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The 300-passenger Coradia iLint regional train uses fuel cell technology to run up to 87 miles per hour. (photo: Alstom)

World's First Zero-Emissions Hydrogen Train Unveiled in Germany

By Lorraine Chow, EcoWatch
03 November 16

The Coradia iLint, developed by French rail transport company Alstom, was presented last month at InnoTrans, the railway industry's largest trade fair.

The hydrogen, aka "hydrail," train is powered by a hydrogen fuel cell and emits nothing but steam and condensed water, making it a much quieter and eco-friendly alternative to the 4,000 diesel trains currently in circulation in the country, according to a company press release.

The train claims speeds of up to 87 miles per hour and a hydrogen storage capacity for a 497-mile range. Excess energy is stored with onboard lithium batteries.

As CityLab pointed out, the train's fuel source is effectively carbon neutral since the hydrogen used by the train actually came from waste byproducts from the chemical industry and other manufacturers.

"Typically, this hydrogen is simply burned, so using it to power trains would not place any new, additional burden on the environment," CityLab wrote. "Admittedly, the production of such chemicals is itself not always carbon-neutral, but given that these substances are already being manufactured, the train project will at least ensure that this process is more productive."



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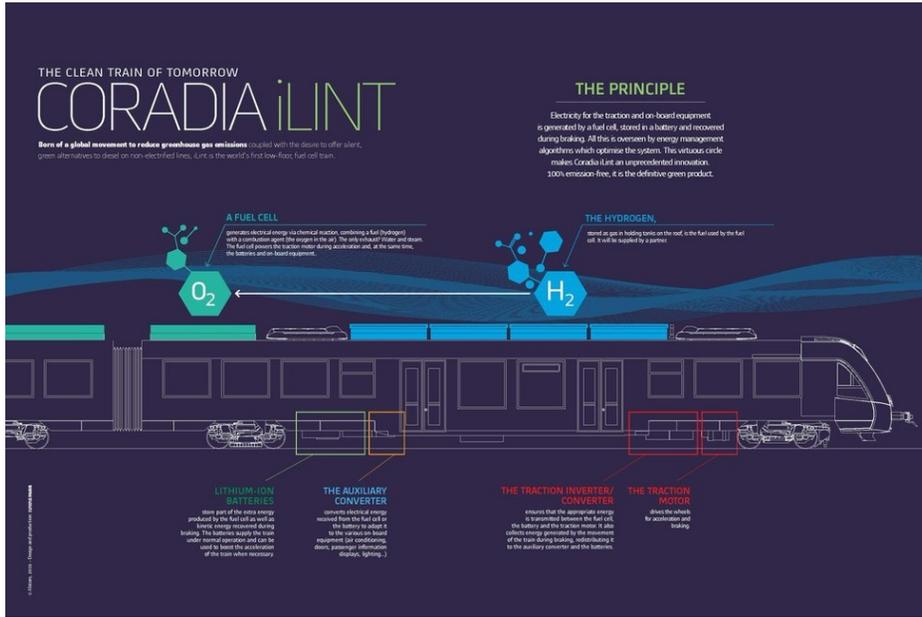
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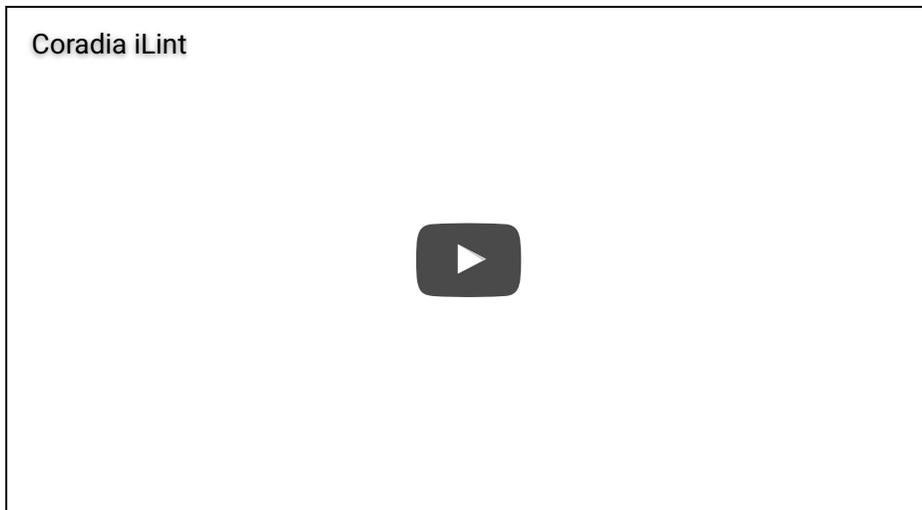
According to German publication *Die Welt*, testing will be carried out by the end of the year. Pending successful results, the 300-passenger train will be open for the public on the Buxtehude-Bremervörde-Bremerhaven-Cuxhaven line in the German state of Lower Saxony in December 2017.

