transport solutions on the market. With expert knowledge in implementing modern urban and interurban mobility systems. Contributing to the planet's sustainability and individuals quality of life.



Madrid hosts Rail Live! 2023 with sustainability and digitalisation of the railway sector as key objectives



As every odd-numbered year, Madrid hosts Rail Live!. For three days, the main players in the sector from more than 45 countries will analyse the present and future of the medium that is set to be the backbone of intermodality, thanks to its many environmental, safety and reliability advantages. Everything is ready for the event and, from Mafex, as promoters and co-organisers, we want to welcome the more than 7,000 registered attendees, the sponsors and collaborating entities, the participating companies and the speakers who travel to Spain to share a joint vision on the challenges of the coming years and the great opportunities that arise in the face of the decisive boost to be given to railway infrastructures, both of passengers and freight.

I would also like to point out the recent 175th anniversary of the launch of the first railway

line in Iberian Peninsula, which has placed our country, during all this time, at the forefront of the international railway sector. Today, the railway sector continues to move forward with determination. Our technological leadership, among others, has facilitated the spectacular transformation of our infrastructures, which has a world-renowned network, at the forefront of innovation and global competitiveness. And without a doubt, the railway industry was an active part of its achievement.

We will therefore continue our journey in 2024 defending an industry that is a world leader. It has a large international presence in more than 90 countries and it generates more than 30,000 direct jobs in Spain with a turnover of more than 6,5 billion euros (more than 8% of industrial GDP). Undoubtedly, a sector that is key and a driving force, both for our economy and for our country's image. For this reason, it is vital that public administrations place this medium as the axis of their sustainable transport policies and strategies in the medium and long term and that they acquire a firm commitment to R+D+i programmes, with financing plans to promote its development and competitiveness throughout the supply chain and support for its exit to the foreign market.

See you at Rail Live! 2023

MANAGEMENT: MAFEX.

MAFEX COMMUNICATION COMMITTEE: Alstom Transporte, ArcelorMittal, Caf, Global Quality Engineering (Grupo Trigo), Icon Multimedia, Idom, Indra Sistemas, Ingeteam, La Farga Yourcoopersolutions, Patentes Talgo, Sice, Siemens Rail Automation, Stadler Rail Valencia, Teltronic, Thales España, TPF Getinsa Euroestudios y Zitron. ADMINISTRATION: mafex@mafex.es ADVERTISING: mafex@mafex.es SUBSCRIPTIONS: mafex@mafex.es. Mafex magazine is not responsible for the opinions, images, texts and works of authors and readers that will be legally responsible for their content. It is understood that the signing authors have given their consent to be included, for which he or she will be responsible. Also, the magazine is not responsible for typographical errors contained in the original documents submitted by the authors.











MAFEX COORDINATED OUR GROUP'S ATTENDANCE TO THE TRANSMEA FAIR

WHICH TOOK PLACE IN NEW CAIRO (EGYPT) BETWEEN 5TH AND 8TH NO-

New edition of the **TransMEA fair-congress** in Egypt

his edition was attended by companies such as Acygs, Aquafrisch, Indra, Imathia, La Farga, Salicru, Sener, Talleres Alegria and Typsa, as well as Colway and rolling stock manufacturers Caf and Patentes Talgo.

TransMEA, organised in cooperation with the Egyptian Ministry of Transport, aimed at bringing together the main regional and international players to showcase on the one hand, the main trending solutions, products and new technologies to achieve more efficient and even faster transport and logistics services.

On the other hand, the fair offered a congress programme where to address topics such as digital techVEMBER 2023. MAFEX HAD THE SUPPORT FROM ICEX SPAIN TRADE AND INVESTMENT AND FROM SPANISH COMPANIES.

nology - a vital element to promote innovation - and which includes data analysis, artificial intelligence, machine learning, cybersecurity, automation, digital transformation or disruptive technologies, among

It should be recalled that the country wants to carry out various megaprojects in the coming years such as the commissioning of the country's first high-speed line; the signalling of the lines from Alexandria to Cairo, and from Beni Suef to

Nag Hammadi; the modernisation of line 2 of the Cairo metro, the future Lines 5 and 6: the Abu-Oir metro project; the extension of the Alexandria tramway, as well as the various opportunities that will arise for the acquisition and rehabilitation of rolling stock.

This is an opportunity for the railway industry, which already has a large presence in the country due to the numerous systems designed by Spanish companies, as well as the rolling stock and infrastructures.

New **Mafex** memb

he number of businesses joining Mafex continues to rise. This is the new member company:

THE ASSOCIATION CONTINUES TO GROW WITH THE RECENT INCOR-PORATION OF A NEW MEMBER. THIS WAY, WITH THE NEW ADDITION IT REACHES A TOTAL OF 119 BUSINESSES REPRESENTING ALL THE SUB-SECTORS OF A LEADING INDUSTRY THAT IS MAKING ITS WAY AROUND THE WORLD.



EWALS CARGO CARE

Ewals Cargo Care is an international multimodal freight transport company, which operates in 14 countries in the EU and the United Kingdom, using its own fleet of 3,800 mega semi-trailers and multiple resources associated collaboratively in subcontracting. Our market is mainly industrial, with strong specialization in the automotive

Led in corporate strategy and management by its third generation,

Ewals CC has in its social and business policy a strong commitment to compliance with ESG objectives, in a policy of responsible action that aims to lead the market in an innovative logistics business model and sustainable.

Breaking News



The experience of an operator for the benefit of your mobility projects

metrotenerife

Consultancy services in Operation and Maintenance. Experience on 4 continents





QR ticketing system without need of physical infrastructurehe



REMOVABLE INSULATING CHAMBER

Designed and patented by: **metro**tenerife





Chambered system designed to improve the maintenance of the railway track

www.metrotenerife.com

Mafex reaffirms the industry's commitment to excellence, sustainability, and progress on the 175th anniversary of the first railway line in the Iberian Peninsula

uring all this time, the railway has become a pillar of our mobility, economy, and society. It has connected cities and regions in a more sustainable, efficient, and environmentally friendly way, favouring territorial cohesion and generating opportunities.

Today, the railway sector continues to move forward with determination. The technological leadership of the Spanish railway industry, among others, has facilitated the spectacular transformation of Spanish infrastructures, which has a world-renowned network, at the forefront of innovation and global competitiveness.

It should also be noted that the European railway industry in general, and the Spanish one in particular, is one of the industries that invests the most in innovation and technologies that contribute to greater energy efficiency, in multiple aspects such as, for example, traffic management systems, signalling, energy recovery and regeneration technologies, energy storage technologies, reversible substations, useful life of the materials used. measurement systems, maintenance, etc. And it is particularly energy-efficient in the manufacture of rolling stock and equipment. The industry is making major investments and efforts to reduce CO2 emissions and to achieve a "Net Zero" balance by 2050.

The challenges ahead are just as important. The effort and focus on sustainability, digitalisation and

ON THE OCCASION OF THE 175TH ANNIVERSARY OF THE LAUNCH OF THE FIRST RAILWAY LINE IN IBERIAN PENINSULA, MAFEX CELEBRATES THE PROGRESS MADE IN ALL THIS TIME, WHICH HAS PLACED OUR COUNTRY AT THE FOREFRONT OF THE INTERNATIONAL RAILWAY SECTOR.

international expansion must be maintained to continue thriving as a sector, as an industry and as a country, working together with the capacity for innovation that characterises us. The railway is synonymous with sustainability. For this reason, it is key to defend it and to further develop it, enabling it to place itself as the backbone of both national and global transport policies and strategies in the long term.

It should also be noted that the railway sector demonstrates a significant commitment to the United Nations Sustainable Development Goals (SDGs) by offering a sustainable and efficient alternative in transport. It plays a key role in fostering quality employment and boosting economic growth through investment and innovation. As an example in

Spain, its contribution to 8% of GDP, contributing to the national economy, with a modern industry exporter of railway technology (SDG8), through the construction and modernisation of efficient, sustainable and resilient transport infrastructures of renowned international prestige (SDG9), encouraging the development of sustainable cities, since it provides an efficient and ecological way to mobilise the public, reducing traffic congestion and greenhouse gas emissions (SDG11), thereby contributing to climate change mitigation (SDG13), and collaborating at multisectoral level and other interested parties to promote sustainable practices (SDG17). The Spanish railway industry is ready to offer innovative and intelligent solutions adapted to the new needs of operators and passengers, while also revitalising the economy and reinforcing the sector's commitment to sustainability and the generation of shared value.

THE STRENGTH OF A PIONEERING INDUSTRY THAT REPRESENTS 8% OF SPANISH INDUSTRIAL GDP



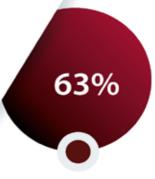
Representing 83% of Spanish railway export



Countries where it has a presence



Delegations established worldwide



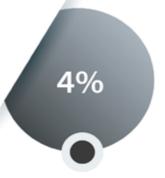
Percentage of representation of SMEs in our members



Mafex members' railway turnover in 2022 (it represents 36% of the European railway industry turnover)



Jobs in Spain (it represents 7.5% of the employment of the European railway industry)



Of railway turnover translates into R+D investment



Spain is the country that has a greater presence and industrial implementation of manufacturers of rolling stock and signalling



Mafex and the Central American Bank for Economic Integration (CABEI) organised a meeting day of the Spanish railway industry with representatives of the Republic of El Salvador and the Dominican Republic

afex and the Central American Bank for Economic Integration (CA-BEI) organised a meeting on 3rd October in Madrid, Spain, between government authorities and CABEI officials from the Republic of El Salvador and the Dominican Republic and the Spanish railway industry with the aim of gaining an in-depth understanding of the operation of the sector, as well as to share the best lessons that can be replicated in the Central American region.

GOVERNMENTAL AUTHORITIES AND OFFICIALS FROM THE CENTRAL AMERICAN BANK FOR ECONOMIC INTEGRATION (CABEI) OF THE REPUBLIC OF EL SALVADOR AND THE DOMINICAN REPUBLIC MADE THIS VISIT WITHIN THE FRAMEWORK OF A HIGH-LEVEL MISSION THEY ARE CARRYING OUT IN SPAIN.

The event was attended by Víctor Ruiz, President of Mafex, and Mauricio Chacón, Head of Mission of CABEI's Spain and Europe Office, who opened the day.

Ruiz stressed that "Spain has been a proud member of the Central American Bank for Economic Integration since 2005. This allows our companies to strengthen coIlaboration in areas as varied and strategic as the railway. And even more so since 2019, the year in which Mafex and CABEI signed a cooperation agreement to promote knowledge transfer and provide advice for the implementation of actions of common interest. It was a great honor for us to be able to visit the bank's headquarters in Tegucigalpa..."

Meanwhile, Mauricio Chacón pointed out that "...as CABEI we seek to bring closer and strengthen ties and alliances between the regions to motivate and promote development projects that encourage the economic growth of the Bank's member countries...".

This was followed by two presentations on "Railway Transport, Investment and Development Plans in El Salvador and the Dominican

Republic" led by the Deputy Minister of Transport, Nelson Reyes, and the Director of Public Works Planning, René Nuñez, on behalf of the Ministry of Public Works and Transport of -El Salvador and Manuel Ogando representing the CABEI Office in the Dominican Republic.

Those presentations highlighted how in these countries, there are great opportunities for companies in the Spanish railway sector to participate in the development of large-scale strategic projects developed with the aim of updating and improving the conditions of mobility of people and cargo in a sustainable way.

Collaboration between Mafex and CABEI

As part of its infrastructure development plans - via CABEI - the

Central American region aims at promoting the development of Central American countries through efficient railway transport. Since 2019, both organisations have been collaborating to promote and support the internationalisation of the Spanish railway sector, as well as to support and encourage cooperation in innovation and competitive improvement between the companies associated with Mafex, the association itself and both entities.

In this way, the advice, exchange, and knowledge transfer of the Spanish railway sector is facilitated and promoted - given the extensive knowledge of the Spanish railway industry and for being a global benchmark - with the aim of collaborating in the Railway Infrastructure plans of the Central American region.



A complete range of switches and crossings for urban layouts

New day within the framework of the "International Markets Forum" dedicated to the potential of the Polish railway market

n 25th October, the third 2023 session of the "International Markets Forum" organised by Mafex was held in Bilbao with a day that focused on Poland and was attended by more than 40 participants.

At the meeting, Pedro Fortea, CEO of Mafex, stressed that "...Poland is a priority market for the Spanish railway industry due to the investments planned in the short and medium term. The Polish railway market holds great business opportunities for Spanish companies, with very important projects on the horizon due to the large influx of funds from the European Union and the Polish National Railway Programme. In fact, the Railway Programme was updated in August of this year looking ahead to 2030 and it foresees a total investment of around 37,8 billion euros..."

Subsequently, our collaborator Joan Gasol presented the report "Focus On Poland" and the opportunities that the Polish market holds for Mafex members.

Next, Marcin Jedrasik, Director of the Procurement Department in Centralny Port Komunikacyjny – CPK & Piotr Wituski & Izabela Szumska, Purchasing Project and Category Manager of Pojazdy Szynowe Pesa Bydgoszcz-PESA respectively provided greater detail of the planned railway investments over the coming years.

Finally, Ainara González, Head of Trade Policy, and Institutional Relations at Mafex, moderated a round table with Ondřej Škuta, Sales and Marketing Director of Ingeteam, and Carlos Díez, Senior Project Manager of Ineco, who shared with all

POLAND IS A KEY MARKET FOR THE SPANISH RAILWAY SECTOR AND OFFERS GREAT BUSINESS OPPORTUNITIES FOR THE INDUSTRY THANKS TO THE TRANSFORMATION PROCESS IT IS UNDERGOING WITH THE REFORMS AND INVESTMENTS ASSOCIATED WITH EUROPEAN UNION FUNDS.



the participants the experience of their companies in the country.

Poland is a key market for the Spanish railway sector due to its growth and the investments planned for the coming years.

Poland's railway network is one of the most extensive in Europe and is also the second largest market in Europe for the transport of goods by rail, only behind Germany.

CPK's initiative is an essential part of the Polish railway market. In addition, the electrification of 1,400 kilometres of railway lines, the deployment of ERTMS and multiple line development and rehabilitation projects are planned, as well as numerous urban transport projects. N





SIEMENS MOBILITY

Moving beyond -Soluciones de transporte impulsadas por nuestra pasión por la movilidad.

El futuro de la movilidad en nuestro mundo globalmente interconectado exige soluciones de transporte fluidas, sostenibles, fiables y seguras. Aprovechamos las ventajas de la digitalización, la excelencia en ingeniería y nuestro espíritu emprendedor para superar este reto. Con la confianza de nuestros socios somos pioneros en el transporte, trasladando a las personas de manera sostenible y fluida desde la primera hasta la última milla. Y siempre vamos más allá para ayudar a los operadores de transporte de todo el mundo a superar sus expectativas.

siemens.es/mobility

SIEMENS



Freight to the Train arrives in Madrid

ON $24^{\rm TH}$ OCTOBER WE HAD THE OPPORTUNITY TO PARTICIPATE IN THE PRESENTATION IN MADRID OF BOTH THE "FREIGHT TO THE TRAIN" CAMPAIGN TO THE PUBLIC AND A SESSION ATTENDED BY OPERATORS, INSTITUTIONS AND REPRESENTATIVES OF DIFFERENT SECTORS. THE AIM IS TO RAISE AWARENESS OF THE NEED TO CREATE A CO $_2$ EMISSION-FREE SUPPLY CHAIN, WHERE THE TRAIN IS THE CENTRAL AXIS.

s for the session - organised by KPMG, The Economist and the initiative "Freight to the train" – it was welcomed by Idoia Galindo CEO of Transfesa Logistics and the presentations by the Ministry of Transport Mobility and Urban Agenda, The Climate Reality Project and KPMG. The meeting also included a round table with Idoia Galindo of Transfesa Logistics, Pablo Mendivil of Volkswagen Navarra, Jordi Ortuño Moliner of ERMEWA, Nuria Lacaci Vázquez, Association of Shippers of Spain - ACE - Mar Chao of Port Authority of Valencia and Fernando Vizoso Estrades of KPMG who discussed the need to move freight from road to the railway to reduce carbon emissions, as well as the challenges and opportunities it presented.

Our President, Víctor Ruiz, introduced the round table and highlighted

"...the need to promote incentives for demand, especially on the part of the shipper, who is the one who moves the goods. Initiatives aimed at stimulating demand from operators and customers are common among our European colleagues. We find examples in countries such as Germany, Belgium, Italy or Austria."

He also highlighted that "the Spanish railway industry is moving in the same direction as all of us who are here today, building consensus on agreements and measures between the different market players and many public administrations. With the right policy measures and a combined effort from the entire supply chain, we are convinced that it is possible to increase the modal share of the railway..."

The **STARS** project ends

he main objective of the project has been to address the aspects related to the adoption of Advanced Technologies in SMEs. To this end, during this twoyear project, activities such as training in technological areas relevant to the sector have been carried out. The 16 training sessions provided were based on various topics such as additive manufacturing technologies, digital twins, 5G for mobility, and green technologies in the railway, among others, as well as a workshop on European funding opportunities.

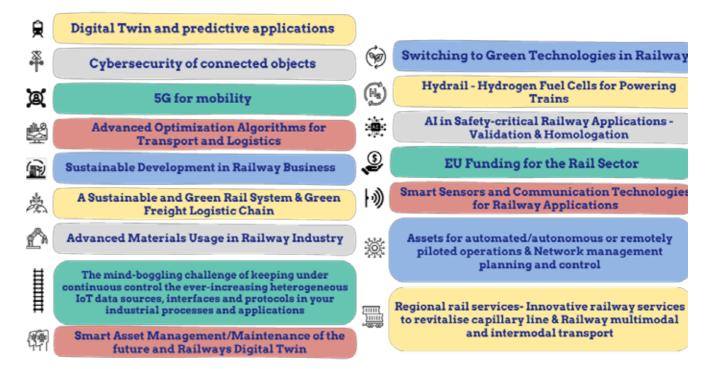
These training sessions have had a wide participation of Mafex member companies, with a total of 39 companies and 191 delegates, which have benefited from the project's training sessions.

ON 26^{TH} SEPTEMBER TOOK PLACE THE FINAL EVENT OF THE STARS PROJECT THAT MAFEX ATTENDED TOGETHER WITH 10 EUROPEAN RAILWAY CLUSTERS, FIVE EUROPEAN TECHNOLOGY CENTRES AND A START-UP DEVELOPER AND PROVIDER OF BLOCKCHAIN.

products and services", (3) "Blockchain for railway processes, products and services", (4) "Digital Twin and Artificial Intelligence for railway processes, products and services" and (5) "Advanced technologies for resilience of the rail supply chain". These events focused on the challenges identified in the analysis carried out at the beginning of the project on the technological needs of European SMEs in the sector. During them, the most traditional companies in

ned, thus promoting networking among attendees in order to create collaborations for technological developments.

The project also delved into technologies such as Blockchain or Artificial Intelligence. Two technologies - that represent a very important driver for innovation in the sector - but which still need to be understood to know their potential and their applications throughout the supply chain of



On the one hand and within the framework of the project, five "Hack & Match" events have been held, focusing on the topics of, (1) Energy efficiency for "Railway processes, products and services", (2) "Big data for railway processes,

the sector have worked with technology companies in search of solutions. In addition, and after the Hackathon section, the possibility of holding meetings with the different companies that participated in the conference was opethe railway sector. That is why the project organised two in person events around them, in which attendees were able to learn more about both technologies, their characteristics and their possible applications. •

MAFEX 15

Visit by the Innovation Committee to the Madrid Logistics Centre with Metro de Madrid

he *Metro de Madrid* Logistics Centre in Canillejas is where the operator has in store 25,000 references that are distributed to all Metro stations and depots.

Launched this year, it is a pioneering automated logistics warehouse for the maintenance of trains and installations throughout the underground network and has become one of the leading logistics centres in the Comunidad de Madrid.

The warehouse incorporates the most advanced technology in order preparation with robots, with the acquisition of an automatic THE LATEST INNOVATION COMMITTEE MEETING WAS HELD IN MADRID ON 6TH NOVEMBER. TAKING ADVANTAGE OF THE LOCATION, THE COMMITTEE MEM-BERS VISITED THE METRO DE MADRID LOGISTICS CENTRE IN CANILLEJAS, SPAIN.



tray accumulation system that increases efficiency of logistics activities and increases the capacity of supplies. 🕥

Next Mafex open days on 24th November in Leioa (Bizkaia) and 14th December in Madrid

FOR THE NINTH EDITION, THIS INITIATIVE AIMS AT RAISING AWARENESS OF MAFEX'S WORK. THE SERVICES IT OFFERS AND THE SUPPORT IT PROVIDES TO COMPANIES IN THE SECTOR. TO THIS END, ATTENDEES WILL LEARN ABOUT THE INITIATIVES, AS WELL AS THE PLAN OF ACTIVITIES THAT HAS BEEN DESIGNED FOR 2023.

afex's main objective is to serve the railway industry and to defend the shared interest of its 119 current members. This role translates in acting as a facilitator, via the implementation of initiatives in the field of foreign promotion, strategic intelligence, trade policy, working groups, sectoral forums, R+D project office, innovation and talent management, institutional relations and communication and marketing, thus allowing the competitiveness and global presence of its partners to be strengthened through cooperation and the use of joint capabili-

ties. Improving the competitiveness of the Spanish railway industry and boosting the global presence of its members through cooperation and the use of joint capacities.

In this new edition, it is worth highlighting the participation of Mafex members such as Caf, Idom, ArcelorMittal, Typsa who will share their experience as members of the association and explain how Mafex supports them in different areas and issues.

For more information about the event, please contact patricia@ mafex.es or by phone: 944 706







S-ACCESS Mission to the U.S. and Canada

he mission consisted of three phases, the first part took place in Indianapolis (USA) attending the "Railway Interchange" fair, the largest railway exhibition and technical conference in North America. This fair included meetings with different sector related entities such as Norfolk Southern, Indianapolis Chamber of Commerce, Indiana Economic Development, PNC and RSM US LLP, Butler University, Inzone Barnes & Thornburg.

For the second part of the mission, the companies visited the Canadian cities of Toronto and Montreal. On THE SECOND MISSION OF THE S-ACCESS PROJECT TOOK PLACE BETWEEN 1^{ST} AND 12^{TH} OF OCTOBER AND HAD THE PARTICIPATION OF 21 EUROPEAN COMPANIES, SEVEN OF WHICH WERE MAFEX MEMBERS.

this occasion, the companies had the opportunity to meet with the TTC – Toronto Transit Commission, CN, STM – Société de Transport de Montréal, EXO RAILCAN – Railway Association of Canada, AQTR – Association Québécoise des Transports, WSP, ARTM – Autorité Régionale de Transport Métropolitain, INNOVEE, Propulsion Quebec and Investissement Quebec. These meetings allowed to learn about

the future projects and needs of Canadian entities and their open tenders or the facilities available to companies when doing business in the country, for example.

The mission ended with a third phase in the U.S. visiting "APTA EXPO", the largest public transport industry fair in the country. Meetings were also held with PRT - Pittsburgh Regional Transit, E.M. Wasylik Associates, MetroPlan Orlando, MPOAC - Florida Metropolitan Planning Organization Advisory Council, Broward Metropolitan Planning Organization, SunRail, Florida APEX Accelerator at University of Central Florida, Select Florida, Orlando Economic Partnership, CSX, Brightline, European American Chamber of Commerce Florida, Miami-Dade Transportation Policy Organization, FDOT - Florida Department of Transportation, Expressway Authority, Miami-Dade County Department of Transportation and Public Works and Miami-Dade Downtown Development Authority. •



Indra provides Lisbon's subway with the most convenient and advanced access system

INDRA

Indra has made Lisbon one of the first cities in Europe in which travelers can access the subway with their own cellphone, bank card or smartwatch without having to purchase a ticket or pass beforehand, by applying the EMV (Europay-Mastercard-Visa) universal payment technology, while maintaining the other previously existing travel options.

It's a state-of-the-art payment system that's much smarter, more streamlined and convenient. Not only does it enhance the traveler experience and provide quick and



easy access for everyone visiting the city, it also minimizes plastic and paper consumption and alleviates the work involved in supplying and printing thousands of tickets on a daily basis.



RSS to deploy its AGUTERM+ point heating solution at RENFE's maintenance facilities and on the Thessaloniki-Idomeni railway line in Greece

REVENGA

RSS will install its AGUTERM+ point heating solution at RENFE's Atocha, Humanes and Fuencarral maintenance facilities to protect the switches and prevent them from becoming unusable in cold winter weather, allowing trains to

operate normally within the facilities covered by the project. The project is part of RENFE's plan of improving key infrastructure centers, such as depots and maintenance bases, to optimize performance and operational safety. In addition, RSS has also been awarded a new project in Greece (Thessaloniki-Idomeni) for the installation of AGUTERM+. This project is the second one that RSS will execute in the country, after the Tithorea-Domokos line.

AGUTERM+, thanks to the algorithm and sensors developed by RSS, enables a reduction of more than 35% in energy consumption and CO2 emissions over conventional railway point heating systems. Railway operators and infrastructures in Spain, Turkey and Belgium are thereby contributing to environmental objectives such as the Business Ambition 1.50 of the United Nations SDGs, which seeks to prevent the increase in global temperature from exceeding 1.50C by 2030.

MAFEX 19

MEMBERS NEWS

• Breaking News

Icon Multimedia implements its passenger información system in the new section of "El Insurgente"

ICON MULTIMEDIA

The newly inaugurated Mexico-Toluca interurban train "El Insurgente" now offers an enhanced travel experience thanks to ICON Multimedia's technology. The successful implementation of DENEVA, its Passenger Information System, at the stations connecting the State of Mexico's capital with western Mexico City reaffirms the company's commitment to innovation and mobility and its contribution to the efficiency and satisfaction of passengers in the Mexican Government's railway transport network.

DENEVA provides passengers with real-time information on schedules, connections, and available



services. Additionally, it offers multimedia content, relevant announcements, and alerts to ensure a comfortable and safe journey. In-

formation devices are located at all stations along this initial 20 km section, with a total end-to-end travel time of just 20 minutes.



Teltronic's TETRA system for Jakarta's largest Light Rail Train goes into operation

TELTRONIC

The critical communications solution deployed by Teltronic for Greater Jakarta's largest Light Rail Train, Jabodebek LRT, has gone into operation with the inauguration of this transport system that will significantly reduce traffic in the Indonesian capital. This is the

second project of the Spanish company in the country after the deployment of another TETRA system in Palembang's LRT.

Teltronic was selected to install a TE-TRA digital radio system that allows not only voice communication but also other important functionalities, as the connection to the Train Control Management System (TCMS) to transmit telecommands.

Teltronic deployed its NEBULA TE-TRA infrastructure that comprises the Switching Control Node, responsible to provide network intelligence; and the base stations required to provide radio coverage to the 44km of the track.

The solution also includes the command and control centre CeCoCo that manages and coordinates all users.

The Ministry of Transport and Infrastructure visits Çerkezköy – Kapikule Railway Line Project

TPF INGENIERÍA

On July 28, we have proudly hosted the esteemed representatives of our Client, the Ministry of Transport and Infrastructure, to inspect the progress of the project.

A site visit was held with the presence of our key experts and the technical director of the International Department of TPF INGENIERÍA, Mr. Francisco Javier de Bonifaz. The visit allowed us to provide a comprehensive overview of the current status of the project.

To date, the physical progress of the construction works is around 70%. Most of the infrastructure works have been completed, while those related to the superstructure and elec-



tromechanical systems are ongoing. Çerkezköy – Kapikule Railway Line Project continues to be a testament to our unwavering commitment to strengthening the railway infrastructure of Türkiye and providing topquality supervision services in the country.

Simulator for RAPIDX: India's rail transport revolution

LANDER

The Regional Rapid Transit System (RRTS) or RAPIDX marks a turning point in Delhi's urban mobility. It will connect India's capital with the major cities around it. This high-speed train will connect the capital of India with the main cities that surround it and that form one of the largest metropolitan area in the world.

For the first time in India, this network will have the European Train Control System ETCS level 2, which includes ATP, ATO and ATS, using radio communication systems between the track and the train.

To train drivers in ETCS level 2, as well as in daily operations and risk situations, they have trusted LAN-DER for the development of their driving simulators.



The project has a replica train cabin on a 6 DOF movement platform.

As well as an open cab with replica desk.



Alstom Spain to supply signalling and traction systems for the first monorail in the Caribbean

ALSTOM ESPAÑA

Alstom's Digital Mobility unit in Madrid will design and supply the signalling and train control system (CBTC) for the new monorail in the Dominican Republic. The Trápaga industrial site in Bizkaia will supply engineering support and traction systems.

A consortium led by Alstom has been selected to deliver an integrated Innovia monorail system for the city of Santiago de los Caballeros, in the Dominican Republic. The 13-kilometre, 14-station monorail system will be the first of its kind in the country and in the Caribbean

and will be dimensioned to carry up to 20,000 passengers per hour per direction.

Alstom's scope within the contract includes, among others, system integration, testing and commissioning of the full system and the supply of Innovia monorail trains as well as Cityflo 650 GOA4 driverless signalling.

CAF Signalling, at the ATO forum on ERTMS N2

CAF SIGNALLING

The technical conference "Automatic Driving on Railways. ATO on ERTMS N2", organized by the ICAl-TREN Forum, the ICAl Engineers Association and with the collaboration of the Comillas Pontifical University, brought together the main players in the sector to analyze the prospects for automation.

CAF Signalling has participated through Mikel Labayen, who collaborates in international ATO implementation projects. As a representative of one of the leading manufacturers, Labayen described the strategies and solutions adopted by CAF Signalling in recent years to implement

on-board ATO GoA2 even on those tracks without an operational track side. He also highlighted pilot initiatives for fully autonomous ATO GoA4 and Automatic Train Operation.

As a conclusion: ATO interoperability over ERTMS level 2 will improve transport capacity, as well as real-time traffic operation and energy efficiency.





MEMBERS NEWS

• Breaking News

CETEST's support to RENFE for new vehicles homologation

CETEST

CETEST is actively participating in the homologation of the new RENFE trains, launched within the framework of its strategy of renewal and expansion of its fleet of vehicles, for different segments and track gauges, and contracted from different rolling stock manufacturers.

On the one hand, CETEST is working with STADLER and ALSTOM for the approval of the new High-Capacity Commuter vehicles. CETEST will carry out a large part of the tests (carbody structural test, complete ontrack homologation) and, thanks to its experience as the main accredited laboratory in Spain, will collaborate in the coordination of the campaign, request for running authorization, etc.

On the other hand, CETEST is working with CAF for the metric gauge and alpine gauge (RAMYA project)



homologation campaigns, as well as for the homologation of the new RENFE medium distance vehicle (lberian and UIC gauge), new Commuter (Iberian gauge) and FH2Rail project's demonstrator train.



Ingerop Group's International Transport Seminar

INGÉROP

On September 21st and 22nd, Ingérop organized its "International Transport Seminar" in Barcelona, an event that brought together more than 160 colleagues from all the group's subsidiaries specialized in the field.

One of the main achievements of the seminar was the opportunity to strengthen relationships between the different international subsidiaries, allowing teams to understand their local challenges. These connections clear the way for more effective collaboration on future projects and a continuous exchange of knowledge. Additionally, the event provided a space to develop strategies that efficiently integrate different modes of transportation, promoting more sustainable solutions and boosting innovation.

The real-time collaboration of experts from different areas of expertise enabled the identification of strategic priorities and the definition of specific group objectives for 2024.



Ceit launches Inspectrail, its new startup specializing in railway maintenance

CEIT

Inspectrail, the latest venture from the Ceit Technology Center, offers cutting-edge solutions for railway infrastructure inspection. Its value proposition lies in the integration of systems on railway vehicles, increasing inspection frequency and facilitating maintenance digitization. This helps prevent incidents, reduce risks, improve availability, and lower maintenance costs by evaluating track geometry, wireless communications

quality, pantograph and catenary contact, signal status, vegetation, among other factors.

With this addition to companies like Lander and MainRail, Ceit continues to strengthen its commitment to the railway sector.



