Toyota Establishes Hydrogen Headquarters to Accelerate Advancement of Fuel Cell Technology

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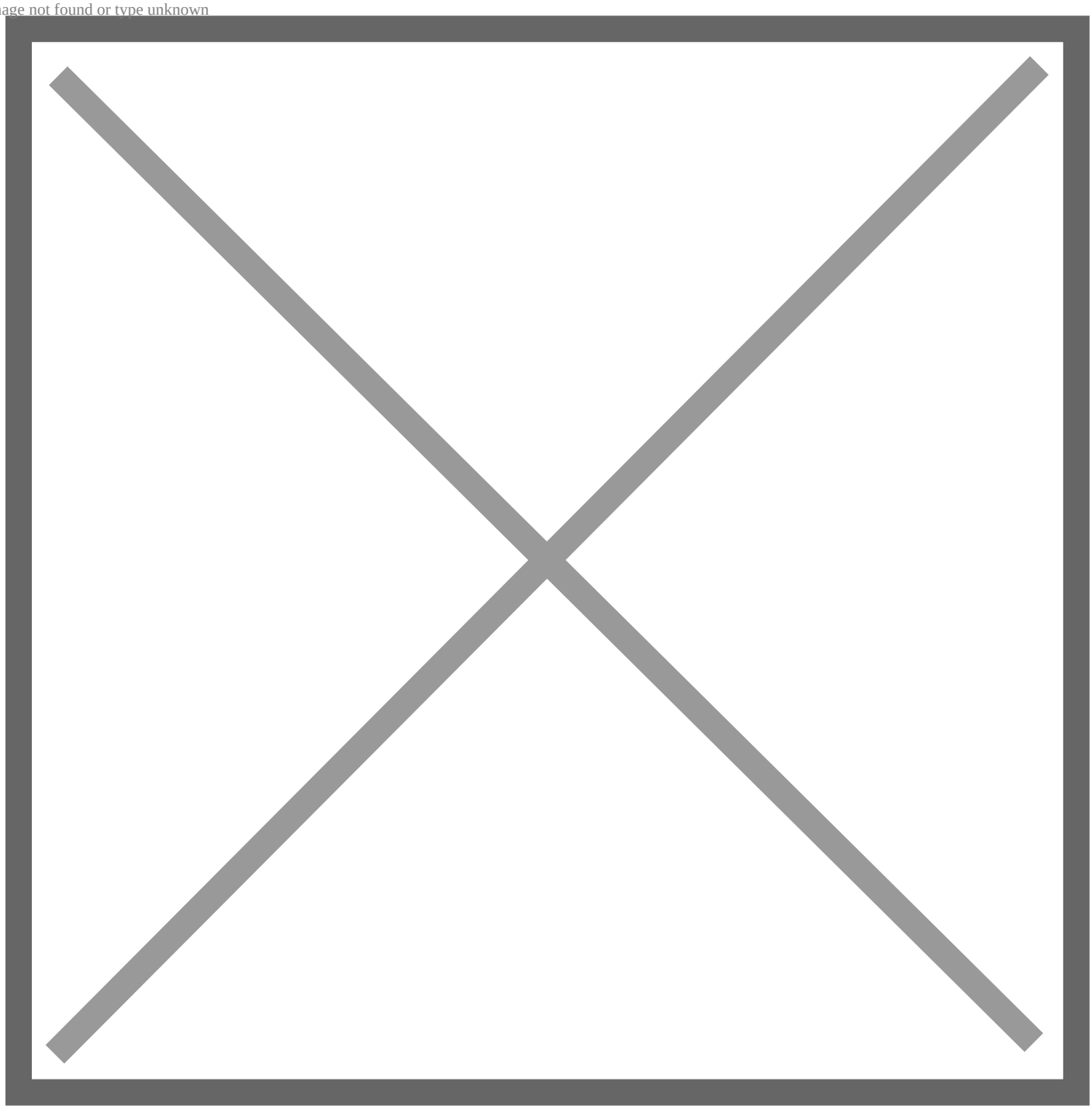

GARDENA, Calif. (May 1, 2024) – Reaffirming its commitment to support fuel cell and additional hydrogen-related products and technology toward a hydrogen economy, Toyota Motor North America (TMNA) today announced that it is renaming the TMNA R&D California office as its new North American Hydrogen Headquarters (H2HQ). The office workspace at the new H2HQ was recently redesigned for its teams working from research and development to commercialization planning and sales of hydrogen-related products and technologies. There are plans to add key features to the H2HQ campus in the future such as a flexible microgrid, sustainable customer education center and more.

