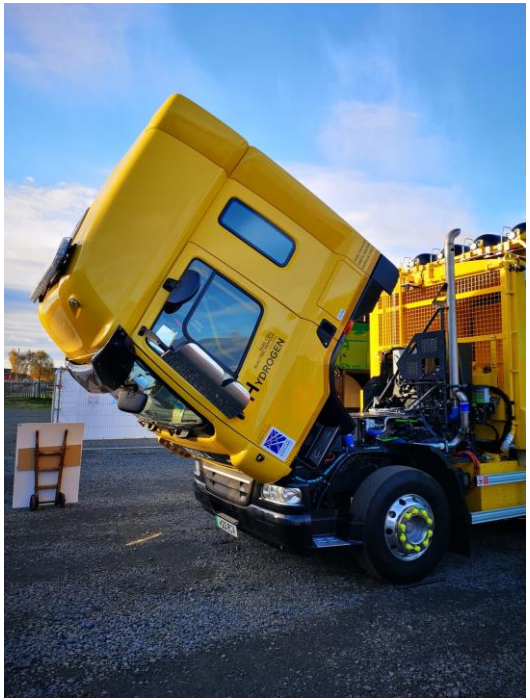
Hydrogen fuel cell electric powertrains for heavy vehicles

Dr Richard Kemp-Harper, Strategy Director

Arcola Hydrogen Fuel Cell Powered RCV



Fully hydrogen powered RCV solution

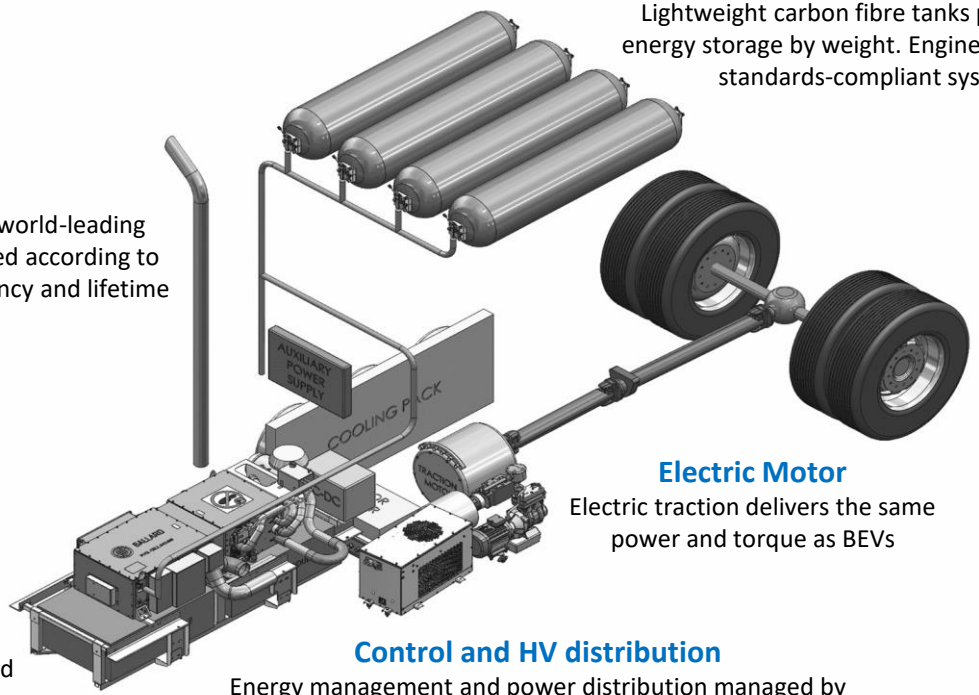
Arcola Hydrogen Fuel Cell Powered Train

Arcola Energy leading consortium to deliver Scotland's first hydrogen powered train

A-Drive Platform

Hydrogen Fuel Tanks
Lightweight carbon fibre tanks provide high energy storage by weight. Engineered into safe standards-compliant systems

Heavy Duty Fuel Cell
Long lifetime, durable fuel cell system from world-leading manufacturer Ballard Power Systems. Specified according to average power demands of duty cycles, efficiency and lifetime



Electric Motor
Electric traction delivers the same power and torque as BEVs

Small High-Power Batteries
Provide the vehicle power requirements and regeneration, specified for maximum power and lifetime. Kept in optimum state of charge by the fuel cell so full power is maintained

Control and HV distribution
Energy management and power distribution managed by Arcola's proprietary control system and HVPDU

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A-Drive Hydrogen Fuel Cell Powertrain Platform

arcola energy

> ***Arcola's proprietary A-Drive hydrogen fuel cell powertrain system replaces the conventional diesel engine and drivetrain, to deliver a production-ready solution***

- Built around proprietary control system designed specifically for fuel cell electric powertrains.
- Deep knowledge of subsystems, including hydrogen storage, fuel cell and battery systems, high voltage system and thermal management.
- Remote monitoring and diagnostics to continually improve model-based control approaches and to predict maintenance requirements.
- Adaptable to multiple vehicle platforms, reducing cost and development time
- Engineered to high quality, all relevant regulations, codes and standards and functional safety

Accelerating the deployment of H2FC zero-emission transport

Thank you

richard@arcolaenergy.com / +44 7979151373