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# Saft Li-ion batteries equip the major Formula 1 teams for new season

- KERS hybrid technology stores energy during braking and converts it into extra power for overtaking and quicker laptime
- Saft's high technology VL Li-ion cells provide the optimum combination of performance, power-to-weight ratio and long cycle life for five of the twelve teams competing this season

**Paris, April 11, 2011** – Saft, the world specialist in the design and manufacture of high-tech batteries for industry, has developed state-of-the-art lithium-ion (Li-ion) batteries that will be providing a boost to five of the twelve Formula 1 teams competing this season, including Ferrari and Lotus Renault GP.

Saft's Li-ion batteries are at the heart of the Kinetic Energy Recovery System (KERS) that will be deployed by the five teams in response to the FIA regulations that encourage the development of energy-saving technology. KERS also promotes more exciting racing by providing a power boost for overtaking.

"Our solutions for KERS demonstrate Saft's ability to deliver leading-edge technology for the most complex and demanding high performance applications, even while working to extremely tight deadlines," says Xavier Delacroix, General Manager of Saft's IBG division. "We are aiming to establish our Li-ion batteries as the reference for Formula 1."

# KERS performance with Li-ion

The Saft Li-ion battery allows up to 60 kW boost (around 80 horsepower), with an energy release up to 400 kJ per lap. The driver can use this additional power to provide an extra seven-second boost of acceleration in each lap.

When the F1 car brakes, a proportion of its kinetic energy is captured by an electric motor/generator (MGU) connected mechanically to the engine. This captured kinetic energy is converted into electrical energy which is stored in the Saft Li-ion cells. When extra power is needed, the battery releases the stored energy to the MGU which functions as an electric motor, providing extra power to the drive train.

# KERS battery considerations

The F1 KERS is a particularly demanding battery application. Saft has worked closely with the F1 teams to develop tailor-made solutions for each team's KERS design, based on its high-technology VL Li-ion cells – which offered the optimum combination of performance, power-to-weight ratio, reliability and safety. Lifetime and durability are also key considerations since the batteries are subjected to high levels of heat and vibration.

## 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 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 and world leader in lithium-ion satellite batteries. Saft is also delivering its lithium-ion technology to new applications in clean vehicles and renewable energy storage. With approximately 4,000 employees worldwide, Saft is present in 19 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

### **Press Contacts:**

Jill Ledger, Saft Corporate Communications and Institutional Relations Director Tel.: +33 1 49 93 17 77, e-mail: jill.ledger@saftbatteries.com

Béatrice Lacout, Business Development e-mobility and special vehicles Manager Tel. +33.1.49.93.17.71, e:mail : <u>beatrice.lacout@saftbatteries.com</u>

#### FINANCIAL DYNAMICS

Claire MICHEL, Tél.: +33 1 47 03 68 58, <u>claire.michel@fd.com</u> Stéphanie BIA, Tel.: +33 1 47 03 68 16, <u>stephanie.bia@fd.com</u> Clément BENETREAU, Tél.: +33 1 47 03 68 12, <u>clement.benetreau@fd.com</u>