COMSA will carry out the Montcada i Reixac railway underground works

COMSA

The joint venture formed by COM-SA, FCC and Ferrovial has been awarded the contract for the underground construction of the R2 Rodalies line as it passes through Montcada i Reixac (Barcelona), in addition to the construction of a

new station in this municipality. The project includes the construction of a 4-kilometre tunnel through which the R2 line tracks will pass, which, in parallel, will add a third track to increase the system's capacity. It also contemplates the construction of a new underground station based on criteria of sustainability, accessibility, and functionality, which will have three tracks and two side platforms.

The central track will be used by regional trains that will not stop, thus reducing their journey times.

The integration of the railway into the urban centre of the municipality will entail an urban and railway transformation of great technical and constructive complexity. Moreover, it will increase the safety conditions for the residents.

MEMBERS NEWS

• Breaking News

Connecting University Talent with the Railway Sector

CRÉATE E

Créate HR, the consultancy specialized in recruitment and training in the railway sector, took part in the 10th Job Fair at the University of Seville in September. Seeking to attract emerging talent, the company used this event to highlight the advantages and professional opportunities offered by the railway industry, a field in constant growth and transformation.

Créate HR's participation in this event reflects its commitment to developing professionals in the railway sector and its focus on identifying exceptional talent to meet the sector's needs. This initiative strengthens its position as a leader in the



search and training of top profiles in the railway world, building brid-

ges in the industry for a more promising future.

Indonesia launches LRT Jabodebeck Light Rail line with Siemens technology

SIEMENS MOBILITY

This summer, Indonesia reached a major milestone with the opening and operation of the Jabodebeck Light Rail Transit (LRT), a new light rail line in Jakarta. The LRT, led by Siemens Mobility, has improved the passenger experience by incorporating advanced Siemens technology, such as the CBTC Trainguard MT signaling system, the ATS Rail 9k control center and the Westrace interlocking MKII, ensuring efficient and safe travel.

This project stands out for its sustainable approach, as it contributes significantly to the reduction of carbon emissions and energy efficiency. The Trainguard system enables efficient driving by saving traction energy and maximizing transport capacity, reducing carbon emissions from energy consumption.

The Jabodebeck LRT operates 31 driverless trains, serves 18 stations and can carry up to 500,000 pas-

sengers a day, which will reduce travel times and relieve traffic congestion.

The CBTC Trainguard system allows operators to maximize line capacity and performance, adapting in real time to demand and optimizing resources. Thus, the Jabodebeck LRT is a leading example of how cutting-

edge rail technology can contribute to more sustainable, efficient and comfortable transportation.

This project represents a significant advance in Indonesia's transportation infrastructure and demonstrates the country's commitment to sustainable mobility and reducing carbon emissions.





Vogelsang shows its systems for trains in RailLive

VOGELSANG

Vogelsang will present its compact systems for hygienic wastewater disposal and drinking water supply for trains as well as equipment for train interior cleaning at RailLive. The event will take place from November 29 to December 1 at IFEMA in Madrid. At booth CO89, interested parties can find out about Vogelsang's entire product portfolio for rail and transport technology, such as the TUnit or CabinetUnit. Harald Vogelsang, Managing Director of Vo-

gelsang GmbH & Co. KG. declared "Our tried and tested systems in the field of rail and transportation technology are compactly built and variable in their equipment and installation. As a result, they meet the various requirements for rail depots of different sizes."

ICF leads the ADIF level crossing upgrade

ICH

Within the framework of the improvement actions in level crossing protection systems that ADIF develops, ICF is established as the leading company in the Spanish railway sector, with a total of eleven contracts awarded during the second half of 2023. The recent increase in tenders offered by ADIF have allowed ICF to exploit its innovative and efficient technology, also creating an opportunity for the improvement in safety of the Spanish railway system.

The different ongoing projects include the upgrade in protection types A2 and A3 level crossings, for which axle counters detection sensors, signalling and pro-

tection technology will be used. The opportunity presented to ICF demonstrates the company's capacity for adaptation and innovation and its competitive nature, as well as the importance granted on the reliability and availability of protection systems nowadays.



The TRAMLINK starts regular services in Bern

STADLER

On 1 November, BERNMOBIL started regular services with the TRA-MLINK in the Swiss capital after a test phase lasting several months. The order comprises 20 bi-directional and 7 one-way vehicles to be delivered between 2023 and 2025. The new trams will replace existing vehicles that are reaching the end of their useful life. They meet the mobility needs and infrastructure requirements of Bern. With 42.5 m long, 2.3 m wide offer large passenger capacity, up to 250 people.

The TRAMLINK for BERNMOBIL has been awarded the prestigious Red Dot Design Award 2023. The vehicle



has an elegant exterior design and a bright, spacious, barrier-free interior. With more than 300 TRAMLINKs sold, Stadler trams are setting standards in terms of performance, safety, universal accessibility and comfort. TRAMLINKs have been operating for years in Erfurt and

Rostock (Germany), Gmunden (Austria) and Santos (Brazil) and will soon be operating in Jena and Milan. In Switzerland, these LRVs runs on the Waldenburgerbahn, on the Limmattalbahn, on the Lugano-Ponte-Tresa-Bahn, and from now, also

Mieres Rail S.A. designs, manufactures and supplies track devices for the Mayan **Train Project (Mexico)**

MIERES RAIL

Mieres Rail S.A. has designed, manufactured, and supplied turnout systems for the Tren Maya (Mexico) combining EN and AREMA technical specifications. These turnout systems, in two different geometries (R525 with Tg 1:15 and R1200 with Tg 1:20), were considered for operating conditions with speeds up to 160 km/h and axle loads up to 36.3 Tons, in 115RE rail profile, on concrete sleepers and for ballasted

tracks. Precisely the need to combine both regulations, so different in their concepts, for all the variety of rolling stock covered by AREMA, made it necessary to carry out an exhaustive and conscientious study of the wheel-rail interface to allow and ensure the correct passage of traffic, both at switches and crossings.

The very high axle load that some axles could present, up to 36.3 tons for the Cooper E-80, also required studies and tests to verify that the proposed concrete sleepers were valid for such a demanding load.

Similarly, the aggressive environmental conditions present in some areas of the Yucatan Peninsula influenced the surface coating of the materials to be used in order to combat, and delay, the undesirable effects of corrosion.

Before its shipment to Mexico, one turnout prototype for each geometry was fully assembled at our workshops, even with the driving and detection systems that were not included at our scope of supply, to verify and certify the correct performance of these two turnout sys-































































MEMBERS NEWS

• Breaking News



TYPSA and RVNL strengthen cooperation for railway development in India

TYPSA

Rail Vikas Nigam Limited (RVNL), an entity of the Ministry of Railways responsible for the development of India's main railway lines, has commissioned TYPSA with the contract for the design and tender of construction contracts and supervision of a section of more than 68 km, on the new railway line between the cities of Yavatmal and Nanded, in the state of Maharastra.

Within the framework of this contract, TYPSA coordinates with RVNL on the organisation of technical visits to facilitate the opportunities for the technical and managerial staff of RVNL to learn about and exchange international railway experiences on other contracts that TYPSA is engaged in, both in Spain and around the world.

Twenty-second edition of the QA&TEST Embedded conference in Bilbao, dedicated to software testing and quality in embedded systems

SOS

In October, the company SQS held the twenty-second edition of the QA&TEST Embedded conference in Bilbao, dedicated to software testing and quality in embedded systems. With an excellent international reception, we can highlight the interest generated in the possibilities offered by AI to optimize testing processes, an area of technology with significant opportunities for development and innovation.

The fourth edition of QA&TEST SA-FSEC will take place in Madrid in

April, addressing the integration of safety and cybersecurity aspects throughout the development cycle of systems and products. This topic is essential in critical sectors such as railways and defense.

Both events share the goal of promoting sustainability, a crucial fac-

tor in mitigating the environmental impact of the industry and maintaining competitiveness in a market that is conscious of this need. They aspire to achieve Green Conference certification in 2024.

More info: https://safety.qatest. org/?lang=en

ArcelorMittal crane rails for largest port in Sri Lanka

From port and terminal projects to giant cranes, ArcelorMittal crane rails are used in many applications

and are present in ports of all continents.

ArcelorMittal contributed Colombo new terminal project by supplying MRS87A, grade 90, crane rails. These rails are also with a high protective coating (C5level) to protect rails against corrosion, reaching protective level and maintaining technical specifications.

ArcelorMittal also supplied A75 crane rails for equipping ZPMC STS cranes for the terminal, as ZPMC Ltd Company has won the deal to supply 12 giant cranes and 40 rail mounted automatic gantry cranes for the new port.



ArcelorMittal is working closely to customers to develop with them new or specific rails and products according to their needs and keeping an important production flexibility.

Precon – sleepers supply for the "Tren Maya" project PRECON

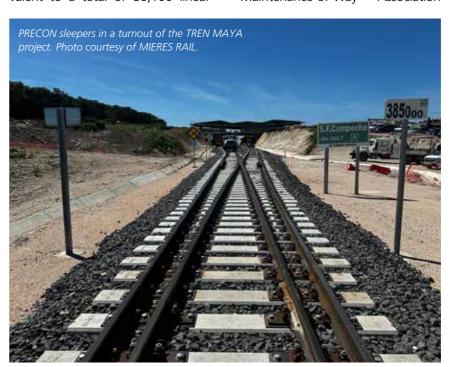
In a significant milestone for the Tren Maya project in Mexico, PRECON, a leading company in the design and manufacturing of sleepers, has supplied to date a total of 27,330 sleepers for track components, equivalent to a total of 86,100 linear

meters. The sleepers, which have been supplied to Spanish specialists in the railway industry, Amurrio Ferrocarril y Equipos S.A. and Mieres Rail S.A., form the foundation of various sections of the Tren Maya in Mexico. They have been designed to meet the specifications of the American Railway Engineering and Maintenance-of-Way Association

(AREMA) as well as comply with European standards that govern the manufacturing of railway products at PRECON.

These sleepers are characterized by their customized nature, as they must adapt to the specific geometry of each track component, which poses challenges in the preparation and planning of production systems. Their manufacturing is carried out using the "long bench" manufacturing system. This system, coupled with rigorous process control and quality standards, ensures the quality and durability of the sleepers, achieving the necessary geometric precision for the installation of track components.

With its in-house engineering capabilities and over 30 years of experience in manufacturing sleepers for track components in Spain, together with supplies made in recent years in different countries, PRECON solidifies its position as a clear leader in the design and manufacturing of this type of sleeper on an international level.



MEMBERS NEWS

Spain produces the most efficient high-speed railway in the World

INFCO

Spain has managed to develop the most extensive high-speed network in the EU with the lowest average construction cost. And it has done so with very high design and quality parameters, at the forefront of the sector, in relatively fast times and without major budget deviations. This is the main statement included in the new report 'Efficiency of the Spanish sector in the development of high-speed rail', prepared by the engineering and consultancy firm Ineco, which deals with the efficiency of the Spanish high-speed model.

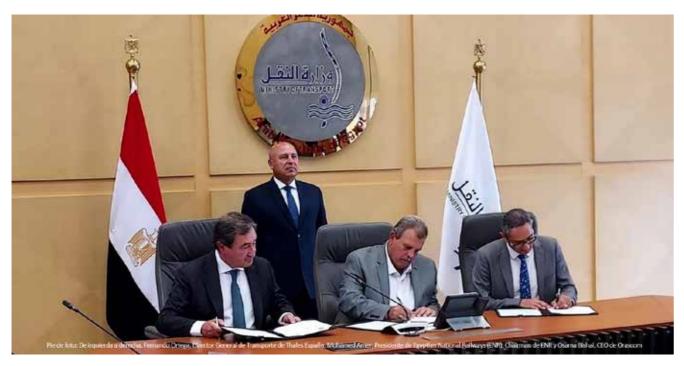
A comparative analysis of the Transit Costs Project database, together with the rest of existing



studies, allows Ineco to conclude in this report that the country has developed the second high-speed network in the world with one of the lowest construction costs per kilometre compared to the rest of countries with this means of transport and the lowest among the European Union countries. Spain builds high-speed trains at an average cost per kilometre of 17.7 million Euro, compared to 45.5 million Euro in other high-speed countries, which is more than

twice as much. The study also extends the traditional perspective of construction to cover the entire life cycle of the infrastructure and includes the costs of operation and maintenance which, although to a lesser extent, reinforce the leading position of the Spanish model.

Access to the full report "Efficiency of the Spanish sector in the development of high-speed rail" at Ineco's web.

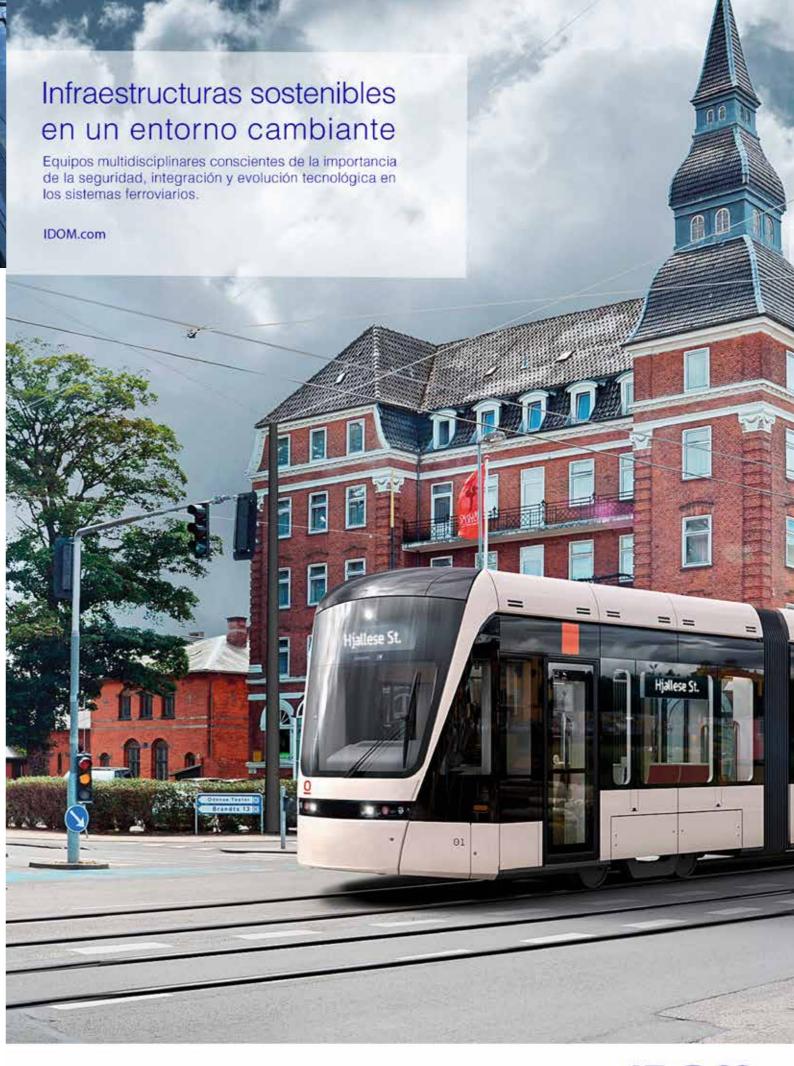


Thales and Orascom Construction upgrade the Cairo - Giza - Beni Suef railway line in Egypt

THALES ESPAÑA

Thales and Orascom Construction sign a new contract in Egypt with the Egyptian National Railways (ENR) for the modernisation of the double-track railway, linking the cities of Cairo, Giza and Beni Suef. The track is located on the east bank of the river Nile, 115 kilometres from the country's capital.

The contract has a budget of more than 300 million euros with a projected execution period of 60 months. Additionally, two years of guarantee and another five years of maintenance services will be provided for the line. The Thales-Orascom Construction consortium will be responsible for modernising the signalling and telecommunications systems, as well as to the renewal of the track within this specific section.









startups that will showcase their railway services and innovations, helping them to find solutions to streamline their operations.

Both the exhibition and the conference will showcase all the innovation in civil engineering, construction, machinery, rolling stock. At the same time, the event will be very aware of how revolutionary

Rail Live! has become the professional platform of reference of the international railway sector in Spain





technologies such as AI, ERTMS, ATO or BIM are being applied in the railway industry, with new results for operators, infrastructure managers, railway megaprojects and their industry partners.

Broad institutional support

As in previous editions, there is support from a large number of collaborating entities. This year's edition has the collaboration of the Railway Infrastructure Manager (Adif), Renfe Operadora, ICEX Spain Trade and Investment, the Spanish Railways Foundation (FFE), the Spanish Railway Technology Platform (PTFE), Community of Madrid, Madrid City Council and Madrid Metro...

Organised by

In partnership with





Collaborating entities



















A comprehensive congress agenda to discuss the future of the sector

rom digital transformation to freight transport, Rail Live! 2023 will explore all aspects of the railway industry. In nine "summits" over three days, where representatives of administrations, operators, and national and international organisations as well as the industry will debate in Madrid about the present and future of the railway.

Numerous topics will be discussed by the speakers during the various conferences. They will focus on

SPEAKERS Diego Bazzano Maria Luisa Dominguez Gonzalez José Conrado Martínez Acevedo Àngel Contreras Marín Ángel Contreras Marin Javier Achútegui Juan Carlos Barrón Juan Alberto Altuna Ortega Concepción Casillas Dritan Spahiu Nick Brooks Marta Diaz Molina Inma Lebrón Josep Xargayó Isabel Rodriguez Ramos David Alvarez Diez Francesco Romano Carole Coune

Gerardo Landaluce

Head of Passenger Information, Social & Digital Media Strategy Director Strategic Innovation Director General de Conservación y Mantenimiento

DG Conservation And Maintenand Capacity allocation manager Human Resources Coordination Director Subdirector de Telecomunicaciones Directora de Planificación, Organización y Administración

Chief Executive Officer Chief Executive Office Secretary General Country Talent Development Manager Business Developer Spain & Portugal Senior Engineer Antivibration

Infrastructures & Building Knowledge Area Director Mediterranean Region Rail Scientist Technical Director Secretary General Manager BIM and Geomatics

COMPANY A.T.M. - Azienda Trasporti Milanesi ADIF ADIF ADIF ADIF ADIF ADIF

ADIF Albanian Railways ALLRAIL Alliance of Rail New Entrants in Europe ALSTOM ESPAÑA ALSTOM ESPAÑA Anast+Pfister Applus+ ArcelorMittal Arsenale Group

Association of European Rail Rolling Stock Lessors Autoridad Portuaria De La Bahia De Algeciras



5G, accessibility, architecture and design, Artificial Intelligence, Autonomous vehicles, blockchain, connectivity, future stations, IoT, and drones among others. Those in charge of breaking down these topics will be the main representatives, both from public administrations and railway network operators, as well as from specialised companies in each of the subsectors that will present their latest developments and solutions.

Spanish Symposium

Spain is one of the main international benchmarks in railway transport, which has one of the most modern and extensive high-speed networks and numerous metro and tram systems in the different regions. As the host country of this important international professional platform, the Rail Live! 2023 congress wanted to include a special section to learn more details about the present and future plans of the participating entities where Mafex will represent each of them. "Adaptation to climate change. Resilience of ADIF infrastructures"is

Chief Executive Officer Rail Traffic Analyst Research Fellow Product Owner and System Architect Rail Perception

NAME Hakon Iversen

Joe Preece Felix Jaegle

Fabrizio Cerreto

Stefan Leistner

Clement C.M. Yeung

Jérémie Anne

avier Pozo Barberá

Sergio Vázquez Torrón

Felix Doose

Adam Swallov Chief Inspector A-DIV Disruption & Drones Chris Maydom Data scientist BT Active Intelligence Nathan Watt Senior sales specialist BT Active Intelligence Marc Valette Director Of Innovation Javier Martinez Ojinaga Chief Executive Officer Armando Ansón

Zero Emission Innovation Program Manager Javier de la Cruz García Dihinx Managing Director at CAF Digital Services Santiago Gómez Rodriguez Business Development Manager Carl Fredrik Karlsen Commercial Director Paige Malott Founder European Funding Manager Jaime Velasco Alarcón Convenor TC 9X/WG 26 (Railway CyberSecurity) Christian Schlehuber

Mikolai Wild Chief Executive Officer Israel Baron Vice President of Customer Relations Marc Hoffmann Board Member, Passenger Traffic Fermín Gil Garrido Jefe de estudios Irene Cid Rico

Silvia Roldan Viceconsejera de Digitalización Ast. Professor of BCM (fmr Director) Centre for Disaster Management (Coventry University) Wayne Harrop Russell Vine Executive Director, Marketing and Communications Amir Levintal Chief Executive Officer

lan Ilik FU Affairs Representative Jörg Schneider Head of Climate Protection and Energy Oliver Sellnick VP Furonean Corridors and Cooperations Head of Procedure Development & Technologies Tobias Fischer Head of Group Program Digital Rail for Germany & Head of Board Representative Digital Rail for Germany Volker Hentschel

Head of Analytics and Asset Management Data Scientist Senior Corporate Finance Advisor John von Wentze Revantha Rodriguez Deputy Director Train Strategy and Operations, Passenger Services

Birgit Wirth Chief Executive Officer, DB Cargo Scandinavia Mobility Manage Julie Rømer Francisco Pérez Domínguez Business Analyst Marianthi Theocharidou Cybersecurity Officer ERTIMS Project Officer Thomas Chatelet Shinta Tsukii Senior Manager of Rolling Stock Julio Gómez-Pomar Chairman Chief Executive Officer José Solorza Estevez ernanda García Polanco Head of Engineering

Senior Engineer, Railways

Senior Engineer

Chan Chau-fat Assistant Director/Railways Michel Rueser Managing Director International Transportation Business Development Manager Ian Koeppel Terry Bills Global Transportation Industry Manager, Esri Roh lanssen Senior Data Architect

Elmer van Buurer Co-founder Project Officer Javne Yeo Begoña Domingo Ortuño Project Officer Christoph Kaupat Project Officer Daniel Lopour Market Development Officer Programme Manager Giorgio Travaini Executive Director Javier Ibáñez de Yrigoyei Senior Programme Manager Séhastien Denis Senior Programme Manage Karel van Gils Seconded National Expert Andrew Murphy Head of Sustainability Managing Director, CCO Wolfgang Domann Mechanical Engineer Karina Jacobsen Managing Director

Lauri Helke Director of New Business Development Albert Tortajada Juha Lehtola Proiect Manage Juan Jose Montero Pascua

Full Professor of Administrative Law and Economic Regulation, Adrian Fernandez Director Gerente

Gerente PTFE-Subdirectora Estrategia, Innovación y Formación Ángeles Tauler Holger Dittus Project Lead Brand Ambassador, Furope Simon Fletcher

Chief Executive Officer Simon Jones President Business Field Inspection Solutions Stefan Damm Mimmi Mickelser Tram Security Expert, Trafikkontoret Gerardo Lertxundi Chief Executive Officer Head of Environment Richard Thoro **Engineering Director** Anton Zahner Head of Industry sector Rail

Dvan Crowther Chief Executive Officer Railway Undertaking Environmental Officer Heidi Hopper Duffv Anna Gumhau loumalist

Freelance Journalist, Rail & Public Transport Expert Operations Manager for Rail Division Jose Miguel Rubio Sanchez Director - Vertical Rail Transportation Business Unit

Banedanmark

Banedanmark Birmingham Centre for Railway Research and Education

British Transport Police RT Active Intelligence BT Active Intelligence C.F.L. Multimodal CAF Digital Services

Cascadia Rail CEIM CENELEC Centralny Port Komunikacyjny

Cervello CFL - Chemins de Fer Luxembourgeois CIFP PROFESOR RAÚL VÁZQUEZ Colegio Oficial Ingenieros en Informática

Cross River Rail Delivery Authority Cylus Cybersecurity Czech Railways (CD) DB Cargo DR Netz AG DB Netz AG

Communidad De Madrid

DB Netz AG DB Netz AG DB Netz AG Department for Transport Department for Transport Deutsche Bahn AG

FNISA E.R.A. East Japan Railway Company

> Fcorail EFE Trenes de Chile EFE Trenes de Chile

Electrical and Mechanical Services Department, Government of Hong Kong Special Administrative Region

Electrical and Mechanical Services Department, Government of Hong Kong Special Administrative Region EMSD, Government of the HKSAR

ERTMS Users Group

ESRI Eulvnx European Sleeper European Union Agency for Railways European Union Agency for Railways European Union Agency for Railways

European Union Agency for the Space Programme Europe's Rail Joint Undertaking

Europe's Rail Joint Undertaking Europe's Rail Joint Undertaking Europe's Rail Joint Undertaking Europe's Rail Joint Undertaking

Furostar International Ltd EYYES

Federal Railroad Administration Fenniarail

Ferrocarrils de la Generalitat de Catalunya Finnish Transport Infrastructure Agency

Florence School of Regulation Fundación de los Ferrocarriles Españoles Fundación de los Ferrocarriles Españoles

German Aerospace Center (DLR) Global Centre of Rail Excellence Global Centre of Rail Excellence Goldschmidt Holding GmbH Goteborgs Stad

GTR Govia Thameslink Railway High Speed 1 HIMA Schweiz

Jarnrod Fireann (Irish Rail) Independant Independent Indra Indra

MAFEX 39 38 MAFEX

the topic to be presented by ADIF in this edition. Renfe, for its part will reference "Renfe towards Digital and Sustainable Mobility". Metro de Madrid will act as moderator of a panel which will deal with the following topic "Novelties, latest developments and functionalities of Rolling Stock". Mafex will moderate a panel with with three of its members, Alstom, Talgo and Idom, where they will present what is required to be part of their value chain. Finally, the Spanish Railway Foundation will moderate a panel together with other technological platforms to highlight the the transversality of technologies. To close the event, Icex España Export and Investment will moderate a panel on "International international financing instruments for Railway Projects".

Talent, one of the protagonists of the congress agenda on 1st December

The railway, due to its many environmental, efficiency and safety ad-

The challenges are multiple, and it is necessary to have professional profiles that contribute their qualities, specialisation, and know-how to the development of the railway

COMPANY Pieter Verlinden Team leader Data Science and Predicitive Analysis Kurt Van Ruyskensveld IT Relationship Manage Miguel Jorge de Campos Cruz Infraestruturas de Portugal President Miguel Mesquita Faro Viana Training and Development Director Infraestruturas De Portugal Naser Kransigi Chief Executive Office Infrakos Rgp Infrastructure of Serbian Railways Neboisa Surlar Chief Executive Office Ioseba A Delgado Sales Manager Traction Systems Ingeteam Ingeteam Power Technology S.A. Key Account Manager Asier Ugarte Virginie Papillault Organisation And Human Factors- Senior Adviso International Union of Railways (UIC) Isabelle De Keyzer Senior Advisor, Environment And Sustainable Development International Union of Railways (UIC) International Union of Railways (UIC) Vassiliki Nikolopoulou Telecoms System Engineer Solution Architect - Connected Transport Carla Trevino Chief Executive Officer & General Manager Simone Gorini Sanjay Kumar Director (Systems) Kochi metro rail Ltd Angel Zuil Tejero Account Director KONUX GmbH La Farga Yourcoppersolutions, S.A. Chief Circularity Officer Carles Camprubi FREE Rail Program Manager, Interim Chief Executive Officer Gediminas Šečkus Lithuanian Railwa Chief Executive Officer Ana Maria Moreno Los Tranvías de Zaragoza Eglė Šimė Chief Executive Officer LTG CARGO Rūta lakubauskien Chief Executive Office Joan Sentís Sales Director Lubritec, S.A. Amen Mukhlis Senior Director Engineering & Construction M.T.A. New York City Transit Lola Ortiz Sánchez General Director of Planning and Mobility Infrastructure Madrid City Council Víctor Ruiz Mafex President Pedro Fortea General Director Mafex Garazi Carranza Ruiz de Loizaga Head of Innovation Mafex Head of Trade Policy and Institutional Relations Mafex Ainara González Mafex Patricia Lasheras Head of Mkt and Communications Aitor Ballestero Head of Business Development and Strategic Intelligence Mafex Mafex Oihane de la Rua Losada R&D Project Engineer Olatz Amorrortu Gervasio R&D Project Manager Marianto Zocco Technical Director Mercitalia Intermodal Carlos Miranda De Larra Responsible for the Project Service and Operational Support Metro de Madrid Fernando Morales Coordinator of Systems & Engineering of Critical Infrastructures Metro de Madrid Ignacio Vázquez Chief Every trive Officer Matro de Madrid Isaac Centellas Head of Division Metro de Madrid David Blázquez Díaz Coordinator of Continuous Improvement Metro de Madrid Metro de Madrid Ana Rodríguez Signalling Engineering Coordinator Pilar Garcia Carbonell Manager of the Human Resources Division Metro de Madrid Juan Tébar Chief Operating Officer Metro de Madrio Responsable Área de Obras, Infraestructuras y Accesibilidad Jorge F. Blanquer Jaraíz Metro de Madrid José Miguel De Frutos Director Engineering And Maintenance Metro de Málaga Jorge Maroto Gómez Managing Director & O&M Director Metro de Sevilla Taner Bahadir Senior Project Manager Metro istanbul Peter Cushing Former Alliance Director Midland Metro Alliance Andy Harrison Founder Group General Manager, S&T & Chief Information Security Officer National Capital Region Transport Corporation Manyendra Singh Chief Executive Officer Neil Robertson National skills academy for rail Dimitri van Zantvliet Nederlandse Spoorwegen Ilse de Vos-van Eekere Program Manager Circular Entrepreneurship Nederlandse Spoorwegen David Choda Principal Engineer, Telecoms Network Rail Lisa Constable Weather Resilience and Climate Change Adaptation Strategy Manager Network Rail Toufic Machnoul Director, Industry Partnership for Digital Railway Network Rail Jonathan Haves Head of Programme Engineering & Systems Management Network Rail Denzel Collins Energy and Carbon Strategy Manager Network Rail Taron Smart Senior Project Manager R&D Network Rail Head of Rail Technology Network Rai Gareth Evans Felicity Osborn Programme Manager-International Research & Development Partnerships Network Rail Andrew Lyle-Carter Senior Engineer, Fixed Assets Team Network Rail Andrew Mcnaughton Network Rail High Speed Casev Rutland Vice Chair Linda Marie Venbakker Chief Financial Officer Esmé Kalshoven Ertms Program Director ÖRR Infrastruktur Tanja Kienegger Head of Energy Division Gregor Fleischman Project Office - BIM ÖRR Infrastruktur Tamo Vahemets Chairman of the Board Operation Lifesaver Oli Ionas Karlsson Chief Executive Officer Oslo-Stockholm 2 55 Sergio Bárcena Director of Operations Planning and Maintenance OUIGO España Hélène Valenzuela General Manager OUIGO España R&D Process Engineer Sustainable Resilient Systems Pandrol SRS Sales & Marketing Manager Pandrol SRS Juan Lazcano International Affairs Director Justus Hartkamp ProRail Program Manager Datalab Paul Kootwiik ProRail Chief Technical Officer and Member of the Management Board **Emilien Dang** Rail Baltica Christophe Lemain Rail Logistics Europe Kristoffer Tamsons Railway Industry Collaboration Council Chairman Executive Director Regional Transportation Authority Chicago Leanne Redden Head of Energy Efficiency Irene Donaire Renfe Operadora Renfe Operadora Valentín Alegría Director Innovación y Desarrollo Red Renfe Operadora Pilar Gorriz Ramon Head of Innovation Renfe Operadora Chief Financial Officer Teresa Torres Renfe Operadora Manel Villalante Chief Strategy And Development Officer Renfe Operadora Stefano Marcoccio Project Manager, ERTMS Unit Rete Ferroviaria Italiana Vera Fiorani Chief Executive Officer Rete Ferroviaria Italiana Gianniero Strisciuolio Chief Executive Office Rete Ferroviaria Italiana Head of ERTMS National Program Fabio Senesi RFI - Rete Ferroviaria Italiana Managing Director Spain and Chief Sales Officer Europe Christian Coletta RSA Luxemboura

Risk Consulting Director, UK and Europe

vantages, is key to the promotion of sustainable mobility. And in this process, it is very necessary to have professionals to help implement new developments, strengthen innovation, and move towards the digitalisation of the industry.

