

Leclanché to Provide Advanced Battery Technology for Canadian Pacific's Hydrogen-powered Locomotive Project

- *Leclanche to supply its proprietary lithium-ion batteries and energy management software to be integrated with the fuel cell modules*
- *The breakthrough project is an entry into the freight-rail market that includes more than 45,000 diesel locomotives in North America and G5 European countries*
- *Testing will take place along Canadian Pacific's rail network in Canada*

YVERDON-LES-BAINS, Switzerland and ANDERSON, Indiana, May 11, 2021 /PRNewswire/ -- [Leclanché SA](#) (SIX: LECN) will provide its proprietary battery technology to Canadian Pacific (TSX: CP) (NYSE: CP) for its innovative Hydrogen Locomotive Program.

The CP hydrogen-powered locomotive pioneering project, first announced in December 2020, will retrofit a line-haul diesel freight locomotive with hydrogen fuel cells and Leclanché's European manufactured lithium-ion batteries to power the locomotive's electric traction motors. Leclanché will also provide its proprietary energy management software for optimum integration. The project is designed to evaluate the combined technologies' readiness for the freight rail sector. Once the locomotive is operational, CP will conduct rail service trials and qualification testing. CP operates a 21,000-km (13,000-mile) rail network across Canada and the U.S. that serves deep-water ports on the Atlantic and Pacific Oceans.

The market for freight rail is large and growing across the world. In 2018, year-over-year, Canada's freight rail sector's workload, measured by gross ton-miles, increased by 6.2%, and increased 10.1% compared with the five-year average. The distance travelled by Canada's freight trains, measured by freight train-miles, increased by 5.4% to 68.6 million in 2018 versus 2017.

"Leclanche is pleased to have been chosen by Canadian Pacific for inclusion in its hydrogen locomotive, zero emission freight train program," said Anil Srivastava, CEO, Leclanché. "This project further expands our addressable market to include electrification of the freight rail sector representing a major global opportunity for the reduction of greenhouse gases."

"Our battery systems and energy management software solution significantly increase the total energy efficiency compared to standalone fuel cell modules, reducing the total cost of ownership. In addition to North America, we are currently looking at the freight train market in Europe, Australia, Brazil and South Africa – all of which are ideally suited for the transformation of their current diesel stock," said Srivastava.

Leclanché's eTransport Solutions business serves the needs of the medium and heavy transportation industry through the supply of a broad range of solutions based on 100% inhouse technologies from lithium cells, battery modules, battery management system and battery packs to energy management software. Leclanché has delivered/commissioned more than 430 high-capacity marine racks and commercial vehicle battery packs to customers since the start of commercial operations in 2019. These customers include global original equipment manufacturers (OEMs) in the passenger rail, maritime, bus, truck and specialized vehicles sectors.

About Leclanché

Headquartered in Switzerland, Leclanché SA is a leading provider of high-quality energy storage solutions

designed to accelerate our progress towards a clean energy future. Leclanché's history and heritage is rooted in over 100 years of battery and energy storage innovation and the Company is a trusted provider of energy storage solutions globally. This coupled with the Company's culture of German engineering and Swiss precision and quality, continues to make Leclanché the partner of choice for both disruptors, established companies and governments who are pioneering positive changes in how energy is produced, distributed and consumed around the world. The energy transition is being driven primarily by changes in the management of our electricity networks and the electrification of transport, and these two end markets form the backbone of our strategy and business model. Leclanché is at the heart of the convergence of the electrification of transport and the changes in the distribution network. Leclanché is the only listed pure play energy storage company in the world, organised along three business units: stationary storage solutions, e-Transport solutions and specialty batteries systems. Leclanché is listed on the Swiss Stock Exchange (SIX: LECN).


SIX Swiss Exchange: ticker symbol LECN | ISIN CH 011 030 311 9

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