



METROTENERIFE

# Estocolmo: Cumbre del Transporte Público de la UITP

## Stockholm: UITP Global Public Transport Summit

Del 9 al 12 de junio de 2019, se celebra en Estocolmo el congreso bienal de la UITP, Unión Internacional del Transporte Público, que, bajo el lema “El Arte del Transporte Público”, abarcará todos los modos de transporte urbano y regional en todo el mundo.

La Cumbre ofrece un completo programa de conferencias y exposición comercial que permitirán conocer tendencias, innovaciones, soluciones y productos destacados en el ámbito del transporte público que están definiendo su futuro.

El transporte público, uno de los sectores determinantes en la calidad y el nivel de vida de sociedades cada vez más urbanizadas, se dará cita en la capital sueca con una relevante presencia de empresas y entidades españolas que mostrarán sus innovaciones, productos, soluciones y servicios en el principal escaparate internacional para su actividad.

*The UITP (International Association of Public Transport) biennial Summit will be held in Stockholm from 9-12 June 2019 under the theme “The Art of Public Transport”, and it will cover all urban and regional transport modes across the globe.*

*The Summit will witness a diverse programme full of congress sessions, combined with a world-class exhibition displaying the latest and greatest innovations, solutions and key products in the field of public transport that are defining its future.*

*The public transport sector, one of the determining sectors in the quality of life of societies which are more and more urbanised, will gather in the Swedish capital to display its innovations, products, solutions and services at the main international showcase for its activity. The event will be attended by many important Spanish companies and organisations.*

## ALSTOM

*At UITP 2019 in Stockholm, Alstom will be demonstrating ways that collective transportation systems can offer passengers a fluid, secure and enjoyable travel experience, while remaining environmentally friendly, sustainable and accessible to all.*

*As a major player of the environmental revolution, Alstom will highlight the way sustainable foundations underpin innovations from across the business. Aptis, the company's first 100% electric bus, exemplifies green innovation in rolling stock. Environmentally-oriented infrastructure will include SRS, a ground-based static charging and power supply system for trams and buses. And Alstom's highly efficient permanent magnet motors and vacuum circuit breakers will illustrate the sustainability built into components.*

*Fluidity, in every sense, will be central to the success of shared mobility in a future of rapid evolution. The principle applies to multimodality for both the passenger and the operator or transport authority, as demonstrated by Mastria, Alstom's multimodal surveillance and control system. Fluidity in maintenance operations – shorthand for higher availability and lower maintenance costs – will be illustrated by the Dynamic Maintenance Planning data-driven system. Appitrack, Alstom's unique all-in-one track laying process, boasts unmatched cost-effectiveness, speed and quality when it comes*



*to building infrastructure. Finally, Alstom will show how its famous Citadis trams are conceived, from the ground up, to keep passengers moving and cities flowing.*

*At UITP, Alstom will also showcase its latest developments that improve security aboard vehicles, allowing them to improve their transport offerings and serve cities more efficiently. On display will be Iconis, a security control centre, that will reinforce operator image and empower passengers through real-time incident reporting. Alstom will launch a Travel Assistant, a platform connecting operators and passengers that will allow real-time incident reporting. Moreover, Alstom will reveal its latest developments for StationOne, its online marketplace connecting railway vendors and buyers.*

Stand: A3020

<https://www.alstom.com>

## AYESA



### Líderes en sistemas de transportes

Ayesa es una multinacional ETC (Engineering-Technology-Consulting) especializada en ingeniería y en la transformación digital de grandes empresas y sector público.

Es líder en el desarrollo, gestión y construcción de infraestructuras de transporte. Sus expertos participan en todas las fases de las infraestructuras, desde las etapas más tempranas de viabilidad y anteproyecto, hasta el diseño, supervisión de la construcción, puesta en marcha y operación o mantenimiento de obras viales, ferroviarias y de transportes metropolitanos.

Es una de las cien mayores empresas internacionales de su sector y una de las compañías con más proyectos metropolitanos en ejecución. Actualmente ejecuta, entre otros, la Línea 1 del metro de Ecuador, la Línea 2 del metro de Panamá, Línea 1 y 2 del metro de Perú, Línea 4 y 6 del metro de Riad y una decena de proyectos de metro en India.

- Estudios y diseños (planes de transporte, estudios de viabilidad, diseños preliminares y detallados).
- Ingeniero independiente.
- Pruebas y puesta en marcha.
- Operación y mantenimiento en infraestructuras metropolitanas.
- Gerencia y Supervisión de obras.

### Leaders in transport systems

Ayesa is a multinational ETC (Engineering-Technology-Consulting) firm specialising in engineering

*and the digital transformation of major companies and the public sector.*

*It is at the forefront in terms of development, management and construction of transport infrastructures. Its experts are involved in all infrastructure stages, from the initial feasibility and pre-project phases, up to the design, supervision of construction, commissioning and operation or maintenance of roadway, railway and metropolitan transport projects. Ayesa is one of the top one-hundred companies in its sector and one of the firms with the most metropolitan projects underway.*

*It is currently embarking, among others, line 1 of the Ecuador subway, line 2 of the Panama subway, lines 1 and 2 of the Peru subway, lines 4 and 6 of the Riad subway and a dozen subway projects in India.*

*Studies and designs (transport blueprints, feasibility studies, background and detailed studies)*

- Independent engineering
- Trials and commissioning
- Operations and maintenance of metropolitan infrastructures.
- Project management and supervision.