Progress in terms of green mobility is linked to the creation of jobs in all subsectors, as well as the incorporation of new profiles specialised in sustainability, the environment, blockchain, telecommunications, cybersecurity, operators, assistants, new construction modelling methodologies, etc. All of these are fields with great employment prospects, together with human resource management, corporate social responsibility, or digital marketing, among others

The challenges are multiple, and it is necessary to have professional profiles that contribute their qualities, specialisation, and know-how to the development of the railway.

For this reason, on 1st December the congress agenda will feature several panels where experts from the sector will discuss topics related to talent such as: How to make the railway an attractive sector for employment? And where presentations will be given on the "Key competencies needed by the sector" as well as "Turning the railway into an attractive and diverse professional option for talent".

One of the objectives is to set out the framework for a fruitful collaboration between the railway industry, academic institutions, and governments to attract and retain talent.

Dan Mandoc

Sandra Gehenot

Marta Garcia

Ana Manuelito

Achila Mazini

Rabee Jibrin

Mani Entezami

Nirdosh Gupta

Mark Gibbs

Philipp Langer

Shandha Louis

Angela di Febbraro

Dania Abdulwahal

Patricia Nieto Esteban

Head of FRMCS

Director Freight

Industrial Fellow

PhD Researcher

Technical Affairs Manager

Knowledge management consultant

Professor of Transportation Engineering

Global Market Director - Train Networks

Director of Engagement & Continuous Improvement- Community Services Bureau

Head of Metro Operations Support

Public Affairs Manager

Senior Research Fellow

Joint General Manager

Business Development Manager

In addition, there will be an area where companies will be able to present their employment opportunities and the type of profiles they require to complete their teams.



Director of international affairs department Claudio Büchel Rail System Expert Technology Programme Manager Thomas Gugler Ania-Maria Sonntag Head Of Digital Transformation Manuel Herrmann Stakeholdermanagement and Regulation Joaquim Daura Energy & Sustainability Services Martina Tomé Power Systems VP Solutions Architect Jordi Fernandez Federico Zenith Senior Scientist Head of European and International HR Affairs Barbara Grau Project Manager for Tech4rail Localisation Valentin Barreau Project Manager, OCORA Etienne Kuntzel Adrien Gharios Navigation System Architect BIM Manager and Head of a BIM and 2D Synthesis Unit Léa Loucas Alain Ouinet Chief Operating Officer Alexis de Pommerol Line Director Peter Verlič Chairman Hans Cruse Director Pablo Juan area sales manager Maximillian Lopez area sales manager Head of EU Standardisation ATO & CCS Onboard Jack Schneider Sonja Rühl Project Manager Andreas Wenz Technical Project Manager Localisation Massimiliano Rizzato International Telecom Standardisation Manage Regional Sales Manager UK, Ireland and France laime Teresa Lanza Directora Planificacion, Calidad y Logística Mercedes Izarra Transport Solutions Product Manager Sonia Miquel Managing Director Sean Willis Gemma Salazar VP Strategy, Marketing & Communication, Technical and Innovation Cristina Merino **ERTMS Verification Engineer** Clemente Nuñez **ERTMS Operation Manager** Andy Nichols Senior Lecturer in Water Engineering & General Engineering Course Director Martin Fenner Director Carlos liménez Pérez Director del area de Organizacion y Personas Ulrika Geeraedts Director New Main Line Chief Executive Officer Woiciech Bartelski Chief Executive Officer Idoia Galindo GM Engineering David Barnett Chief, Rail and Aviation RD&D Matthew Krech Matei Zakonisek Director of Permanent Secretariat Glvnn Barton Chief Operating Officer Nicola Small City Region Sustainable Transport Settlement (CRSTS) Programme Director Jessica Outeiriño Directora de Planificación Estratègica de Metro Oscar Playà Velasco Director General Red de Metro Iordi Micas Pedescoll Director Mantenimiento Y Provectos Paolo Masini Head Of Rolling Stock Technology And System Engineering Jose Cordovilla Director of Infrastructure Advisory Services Ralf Charley Schultze President Program Manager Rail Energy, Emissions and Engine Technology Research Melissa Shurland Head of Digital Modelling Pierre Tane Head of Operations & Safety Frédéric Henor

RAILLIVE S.Z.D.C. SBB Cargo SBB Cargo Schneider Electric España Schneider Flectric España Schneider Electric España SINTER SNCF SNCF SNCF SNCF SNCF Reseau SNCF Reseau Societe Du Grand Paris South East Europe Strategic Alliance for Rail Innovation (SEESARI) Spårvagnsstäderna Stadler Rail Stadler Rail Swiss Federal Railway, SBB AG Talgo Teltronic Terrapinn Holdings Ltd Thales España Thales España The University of Sheffield Tilt Consultina TMR TRAFIKVERKET Tramwaie Warszawskie Sp Zoo Transfesa Logistics Translink Transport Canada Innovation Centre Transport Community Transport for Londor Transport for West Midlands (TFWIM) Transports Metropolitans De Barcelona Transports Metropolitans De Barcelona Transports Metropolitans De Barcelona Trenitalia U.S. Department of Transportation UIC LINIEE UNIFE Université de l'Ingénierie University of Birmingham University of Birmingham University of Birmingham University of Genoa Uttar Pradesh Metro Rail Corporation Vector Informatik GmbH Wiener Linier

40 MAFEX 41

RSA Luxembourd

An agenda with all the current issues

FROM DIGITAL TRANSFORMATION TO FREIGHT TRANSPORT, RAIL LIVE! 2023 WILL ANALYSE IN DETAIL THE MOST CURRENT ISSUES IN THE RAILWAY SECTOR, SUCH AS:

ENERGY AND CLIMATE RESILIENCE

The railway is a very sustainable mode of transport due to its ability to move large numbers of people and the use of renewable energies. However, challenges remain around diversifying energy efficiency, choosing materials and adapting to changes caused by

climate change. The "Energy and Climate Resilience" part of the congress will address key issues around decarbonisation, climate resilience and adaptation strategies, the circular economy and energy diversification in the railway sector.

DIGITAL TRANSFORMATION

Digital Transformation will encompass the key digital products and innovations that continue to push the boundaries of the railway industry for better, more efficient and cost-effective performance.

From the latest uses of GIS and digital twin that revolutionise railway infrastructure projects to new predictive maintenance capabilities that give us greater insights. The key

topics of this part of the congress agenda will be "Digital Twins" and the creation of large-scale models, current and future GIS case studies, emerging infrastructure and building technologies, development of predictive maintenance capabilities, accessing and making the most of Big Data, promotion of digital innovations in the railway, drone and satellite technology and railway digital tracking technology, among others.

MEGAPROJECTS AND FINANCING

The progress of the railway around the world continues strengthening steadily. Proof of this are the large investments being made to expand passenger and freight transport. Rail Live! It will dedicate a series of specific sessions to the mega projects currently underway on several continents. The new and innovative financing models being implemented by institutional investors to ensure the necessary funds are accessible to the railway will be explored, while learning the details of some of the largest projects and best practices.

INFRASTRUCTURE

Railway infrastructures are under great pressure to optimise their capacity and reliability while reducing costs. The new technologies, advancements in materials and industry solutions make it possible to talk about smart infrastructures. The weight of all these developments will be elaborated on in a wide range of presentations within Rail Live! An extensive topic that covers aspects such as innovations in track assembly, turnouts for freight trains or real-time monitoring with artificial intelligence (AI).

SMART MOBILITY

Smart cities are starting to become a reality. The use of information technologies (IT) and communications (ICT) allow to interconnect all services and processes and also to ensure their energy, environmental, economic and social sustainability. Discovering the future of mobility, active travel, MaaS and multimodal travel will be situations that the attendees will be able to enjoy at this summit.

METRO AND LIGHT RAIL

Metro and light rail systems are part of the backbone of sustainable mobility in cities. As they grow and expand, their importance in ensuring ease of access and convenience is increasing.

The congress will analyse how these systems can be made more accessible and integrated with other modes of transport to encourage the use of public transport over private vehicles.

FREIGHT

To reach net-zero emissions, the freight transport sector urgently needs to increase the use of rail and intermodal solutions. The congress will explore solutions to the main challenges, as well as the technology, regulation, business planning and collaboration.

SPANISH SYMPOSIUM

The Spanish symposium is an opportunity for the national public to learn first-hand about the projects and areas of innovation of the collaborating entities participating in Rail Live. Each entity organises interactive sessions in which it involves the entire supply chain to showcase the most relevant and pioneering issues in the Spanish railway sector, as well as its organisations.

CYBERSECURITY

Safety has always been a priority of the railway industry. Today, this priority has expanded far beyond the physical and into the digital realm. The safety, security and cybersecurity summit will explore a holistic view of safety to discuss how the railway can be guaranteed as the safest method of travel thanks to the track and level crossing safety, staff training and management, and the new cybersecurity directives, among other topics.

SIGNALLING

State-of-the-art railway controls and innovative signalling systems are at a crucial moment in their development. The roll-out of ERTMS and of cutting-edge signalling and telecommunications systems, which aim to revolutionise track capabilities, continues to accelerate, while

the industry debates how best to work towards interoperability. The space dedicated to signalling and train control will present key case studies and a long-term vision to help us understand what the future of train signalling and control looks like.





Mafex will organise two "Innovation Tours" and will moderate the "area of innovation projects" of different consortia

n order to give visibility to the technological capabilities of the Spanish railway sector, Mafex will organise guided tours of the participating stands so that interested companies can showcase their product, prototype, technological solution or innovative service and present it to the audience. An itinerary will be prepared so that anyone interested can attend as a visitor. A tour that aims to highlight the value of the innovation ecosystem of the sector and that will take place on the 30th at 10:30hrs and 15:00hrs.

On the other hand, Mafex will present and moderate an area of "Innovation Projects" so that entities can disseminate its results.

It will be used to present the results of ongoing innovative projects in 10-minute intervals during the 29th and the 30th of November from 14:30hrs to 16.00hrs.

Innovation Zone

The exhibition has its own Startup Village where the railway leaders of the future can be met. In this edition, Rail Live! will support the development of innovation and SMEs in the railway sector by inviting the event to showcase its solutions to more than 100 leading companies that are revolutionising the industry. The startup launch zone will enable to hear about these initiatives and what their solutions. technologies and ideas could do for the different organisations that are part of the event.



INNOVATION TOUR 1

Te invitamos a conocer las capacidades tecnológicas del sector ferroviario español de la mano de los expositores.

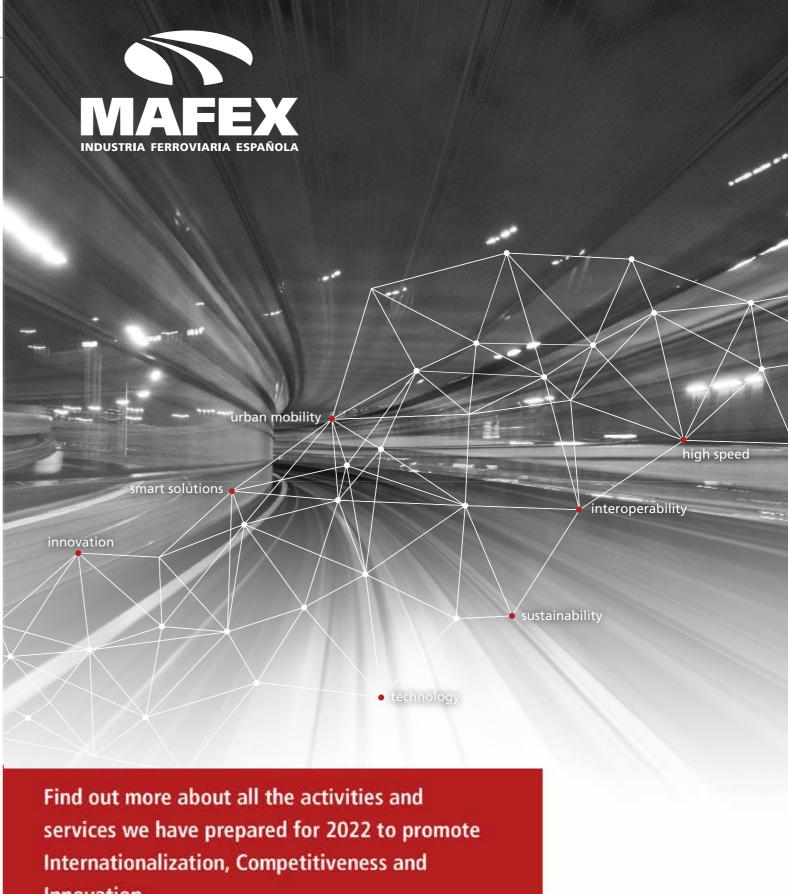
INNO	VATION TOUR 1. Inicio 10.30 h
Horario	PONENTES
10.20-10.30	MAFEX: punto de encuentro
10.35-10.40	CEIT
10.45-10.50	ALSTOM
10.55-11.00	SICE
11.05-11.10	TELDAT
11.15-11.20	TYPSA
11.25-11.10	INECO
11.35-11.40	YELTRONIC
11.45-11.50	ARCELORMITTAL
11.55-12.00	CAF
12.05-12.10	VOESTALPINE RAILWAY SYSTEMS



INNOVATION TOUR 2

Te invitamos a conocer las capacidades tecnológicas del sector ferroviario español de la mano de los expositores.

INNOVATION TOUR 2: Inicio 15:00 h								
Horario	PONENTES							
14:50-15:00	MAFEX: punto de encuentro							
15:05-15:10	SENER							
15:15-15:20	ELECTRANS							
15:25-15:30	ABB							
15:35-15:40	MAINRAIL							
15:45-15:50	CITEF							
15:55-16:00	CMU							
16:05-16:10	INDRA							
16:15-16:20	VIRLAB							
16:25-16:30	THALES							



Innovation.

mafex@mafex.es | 00 34 944 706 504



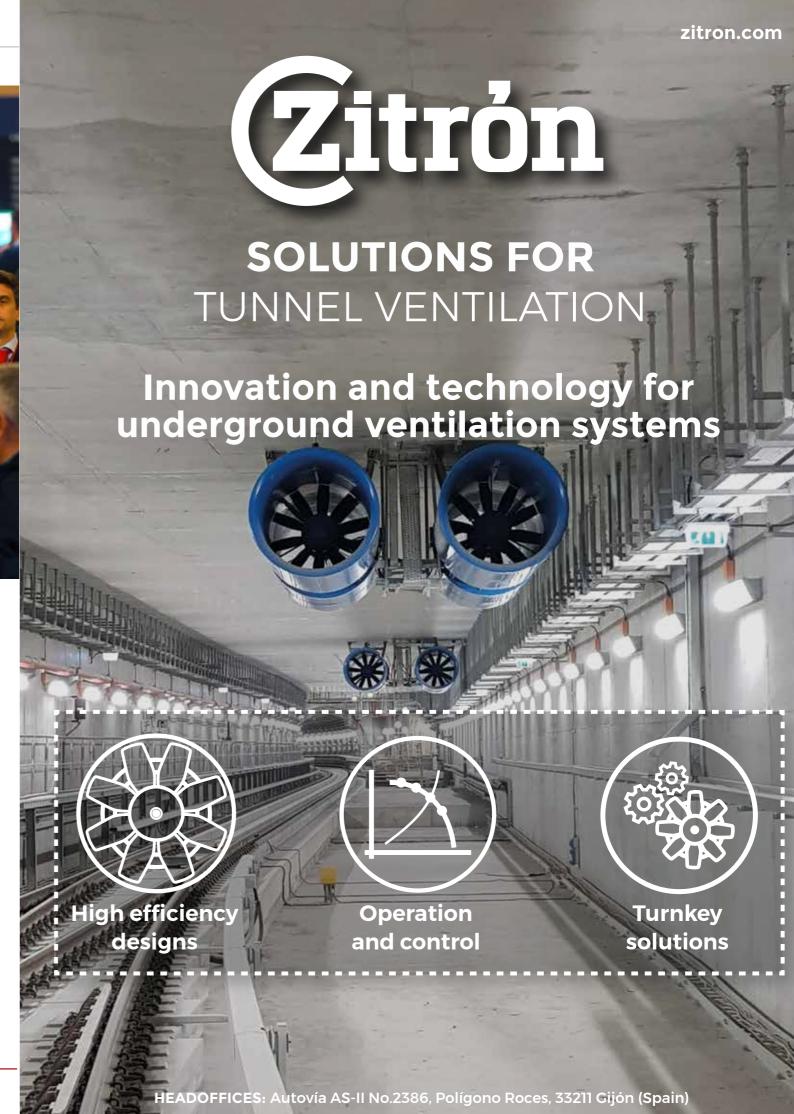
An exhibition with the most cuttingedge solutions in the industry

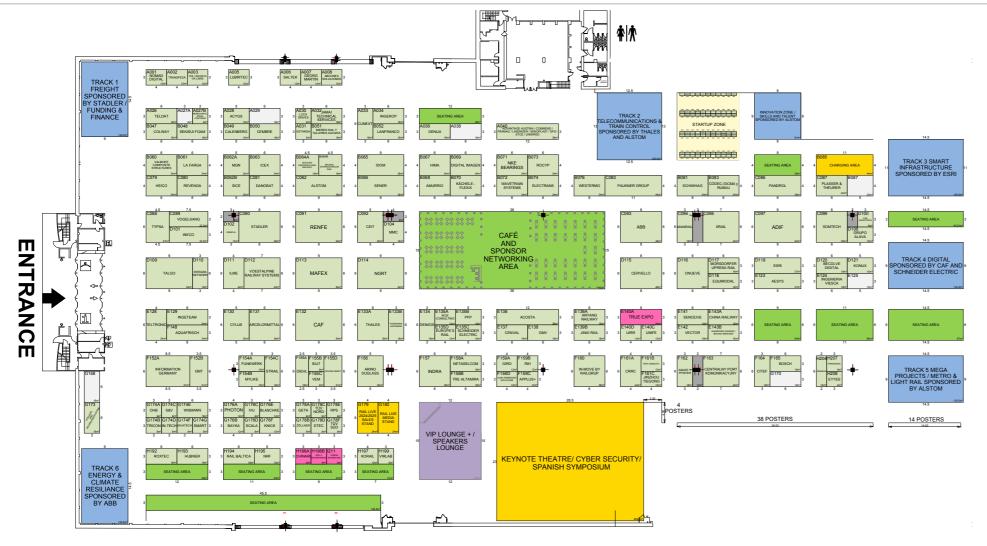
ail Live! 2023's exhibition area comes loaded with new features. This is an area where the world's railway industry leading solution providers come together. A meeting point for attendees to learn first-hand about the latest technological advancements, as well as the wide and specialised range of solutions and products that will respond to the demands required by the new transport systems, manufacturers of rolling stock and auxiliary industry and companies in the world of telecommunications. signalling and safety.

This broad exhibition highlights the industry's great commitment to R+D. This year more than 250 MORE THAN 250 EXHIBITORS FROM ALL SUBSECTORS OF THE RAIL CHAIN WILL ATTEND THIS YEAR.



exhibitors from all subsectors of the rail chain will be present, including civil engineering, construction, track innovation, new tools, rolling stock and construction companies.







Mafex is among the represented exhibitors having its own stand, number D113. In this space it will showcase the extensive activity carried out in terms of representation, support, and promotion of a leading industry, which is a benchmark in the world.

COMPANY	STAND	COMPANY	STAND	COMPANY	STAND	COMPANY	STAND	COMPANY	STAND	COMPANY	STAND
12CM	H197	CITEF	F164	GETA	G178A	LATTICE	S48	PTV	F160	STCE	A040
3D SPARK GMBH	\$38	CÓDEC OBRAS, SERVICIOS Y PROYECTOS, S.L.	B083	GICMA	B083	LDA AUDIO TECH	D100	RAIL LIVE 2024/2025 SALES STAND	G179	STRAIL	F154C
4D PIONEERS	S67	COLWAY INDUSTRIAL	B047	GIRO INC.	F159A	LENZ LABS	S49	RAIL LIVE MEDIA STAND	G180	TALGO	D109
ABB	C093	COMMEND	A040	GMT GUMMI-METALL-TECHNIK GMBH	F152B	LINSINGER	A040	RAIL SYNC	S22	TALLERES ALLEGRIA	B051
ABCONEX	A008	CONROO GMBH	58	ELEKTRO-THERMIT GMBH & CO. KG		LOCK DRIVES // LOCKANTRIEBSTECHNIK	A030	RAILWAY ACADEMY	S64	TANINE	H197
ACOSTA INGENIEROS SL	E136	CONSEQUENCE	S33	(A GOLDSCHMIDT COMPANY)	F155D	LUBRITEC	A005	RAILWAY INNOVATION HUB	F159B	TECHONBOARD	S6
ACYGS	A028	CONTRAIL MACHINERY	B079	GREEMKO	S1	MACHINERIC	S29	RB RAIL AS	H194	TEKMON	S63
ADIF	C097	COSMOS ENGINEERING SL	S44	HADRIAN	S20	MADIT	S52	RECARBON	S2	TELDAT	A026
ADVANTAGE AUSTRIA	A040	CRRC	F161A	HANNING & KAHL	C083	MAFEX	D113	RECLOUD	S62	TELTRONIC	E128 S10
AESYS SPA	E123	CUNEXT COPPER INDUSTRIES	A033	HEICO FASTENERS, S.A.U.	C079	MAINRAIL	C094	RELESOFT	S21	TELXAI	
ALAVA INGENIEROS	D108	CYLUS CYBERSECURITY	E130	HIMA PAUL HILDEBRANDT GMBH	B067	MECHATNOM	S59	RELOG3P	S13	TENNDERS EUROPE SL	S30
ALEIOS	S24	DANOBAT	C081	HOVERING SOLUTIONS	S23	MEDIA MICROCOMPUTER S.L.	D104	RENFE	C091	THALES TRAFAG	E133A F160
ALLREAD MACHINE LEARNING TECHNOLOGI	ES S28	DATUUM.AI	S56	HUBNER	H193	MGN TRANSFORMACIONES DEL CAUCHO, SA	B062A	REVENGA SMART SOLUTIONS	C080	TRANSFESA	A002
ALSTOM	C082	DEIMOS	E134	HYPERTUNNEL	S53	MIERES RAIL S.A.	B051	RHENUS WAREHOUSING SOLUTIONS	H204	TRE ALTAMIRA SLU	F158B
AMURRIO FERROCARRIL Y EOUIPOS SA	B068	DELTAVISION GMBH	S46	HYPERVISOUL GROUP	S57	MIIVO MOBILITY	S5	ROCYP CONSTRUCCIONES	B073		G174B
ANGOKA	S12	DENEVA	D102	ICEX	B063	MOBIFI	S15	ROXTEC ESPAÑA	H192	TRICON TRUE NORTH RAIL LTD	G1748 S58
ANGST+PFISTER	F162	DETEKTIA	S68	IDOM	B065	MOBITO	S4	RAIL POWER SYSTEMS	G178F	TÜV NORD	G178C
ANSITEC	F160	DEVELOPAIR	S40	IKOS CONSULTING IBERIA	E135A	MOÏZ	S55	RUBAU	B083	TÜV SÜD	G178F
ANYANG RAILWAY	E139A	DIEHL AVIATION GILCHING	F155A	ILME SPA	D111	MONIRAIL LTD	S19	SALTEK	A006	TYPSA	C088
APPLUS+	F159C	DIGITAL IMAGEN	B069	INDRA	F157	MOSDORFER UPRESA RAIL SAU	D117	SCALA MESSZEUGE	G176D	UIRR	E140D
AOUAFRISCH SL	F148	DILAX	F160	INECO	D101	MYLIKE	F154B	SCHLIESS- UND SICHERUNGSSYSTEME GMBH	G173	ULMA EMBEDDED SOLUTIONS	F159D
ARCELORMITTAL COMERCIAL PERFILES ESPANA . S	L E131	DIRECTRAINS	S50	INFORMATION GERMANY	F152A	NANOSTINE	S47	SCHNEIDER ELECTRIC SPAIN SAU	E135C	UNIFF — THE RAIL SUPPLY INDUSTRY ASSOCIAT	
ARINO DUGLASS	F156	DRIVETRUST	S16	INGENIERÍA VIESCA	E124	NETASELCOM	F158A	SCHREY & VEIT	G174C	UNWIRED	A040
ASOCIACION ESPANOLA DE TRANSPORTE	A038	DTEC	G178D	INGEROP T3 SLU	A034	NGRT	D114	SCHWIHAG	B081	USYNCRO	S45
AXO	542	ELECTRANS	B074	INGETEAM POWER TECHNOLOGY S.A	E129	NKE BEARINGS	B071	SEKISUI FOAM INTERNATIONAL	B048	UTECH	H197
BAYERISCHE KABELWERKE AG	G176B	ENLIL	S35	IN-MOVE BY RAILGRUP	F160	NOMAD DIGITAL	A001	SENCEIVE	E141	VAPAR	S27
BEIJING RDEKONO	E143B	ENRAIL	S61	INNDEX	S11	NRF	H195	SENER	B066	VECTOR	E142
BEIJING ZHONGGUANCUN RAIL	B064B	EPTS LTD	569	IN-TECH	G174D	OHB	G174A	SENOPLAST	A040	VEM	F155C
BELCOVE DIGITAL	D120	EOUIMODAL	D118	INTEGRA NETWORK	D110	ONUEVE	D116	SHANDONG ZHIHENG	E143B	VIA LIBRE	A003
BERECIARTU STEEL CASTINGS	A027B	ESRI	D119	INVATECH	G174F	OPSIS	560	SIALI	S39	VIRLAB	H199
BILDIA	S37	ESTANDA	A031	IVU	G176C	OPTIMUS	F160	SICE	B062B	VOESTALPINE RAILWAY SYSTEMS GMBH	D112
BLASCHKE UMWELTTECHNIK GMBH	G176E	ESTOKO	S32	J LANFRANCO AND CIE	B052	OSTIRION SLU	S36	SICHUAN UNICORN-CHINA RAILWAY	B064A	VOGELSANG	C089
BOSCH ENGINEERING GMBH	F165	EUROPE'S RAIL	E135D	JAMAI TECHNICAL SERVICES	A032	PANASONIC	F160	SIUT	F155B	VOSSLOH FASTENING SYSTEMS	C083
BRIC	A027A	EYYES	H208	JINXIE AXLE	E139B	PANDROL	C086	SIVERUS SL	S14	WARP VR	S18
CAF	E132	FRAMAG	A040	JINZHOU TIEGONG	F161C	PANORAMA ANTENNAS	E133B	SMART RAILWAY TECHNOLOGY	G174G	WAVETRAIN	B072
CALENBERG INGENIEURE GMBH	B049	FRONTLINE	S51	KACHELE - FLEXIX, S.A.	B070	PANTOHEAITH	S34	SMART SENSUM	S26	WAY ASSAUTO	F161B
CEIT	C092	FUNKWERK	F154A	KNICK ELEKTRONISCHE MESSGERÄTE	G176F	PAUKNER	C083	SNAPFAST	S31	WESTERMO	B076
CEMBRE	B050	G.M.V.	E138	KONUX GMBH	D121	PFP - PORTUGUESE RAILWAY PLATFORM	E135B	SOMTECH	C099	WILHELM WISSMANN GMBH	G174E
CENVAL. S.L.	E137	GALVANI POWER	S41	KORAIL	H197	PHOTON LASER MANUFACTURING	G176A	SPINSWITCH TECHNOLOGIES	S66	WINDHOFF	C083
CERVELLO	D115	GENUA GMBH	A036	KOREA UNIVERSITY	H197	PLASMA TRACK	S17	SPS	A040	XRAIL	C095
CHINA RAILWAY	E143A	GEORG MARTIN	A007	LA FARGA	B061	PLASSER & THEURER	C087	STADLER RAIL	C090	ZOLLNER SIGNAL	G178B
CHINA IVALLIVAT	LIHUM	GLONG WANTIN	AUUT			I DOSEN & THEONEN	2007				230



ASEA BROWN S.A. (ABB)

ABB participates in Rail Live 2023, the benchmark event for the global railway sector. At its stand C093, the multinational company will show its new electrification, traction systems and energy storage for railway transport.

ABB has a long history in the sector providing innovative and energy-efficient technologies, manufacturing and servicing components and subsystems in urban, interurban, and highspeed networks for railway infrastructure and rolling stock; and providing full lifecycle service support for our large global installed base.





▶ Stand C093

comunicacion.corporativa@es.abb.com

ACYGS SALES MANAGEMENT, S.L.

ACYGS supplies and integrates equipment for railway maintenance workshops, construction machinery and track maintenance; being exclusive distributors in Spain of top-level manufacturers for any type of need in the railway sector. ACYGS provides global solutions to public and private clients. In addition, ACYGS offers engineering services to define and manage railway workshop projects,

- Feasibility studies
- Definition of workshop equipment
- urnkey projects
- mprovement of technical maintenance instructions
- Design and optimization of the layout (BIM) and workflow in maintenance workshops
- Design and manufacture of railway tools
- Certification of track machinery in the RFIG

info@acygs.com

(**\sqrt**) +34 914 855 288

▶ Stand A028





▶ Stand C082

ALSTOM ESPAÑA

At Rail Live! 2023, Alstom Spain will showcase its commitment to sustainable, smart, accessible, safe and efficient mobility. Both in the booth and in the conference area, the company will explain how it applies the latest technologies (artificial intelligence, data analytics, virtual reality, IoT, etc.) to develop new solutions.

In addition, as event's talent partner, Alstom reinforces its commitment to job creation, diversity, training and the development of a corporate culture that puts people at the heart of the business. Alstom is the only company in its sector with the triple Top Employer accreditation, at Spanish, European and Global level.





■ javier.hinojal-calvo@alstomgroup.com

(**\cdot**) +34 609 825 776

Amurrio is a global leader in design and manufacture of complete

rail turnouts for all types of applications: High Speed, conventional rail, Urban Rail or Heavy Haul.

AMURRIO FERROCARRIL Y EOUIPOS, S.A.

Since 1880, it has developed a knowledge and expertise that allows it to approach a large project with hundreds of links or a specific problem that requires an innovative solution with the same efficiency. Amurrio has its own foundry and specializes in the design and manufacture of monobloc crossings molded in manganese steel, which delivers flash butt welded to rail in their own facilities.



info@amufer.es

(**\cdot**) +34 945 891 600



▶ Stand F159C

▶ Stand B068

APPI US+ LABORATORIES

Applus+ Laboratories a division of the Applus+ Group, provides testing, certification and development engineering services for a wide range of industries. In the railway sector, Applus+ Laboratories conducts operational stress measurements; electromagnetic compatibility (EMC) testing; environmental testing for onboard electronic components; the characterization of rolling stock; and fire reaction and resistance testing.

From bogies, complete railcars and onboard electronics; to seats and bulkheads, they provide support to ensure that all railway components meet the highest quality and safety standards.



info@appluslaboratories.com

(+34 93 567 20 00



AQUAFRISCH, S.L.

Aguafrisch: a leading manufacturer of machinery for railway workshops and drinking, waste and industrial water treatment on all five continents.

Aquafrisch is a family-owned company founded in 1996. In the beginning, Aquafrisch was only dedicated to water treatment and, like all companies, after the first steps, it started to make its way. Gradually we entered the railway sector and in particular in the area of washing / maintenance of rolling stock and knowing the customer's needs

Today Aquafrisch is consolidated as a manufacturer of machinery for workshops and water treatment equipment.

Our products range from train washing systems, bogie washing cabins, watertightness gantries, sand dispensers...

We have spread all over the national territory and we have a solid presence in international markets, exporting almost 90% of our production.

+34 608 112 384





Aquafrisch

pmartinez@aquafrisch.com

MAFFX 51 50 MAFEX

ARCFI ORMITTAL

ArcelorMittal as a leading rail producer, offers a wide portfolio of solutions for railways, subways, tramways, light-rail tracks, crossings, crane rails and rail components. We complete our offer with special products such as cathode bars, track shoes and mining sections.

We are involved in designing rail-based solutions as: low carbon grades for tramway, new hardness grades for heavy haul and RailCor ® products, a new range of corrosion-resistant rails.

