

Croatian Train Manufacturer KONČAR Selects Leclanché as Supplier of Battery Systems for New State Railroad Contract

- First commercial agreement with KONČAR for two new trains for medium distance transport in both coastline and inland areas.
- Leclanché to supply its INT-53 Energy packs and battery thermal management systems for one fully electric train, along with one hybrid train
- Battery-powered trains are significantly more energy efficient compared to diesel locomotives and release no emissions



Leclanché INT-53 Energy railroad pack

YVERDON-LES-BAINS, Switzerland 13 April, 2023 – Croatian rail vehicle manufacturer [KONČAR Electric Vehicles](#) has turned to [Leclanché SA](#) (SIX: LECN) to provide the battery systems for a new high-profile Croatian state railroad contract (click [here](#) for images).

Under terms of the initial agreement, Leclanché will supply its INT-53 Energy rail battery system for two trains. KONČAR will be building the trains for HZPP, the state national railway operator. The trains will be BMU (Battery Multiple Unit) and BEMU (Battery Electric Multiple Unit) models for passenger transport on routes surrounding the cities of Varazdin, Osijek, Virovitica and Bjelovar. There is also potential for further use on the routes around Split in the Dalmatian region and around Pula in the Istria.

Together with the railway certified lithium ion (Li-ion) batteries, Leclanché will provide battery thermal management systems and multi-string-managers to allow proper battery cooling, ensuring that different battery strings charge and discharge in parallel and communicate as a single unit to the vehicle control unit. Battery-powered trains provide numerous advantages to travellers, transit operators and the public at large, including quieter operation (some 50% quieter than diesel trains), carbon-free mobility, substantial maintenance savings as well as being an investment in a sustainable future.

Leclanché INT-53 Energy packs

Leclanché's INT-53 Energy packs are a modular and scalable lithium-ion battery solution for use on trains operating on partially or non-electrified rail routes. The systems are designed to the highest level of safety standards; they are equipped with functionally safe battery management systems (BMS), robust enclosures that mitigate any thermal events and are also IP67-rated against adverse environmental conditions.

Leclanché manufactures the entirety of its battery systems from cell production, through to pack assembly, in its German and Swiss factories. The whole process is certified in accordance with the International Railway Industry Standard (IRIS), a world-renowned global system for the evaluation of companies in the rail sector.

"We turned to Leclanché as battery supplier for several reasons, but most importantly, their focus on safety," said Gordan Kolak, CEO, KONČAR. "The eight-year cycle life of INT-53 Energy packs and their compliance with stringent European railway standards are of vital consideration to us."

Leclanché will provide 14 of its INT-53 Energy packs for the fully battery-powered train and 12 for the hybrid. It will also provide its dedicated battery thermal management systems.

"We are excited to collaborate with KONČAR on this project and supply our class-leading railroad battery packs to them. Leclanché is looking forward to an ongoing joint commitment to decarbonise the rail industry," said Phil Broad, CEO, Leclanché e-Mobility. "Our INT-53 rail pack is uniquely designed to meet the rigorous demands of rail manufacturers and operators – everything from cycle life, size, energy, power, safety and charge rate were key requirements in this nomination."

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About KONČAR

In the power engineering sector, the name KONČAR is a global synonym for tradition, trust, expertise, innovation and cutting-edge technology. In 2021 KONČAR celebrated a century of excellence and century of operations across 130 markets.

Consolidated income generated from the sales of products and services amounts to 700 million euro, the

majority of which, 61% is generated in foreign markets.

Today, KONČAR is well recognized and established in power engineering and rail solutions industry and operates in the fields of power generation, transmission and distribution, rail vehicles and infrastructure, digital solutions and platforms, with a focus on proprietary development and innovation, as well as laboratory testing and certification.

KONČAR continuously develop segments which provide the highest added value - wind, solar and hydro energy. The company has pivoted to further development of technologies and products that will combine green and smart to enable its partners to keep up with global initiative and direction in the power engineering field. Inspired by challenge, KONČAR develops cutting-edge solutions, contributing to local manufacturing and energy sustainability of the society.

About Leclanché

Leclanché is a world leading provider of low-carbon footprint energy storage solutions based on lithium-ion cell technology. Established in 1909 in Yverdon-les-Bains, Switzerland, Leclanché's history and heritage is rooted in battery and energy storage innovation. The company's Swiss culture for precision and quality, together with its production facilities in Germany, make Leclanché the partner of choice for companies seeking the very best in battery performance and who are pioneering positive changes in how energy is produced, distributed and consumed around the world. Leclanché is organised into three business units: energy storage solutions, e-Mobility solutions and specialty battery systems. The company currently employs over 350 people with representative offices in eight countries around the world. Leclanché is listed on the Swiss Stock Exchange (SIX: LECN).

Disclaimer

This press release contains certain forward-looking statements relating to Leclanché's business, which can be identified by terminology such as "strategic", "proposes", "to introduce", "will", "planned", "expected", "commitment", "expects", "set", "preparing", "plans", "estimates", "aims", "would", "potential", "awaiting", "estimated", "proposal", or similar expressions, or by expressed or implied discussions regarding the ramp up of Leclanché's production capacity, potential applications for existing products, or regarding potential future revenues from any such products, or potential future sales or earnings of Leclanché or any of its business units. 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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