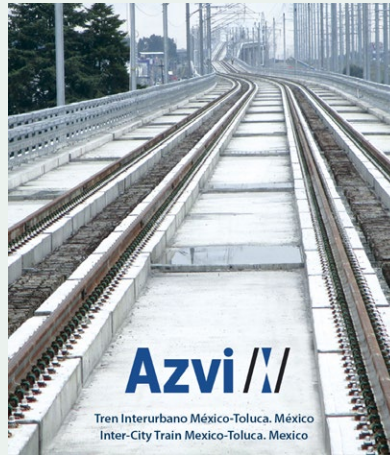
## AZVI

### Construcción y mantenimiento de infraestructuras ferroviarias

Azvi es una empresa centenaria dedicada a la construcción de todo tipo de proyectos de obra civil, cuyos orígenes son eminentemente ferroviarios, formando parte de la historia y la evolución del ferrocarril y sus infraestructuras en España, y, en la actualidad, también en distintos países como Portugal, Rumanía, Brasil y México.

En todos estos años, Azvi ha participado en numerosos proyectos de construcción, rehabilitación, conservación y mantenimiento en más de 2.000 km de vía, de los que más de 460 km son de Alta Velocidad, (infraestructura, montajes de vía, electrificación y señalización, bases de montaje), sin olvidar los proyectos de modernización de ferrocarril convencional y transporte urbano (Metro, Tren-Tranvía, Tranvía, Estaciones Intermodales, etc.).

Pero no sólo la experiencia es importante. Para Azvi la investigación, el desarrollo y la innovación son primordiales para la óptima ejecución de sus trabajos ferroviarios, contando con un departamento de



I+D+i y con un amplio y moderno parque de maquinaria que le permite ejecutar sus trabajos con maquinaria propia.

### Construction and maintenance of railway infrastructures

*Azvi is a century-old company dedicated to the construction of all types of civil works projects, whose origins are in railways, forming part of the history and evolution of the railways and infrastructures in Spain, and currently, in different countries such as*

*Portugal, Romania, Brazil and Mexico.*

*Throughout these years, Azvi has participated in numerous construction, rehabilitation, conservation and maintenance projects over more than 2,000 km of track, of which more than 460 km have been High-Speed Rail (infrastructure works, track assembly, electrification and signaling, assembly bases construction). Updating projects in conventional railway lines and urban transport (Underground, Train-Tram, Tram, Intermodal Stations, etc.) have been also carried out. But experience is not the only important point. R&D are essential for the optimal implementation of Azvi's projects, having its own department and a large and modern machinery park which allows the company to carry out works with its own machines.*



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Viajar Informado  
Travel informed

## BELGORAIL

Belgorail, desde 2017 parte del Grupo Certifer, es líder mundial en la evaluación independiente y certificación de productos y sistemas de transporte ferroviario y guiado.

Proponemos la más amplia gama de servicios gracias al desarrollo de redes locales de expertos altamente cualificados, para ofrecer calidad y capacidad de reacción, respetando nuestros valores de integridad e independencia.

Nuestras competencias están sustentadas por una red de más de 400 expertos procedentes de los principales actores del sector: administradores de infraestructura, empresas ferroviarias y fabricantes.

Nuestros reconocimientos y acreditaciones como NoBo, DeBo, ISA y AsBo, en países de todo el mundo (España, Francia, Bélgica, Italia, Suiza, Luxemburgo, Dinamarca, Turquía, Argelia, India, Arabia Saudita, Australia, Oman) son una evidencia más de nuestra competencia.

Competencia también avalada por nuestros principales clientes: Alstom, Siemens, Bombardier, CAF, Talgo, Stadler, Thales, SNCF, Adif, Infrabel, Eurotunnel, Banedanmark, SNCB, FGC, Ansaldo, Faiveley, Ferrovial,



Transfesa, Vossloh, RATP, Metro Rio, Metro de Santiago, ONCF, H2O, Tüpras, Metro Istanbul...

*Belgorail, since 2017 part of the Certifer Group, is a world leader in the independent evaluation and certification of rail and guided transport products and systems.*

*We propose the widest range of services thanks to the development of local networks of highly qualified experts, to offer quality and reactivity, respecting our values of integrity and independence.*

*Our skills are supported by a network of more than 400 experts from the main players in the sector: infrastructure managers, railway companies and manufacturers.*

*Our recognitions and accreditations as NoBo, DeBo, ISA and AsBo, in countries all around the world (Spain, France, Belgium, Italy, Switzerland, Luxembourg, Denmark, Turkey, Algeria, India, Saudi Arabia, Australia, Oman) are evidences of our competence.*