ArcelorMittal is committed to leading our industry's efforts to decarbonize, with a further ambition to be carbon neutral by 2050.

cristina.alvarez-suarez@arcelormittal.com

(**\cdot**) +34 649 408 739





▶ Stand F156

▶ Stand E131

ARIÑO DUGI ASS

Ariño Duglass is one of the first independent European companies fully dedicated to the design, manufacturing and distribution of glass.

Extensive experience that commenced in 1952 and customer trust along the years, has put us at the forefront, placing the group amongst the elite in the sector.



duglass@duglass.com

(**\sqrt**) +34 976 108 008



Virtual booth

BUREAU VERITAS INSPECCIÓN Y TESTING (GRUPO BUREAU VERITAS)

Bureau Veritas is a world leader in Testing, Inspection and Certification (TIC), with nearly 80,000 professionals present in 140 countries.

As an entity of recognized prestige in the railway sector, Bureau Veritas is:

- NoBo for Interoperability Directives.
- DeBo for Notified National Regulations.
- ISA/AsBo accredited for all subsystems.

Bureau Veritas offers TIC services in the field of Cybersecurity for multiple sectors, in particular the railway sector, through its CoE in the Netherlands, under the main cybersecurity standards, being the outstanding world leader in certification according to ISO/IEC 62443.

infoesp@bureauveritas.com (**\cdot**) +34 91 270 22 00





CAF

CAF is one of the international leaders in the design and supply of comprehensive transportation systems. A benchmark in sustainable mobility solutions, the company offers a wide range of products and services that includes the supply of trains, buses, components, signaling systems, services and concessions and comprehensive systems.

In terms of rolling stock, CAF designs, supplies and maintains highspeed trains, regional and commuter units, locomotives, metros and tramways.

Today, the company is present in more than 55 countries around the world and has a workforce of more than 14,000 people.

caf@caf.net

(**\sqrt**) +34 943 88 01 00





▶ Stand E132

CAF POWER & AUTOMATION

CAF Power & Automation is a global reference in the design and manufacture of railway systems. A technological subsidiary of the CAF Group, it develops solutions for traction, control and communication, and on-board energy accumulation, which are integrated in railway vehicles in 32 countries.

Therefore, it has a broad background, in which research, innovation and the desire to excel are constants.

The company has a workforce of more than 300 multidisciplinary employees specialised in power electronics, automation and communications, distributed in the headquarters in San Sebastian, Irura and Madrid, as well as in the commercial offices in India.

info@cafpower.com

(**\cdot**) +34 943 309 251

▶ Stand E132





▶ Stand E132

CAF SIGNALLING

CAF Signalling is the technological subsidiary of the CAF Group dedicated to the design, development, manufacture, supply and maintenance of Railway Signalling Systems, providing integral signalling solutions in infrastructure and rolling stock, both in Spain and internationally.

It has the capacity and in-house engineering to undertake "turnkey" railway signalling projects, being recognised as such in different railway administrations in Spain and in other countries in Europe, America, Africa, the Middle East and Asia.

(**\sqrt**) +34 943 80 55 75





informacion@cafsignalling.com

MAFEX 53

3AILLIVE

CAF TURNKEY & ENGINEERING

We are the CAF Group business unit which manages the development of comprehensive projects for sustainable mobility infrastructures. We design, build and integrate high capacity and performance transport systems under the turnkey scheme.

We are distinctive for working with an agile and streamlined process that spans the entire project life cycle, from the planning and requirements definition to the operations, tunning and maintenance phase, optimizing resources and providing tailor-made solutions. We boast an international multidisciplinary team which covers all the needs and requirements that these types of projects entail, thereby allowing us to guarantee the turnkey solution that best adapts to each case.

info@cafte.com

+34 946 819 550





▶ Stand C092

▶ Stand E132

CEIT

Created in 1982 on the initiative of the University of Navarra, Ceit is a non-profit Technology Centre that uses its high specialisation in advanced manufacturing, mobility, sustainability and information technologies to develop industrial applied research projects in close collaboration with companies.

With more than 20 years of experience collaborating with companies in the railway sector, is a leader in the development of cutting-edge technological products and services as well as in activities that include system design, modelling, experimental characterization, development and validation.

infoceit@ceit.es

+34 943 21 28 00





▶ Stand B047

COLWAY FERROVIARIA, S.L.

COLWAY Ferroviaria is specialized in toilet modules, interiors and special projects and refurbishment of rolling stock.

For WC modules we offer development, validation and supply of complete STD and PRM modules, in compliance with the TSI.

For interiors and special projects, we offer solutions for the entire interior and for special components such as restaurant and particular seats, PRM or comfort areas or sleeping cabins.

For refurbishment, we offer complete interior and exterior modernization of our clients' coaches at our facilities or customer premises

 $\begin{tabular}{l} \blacksquare \end{tabular} jlperalta@colwayferroviaria.com$

(1) +34 93 414 65 12



CUNEXT

Cunext Group, in the way to continuous development, has created an entire cable product range for overhead line electrification, adapting at any speed from local transport to high speed line.

Our modern technology, together with a wide experience at cable and alloy manufacturing, makes us the best partner for railway companies offering best product quality and service.



albert_servalls@cunext.com

(**\cdot**) +34 600 98 16 05



▶ Stand A033

DANOBAT

DANOBAT, manufacturer of rolling stock maintenance equipment and solutions, has consolidated its international presence on four continents in 2023.

At the European level, DANOBAT has installed the first automated wheelset manufacturing line that outputs a fully assembled wheelset every 4 minutes. In addition, DANOBAT was awarded three underfloor wheel lathes -two of them tandem versions- for RENFE's new maintenance shops in Fuencarral and La Sagra.

In Asia and North America, the world's leading train manufacturers, Alstom and Siemens, have again placed their trust in DANOBAT. A special mention should be made for Alstom's megaproject of Tren Maya, for which DANOBAT will supply three underfloor wheel lathes. Finally, in Australia, DANOBAT will supply an underfloor wheel lathe for freight trains to SCT Logistics, including two types of heavy-duty diesel-electric locomotives.

This geographical diversification has enabled Danobat to strengthen its international positioning in the railway market.

ouria@danobat.com

(**\sqrt**) +34 605 775 223







ELECNOR DEIMOS

Elecnor Deimos is the technological subsidiary of the Elecnor Group that operates in the railway transportation sector, information and telecommunications systems, space, aeronautics and defense.

In the railway sector, Elecnor Deimos is responsible for the development and evolution of passenger information platforms and remote station management. In addition, the company is specialised in delivering comprehensive turnkey projects as well as the development, implementation, and maintenance of these systems.





deimos

tra.all.deimos@elecnor.es

(**t**) +34 918 06 34 50

ELECTROSISTEMAS BACH, S.A.

Electrans is leading innovation in the railway industry since 1977. Electrans stands out for developing its own product line, always being at the technology forefront.

Our long and successful career path has led us to become a key player in Rai-Iway Signalling, particularly in the field of level crossing protection solutions, signals and LED lighting and train detection.

Maximum commitment on each project. Our capacity for adaptation is our biggest asset. Today, the systems developed by Electrans are found in service around de world, becoming an international reference in the industry.

info@electrans.es

(**\scrtantial** +34 935 74 74 40



▶ Stand B074



▶ Stand A031

FUNDICIONES DEL ESTANDA

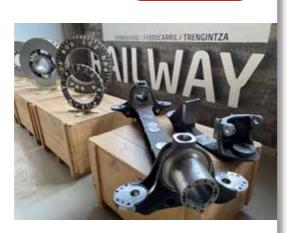
Specialized in high-performance Steel Casting and Machining; through our extensive know-how and automated facilities.

Long-standing Expertise in steel Brake Discs for the High Speed Train. As well as Undercarriage components, Coupling systems, Suspension spring supports and axle boxes. Our customer portfolio includes Knorr-Bremse, Alstom, CAF and Talgo.

Specific Sector Certifications: IRIS, Deutsche Bahn HPQ, and ISOs. Capacity of parts between 10 and 2,000 kg, in any steel alloy, including heattreatments and painting. Founded in 1953, we are more than 200 workers and more than 18,000 tons.

pcajaraville@estanda.com

(**\cdot**) +34 943 880 500





FLEXIX

FLEXIX

KÄCHELE-FLEXIX develops, manufactures and sell worldwide AN-TIVIBRATION, INJECTION and EXTRUSION RUBBER PARTS, rubbermetal, rubber-plastic, special elastomers and assemblies.

We produce in Germany and Spain at the highest levels of technology, with flexible, innovative processes and sustainability focus, to increase our competitiveness, quality and value.

Our products for the RAILWAY SECTOR, are mainly for infrastructures, for absorption of vibrations: unions for sleepers, pads under track, with different stiffness for the same geometry, materials with non-conductivity characteristics (or yes, if necessary), non-harmful gases (for closed spaces as tunnels), for different rail configurations.

flexix@flexix.com

(**t**) +34 944 977 180

▶ Stand B070 Track solutions

GMV

At the next 2023 edition of the Rail Live fair, GMV will present its new developments in intelligent systems for transportation, where it has a long international history. GMV will present its EMV ticketing and account-based ticketing systems for rail transport.

Advanced fleet management systems will also be present with the SAE-R product, present in a large number of clients and constantly evolving. Without forgetting the onboard systems, both passengers information systems and onboard video surveillance or public address and intercom systems.



+34 983 546 554





▶ Stand E138

ICON MULTIMEDIA

ICON Multimedia, a manufacturer of Digital Signage software and Passenger Information Systems. Our innovative DENEVA technology enables railway companies to provide real-time information to passengers and operators, enhancing efficiency and the travel experience.

With over 30 years of experience, ICON Multimedia is a trusted partner that delivers tailored tools to optimize communication in stations and trains. Our commitment to innovation, mobility, and adaptability positions us as a prominent player in the modernization of railway transportation, offering effective and appealing solutions to our clients.

adelrio@iconmm.com

(**\cdot**) +34 979 70 29 06

▶ Stand D102





▶ Stand B065

IDOM | Consulting, Engineering, Architecture

We have a strong track record in the planning, design, development, delivery, and management of rail and public transportation systems. We offer a wide range of services to a diverse clientele, guiding projects from initial conception, through development, regulatory approvals, construction, commissioning, and providing ongoing operation and maintenance support. We aim to provide innovative and sustainable rail engineering solutions that improve the safety, efficiency, and reliability of our clients operations.



IDOM

info.rail@idom.com

MAFEX 57

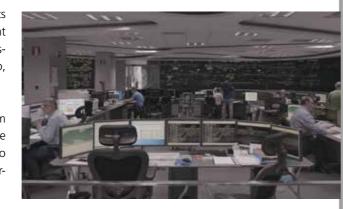


3AILLIVE

INDRA

Indra is one of the leading companies in the railway sector. Its state-of-the-art end-to-end solutions are at the global forefront of the sector and have been chosen by countries such as Australia, Holland, Ireland, Estonia, Lithuania, Saudi Arabia, Mexico, Colombia, Argentina, India and Spain, among others.

Indra continues to evolve its advanced technology with the aim of taking advantage of all the benefits of CiberRail IoT, satellite ERTMS, big data and Artificial Intelligence to turn the train into the center of the new mobility ecosystem and put it at the service of the traveler.



ammorenob@indra.es

(t) +34 916 271 260



▶ Stand D101

▶ Stand F157

INECO

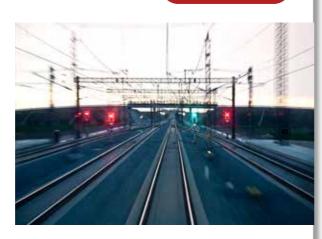
Experts in engineering and consultancy in sustainable mobility and digital transformation.

For 55 years, Ineco has been developing comprehensive, innovative and technological solutions which have allowed to advance towards a safer and more sustainable model of mobility. Ineco's solutions directly contribute to improving the quality of life of millions of people.

With a multidisciplinary team of 5,500 employees, the company is present in all the continents, in which it deploys its experience and capacity to undertake challenging projects. All this, thanks to its specialized knowledge and the implementation of state-of-the-art technology.

ineco@ineco.com

+34 914 511 200





INGFNIFRA VIFSCA

Ingeniería Viesca is a Spanish power electronics company that develops and manufacture a wide range of innovative custom-built high efficiency power electronics equipment, especially for railway applications.

Since our foundation in 2004 by a group of engineers with wide experience in this field, Research, Development and Innovation have been of paramount importance for us. Performance, reliability and quality are present in our solutions, among others:

- Auxiliary converters
- HVAC inverters
- Battery chargers
- Transformers
- Power supply cabinets
- Traction converters for historical vehicles
- comercial@ingenieriaviesca.com

+34 918 830 865

Stand E124





INGEROP T3

INGEROP T3 is an engineering company specialising in the transport, mobility and city sectors that has been operating in Spain since the 1990s. It has offices in Madrid, Barcelona, Granada and Seville.

In the transport sector, we offer a complete range of services for all guided transport modes, whether rail (metro, tram, high-speed train, conventional line, tram-train) or non-rail (bus and high service level bus, cable transport, etc.).

We support the latest innovations in electromobility, automation and autonomy of transport modes.

info@ingerop.es

+34 917 584 899







INGETEAM POWER TECHNOLOGY, S.A

Our Rail Live stand is intended to be a meeting point where you can interact with the Ingeteam team, who will be happy to give details about the latest projects carried out in the railway area: traction systems and converters for high-speed vehicles, locomotives and EMUs/ BEMUs.

We will also show the latest power modules developed and incorporated into INGETRAC converters. Today, we have supplied more than 700 electric and hybrid train sets, bringing our know-how to make rail transport more sustainable

traction@ingeteam.com

+34 944 039 600

▶ Stand E129



Ingeteam

I A FARGA

LA FARGA is your partner for the development of sustainable copper solutions.

In this edition RAILLIVE! 23 Introducing the first 100% recycled copper contact wire with the lowest carbon footprint on the market and generating a positive impact on society.

The solution for a circular and low-carbon future. An innovative product with the highest standards of quality and efficiency.

Cordially invite you to round-table discussion on CIRCULAR ECONOMY IN THE RAILWAY SECTOR.

NOVEMBER 30TH,2023 at 15 p.m

Chaired by experts from LA FARGA, ALSTOM, SCHNEIDER ELECTRIC, IRISH RAIL and MAFEX.

Discover more www.lafarga.es and LINKEDIN

(**\cdot**) +34 938 50 41 00

▶ Stand B061





3AILLIVE

LANDER SIMULATION & TRAINING SOLUTIONS

Lander is dedicated to the manufacture of customized driving simulators for professional drivers in the automotive and railway segments.

We work with multiple types of clients such as public organizations, railway operators, passenger transport, cargo, track machinery, emergency organizations, airport managers, railway infrastructure managers, driving schools, etc.





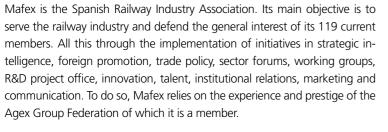
▶ Stand E132

iesteban@landersimulation.com

MAFEX

(**\cdot**) +34 629 966 158

▶ Stand D113



Mafex is also an active member of CEOE and UNIFE in addition to actively collaborating with the main public and private entities both national and international in the sector.



mafex@mafex.es

+34 944 706 504

MAINRAIL, S.L.

MainRail is a company specialized in the railway maintenance digitalization, with software solutions for asset management, operations management, analysis of data coming from the field and railway inspection equipment, as well as predictive maintenance modules based on AI and physical digital twins.

Our maintenance management software platform, developed with and for the railway sector, is already commercially used on more than 3,200 km of infrastructure and our first predictives models have been validated on 400 km of track.



info@mainrail.com

60 MAFEX

(**\script +34 662 574 768**



▶ Stand C094

MGN TRANSFORMACIONES DEL CAUCHO, S.A.

MGN was established in 1957 and since then it has been developing its activity both designing and manufacturing rubber-metal components, mainly for the railway industry.

MGN invests in research and innovation as a basis for the development of elements to be adapted in the new understanding of passenger and freight trains, taking the latest technological advances of the rubber world, vibration control and damping systems. - Primary and secondary suspensions. - Conical springs - Bushes and spherical bearings - Rods, Bogie subsystems - Pivot Bushes - Elastic Supports - Compression buffer and Draw Gear springs - Bellows, Gangway protections - Profiles, o-rings and seals.



 $m\Theta \cap$

▶ Stand B051

▶ Stand B062A

enp@mgncaucho.com

(+34 91 887 40 35

MIERES RAIL, S.A.

Mieres Rail S.A. is specialized at the design and manufacturing of railway turnout systems for Metro, conventional railways (up to 200 km/h), High Speed (up to 350 km/h), industrial and port lines or heavy haul (up to 36,3 Ton axle load) with may different technical features combining rail profiles and inclinations, gauges, types of sleepers, for ballasted or ballast less tracks, ..., for different operating conditions.



□ ricardo.corral@mieresrail.com

(**t**) +34 620 980 237



MOSDORFER

Activity: Manufacturer of components and systems for railway electrification.

Main products and services:

Catenary insulators, Cantilever fittings, Droppers and connection Clamps, Compensated tensioning devices Tensorex C+, Section insulators, Safety equipments, Tools and measure devices

Activities in the year:

Supply of catenary systems for new installations and maintenances of tramway, conventional and high speed contact lines for international and national projects (Spain, Arabia, Israel, Turkey, Ethiopia, Tanzania, México, Perú, Ecuador, Bolivia, Norway, Sweden, Lithuania). Supply of the compensated tensioning devices TENSOREX® C+ around the world.

david.ramos@mosdorfer.com

(+34 914 305 151







NEXT GENERATION RAIL TECHNOLOGIES, S.L.

NGRT is a Spanish company focusing on improving railway safety and efficiency, helping infrastructure managers and train operators to secure their infrastructure and operations.

The NGRT system is a true innovative real-time rail monitoring system identifying any problems/anomalies within the railway infrastructure, such as Broken Rail, Rockslide and Mudslides, Flooding, people and or animals on the track, damages to trains and rolling stock equipment's, securing that 2 trains are not on the same track at the same time, and more. NGRT is called the Game Changer by our clients.



▶ Stand D-114



▶ Stand H195

raa@ngrt.org

(+34 650 100 801

NRF

Since 1927 NRF is a leading manufacturer and supplier of cooling products for the automotive market, industrial, railway and marine sector. NRF is known for the production of high quality radiators, but also produces and supplies a large range of other engine cooling and air conditioning products.

NRF has global engineering, testing and development facilities. Rai-Iway and ship manufacturers, large retailers of vehicle parts, radiator shops and specialists in more than 80 countries worldwide daily rely on NRF's high quality products.



a.lara@nrf.eu

marketing@talgo.com

62 MAFEX

(+34 958 405 030

Stand D109



PATENTES TALGO, S.L.U.

Today, Talgo is the leading global reference for Spanish High Speed Technology and the number one player in Spain's railway market. Its key success factors are innovation, unique technology, sustainability, safety, competitiveness and tailor-made projects with clear focus on customer.



THE PARTY

(**\cdot**) +34 916 313 800



REVENGA INGENIEROS

Revenga Smart Solutions showcases at RailLive 2023 a rage of smart mobility technological solutions for railroads (high-speed, medium distance, commuter rail), metros and trams. From railway safety systems to passenger experience, safety and telecommunications systems.

- RailXcan: Railway inspection systems platform: hot boxes, flat wheel, broken rail detection, etc.
- RailRox: State-of-the-art SIL-4 level crossing protection
- XThings: Energy & Power remote control platform.
- RT2P: Real-time payment and operations management platform.

marketing@revenga.com

(+34 918 061 810 - +34 620 844 817





▶ Stand B066

▶ Stand C080

SENER

The engineering and technology group Sener participates in Rail Live 2023, presenting its comprehensive services for highly complex railway projects, from the planning phases to design and technical assistance in construction, operation and maintenance.

The company has a portfolio of projects that total more than 15,000 km of railway lines, shortening distances with sustainable and innovative solutions.

For more information about our projects and capabilities, we are at stand B066

mobility@sener.es

(**\cdot**) +34 918 077 000





SICF

SICE is a leading multinational company in the integration of technologies for public infrastructure management. It has become an international benchmark in the areas of intelligent transport and mobility, among others.

Offering a transversal vision that includes all project phases, SICE develops stateof-the-art integrated solutions and applications based on data science and artificial intelligence technologies.

SICE will be present in space B062B. Visitors will have the opportunity to learn about the cutting-edge solutions that SICE offers in key areas such as management, control and monitoring of railway infrastructures, or communications, ticketing, security and passenger information systems.





clopez@sice.com-janguita@sice.com

+34 916 232 200 - +34 916 232 200



SAILLIVE

STADLER RAIL VALENCIA, S.A.U.

Stadler has been building trains for over 80 years. The provider of mobility solutions in rail vehicle construction, service and signalling technology has its headquarters in Bussnang, Switzerland. It has a workforce of over 13,700 based in various production and engineering locations as well as more than 80 service locations. In Spain, the production and technology centre in Valencia employs more than 2,200 people.

The company is conscious of its social responsibility for sustainable mobility and therefore stands for innovative, sustainable and durable high-quality products. The product range in the field of mainline railways and city transport includes high-speed trains, intercity trains, regional and suburban trains, metros, tramways and tram-trains. Stadler also manufactures main-line locomotives, shunting locomotives and passenger carriages. It is the world's leading manufacturer in the rack-and-pinion rail vehicle industry.

stadler.valencia@stadlerrail.com

TALLERES ALEGRÍA, S.A.

(**\cdot**) + 34 961415000



▶ Stand C090



▶ Stand B051

Talleres Alegría, s.a. is a family owned company specialized since 1900 to design, manufacturing and after sales assistance of turnout systems, expansion devices, re-railers for metallic bridges, insulated joints and all kind of fixed track material, its accessories and spare parts.

Developing of Designing and Commissioning Integral projects of turnouts to be installed at Depots and Industrial Ports and Factories. Design, manufacturing, repair and maintenance of self propelled vehicles to carry out works at the infrastructure. Design, manufacturing, retrofitting, repair and maintenance of freight wagons.



(**\cdot**) +34 659 014 093





TFI DAT

Teldat is a European company that specializes in the design, development and manufacture of connectivity and cybersecurity solutions for businesses. Founded in 1985, the company has become a leading global provider in the telecommunications industry.

Teldat provides solutions with strong focus in Rail technologies (Cybersecurity, AI, LTE, 5G, satellite and Wi-Fi 6). Teldat has a high presence in train manufacturers and transport operators in worldwide projects (New Zealand, Australia, High speed trains in Spain, Saudi Arabia, trams in Israel) to name some of them.

Teldat will exhibit its latest cybersecurity and communications solutions for rolling stock applications.

ctovar@teldat.com

(**\cdot**) +34 686 688 058

Stand A026





TELTRONIC

Teltronic provides complete wireless communications solutions for transport sector, satisfying the most demanded needs in matters of voice and data, including integration with signalling applications and other railway subsystem.

The Spanish company offers TETRA, 4G/5G, as well as TETRA + broadband hybrid solutions. Its systems meet the levels of availability and safety required by mission-critical users and are designed to improve the efficiency and safety of operations.

With more than 100 transport communication systems deployed, its portfolio provide integrated solutions: communications infrastructure, onboard radio equipment, user consoles, portable and mobile radios, and Integrated Command & Control.

sales@teltronic.es

+34 686 688 058







THALES

A reliable player for green transport on rail

As a trusted partner, we support the transition to the digitalization and sustainability of our customers. Our cutting-edge technology boosts the most energy-efficient way to transport citizens and goods.

In this way, we share the path towards zero net missions as a real contributor actor.

lan, specifically for the fulfilment of SDG 10 on reducing inequalities.

comunicacion@urbanandmainlines.com

(**\sqrt**) +34 912 737 200

▶ Stand E133





TRAFAG ESPAÑA, S.L.

Trafag: Innovation, reliability, quality.
Innovation in design, long-term technical reliability and Swiss quality.

Manufacturer and distributor of railway solutions. From pressure, temperature, speed and level sensors to software platforms for vibration monitoring or predictive maintenance.

Application analysis, competitive prices for complete projects, logistical flexibility and quick response in the after-sales phase make us an ideal partner for the different companies in the railway sector. From rolling stock manufacturers to maintenance companies and operators, as well as subsystem manufacturers, we can collaborate with all of them, contributing our know-how and service.

Ivan.blanco@trafag.es

(+34 667 843 260

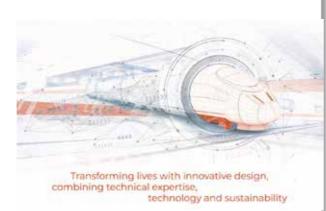
Stand F160





TYPSA

TYPSA is a leading transport consulting engineering Group delivering value through innovation, technology and sustainability. It has extensive experience in the planning, design, project management and construction supervision of urban mobility, high speed and conventional railway projects globally, and it is the partner of choice in large and complex projects, such as Toronto Metro, Sydney Metro, UK HS2, New Yavatmal-Nanded railway line in India and Dar es Salaam-Mwanza railway line in Tanzania. It has 3,400 staff spread in the five continents and applies the highest management, integrity and quality standards.





▶ Stand F159D

▶ Stand C088

iferguson@typsa.com

(+34 680 449 528

ULMA FORJA S.COOP.

Ulma Forja S.Coop is a cooperative company, part of Ulma Group and specialized in the manufacturing of Forged Components. With more than 50 years of experience and with two production plants (Oñati and Lazkao), we offer forged and machined components of high quality. We produce our pieces forged from a wide variety of materials to meet the different requirements and needs of our customers in many

In the railway sector, Ulma collaborates with companies in the value chain to which supplies forged components in different materials such as carbon steel, aluminium or low alloy, among

mlopetegi@ulmaforge.com

(+34 670 621 868





▶ Stand H199

VIRLAB

VIRLAB is a vibration and shock testing laboratory located in Asteasu (Gipuzkoa) accredited by ENAC (National Accreditation Body).

We test all types of electrical and mechanical equipment, apparatus and instruments: air conditioning equipment, track signals, battery chests, resistor chests, pantographs, converters, circuit breakers, electronic equipment, vending machines, etc. VIRLAB is accredited for the IEC 61373 standard: Railway applications - Rolling stock equipment - Shock and vibration tests (*), among others of wide application in the qualification of equipment both on-board and subjected

to the vibrations generated by the passage of the train.

msantianez@virlab.es

(**\cdot**) +34 943 691 500





voestalpine Railway Systems JEZ

voestalpine Railway Systems is the global market leader for railway infrastructure system solutions. As the global track technology company and full-range supplier, we offer our customers throughout the world fully integrated railway solutions for all types of rail traffic.

We help our customers creating maximum benefit from our premium product and service portfolio for rails, turnouts, signaling and monitoring applications - this is the driving force behind all our activities. We ensure the highest availability with the lowest life cycle costs, we provide PERFORMANCE ON TRACK®.



▶ Stand D112

SYSTEMS

▶ Stand C089

vaRSJEZ.info@voestalpine.com

+34 946 721 200

VOGFLSANG

Vogelsang is a specialized in the manufacture of fresh water supply, wastewater disposal and train interior cleaning equipments. The German company has multiple installations around the world.



spain@vogelsang.info

(****) +34 977 606 733

VOGELSANG

D Virtual booth

WARTEC

Wabtec is a leading global provider of equipment, systems, digital solutions, and value-added services for the transit and freight rail sectors. Drawing on over 150 years of experience, we are leading the way in safety, efficiency, reliability, innovation, and productivity. Whether its transit, freight, mining, industrial or marine, our expertise, technologies, and people - together - are accelerating the future of transportation.

Our people, with their extraordinary collective talent, vision and experience are our biggest asset and allow us being the technical reference with a continuous effort on reducing our impact on our planet.

jon.amutxastegi@wabtec.com





(t) +34 977 01 10 00

SUSTAINABILITY

Discrete to the state of the

Cablescom committed to the SDG's

he 2030 Agenda reached its halfway point in September. Cablescom has been working on this challenge on a daily basis as a member of the United Nations Global Compact in Spain since 2010. To this end, the company maintains a clear commitment to the different Sustainable Development Goals, including those related to gender equality (SDG 5), decent work and economic growth (SDG 8), the reduction of inequalities (SDG 10) and partnerships to achieve the goals (SDG 17). The momentum of all of these has facilitated the creation of new opportunities that have generated remarkable growth.

On September 25, in the framework of the 8th Anniversary of the SDGs, Cablescom joined its celebration and thus showed its commitment to sustainability to continue advancing economic development and social

IN THE CELEBRATION OF THE 8TH ANNIVERSARY OF THE SDGS, THE COMPANY SHOWED ITS COMMITMENT TO SUSTAINABILITY TO CONTINUE ADVANCING IN ECONOMIC GROWTH AND SOCIAL WELFARE



well-being. From January 2021 to September 2023, the Aragonese company has grown significantly in the number of employees, increasing its workforce by almost 50%, exceeding 300 professionals in 2023. Of this total, 87 are currently women, which means that the number of fe-

male employees has almost quadrupled in recent years. thus favouring their consolidation. In turn, during this same period, 67% of new hires have included particularly vulnerable groups: women, young people under 30 and employees over 45 years of age.

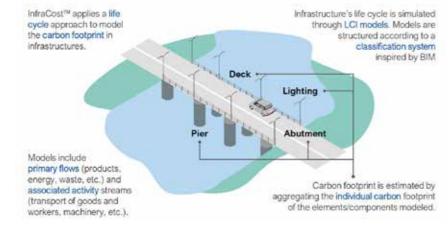
Calculating your **project carbon** footprint with Infracost

aced with the growing challenge of limiting carbon emissions, INGEROP has developed its proprietary assessment tool - InfraCost - to provide comprehensive GHG (greenhouse gas) assessments for all its infrastructure and public space development projects.

Introduced in 2020, InfraCost allows designers to identify critical emission sources and formulate effective decarbonization strategies. Thus, InfraCost transcends mere carbon accounting by embracing a proactive carbon management approach. Subsequently, it obtained certification from the 'Bilan Carbone®' Association in 2021.

How does InfraCost work?

InfraCost is a data-driven solution de-



signed to calculate the carbon footprint of your projects. It achieves this through a centralized database constantly updated by our team of experts, ensuring accuracy and reproducibility in the assessment process.

InfraCost allows you to import modules representing different project

types. Its modular approach accelerates the carbon footprint modelling while retaining precise control over the most microscopic parameters of the project. Throughout each stage, the user has the flexibility to perform operations on both macro and micro scales, based on the project's progress and available information.

CERTIFER has been awarded with an **ECOVADIS silver medal** for its ethics and environmental commitment

t CERTIFER Group, our commitment towards sustainability starts by prioritising the issues where our activities have a significant impact and which are the most important to our stakeholders. As a 3rd party organisation, ethics and fight against corruption are our main concern in order to maintain trust of our customers and authori-

CSR OBJECTIVES THEREFORE FOCUS ON THESE "MATERIAL" TOPICS: ETHICS, ANTI-CORRUPTION, SAFETY, WELL-BEING AND DEVELOPMENT OF OUR EMPLOYEES' SKILLS.

ties worldwide. CERTIFER's business is built on our human resources: the expertise and dedication of our employees are the cornerstones of our reputation as a trusted partner in supporting our clients' projects.

Our CSR objectives therefore focus on these "material" topics: ethics, anti-corruption, safety, well-being and development of our employees' skills.

As a consequence of our commitment and actions towards ethics and environment, CERTI-FER has been awarded with an ECOVADIS Silver medal in 2021. We will continue to integrate sustainability considerations into every aspect of our operations. By doing so, our everlasting goal is to participate in building a safer and a more sustainable world.



