



Saft's primary lithium battery earns CNES congratulations for powering ESA/CNES' Philae Lander on its historic comet touchdown

After a 10-year journey Saft's primary lithium battery successfully completed all of its requirements and delivered even more than its specified 60 hours of autonomous power to enable ESA/CNES' robotic Philae Lander to complete the primary phase of its scientific test program on the comet Churyumov-Gerasimenko

Paris, November 20, 2014 – Saft, the world's leading designer and manufacturer of advanced technology batteries for industry, has received congratulations from CNES (Centre National d'Etudes Spatiales) after its primary (non rechargeable) lithium battery delivered the mission-critical power for the Philae Lander to make its historic touchdown on the nucleus of comet Churyumov-Gerasimenko and carry out a sequence of scientific tests.

The Philae Lander is the key payload of the European Space Agency (ESA) Rosetta mission with significant contributions driven by CNES, including the development of the primary battery as well as the scientific instruments, engineering and operational support. After a 10-year journey, covering more than 40 times Earth's distance from the Sun, the Saft LSH20 primary lithium battery enabled the Philae Lander to wake up from its deep space hibernation. The battery was then the sole power source for the Lander's systems for its descent to the comet nucleus, providing more than 60 hours of power for its first sequence of scientific tests, with 11 instruments, taking and analyzing samples and sending back to Earth vast amounts of data and photographs and facilitating all the communication exchanges.

Mr Lam-Trong Thien, Manager of the Electrical Power Department of CNES Toulouse, said *"Congratulations to Saft for the quality of the primary lithium battery that was essential for the success of the Rosetta mission"*.

The Saft LSH20 primary lithium battery was designed to provide high energy in a compact, lightweight and robust package to ensure reliable power for this demanding spaceflight application. Weighing in at just 3 kg, the 26 V, 28 Ah capacity battery represented a small fraction of the overall 100 kg weight of the Philae Lander.

Extensive simulations and testing carried out by Saft in conjunction with CNES, including test batteries running in a freezer at -40°C to replicate the extreme cold of deep space, indicated that the Lander's battery should deliver around 60 hours of autonomous power. In the actual mission, the Saft battery outperformed this prediction.



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.

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