*Competence also supported by our main clients: Alstom, Siemens, Bombardier, CAF, Talgo, Stadler, Thales, SNCF, Adif, Infrabel, Eurotunnel, Banedanmark, SNCB, FGC, Ansaldo, Faiveley, Ferrovial, Transfesa, Vossloh, RATP, Metro Rio, Metro de Santiago, ONCF, H<sub>2</sub>O, Tüpras, Metro Istanbul...*

[www.belgorail.es](http://www.belgorail.es)

## BOMBARDIER

*Rising to the challenge of increasing commuter transport demands, Bombardier is developing a new generation of high-performance trains. These trains achieve efficient journey times despite frequent stops, while ensuring excellent availability to minimize interruptions.*

*Bombardier is present in 50% of the global commuter transport market, being a leading company in the supply of double-decker commuter trains. All over the world, Bombardier commuter trains provide millions of passengers with stress-free connections between city centres and growing suburban areas every day.*

*With regional single-deck and double-deck trains, Bombardier is offering the ideal solution for all capacity needs. Passenger comfort and convenience is a paramount and our trains offer large multipurpose areas. Frequent connections by regional trains are an essential factor in the placement of new housing developments in out-of-city areas as well as major enabler for increased regional tourism.*

*With modern, high quality designs that accommodate va-*



*rious uses from business traffic to leisure activities. Bombardier continues to develop its range of highly efficient regional trains that can be easily adapted to the specific requirements of regional operators.*

*Passenger comfort and convenience is paramount and Bombardier regional trains offer flexible and robust interiors as well as the technology to*

*achieve minimum journey times. For example, on routes with many curves, tilting ability enables a noticeably faster travel speed.*

*Bombardier has a platform of double-deck electric vehicles (OMNEO) which combines the high capacity of a commuter train and comfort features of a regional train. The innovative OMNEO train is the world's first articulated double-deck Electric Multiple Unit (EMU) with alternating single and double-deck cars. As an operator, now you no longer have to compromise between capacity, accessibility and comfort. Compared to conventional rail vehicles, this sustainable transport solution offers exceptional capacity and increased passenger comfort. It also provides excellent accessibility and, for the first time, visibility throughout the train.*



# MRX Ni-Cd battery

# Delivering high energy in a compact package

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Exhibition

Stand  
**A5148**



MRX Ni-Cd batteries deliver the high energy performance essential to meet the continuous, every day onboard backup needs of all types of modern electric trains such as urban transport, regional transport and intercity transport.

#### Main benefits of MRX

Maximum performance - Minimum maintenance - Reduced volume, footprint and weight  
Integrated water filling system - Low life cycle cost

[www.saftbatteries.es](http://www.saftbatteries.es)

**saft**  
a company of  
 **TOTAL**

## CAF

CAF Group, which has more than 100 years of experience in the mobility sector, offers its customers a wide range of sustainable products and services with high added value. Its capabilities include the design and construction of the transport system, signalling, electrification and other electromechanical systems, the supply of rolling stock and the operation & maintenance of the system. In terms of rolling stock, CAF supplies and maintains all types of rail vehicles: high speed trains, regional and commuter trains, locomotives, metro units, LRVs and tramways. In its commitment to sustainable urban mobility systems, the company has acquired the bus manufacturer Solaris Bus & Coach. In this way, CAF is able to provide a better response to the needs of its customers in the field of urban transport, especially in the area of electric mobility and multimodal transport services

A growing number of cities across the world choose CAF solutions as a guarantee of a sustainable, high-safety means of transport. Regarding metros, CAF relies on its solution Inneo, a range of metro units equipped with the latest technologi-



cal advances in terms of safety, performance and comfort. Featuring highly standardised equipment and service-proven solutions, Inneo metro units offer optimal reliability throughout their entire life cycle. CAF has several metro solutions that have been designed to operate at different automation levels, including fully automated operation (GoA 4).

This type of system offers maximum safety with the help of state-of-the-art technology applied to movement supervision.

Regarding tramways, CAF has the Urbos solution, a range of state-of-the-art trams, designed with the best passenger accessibility conditions. Urbos is a complete low-floor tram which facilitates the boarding and alighting of passengers to and from the vehicle. Urbos trams respond to the highest eco-design requirements.

These vehicles can include Greentech technology for catenary-free operation. This is an on-board energy storage system, based on lithium-ion supercapacitors and batteries.

Visit CAF at stand A5030.

[www.caf.net](http://www.caf.net)

## GLOVALVIA

Globalvia, constituida en 2007, es uno de los líderes mundiales en la gestión de concesiones de infraestructuras. En la actualidad, la Compañía gestiona un total de 26 proyectos incluyendo 19 autopistas y 7 ferrocarriles en 8 países: España, EE. UU, Irlanda, Portugal, Andorra, México, Costa Rica y Chile. A través de estos activos, la Compañía gestiona más de 1.600 km de autopistas y más de 70 km de vías ferroviarias siguiendo un modelo de negocio eficiente y sostenible.

El objetivo de Globalvia es la generación de valor a sus accionistas, tres fondos de pensiones internacionales, OP Trust (Canadá), PGGM (Holanda) y USS (Reino Unido), gracias a seguir una estrategia de selección de inversiones en activos de infraestructuras de transporte ubicados en países de la OCDE.



