

# First 100-Percent Battery Powered, Air Supported Vessel, Launched in Riga, Latvia

**BB Green is the world's fastest electric commuter vessel**

**Leclanché provided the turnkey battery energy storage system for EU-project**

**YVERDON LES BAINS, Switzerland and DALLAS, May 23, 2016** - The world's fastest Air Supported Vessel (ASV), fully powered by a Leclanché lithium-ion battery energy storage system (BESS), has been launched at Latitude Yachts in Riga, Latvia.

The "BB Green" is the result of a five-year long EU-project. The vessel holds up to 70 passengers plus bikes, operates at a speed of 30 knots (56km/h) and is the first of its kind; it will initially be used for demonstration purposes across Europe.

The ASV technology reduces water resistance by having the ship operate on an air cushion. A battery powered fan in the bow injects pressurised air into a cavity under the ship and supports some 80 percent of the vessel's displacement. The resistance is reduced by 40 percent at high speed, which makes it possible for the 25-ton ship to reach a speed of 30 knots propelled by 2 x 280 kW electric motors.

BB Green includes a 200 kWh LTO energy storage system enabling it to operate at high speed for over 30 minutes with a 14 nautical mile (26 km) range. At each stop, it benefits from ultra-fast charging for 15-20 minutes. This makes BB Green the "the world's fastest electric commuter vessel" - perfect for commuting on inland waterways from outer suburbs to the city centre.

Mr. Antti Väyrynen, vice president of Leclanché highlights the importance of this project, "Full electrification of passenger ferries will reduce local emissions and provide silent and comfortable transportation on waterways. As the leading manufacturer of lithium-ion battery systems in Europe, Leclanché is proud to have contributed to this very innovative project as the integrated battery system supplier."

BB Green is the result of a European project which involved 8 main partners:

- SES Europe / Effect Ships International, Norway (Hull technology and design)
- Latitude Yachts, Latvia (Construction)
- Echandia Marine, Sweden (System integration)
- Leclanché, Switzerland (Energy storage systems)
- SSPA, Sweden (Tank testing and documentation)
- Lloyd's Register (Safety and classification)
- Diab, Sweden (Composite material and engineering)
- Aqualiner, the Netherlands (End user partner)

BB Green will make its first "road show" from Riga to Stockholm, through the canal to Gothenburg and then on to Oslo. The ship is owned by SES Europe together with Green City Ferries, who will operate the ship on its maiden voyage.

Currently, Leclanché is supplying a 4.3 MWh turnkey energy storage system to the world's largest electric ferry which will be launched in Denmark in 2017. These contributions further highlight the Company's strategy to enable the electrification of ferries.

## About Echandia Marine Sweden

Echandia Marine is a fully owned subsidiary of Green City Ferries, which in turn is privately owned company in Sweden. Echandia is an independent system integrator focussing on ferries and other vessels in cities where pollution is an issue. Echandia provides electric drivelines and systems together with our Norwegian partner Callenberg Technology who is a global operator. Echandia also has a close collaboration with Leclanché. Furthermore, Echandia also provides charging stations.

## About Leclanché

Leclanché is a fully vertically integrated battery energy storage solution provider. It delivers a wide range of turnkey energy storage solutions for homes, small offices, large industries, electricity grids, as well as hybridization for mass transport systems such as bus fleets and ferries. Established in 1909, Leclanché has been a reliable partner for battery energy storage solutions for over 100 years. Founded in the tradition of Georges Leclanché, the inventor of the dry cell battery, Leclanché today has a rich portfolio of Battery Energy Storage

Systems (BESS) that include bespoke battery systems from industry leading lithium-ion solutions. Since 2006, the company moved from a traditional battery producer to become one of the first developers, manufacturers and providers of lithium-ion cells in Europe. Leclanché's BESS are optimized for various applications, in particular for the integration of renewable energy, diesel fuel reduction, electricity grid-connected ancillary services, peak power shaving for heavy industries, as well as for heavy duty transportation in buses, trams, trains or maritime vessels. Leclanché products are characterized by a very high cycle stability (both for cells with titanate and graphite anodes) and industry-leading long service life resulting into reduced total cost of ownership. With its patented separator technology, which is a core element of lithium-ion batteries, Leclanché is able to make cells with very good safety characteristics, under a highly automated production process. Leclanché operates a fully automated plant for the production of large format lithium-ion cells at an annual maximum capacity of up to one million cells and is capable of running multiple chemistries through production for different cell characteristics. In addition, Leclanché offers a number of specialized battery systems through its Portable Business Unit, such as customer-specific energy storage systems for defence and medical applications. Leclanché also distributes primary and secondary batteries and accessories of other producers.

Leclanché is listed on the Swiss stock exchange. SIX Swiss Exchange: ticker symbol LECN | ISIN CH 011 030 311 9

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You should not place undue reliance on these statements. Such forward-looking statements reflect the current views of Leclanché regarding future events, and involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. There can be no guarantee that Leclanché's products will achieve any particular revenue levels. Nor can there be any guarantee that Leclanché, or any of the business units, will achieve any particular financial results.

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Editor's Note: Photos of the BB Green and its battery storage system are available upon request.

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