Arcola Energy Introduces Production-Ready Hydrogen Fuel Cell Powertrain Platform for Heavy-Duty Vehicles

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Arcola's proprietary A-Drive platform delivers a zero-emission solution for a range of heavy-duty vehicles to be brought to market from 2021-2025

London, 17 November 2020 – Arcola Energy, a leading specialist in hydrogen and fuel cell systems integration, has developed a proprietary hydrogen fuel cell (HFC) powertrain platform, designed for vehicle applications requiring high-duty cycle capabilities and fast refuelling.

The A-Drive platform offers a powerful drop-in zero-emission replacement for diesel-based powertrains and is scalable for a range of heavy-duty fleets, trucks, municipal operations and public transport applications, including buses and trains. The platform is the basis of a range of vehicles Arcola is bringing to market from 2021.

Representing more than 20 percent of Europe's on-road CO2 emissions, decarbonising heavy-duty vehicles is critical to meet fast-approaching legislation and low carbon transport strategies. Capable of delivering significantly greater operational range and payload capabilities, hydrogen fuel cells are emerging as a more practical option than pure battery electric solutions for vehicles required to pull heavy loads and cover large distances.

"Combining an efficient electric powertrain with the high energy density of hydrogen, Arcola's HFC A-Drive platform readily delivers twice the practical range of battery-only solutions. This enables fleets to work a full day of heavy-duty service on just one 10-minute hydrogen fill," said Dr Ben Todd, CEO of Arcola Energy. "The A-Drive platform delivers the integration required to realise these benefits quickly in real world applications."

Based on 10 years of development and testing, the A-Drive platform integrates and optimises the performance of all the systems in a fuel cell powertrain: fuel cell, battery, hydrogen storage, power electronics, thermal management, motor and brakes. Each component can be sized and specified for a particular vehicle, and to deliver the performance requirements of the application. In operation, the A-Drive control systems manage all components to ensure safety and to maximise efficiency, reliability and durability. The platform also communicates the data required by drivers and fleet managers to keep vehicles running and costs down.

The A-Drive incorporates a fuel cell "engine", converting hydrogen directly to electricity onboard, and a hydrogen storage tank array incorporating multiple monitoring and safety systems, designed to stringent international safety standards. High power batteries are specified according to the requirements of the application and enable braking energy to be captured and reused, further improving efficiency. The electric motor delivers instant torque at all speeds, providing traction through proven axle, suspension and steering systems.

"The A-Drive is adaptable to several vehicle types and applications, saving both development time and cost," Ben Todd said. "As the platform is a production-ready solution, we can help accelerate the introduction of the critical heavy-duty transport solutions that are required to meet the governments' timescales for reaching net-zero carbon emissions."

The A-Drive platform is supported by Arcola Energy's vehicle integration engineering capabilities, covering all aspects of control and data systems, mechanical, electrical and thermal integration. Combined with in-house fleet modelling, hydrogen refuelling and project financing expertise, Arcola offers OEMs and fleet operators a one-stop-shop.

About Arcola Energy:

Arcola Energy is a leader in hydrogen and fuel cell integration, specialising in zero-emission solutions for heavy-duty vehicles and transport applications. As a systems engineering specialist and Tier 1 integrator, Arcola addresses the deployment gap between rapidly evolving low-carbon technologies and efficient real-world applications by developing market-ready solutions, reducing development cost and time to market.

Arcola Energy is a privately owned company headquartered in London, with a manufacturing site in

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