Globalvia, established in 2007, is a worldwide leader in the transport infrastructure concession management. Currently, the company manages 26 projects including 19 highways and 7 railways in eight different countries: Spain, USA, Ireland, Portugal, Andorra, Mexico, Costa Rica and Chile. Through them, more than 1,600 km of highways

and more than 70 km of railways are managed following a business model based in efficiency and sustainability.

Globalvia's goal is focused on generating value for its shareholders, three international pension funds, OP Trust (Canada), PGGM (Netherlands) and USS (UK), by managing strategic investments in transport infrastructure assets located in OECD countries.



<https://www.globalvia.com>





**SIEMENS**  
*Ingenuity for life*



# Shaping connected mobility.

Some of the most pressing demands of cities are the need to sustainably transport an ever-growing number of people while at the same time saving resources, time and money. We at Siemens Mobility believe digitalization is the solution. At UITP GPTS 2019 we will showcase innovations that make trains and infrastructures more intelligent, increase value sustainably over the entire lifecycle, improve passenger experience and guarantee availability.

UITP GPTS  
Stockholm  
June 9-12

Visit us  
at booth  
A5010

[siemens.com/uitp](http://siemens.com/uitp)

## KNORR BREMSE ESPAÑA

Empresa líder en sistemas de frenado, de aire acondicionado y sistemas automáticos de puertas de acceso para todo tipo de vehículos ferroviarios.

Knorr-Bremse España, S.A. pertenece a la División Ferroviaria del grupo alemán Knorr-Bremse, fabricante líder a nivel mundial de sistemas de frenado y sistemas de abordaje para vehículos ferroviarios y comerciales. Con sede en Getafe, Madrid, Knorr-Bremse España, a través de su división de FRENOS, es líder en el mercado español en diseño, fabricación y venta de sistemas de frenado y sistemas de detección de descarrilamiento para vehículos ferroviarios, así como sistemas automáticos de puertas de acceso IFE.

Su división MERAK se dedica al desarrollo, fabricación, venta y servicio de sistemas de aire acondicionado para todo tipo de vehículos ferroviarios. Actualmente Merak tiene unos 100.000 sistemas funcionando en todo el mundo y en todo tipo de condiciones ambientales, con soluciones innovadoras que abarcan equipos ultra-compactos, de filtrado de arena, o de reutilización de energía de frenado, entre otros. Destaca por su orientación a proyectos, capacidad de integración de sistemas y servicio al cliente en toda la cadena de valor, incluyendo localización.



*Leading company in braking and HVAC systems and automatic access doors systems for all type of railway vehicles. Knorr-Bremse España, S.A. belongs to the Rail Vehicle Division of the German group Knorr-Bremse, global leading manufacturer of braking and on-board systems for rail and commercial vehicles. Based in Getafe, Madrid, Knorr-Bremse España, through its FRENOS division, is leader in the Spanish market for the design, manufacturing and supply of brake systems and derailment detection systems for railway vehicles, as well as automatic access door systems IFE.*

*MERAK division specializes in the development, manufacturing, sales and service of heating, ventilation and air-conditioning (HVAC) systems for all type of railway vehicles. As of today Merak has some 100.000 systems in daily operation all over the world and under all kinds of environmental conditions, with innovative solutions including ultra-compact units, sand filtering or braking energy reuse, among others. It stands out for its project-orientation, systems integration capacity and customer service throughout the entire value chain, including localization.*

**KNORR-BREMSE ESPAÑA, S.A.**

[www.knorr-bremse.es](http://www.knorr-bremse.es)

[www.merak-hvac.com](http://www.merak-hvac.com)

## METROTENERIFE

**METROTENERIFE** es una empresa especializada en la prestación de servicios de Consultoría, Ingeniería y Operación & Mantenimiento (O&M) dentro del **sector de infraestructuras ferroviarias**.

Metrotenerife opera y mantiene las líneas tranviarias en la isla de Tenerife (España). Además, en la actualidad, ofrece servicios de consultoría a operadores y autoridades de transporte a nivel internacional, destacando proyectos y referencias en planificación, diseño y O&M a clientes en Europa, América Latina, África y Oriente Próximo.

Además, la compañía es activa en I+D+i, donde sobresale el desarrollo y comercialización de SIMOVE; un producto diseñado como sistema de ayuda a la conducción y operación, que entre otras funcionalidades, monitoriza y registra, en tiempo real, la velocidad de los vehículos, con lo que permite detectar, controlar y corregir automáticamente sobrevelocidades, y de esta manera incrementar la seguridad en cualquier sistema LRT.