It's likely that other German states will host these trains. Letters of intent to use the model were also signed back in 2014 with North Rhine-Westphalia, Baden-Württemberg and the Public Transportation Authorities of Hesse.

Netherlands, Denmark and Norway have expressed interest in the trains as well, the *Independent* reported.

"Alstom is proud to launch a breakthrough innovation in the field of clean transportation which will complete its Coradia range of regional trains. It shows our ability to work in close collaboration with our customers and develop a train in only two years," said Henri Poupart-Lafarge, Alstom chairman and CEO in a statement.

Watch here to learn more about the Coradia iLint:



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Comments

We are concerned about a recent drift towards vitriol in the RSN Reader comments section. There is a

fine line between moderation and censorship. No one likes a harsh or confrontational forum atmosphere. At the same time everyone wants to be able to express themselves freely. We'll start by encouraging good judgment. If that doesn't work we'll have to ramp up the moderation.

General guidelines: Avoid personal attacks on other forum members; Avoid remarks that are ethnically derogatory; Do not advocate violence, or any illegal activity.

Remember that making the world better begins with responsible action.

- The RSN Team



Farafalla 2016-11-03 22:18

+6

This is one of those huge hypes in technology that are supposed to make us feel all optimistic about the future of capitalism.

1) Hydrogen is NOT a fuel. It represents the transfer of energy from the production of H2 point to the oxidation point. It is a transfer of energy not a source.

2) the carbon footprint of H2 has to be measured in terms of the energy required to produce the H2 in the first place. So if fossil fuels are used to make hydrogen, you barely break even. Only renewable sources of energy like geothermal or solar can make H2 transfer cost effective.

3) Have you ever seen H2 ignite? Neither have I, but I don't want to witness that while I'm riding a train.

The only road to sustainability is to reduce our demand on the world's resources and to create systems that do not require the intensity we get from burning things.



jimallyn 2016-11-04 00:24

+14

Quoting Farafalla:

Have you ever seen H2 ignite?

Yes, I have. I used to work with the inventor of a new internal combustion engine technology. We ran his engines on just about every fuel you could imagine, including hydrogen. It burns almost invisibly. Hydrogen will burn in mixtures of 4 percent to 75 percent with air, and will explode in mixtures from 18 to 59 percent, so it's not terribly hard to get it to burn or to explode. We once had a hydrogen leak start on fire, but all we had to do is turn the valve off. You might not want to use the stuff in a dirigible.



ericlipps 2016-11-04 04:50

-10

Quoting Farafalla:

The only road to sustainability is to reduce our demand on the world's resources and to create systems that do not require the intensity we get from burning things.

So let's go back to horse-drawn carriages, wax candles, oxen pulling plows, and of course lots and lots of slaves.



ericlance 2016-11-04 07:03

+15

lipps, why do guys like you always act as if getting off fossil fuels means going back to the days of horse drawn carriages? Ever seen a Tesla? How does that take you backward? Over seen a solar plant? How does that take you backward? Unless you are an oil and gas fk who will not stop until every drop of oil is taken from the earth, consequences be damned. Are you one of those guys?



fletch1165 2016-11-04 05:20

-12

We've seen the Hindenburg.



Greg Scott 2016-11-04 05:55

+11

If you separate the Hydrogen from water using solar or wind energy you are absolutely moving in the right direction. It's called electrolysis.

It's actually a way of storing electrical energy. The big knock on solar is that it's only available when the sun shines and electricity is hard to store. Electrolysis is not particularly efficient at this time but recent advances in high temperature electrolysis are promising.

Fuel cells are a more efficient way of converting that stored energy back into electricity than internal combustion.

The issues so far have been cost and scale.

Again, for it to be a long term solution, you need to produce the hydrogen from renewable energy sources.



Kootenay Coyote 2016-11-04 09:02

+7

'Hydrogen is NOT a fuel.'

It burns when supplied with oxygen & heat. How is that not a fuel?



bubbiesue 2016-11-03 22:29

+7

IF the hydrogen is produced as a byproduct of something that is usable, then this is a good use for it instead of merely burning it off and warming the atmosphere thereby. But this way it does some good before the steam warms the atmosphere.

There's always seems to be a trade-off.



lfeuille 2016-11-04 17:31

+1

True. But how much hydrogen can be produced that way? I'm guessing not enough to make it economically feasible to count on it as a major fuel source. I think they have to come up with an efficient way to extract hydrogen from the excess sea water we will be experiencing using solar and/or wind in order to make it a sustainable fuel.



laborequalswealth 2016-11-04 08:01

+12

So this is what the Germans are doing. Maybe their tech advances have something to do with the fact that Germany does NOT turn its children into debt serfs just to get a higher education.

The USA will continue to fall farther and farther behind as our unrestrained, immoral plutocracy pursues its goal of turning 90% of its population into landless serfs.

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