



## Hyundai Motor Company and Cummins to Collaborate on Hydrogen Fuel Cell Technology

September 26, 2019

- Companies sign MOU to jointly develop and commercialize electric and fuel cell powertrains combining Hyundai fuel cell systems and Cummins' electric powertrain, battery and control technologies
- Initial focus to be on North American commercial vehicle market; companies to further investigate and pursue other areas of collaboration

COLUMBUS, Ind. & SEOUL, Korea--(BUSINESS WIRE)--Sep. 26, 2019-- Hyundai Motor Company and Cummins Inc. (NYSE: CMI), announced today that the two global powertrain leaders have entered into a memorandum of understanding (MOU) to jointly evaluate opportunities to develop and commercialize electric and fuel cell powertrains.

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20190926005903/en/>



Thad Ewald, Vice President – Corporate Strategy at Cummins, and Saehoon Kim, Vice President and Head of Fuel Cell Group at Hyundai Motor Group, sign a MOU on behalf of Cummins and Hyundai to collaborate on hydrogen fuel cell technology. (Photo: Business Wire)

These new powertrains are expected to be developed by combining Hyundai's fuel cell systems with Cummins' electric powertrain, battery, and control technologies. The initial development will be focused on the North American commercial vehicle market, including working with North American OEMs on the integration of these systems into their vehicles. The companies will also explore ways they can work together to develop next generation fuel cell systems, and have each committed to assign a team of individuals to investigate and pursue other areas of collaboration.

"This partnership is a terrific opportunity for both companies to leverage our respective strengths and create new opportunities to grow and broaden the product portfolio we bring to our customers," said Thad Ewald, Vice President, Corporate Strategy, Cummins Inc. "We've made significant investments over the past year to accelerate our fuel cell capabilities including our acquisition of Hydrogenics and this partnership is another step forward."

"With Hyundai's global leadership in fuel cell systems coupled with Cummins' unparalleled electrified powertrain technologies, we expect this partnership to leave a mark in the commercial vehicle market," said Saehoon Kim, Vice President and Head of Fuel Cell Group at Hyundai Motor Group. "Collaborations such as this will enable us to further diversify our business, as well as reinforce our global hydrogen leadership through sales of new and existing Hyundai fuel cell systems."

This partnership provides a springboard for Hyundai Motor Company to increase its presence in the North American commercial vehicle market, and Cummins to enhance its electrified power product portfolio by adding Hyundai's advanced fuel cell technologies.

The new collaboration may extend beyond the commercial vehicle market, as the companies will also evaluate the development of fuel cell power generators. The availability of reliable back-up power generation to prevent data loss in emergency situations is a business-critical requirement for many organizations. Fuel cell back-up power generation is attractive for its reduced carbon footprint.

### A developing global fuel cell market

The MOU comes at a time of heightened demand for fuel cell technology. Hydrogen can be produced from renewable sources, stored economically, and deployed for a diverse range of industrial and residential energy-generation applications; as well as used in fuel cell passenger cars and

commercial vehicles. Energy experts predict hydrogen will become increasingly important in meeting fast-growing global energy demand, while also supporting efforts to drive down carbon emissions from energy generation.

Hyundai Motor is a world leader in the development of hydrogen fuel cell technology, having opened the world's first commercial production facility for fuel cell vehicles in 2013, and released the world's first commercialized hydrogen-powered vehicle, the Tucson Fuel Cell, in 2015. The NEXO, Hyundai's second-generation fuel cell electric vehicle with a range of over 610 kilometers, is a versatile, three-row SUV that emits clean water vapor and even purifies the air while driving.

Hyundai fuel cell systems are comprised of fuel cell stacks which convert stored hydrogen into electricity, as well as other sub-components — collectively referred to as balance of plant (BoP) — for thermal management and air supply among other integral processes for power generation.

Cummins is a world leader in advanced powertrains and in 2018 launched its Electrified Power business segment, which designs and manufactures fully electric and hybrid powertrain systems along with innovative components and subsystems to serve commercial markets as they adopt electrification. To date, the business has introduced complete electrified powertrain solutions in six markets across seven applications and continues to launch market leading products with customers across the world.