*METROTENERIFE is a Consulting, Engineering and Operation and Maintenance (O & M) company within the rail infrastructure sector.*

*Metrotenerife operates and maintains tramway lines on the island of Tenerife (Spain). In addition, it currently offers consultancy services to international transport operators and authorities, highlighting*

*projects and references in planning, design and O&M to clients in Europe, Latin America, Africa and the Middle East. Moreover, the company is active in R+D+i, standing out with the development and commercialization of SIMOVE; a product designed as a driving and operation aid system, which among other functionalities, monitors and registers, in real time, the speed of vehicles, allowing detection, control and automatic correction of overspeed and thus, increasing the safety of an LRT system.*

[contact@metrotenerife.com](mailto:contact@metrotenerife.com)

<https://metrotenerife.com/services-and-consultancy/>



## PASSGO TECHNOLOGY

*In October of 2016, an idea appeared in my mind, TRAVELING INFORMED AND THROUGH THE MOBILE.*

*Today on the third year we are reaching the end of the work, to travel the world with the mobile and the "QR" code.*

*When we started nobody trusted in this code, it was the professor of the Polytechnic University of Valencia, Vicente Botti Navarro "National Prize of artificial intelligence", who suggested this code that is capable of being read by any current mobile.*

*But we also wanted the blind and disabled to be able to travel through the voice and others also informed in each language.*

*In this next month the concept tests will be done and in July we'll start with two operators and from there it will be very easy to enter the QR code, WITHOUT INVESTMENTS, THE PAYMENT FOR USE IS OUR SECOND MOTTO.*

*TRAVELING INFORMED, E-Mobil-ity was born with the will to integrate all the public transport of a city, Bus,*



*subway, Suburban Trains, Bicycles; Motorcycles, electric cars etc.*

*I just have to register in the Application and it will lead me through the paths that favor me the most.*

**BECAUSE INVESTING IN SOMETHING THAT WITH THE OWN USE MUST BE PAID?**

*At this time and as seen in the announcement of our App, we have the closed circle. The App, the payment gateway, the reader and customers.*

*TRAVEL INFORMED it's knowing where am I going? How am I going and how much it costs? What awaits me there; Shows, Time, Restaurants, Means of transport, Museums theatres? and how to get where I want to go.*

*As always, the client (the user) will be the one to mark their preferences based on ease of use, cost and information in the simplest way and in their own language. Finally the cost savings for subways and commuter trains will be spectacular around 50%.*

*Consult us: [www.passgototechnology.com](http://www.passgototechnology.com)*

*We will invite you in Valencia to the next congress.*

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## RENFE OPERADORA

• Renfe, a Spanish state-owned company (Ministry of Transport and Infrastructure), is one of the most significant railway operators in the world because of its experience in high speed and commuter services. Renfe runs more than 5,000 trains daily and it is a central actor in the transportation system of Spain, with almost 507 million passenger registered in 2018.

• Renfe has more than 25 years of expertise in managing High Speed services. It has served more than 360 million passengers in High Speed trains since 1992 with high standards of quality and an wide integration of different technologies, both of rolling stock and signalling. Rail is the main mode of collective transport chosen in Spain for long-distances peninsular journeys.

• More than 38,5 million passengers used the High Speed services of Renfe in 2018. The average commercial speed of the services by the Spanish high-speed network is 222km/h, higher than that registered in pioneer countries such as Japan or France. Renfe runs the Madrid-Barcelona High Speed services (AVE), whose average commercial speed in a non-stop journey is currently 248 km/h. More than 85 million passenger used



all Renfe services using the infrastructure in the first decade (2008-2018).

• Renfe is the operator partner for new High Speed projects going on in the United States (Texas Central) and Saudi Arabia (Haramain HS).

• Renfe operates Commuter services in 12 cities of Spain. In the two main cities, Madrid (Cercanías) and Barcelona (Rodalies), Renfe gave service to more than 372.3 million passengers in 2018.

• The company registered a revenue of more than 3.9 billion euros and a profit of 111 million euros in 2018.

## SAFT

Saft tiene más de 20 años de experiencia en el diseño y entrega de soluciones de baterías para vehículos híbridos y eléctricos, ayudando a reducir las emisiones de CO<sub>2</sub>, cumplir con los objetivos regulatorios, reducir el consumo de combustible, reducir la emisión de ruido y mejorar la huella ambiental de los sistemas de transporte. La avanzada tecnología Li-ion de Saft ofrece el rendimiento, la eficiencia y la sostenibilidad para optimizar los costes de funcionamiento del vehículo durante toda su vida útil.

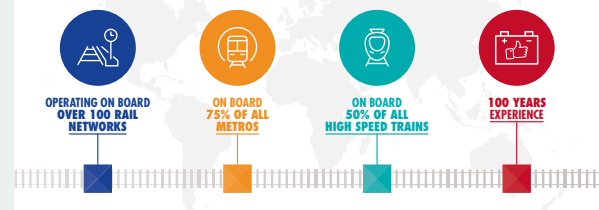
Saft ofrece un sistema de baterías para vehículos totalmente integrado, desde packs con celdas de Li-ion hasta sistemas de baterías a medida con electrónica de gestión incluida.

En todos los proyectos, trabajamos en estrecha colaboración con los clientes desde el primer concepto de diseño a prototipos y pruebas hasta la fabricación a gran escala desde nuestras instalaciones en Europa y EE. UU.

