



Hydrogen Europe: European Hydrogen & Fuel cell Project Database

Project SWARM

Demonstration of Small 4-Wheel fuel cell passenger vehicle Applications in Regional and Municipal transport

This project will establish a demonstration fleet of small passenger vehicles that builds on and expands existing hydrogen refuelling infrastructure. Three European regions will be participating in this effort: the UK (the Midlands and Plymouth), the Brussels area and Wallonia, and the Weser-Ems region in NorthWest Germany. Each of these regions will deploy a new hydrogen refuelling site to close the gaps in a continuous 'hydrogen highways' that leads from Scotland via the Midlands to London, connecting to Brussels and on to Cologne and Hamburg/Scandinavia/Berlin via Bremen. The vehicles employed are low-cost, high fuel-efficiency, hybridised, light-weight passenger cars specifically designed for city and regional transport. These vehicles provide a complementary pathway to commercialisation to the large Original Equipment Manufacturer (OEM) of hydrogen fuel cell options, by allowing near-term rollout on a commercial basis to a wide range of users - in parallel with the planned rollouts for large OEM vehicles from 2015. Their deployment regions will gain the infrastructure, public exposure and technological understanding to act as seed locations for future large scale OEM vehicle rollout. In view of the lower vehicle costs, this project will deploy an unprecedented number of road vehicles for a demonstration project, with three OEM's contributing 20, 10 and 20 vehicles respectively to the project. These will be put in the hands of users in a variety of real-life operating environments. An extensive data monitoring exercise will run throughout the demonstration phase, allowing the reliability of the vehicles tested by different users to be evaluated and leading to recommendations for the improvement of future, fully commercial vehicle designs. The three European regions will deploy several hydrogen refuelling stations, adding a total of 3 new stations to existing supply sites, contributing to some of the first regional hydrogen refuelling clusters in Europe. Each region will as a consequence either own a high-standard filling station with = high capacity (200 kg/day) and high performance (70 MPa) refuelling technology (Wallonia, Weser-Ems), or build on existing smaller stations of lower capacity and pressure (UK, Midlands and Plymouth). The project will be a near-commercial stepping stone and will include a reach-out activity timed to coincide with OEM's commercialisation plans in the post-2015 period, to attract further vehicles to the newly developed infrastructures - by offering cost effective and readily available focal points for additional hydrogen fleets developing around these regions. Therefore supplementing the SWARM fleet and infrastructure by more vehicles and hydrogen filling stations supplied through other projects and separate funding.

Project Information

Type of project : Demonstration

Timing : 01/10/2012 > 31/10/2018

Project website: <http://www.swarm-project.eu/>

Project Budget : 15.660.429 €

Funding

European Union through FCH JU: **Grant agreement 303485 - CORDIS link**

Project partners

Coordinator :

ELEMENT ENERGY LIMITED

Partners :

RIVERSIMPLE LLP

AIR LIQUIDE ADVANCED TECHNOLOGIES SA

University of Birmingham

DLR Institute of Networked Energy Systems

TÜV SÜD AG - V4 e-Mobility

H2O E-MOBILE GMBH

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TUV SUD PRODUCT SERVICE GMBH

SERVICE PUBLIC DE WALLONIE

PLANET PLANUNGSGRUPPE ENERGIE UND TECHNIK GBR

DEUTSCHES FORSCHUNGSZENTRUM FUR KUNSTLICHE INTELLIGENZ GMBH

Sub project(s)**Sub project 1****Country:** United Kingdom**Address:** STATION ROAD 20 CB1 2JD CAMBRIDGE**Sub project categories**

Demonstration

Project Id: 1102

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