

## ABB and partners to evaluate the reuse of the Nissan LEAF battery for commercial purposes

**Partnership with 4R Energy, Nissan North America, Inc. (NNA) and Sumitomo Corporation of America paves way for technical and commercial evaluations of battery energy storage units**

Zurich, Switzerland, January 18, 2012 – ABB, the leading power and automation technology group, 4R Energy, Nissan North America, Inc. (NNA) and Sumitomo Corporation of America have formed a partnership to evaluate the reuse of lithium-ion battery packs that power the Nissan LEAF, the world's first and only all-electric car designed for the mass market.

The purpose is to evaluate and test the residential and commercial applications of energy storage systems or back-up power sources using lithium-ion battery packs reclaimed from electric vehicles after use. Energy storage systems can store power from the grid during times of low usage and feed that electricity back into the grid during periods of peak demand, increasing grid performance and providing back-up power during outages. The team plans to develop a LEAF battery storage prototype with a capacity of at least 50 kilowatt hours (kWh), enough to supply 15 average homes with electricity for two hours.

"The agreement will allow us to evaluate the commercial viability of a grid storage solution and develop a prototype to effectively reuse Nissan LEAF batteries," said Bruno Melles, head of ABB's Medium Voltage power products business, a part of the company's Power Products division. "We look forward to working with our partners to take electric vehicle battery energy storage technology a step further."

Electric vehicle batteries have longer lives than those of personal computers or cell phones, with up to 70 percent capacity remaining after 10 years of use in an automotive application. This longevity allows them to be used beyond the lifetime of the vehicle for applications such as a smart-grid community energy management system or battery energy storage.

"It's important to Nissan that we manage the complete lifecycle of the electric vehicle battery pack, even beyond its use in a Nissan car," said Ken Srebnik, Senior Manager, NNA Corporate Planning. "Innovations in energy storage systems are becoming more viable as the electric grid gets smarter, and Nissan is proud to work with ABB, 4R Energy and Sumitomo to help bring these possibilities to market."

Innovative energy storage solutions are expected to become a key component of the smart grid, contributing to greater efficiency, reliability and performance. They will facilitate further integration of renewable energy sources, such as wind and solar, into the grid. The evaluation of Nissan batteries, through the partnership, will help determine their suitability for the power industry as a cost-effective energy storage solution.

"As a pioneer in developing the business model for the 'reuse' of EV batteries for stationary application in the world, 4R ENERGY is happy to partner with the world's number one power integrator, ABB, and Nissan, the world leading electric car producer," said Kazuaki Mori, Director of International Business Development Division, 4R ENERGY Corporation. "We want to contribute to the establishment of a low low-carbon society with renewable energy resources and the next generation of Smart-Grid and EV communities in the world."

### **Media conference calls**

ABB and Nissan will host a conference call for European media starting at 16:30 a.m. Central European Time (CET). UK callers should dial 0808 238 1790 (toll-free), from Sweden 0200 89 63 64 (toll free) and from Switzerland 0800 832 646 (toll-free). The international access number for the rest of the world is +1 212 401 6760. You will be asked to dial a participant pin code which is 61936953#

# Press Release



A second call for media in the Americas will start at 2.30 PM Eastern Standard Time (EST). US callers should dial 866 551 3680 (toll-free). The international access number for the rest of the world is +1 212 401 6760. You will be asked to dial a participant pin code which is 16683374#

A video interview with Jochen Kreusel, ABB's Head of Smart Grids, is available at <http://www.youtube.com/user/abb?feature=mhee#p/c/F012FD98B8428AD1/31/IQeyygxLLTQ>

ABB ([www.abb.com](http://www.abb.com)) is a leader in power and automation technologies that enable utility and industry customers to improve performance while lowering environmental impact. The ABB Group of companies operates in around 100 countries and employs about 130,000 people.

Nissan Americas ([www.nissanusa.com](http://www.nissanusa.com)). In the Americas, Nissan's operations include automotive styling, engineering, consumer and corporate financing, sales and marketing, distribution and manufacturing. Nissan is dedicated to improving the environment under the Nissan Green Program and was recognized as an ENERGY STAR® Partner of the Year by the U.S Environmental Protection Agency in 2010 and 2011. More information, including photos and video b-roll, on Nissan in North America, the Nissan LEAF and zero emissions can be found at [www.nissanusa.com](http://www.nissanusa.com).

4R ENERGY Corporation ([www.4r-energy.com](http://www.4r-energy.com)), headquartered in Yokohama, Japan, was established in September 2010 as a new joint venture company between Nissan Motor Co., Ltd ([www.nissan.co.jp](http://www.nissan.co.jp)) and Sumitomo Corporation ([www.sumitomocorp.co.jp](http://www.sumitomocorp.co.jp)) to conduct research and field tests on the second-life use of lithium-ion batteries that have been used previously in electric vehicles. Naming a second-life use of lithium-ion batteries as the "4R business" (Reuse, Refabricate, Resell, Recycle) which is designed as solutions for both renewable energy and EV's popularization, which lead to Smart community realization, by utilizing mass-produced EV lithium-ion battery.

Sumitomo Corporation of America ([www.sumitomocorp.com](http://www.sumitomocorp.com)), established in 1952, is a wholly owned subsidiary of Sumitomo Corporation. It is headquartered in New York City and is an integrated global trading company with diversified investments in businesses involved in manufacturing and marketing of consumer products, providing financing for customers and suppliers, coordination and operation of urban and industrial infrastructure products, providing transportation and logistics services, developing natural resources, distribution of steel and other products and developing and managing real estate. The company's offices and business investments range throughout North America, Canada and Mexico and Central and South America.

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