*Saft has over 20 years' experience in the design and delivery of mobility battery solutions for hybrid and electric vehicles, helping to cut CO<sub>2</sub> emissions, meet regu-*

**SAFT**  
a company of  
**TOTAL**

Battery expertise  
that powers reliable rail networks



*latory targets, reduce fuel consumption and operating noise levels and improve the environmental footprint of transportation systems. Saft's advanced lithium-ion (Li-ion) technology offers the performance, efficiency and sustainability to optimize vehicle-running costs over their whole service life.*

*Saft offers a complete, fully-integrated service for mobility batteries, from Li-ion cells to bespoke battery systems including electronics.*

*On all projects, we work closely with customers from first design concept, through prototyping and testing to large-scale manufacturing from our facilities in Europe and the US.*



**19 - 21 NOVEMBER 2019**  
BARCELONA

#SMC19 | #SCEWC19



# LEADING THE WAY

**Cities are evolving and we're evolving with them.**

Today, urban mobility is a key challenge around the globe. Accelerating change to make transport more sustainable, inclusive and efficient is a top priority for governments.

**Smart Mobility Congress**, together with Smart City Expo World Congress, is the global platform shaping the next steps of urban mobility. 3 days of conferences and expo that attract the whole ecosystem in one venue. **A worldwide meeting point for city and industry leaders.**

**2018 edition in figures:**

**21,331**  
VISITORS

**+400**  
SPEAKERS

**844**  
EXHIBITORS

**+700**  
CITIES

**146**  
COUNTRIES

**+60**  
SIDE EVENTS

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Summit 2019 - **stand A5142**

More info:  
[www.smartmobilitycongress.com](http://www.smartmobilitycongress.com)  
[www.smartcityexpo.com](http://www.smartcityexpo.com)

## SERBD

*T*ransport systems requires advanced infrastructure solutions; for it, serdB subsidiary of the group Gamba associated with Acouphen, combine their skills and tools as international experts in noise, and vibration consultancy to offer complete and innovative services to meet these needs and challenges. SerdB works widely with engineering, operators, communities, and companies, depending on the stage progress of the projects. serdB provides the consultancy to establish the baseline of the sites, size and to optimize the types of railway superstructure. Afterwards, it verifies its performance in situ, and finally, it diagnoses and proposes solutions in case of noise and / or vibration problems after the commissioning.



- Metro Grand Paris: Extensions to existing lines 14,11 and construction lines 15,16,17,18.

- Metro de Lima L1 and L2.

Software tools used:

*dBTrack* © (Analytical model developed by serdB)

*SiProVib* (3D Analytical model developed by Acouphen)

*Mefissto* (FEM, BEM 2.5D developed by CSTB)

Latest List of Major Projects 2015-2019

- Tram Mauritius, Caen, Ouargla (Algeria), Luxembourg, Nantes, Saint-Etienne, Liège (Belgium), Toulouse, Avignon, Algiers (Algeria), Sidi Bel Abbes (Algeria) Aubagne, Paris etc.

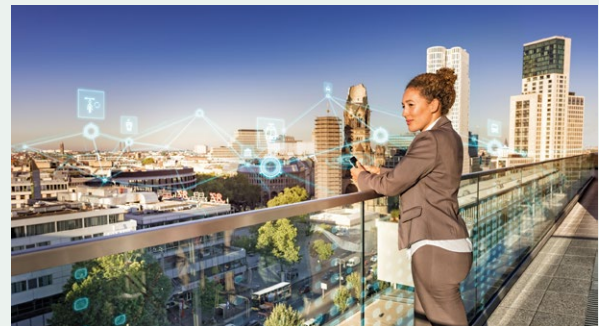
## SIEMENS MOBILITY

According to the most recent forecasts, in 2050 68% of the world population will live in cities. This increase in population, together with the growing complexity of metropolitan areas, will multiply transfers and the saturation of urban transport. Therefore, the development of technologies that contribute to creating a more efficient and sustainable mobility is vital.

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.

Siemens Mobility, in its commitment to make smart mobility a reality in cities, is working on the creation of state-of-the-art solutions that help metropolitan operators to manage the demands of travelers efficiently, sustainably and safely.

Railway passengers require information and entertainment, to be able to use different modes of transport to avoid delays and congestion, and, increasingly, to be able to move without contributing to CO<sub>2</sub> emissions as much as possible.



**SIEMENS**  
*Ingenuity for life*

Operators are responding to these requirements by increasing transport capacities, trying to take better advantage of the available infrastructure and improving the attractiveness and, consequently, the acceptance of public transport through various concrete measures.

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.



## SMART MOBILITY

Smart Mobility Congress vuelve del 19 al 21 de noviembre con una 3ª edición de récord. Durante tres días de Congreso y Exposición se trabajará para acelerar el desarrollo de productos y servicios para una movilidad urbana más sostenible y segura.

En 2018, el evento acogió 844 expositores (incluyendo Alstom, Bosch, Deloitte, Ferrovial, Mastercard, Mobileye, SEAT o Siemens), 700 ciudades y más de 21.000 visitantes internacionales que se dieron cita para abordar los retos de la movilidad urbana. Es la plataforma perfecta para conectar con líderes del sector y crear nuevas oportunidades de negocio.

