



Modern Railways
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Hall 3 – Stand 3502

Saft rail batteries meet Asia's onboard power challenges - from auxiliary backup and starting to regenerative traction

- *Saft nickel-based rail battery systems and services ensure maximum reliability and long-life in auxiliary backup and engine starting applications*
- *Saft's industrialized Li-ion energy storage system enables the effective capture, storage and reuse of regenerative braking energy in hybrid and autonomous catenary-free rolling stock*

Beijing, October 28, 2014 – Saft, the world's leading designer and manufacturer of high-tech industrial batteries, is at Modern Railways to showcase the latest developments in its portfolio of onboard battery technologies developed to meet the backup, traction and signaling challenges of Asia's fast-growing metro, tramway and high speed rail sectors. Visitors to Stand 3502 in Hall 3 can explore the field proven reliability and long-life advantages of Saft's specialized nickel-based batteries that have been deployed in onboard auxiliary power and engine starting applications in major cities such as Beijing, Chengdu, Hong Kong, Nanjing, Shanghai and Wuxi. Also making its debut in Asia is Saft's industrialized lithium-ion (Li-ion) regenerative braking energy storage concept that is ideally suited for hybrid and autonomous catenary-free traction projects including diesel locomotives, electric multiple units (EMUs) and light rail systems.

Railway transportation is vital elements in China's continued economic success, with some 56 percent of the country's freight carried by rail, while close to 2 billion passengers use its vast railway network. These factors have seen China develop into the world's largest rail market, with investments reaching a peak of €100 billion in 2010. The primary focus for investment has been on high-speed, long-distance passenger transport, this is now shifting toward regional passenger rail and urban transport.

China's rail market is a significant growth sector for Saft, with the country's leading train manufacturers placing major orders for Saft battery systems including CNR Changchun for Beijing Metro's Line 6 and Hong Kong's MTR metro system, and CSR Zhuzhou which has integrated Saft batteries into metro trains for Ankara in Turkey as well as commuter trains for Malaysia. A key factor in this growth is Saft's Zhuhai facility that provides locally based battery system engineering and assembly capabilities together with extensive service support.

Specialized rail battery systems and services ensure effective auxiliary backup and engine starting

Saft's full spectrum of products and services ranges from supplying individual nickel-based batteries to operating as a global supplier of fully integrated, turnkey battery systems for both new-build and upgrade projects.

Saft rail batteries are purpose designed to support emergency braking, internal lighting, onboard computer and communications systems, ventilation and door opening. MRX is a low maintenance, compact, light block battery package that offers a major size and volume advantage. SRX batteries are designed to support high current discharges. SRM+ is a single cell that delivers high energy over a 15-year plus service life. SRA Standard/HT – High Temperature/LT – Low Temperature is a new range for extreme temperatures, both high and low, that is already proving its capabilities to ensure reliable operation in the most demanding conditions.



For dependable engine starting, Saft's MSX block battery is optimized to deliver high power and high cycling capability over a very wide temperature range from – 30°C to + 50°C.

Regenerative Li-ion energy storage for hybrid and autonomous catenary free traction

Saft's onboard Li-ion system meets the rapidly growing demand for effective, flexible energy storage to increase the operational efficiency and reliability of the new generation of regenerative traction systems. This includes applications such as light rail systems - trams, street cars and tram-trains, electric multiple units (EMUs), diesel locomotives and automated people movers (APMs).

The onboard Li-ion system offers exceptionally high power and energy density in a modular, lightweight and compact system designed for ease of integration and installation. It provides autonomous traction power for catenary free or emission free operations - helping reduce the environmental impact of rail projects, especially in historic city centres. The system stores kinetic braking energy and reuses it for autonomous traction and boosting train acceleration – enabling operators to optimize their energy efficiency and reduce their carbon footprint.

The onboard Li-ion system provides a flexible, scalable approach that enables Saft's customers to configure the ideal battery system for their own specific application in terms of voltage (up to 790 V), dynamic cycling, energy and high power characteristics. Saft's industrial grade, maintenance-free Li-ion technology, well proven in a range of demanding applications such as spaceflight, defence, automotive and utility energy storage offers a fully integrated solution that enables train operators to optimize performance, while ensuring safety and reliability over a long service life.

About Saft

Saft (Euronext: Saft) is a world leading designer and manufacturer of advanced technology batteries for industry. The Group is the world's leading manufacturer of nickel batteries and primary lithium batteries for the industrial infrastructure and processes, transportation, civil and military electronics' markets. Saft is the world leader in space and defence batteries with its Li-ion technologies which are also deployed in the energy storage, transportation and telecommunication network markets. More than 3,800 employees in 18 countries, 14 manufacturing sites and an extensive sales network all contribute to accelerating the Group's growth for the future.

Saft batteries. Designed for industry.

www.saftbatteries.com

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