Alstom Foundation projects in Spain and Portugal

ALSTOM FOUNDATION WILL SUPPORT 'WOMEN IN ACTION', A TRA-INING AND SELF-EMPLOYMENT PROJECT AMONG WOMEN AT RISK OF SOCIAL EXCLUSION IN THE AREA OF LISBOA. IN ADDITION, A NEW CAMPAIGN WILL BE CARRIED OUT IN MADRID, BARCELONA AND BIZKAIA AS PART OF THE 'PLASTIC BEINGS' ENVIRONMENTAL AWARENESS PROGRAMME.

ounded in 2007, the Alstom Foundation supports and finances projects proposed by Alstom employees and developed in partnership with local NGOs. The Foundation's projects revolve around 4 axes: access to mobility, environmental protection, access to energy and water, and socioeconomic development. For this latest edition, the Foundation's Board of Directors received 240

proposals from 44 countries. Of these, the Foundation will fund 36 projects, two of which promoted by Alstom employees in Spain and Portugal

Entrepreneurship for women at risk of social exclusion in the Lisbon area

In the district of Loures, near Lisbon, the Alstom Foundation will support the "Women in Action" project, developed with the Portuguese NGO Ajuda em Açao. This initiative, which aims to promote self-employment among women at risk of social exclusion, will set up a training school in sewing and tailoring techniques, as well as business management workshops and courses.

Environmental education for plastic reduction

In Spain, Alstom Foundation will support an environmental education programme developed by Vivo Sano Foundation to raise awareness among children, families and teachers about the problems caused by plastic waste. The project has an estimated direct reach of more than 2,200 students, 430 teachers and around 2,000 families.

TYPSA obtains **ENAC accreditation** for safety inspections of railway applications

TYPSA has successfully completed the accreditation as an inspection body for safety in railway applications in the control, command and signaling subsystem, in accordance with the criteria established in ISO/IEC 17020:2012

This accreditation allows TYPSA to assess and evaluate the risk of railway application projects based on common safety methods (CSM) and to evaluate railway application projects as an independent safety assessment body (ISA) based on CENELEC regulations.

ISA evaluators carry out an independent assessment of the suitability of both the application of the risk management process and its results,



in accordance with CENELEC regulations (EN50126, EN50128 and EN50129). Obtaining this accreditation, in the face of the demanding requirements of ENAC, demonstrates that TYPSA technicians have a solid knowledge in the referenced regulations and are contributing to the improvement of railway safety

in line with target 9.1 of SDG 9 for the development of safe, sustainable, resilient and quality infrastructure. This effort has resulted in the creation of a new railway safety department specialised in the practical application of this accreditation and with a clear growth potential in Spain and internationally.



We are CERTIFER

A global presence

For 25 years, CERTIFER provides certification, inspection, Audit and support in testing services in railway, guided transportation and beyond.



21 locations



50+ countries with projects



of expertise in railway testing, inspection and

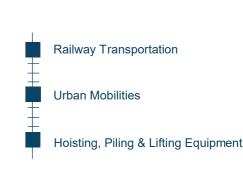


20 languages









SUSTAINABILITY

Volunteers from the Thales Transport area on Corporate Solidarity Day

rganised by the organisation Cooperación Internacional, this day aims to promote and facilitate the social participation of companies through corporate volunteering. In 2023, 440 volunteers joined this initiative in 9 Spanish cities.

Thales promoted a leisure activity in Madrid with children and young people with intellectual disabilities from an association of people with special educational needs (Asociación Madrileña de Personas con Necesidades Educativas Especiales (AMPNEE).

The volunteer team shared a morning last October at the skiing and other sports facilities in Xanadu, where they enjoyed cooperative activities and games.

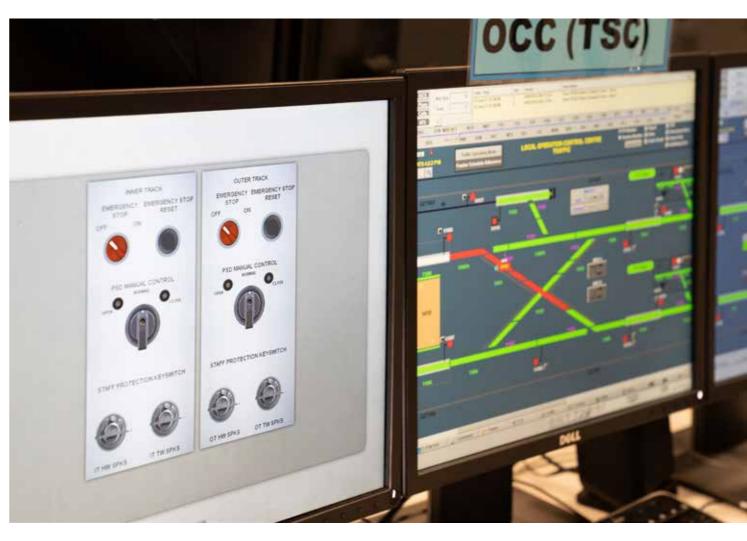
Since 2007, the Companies Solidarity Day has seen the collaboration of 191 companies, almost 11,000 volunteers, 165 charities and more than 51,900 direct participants.

Corporate Solidarity Day contributes to the SDGs of zero hunger, reduced inequalities and partnerships for the goals.

This action is part of the different initiatives of the company's Corporate Social Responsibility plan, specifically for the fulfilment of SDG 10 on reducing inequalities.

CORPORATE SOLIDARITY DAY CONTRIBUTES TO THE SDGS OF ZERO HUNGER, REDUCED INEQUALITIES AND PARTNERSHIPS FOR THE GOALS.





ETS acquires training simulators for railway traffic controllers

ANDER is always committed to helping companies in the region improve. It was a privilege to be able to start with railway simulation with Euskotren, to go out to the rest of the world with train, metro and tram driving simulators, in a growth process that has taken LANDER to the five continents.

On this occasion, they are working again in their homeland to implement one of the railway simulation solutions that has been incorporated into LANDER, and that they have already successfully installed in other countries. These are simulators for the Basque Railway Network track management company, ETS,

THESE ARE SIMULATORS FOR THE BASQUE RAILWAY NETWORK TRACK MANAGEMENT COMPANY, ETS, WITH WHOM LANDER IS DEVELOPING ITS FIRST TWO SIMULATION CLASSROOMS FOR THE TRAFFIC CONTROL CENTERS OF BIZKAIA AND GIPUZKOA.

with whom LANDER is developing its first two Simulation Classrooms for the Traffic Control Centers of Bizkaia and Gipuzkoa. A project that is also the first to be developed with simulators exclusively dedicated to the training of personnel in a railway control center.

Previously, LANDER already marked a new milestone with collaborative training technology between train drivers and railway controllers, where training aspects as important as communication is key.

INNOVATION

• Breaking News



Rail technologies meeting the steepest of challenges on Pilatus Bahn

pilatus Bahnen, operator of the world's steepest cogwheel railway with a gradiant of up to 48 percent, has put a new, more energy-efficiency fleet of eight railcars and one freight car into operation at the popular Swiss moun-tain.

Thanks to ABB's energy-efficient traction converters, the new rack-

and-pinion railcars consume 30 percent less energy than the previous generation. During braking, the electrical energy generated is fed back into the grid and available to use for the ascent.

This works in the way that motors serve as generators that convert the kinetic ener-gy into electricity, which flows back into the overhead line via traction converters, instead of converting the brak-ing energy into waste heat.

The custom-designed ABB traction converter solution is compactly housed in a single enclosure. Two traction converters are installed underneath each train unit.

Neoaballast: new sustainable, high performance and extended durability aggregate for railway infrastructures

eoballast is an innovative and sustainable solution for high performance and extended durability railway ballast. Composed of conventional ballast aggregates coated with an advanced binder and rubber powder from end-of-life vehicle tyres, this new material has technical, environmental and economic advantages.

Benefits include less degradation, better energy dissipation and load distribution, better noise and vibration performance, less need for aggregate extraction from quarries, recycling of end-of-life vehicle tyres and less need for maintenance, leading to an overall reduction in lifecycle costs. Neoballast is an ideal solution for railway tunnels with

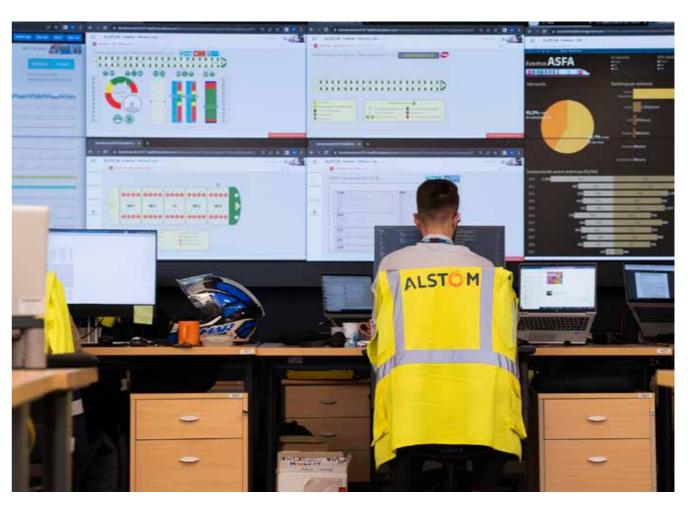
limited gauge, urban areas with noise and vibration problems, areas of high track stiffness or transition zones, as well as geographical areas with a shortage of high quality ballast, among other applications.

Neoballast is the result of an innovative initiative that began in 2011

and which, after years of research, is now in the final phase for its industrial scale-up and market launch. Following the development of the product, pilot tests have been carried out on a section of railway track open to the public owned by Adif and another by Metro de Barcelona, with highly satisfactory results.



Award for the digital transformation of mobility



ALSTOM DIGITAL SERVICES TEAM IN SPAIN RECEIVED THE AWARD IN THE CATEGORY OF 'DIGITAL TRANSFORMATION OF MOBILITY'.

Istom Spain, leader in smart and sustainable mobility, has been awarded the 'Muévete verde' award organised by the Madrid City Council and the Empresa Municipal de Transporte de Madrid (EMT Madrid), which recognises the best initiatives in sustainable mobility.

Specifically, Alstom Digital Services team in Spain received the award in the category of 'Digital transformation of mobility'. The jury valued the application of new exponential digital technologies (such as IoT, Big

Data, Digital Twins and Artificial Intelligence) in the maintenance of trains to increase the fleet reliability and availability, reduce the energy consumption and improve passenger comfort.

In recent years Alstom has deployed a new Digital Services site in Madrid, where digital tools are used to monitor and analyse urban operators (such as Metro Ligero Oeste, Barcelona Tramway or Murcia Tramway), and high-speed services (such as Renfe or Ouigo). In its two years of operation, the following milestones, among others, have been reached:

- More than 80 trains/cars are analysed in real time
- More than 100 million pieces of data analysed every hour
- Up to 30% reduction of energy consumption in operation, thanks to the use of energy analysis and eco-driving systems.
- 30% downtime of the fleet, thanks to the prevention of incidents.
- +25% productivity of each train, by reducing maintenance stays.
- +15% extension of equipment lifetime.

INNOVATION

• Breaking News

IN³ third season



N3 is INGEROP Group's intrapreneurship program to stimulate the agility and creativity of its employees, driving the organization's approach to innovation. Acclaimed by the group's employees, this program aims to support the creative enthusiasm of the staff, develop various areas of interest and offer its clients high value-added services that represent a breakthrough in the market.

This year, INGEROP T3, the group's Spanish subsidiary, presented "TRACKCASE", an innovation project that, through a sensor case placed inside a train/metro/tram, can detect vibrations, accelerations, speed and position in real time. The analysis of the data obtained from the 24/7 monitoring of different trains of a line aims to optimize the maintenance of these, diagnosing the condition of the rolling stock,

ACCLAIMED BY THE GROUP'S EMPLOYEES, THIS PROGRAM AIMS TO SUPPORT THE CREATIVE ENTHUSIASM OF THE STAFF, DEVELOP VARIOUS AREAS OF INTEREST AND OFFER ITS CLIENTS HIGH VALUE-ADDED SERVICES THAT REPRESENT A BREAKTHROUGH IN THE MARKET.

without having to stop and resulting in the reduction of maintenance costs for operators, maintainers and managers of existing lines.

The idea emerges from an exhaustive analysis of the maintenance plans of railway systems and their strategy. Nowadays, essentially preventive maintenance is followed, in which the manufacturer establishes revision ranges for each part, long before statistics indicate that a failure may happen. This

means that each train will have to stop several times a year and for a long period of time if we consider all parts and all types of inspections. And a stopped train doesn't produce money, opening up a lot of scope for optimization.

With Trackcase we seek to achieve a maintenance that in essence will be predictive, and will mean savings in maintenance for the company, by diagnosing when a revision is really necessary.



H2BIMODO, a pioneering project in the use of liquid hydrogen in passenger trains

ne of the biggest challenges posed by hydrogen in the railway sector is the volume needed to obtain an acceptable energy performance. One option for increasing its energy density (and, therefore, increasing vehicle autonomy) is to store the hydrogen in a liquid state, but this involves the need to liquefy it at a temperature of -253°C.

With this handicap as a technical challenge and innovative element, SEGULA Technologies is immersed in a pioneering project at world level derived from the use of hydrogen in its liquid state for railway traction.

This is the H2BIMODO project, a project financed by the European Union

SEGULA TECHNOLOGIES IS IMMERSED IN A PIONEERING PROJECT AT WORLD LEVEL DERIVED FROM THE USE OF HYDROGEN IN ITS LIQUID STATE FOR RAILWAY TRACTION.

(NextGenerationEU) through the IDAE by means of the programme for the innovative value chain and renewable hydrogen knowledge, within the framework of the "Recovery, Transformation and Resilience Plan" of the Spanish government.

The project consists of transforming a Renfe 436 series (former FEVE 3600) 100% electric self-propelled unit so that it can drive on electrified and non-electrified lines using catenary energy (in the first case) and a new independent hybrid hydrogen cell and battery system (in the second case).

The project is executed in consortium with RENFE (project leader), Enagas, Tactica TIC, H2Vector, and RENFE Viajeros; and, in it, SEGULA is in charge of the development of all the engineering for the transformation of the rolling stock unit, including the definition, design and integration of the H2 system in the unit as experts in the hydrogen mobility sector.

Train-to-Ground communications over MCX, one step closer to FRMCS

TELTRONIC HAS DEVELOPED COMPLETE MCX PORTFOLIO READY FOR THE FUTURE IMPLEMENTATION OF FRMCS.

he future of train-to-ground communications is irremediably linked to broadband networks. With FRMCS always on the horizon, 3GPP (the body in charge of standardising broadband technologies) continues to work closely with the UIC to define what these communications should be to become the evolution not only for GSM-R deployed in main lines and high speed lines, but ambitioning to be the operational model in mass transit or urban transit too.

In recent years railway operators have begun to consider the evolution of their current networks towards broadband technologies, for all communications needs including critical communications, automatic train control and other added-value applications.

At this point, MCX (Mission Critical Services), which refers to a set of critical communication solutions for broadband networks providing voice (MCPTT), data (MCData) and video (MCVideo) services, as well as the infrastructure supporting these services, plays an absolutely fundamental role. These MCX are being standardised by 3GPP and are, together with 5G, the pillar on which FRMCS will be built.

Teltronic has developed complete MCX portfolio ready for the future

implementation of FRMCS. Firstly, the solution includes private LTE/5G infrastructures, which offer the highest levels of reliability, vailability and QoS to deliver mission-critical services.

Secondly, its RTP-800 on board solution is FRMCS ready to manage train-to-ground communications at all times, enabling the integration with other train subsystems: video, PIS (passenger information services), PA (public address), or TCMS (Train Control Management System), among others

Finally, Teltronic's dispatch solution, NG CeCoCo, integrates the MCX communications in control room together with other networks or applications such as video to provide a powerful solution for controllers of the rail operation.



Use case of data analysis applied to TTC: micro occupations

THE RESULTS HAVE BEEN EXCELLENT, A DRASTIC REDUCTION IN THE NUMBER OF MICRO-OCCUPATIONS HAS BEEN OBSERVED.

track circuit has the purpose of indicating when there is a train on the section of track in which it is located.

It has been observed that there are instances in which the track circuits are shown as occupied when there has been no train crossing, thanks to graphs that can be visualized in the SAM-TTC (Maintenance Assistance System of Thales Track Circuit) tool. It has been seen that these occupations are small as they last less than a second. Therefore, these types of occupations have been called "microoccupations", or small occupations.

Some scenarios are highly complex due in part to the fact that the noise level on the track is higher than usual. This noise is what in most cases causes micro-occupancies and has been captured thanks to the high sensitivity of the TTC. Excessive noise can be quite frequent in some circuits and has a negative impact on the day-to-day operation of the installations.

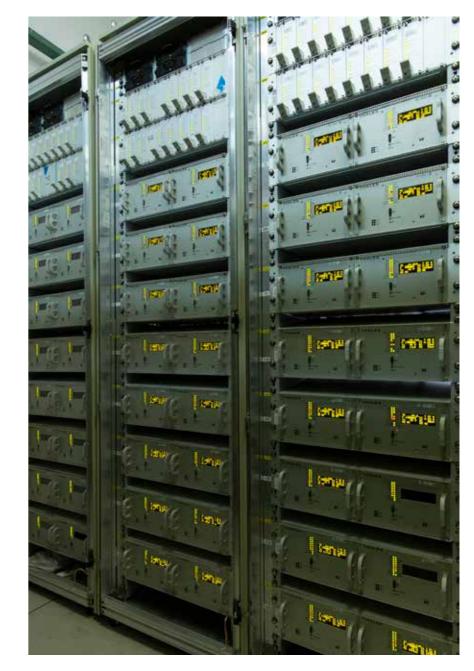
To manage micro-occupations, it has been essential to study how small they are and thus have a threshold to filter them.

An exhaustive data analysis has been made in Python, with real data from three key stations, in which all the necessary factors have been considered to find micro occupations, with the results of this analysis, a file has been created that finds the micro occupations effectively indi-

cating the moment and the TTC in which they have occurred in order to proceed to their visualization in SAM-TTC. In addition, a frequency study has been carried out, con-

sidering the time that the TTC has remained occupied without a train crossing.

The data analysis has yielded the information necessary for the update of the TTC's software to allow it to adapt to scenarios with high transient noise. The results have been excellent, a drastic reduction in the number of micro-occupations has been observed.



INNOVATION



Innovative proposals for the railway sector: **5G Solutions**

ransport operators demand high performance communications and digitalization efforts due to these factors:

- Increasing improvement of their processes to remotely configure and visualize their IT infrastructure.
- Optimization of their services and network security
- New AI mechanisms for data analysis.

In addition to the consolidated H2Rail solution for 4G railway environments that Teldat has on the market, at "Rail Live" we will be presenting our new line of communications equipment. Managed through 5G with embedded security.

H5 rail, the latest generation of routers for high demand and high availability scenarios. It is an inTRANSPORT OPERATORS DEMAND HIGH PERFORMANCE COM-MUNICATIONS AND DIGITALIZATION EFFORTS.

novative multi-service device that stands out for its wide capacity to support high bandwidth requirements. The equipment supports up to four 5G modules, multi-operator, with Active/stand-by mode due to its dual SIM. All this improves operator coverage, quality of service and connection stability in roaming, also adapting to an eSIM project scenario.

H5 Rail has Wi-Fi 6 that can operate in client mode or Access Point mode to provide service to passengers and solve the demanding cases of train-ground communications. It also includes a modern system for detecting unauthori-

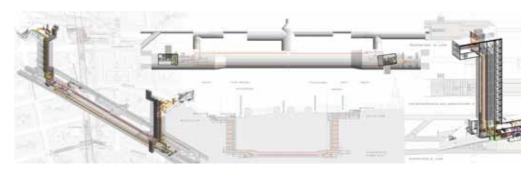
zed access to a network, issuing alerts or logs "Intrusion detection system (IDS). In case needed, it includes an SSD expansion for more data storage.

We will also present the CELER-RAIL, a flexible and compact device optimized for mobility applications. It incorporates all the functionalities of its big brother, the H5 Rail, with the capacity to adapt to scenarios with lower availability or data flow demands. Therefore, this new Teldat equipment supports a 5G module and a Wi-Fi 6 module to manage all communications, with an optimized price.

Use of **BIM** in tunnels

THIS INNOVATION IMPROVES SUBSTANTIALLY THE MANA-GEMENT OF THE DELAY RISKS IN THESE TYPES OF PROJECTS.

he evolution in the use of BIM methodology is facing a series of limitations in the design of tunnels and underground works that are creating uncertainties in the projects. The lack of a tool that is specifically developed for modelling tunnels with total guarantee, and the challenge in managing risks associated with the decision of which modelling tool to use, have led TYPSA to develop a decision-making support solution that offers a coordinated view of the different software (Revit, Aecosim) and alignment tools



(Openroads, Civil3D) available. This solutions allows for well informed decisions and for a better management of the risks associated to the selection of the modeling tool, such as:

- Delay in deliveries due to the difficulty of meeting the requirements established in the contract.
- Delays arising from coordination between disciplines and interfaces, as well as the management of the initial information.

- Delays caused by successive changes resulting from various coordination and revisions.

Breaking News

 Delays caused by the difficulty of obtaining and organising measurements using slow and complicated procedures.

This innovation improves substantially the management of the delay risks in these types of projects. It demands constant training and investigation from out teams, to ensure that the solutions that we offer are in the avant-garde of tunnel design.



INNOVATION

• Breaking News

Consolidation and stabilization of the supporting soil of a section of the Milan tramway line

he tram line that crosses a well-known square in Milan had stability problems as it was sinking with the traffic of vehicles and the tram itself.

Uretek was called in to study the case and, thanks to its solution for the consolidation of foundations, was able to solve the problem.

The objective of Uretek's intervention was to consolidate and compact the soil at the base of the sleepers supporting the rails in order to limit vibrations and movement. To this end, a localized treatment was carried out on 6 sleepers on one of the two tracks that cross Piazza XXIV Maggio.

URETEK WAS CALLED IN TO STUDY THE CASE AND, THANKS TO ITS SOLUTION FOR THE CONSOLIDATION OF FOUNDATIONS, WAS ABLE TO SOLVE THE PROBLEM.

The treatment was applied at the base of the track, on the ballast layer and the underlying foundation soil to a depth of 1m below the ballast, to consolidate it and limit possible differential settlements that could compromise the durability and functionality of the structure.

To carry out the intervention, 3 boreholes were drilled in each sleeper and injection cannulas were inserted under the basis of each sleeper to perform the resin injections. A very fast intervention that was carried out in 4 hours, thus avoiding any inconvenience to the tram traffic.

The entire intervention was monitored in real time to offer the greatest control over it. Track vibration monitoring was carried out by placing two accelerometers, one on the treated track and the other on the adjacent untreated track. Acceleration reduction of between 33% and 76% was recorded at all times. The intervention was a complete success.





IoTTrain: Digitalization and intelligence for railway maintenance

igitalization and AI are presented as the most powerful tools to transform the maintenance and operation of trains. Why is this so crucial?

- Reducing Unplanned Stops: Digitalization and IoT sensors allow us to know the status of the train in real time, being able to anticipate and prevent breakdowns.
- Maintenance Stop Planning: Al allows precise tracking of the train status and helps plan stops more efficiently, avoiding interruptions in operation
- Reduced Repair Time: Identifying and addressing problems quickly and effectively reduces repair time by improving train availability
- Continuous Improvement in the Train Life Cycle: Collecting

IKUSI, LKS NEXT AND SQS HAVE DEVELOPED IOTTRAIN, AN INSPIRING EXAMPLE OF HOW TECHNOLOGY CAN BE A GAME-CHANGER IN THE RAIL INDUSTRY. IT PROVIDES A SIGNIFICANT IMPACT ON THE OPERATION AND MAINTENANCE OF THE TRAIN, WITH THESE TECHNOLOGICAL OBJECTIVES.

and analyzing real time data enables continuous improvements in the train life cycle

IKUSI, LKS Next and SQS have developed IoTTrain, an inspiring example of how technology can be a game-changer in the rail industry. It provides a significant impact on the operation and maintenance of the train, with these Technological Objectives:

- Development of Predictive Analytics at the Edge
- Development of Prescriptive Analytics in the Cloud
- To Improve the Interaction with the Operator

loTTrain also seeks to directly impact the economy and sustainability by optimizing resources, extending the life cycle of railway assets and improving maintenance efficiency.

The project has been led by IKUSI, with recognized experience in the railway sector, with the participation of LKS Next, with extensive experience in IT technologies, and Software Quality System, an expert in software testing systems.

"ACTION CO-FINANCED BY THE BASQUE GOVERNMENT AND THE EU THROUGH THE FEDER FUNDS 2021-2027"

MAFEX 83

ENGINEERING, CONSULTANCY AND CERTIFICATION

Projects and infrastructure technical assistances, superstructure, signalling, communications and ticketing

- ACYGS Sales Management, S.L.
- Aimen Centro Tecnológico
- Ardanuy Ingeniería, S.A.
- Asea Brown Boyeri, S.A.
- ▶ Barbara IoT, S.L.
- Caf Signalling, S.L.
- Caf Turnkey & Engineering, S.L.
- Calmell, S.A.
- **CEIT**
- ▶ Centum Digital
- Create Human Resources
- Citef (Fundación para el fomento de la innovación industrial)
- Dsaf-Dinámicas De Seguridad, S.L.
- ▶ Elecnor Deimos
- Mieres Rail, S.A.
- ▶ Endavamientos y Señalización Ferroviaria ENYSE, S.A.U.
- ▶ HaslerRail (Secheron Hasler Group)
- lbérica Tecnología en Sistemas de Seguridad Ferroviarios, S.L. (ITSS)
- ICF Ingeniería y Control Ferroviario
- ▶ Idom-Engineering, Consulting, Architecture
- lkusi, S.L.U.
- Indra Sistemas, S.A
- Ineco-Ingeniería y Economía del Transporte, S.A.
- Ingerop T3 S.L.U.
- Inse Rail, S.L.
- Luznor Desarrollos Electrónicos, S.L.
- Segula Technologies España, S.A.U.
- Sener Ingeniería y Sistemas, S.A. SGS Group Spain
- Tecnivial, S.A.
- ▶ Teldat, S.A.
- **▶** Teltronic
- ▶ Tekniker
- ▶ Thales España Grp, S.A.U.
- TPF Getinsa Euroestudios, S.L.
- ▶ Trigo Group
- Typsa Técnica Y Proyectos, S.A.
- Screensor Tech
- Syneox Rail S.L
- Vicomtech
- WSP Spain-Apia, S.A.

Systems, environmental, financial management and IT consulting

- Aimen Centro Tecnológico
- Aguafrisch, S.L.
- Ardanuv Ingeniería, S.A.
- Asea Brown Boveri, S.A.
- Citef (Fundación para el fomento de la innovación industrial)
- ▶ Elecnor Deimos
- ▶ Idom-Engineering, Consulting, Architecture
- Ineco-Ingeniería y Economía del Transporte, S.A.
- Ingerop T3 S.L.U.
- Mainrail S.L.
- Segula Technologies España, S.A.U.
- Sener Ingeniería y Sistemas, S.A.
- SGS Group Spain
- SQS (Software Quality Systems, S.A.)
- TPF Getinsa Euroestudios, S.L.
- ▶ Vicomtech
- WSP Spain-Apia, S.A.
- **Technical Specifications Drafting** and supervision of rolling stock manufacturing Aimen Centro Tecnológico
- Ardanuy Ingeniería, S.A.
- Asea Brown Boveri, S.A.

- Bureau Veritas Inspección y Testing (Grupo Bureau Veritas)
- Caf Turnkey & Engineering, S.L.
- Hispacold, S.A.
- ▶ Idom-Engineering, Consulting, Architecture
- Ineco-Ingeniería y Economía del Transporte, S.A.
- Ingerop T3 S.L.U.
- Segula Technologies España, S.A.U.
- Sener Ingeniería y Sistemas, S.A.
- SGS Group Spain
- Trigo Group
- WSP Spain-Apia, S.A.
- Work supervision
- Aimen Centro Tecnológico Ardanuy Ingeniería, S.A.
- Asea Brown Boveri, S.A.
- Caf Turnkey & Engineering, S.L.
- Idom-Engineering, Consulting, Architecture
- Indra Sistemas, S.A.
- Ineco-Ingeniería y Economía del Transporte, S.A.
- Ingerop T3 S.L.U.
- Inse Rail, S.L.
- Job Impulse España
- Segula Technologies España, S.A.U. Sener Ingeniería y Sistemas, S.A.
- SGS Group Spain
- Sice Tecnología y Sistemas
- Svneox Rail S.L
- ▶ Tpf Getinsa Euroestudios, S.L.
- Typsa Técnica y Proyectos, S.A.
- WSP Spain-Apia, S.A.

Product and process certifications

- ACYGS Sales Management, S.L. Aimen Centro Tecnológico
- Applus+ Laboratories
- Ardanuv Ingeniería, S.A.
- Bureau Veritas Inspección y Testing (Grupo Bureau Veritas) Certifer Belgorail, S.A. Sucursal en España
- Cetest, S.L.
- Citef (Fundación para el fomento de la innovación industrial)
- Dsaf-Dinamicas De Seguridad, S.L.
- ▶ Idom-Engineering, Consulting, Architecture
- Ineco-Ingeniería y Economía del Transporte, S.A.
- S.A.E. Ibertest
- Sener Ingeniería y Sistemas, S.A.
- SGS Group Spain
- SQS (Software Quality Systems, S.A.)
- Trigo Group Virlab
- WSP Spain-Apia, S.A.

Drafting of operation and maintenance (O&M) plans and transport and demand studies

- ACYGS Sales Management, S.L.
- Aimen Centro Tecnológico
- Ardanuy Ingeniería, S.A.
- Caf Turnkey & Engineering, S.L.
- Citef (Fundación para el fomento de la innovación industrial) Mieres Rail, S.A.
- ▶ Idom-Engineering, Consulting, Architecture
- Ineco-Ingeniería y Economía del Transporte, S.A. Ingerop T3 S.L.U.
- Segula Technologies España, S.A.U.
- SGS Group Spain
- Syneox Rail S.L
- Tekniker
- ▶ Tpf Getinsa Euroestudios, S.L. Typsa - Técnica y Proyectos, S.A.
- Training and simulations tools
- Aimen Centro Tecnológico ▶ Applus+ Laboratories Asea Brown Boveri, S.A.

- Create Human Resources
- ▶ HaslerRail (Secheron Hasler Group)
- Ingerop T3 S.L.U.
- Job Impulse España
- Lander S.A.E. Ibertest
- Segula Technologies España, S.A.U.
- Syneox Rail S.L **Tekniker**
- WSP Spain-Apia, S.A.

INFRASTRUCTURE AND **SUPERSTRUCTURE**

Civil works (platforms, stations, depots)

- Aimen Centro Tecnológico
- Azvi, S.A
- Barbara IoT, S.L.
- Caf Turnkey & Engineering, S.L. Comsa Corporación
- ▶ Elecnor SyP
- ICF Ingeniería y Control Ferroviario
- Imathia Construcción, S.L. Inse Rail, S.L.
- I antania

Funor, S.A.

- Luznor Desarrollos Electrónicos, S.L.
- Sener Ingeniería y Sistemas, S.A. Uretek Soluciones Innovadoras, S.L.U

Electrification

- Alstom Transporte, S.A.
- Azvi, S.A.
- Asea Brown Boveri, S.A. Caf Turnkey & Engineering, S.L.
- Comsa Corporación
- Cunext ▶ Elecnor SyP
- HaslerRail (Secheron Hasler Group)
- ICF Ingeniería y Control Ferroviario
- Ingeteam Power Technology, S.A. Inse Rail, S.L.
- La Farga Yourcoppersolutions, S.A.
- Lantania
- Mosdorfer Upresa Rail, S.A.U.
- Syneox Rail S.L Telice, S.A.

Valdepinto, S.L. Infrastructure and superstructure

- equipment and components
- Aimen Centro Tecnológico
- Air Rail
- Alstom Transporte, S.A. Amurrio Ferrocarril y Equipos, S.A.
- Applus+ Laboratories
- Arcelormittal España, S.A. Arteche (Electrotécnica Arteche Smart Grid, S.L.)
- Asea Brown Boveri, S.A. Azvi, S.A. Cables de Comunicaciones Zaragoza, S.L.
- Caf Turnkey & Engineering, S.L.) CFIT
- Comsa Corporación Create Human Resources

ICF - Ingeniería y Control Ferroviario

- Cunext
- Dsaf-Dinámicas De Seguridad, S.L. ▶ Elecnor Deimos
- Mieres Rail, S.A. Flexix, S.A.
- Funor, S.A.

