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Hall 15.1 – Booth 205

Saft's industrialized onboard Li-ion battery system for regenerative traction applications makes its debut at Innotrans 2014

- *Saft's onboard Li-ion battery system is engineered to help capture, store and reuse regenerative braking energy in hybrid and autonomous catenary-free rolling stock.*
- *Saft's wide portfolio of nickel-based rail battery systems and services deliver maximum reliability and long-life in auxiliary backup and engine starting applications.*

Berlin, September 23, 2014 – Saft, the world's leading designer and manufacturer of high-tech industrial batteries, is showing its new onboard lithium-ion (Li-ion) traction battery system that completes a significant step in the industrialization of the modular Li-ion energy storage concept first shown at Innotrans 2012. The onboard Li-ion design is targeted at a wide spectrum of hybrid and autonomous catenary-free traction projects that rely on the effective capture, storage and reuse of regenerative braking energy for efficient and reliable operation, including diesel locomotives and electric multiple units (EMUs) as well as light rail systems.

In addition to Saft's state-of-the-art Li-ion battery technology, visitors to Booth 205 in Hall 15.1 can explore Saft's range of specialized nickel-based battery solutions for onboard auxiliary power and engine starting applications.

Saft's onboard Li-ion technology delivers effective power 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 new Saft's 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 onboard Li-ion 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 maintenance-free Li-ion technology offers a fully integrated solution that enables train operators to optimize performance, while ensuring safety and reliability over a long service life.



The system starts with installation of Saft's Li-ion modules in Battery Boxes, available in a range of sizes that are fully tested for resistance to shock and vibration and provide the interface with the vehicle systems. Saft also offers a Power Box that provides real-time battery management. This includes features such as controlling the battery current and voltage as well as monitoring SOC (state of charge) and SOH (state of health). The system is completed with an optional BTMS (Battery Thermal Management System) that further enhances performance and long life by maintaining the cells within the optimum operating temperature range.

The onboard Li-ion system features Saft's industrial grade Li-ion cell technology, which is well proven in a range of demanding applications such as spaceflight, defence, automotive and utility energy storage.

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 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. 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, such as the exceptionally cold winters encountered on the Russian railways.

For 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. Also on show is the Saft Nickel Capacitor (SNC) that works in combination with a conventional battery for dependable starting, even at very low temperatures. It is ideal for the high frequency diesel engine start-stop regimes now essential to meet environmental legislation.

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.

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