

Coradia iLint

A full emission-free train

Coradia iLint is a full emission-free train solution based on Alstom's successful Coradia Lint platform. The traction system is using fuel cells which produce electricity by combining hydrogen and oxygen to water.

GENERAL DESCRIPTION

Today, rail operators mostly use diesel multiple units to operate passenger service on non-electrified networks. The accompanying CO₂ emissions and noise levels from trains with combustion engines are hampering the otherwise green impact of rail systems compared to other motorized transport systems. Now, Alstom offers a emission free regional train and a silent alternative: Coradia iLINT. Alstom is one of the first manufacturers worldwide to develop a passenger train based on such a technology.

CUSTOMER BENEFITS

Reduction of CO₂ emissions

Coradia iLint is a full emission-free train solution using Hydrogen as the ideal alternative energy source. Powered by fuel cells, its only emission is steam and condensed water while it operates with low noise level.

The installed traction system facilitates reduced energy consumption thanks to

- Energy storage
- Intelligent energy management

Based on service proven Coradia Lint

Coradia iLint is based on the service proven diesel train Coradia Lint 54. Replacing the diesel traction by the fuel cell technology enables sustainable train operation while its performance matches that of regular regional trains.

Safety

Decades of research have already gone into hydrogen technology, and its safety has been established in numerous applications. According to the German Hydrogen and Fuel Cell Association (DWV), high-pressure reservoirs with hydrogen are actually safer than petrol tanks in comparable hazard situations. In addition, homologation of the vehicles is subject to extremely strict checks, which cover all safety-relevant aspects.

The complete package for maximal train availability

To make the deployment of the Coradia iLint as easy as possible for operators, Alstom offers the complete package consisting of the train itself, its maintenance but also the whole hydrogen infrastructure out of one hand. This way, the operator can focus on its core competencies while Alstom and its partners take care of all rolling stock and hydrogen-related matters

HIGHLIGHTS

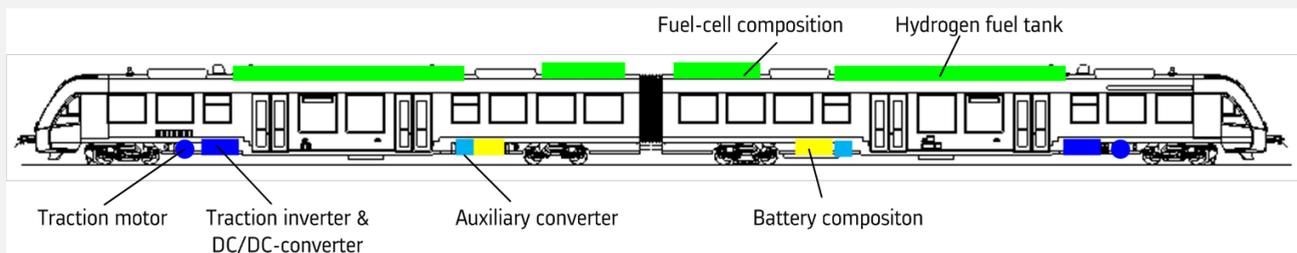
- **No greenhouse gases or particles** are exhausted from the train
- **Electrical traction drive**
- **Traction system** : use of fuel cells which produce electricity by combining hydrogen and oxygen
- **Comparable acceleration and braking performance** with conventional Coradia Lint
- **Bundled offer**



Hydrogen – an ideal alternative energy source for the rail

Coradia iLint is special for its combination of different innovative elements; a clean energy conversion, a flexible energy storage, and smart management of the traction power and available energy.

Thanks to a flexible energy storage system, an intelligent energy management and a cost-efficient energy carrier, the Coradia iLint has lower energy consumption as well as higher energy efficiency than a conventional diesel multiple unit in relation to the distance covered. The trains will have a performance comparable to the latest generation of Coradia Lint diesel multiple units, i.e. the same maximum speed of 140 km/h and a comparable acceleration and braking performance. Furthermore passenger capacity will be in the same range as latest generation of Coradia Lint diesel multiple units.



- The trains are powered by an electrical traction drive. Electrical energy is generated on-board in a fuel cell and intermediately stored in batteries.
- The fuel cell provides electrical energy by combining hydrogen stored in tanks on-board with oxygen from environmental air. The only exhaust is water steam and condensed water.
- The battery stores energy from fuel cell when not needed or from kinetic energy of the train during (electrical) braking and allows to support (boost) energy delivery during acceleration phases.

Modern energy supply and storage system combined with intelligent energy management



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