

Hydro-Québec partners with Mercedes-Benz on Development of Solid-State Battery Technologies Français

- Hydro-Québec, together with Mercedes-Benz, accelerates the research and development of next generation Li-Ion battery technologies
- Solid-state batteries are considered to be a viable alternative to regular lithium-ion batteries from next decade
- Innovative chemistry promises higher performance, longer range and lower weight than today's batteries and will bring further progress in terms of safety

MONTREAL and STUTTGART, Germany, Feb. 4, 2020 /CNW Telbec/ - Canadian battery material specialist Hydro-Québec partners with Mercedes-Benz AG as part of the auto maker's research and development activities on future technological leaps of electric vehicles. Hydro-Québec internationally renowned Center of Excellence in Transportation Electrification and Energy Storage is a leading research and development institute for advanced battery materials, focusing on solid-state battery technologies. With its latest developments Hydro-Québec has achieved promising results for future battery performance, range, weight, moreover harnessing the potential of solid-state-materials on safety, which can unleash new possibilities in vehicle electrification. Hydro-Québec and Mercedes-Benz researchers will cooperate to test new materials under field conditions to accelerate the development cycle.



A researcher at work at Hydro-Québec's Center of Excellence in Transportation Electrification and Energy Storage (CNW Group/Hydro-Québec)

Lithium-ion batteries are the most common type used in electronics and electric vehicles. Solid-state lithium metal batteries are supposed to be a next important technology milestone, having a very high energy density, are long lasting, and very light. In addition, the technology is considered to be a safer alternative to regular lithium-ion batteries, as it does not use flammable liquid electrolytes. Hydro-Québec developed a first-generation solid-state battery in the 1990s and has continued its R&D to improve both efficiency and manufacturing methods. Its know-how, widespread intellectual property portfolio and leading-edge facilities draw interest from around the world and make it a sought-after partner for industry players involved in the development of tomorrow's battery materials and technologies.

"We're pleased to be partnering with Mercedes-Benz, an automotive company with an enviable reputation, to pursue our research even further," said Karim Zaghib, General Manager of Hydro-Québec's center of excellence in transportation electrification and energy storage. "Our association will allow us to test new materials quickly in field conditions, and so accelerate the development cycle and respond to the concerns of automobile manufacturers."

The battery is not an off-the-shelf product, but an integral part of the vehicle architecture. The intelligence of the battery lies in a highly complex overall system, which defines the characteristics of the vehicle with respect to performance, range and charging times. As an integral and important element of Mercedes-Benz's electrification strategy, competencies for the technological evaluation of materials and cells as well as research and development activities are consistently expanded. These include the continuous optimization of the current generation of Li-Ion battery systems, the further development of cells bought on the world market and research of the next generation battery systems.

"The battery is a key component of our electric vehicles. Mastering their chemistry is therefore a focal topic for Mercedes-Benz research and development. Solid-state batteries are supposed to be a next important technology leap for e-mobility, meaning an alternative to today's li-ion battery systems. The latest advancements Hydro-Québec researchers have made are very promising and we are looking forward to the first results of our joint development program" said Jochen Hermann, Vice President Development eDrive, Mercedes-Benz AG.

The joint research activities will be carried out at Hydro-Québec's center of excellence in transportation electrification and energy storage in Canada as well as the SCE France laboratory, a Hydro-Québec subsidiary.

About Hydro-Québec

Hydro-Québec generates, transmits and distributes electricity, It is Canada's largest electricity producer and one of the world's largest hydroelectric power producers. Its sole shareholder is the Québec government. It uses mainly renewable generating options, in particular large hydropower. Its research institute, IREQ, conducts R&D in energy efficiency, energy storage and various other energy-related fields. <http://www.hydroquebec.com/en>

About the Center of Excellence in Transportation Electrification and Energy Storage

The mission of the Centre of Excellence in Transportation Electrification and Energy Storage is to conduct battery materials research for Hydro-Québec. The center of excellence is headed by Karim Zaghib, an expert of international renown. Dr. Zaghib has recently won [the 2019 Lionel-Boulet Award](#), the highest distinction awarded by the Québec government in the field of research and development in the industrial sector. The center

of excellence commercializes Hydro-Québec technologies protected by over a hundred of families of patents.

Mercedes-Benz AG at a glance

Mercedes-Benz AG is responsible for the global business of Mercedes-Benz Cars and Mercedes-Benz Vans with 175,000 employees worldwide. Ola Källenius is Chairman of the Board of Management of Mercedes-Benz AG. The company focuses on the development, production and sales of passenger cars, vans and services. Furthermore, the company aspires to be leading in the fields of connectivity, autonomous driving and alternative drives with its forward-looking innovations. The product portfolio comprises the Mercedes-Benz brand with the sub-brands Mercedes-AMG, Mercedes-Maybach and Mercedes me - as well as the smart brand, and the EQ product and technology brand for electric mobility. Mercedes-Benz AG is one of the largest manufacturers of premium passenger cars. In 2018 it sold more than 2.3 million cars and over 420,000 vans. In its two business divisions, Mercedes-Benz AG is continually expanding its worldwide production network with over 40 production sites on four continents, while aligning itself to meet the requirements of electric mobility. At the same time, the company is developing its global battery production network on three continents. Sustainable actions play a decisive role in both business divisions. To the company, sustainability means creating value for all stakeholders on a lasting basis: customers, employees, investors, business partners and the society as a whole. The basis for this is the sustainable business strategy of Daimler in which the company takes responsibility for the economic, ecological and social effects of its business activities and looks at the entire value chain.

SOURCE Hydro-Québec

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