



Joint Press Release

Leclanche and EPFL innovate to store solar energy

A research project conducted by Leclanché S.A., the Ecole Polytechnique Federale de Lausanne (EPFL), Romande Energie and with the financial support of the Canton of Vaud could bring a real added value in the development of renewable energies.

Lausanne, on 1st September 2014 – As part of its "100 millions pour les énergies renouvelables et l'efficacité énergétique" programme, the Canton of Vaud allocates about two million francs to the *Distributed electrical systems laboratory* of Professor Mario Paolone of the EPFL, in order to implement a comprehensive system of energy storage.

Scientists want to study innovative solutions of industrial type for storing solar energy and subsequently be able to distribute it in an optimal way at times of peak consumption during the day. The heart of the device developed by Leclanché will be based on an innovative titanate Lithium-ion battery, which uses titanate instead of the traditional graphite. It will operate in conjunction with the Romande Energie solar park at the EPFL, one of the largest solar electric plants in the French speaking part of Switzerland. This pilot project brings together the Ecole Polytechnique Fédérale de Lausanne (EPFL), Leclanché S.A. (SIX Swiss Exchange:LECN), Romande Energie and the Canton of Vaud.

"The storage of electrical energy through the use of high-capacity and long life batteries is a challenge that determines the massive integration of renewable energy for the power generation. This partnership will allow us to validate the technologies used in order to store solar energy on an industrial scale, explains Professor Paolone. The issue is, therefore, very important".

A campus-based laboratory

About the size of a shipping container, the Leclanché storage device will be connected to the solar cells grid installed by the EPFL and Romande Energie over an area of 15,000 m². The container will be equipped with Leclanché's high performance Lithium-ion titanate batteries which have a very long life, with approximately 15,000 charge-discharge cycles, compared to the usual 3,000. To increase the safety of the device, a ceramic separator patented by Leclanché will be one of the key elements. This would be complemented by a sophisticated management system.

"We welcome this collaboration, adds Fabrizio Marzolini, Manager of the development of energy storage systems at Leclanché SA. This is the best way to share the high technology developed at Leclanché and scientific research to enable us to remain at the forefront of innovations that serve the vital energy transition". State Councillor Jacqueline de Quattro,

Head of the Department of territorial planning and environment, welcomes the fact that public funds are being invested in an innovative project meeting the strategic lines of the government renewable energies policy.

As a true testing ground, the storage unit of industrial size can store up to 500kWh, equivalent to the production of 2,500 square metres of electricity from solar panels in one hour or the consumption of a hundred households over one day, whilst managing variations in power related to sunlight.

"This joint research will help develop the contribution of solar cells to the Swiss energy supply, concludes Christian Frère, Manager of the Energy business unit at Romande Energie".

Research related to the container will last 23 months and will help to optimise the operation of the various components.

About the Laboratory of the Distributed Electrical Systems of the EPFL

The research activities of the Distributed Electrical Systems Laboratory are focused on finding new solutions for the management of power grids that take into account their increasing and inherent complexity in the growing integration of renewable energy sources and in the production and storage of distributed electrical energy.

Additional information: <http://desl-pwrs.epfl.ch>

About Leclanché

The strategy of Leclanché is to strengthen its position as one of Europe's leading manufacturers of lithium-ion batteries, and as an energy storage solution provider for renewable energy in Europe. Its strategic priorities are the development and sale of stationary products related to electrical energy storage for both private individuals and industrial markets and applications in networks. Added to this is the expansion of its current business including the development of portable energy storage solutions for military, medical and industrial applications, as well as offering professional energy storage systems to a diverse clientele. By participating in research consortiums focusing on applications for hybrid systems and E-mobility, Leclanché is positioning itself to take advantage of the new market opportunities.

Thanks to a patented ceramic separator technology and its lithium-ion batteries technology with lithium oxide titanate anode, Leclanché manufactures large size lithium-ion batteries for which safety and service life have been optimised, as part of a fully automated production process. The new production line has an annual installed capacity of one million batteries or 76 MWh.

Leclanché was founded in 1909 in Yverdon-les-Bains. Through the absorption of a "spin-off" of Fraunhofer-Gesellschaft in 2006, the company has grown from being a traditional battery manufacturer to becoming a leader in the development and production of lithium-ion batteries. Leclanché currently has over 100 employees and is listed on the SIX Swiss Exchange (LECN). The head office is in Yverdon-les-Bains (Switzerland) and the company also has a production and development site in Willstätt (Germany).

Additional information: www.leclanche.com

About Romande Energie Group

Romande Energie Group is the leading electricity distributor in Western Switzerland. Through its subsidiary Romande Energie Commerce, it supplies more than 300,000 end-customers directly in approximately 300 municipalities in the cantons of Vaud, Valais, Fribourg and Geneva. Its core business lines are the generation, distribution and marketing of power, alongside energy services.

Priorities are liaising with customers to ensure high-quality services in line with expectations; guaranteeing a reliable, sustainable and competitive supply of energy; developing proprietary power generation through priority investments in renewable energy; promoting innovative energy-efficiency solutions.

Romande Energie's corporate social responsibility policy systematically guides its approach to business.

Additional information: www.romande-energie.ch

About the "100 millions pour les énergies renouvelables et l'efficacité énergétique" programme

Launched in January 2012 by the Vaud State Council, this program aims at a double target. First, initiate the energy transition rendered mandatory by developments in this work area. Second, provide a financial support to the Vaud economic environment. It includes many elements, such as subsidies for high performance building renovations exceeding the usual requirements, incentives to produce photovoltaic current or supports for energy supply sources such as wood or biomass. This program is also established in a forward-looking vision supporting EPFL, HEIG-VD and UNIL R&D teams.

Additional information: www.vd.ch/100-millions

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Reservations

This press release contains certain forward-looking statements relating to the business activity of Leclanché, identified by terminology such as: "strategic", "proposes", "introduce", "will be", "planned", "expected", "commitment", "expects", "defined", "preparation", "plans", "estimates", "targets", "should", "potential", "expected", "estimated", "proposal", or similar expressions, or by expressed or implied assertions regarding forecasts of production capacity of Leclanché, potential applications for existing products, or relating to a number of potential future business matters from these types of products, or potential future sales or earnings of Leclanché or of one of its *business units*. These statements should not be regarded as absolutely reliable. They in fact reflect the current view of Leclanché about the future, and involve known and unknown risks and other factors that may cause actual real results that are different from future results, performances or achievements, expressed or implied by these statements. There is no guarantee that the Leclanché products will deliver any level of turnover. Nor that there is any guarantee that Leclanché or any of its *business units* will achieve any particular financial results.