### **About Hyundai Motor Company**

Established in 1967, Hyundai Motor Company is committed to becoming a lifetime partner in automobiles and beyond with its range of world-class vehicles and mobility services available in more than 200 countries. Hyundai sold more than 4.5 million vehicles globally in 2018 and is currently employing more than 110,000 employees worldwide. Hyundai Motor continues to enhance its product line-up with vehicles that are helping to build solutions for a more sustainable future, such as NEXO, the world's first dedicated hydrogen-powered SUV.

More information about Hyundai Motor and its products can be found at:

<http://worldwide.hyundai.com> or <http://globalpr.hyundai.com>

**Disclaimer:** Hyundai Motor Company believes the information contained herein to be accurate at the time of release. However, the company may upload new or updated information if required and assumes that it is not liable for the accuracy of any information interpreted and used by the reader.

### **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 <https://www.cummins.com/always-on>. Follow Cummins on Twitter at [www.twitter.com/cummins](http://www.twitter.com/cummins) and on YouTube at [www.youtube.com/cumminsinc](http://www.youtube.com/cumminsinc).

### **Forward-looking disclosure statement**

Information provided in this release that is not purely historical are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding our forecasts, guidance, preliminary results, expectations, hopes, beliefs and intentions on strategies regarding the future. These forward-looking statements include, without limitation, statements relating to our plans and expectations for our revenues and EBITDA percentage for the full year of 2019, and our plans for Hydrogenics. Our actual future results could differ materially from those projected in such forward-looking statements because of a number of factors, including, but not limited to: any adverse results of our internal review into our emissions certification process and compliance with emissions standards; a sustained slowdown or significant downturn in our markets; changes in the engine outsourcing practices of significant customers; the development of new technologies that reduce demand for our current products and services; increased scrutiny from regulatory agencies, as well as unpredictability in the adoption, implementation and enforcement of emissions standards around the world; product recalls; policy changes in international trade; the United Kingdom's (U.K.) decision to end its membership in the European Union; lower than expected acceptance of new or existing products or services; a slowdown in infrastructure development and/or depressed commodity prices; supply shortages and supplier financial risk, particularly from any of our single-sourced suppliers; exposure to potential security breaches or other disruptions to our information technology systems and data security; a major customer experiencing financial distress; the actions of, and income from, joint ventures and other investees that we do not directly control; our plan to reposition our portfolio of product offerings through exploration of strategic acquisitions and divestitures and related uncertainties of entering such transactions; competitor activity; increasing competition, including increased global competition among our customers in emerging markets; foreign currency exchange rate changes; variability in material and commodity costs; political, economic and other risks from operations in numerous countries; changes in taxation; global legal and ethical compliance costs and risks; aligning our capacity and production with our demand; product liability claims; increasingly stringent environmental laws and regulations; future bans or limitations on the use of diesel-powered products; the price and availability of energy; the performance of our pension plan assets and volatility of discount rates; labor relations; changes in accounting standards; our sales mix of products; protection and validity of our patent and other intellectual property rights; the outcome of pending and future litigation and governmental proceedings; continued availability of financing, financial instruments and financial resources in the amounts, at the times and on the terms required to support our future business; and other risks detailed from time to time in our SEC filings, including particularly in the Risk Factors section of our 2018 Annual Report on Form 10-K and Quarterly Reports on Form 10-Q. Shareholders, potential investors and other readers are urged to consider these factors carefully in evaluating the forward-looking statements and are cautioned not to place undue reliance on such forward-looking statements. The forward-looking statements made herein are made only as of the date of this press release and we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise. More detailed information about factors that may affect our performance may be found in our filings with the SEC, which are available at <http://www.sec.gov> or at <http://www.cummins.com> in the Investor Relations section of our website.

Source: Cummins Inc. and Hyundai Motor Company

Jin Cha

Global PR Team / Hyundai Motor

[sjcar@hyundai.com](mailto:sjcar@hyundai.com)

+82 2 3464 2128

Jon Mills – Director, External Communications

Cummins Inc.

(317) 658-4540

[jon.m.mills@cummins.com](mailto:jon.m.mills@cummins.com)