- lkusi, S.L.U.
- Inse Rail, S.L.
- I adicim
- Lantania
- Llalco Mosdorfer Upresa Rail, S.A.U.
- Precon Prefabricaciones y Contratas, S.A.U.
- Pretensados del Norte, S.L.
- S.A.E. Ibertest
- Salicru, S.A.
- Screensor Tech
- Syneox Rail S.L Talleres Alegría, S.A.
- Talleres Zitrón Tecnivial, S.A. Telice, S.A.

Track assembly

- Alstom Transporte, S.A.
- Amurrio Ferrocarril y Equipos, S.A.
- Azvi, S.A. Caf Turnkey & Engineering, S.L.
- Comsa Corporación ▶ Create Human Resources

Imathia Construcción SL

- ICF Ingeniería v Control Ferroviario
- Inse Rail, S.L..

Talleres Alegría, S.A.

Lantania Pretensados del Norte, S.L.

voestalpine Railway Systems JEZ, S..L. TRAFFIC CONTROL AND SIGNALLING SYSTEMS, COMMUNICATION, PASSENGER INFORMATION

AND TICKETING Traffic control and signalling (safety)

- Alstom Transporte, S.A
- Cables de Comunicaciones Zaragoza, S.L. Caf Signalling, S.L.
- Caf Turnkey & Engineering, S.L.
- ▶ Create Human Resources ▶ Enclavamientos y Señalización Ferroviaria ENYSE,
- ▶ Flectrans, S.A.
- ▶ HaslerRail (Secheron Hasler Group) ▶ ICF - Ingeniería y Control Ferroviario
- lkusi, S.L.U. Indra Sistemas, S.A.
- Inse Rail, S.L..
- Luznor Desarrollos Electrónicos, S.L. Revenga Ingenieros, S.A.
- S.A.E. Ibertest Salicru, S.A.
- Sice Tecnología y Sistemas Siemens Rail Automation, S.A.U. Tecnivial S.A
- Teltronic, S.A. ▶ Telice, S.A. Thales España Grp. S.A.U.

Segula Technologies España, S.A.U.

- voestalpine Railway Systems JEZ SL Protection (security) and infrastructure
- Alstom Transporte, S.A. Azvi, S.A.
- Asea Brown Boveri, S.A. Barbara IoT, S.L. Caf Turnkey & Engineering, S.L.

Comsa Corporación

monitoring

- ▶ Create Human Resources
- Dsaf-Dinamicas De Seguridad, S.L.
- HaslerRail (Secheron Hasler Group) ICF - Ingeniería y Control Ferroviario
- Indra Sistemas, S.A. Inse Rail, S.L..
- Mainrail, S.L.
- Salicru, S.A. ▶ Segula Technologies España, S.A.U.
- Siemens Rail Automation, S.A.U.
- Telice, S.A. Thales España Grp, S.A.U.
- ▶ Vicomtech
- Systems and equipment for collection. ticketing and access control
- Asea Brown Boyeri, S.A.
- Caf Turnkey & Engineering, S.L. Calmell, S.A.
- Comsa Corporación
- ▶ Gmv Sistemas, S.A.U. lkusi, S.L.U Indra Sistemas, S.A.
- Inse Rail, S.L. Revenga Ingenieros S.A
- Salicru, S.A. Sener Ingeniería y Sistemas, S.A. Sice Tecnología v Sistemas
- Siemens Rail Automation, S.A.U. Telice, S.A.

Vicomtech

- Communications Azvi, S.A.
- ▶ Cables de Comunicaciones Zaragoza, S.L. Caf Turnkey & Engineering, S.L.
- Cellnex Telecom, S.A.
- Comsa Corporación ▶ Elector SvP ▶ Enclavamientos y Señalización Ferroviaria ENYSE,
- S.A.U. Gmv Sistemas, S.A.U.
- ▶ HaslerRail (Secheron Hasler Group) ICF - Ingeniería y Control Ferroviario
- lkusi, S.L.U Indra Sistemas, S.A.
- Inse Rail, S.L. Revenga Ingenieros S.A.
- Salicru, S.A. Screensor Tech Sener Ingeniería y Sistemas, S.A.
- Sice Tecnología y Sistemas ▶ Siemens Rail Automation, S.A.U.

▶ Teldat, S.A.

▶ Vicomtech

- Teltronic, S.A.U. Telice, S.A. Thales España Grp, S.A.U.
- Passenger information and on-board entertainment systems
- Caf Turnkey & Engineering, S.L. ▶ Elecnor Deimos **▶** Elecnor SyP
- ▶ Gmv Sistemas, S.A.U. lcon Multimedia, S.L. Indra Sistemas, S.A.

Alstom Transporte, S.A.

- Inse Rail, S.L. lkusi, S.L.U
- Revenga Ingenieros, S.A.

- Salicru, S.A.
 - Screensor Tech
 - Sice Tecnología y Sistemas, S.A. Siemens Rail Automation, S.A.U.
 - Tecnivial, S.A.
 - ▶ Teldat, S.A.
 - Telice, S.A. Vicomtech
 - ROLLING STOCK MANUFACTURERS
 - High Speed trains (over than 250km/H) M.R para tráfico de pasajeros alta
 - velocidad (más de 250km/H)

 - Caf-Construcciones y Auxiliar de Ferrocarriles, S.A.
 - Alstom Transporte, S.A.
 - Patentes Talgo, S.L. Siemens Rail Automation, S.A.U.
 - Zeleros Long distance and regional passengers
- trains (up to 250km/H)

Patentes Talgo, S.L.

- Alstom Transporte, S.A. Caf-Construcciones y Auxiliar de Ferrocarriles, S.A.
- Siemens Rail Automation, S.A.U. Stadler Rail Valencia, S.A.U.
- Urban and suburban trains Alstom Transporte, S.A.

Caf-Construcciones y Auxiliar de Ferrocarriles, S.A.

MEMBERS

DIRECTORY

PER

SECTOR

- Patentes Talgo, S.L. ▶ Siemens Rail Automation, S.A.U.
- Freight wagons and Locomotives
- Alstom Transporte, S.A. Caf-Construcciones y Auxiliar de Ferrocarriles, S.A. Patentes Talgo, S.L.
- ▶ Talleres Alegría, S.A.
- 7eleros

Patentes Talgo, S.L.

Alstom Transporte, S.A. Caf-Construcciones y Auxiliar de Ferrocarriles, S.A.

MANUFACTURERS OF VEHICLE **COMPONENTS, AUXILIARY**

- Aimen Centro Tecnológico Alstom Transporte, S.A.
- Asea Brown Boveri, S.A. Caf Power & Automation, S.L.U.
- Forging Steel Products, S.L. HaslerRail (Secheron Hasler Group)
- Ingeteam Power Technology, S.A. Mgn Transformaciones del Caucho, S.A.
- Zeleros Control, auxiliary and diagnostic systems
- Aimen Centro Tecnológico

- Stadler Rail Valencia, S.A.U.
- Stadler Rail Valencia, S.A.U.

Siemens Rail Automation, S.A.U.

- Vehicles for infrastructure maintenance
- Siemens Rail Automation, S.A.U. Talleres Alegría, S.A.
- **EQUIPMENT AND SYSTEMS**

Traction and propulsion components

- Ariño Douglass, S.A.. Arteche (Electrotécnica Arteche Smart Grid, S.L.)
- Flexix, S.A.
- Ingeniería Viesca, S.L.
- ▶ Siemens Rail Automation, S.A.U. ▶ Trafag España, S.L.
- Alstom Transporte, S.A.

- Arteche (Electrotécnica Arteche Smart Grid, S.L.)
- Asea Brown Boveri, S.A.
- Barbara IoT, S.L.
- Caf Power & Automation, S.L.U.
- ▶ Endavamientos y Señalización Ferroviaria ENYSE, S.A.U.
- ▶ Faiveley Transport Iberica (Wabtec Corporation)
- Gmv Sistemas, S.A.U.
- ▶ HaslerRail (Secheron Hasler Group)
- Hispacold S.A.
- lbérica Tecnología en Sistemas de Seguridad
- Ferroviarios, S.L. (ITSS)
- Indra Sistemas, S.A.
- Ingeniería Viesca, S.L.
- Ingeteam Power Technology, S.A.
- NGRT, S.L.
- NRF España, S.A.
- Stadler Rail Valencia, S.A.U.
- ▶ Teldat, S.A.
- Trafag España, S.L.
- Zeleros

Assembly equipment

- Agui, S.A.
- Aimen Centro Tecnológico
- Arteche (Electrotécnica Arteche Smart Grid, S.L.)
- Asea Brown Boveri, S.A.
- Barbara IoT, S.L.
- Danobat, S. COOP.
- ▶ Faiveley Transport Iberica (Wabtec Corporation)
- Forging Steel Products, S.L.
- Fundiciones del Estanda, S.A.
- Funor, S.A.
- Gurutzpe Turning Solutions S.L.
- Trafag España, S.L.

Mechanical components

- Agui, S.A.
- Alstom Transporte, S.A.
- Caf-Construcciones y Auxiliar de Ferrocarriles, S.A.
- ▶ Faiveley Transport Iberica (Wabtec Corporation) Flexix, S.A.
- Forging Steel Products, S.L.
- Funor, S.A.
- Fundiciones del Estanda, S.A.
- Hispacold, S.A.
- Metalocaucho, S.L.
- ▶ Mgn Transformaciones del Caucho, S.A.
- Stadler Rail Valencia, S.A.U.
- Talleres Alegría, S.A.
- Trafag España, S.L.
- ULMA Forja S.Coop.
- Vogelsang, S.L.U. Zeleros

Interiors

- Agui, S.A.
- Ariño Duglass, S.A.
- Colway Ferroviaria, S.L.
- Ekide, S.L.
- Flexix, S.A.
- ▶ Hexis Graphics España
- Satvs Interiors Railway Spain, S.A.
- ▶ Screensor Tech
- ▶ Trafag España, S.L.

Safety

- Agui, S.A.
- Alstom Transporte, S.A.
- Arteche (Electrotécnica Arteche Smart Grid, S.L.)
- ▶ Barbara IoT, S.L.
- Dsaf Dinamicas de Seguridad, S.L.
- ▶ Enclavamientos y Señalización Ferroviaria

ENYSE, S.A.U.

- ▶ Faiveley Transport Iberica (Wabtec Corporation)
- HaslerRail (Secheron Hasler Group)
- Hexis Graphics España
- Indra Sistemas, S.A.
- Luznor Desarrollos Electrónicos, S.L.
- ▶ Trafag España, S.L.

MAINTENANCE: EQUIPMENT, MAINTENANCE SERVICES AND

REFURBISHMENT Infrastructure and superstructure

maintenance

- Aimen Centro Tecnológico
- Alstom Transporte, S.A.
- Amurrio Ferrocarril y Equipos, S.A. Azvi, S.A.
- Barbara IoT, S.L.
- Caf Turnkey & Engineering, S.L.
- Caucho Industrial Verdú, S.L.
- Comsa Corporación
- Create Human Resources
- ▶ Elector SyP
- ICF Ingeniería y Control Ferroviario
- Imathia Construcción, S.L.
- Mainrail, S.L.
- Mieres Rail, S.A.
- Inse Rail, S.L.
- Job Impulse España
- Ladicim
- Smart Motors
- Trafag España, S.L.
- Uretek Soluciones Innovadoras, S.L.U.

Rolling Stock maintenance

- Aimen Centro Tecnológico
- Alstom Transporte, S.A.
- Arteche (Electrotécnica Arteche Smart Grid, S.L.)
- Azvi, S.A
- ▶ Barbara IoT, S.L.
- Caf Construcciones y Auxiliar de Ferrocarriles, S.A.
- Caf Turnkey & Engineering, S.L.
- Comsa Corporación
- Create Human Resources
- Gurutzpe Turning Solutions S.L. Grupo Trigo
- Hexis Graphics España
- Hispacold, S.A.
- Job Impulse España
- Patentes Talgo, S.L.
- Siemens Rail Automation, S.A.U.
- Stadler Rail Valencia, S.A.U.
- Talleres Alegría, S.A.
- ▶ Talleres Zitrón
- Vogelsang, S.L.U.
- Trafag España, S.L.

Maintenance of traffic control and signalling, communications, passenger

- information and ticketing systems Aimen Centro Tecnológico
- Alstom Transporte, S.A.
- Arteche (Electrotécnica Arteche Smart Grid, S.L.)
- Azvi, S.A.
- Barbara IoT, S.L.
- Caf Signalling, S.L.
- Caf Turnkey & Engineering, S.L. Dsaf-Dinámicas de Seguridad, S.L.
- ▶ Electrans, S.A.
- ▶ Elecnor Deimos
- ▶ Elector SyP

- Gmv Sistemas, S.A.U.
- ICF Ingeniería y Control Ferroviario
- lbérica Tecnología en Sistemas de Seguridad Ferroviarios, S.L. (ITSS)
- lkusi, S.L.U.
- Indra Sistemas, S.A.
- Inse Rail, S.L..
- Job Impulse España
- Luznor Desarrollos Electrónicos, S.L.
- Patentes Talgo, S.L.
- Salicru, S.A.
- Screensor Tech
- Sice Tecnología v Sistemas, S.A.
- Smart Motors

Vogelsang, S.L.U.

Telice, S.A. voestalpine Railway Systems JEZ, S.L.

Siemens Rail Automation, S.A.U.

Maintenance of traffic control and signalling, communications, passenger

- information and ticketing systems Aimen Centro Tecnológico
- Alstom Transporte, S.A.
- Arteche (Electrotécnica Arteche Smart Grid, S.L.) Barbara IoT, .S.L
- Caf-Construcciones y Auxiliar de
- Ferrocarriles, S.A.
- Caf Power & Automation, S.L.U. Caf Turnkey & Engineering, S.L.
- ▶ Enclavamientos y Señalización Ferroviaria
- ▶ Faiveley Transport Iberica (Wabtec Corporation)
- Gmv Sistemas, S.A.U. ▶ Géminis Lathes
- ▶ Grupo Trigo
- HaslerRail (Secheron Hasler Group)
- Hexis Graphics España Hispacold, S.A.
- ICF Ingeniería y Control Ferroviario
- Indra Sistemas, S.A.
- Ingeteam Power Technology, S.A.
- Job Impulse España Man Transformaciones del Caucho, S.A.
- NGRT, S.L.
- NRF España, S.A. Patentes Talgo, S.L.
- Satys Interiors Railway Spain ,S. A. Screensor Tech
- Sice Tecnología v Sistemas
- Smart Motors

Vogelsang, S.L.U.

Stadler Rail Valencia, S.A.U. Trafag España, S.L.

Maintenance of systems, equipment and

- vehicles components
- Aimen Centro Tecnológico
- Air Rail Alstom Transporte, S.A.
- Aguafrisch, S.L.
- Danobat, S. COOP. Flectrans, S.A.

▶ Faiveley Transport Iberica (Wabtec Corporation)

- ICF Ingeniería y Control Ferroviario Ingeniería Viesca, S.L.
- Mosdorfer Upresa Rail, S.A.U. Newtek Solidos, S.L.
- Patentes Talgo, S.L. Tecnivial, S.A. Trafag
- Vogelsang, S.L.U.

ARR

ASEA BROWN BOVERI, S.A.

Rail is being rediscovered as a sustainable and energy-efficient form of transport. We understand the importance and implications of running these railway networks.

We provide complete solutions that protect your infrastructure, and meet the expectations of users and transport stakeholders for all key applications. These include infrastructure, passenger stations, control and signaling units, tunnels and rolling stock.

C/ SAN ROMUALDO, 13 - 28037 (MADRID)

**** +34 915 81 93 93

new.abb.com/railwav/abb-solutions-fortransportation-rail-and-infrastructure

amen AIMEN CENTRO TECNOLÓGICO

We are an innovation & technology Centre specialized in materials and in advanced manufacturing technologies, especially joining technologies and laser technologies applied to materials processing and robotics. We develop R&D&I in collaboration with companies in the field of the technologies for industry 4.0, and we offer technological services to industry in the field of welding and corrosion engineering, manufacturing engineering, design and simulation and mechatronics; developing customized and integral technological solutions which respond to the needs of our clients and associated companies. Our accredited laboratories provide analysis and testing services, especially failure analysis and in-service behavior of industrial

C/ Relva 27 A - Torneiros | 36410 O Porriño (PONTEVEDRA)

www.aimen.es

+34 662 489 181

components.

ACYGS

ACYGS SALES MANAGEMENT, S.L.

ACYGS is an engineering services consulting company dedicated exclusively to the railway sector and specialized in all the consulting and engineering services associated with a rolling stock maintenance workshop. We offer a personalized railway engineering service for each client, adapting to the needs of each workshop and project, developing its activity at an international level carrying out projects in the 5 continents, providing global solutions backed by the experience of more than 20 years in the rolling stock maintenance sector of the professionals who are part of Acygs.

C/ Loeches , 65 - Oficina 7 Madrid (MADRID)

Air Rail 4

AIR RAIL is a company specialised in the manu-

facture and distribution of machinery, working

in the airport and railway sector. Within the

railway industry, its activity is divided between

the manufacture of its own products and the

distribution of important brands in the sector.

In terms of manufacturing, AIR RAIL specialises

in railway washing systems, bogie washing ca-

bins, water treatment units and blowing booths,

among others. In its distribution activities, it

represents Zephir shunters, IME Autolift lifting

C/ Alsasua 16, 1° Izda. 28023, Madrid,

(MADRID)

**** +34 913 234 629

www.air-rail.org

systems and SAMS re-railing equipment.

**** +34 914 85 52 88

ileon@acygs.com

 ileon@acygs.com

www.acygs.com

AIR RAIL

🔾 agui

AGUI, S.A.

A family-owned company specialised in production processes and complex assembly of railway interiors for OEMs.

AGUI provides a comprehensive service to the client: Support in product design, prototyping, industrialisation and manufacturing, managing the entire supply chain. ISO-3834 and EN-15085 certified.

Pol. Ind. Lintzirin-Gaina. Parcela B-1. 20180 Oiartzun - (GIPUZKOA)

- +34 943 335 811 / 663 775 753 +34 943 552 066
- x sac@agui.com www.agui.com

ALSTOM · mobility by nature ·

ALSTOM SPAIN

As a promoter of sustainable mobility, Alstom offers a complete range of solutions (from high-speed trains to metros, tramways and ebuses), passenger solutions, customized services (maintenance, modernization), infrastructure, signalling and digital mobility solutions. The company recorded sales of €8,2 billion in the 2017/18 fiscal year. Alstom is present in over 60 countries and employs 38,900 people. In Spain Alstom employs around 2.000 people on 18 sites, including a rolling stock manufacturing site and 4 innovation centres where it runs R&D programmes for rolling stock and railway signalling, safety, security, digital mobility

Martinez Villergas, 49 - Edificio V -28027 Madrid (MADRID)

+34 91 334 58 00 +34 91 334 58 01

and services.

www.alstom.com

86 MAFEX



AMURRIO FERROCARRIL Y EQUIPOS, S.A.

Design, production, installation of turnouts, track devices, crossings. For all type of purpose. Metro, tram, regional, conventional, high speed, heavy haul, ports and industrial.

- Maskuribai, 10 01470 Amurrio (ARABA/ÁLAVA)
- +34 945 891 600
- +34 945 892 480
- comercial@amufer.es
- www.amufer.es

Applus⁽¹⁾

APPLUS+ LABORATORIES

Applus+ Laboratories a division of the Applus+ Group, provides testing, certification and development engineering services for a wide range of industries. In the railway sector, Applus+ Laboratories conducts operational stress measurements; electromagnetic compatibility (EMC) testing; environmental testing for onboard electronic components; the characterization of rolling stock; and fire reaction and resistance

From bogies, complete railcars and onboard electronics; to seats and bulkheads, they provide support to ensure that all railway components meet the highest quality and safety standards.

- Campus UAB- Ronda de la Font del Carme s/n 08193 Bellaterra
- (BARCFLONA)
- **+34 93 567 20 00**
- info@appluslaboratories.com
- www.appluslaboratories.com

Aquafrisch

AQUAFRISCH, S.L.

More than 25 years of experience in the railway sector endorse Aquafrisch as a manufacturer of train washing systems, bogies washing cabins, WC extraction systems (CET) and other products for the maintenance of rolling stock in railway

Our equipment is installed in more than 30 countries on 5 continents. Aquafrisch is also a leader in industrial water treatment and purification. Aquafrisch takes care of the design, manufacture, installation, commissioning, training and maintenance of the machines according to the customer's needs. Aquafrisch is certified ISO9001:2015, ISO14001:2015 and ISO 45001:2018.

- Margarita Salas 7, 28521 Rivas-Vaciamadrid (MADRID)
- **434 91 380 03 33**
- **+34 91 7780 60 02**
- aquafrisch@aquafrisch.com
- www.aquafrisch.com



ARTECHE

The Arteche Group is focused on offering equipment and solutions for the electricity and railway business worldwide. The expertise of more than 70 years manufacturing instrument transformers and electromechanical relays gives the client the assurance of a technological leader. With projects over more than 40 countries, our dedicated range of railway relays are designed to meet the highest standard requirements of the sector and its reliability and durability allow them to be used not only as general purpose relays, but also in all kind of safety functions, both for on-board and signalling applications making them suitable to be used in circuits requiring up to SIL-4 safety integrity level.

- P Derio Bidea, 28 48100 Mungia (BIZKAIA)
- **** +34 946 011 200
- **+34 946 155 628**
- www.arteche.com

Azvi /\/

Azvi is the company which undertakes construction within Grupo Azvi. For over 100 years, Azvi has carried out a significant number of large scale civil engineering and building projects. Azvi has extended its activity to all construction areas in Europe, America and the Middle East, without losing sight of its origins and railway background. By applying principles of responsibility to the whole business sphere, seeking the creation of value, maintaining a strong commitment to all its stakeholders in all countries where it is present and investing in R&D Azvi continues constructing a company capable of facing the new challenges of an increasingly globalised market.

- Almendralejo, 5. 41019 (SEVILLA) / Maudes, 51, 2°. 28003 (MADRID)
- +34 954 999 320 / +34 91 553 28 00
- **+34 926 88 47 06**
- azvicentro@azvi.es
- www.azvi.es

barbara

BARBARA

Barbara is the Cybersecure Industrial Edge Platform, designed to implement automated decision-making within critical industrial processes. It connects, deploys and orchestrates AI and ML based applications at the Edge.

Barbara's architecture, distributed across thousands of computing nodes, allows companies to communicate and virtualize any industrial element and then operate it through real-time Artificial Intelligence applications. Developed with cybersecurity by design, is compatible with Edge applications to optimise industrial processes and asset management, it is the perfect enabler to address the industry's biggest challenges and accelerate industrial intelligence.

- Calle Vivero 5 28040 Madrid (MADRID)
- **** +34 910 74 03 11
- Marbaraiot.com sergio.liedo@barbaraiot.com
- www.barbaraiot.com



ArcelorMittal, as the steel industry leader in product and process innovation, is fully geared to meet the future requirements of the rail industry. With rail production facilities in Spain, Poland, Luxembourg and USA offers a wide portfolio of rails for subways, trains, trams, light rails, crane rails, crossings and rail accessories. We area specialist in rail for high-speed net, with over 1 million tons produced, and presence in infrastructure of over 30 countries, the high technologic quality allows participating in the more demanding tenders all over the world. ArcelorMittal has its own R&D Rail Excellence Centre for developing new products and pro-

- ArcelorMittal. Edif. de Energías, 2 pl. 33691 Gijón (ASTURIAS)
- **+34 985 187 750**
- ▼ rails.specialsections@arcelormittal.com
- https://rails.arcelormittal.com/

Ardanuy

ARDANUY INGENIERÍA, S.A.

Ardanuy Ingeniería, S.A. is an engineering consulting firm specialized in studies, projects, works management, safety engineering (ISA), operation / maintenance studies; and technical guidance for railways (high-speed, conventional, freights, metros, trams, cable cars), electrical engineering (sub-stations and high-voltage lines), roads (highways, freeways, BRT's, streets, etc.), buildings (architecture and facilities) and telecommunications.

The company was established in 1992 and is comprised of a permanent team of more than 200 professionals.

- Avda. Europa, 34 28023 Madrid (MADRID)
- +34 91 799 45 00
- **+34 91 799 45 01**
- www.ardanuy.com



ARIÑO DUGLASS, S.A.

50 years' experience behind us as a company specialised in glass for architecture and railway. An extensive presence in the Spanish, European and world markets has enabled us to obtain the knowledge and know-how in order to offer the most technologically advanced products of high

It is in our DNA to continuously research and develop technology that allows us to adopt the very latest manufacturing methods, resulting in business excellence and ongoing innovations. In partnership with a number of organisations and institutions, we collaborate, cooperate and lead different research projects.

- Pol. Ind.Royales Bajos, S/N, 50171 La Puebla de Alfindén (ZARAGOZA)
- +34 634 860 681
- +34 976 455 085
- felix.fernandez@duglass.com
- www.duglass.com



BUREAU VERITAS INSPECCIÓN Y TESTING (GRUPO BUREAU VERITAS)

BUREAU VERITAS INSPECCIÓN Y TESTING is a Bureau Veritas company based in Madrid, Spain. BU-REAU VERITAS INSPECCIÓN Y TESTING is a world leader in conformity assessment services as Notified Body (NoBo) and Designated Body (DeBo), as well as Inspection Body to perform Independent Safety Assessment (ISA) and Risk Assessment (AsBo).

Bureau Veritas has an extensive experience in the rail sector, with presence in more than 140 countries. more than 75,000 employees worldwide, and a network of 1400 offices and laboratories. Bureau Veritas is in a unique position to offer a global solution to its customers in the railway sector.

- C/Valportillo Primera 22-24, 28108 Alcobendas (MADRID) +34 91 270 22 00
- infoesp@bureauveritas.com
- https://www.bureauveritas.es/nuestros-mercados/ automocion-y-transporte/ferroviario



CABLES DE COMUNICACIONES ZARAGOZA, S.L.

Cables de Comunicaciones is one of the main European companies dedicated to the design, manufacturing and commercialisation of telecommunication, signalling and optic fibre cables. Ever since its foundation in 1971, it has contributed to the development and extent of the telecommunications infrastructures. Railway companies from the main European countries entrust us with the manufacture of their cables. Among them, they stand out: Adif, SNCF, NetworkRail, Infrabel etc. Cablescom undertakes its activity in Zaragoza, in the Malpica industrial park, over a surface of 77,000 m2, which includes a production plant, offices and warehouses.de producción, oficinas y almacenes.

- Polígono de Malpica, C/D, 83 50016 Zaragoza (ZARAGOZA) +34 976 729 900
- i.alzorriz@cablescom.com
- www.cablescom.com



CAF - CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES. S.A.

CAF is one of the world leaders in the design and implementation of comprehensive transit systems. CAF provides comprehensive project and engineering management throughout all stages of the project including feasibility analysis and investigations, system design, civil work, signalling, electrification and other electromechanical systems, rolling stock supply and system operation and maintenance.

In terms of rolling stock, CAF supplies and maintains high speed trains, regional and commuter trains, locomotives, metro units, tramways and buses.

- J.M. Iturrioz, 26 20200 Beasain (GIPUZKOA)
- **4** +34 943 880 100
- **+34 943 881 420**
- www.caf.net



CAF POWER & AUTOMATION

CAF Power & Automation designs and develops electric traction systems, energy storage systems and control & communication, which guarantee adaptable reliable and committed solutions with transport. Our systems are modular and flexible and can be integrated both in new vehicles and in those in service or that need refurbishment. Traction systems; Energy Storage (GREENTECH) and Control & Communication (COSMOS). Railway systems modernisation and refurbishment: Equipment and components, system integration, installation, maintenance and guarantee. Railway system maintenance: Technical support, spare parts, training courses, test benchs.

- Mikeletegi, 58 2, Parque Tecnológico de San Sebastián (GIPUZKOA)
- +34 943 309 251
- info@cafpower.com

 info@cafpower.com
 info@cafpower.com

 info@cafpower.com

 info@cafpower.com

 info@cafpower.com

 info@cafpower.com

 info@cafpower.com

 info@cafpower.com

 info@cafpower.com

 info@cafpower.com

 info@cafpower.com

 info@cafpower.com

 info@cafpower.com
 info@cafpower.com

 info@cafpower.com

 info@cafpower.com

 info@cafpower.com

 info@cafpower.com
- www.cafpower.com



CAF SIGNALLING, S.L

CAF Signalling, the technological subsidiary of the CAF Group, designs and provides Integral Signalling Solutions, both in Spain and abroad. The company has its own advanced technology products, both for onboard and wayside applications that make up the core of its integral solutions. As a result of a significant and growing effort in R&D&I, particularly in the area of critical safety systems, CAF Signalling promotes continuous innovation and customer focus. CAF Signalling, boats the Company's own in house engineering and expertise to take on "turn-key" railway signalling projects.

- Avda. de la Industria, 51 28108 Alcobendas (MADRID)
- **4** +34 91 789 27 50
- **+34 91 661 37 51**
- cafsignalling@cafsignalling.com
- www.cafsignalling.com



CAFTURNKEY & ENGINEERING

CAF Turnkey & Engineering was created in 2007 with its head office is in the Technological and Scientific Park of Biscay (Zamudio). It began its business in Integrated Engineering of Transport Services and in 2015, after merging with the company CMFS (Mexico), it increased its portfolio of services with the inclusion of EPC projects for both civil works and subsystems. Following solid and constant growth, the company currently has a workforce of 200 with offices in Zamudio, Madrid and Mexico, providing service to both companies within the CAF Group and national and international private and public customers.

- Parque Científico y Tecnológico de Bizkaia, Laida Bidea, Ed. 205. 48170 Zamudio (BIZKAIA)
- **** 0034946819550
- **+34 94 623 29 29**
- www.cafte.com



CELLNEX TELECOM, S.A.

Cellnex manages a portfolio of more than 130,000 sites — including forecast roll-outs up to 2030 - in Spain, Italy, the Netherlands, France, Switzerland, the United Kingdom, Ireland, Portugal, Austria, Denmark, Sweden and Poland. Cellnex's business is structured in four major areas: telecommunications infrastructure services: audiovisual broadcasting networks, security and emergency service networks and solutions for smart urban infrastructure and services management (Smart cities and the "Internet of Things" [IoT]).

- Passeig de la Zona Franca, 105, 08038 Barcelona (BARCELONA)
- **L** +34 935 03 10 00

- www.cellnextelecom.com



CENTUM DIGITAL

CENTUM is a Spanish technology company specialized in Communications, Control and Signal Intelligence, created in 2005, with an international presence (Germany), whose main activity is the design, development and commercialization of products and services for different sectors. In the most demanding environments, such as Aeronautical, Naval and Railway, we offer services and carry out projects mainly oriented towards Certification, Systems Integration (including critical and non-critical SW development), HW/SW Assurance and Cybersecurity processes. We also offer digital solutions for the Identification, Geolocation and Tracking of assets in the Smart Factory.

- Avda.rita Levi Montalcini, 3, 28906 Getafe (MADRID)
- **** +34 914 918 171

- https://centum.com/



CERTIFER BELGORAIL SA SUCURSAL EN ESPAÑA

Certifer Belgorail SA is a certification, inspection and safety evaluation entity for the guided transport sector, both conventional railways and subways and trams. We are an accredited body for the certification of interoperability (NoBo), national regulations (DeBo), safety evaluations under CENELEC standards (ISA) and under CE Regulations (AsBo). We are part of the Certifer Group, with a presence, in addition to Spain, in Belgium, France, the Netherlands, Germany, Austria, Italy, Sweden, Turkey, Algeria, Brazil, Australia, Vietnam, the United Arab Emirates and China.

- P° de la Castellana, 127 M 2 ° A 28046 Madrid (MADRID)
- +34 91 764 72 21 / 626 683 435
- +34 91 770 88 67
- info.spain@certifer.eu
- www.certifer.eu

Carmett 🔊 Group

CALMELL, S.A.

The Calmell Group is the leader in access control and identification, through its companies Calmell S.A., Affix S.L., Idoneum S.A., which are respectively engaged in producing the supports (tickets, cards,...), developing specific software and hardware, personalization and security.

