



Reliable even at -35°C, Saft batteries will equip Alstom's Stockholm commuter trains

- Alstom has specified Saft MRX onboard battery backup systems for SL's new Coradia Nordic X60 EMU trains operating suburban commuter services in Stockholm
- Saft MRX batteries have demonstrated over nine years of exceptional performance and reliability on SL's current X60 trains in temperatures down to -35°C

Paris, March 16, 2015 – Saft, world leader in the design, development and manufacture of high-tech batteries for industry, is supplying its fully integrated MRX nickel-based battery systems to provide high energy backup for the 46 new Alstom Coradia Nordic X60 suburban EMU (electric multiple unit) trains ordered by the Swedish Public Transport Authority AB Storstockholms Lokaltrafik (SL). This latest major order from Alstom takes the total number of SL commuter trains fitted with Saft battery systems to 129. It follows the successful performance of the MRX batteries demonstrated during nine year's operation on Stockholm's existing Coradia Nordic trains.

SL has ordered the 46 new Coradia Nordic regional trains to replace part of its aging fleet and extend its network. Alstom will start delivery of the new trains serving the greater Stockholm area in 2016. The SL trains, capable of speeds up to 160 km per hour, will be equipped with the latest ERTMS (European Rail Traffic Management System) signaling technology and meet all the latest interoperability requirements.

SL's current six-car Coradia Nordic trainsets are fitted with two roof-mounted battery systems. However, Alstom has specified three Saft battery systems for each of the new trains to support the additional electrical loads experienced on modern suburban railways, with wifi and passenger sockets at every seat.

"The frequency of services on Sweden's commuter railways means that the operator, SL, must be able to depend on the performance of every onboard system, even when operating in extreme winter conditions" says Xavier Delacroix, General Manager of Saft's Industrial Battery Group Division. *"We are therefore delighted that Alstom is demonstrating its continued confidence in the reliability and long service life of our MRX battery systems by placing this major order for the next batch of Stockholm trains."*

Two hours of backup support even in the coldest winter

Reliability is a vital factor for all the train systems as headways (gaps between trains) in the centre of Stockholm are less than 10 minutes at peak time, so any failures could prove extremely disruptive to services.

The Saft battery systems play a vital role by maintaining the continuity of critical safety and auxiliary circuits should there be any interruption to the main power supply. The three 110 V, 180 Ah capacity battery systems on each trainset ensure up to two hours of reliable backup power even when operating in Sweden's extreme winters, where temperatures can fall as low as -35°C.



Roof-mounted critical systems

All the traction equipment, as well as heating and ventilation systems and the onboard batteries, is roof-mounted on the Coradia Nordic design. This configuration makes more passenger space available as well as allowing for a continuous low floor. It is also well suited to rigorous Swedish winters as it reduces the ingress of snow, and makes the equipment easily accessible for maintenance.

Saft is supplying the MRX batteries in a fully integrated battery system optimized to make the best use of the available space envelope in the roof. The stainless steel battery box, fully vibration and shock tested to the appropriate rail standards, will house 80 MRX180 cells in series, complete with connectors, on/off switch, isolators, contactor, fuses, temperature sensor and centralised water filling system.

MRX batteries for optimum performance and reliability

Saft has optimized the MRX battery design for maximum performance, reliability, reduced maintenance and low life cycle cost in a slim, light-weight block battery package that shows a major size and volume advantage compared with conventional batteries.

Saft MRX batteries are available in blocks of three to 10 cells, running in parallel or series, with rated capacities from 70 Ah up to 520 Ah. For customers wishing to further enhance the compact size and weight advantages of MRX batteries, Saft is able to supply fully integrated, turn-key battery systems in bespoke trays or battery boxes.



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 4,000 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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