Ponentes de renombre como Janil Puthuchery, Ministro de Transporte de Singapur; Wojtek Dziegielewski, Business Development Manager de Volocopter; o Mar Alarcón, fundadora de SocialCar, lideraron un diálogo global sobre el presente y futuro de la movilidad urbana.

Ven al Smart Mobility Congress y forma parte de esta revolución urbana.

*The Smart Mobility Congress returns from November 19-21 for what promises to be a record-breaking edition. The*

# SMART MOBILITY CONGRESS

*3-day Congress & Expo will keep on reflecting on the evolution of mobility while helping accelerate the development of products and services for improved traffic flow, sustainable transportation and better road safety.*

*Last year, together with the Smart City Expo World Congress, the event welcomed 844 exhibitors (including Alstom, Bosch, Deloitte, Ferrovial, Mastercard, Mobileye, SEAT or Siemens), 700+ cities and 21,000+ international attendees addressing the challenge of urban mobility. The show is the perfect hub for connecting with industry leaders and global decision makers.*

*Renowned speakers such as Janil Puthuchery, Minister for Transport of Singapore; Wojtek Dziegielewski, Business Development Manager of the Volocopter; or Mar Alarcón, founder of SocialCar drove a global dialogue on what's next in urban mobility.*

*Come join the Smart Mobility Congress and be part of this urban revolution.*

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la revista del ferrocarril desde 1964



## REGALO

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Con 192 páginas dotadas de espectaculares ilustraciones y en papel cuché, "El libro del tren" presenta la historia del ferrocarril desde sus orígenes hasta nuestros días. Un viaje por la vida del tren y de los ferroviarios, las locomotoras, la alta velocidad, la cultura y los museos. El libro se cierra con una completa cronología y un glosario de términos

válido hasta agotar existencias



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## STADLER

Soluciones individualizadas para el transporte urbano y de cercanías

Stadler ofrece una amplia gama de vehículos tanto para el transporte ferroviario como para el urbano así como una amplia gama de servicios posventa: trenes de alta velocidad, intercity, regionales y de cercanías, metros, tranvías y trenes-tram, coches de pasajeros y locomotoras. Stadler es además el fabricante líder mundial de vehículos ferroviarios de cremallera. Los trenes de pasajeros FLIRT y KISS circulan en nada menos que 17 países de zonas climáticas muy diferentes, desde África hasta el Círculo Polar Ártico. En metros cabe destacar los nuevos metros automáticos para Glasgow o los vehículos para Berlín, Liverpool o Minsk. Todos ellos responden a demandas muy específicas de los operadores a los que Stadler ha sabido dar soluciones innovadoras y fiables. Igualmente, nuestros tranvías y LRV ofrecen soluciones adaptadas con altos estándares de seguridad, confort y accesibilidad.



### *Tailor-made solutions for urban and suburban transport*

*Stadler provides a comprehensive range of vehicles in the heavy and urban transport segments as well as a wide range of after-sales services: High-speed trains, intercity trains, regional and commuter rail trains, underground trains, tram-trains and trams, locomotives and passenger coaches. Additionally, Stadler is the world's leading manufacturer in*

*the rack-and-pinion rail vehicle industry.*

*The passenger trains FLIRT and KISS circulate in no less than 17 countries from different climatic zones, from Africa to the Arctic Circle. In the metro segment, the highlights are the new driverless-metro for Glasgow or the new vehicles for Berlin, Liverpool or Minsk. All these contracts respond to very specific demands and requirements to which Stadler has been able to give an innovative and reliable solution. Likewise, our trams and LRV offer adapted solutions with high standards of safety, comfort and accessibility.*

[www.stadlerrail.com](http://www.stadlerrail.com)

## TALGO VITAL

En respuesta a un mercado que cada vez más está definido por la urbanización y las nuevas demandas de movilidad en términos de experiencia del viajero, Talgo ha desarrollado una solución de material rodante que es modular y puede adaptarse a múltiples mercados, al tiempo que preserva los principios tecnológicos de la fabricante española por lo que respecta a la alta capacidad de viajeros y a su accesibilidad. El resultado es la plataforma Vittal, en la que Talgo aplica al transporte urbano y suburbano toda su experiencia y sus aplicaciones técnicas. La unidad múltiple Talgo Vittal ofrece una excelente ratio potencia-peso, mejora las curvas de aceleración y reduce el consumo energético. Su optimizado espacio interior es altamente competitivo y, combinado con piso bajo en toda la longitud del tren, mejora los tiempos de embarque y desembarque de viajeros y hace al tren más accesible para los pasajeros con movilidad reducida. Vittal se ofrece en dos versiones, una con velocidad máxima de 160 km/h y alta



aceleración, y otra apta para 200 km/h, y se espera que sea otro producto revolucionario de Talgo.