In the public transport sector it works for integrators and operators supplying any kind of support for ticketing and reader/writer systems.

With a strong international presence through its network of representatives and distributors, the Calmell Group is able to satisfy your needs on a global level

- Pol. Ind. Pla d'en Coll C/ Fresser, 12 C 08110 Montcada i Reixac (BARCELONA)
- **+34 93 564 14 00**
- dsala@calmell.net
- www.calmell.net



CAUCHO INDUSTRIAL VERDÚ. S.L.

Caucho Industrial Verdú is a company with more than 50 years of experience in the rubber market. We produce a wide range of products in rubber and rubbermetal, and we are focused in the infrastructure sector. We design and manufacture elastomeric bearings, pot bearings and expansion joints for bridges and other structures. In addition, we manufacture resilient elements for railway applications, as underballast mats (UBM), slab track mats (STM) and undersleeper pads (USP). All these products are manufactures using recyucled rubber (90%) from used tyres. Our technical staff can design and advice about the best solution for the client's needs, always based on the standards EN, DIN,

- Fila Benimerins, 32, Alcoy (ALICANTE)
- +34 965 520 950

- www.cauchoverdu.com



CEIT

We are a basque Technology Center founded by the University of Navarra, whose main objective is to develop appliead R+D+i projects with companies to improve their competitiveness. We are part of BRTA (Basque Research & Technology Alliance), which includes 16 agents that constitute the Basque Network of Science. Technology and Innovation (RVCTI). We also participate in Shift2Rail Joint Undertaking as associated members.

We focus our R+D+i activity within the railway sector in the following topics: energy efficiency, maintenance, railway dynamics, component design and characterisation, embedded systems (SIL4), positioning, data intelligence.

- Paseo Manuel Lardizábal 15. 200018 Donostia-San Sebastián (GIPUZKOA)

- ualvarado@ceit.es
- +34 943 212 800 **+34 943 213 076**
- www.ceit.es



CETEST, S.L. Centro de Ensayos y Análisis

Fully accredited ISO17025, CETEST is an experienced laboratory in railway vehicles and components testing. Its offering covers a wide variety of component test benches at their facilities as well as portable ones. CETEST provides a global on-track measurement deployment capacity. From validation and verification test in the development phase to product homologation and failure detection / root cause analysis in the after-sales operation. CETEST can assist you during the full lifecycle of your product. Their customers include passenger, freight and special track maintenance vehicle manufacturers, component suppliers, as well as Notified Bodies, engineering firms and authorities.

- Lazkaibar, s/n Edif, CETEST 20200 Beasain (GIPUZKOA)
- **434 943 028 690**
- emartinez@cetestgroup.com
- www.cetestgroup.com



CITEF (FUNDACIÓN PARA EL FOMENTO **DE LA INNOVACION INDUSTRIAL)**

CITEF (Railway Technology Research Centre) was created in 1997 as part of F2I2 (the Foundation for the Development of Industrial Innovation) for research, innovation, experimentation, study and teaching purposes within the railway knowledge area. It is a non-profit organisation pursuing aims of general interest within any rail transport technology sector.

José Gutierrez Abascal. 2. 28006 Madrid (MADRID)

- +34 91 336 32 12
- citef@etsii.upm.es
- www.citef.es



COLWAY FERROVIARIA, S.L.

COLWAY FERROVIARIA S.L., a company belonging to the COLWAY Group, is specialized in the design, engineering, manufacture, installation and commissioning of turnkey railway interiors and toilet modules projects. Revamping of seats and floors for a significant improvement of the coaches, with a controlled investment, is included among its capabilities. Through the integrated management of modular supplies & systems, based on experience, research and innovation, satisfaction and expectations of railway constructors and Public Administrations are achieved. Its work is based on the application of strong values: commitment, professionalism, ethics and agility.

Botánica, 149-151, 08908, Hospitalet de LLobregat (BARCELONA)

- +34 93 414 65 12
- +34 93 639 86 10
- ilperalta@colway-08.com
 ilperalta@colway-08.com
- http://colway-08.com/site/es



COMSA

COMSA is the company of COMSA Corporación specialised in railway infrastructures. Founded in 1891, the company provides a comprehensive service in the field of construction, maintenance, electrification and control and communication systems for high-speed and conventional lines, metros and tramways. In this business activity, it is leader in Spain, where has been involved in the carrying out of all high-speed lines, and has permanent operations in Argentina, Brazil, Croatia, Denmark, Mexico, Poland, Portugal and Uruguay. It has also taken part in a large number of pro-

jects in other markets such as Italy, the Philip-

Julián Camarillo, 6A 2ª planta 28037 Madrid (MADRID)

pines, Taiwan, Malaysia, India, etc.

- +34 91 353 21 20
- +34 91 350 49 54
- ialvarez@comsa.com
 ialvarez®comsa.com
 ialvarez®coms
- www.comsa.com



CREATE HUMAN RESOURCES

Railway and business training consultant, approved since 2009 by the State Agency for Railway Safety (AESF) of the Ministry of Development to provide the necessary training to obtain and maintain the different qualifications of railway personnel, as well as all kinds of technical training and specific to the railway sector.

- C/ Astronomia 1, torre 3, plata 9 ofic 7-8 Sevilla (SEVILLA)
- +34 650 711 407 / +34 697 497 404
- araigon@createhr.es / pnavarro@createhr.es
- www.createhr.es



CUNEXT COPPER INDUSTRIES

Cunext in the way to continuous development has created the entire cable product range for overhead line electrification adapting at any speed from local transport to high speed line. Our modern technology together with a wide experience at cable and alloy manufacturing makes us the best partner for railway companies offering best product quality and service. Cunext Group locate production plants at strategic places such us Cordoba for copper products, Vitoria and Brescia for aluminium products.

- Av. de la Fábrica, s/n 14005 Córdoba (CÓRDOBA)
- +34 957 499 300
- iosep_anfruns@cunext.com
 iosep_anfruns@cunext.com
- www.cunext.com



ENCLAVAMIENTOS Y SEÑALIZACIÓN FERROVIARIA ENYSE. S.A.U.

Enyse is a Signalling company belonging to the Industrial Services division of the ACS group. For Enyse, the success of their projects is based on a high level of adaptation to functional and operational needs of the various railways - flexibility is the key word. In an industry increasingly integrating technology standards, the required Reliability, Availability, Maintainability and Safety standards not only apply to system design level, but are the actual premises to properly imple-

menting and commissioning turn-key Signalling

- Valportillo Segunda, 8 bis; 28108 Alcobendas (MADRID)
- +34 91 490 13 83

projects.

- +34 916 619 296
- enyse@enyse.com
- www.enyse.com



ELECNOR DEIMOS

Elecnor Deimos is the technological subsidiary of the Elecnor Group that operates in the railway transportation sector, information and telecommunications systems, space, aeronautics and defense.

In the railway sector, Elecnor Deimos is responsible for the development and evolution of passenger information platforms and remote station management. In addition, the company is specialised in delivering comprehensive turnkey projects as well as the development, implementation, and maintenance of these systems.

- Ronda de Poniente 19, Edificio Fiteni VI, Tres Cantos (MADRID)
- +34 918 06 34 50
- +34 918 06 34 51
- tra.all.deimos@elecnor.es
- https://elecnor-deimos.com



ELECNOR SYP

Elecnor has become one of the most outstanding European business groups and a benchmark in the infrastructure sectors, with more than 60 years of continuous growth (25,000 employees and 3,5 billion Euros turn over) and presence in 55 countries. Elecnor promotes, develops and constructs all manner of infrastructure on all continents including concessional projects. Elecnor Group's long experience in the railway sector enables it to engage in turnkey projects for electrification, signal and interlocking systems, communications, and control systems. Elecnor has been involved during 30 years in the development of electrification railway projects as a technologist providing solutions to industry.

- C/ Arturo Soria 343 28033 (MADRID)
- +34 91 453 28 46
- □ cgmengual@elecnor.com
- www.elecnor.com



DANOBAT S.COOP.

Specialised Machine Tools and production systems for railway industry offering technologically advanced solutions and services, including among others engineering, consultancy, which are fully adapted to clients' needs.

DANOBAT focuses its activity in the supply of turnkey solutions for the manufacturing and maintenance of railways rolling stock, incorporating own leading technology products, together with those manufactured by specialised companies.

- Arriaga Kalea, 21 20870 Elgoibar (GIPUZKOA)
- **L** +34 943 748 044
- **+34 943 743 138**
- danobat@danobat.com
- www.railways.danobatgroup.com



DINÁMICAS DE SEGURIDAD. S.L.

DSAF is a entrepreneurial society focused on the safety of the movement of people at risk. Committed to the new technologies applied to the design of signaling systems, prevention and emergency in safety, DSAF promotes the development of products that guarantee the highest grade of security according to the standards of type approval current in generalized risk societies such as global ones.

The activity of DSAF focuses on these two major sectors: road / rail tunnels and wind towers.

- San Blas, 13 Pol. Ind. Goiain 01170 Legutiano (ARABA/ÁLAVA)
- +34 945 466 314
- +34 945 466 314
- ✓ info@dsaf.es
- www.dsaf.es



EKIDE

Ekide has Ekide SC, a business unit dedicated to engineering and manufacturing of assemblies or subassemblies of parts based on different manufacturing processes for the railroad sector. The activity of this business unit is developed in the following areas: Engineering (Conceptual design + Product development), Mock-ups and prototypes (with a wide range of manufacturing and prototyping processes to check aesthetic and functional aspects prior to mass production), rapid tooling, for the manufacture of prototype injection molds and manufacturing (SMC, infusion, etc.)

- Telleria kalea n°2 Arrasate-Mondragón 20500. (GIPUZKOA)
- **943 71 45 23**
- ekide@ekide.es natrem@ekide.es
- www.ekide.es



ELECTROSISTEMAS BACH. S.A.

Electrans, established in Barcelona in 1977, has had a successful career path that turn it in an international relevant supplier in signalling, particularly in the field of level crossing protection solutions, railway and tramway signalling, detection systems and LED lighting, obtaining its products and solutions worldwide recognition.

Electrans' constant progress is motivated by the commitment to innovation, at the service of the adaptability of systems and products for the current needs of railway projects.

- Calle de la Mar Mediterrània, 9 Pol. Ind. La Torre del Rector 08130 Santa
- Perpètua de Mogoda (BARCELONA)+34 93 574 74 40
- www.electrans.es



EWALS CARGO CARE, S.A.

Ewals Cargo Care is an international multimodal freight transport company, which operates in 14 countries in the EU and the United Kingdom, using its own fleet of 3,800 mega semi-trailers and multiple resources associated collaboratively in subcontracting.

Our market is mainly industrial, with strong specialization in the automotive sector.

Led in corporate strategy and management by its third generation, Ewals CC has in its social and business policy a strong commitment to compliance with ESG objectives, in a policy of responsible action that aims to lead the market in an innovative logistics business model and sustainable.

- Av. Ports d'Europa 12-14. 08040 Barcelona
- **4** +34 639 689 257

- ewals.com



FAIVELEY TRANSPORT IBERICA

Faiveley Transport Iberica, as member of Wabtec Corporation offers the complete portfolio of products of the Corporation in Spain and Portugal, as well as all service activities related.

Design, manufacturing, repair and maintenance of rolling stock systems.

Braking Systems, Access Doors, Platform Screen Doors, HVAC, PIS/CCTV, Power Collection, Sanitaries, Event Recorders, Beacon Readers, Relays. With Headquarters in La Selva del Camp (Tarragona), offices in Madrid and service centers in Madrid, Barcelona, Valencia, Seville, Beasain and

- Pol. Ind. La Drecera, C. Mecànica 23, 43470 La Selva del Camp (TARRAGONA) +34 977 01 10 00
 - ion amutvactori
- jon.amutxastegi@wabtec.com
- https://www.wabteccorp.com

HASLER ail

HASLERRAIL (SECHERON

Sécheron Hasler Group is a leading global

supplier of electrical and electronic safety compo-

nents and solutions and traction power systems

for the railway industry and also provides solu-

tions for renewable energy, DC grid, and other

industrial systems. HaslerRail is the world's lea-

ding supplier of innovative On-Board Electronics,

Data Acquisition and Recording, Speed Sensors

and Odometry, Visualisation solutions and Speed

Indicators, Energy Metering, Control, Protection

and I/O, Software and data management solu-

tions, and Cibersecurity for the railway industry.

Our solutions are backed by our extensive global

Calle Calidad, 42 | P.I. Los Olivos

28906 - Getafe (MADRID)

HASLER GROUP)

FX FLEXIX

FLEXIX, S.A.

FLEXIX, develops, manufactures worldwide since 1950 INJECTION and EXTRUSION RUBBER PARTS, rubber-metal, rubber-plastic, special elastomers and assemblies. We are part of the KÄCHELE-FLEXIX Group, with 2 plants in Germany, 1 in Spain and a warehouse in USA. For the RAILWAY SECTOR we produce mainly for infrastructures, absorption of vibrations under track, tie pads for sleepers, different range of stiffness (14-152 kN/mm). We provide development in geometries (FEM), materials, (conductivity, non-harmful gases...)
TYPE OF PARTS: Pads, Ducts, bellows, tubes, silentblocks, joints, bumpers, axles, links, valves, bearings. MIXTURES: NR, SBR, EPDM, CR, H/NBR, ECO, AEM, ACM, Silicone, FPM.

- Pol. Ind. Pinoa 1-D 48170 Arteaga-San Martín Zamudio (BIZKAIA)
- +34 944 977 180
- **+34 944 977 190**
- flexix@flexix.com
- www.flexix.com



FORGING STEEL PRODUCTS, S.L.

Manufacturing of machined and if needed painted forged components ready for assembly destined to the railway rolling stock manufacturers for chassis, brakes, clutches, hooks etc.

- Barrio Arregui s/n 48340 Amorebieta-Etxano (BIZKAIA)
- **\ +34 946 300 211**
- k.zabala@forgingsteelproducts.com
- www.forgingsteelproducts.com



FUNDICIONES DEL ESTANDA.S.A.

Since 1957 Estanda has been providing various sectors with steel castings. The half of all its activity is focused on the high-speed train brake discs manufacturing, being one of the first worldwide manufacturers, the other half is focused on a wide range of sectors such as the cement and mining industry, defence, off-shore, automotive industry, and bogie components for the railway equipment. Mostly low alloy steels , wear resistant steels, refractory steels, stainless steels and white irons are casted. With its 14.000 tonnes per year production capacity, Estanda manufactures from 10 to 2000 kgr. parts in all kinds of batch sizes, with 2.400 mm as its maximum part dimension.

- Antzizar, 17 20200 Beasain (GIPUZKOA)
- **434 943 880 500**
- **+34 943 889 587**
- ▼ Ifdiego@estanda.com
- www.estanda.com



GLOBAL OUALITY ENGINEERING

TRIGO Spain is a supplier of quality services and support in the supply chain in industrial sectors. Founded in 2001, it offers quality assurance services in products, maintenance, industrial means management and metrology with more than 600 quality professionals in Spain. TRIGO GROUP is present in 25 countries with a team of more than 10,000 professionals.

TRIGO Spain exports to the railway sector good practices of high added value developed in sectors such as aerospace and automotive.

- Papiro, 8-9 Parq. Ind. La Negrilla 41016 Sevilla (SEVILLA)
- **4** + 34 954 526 195
- antonio.peco@trigo-group.com
- www.trigo-group.com



GMV SISTEMAS, S.A.U.

GMV is a leading firm in the design, development, implementation and rollout of Intelligent Transportation Systems (ITS) guaranteeing compliance with the railway sector standards. Main products and services: On board units for location and communications, Fleet Management Systems, Fare Collection Systems, Passenger information systems, CCTV systems, PA & Intercom system, Systems for security reinforcement, Eco-driving systems, Software for planning and scheduling of services. Conceived for all railway modes (tram, metro, commuter train, long distance, high speed trains...)

- Juan de Herrera, 17 PTB 47151 Boecillo (VALLADOLID)
- +34 983 546 554
- +34 983 546 553
- iagg@gmv.com
 www.gmv.com

- info@haslerrail.com

 info@haslerrail.com
- www.haslerrail.com/

4 +34 91 620 79 58

service and support network.



FUNORSA

Funorsa is a Steel casting foundry with more than 20 years in the railway sector. We are specialized in pieces of high responsibility as couplers, Pivots, connection rods and different parts of the bogies. We are able to cast low alloy, alloy and inox castings up to 1.300 kg with a capacity of 2.000 Tons per year.

- Condado de Treviño, 41 Pol. Villalonquejar, 09001 Burgos (BURGOS)
- **434 650 665 302**

- www.funorsa.es



GEMINIS LATHES, S.A.

Leaders in the development of horizontal and multiprocess lathes, and specialized in railway sector, where we are proud to support the manufacturers of trains and maintenance lines, among other agents in the value chain. We offer customized solutions with highly reliable machines for the maintenance of rolling stock. Our lathes are specialized in the machining of axles, axlewheel set and wheels.

- Lerun, 1 20870 Elgoibar (GIPUZKOA)
- **4** +34 943 748 060
- +34 943 744 182
- geminislathes.com



GURUTZPE TURNING SOLUTIONS, S.L.

GURUTZPE is a company specialized in the manufacturing of high value-added heavy-duty Turnmills for machining strategic pieces in demanding industrial sectors. With over 60 years of experience, GURUTZPE provides customized and innovative manufacturing solutions on an international level.

The company specializes in maintenance and manufacturing of wheels, axles, and wheelsets for the railway sector, operating both nationally and internationally.

- Pol. Ind. Q8, 20829 Itziar, (GIPUZKOA)
- **\ +34 943 19 90 80**
- gurutzpe@gurutzpe.com
- www.gurutzpe.com



HEXIS GRAPHICS ESPAÑA

We have been manufacturing adhesive films since 1989. More than 30 years dedicated to the manufacture of adhesive films for cutting or large format digital printing. Hexis Graphics has specialized in the manufacture of high performance cast films, both PVC and latex. It is also constantly developing new solutions for professionals in the graphics industry, signage, vehicle wrapping and textile personalization. Hexis is not only a manufacturer of self-adhesive films, but also a distributor in 8 countries, thanks to our own branches located in France, Spain, Italy, Sweden, Germany, Switzerland, FWI and Australia.

- P.I. Can Terrers, Carrer de Priora Xixilona, 62, 08530 La Garriga (BARCELONA)
- **\(+34 937 32 25 00**
- **+34 931 352 171**
- info@haslerrail.com/ javier.jurado@hexisgroup.com
- https://www.hexis-graphics.com/es/



HIERROS Y CARBONES, S.A.

Since 1997 Hicasa is specialised in transformation, tailored cut, storage and distribution of railway tracks materials, all kinds of rails and railways accessories with a permanent stock of more than 3.500 MT.

In 2006 we have incorporated to our Group of companies a factory specialised in manufacturing light rails from 7 kg/m to 48 kg/m, manufacture according European and American Standard, Australian or South African together with other types of Standard (AREMA).

Our own experience allows us the optimal management of the supply chain, exporting to more than 30 countries all over the world.

- Pol. de Asipo Parcelna, 48 33428 Cayes Llanera (ASTURIAS)
- +34 985 260 473
- +34 985 260 905
- paco@hicasa.com
- www.hicasa.com



ICON MULTIMEDIA, S.L.

With over 25 years of experience, we have a extensive experience in the Digital Signage sector.

Our DENEVA Digital Signage platform is specially designed for high availability environments such as Smart Cities or as a powerful and comprehensive marketing tool for 'Smart Stations', guaranteeing a reliable and safe travelers and users experience.

Av. Santiago Amón, 3. bajo. 34005. Palencia (PALENCIA)

- **+34 979 702 906**
- **+34 979 702 021**
- www.iconmm.com

IDOM

IDOM CONSULTING, ENGINEERING AND ARCHITECTURE, S.A.U.

IDOM is one of the leading companies in the field of professional services in Engineering, Architecture and Consultancy. An independent company established in 1957 and it has participated in over 30.000 projects in five continents. In 25 countries with 42 offices. More than 3.500 staff posseses the expertise and experience to cover all the phases of a railway project(high speed, conventional, freight, metro, light rail, tramway, depot and workshops). From conception to commissioning and beyond and facing the challenges of an innovative, efficient and resilience Transport System.IDOM accompany the client by providing the correct technical assistance required for the decission making process.

- Zarandoa, 23 48015 Bilbao (BIZKAIA)
- +34 944 797 600
- **+34 944 761 804**
- cortega@idom.com
- www.idom.com



IKUSI, S.L.

At Ikusi, we provide complex turnkey integration project design, engineering and development services both for rolling stock and for infraestructure, with the agility and flexibility required by the rail industry. We are oriented towards improving our clients' competitiveness and innovation capacities, thanks to our deep business knowledge developed during these years. Our business focus is the design and supply of innovative technological solutions to help vehicle builders, transport operators and authorities optimize and transform their business while guaranteeing quality of service and enhancing passenger experience in terms of security, information, comfort and accessibility.

- Paseo Miramón, 170 20014 San Sebastián (GIPUZKOA)
- +34 943 448 800
- +34 943 448 816
- preventa.comercial@ikusi.com
- www.ikusi.com



IMATHIA

IMATHIA Construcción started in the civil works sector in 2004, providing Spanish and International clients with a professional and specialized approach to construction challenges, with an special vocation for Railways. We've been involved in projects throughout the main spanish HS Corridors and lines around the world. Our expertise covers a wide range of infrastructure and superstructure construction for metro, high-speed, and conventional railway. Our most outstanding reference is the High Speed Railway line in KSA, which we currently maintain. Some of our ongoing works are the Refurbishment of the Kampala-Malaba Line for URC (Uganda) or the Fuencarral II Depot.

- C/Agustín de Foxá 26, 28036 Madrid (MADRID)
- **434 915 75 46 16**

- www.imathia.es

VIESCA s.L.

INGENIERÍA VIESCA, S.L.

We are specialists in design and manufacture of power electronic equipment.

Our equipment work satisfactorily in all the continents with high reliability and availability, making efficient use of the available energy. We adapt our products to customer needs and requirements according with the applicable standards and the best quality.

The expected functionality is guaranteed by means of specific test protocols.

Our innovation is present in all our products: auxiliary power converters, battery chargers, flat battery starters, ...

- Rumanía 5, Nave B2 P.E. Inbisa Alcalá I. 28802 Alcalá de Henares (MADRID)
- **** +34 91 883 08 65
- **+34 91 882 07 17**
- www.ingenieriaviesca.com

INGEROP Inventence el mañana

INGEROP

INGEROP T3 is an engineering and architecture company specialising in the sectors of transport, mobility and cities, infrastructure, building, energy and industry, which has been operating in Spain since the 1990s. It has offices in Madrid, Barcelona, Granada and Seville. INGEROP T3 belongs to a group of more than 2,300 employees, mostly engineers, with a presence in more than 70 countries. It is a totally private and independent company, whose capital is wholly owned by its managers and employees. The INGEROP T3 team offers a wide range of services for both public and private clients, from planning to operation and maintenance.

- Calle Goya, 47, 8ª Planta 28001 Madrid (MADRID)
- +34 917 584 899
- maria.lorenzo@ingerop.es
- www.ingerop.es

Ingeteam

INGETEAM POWER TECHNOLOGY, S.A.

Ingeteam is an international group specializing in power and control electronics (inverters, frequency converters, controllers and protections) and electrical engineering and automation projects. The company operates in 22 countries, with 3,900 employees. R&D is at the backbone of its business activities.

In railways, the traction converters INGETRAC are based on an smart integration of proved Proved Modules, comprising all necessary elements to be fully operational, on each required application.

- Pol. Parque Tecnológico, 110 48170 Zamudio (BIZKAIA)
- **L** +34 944 039 600
- **+34 944 039 837**
- ★ traction@ingeteam.com
- www.ingeteam.com

ındra

INDRA

Indra is one of the leading global technology and consulting companies and the technological partner for core business operations of its customers world-wide. It is a world-leader in providing proprietary solutions in specific segments in Transport and Defense markets, and a leading firm in Digital Transformation Consultancy and Information Technologies in Spain and Latin America through its affiliate Minsait Its business model is based on a comprehensive range of proprietary products, with a high-value focus and with a high innovation component. In the 2018 financial year, Indra achieved revenue of €3.104 billion, with 43,000 employees, a local presence in 46 countries and business operations in over 140 countries.

- Avda. de Bruselas, 35 28108 Alcobendas (MADRID)
- **434 91 480 50 00**
- **+34 91 480 50 80**
- www.indracompany.com

Illineco

INECO

Global leader in transport engineering and consultancy, it has contributed to the development of transport infrastructures for over 50 years in more than 50 countries. Its high level technical specialisation allows its activity to diversify into new markets and reinforce its presence in those where it is already established. Its participation in the whole railway system in Spain has led the company to develop important international projects like the Makkah-Madinah high speed in Saudi Arabia, the HS2 project in the United Kingdom or the deployment of ERTMS in Europe.

- Paseo de la Habana, 138 28036 Madrid (MADRID)
- +34 91 452 12 00
- internacional@ineco.com
- www.ineco.com

Ingenieria y Control Ferroviario

INGENIERÍA Y CONTROL FERROVIARIO, SAU

ICF offers technical and sustainable solutions for railway signalling. In this area, our vocation is betting heavily on the development and innovation, constantly releasing new products that can be used to improve and optimize existing technology solutions. All the level crossings since June 2001 have been protected by ICF with its level crossing protection system SPN-900. We are working worldwide with more than 1000 international references. For us it's very important to be sustainable so we have worked hard to design systems that reduces dramatically its power consumption which allows it to work taking its energy only from sun, getting a zero CO2 emissions and zero external power supply.

- C/ La granja 74, 28108 Alcobendas (MADRID)
- **434 91 490 15 19**
- **+34 91 661 58 31**
- www.icf.com.es

ınse raıl

INSE RAIL, S.L.

Inse Rail is an engineering firm that is highly specialized in the railway industry and specifically its installations and systems.

Founded in 1994, it is dedicated to engineering, consulting and project management in the railway, industrial, energy and building construction industries, carrying out its activities in the different stages of planning, design, construction and operation of investments.

Inse Rail participates in the international development of the High Speed Rail and metropolitan transportation, with a strong specialization in electrification, signaling, security and communication systems, and other railway transport installations.

- Avda. de Burgos, 12 7° DCHA. 28036 Madrid (MADRID) +34 91 302 95 40
- jcanedo@inserail.es
- www.inserail.es



INTERNACIONAL HISPACOLD, S. A.

Hispacold, a World leader Company for climate systems with more than 40 years' experience is specialized in passangers comfort.

Hispacold designs and manufactures HVAC solutions for all rail vehicles: trams, metros, EMUs, DMUs, LRVs... with proven and reliable technology solutions.

Hispacold is certified in the most recognized International quality management, environment and safety standards: ISO 9001, ISO 14001, OSHAS 18001, EN 15805-2 and the prestigious IRIS ISO/TS 22163.

- Avda. Hacienda San Antonio, 1 -41016 Sevilla (SEVILLA)
- +34 954 677 480
- **+34 954 999 728**
- ► hispacold@hispacold.es
- www.hispacold.es



IBÉRICA TECNOLOGIA EN SISTEMAS DE SEGURIDAD FERROVIARIOS SL (ITSS)

Founded in 2005, is a leading manufacturer and supplier of railway hazard monitoring equipment, focusing mainly on hot axle box / hot wheel and Wheel impact load / Weighing in motion detectors.

The ITSS systems use state-of-the-art infrared and fibre-optic technology. The PEGASUS HABD/ HWD multi beam system monitors the axle box and brake temperatures of coaches. The AGUILA WIM/WILD system uses fibre-optic sensors to detect off-centre wheels and flat spots. It can also report train weight and overloading. ITSS products are the model representation of a perfect combination of experience and innovation.

- Avda Jerónimo Roure, 43 46520 Puerto de Sagunto (VALENCIA)
- **>** + 34 961 279 280 | +34 662 128 140
- **+** 34 91 141 35 75
- mail@itss.tech
- www.itss.tech



JOB IMPULSE

JobImpulse, an experienced professional services company with a successful history since its founding. With 57 offices in 13 countries and more than 9. 5,000 employees worldwide. Our services with international reach focus on Outsourcing, Recruitment and Headhunting in different markets such as Railway, Aerospace, IT and Defense. JobImpulse, can attract qualified professionals from other areas adapting them to the railway. To do this, with programs and specialists, we offer training around the world, developing technical and communication skills among employees. Thus, we break the generation gap and lack of resources that exists in the sector.

- C/Aviación, 18 Edificio Morera & Vallejo, I Calonge 41007 (SEVILLA)
- +34 650 748 498

- https://job-impulse.es/



LA FARGA YOURCOPPERSOLUTIONS, S.A.

La Farga is able to produce all the range of railway products in an integrated process. Our railway range includes all alloys used, the different measures of grooved contact wire and all supporting and electricity supply elements, feeders, hangers and cables. Furthermore, we offer technical visits and assessment to our clients and we constantly develop new railway products with the aim of introducing the best copper solutions into the market.

La Farga is a family-run metallurgical company, with more than 210 years of history. We produce semifinished copper products and their alloys for several technological sectors.

- Colònia Lacambra, s/n, 08508, Les Masies de Voltregà (BARCELONA)
- +34 93 850 41 00
- +34 93 859 04 01
- www.lafarga.es



LADICIM - UNIVERSIDAD DE CANTABRIA

LADICIM participates in R&D projects focused on the innovation of the railway superstructure, carrying out studies on the development of its elements, acc to national (Adif), European (EN) and American (AREMA) reference standards. The results are reflected in more than 500 reports, 25 research papers with a high impact index and 7 Doctoral Theses. The projects include collaborations in countries such as the USA, Canada, Saudi Arabia, Turkey, Germany, Senegal, Tanzania, Morocco or Ethiopia. LADICIM has implemented a quality system according to the UNE-EN ISO/ IEC 17025 standard, being accredited by ENAC (Spanish Accreditation Board) for the testing of fastenings, sleepers and rail welds.

- E.T.S. Ing de Caminos, Canales y Puertos Avda. de los Castros 44, Santander (CANTABRIA)
- **\\$** +34 620 12 30 24 / +34 942 20 18 28
- **+34 942 20 18 18**
- https://ladicim.es/

LUZNOR DESARROLLOS ELECTRONICOS, S.L.

LUZNOR is a company specialized in the design and manufacture of professional torches, emergency lighting and other electronic security devices. LUZNOR puts at your disposal highly qualified technicians, a high quality standard, efficient development, manufacturing and control systems and, above all, a philosophy of commitment to clients that allows LUZNOR to offer innovative products with advanced technology and recognised prestige.

- Paduleta 47 Pol. Ind. Jundiz Vitoria (ARABA/ÁLAVA)
- +34 945 200 961
- +34 945 200 971
- iarbeloa@luznor.com
- www.luznor.com

MainRail /////

MAIN RAIL S.L.

Main Rail is a high-tech start-up which develops a SAAS platform for maintaining railway infrastructures designed to optimise the day-to-day performance of railway maintainers and administrators; deployed in more than 3.200 km of Spanish Railway Network. We optimize maintenance activities, improve track safety and reduce cost. Our approach is to focus in taking advantage of the data coming from the infrastructure (inspections, measurement systems, IoT, etc) by gathering all this data, integrating, processing, and translating it into useful information for maintenance decision-making.

- Parque Enamorados, 6 1, Pamplona/ iruña, 31014, (NAVARRA)
- **** +34 662 574 768

- www.mainrailsolutions.com/



METALOCAUCHO, S.L. (MTC)

MTC, being part of Wabtec Corporation, designs and manufacture rubber-metal components for suspension and vibration control systems used on railway, automotive and industrial applications. With headquarters in Spain, MTC has 4 production facilities in 1) Spain, 2) China, 3) India and 4) USA, which offers to customers the possibility to localize production in any of these countries. Thanks to a wide commercial presence in any country of the world, MTC gives local support to develop projects for both OE and Aftermarket

Our main products are related to Primary Suspensions, Secondary Air Springs, Bushings, Buffers, Layer Springs, Subassemblies, Elastic Wheels, etc

- Poligono Erratzu 253, 20130 Urnieta (GIPUZKOA)
- +34 943 333 755
- **+34 943 333 751**
- mtc.com
- www.wabtec.com/business-units/ metalocaucho-mtc



LANDER SIMULATION & TRAINING SOLUTIONS

Lander Simulation & Training Solutions, S.A. specialises in designing, developing and implementing cutting-edge commercial simulation devices for training purposes.

