

Alstom to supply first hydrogen trains to the Italian region of Puglia and second order of trains in the framework agreement with Lombardy

- **Ferrovie del Sud Est (FSE) orders two Coradia Stream hydrogen trains for Puglia**
- **Ferrovie Nord Milano (FNM) orders two more trains within existing framework agreement**
- **Alstom's innovation in sustainable mobility supporting Italy's efforts to move away from diesel**

22 December 2023 – Alstom, global leader in smart and sustainable mobility, will supply to Ferrovie del Sud Est, transport operator of the Puglia region, two Coradia Stream H hydrogen trains to replace the current diesel trains. These will be the region's first hydrogen trains.

Additionally, Ferrovie Nord Milano signed the second order for two Coradia Stream H trains in addition to the six trains already on order, within the existing framework agreement, which allows for the acquisition of a total of 14 trains.

"We are extremely proud to supply the first hydrogen trains in Puglia and to grow the hydrogen train fleet in Lombardy. Alstom's unrivalled expertise in the full range of green traction solutions uniquely positions us to identify the best solutions for our customers depending on their specific needs. With the supply of four hydrogen trains to Ferrovie del Sud Est and Ferrovie Nord Milano, we are advancing local innovation and the reduction of CO₂ emissions. This will not just transform the public transport system but also create opportunities for the local economy," said Michele Viale, Managing Director of Alstom in Italy and President and CEO of Alstom Ferroviaria.

The new Coradia Stream H trains are based on Alstom's single-deck Coradia Stream regional train platform. Specifically designed for the European market, these trains are manufactured by Alstom in Italy. When using green hydrogen, the Coradia Stream H produces no direct CO₂ emissions in operation, and just like the electric variant of the train, it offers the exceptional comfort appreciated by passengers. The train features several additional innovations in clean energy conversion, efficient energy supply and storage system combined with intelligent energy management. Alstom was the first railway actor to invest in hydrogen trains as an alternative to diesel traction for non-electrified lines.

The train is designed and produced at Alstom's plants in Italy, involving the Savigliano site for development, certification, production and testing, the Vado Ligure site for the outfitting of the "power car" in which the technologically innovative hydrogen-related part is installed, the Sesto San Giovanni site for components and the Bologna site for the development of the signalling system.

How the hydrogen train works

The primary source of energy resides within the intermediate railcar known as the “power car”, where the core of hydrogen technology is situated. The energy is generated through the combination of hydrogen, stored in tanks, with oxygen from the external air, producing energy without emitting CO2 into the atmosphere. The energy is stored in high-performance lithium-ion batteries, which are utilised during acceleration to complement the hydrogen cells, optimising fuel usage. As part of the IPCEI Hy2Tech programme, the project is being funded by European Union – NextGenerationEU.

About green traction with zero direct carbon emissions

Alstom offers the complete rolling stock portfolio of traction technologies with zero direct carbon emissions, from hydrogen fuel cells to battery and electric. In 2016, Alstom introduced the world’s first and only operational passenger hydrogen train and has also developed battery traction solutions across multiple rail platforms to serve shorter non-electrified lines. In addition, Alstom’s green traction solutions offer the opportunity to convert existing diesel trains to traction with zero direct carbon emissions.

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About Alstom

Alstom is committed to supporting a low-carbon future through the development and promotion of innovative and sustainable transportation solutions that people can enjoy using. From high-speed trains, metros, monorails, streetcars, turnkey systems, services, infrastructure, signaling, and digital mobility, Alstom offers its diverse customers the industry’s broadest portfolio. With a presence in 63 countries and a wealth of more than 80,000 talents from 175 countries, the company focuses its design, innovation and project management expertise in the areas where mobility solutions are most in demand. Listed in France, Alstom generated revenues of 16.5 billion euros for the fiscal year ending March 31, 2023.

For more information, visit www.alstom.com

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