



First in the Americas: Alstom's hydrogen train enters revenue service in Charlevoix in Quebec

- Part of a demonstration project during the summer 2023, Coradia iLint hydrogen train carried its very first North American passengers on June 17, 2023
- This project will allow Alstom and its partners to better assess the subsequent steps for the development of an ecosystem for hydrogen propulsion technology and its penetration into the North American market
- The train will operate commercially in summer 2023 on the Réseau de Charlevoix railway network, at the heart of a UNESCO-listed biosphere reserve

27 June 2023 – It is a first in Canada and in the Americas, driven by Alstom, global leader in smart and sustainable mobility, with its partners the Government of Quebec, Chemin de fer Charlevoix, Train de Charlevoix, Harnois Énergies, HTEC and Accelera by Cummins. On June 17, 2023, a hundred passengers boarded the Coradia iLint for the first hydrogen train journey ever on the North American continent. The train connected the Parc de la Chute-Montmorency in Quebec City to Baie-Saint-Paul, a 90-kilometre trip in the heart of the UNESCO-listed Charlevoix Biosphere Reserve along the St. Lawrence River. The Coradia iLint, which generates its own energy using fuel cells supplied by Accelera by Cummins, which has operations in Ontario, is powered by green hydrogen produced by Harnois Énergies at its Quebec City site.

The province of Quebec will be the first jurisdiction to run a train with zero direct emissions powered by green hydrogen, demonstrating its leadership in the transition to a low-carbon economy and the set-up of ecosystems dedicated to hydrogen. The commercial operation of this train will allow Alstom and its partners to better assess the subsequent steps for the development of an ecosystem for hydrogen propulsion technology and its penetration into the North American market. The Hydrogen Research Institute of the Université du Québec à Trois-Rivières will accompany Alstom in the analysis of the results of this demonstration project.

The Coradia iLint first entered commercial service in Germany in 2018 and has travelled more than 220,000 kilometres in eight European countries. Currently, Coradia iLint is operating in commercial service on two different networks in Germany. The train is powered by a hydrogen fuel cell that emits only water vapour during operation, while ensuring a quieter environment for passengers and those close to tracks. On September 15, 2022, the Coradia iLint travelled the record distance of 1,175 kilometres without refuelling. Coradia iLint has a top speed of 140 km/h and acceleration and a braking performance comparable to a standard regional diesel train – but without the noise and the emissions. Coradia iLint stands out for its combination of innovative features: clean energy conversion, flexible energy storage in batteries, smart traction and energy management. Designed especially for non-electrified lines, it allows for safe, clean and sustainable operations. To date, 41 trainsets have been ordered by clients in Europe.

"We are very proud to see our Coradia iLint hydrogen train onboard and carry its first North American passengers here in Quebec," said Michael Keroullé, President of Alstom Americas. "Alstom is fully



involved in the decarbonization of mobility in the world and particularly in America. Hydrogen technology offers an alternative to diesel and demonstrates our ability to provide more sustainable mobility solutions to our customers, agencies and operators, as well as passengers. It will also provide an extraordinary showcase for Quebec's green hydrogen ecosystem, which is under development."

"This project is made possible thanks to the collaboration of Chemin de fer de Charlevoix, which is owned by Groupe Le Massif," said Claude Choquette, President of Groupe Le Massif and Chemin de fer de Charlevoix. "In addition to defining new foundations for sustainable tourism, the hydrogen train's launch allows many visitors from around the world to discover Charlevoix while creating value for the entire region."

"Harnois Énergies is a partner in this project, positioning itself not only as a hydrogen producer, but also as a distributor. The hydrogen used will be produced at our Quebec City station and will then be transported via high-pressure tanks to Baie St-Paul. Harnois Énergies is focused on the future and keeps an open mind. Energy diversification is at the heart of the company's priorities," explains Serge Harnois, President and CEO of Harnois Énergies.

"As Accelera continues to innovate, we're guiding customers through energy transition roadmaps by providing end-to-end hydrogen solutions," said Alison Trueblood, General Manager of Fuel Cell and Hydrogen Technologies at Accelera. "This includes advancing traditional transportation methods, like passenger trains, through the adoption of zero-emission technologies and enabling industry infrastructure with hydrogen-producing electrolyzers. Together with Alstom and many other partners, we are advancing hydrogen propulsion technology in the North American market."

Commercial service of the Coradia iLint in Quebec is the first mandate of Alstom's new innovation centre in the Americas, which is dedicated to sustainable mobility solutions. This is the first milestone in the development of an ecosystem around Alstom's rail solutions with zero direct emissions. The primary mission of this centre, located in Saint-Bruno-de-Montarville, Quebec, is the development of future platforms with hybrid, battery or green hydrogen propulsion specifically adapted to the North American market, leveraging the proximity to the more than 700 Alstom engineers currently working in the city to help accelerate the decarbonisation of the rail sector.

Alstom is the world leader in innovation for sustainable mobility. The company employs 1,800 people in Quebec and its Americas headquarters is in Saint-Bruno-de-Montarville, Quebec. Alstom provides rolling stock, signalling solutions, services, infrastructure and turnkey systems, notably in Montreal for the Réseau express métropolitain project, the Société de transport de Montréal and exo, as well as in Canada's largest cities and for its major rail networks. Alstom is a proud Canadian player and has been certified "Top Employer 2023" in Canada, for the third year in a row, by the Top Employers Institute.

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About Alstom

Alstom commits to contribute to a low carbon future by developing and promoting innovative and sustainable transportation solutions that people enjoy riding. From high-speed trains, metros, monorails, trams, to turnkey systems, services, infrastructure, signalling and digital mobility, Alstom offers its diverse customers the broadest portfolio in the industry. With its presence in 63 countries and a talent base of over 80,000 people from 175 nationalities, the company focuses its design, innovation, and project management skills to where mobility solutions are needed most. Listed in France, Alstom generated revenues of €16.5 billion for the fiscal year ending on 31 March 2023. For more information, please visit www.alstom.com.

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