On the basic premise of preventing accidents and loss of human life. Lander works with each customer to build training simulators which meet the specific needs of each operation.

Lander was incorporated in 2002, and now operates in more than 20 countries across all 5 continents. Its solutions cover the entire range of railway operations - suburban trains, long-distance units, high-speed trains, freight, monorail systems, metros or light rail.

- Portuetxe 23A, local B3 20018 San Sebastián (GIPUZKOA)
- +34 943 217 491
- lander@landersimulation.com
- www.landersimulation.com

lantania_«

LANTANIA

Lantania specializes in the construction of heavy civil works (roads, highways, dams, water treatment plants, maritime works, railways and airports), building construction and energy projects. The company began its activity in 2018 with the acquisition of the construction, energy and services business units of the Isolux Corsán Group and the subsequent purchase of the Velasco Group in 2019. One of the differential characteristics of Lantania is its ability to execute any kind of rail project in an integral way. The company has built more than 150 km of infrastructure, tunnels and railway viaducts, as well as more than 50 traction power substations and more than 1.500 km of overhead line.

- (MADRID)
- +34 91 035 35 86
- joaquin.navarro@lantania.com
- Sobrado, 2 28050 Madrid
- www.llalco.com www.lantania.com

llalco

LLALCO FLUID TECHNOLOGY

Llalco Fluid Technology is one of the few manufacturers and suppliers of impact absorption technology for end of track rail lines -Buffer Stops. World Class Technoly that protects people, machinery and the Environment. Their products are highly sophisticated end of rail track shock absorbers with a unique performance. Llalco has a wide range of models with gas hydraulic buffers, sliding friction shoes or a combination of both. Their technology allows to control the deceleration to the desired value. They have been delivering high quality Buffer Stop projects in Spain & Portugal since 1970 and in America and other European Countries since 2004. Llalco is also ISO9001.14001 & 45001 Certified.

- Torre de Cristal pl. 18. Pso. de la Castellana 259C, planta 18, 28046 Madrid (MADRID)
- +34 917 423 057

MGN TRANSFORMACIONES DEL CAUCHO, S.A.

MGN was established in 1957 and since then it has been developing its activity both designing and manufacturing rubber-metal components, mainly for the railway industry. MGN invests in research and innovation as a basis for the development of elements to be adapted in the new understanding of passenger and freight trains, taking the latest technological advances of the rubber world, vibration control and damping systems. - Primary and secondary suspensions. - Conical springs - Bushes and spherical bearings - Rods, Bogie subsystems - Pivot Bushes - Elastic Supports - Compression buffer and Draw Gear springs - Bellows, Gangway protections - Profiles, o-rings and seals.

- Candelaria, 9 28864 Ajalvir (MADRID)
- **\ +34 91 887 40 35**
- enp@mgncaucho.com
- www.mgncaucho.com



Diseño, fabricación y suministro de aparatos de vía, y componentes, para Metros, líneas convencionales, industriales y con alta carga por eje o de Alta Velocidad hasta 350 km/h.

Diseño, fabricación y suministro de cruzamientos fundidos de acero al manganeso. Soldadura trimetálica a tope por chisporroteo.

Juntas aislantes encoladas, cupones mixtos, sistemas de fijación, sistemas de cerrojos, reglas de medición de desgastes.

- Polígono Industrial Fábrica de Mieres, s/n 33600 Mieres (ASTURIAS)
- +34 985 456 331
- **+34 985 456 164**
- www.mieresrail.com



MOSDORFER UPRESA RAIL, S.A.U.

Supply of catenary systems for new installations and maintenances of tramway, conventional and high speed contact lines for international and national projects (Spain, Arabia, Israel, Turkey, Ethiopia, Tanzania, Mexico, Peru, Ecuador, Bolivia, Norway, Sweden, Lithuania...).

Installation of the compensated tensioning devices TENSOREX®, TENSOREX® C+ around the world.

🟲 C. de Zabaleta, 45, 28002 Madridç (MADRID)

- +34669785182
- +34 91 437 39 10
- www.mosdorfer.com



NEXT GENERATION RAIL TECHNOLOGIES, S.L. (NGRT)

NGRT S.L. is a company focusing on railway safety, working with railway regulators and helping infrastructure managers and train operators secure their infrastructure and operations. NGRT's products are designed to detect any anomalies that occur in the railway infrastructure.

The NGRT applications will detect rolling stock, independent of speed, direction and track conditions at any location, in all weather conditions, as well as anomalies impacting on the railway infrastructure.

- C/ Severo Ochoa, 9 29590 Campanillas (MÁLAGA)
- **** +34 650 100 801
- info@ngrt.com
- www.ngrt.com



NEWTEK SOLIDOS. S.L.

NEWTEK is mainly active in the manufacture of systems for filling sand in trams, trains and locomotives. NEWTEK supplies installations composed of storage silos, fixed sand feeders, sand feeding mobile units, aspiration systems and dust collection devices. The company also designs, manufactures and maintains custom installations according to the needs of each

- Pol. J Ma Korta, Parcela A1 20750 Zumaia (GIPUZKOA)
- **** +34 943 835 942
- anajera@newteksolidos.com
- www.newteksolidos.com

Do you want to appear in this directory?





PREFABRICACIONES Y CON-TRATAS, S.A.U. (PRECON)

PRECON is the Spanish leader in design and supply of precast concrete products for railway tracks, either ballast and ballastless tracks. It has supplied monoblock, twinblock, block slabs and sleeper for switches and crossings, Either for high speed, conventional lines, haul, subways and tramways.

- Espronceda, 38 (Local 3) 28003 Madrid (MADRID)
- **** +34 91 343 03 48
- **+34 91 359 12 46**
- ▼ fsanchez@precon.cemolins.es
- www.preconsa.es



PRETENSADOS DEL NORTE. S.L.

PRETENSADOS DEL NORTE, is one of the most important producers of pre-stresses steel in the word. Our products are recognised for having the best quality on the market. Our high standards of quality mean that we are talking about the best pre-stresses steel you can find. Our company has more than 30 years' experience in manufacturing and investment tha have led to what we are today: PRETENORTE. Technologically, we have equipped our company in Vitoria-Gasteiz with the best state-of-the-art machinery. We continue to incoporate the lastest novelties for your complete satisfaction. Pretenorte is highly specialised in pre-stressed sttel and its many applications.

- Miravalles, 4 Zona Indus. de Betoño 01013 Vitoria (ARABA/ÁLAVA)
- +34 945 258 431
- +34 945 261 400
- www.pretenorte.com



REVENGA SMART SOLUTIONS

Revenga Smart Solutions offers comprehensive solutions for the transport sector: railways and metros, roads, ports & airports. In railways & metros we focus on passenger experience solutions, ranging form intercomms, public address and information panels, to systems related with revenue/cost issues, like ticketing. tolling and access control, and also with operator oriented solutions like railway telephony, signalling (level crossings, point heaters and inspection systems) and station control. More than 45 years of experience. Projects deployed in 24 countris.

- Fragua, 6 28760 Tres Cantos (MADRID
- +34 91 8061810
- +34 91 8041955
- marketing@revenga.com
- www.revenga.com



NRF

Since 1927 NRF is a leading manufacturer and supplier of cooling products for the automotive market, industrial, railway and marine sector. NRF is known for the production of high quality radiators, but also produces and supplies a large range of other engine cooling and air conditioning products. NRF has global engineering, testing and development facilities. Railway and ship manufacturers, large retailers of vehicle parts, radiator shops and specialists in more than 80 countries worldwide daily rely on NRF's high quality products.

- Av. Asegra, 22, 18210 Peligros (GRANADA)
- **\ +34 958 405 030**
- a.lara@nrf.eu
- www.nrf.eu



PARRÓS OBRAS. S.L.

Family business with over 25 years experience in civil construction and iron and steel industry for the railway sector. Parros Group which is specialized in pile driving and catenary foundations, has implemented the 80% of the foundations of the entire Spanish High Speed Network. Whether conventional railway network or Highspeed Railway (AVE), PARROS GROUP is distinguished by the versatility of our machines adapted "Ad hoc" for auxiliary civil works from the railway, with automatic switching to the three Spanish gauges. Also innovative is our implementing system of noise barriers from the railway track and its foundations. Generic activities of building and general construction.

- Ctra. Virgen del Monte, 1 13260 Bolaños de Calatrava (CIUDAD REAL)
- **+34 926 88 47 05**
- +34 926 88 47 06
- rocio@parros.es
- www.parros.es



PATENTES TALGO, S.L.U.

Talgo is a Spanish company with more than 70 years of experience, specialized in designing and manufacturing trains, maintenance equipment as well as providing maintenance services to railway operators worldwide. Today, Talgo is the leading global reference for Spanish High Speed Technology and the number one player in Spain's railway market. Due to Talgo's successful expansion strategy and its globally acclaimed products, the company has become truly international. Its key success factors are innovation, unique technology, sustainability, safety, competitiveness and tailor-made projects with clear focus on customer. Talgo trains are internationally recognized as the best in their category.

- P° del trenTalgo, 2 28209 Las Matas
- **\ +34 91 631 38 00**
- marketing@talgo.com
- talgo.com

salicru

SALICRU, S.A.

Its main mission is to guarantee a continuous, clean, economical, reliable and ecological electricity supply to its customers, for which it offers a wide range of products capable of providing solutions for the most sensitive systems and most demanding markets.

SALICRU has the widest national coverage and 10 subsidiaries abroad, selling its products in more than 130 countries, with more than 2.000.000 pieces of equipment in operation. Likewise, SALICRU is certified with ISO-9001, ISO-14001 and ISO-45001 and its products are designed and produced in a way that respects the environment.

- Avda de la Serra, 100 08460 Palautordera (BARCELONA)
- **** +34 938 482 400
- **+34 938 481 151**
- www.salicru.com



SATYS INTERIORS RAILWAY SPAIN

Satys is a Spanish company specializing in the design and manufacture of galley systems for railway rolling stock.

A galley system is broken down into 3 main families of equipment:

- Refrigerated cabinets
- Functional systems. Cooling, electricity, water, lighting, etc.
- Interiors. Countertops, lining, etc.

Satvs offers a wide range of products specifically for each one. Thanks to the unique and highly efficient Satys technology, our products are internationally recognized as the best in their class in terms of quality, safety, availability, reliability, accessibility and environmental friendliness.

- Avenida de la Cañada. 64-66 Nave 1A 28823 Coslada (MADRID)
- **\ +34 91 334 15 90**

- www.satys.com



SCREENSOR TECH

Screensor Tech is a startup committed to innovating conventional media in the field of signage and broadcasting advertising and information content. We provide tailor-made solutions to our clients, from public transport to retail, enabling them to place transparent T-OLED screens in strategic locations. With the latest display technology, we offer users a unique experience, providing them with relevant content and real-time information, while creating a new space for effective communication between brands and their audiences.

C/ del Doctor Castelo, 44, 28009 Madrid (MADRID)

**** +34 676 123 937

mfo@screensor.eu

www.screensor.eu

MEMBERS DIRECTORY

MEMBERS DIRECTORY



SEGULA TECHNOLOGIES

SEGULA Technologies is an engineering group with a global presence, helping boost competitiveness within all of the major industrial sectors: automotive, aerospace, energy, rail, naval and defense, pharmaceutical and oil & gas. Present in 30 countries and with 140 offices worldwide, the Group fosters a close relationship with its customers thanks to the expertise of its 12,000 employees. A leading engineering specialist placing innovation at the heart of its strategy, Segula Technologies conducts large-scale projects, ranging from studies to industrialisation and production.

- Av. Bruselas 8 Oficina 8 01003 Vitoria-Gasteiz (ARABA/ÁLAVA)
- +34 678 771 259
- a
- www.segula.es



SENER INGENIERÍA Y SISTEMAS, S.A.

SENER is one of the leading engineering and technology groups in Europe with over one billion euros of annual turnover, more than 2,000 professionals and a continuously growing international presence with offices in over 15 countries. In the field of railway engineering, Sener counts on an extensive experience in metros, light rail trains systems and tramways, conventional railway line, freight transport and High Speed Lines. SENER's activities range from preliminary, conceptual and feasibility studies, basic and detailed engineering to project management services, supervision of works, value engineering and ICE services.

- Av. de Zugazarte, 56 48930 Getxo Las Arenas (BIZKAIA)
- +34 944 817 500 / +34 91 807 70 68
- **+34 944 817 501 / +34 91 807 87 32**
- uen_infraestructurasytransporte@sener.es
- www.ingenieriayconstruccion.sener

SGS

SGS GROUP SPAIN

SGS is the world's leading inspection, verification, testing and certification company. We are recognized as the global benchmark for quality and integrity. With more than 97,000 employees, we operate a network of more than 2,600 offices and laboratories around the world.

Our core services can be divided into four categories: Certification , Inspection, Testing and Verification

We are constantly looking beyond customers' and society's expectations in order to deliver market leading services wherever they are needed. Our independent services add significant value to our customers' operations and ensure business sustainability.

- C/ Trespaderne, 29, 3° Edificio
 Barajas I, 28042 Madrid (MADRID)
- **\ +34 913 138 000 / +34 607 845 281**
- □ carolina.sotoramos@sgs.com
- www.sgs.com



SOFTWARE QUALITY SYSTEMS, S.A.

SQS is a company specialised in software validation and verification with extensive experience in safety critical systems and, specifically, in the railway sector.

We accompany our clients throughout their development process, optimizing it and guaranteeing compliance with specific regulations and standards for their sector in terms of safety, functionality, quality, etc.

Likewise, we design and implement automated test environments and complement our offer with training activities in the field of software testing and quality.

- Avenida Zugazarte 8, 1°-6, Getxo, (BIZKAIA)
- **** +34 944804617
- ▼ blaibarra@sqs.es
- www.sqs.es

STADLER

STADLER RAIL VALENCIA, S.A.U.

International rail vehicle construction company, Stadler, is headquartered in Bussnang in Eastern Switzerland. Founded in 1942, it has a workforce of over 8,500 based in various production and over 40 service locations. Stadler provides a comprehensive range of products in the heavy and urban transport segments: High-speed trains, intercity trains, regional and commuter heavy rail trains, underground trains, tram trains

Stadler also manufactures main-line locomotives, shunting locomotives and passenger carriages, including the most powerful diesel-electric locomotive in Europe. It is the world's leading manufacturer in the rackand-pinion rail vehicle industry.

- Pol. Ind. del Mediterráneo Mitjera, 6 46550 Albuixech (VALENCIA)
- + 34 961 415 000
- **+34 961 415 002**
- www.stadlerrail.com

syneo:

SYNEOX RAIL S.L

Syneox was born from the merger of the railway divisions of three world-renowned companies; Grupo Cobra, Semi and Cymi.

We integrate all the technologies and systems involved in a railway line:

Energy. Leader in energy supply to all railway systems.

Signaling and auxiliary systems. Railway technologies worldwide.

Associated civil works. To the installation of railway systems

Operation and maintenance. High speed, conventional network, trams and subways.

Solutions. Turnkey solutions. Concessions and Public-Private Associations.

- Calle Cardenal Marcelo Spínola nº 10, 28016 Madrid (MADRID)
- **4** +34 649 724 570
- iesus.garciah@syneox.com
 i jesus.garciah@syneox.com
- https://www.syneox.com/en/



SICE TECNOLOGÍA Y SISTEMAS, S.A. (SICE TYS)

SICE Tecnología y Sistemas, (SICE TYS) is a group of companies that provides solutions and systems for Transport and Traffic, Environment and Energy efficiency, Smartcities and Telecommunications.

SICE TyS, as systems integrator, offers technological solutions adapted to the railways sector, conceiving a centralized management with functionalities oriented to the operation of public and private transport, integrating: - Security Systems - Telecommunications Systems - Signaling (Interlockings, Level Crossings, CTC) (ENYSE) - Automatic Fare Collection - Traffic Prioritization of Public Transport - Engineering (OFITECO): railway lines;

La Granja, 72-Pol. Ind. Alcobendas 28108 Alcobendas (MADRID)

Tunnel monitoring; Load test (railways bridges).

- **434 91 623 22 00**
- +34 91 623 22 01
- www.sice.com

SIEMENS

SIEMENS MOBILITY. SLU

Siemens Mobility is a separately managed company of Siemens AG. As a leader in transport solutions for more than 160 years, Siemens Mobility is constantly innovating its portfolio in its core areas of rolling stock, rail automation and electrification, turnkey systems, intelligent traffic systems as well as related services. With digitalization, Siemens Mobility is enabling mobility operators worldwide to make infrastructure intelligent, increase value sustainably over the entire lifecycle, enhance passenger experience and guarantee availability.

- Ronda de Europa, 5 28760 Tres Cantos (MADRID) +34 91 514 88 87
- www.siemens.es/siemens-mobility



SMART MOTORS

Smart Motors applies new technologies to generate added value from the monitoring of critical railway assets that believe that Digitalization and the uses of advanced analytics are the way to service excellence. The priority is to generate new knowledge about the operation of railway assets that satisfies the requirements of the most demanding environments and with a real day to day contribution.

Smart motors has its own Digitalization Platform to help maintenance and operation that brings together signaling monitoring systems, infrastructure and rolling stock, as well as IoT sensors adapted to the railway sector.

- Torroella de Montgrí 17-19, 08027
 Barcelona (BARCELONA)
 +34 675 220 603
- info@smartmotors.org
 smartmotors.org



S.A.E. IBERTEST

IBERTEST is a company that has been developing, manufacturing, and supplying mechanical testing systems for materials and components since 1970. We provide our systems for various sectors, including the railway industry, and consistently adhere to the highest standards of quality and technology. Additionally, we offer turnkey projects for the creation of laboratories and national reference centres for testing, quality control, research and training. Our integrated approach allows us to provide global solutions for research and quality control of a wide variety of materials and components.

- Ramon y Cajal, 18-20, Daganzo de Arriba, Madrid (MADRID)
- **** +34 918 845 385
- +34 918 845 002
- www.ibertest.com



TALLERES ALEGRÍA, S.A. TALLERES ALEGRÍA, S.A.

Talleres Alegría, s.a. is a family owned company devoted since 1900 to design, manufacturing and after sales assistance of all kind of fixed track material, its accessories and spare parts. Developing of Designing and Commissioning Integral projects of turnouts to be installed at Depots and Industrial Ports and Factories. Design, manufacturing, repair and maintenance of self propelled vehicles to carry out works at the infrastructure. Design, manufacturing, retrofitting, repair and maintenance of freight wagons.

- Peña Santa, 7 Pol. Ind. Silvota 33192, Llanera (ASTURIAS)
- +34 985 263 295
- +34 985 266 011
- ▼ talegria@talegria.com
- www.talegria.com



In TECNIVIAL we specialize in all types of fixed signalling for track (Marker Boards), conventional lines and High Speed lines. We are one of the companies approved by the Spanish Railway Infrastructure Administrator (Adif) and the others. The last product boosted to the market have been the NANOTEC SIGNS (R+D). The incorporation of cutting-edge materials (carbon nanoparticles) to the signs manufacturing, allows the improvement of its behavior and mechanical features: light, corrosion-free, low residual value and maintenance, eco-friendly, resistant to loads (snow/ wind). Besides, we develop Corporative Image projects according to the needs of the customer; design & installation.

Livorno, 19004 Guadalajara (GUADALAJARA)

- **4** +34 639 101 699
- +34 949 252 080
- export@tecnivial.es
- www.tecnivial.es
- www.tecniviai.es



TEKNIKER

R&D center oriented to technology transfer through research projects.

Specialization areas:

- Advanced manufacturing: laser processes, LMD coating and repair, cutting processes
- Surface engineering: friction and wear studies, physical-chemical coatings seeking to improve anti-corrosion, wear, easy cleaning, anti-adherence, optical and aesthetic characteristics
- ICTs: solutions for inspection and measurement based on vision and AI techniques, O&M, condition monitoring, data management, Smart components, sensor development
- Product engineering: new product development, tribological testing, fault diagnosis
- lñaki Goenaga, 5, 20600 Eibar (GIPUZKOA)
- +34 943 206 744
- inaki.bravo@tekniker.es
- www.tekniker.es

Teldat

TELDAT S.A

Since 1985, Teldat has been providing solutions for cloud access, remote office communications, cybersecurity and voice/data connectivity both in the office and in specific environments (industrial, railway, vehicles or public services). Teldat invests heavily in R&D&I including technologies such as network virtualisation, artificial intelligence, Federated Learning, 5G and DLT. Combined with its ability to work closely with its customers according to the specific needs of each project, it is among the European leaders in the corporate communications market. Present in more than 40 countries, it has headquarters in both Spain and Germany.

C/ Isaac Newton 10, 28760 Tres Cantos, (MADRID)

- +34 686 68 80 58
- ctovar@teldat.com
- www.teldat.com

terice

TELICE, S.A.

Telice is an international company, with more than 45 years of experience in different markets related to cutting-edge technology and standing out in the railway market. Its activity covers the design, installation and maintenance of railway electrification systems, safety and railway signalling, electrical substations, civil engineering projects, industrial electricity, fibre optic installation, industrial automation and safety systems in tunnels, underground and mining projects. Due to its wide expertise, Telice has become preference collaborator for the main railway administrations. Telice has international presence in Norway, United Kingdom, Portugal, Peru, Chile and Brazil.

- Calle de la Granja n.º 15, 2.ª planta, oficina 3 28108 Alcobendas (Madrid)
- **\ +34 91 084 17 07**
- +34 987 264 407
- ▼ telice@telice.es
- www.telice.es



TRAFAG

Trafag is a Swiss manufacturer of pressure, temperature, level and SF6 gas density sensors, as well as a supplier of speed sensors.

Present along the whole world and, managing from Spain the Iberian Peninsula and Latin America.

Sectors of activity: railway, hydrogen, hydraulics, pneumatics, renewables, shipbuilding, test benches, big engines, EX zones...

- Parque Tecnológico de Bizkaia, edif. 208B. 48170 - Zamudio - (BIZKAIA) 667 843 260 / 946 414 063
- ivan.blanco@trafag.es / info@trafag.es
- www.trafag.com



TYPSA

Founded in 1966, TYPSA is a leading consulting engineering group in the fields of transport, buildings, water, environment, energy and rural development. We have a long-standing relationship with public, private and institutional clients in the Americas, Europe, Africa, Asia and the Middle East, assisting them in the development of infrastructure, energy and city projects from concept to completion. In addition to providing world-class engineering services, TYPSA has extensive experience in building the capacity of local firms and in strengthening institutions to guarantee the sustainability of the infrastructure.

- Gomera, 9 -28703 San Sebastián de los Reyes (MADRID)
- +34 91 722 73 00
- exterior@typsa.es
- www.typsa.es



ULMA FORJA S.COOP.

Ulma Forja S.Coop is a cooperative company, part of Ulma Group and specialized in the manufacturing of Forged Components. With more than 50 years of experience and with two production plants (Oñati and Lazkao), we offer forged and machined components of high quality. We produce our pieces forged from a wide variety of materials to meet the different requirements and needs of our customers in many industries.

In the railway sector, Ulma collaborates with companies in the value chain to which supplies forged components in different materials such as carbon steel, aluminium or low alloy, among others.

- C/ Zubillaga 3, 20.560 Oñati (GUIPÚZCOA)
- **+34 670 621 868**

- www.ulmaforge.com



TELTRONIC

Backed by over 40 years of experience in the design, manufacturing, and deployment of Professional mobile radio projects on a turnkey basis, Teltronic presents a broad portfolio of critical communication solutions for transport sector, providing complete solutions: network infrastructure, control centre, and end-user equipment, including specialized onboard systems specifically designed for train, metro, tram and LTR. Besides voice and data transmission solutions, the company offers integration services with other subsystems: PA and intercom, applications to manage and control fleets and for operating aid, real time CCTV or communications support for signalling systems ETCS, CBTC, PTC...

- Pol. Malpica, C/F Oeste 50016 Zaragoza (ZARAGOZA)
- +34 976 465 656
- +34 976 465 720
- fsanjuan@teltronic.es
- www.teltronic.es

THALES

THALES ESPAÑA GRP, S.A.U.

Thales is a World leader in Mission Critical Solutions for Land Transportation. Thales Spain, with more tha 60 years of experience, has been pioneer and leader in the thecnological development of the Spanish railways, beein one of the main suppliers of safety and telecommunication systems for the Spanish Railways Administrations and present in countries as Turkey, Mexico, Algeria, Malaysia and Morocco.

Its activity goes from the development, manufacturing installation, commissioning to the maintenance of equipments and systems for railway signalling, train control, Telecommunication, Supervision ticketing and critical infrastructures security.

- Serrano Galvache, 56 Edif Álamo 28033 Madrid (MADRID)
- +34 91 273 7200

- www.thalesgroup.com



TPF GETINSA EUROESTUDIOS. S.L.

Passion for excellence

Our priority : developing solutions that meet our client needs. This approach is based on three pillars: expertise, efficiency and continuous innovation.

Today, TPF is ranked among the most important multidisciplinary companies active in the following sectors: building, transport infrastructure, water and energy.

Over the years, the group successively expanded in Europe, Asia, Africa and America through a series of acquisitions and became a key player, internationally recognized in its

- Ramón de Aguinaga, 8 28028 Madrid (MADRID)
- **418 21 10 +34 91 418 21 10**
- **+34 91 418 21 12**
- www.tpfingenieria.com



URETEK SOLUCIONES INNOVADORAS, S.L.U

We are the inventors of consolidation with Expansive Resins. Our patented technologies are the most used in the world, with more than 100,000 interventions carried out. Our high technology, the quality of the interventions and more than 30 years of experience. we have become the reference for the consolidation of land with injections of expansive resin to be able to provide multiple solutions to your problems. We are committed to repairing structures without interfering with life and activities, in particular we use unique and patented innovative technologies that are fast and conservative.

- Príncipe de Vergara, 1261° F 28002 Madrid (MADRID)
- +34 900 809 933

- www.uretek.es



VALDEPINTO, S.L.

Valdepinto, S.L. was established in 1986 and focuses its activities in the Railway sector. We have four main product lines:

- All types of machining (specialists in electrical insulation).
- Screen printing, Signs and Engraving low-
- Metal transformation and welding.
- Design and fabrication of transformers and coils of high/low voltage. Our philosophy is to always offer all our clients an unbeatable value for Money, combined with an excellent
- C/ Águilas, 9 Nave 11 28320 Valdepinto (MADRID)
- +34 91 691 42 68
- **+34 91 691 57 03**
- ☑ lauraparra@valdepinto.net
- www.valdepinto.com



VIRLAB VALDEPINTO, S.L.

Virlab is a reference laboratory for dynamic vibration and shock testing. Created in 1976 and located between San Sebastian and Toulouse and less than one hour from Biarritz airport (France), the laboratory develops accredited tests for equipment that may be subject to earthquakes or other types of vibrations and

Virlab's laboratory tests electrical, mechanical and instrumentation components, equipment and systems that, due to their use, may be subject to compliance with specific regulations under seismic, vibration or shock conditions.

Polígono Industrial Asteasu Zona B, N° 44 20159 Asteasu (GUIPÚZCOA)

**** +34 94 369 15 00 / 609 407 664

- +34 943 69 26 67
- https://virlab.es/es/



VICOMTECH

Vicomtech is an applied research centre specialising in Artificial Intelligence, working on technological solutions based on Computer Vision, Data Analytics, Computer Graphics, Advanced Media Technologies and Language Technologies. It aims at meeting the innovation requirements of the local companies and institutions to face new economic and social challenges, and improving their competitiveness in a global market. The transfer mechanism for this research is the creation of R+D+i projects geared to companies' needs. Furthermore, the centre works intensively on cooperation projects, through cooperative technology development promotion schemes at local, national and international level.

- Paseo Mikeletegi, 57 Parque Tecnológico de Miramón 20009 San Sebastian (GIPUZKOA)
- **4** +34 943 309 230
- +34 943 309 393
- www.vicomtech.org

WSP SPAIN

voestalpine

voestalpine Railway Systems JEZ, S.L.

We are committed to the designing, manufacturing, supplying and maintenance of all types of manganese steel switches and railway track systems for railways and tramways, in addition to moulded cast steel parts for the general industry. Our Technical Department (Department R&D) ensures we have the capability of designing and producing points and crossings (turnouts, crossovers, scissor crossovers and diamond crossings) or parts for them, such as hard steel manganese crossings, spare tongues... as well as the generation of patents.

- Arantzar s/n 01400 Llodio (ARABA/ÁLAVA)
- **4** +34 946 721 200
- **+34 946 720 092**
- ▼ vaRSJEZ.info@voestalpine.com
- www.jez.es

VOGELSANG **○**

VOLGELSANG

As the inventor of the elastomer-coated rotary lobe pump and a pioneer in the area of vacuum wastewater technology, we have been supplying technical solutions whose functionality, quality and reliability set the benchmark for our competitors. Renowned railway companies such as the Deutsche Bahn among other international companies put their trust in our intelligently designed solutions for wastewater disposal and fresh water supply as well as Vogelsang's demand-oriented technical equipment. These include systems mobile solutions, maintenance for bioreactor toilet systems as well as servicing and cleaning to ensure the highest standards regarding hygiene, usability and cost-efficiency.

- Crta. del Pla 285 nau 20 43800 Valls (TARRAGONA)
- **4** +34 977 60 67 33
- +34 977 60 67 33
- ▼ ruben.llorente@vogelsang.info
- https://www.vogelsang.info/



As one of the world's leading professional services firms, WSP provides engineering and design services to clients in the Transportation & Infrastructure, Property & Buildings, Environment, Power & Energy, Resources and Industry sectors, as well as offering strategic advisory services. Our experts include engineers, advisors, technicians, scientists, architects, planners, surveyors and environmental specialists, as well as other design, program and construction management professionals. With approximately 49,000 talented people globally, we are uniquely positioned to deliver successful and sustainable projects, wherever our clients need us.

- Albert Einstein 6, 39011 Santander, (CANTABRIA)
- **+34 942 290 260**
- +34 942 274 613
- Mario.Perez@wsp.com
- www.wsp.com/es-ES

ZELEROS

Zeleros is the Spanish company developing a hyperloop transport sytem, already considered as "the fifth means of transport". Its focus on the vehicle optimization allows to reduce infrastructure costs and to operate at safer pressures for the passengers. Zeleros has already raised substantial private and public support, and collaborates with companies such as Renfe (Trenlab) and Altran, research centers (Universitat Politècnica de València. CIEMAT, UPM) and is supported by investors such as Plug and Play, Angels or ClimateKIC. Currently Zeleros is preparing the construction of its own 2-kilometer test-track in Sagunto to demonstrate the system at high speed.

- Muelle de la Aduana s/n, Edificio Lanzadera 46024 Valencia (VALENCIA)
- +34 633 386 733

- www.zeleros.com

ZITRON, S.A.

ZITRON is a world-wide leading company in designing, manufacturing, commissioning and maintenance complete ventilation systems for metro and tunnels. ZITRON has the world's biggest aerodynamic test bench, certified by AMCA, for testing fans at full load and 100 % speed. ZITRON's extensive reference list includes more than 500 metro and tunnel projects. The latest and more significant ones are Crossrail in London and Doha Metro. Experience and knowhow, providing innovative and tailor-made solutions, are our most appreciated values. The global growing market of ZITRON's fans, along with the high level of satisfaction of the Clients is the best mark of its equipment and services quality.

- Autovía AS-II nº2386, Polígono Roces 33211 Gijón (ASTURIAS)
- +34 985 168 132
- **+34 985 168 047**
- www.zitron.com





SUSTAINABLE MOBILITY

In an increasingly urbanized world, Stadler's metro, light rail vehicles and trams offer great comfort to passengers and cost-effective customized solutions to operators. Our urban and suburban vehicles set trends in terms of performance, universal accessibility, reliability and safety. www.stadlerrail.com

