

## Cummins Showcases Hydrogen Fuel Cell Truck During 2019 North American Commercial Vehicle Show

ATLANTA--(BUSINESS WIRE)-- This week, Cummins Inc. (NYSE: CMI) unveiled its latest innovation, a heavy-duty truck with fuel cell and battery electric power. The demonstration vehicle was unveiled at the 2019 North American Commercial Vehicle Show in Atlanta. Cummins' strategy is to provide its customers with a broad portfolio of power options, from diesel and natural gas, hybrids, to battery electric and hydrogen fuel cell solutions

This press release features multimedia. View the full release here: https://www.businesswire.com/news/home/20191030005580/en/



Cummins Hydrogen Fuel Cell Truck (Photo: Business Wire)

"Developing this cutting-edge hydrogen fuel cell truck as a technology demonstrator is an important step in gaining valuable insights that are critical to continue developing the right solutions for the market and preparing for the next 100 vears. Some companies make headlines talking about the future, but

we're busy building for the future," said Thad Ewald, Vice President, Corporate Strategy at Cummins and leader of the company's Electrified Power segment.

"In the long-run, the customers we serve will likely need more than one type of power, depending on their specific markets, applications and use cases. We are uniquely positioned to help our customers select the right solution for their needs. Our deep technological

expertise and global service and support network means we are able to help them transition from one technology to another at the time that's best for their business."

The zero-emissions class 8, 6x4 day cab tractor is a technology demonstrator suitable for vocational applications, including regional haul, urban delivery operations, port drayage and terminal container handling.

The truck was designed and integrated by Cummins in Columbus, Indiana and includes a proton exchange membrane (PEM) fuel cell from <a href="Hydrogenics">Hydrogenics</a>, a recent addition to Cummins. The truck was designed for a 90 kW fuel cell and is scalable in 30 kW or 45 kW increments up to 180 kW and has a 100 kWh lithium-ion battery capacity. The truck has a range of 150 to 250 miles between filling up, however, that range can be extended with additional hydrogen tanks, by increasing the tank storage pressure, or by installing additional fuel cells to optimize management of the vehicle load factor. Many of the critical components of the powertrain including the PEM fuel cell, system controller, powertrain controls, wire harnesses and junction boxes, among others, were designed and developed by Cummins.

To help all original equipment manufacturing (OEM) customers and end user envision how Cummins' fuel cell power can enable their success, the truck has been intentionally designed without collaboration from any of the company's OEM partners.

Cummins has made several recent announcements around fuel cells like the acquisition of Hydrogenics, a memo of understanding with Hyundai Motor Company to collaborate on hydrogen fuel cell technology across commercial markets in North America and an investment in Loop Energy, a fuel cell electric range extender provider.

## **About Cummins**

Cummins Inc., a global power leader, is a corporation of complementary business units that design, manufacture, distribute and service a broad portfolio of power solutions. The company's products range from diesel and natural gas engines to hybrid and electric platforms, as well as related technologies, including battery systems, fuel systems, controls, air handling, filtration, emission solutions and electrical power generation systems. Headquartered in Columbus, Indiana (U.S.A.), since its founding in 1919, Cummins employs approximately 62,600 people committed to powering a more prosperous world through three global corporate responsibility priorities critical to healthy communities: education, environment and equality of opportunity. Cummins serves customers in approximately 190 countries and territories through a network of approximately 600 company-owned and independent distributor locations and over 7,600 dealer locations and earned about \$2.1 billion on sales of \$23.8 billion in 2018. See how Cummins is powering a world that's Always On by accessing news releases and more information at <a href="https://www.cummins.com/always-on.">https://www.cummins.com/always-on.</a> Follow Cummins on Twitter at <a href="https://www.twitter.com/cummins">www.twitter.com/cummins</a> and on YouTube at <a href="https://www.youtube.com/cumminsins">www.youtube.com/cumminsins</a>.

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Jon Mills - Director, External Communications 317-658-4540 jon.mills@cummins.com

Source: Cummins Inc.