“Toyota has developed hydrogen fuel cell electric solutions for more than three decades, and we will continue to advance this scalable, zero-emission technology as part of our electrified portfolio,” said Ted Ogawa, President and CEO, Toyota Motor North America. “Renaming this facility as North American Hydrogen Headquarters represents our leadership in fuel cell development creating real-world products to help reduce carbon emissions.”

Last year, Toyota Motor Corporation reorganized its hydrogen business in Japan to create what it calls “Hydrogen Factory” with the idea to bring all hydrogen-related work under one location and accelerate customer-oriented product development and production in fuel cell or hydrogen-related products. Then, Toyota Motor Europe announced its own “Hydrogen Factory” with the aim to further grow Toyota’s hydrogen business and stimulate wider roll-out of hydrogen ecosystems and infrastructure across Europe.

H2HQ will drive North American-led hydrogen initiatives and support the localization of global hydrogen-related technologies and products that include light-duty fuel cell applications, heavy-duty fuel cell opportunities, stationary fuel cell power generation, port vehicle applications and more. The facility already provides impressive research and development assets, including Toyota’s largest dynamometer (1.2 MW), a scalable test bench for stationary applications, and a hydrogen fueling station capable of providing fuel for both light- and heavy-duty vehicles. Moreover, as part of its plans to remain and grow fuel cell leadership, NA H2HQ will be home to several new projects in the coming years.

“I’m very pleased that Toyota is building on its longstanding commitment to California by locating its North American hydrogen headquarters here in the Golden State,” said California State Senator, District 29, Josh Newman. “The work done there, along with green hydrogen initiatives throughout the state, is propelling California toward a dynamic, clean-energy economy which will also reduce carbon emissions and foster environmental stewardship while extending California’s leadership in this important space.”

Construction has begun on a flexible microgrid that features energy sources available today, including a 230-kW solar photovoltaic system, a 1-MW stationary proton exchange membrane (PEM) fuel cell generator, 325-kW solid oxide fuel cell (SOFC), and an onsite 500-kWh battery energy storage system. The microgrid is designed to support the campus’ energy needs, allowing it the ability to operate off-grid. The system is expected to be fully operational by 2026.

“California has ambitious goals to achieve clean air, carbon neutrality and a vibrant economy. Toyota’s investment to expand their research and development of hydrogen fuel cell technology in our state is an example of the innovation that will accelerate the development and deployment of zero-emissions transportation options, particularly as we decarbonize the goods movement sector,” said CARB Chair Liane Randolph.

In the future, Toyota’s plans for the new North American Hydrogen HQ will include a sustainable education center, available for tours by reservation. The center will be a place for people to learn more about Toyota’s vision of sustainability and the role that hydrogen will play.

30+ Years of Development

From creating one of the world’s first mass market passenger fuel cell electric vehicles in the Mirai, to applying and scaling the technology now to other applications that can benefit from zero-emissions, including heavy-duty

transport, power generation systems, and others, Toyota's research and development with hydrogen fuel cell technology spans more than 30 years.

For much of that time, the Gardena office supported or initiated a wide range of fuel cell electric projects. To share some recent examples, the Fuel Cell Development (FCD) team was instrumental in supporting the development of Toyota's light-duty Mirai, launched back in 2015, and the team collaborated with industry partners to help support infrastructure growth through the state of California.

In 2017, to address decarbonization efforts at local ports, Toyota's FCD team helped prove the scalability of fuel cell technology after it acquired a Class 8 truck and fitted it with a fuel cell electric powertrain consisting of two Mirai fuel-cell stacks. This effort then led to a collaboration with PACCAR's Kenworth brand to build 10 proof-of-concept trucks, trucks used to support the "Shore to Store" ZANZEFF project that proved the viability of hydrogen-powered fuel cells as a zero-emission powertrain in heavy-duty applications. PACCAR and Toyota later agreed in 2023 to pursue commercialization of the project, with Toyota supplying the fuel cell powertrain kits from its Kentucky plant as a Tier 1 supplier.

Most recently, Toyota has demonstrated a non-automotive opportunity for hydrogen-powered fuel cell technology in stationary power generation. Toyota and TRD partnered to build a stationary unit to provide electricity at events where it was not readily available, launching the first public activation at an LPGA Tour stop where the unit supported the power needs of the event stage and sound system. The solution provided clean, quiet power that was proven to capably replace traditional diesel generators. Last year, Toyota built a 1MW fuel cell electric generator for the National Renewable Energy Laboratory in Colorado to support microgrid testing at the facility. And finally, earlier this year, Toyota collaborated with Kohler on a prototype stationary generator to provide backup emergency power for Klickitat Valley Health hospital in Goldendale, Washington.