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## **Saft and ESMA to cooperate on supercapacitor development, production and commercialization**

- *Saft will start US manufacture of asymmetric nickel supercapacitors in 2009*
- *Initial applications will be for engine starting of heavy vehicles at low temperatures or in frequent stop-start usage*

**Paris, May 11, 2009** – Saft, the world specialist in the design and manufacture of high-tech industrial batteries, has signed an agreement with ESMA, the Russian Joint Stock Company, to cooperate in the development, production and commercialization of supercapacitors based on ESMA's market leading technology. The agreement enables Saft to add new supercapacitor technology to its portfolio of leading edge battery technologies. The first results will be seen later in 2009, when Saft's US manufacturing facility in Valdosta, GA will commence production of a new generation of asymmetric nickel supercapacitors that will work in combination with batteries on heavy vehicles in a large variety of markets including, but not limited to, industry or public transportation. By providing effective and reliable starting power for large diesel engines at low temperatures or in frequent stop-start usage the supercapacitors will allow the vehicle battery to be optimized for the application.

In addition to the main cooperative agreement with ESMA, Saft has also signed a distribution agreement for the supercapacitors with KBi (Kold Ban International) the US company specialising in diesel engine starting systems that is already an established ESMA distributor for North America.

*"ESMA's asymmetric nickel supercapacitors are recognised in independent laboratory tests as offering the best low temperature engine starting performance currently available," says Xavier Delacroix, the General Manager of Saft's IBG division. "This cooperative agreement adds an exciting new dimension to Saft's range of battery technologies, while our US manufacturing presence and global footprint will help bring ESMA's supercapacitors to a much wider market."*

### **Asymmetric nickel supercapacitors**

ESMA's patented asymmetric nickel capacitors feature one battery electrode mated with a double layer charge storage (capacitor) electrode. This combination offers a number of advantages over the standard, more common symmetric design including: improved safety; higher specific energy; more stable operating voltage; lower materials and manufacturing costs; voltage self-balancing in high-voltage strings of capacitor cells. The design has an important synergy with Saft's manufacturing capabilities since the construction is similar to that used in nickel-cadmium (Ni-Cd) cells, so ESMA's supercapacitors can be manufactured on existing Saft production lines.

Since a supercapacitor stores energy electrostatically, with no physical changes taking place, it can have a service life of a million or more charge/discharge cycles, with no maintenance required. Furthermore, the performance of a supercapacitor remains stable over a very wide temperature range (typically -40°C to +70°C). This makes them ideally suited for providing cranking power for starting the engines of heavy vehicles at very low temperatures, especially when fitted to vehicle fleets that need to start and stop their engines many times during a shift. Supercapacitors can also be applied in numerous other applications for peak power and energy storage.

**About Saft**

*Saft (Euronext: Saft) is a world specialist in the design and manufacture of high-tech batteries for industry. Saft batteries are used in high performance applications, such as industrial infrastructure and processes, transportation, space and defence. Saft is the world's leading manufacturer of nickel-cadmium batteries for industrial applications and of primary lithium batteries for a wide range of end markets. The group is also the European leader for specialised advanced technologies for the defence and space industries. With approximately 4,000 employees worldwide, Saft is present in 18 countries. Its 15 manufacturing sites and extensive sales network enable the group to serve its customers worldwide. Saft is listed in the SBF 120 index on the Paris Stock Market.*

For more information, visit Saft at [www.saftbatteries.com](http://www.saftbatteries.com)

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