*In response to a market increasingly defined by urbanization and new global mobility needs in terms of passengers' experience, Talgo has developed a modular*

*rolling stock solution capable of adapting to multiple markets while preserving the Spanish manufacturer's technological principles of high passenger capacity and accessibility. The result is the platform Vittal, where Talgo applies its experience and technological solutions to urban & suburban transportation.*

*Talgo's EMU Vittal offers an excellent power-to-weight ratio, improves acceleration curves, and reduces energy consumption. The train's optimized interior space is highly competitive and, combined with a low floor along the whole train length, improves passenger boarding and disembarking times, and makes the train more accessible for passengers with reduced mobility. Vittal is performed in two versions, one with a maximum speed of up to 160km/h and high acceleration and one with a top speed of 200km/h and is expected to be another revolutionary Talgo product.*



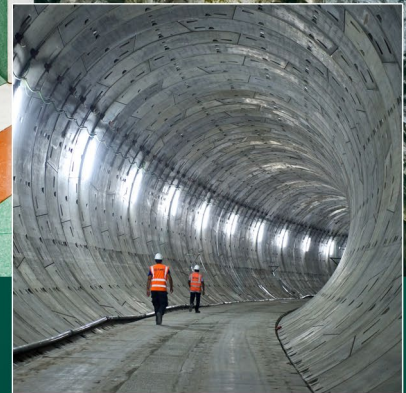
Stockholm Metro, Sweden  
New Line from Kungsträdgården  
to Nacka and Gullmarsplan  
Planning and Design



Spanish High Speed Network.  
Design and construction supervision  
services



Tram along Avenida Diagonal in  
Barcelona, connecting the Trambaix  
and Trambesòs networks. Feasibility  
study and detailed design for Phase 1



Riyadh Metro. Lines 4, 5 and 6.  
Preliminary and detailed design

## TYPSA, major contributions to major achievements

- Knowledge, experience, technical skill and corporate independence.
- More than 50 years' experience designing conventional and high speed railways, metros and tramways, enables us to develop ambitious plans all over the world.
- Designing and helping to build more than 100 km of tunnel a year.
- In-house applied technology and new advanced systems. More than 30 R&D projects currently underway.
- Exporting Spanish engineering to all continents, contributing to sustainable development and improving quality of life.

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## TMB

Transports Metropolitans de Barcelona (TMB) es la principal empresa gestora del transporte público del área metropolitana de Barcelona

En TMB nos movemos cada día por tí, para acompañarte hasta donde quieras llegar dentro de la ciudad de Barcelona, y en diez municipios más del área metropolitana. Como principal operador de transporte público de Barcelona, y como parte del día a día de miles de ciudadanos, te ofrecemos dos redes regulares de transporte (la de bus -de superficie- y la de metro -subterránea-) y varios servicios de transporte de ocio.

*Transports Metropolitans de Barcelona (TMB) is the main public transport operator in the Barcelona metropolitan area.*

*TMB moves every day for you, to take you wherever you want to go in Barcelona and to further ten towns in the metropolitan area. As the main public transport operator in Barcelona, and part of the daily routine of thousands of*



## Transports Metropolitans de Barcelona

*citizens, we provide two transport networks (bus -surface transport- and metro -underground-) and several leisure transport services.*

Transports Metropolitans de Barcelona (TMB) és la principal empresa gestora del transport públic de l'àrea metropolitana de Barcelona

A TMB ens movem cada dia per tu, per acompanyar-te allà on vulguis arribar dins la ciutat de Barcelona i a deu municipis més de l'àrea metropolitana. Com a principal operador de transport públic de Barcelona, i com a part del dia a dia de milers de ciutadans, t'oferim dues xarxes regulars de transport (la de bus -de superfície- i la de metro -subterrània-) i diversos serveis de transport d'oci.

## TYPSA

*TYPSA, over 50 years designing railways, metros and tramways*

*After 50 years working in the field, TYPSA is recognized as a rail engineering authority and the partner of choice for a large number of multinational companies to work in complex projects around the world.*

*Metropolitan transport: TYPSA has considerable experience in this field, not only in metros but also in light metro, tramways and commuter rail lines, and is a leader in design and works supervision. TYPSA has contributed to more than 500 km of metro lines including 490 stations, and more than 450 km of LRT or tramway lines with 324 stops, located in different countries.*

*Participation in major international projects:*

- *Riyadh Metro, the biggest metro network under construction today, where TYPSA is the designer in the consortium in charge of implementing package 3, lines 4, 5 & 6.*
- *Quito Metro.*
- *Sao Paulo Metro Lines 5 and 6.*



- *Stockholm Metro extension from Kungsträdgården to Nacka and Gullmarsplan.*
- *Doha Metro Red and Green Lines.*
- *Lima Metro Line 2 and Line 4 branch to the airport.*
- *Abu Dhabi Light Rail Transit Network.*
- *Astana light rail network.*
- *The new underground metro in Dacca, Bangladesh.*

*Wide experience in high speed rail and conventional railways*

*TYPSA took part in the first HS Line in Spain from Madrid - Seville, and then helped build most of the country's national network lines. TYPSA has also worked on major international projects, such as Madrid - Lisbon HSL, Los Angeles - Las Vegas or Sao Paulo - Rio de Janeiro. Currently, TYPSA is involved in the design of high-speed networks in Sweden and the United Kingdom.*

*TYPSA has an excellent team of highly specialised professionals, working in every discipline of a railway engineering project, and is constantly evolving to implement the latest technical innovations and acquire new skills.*