

About the FCH Train project

The FCH Train project covers the need for training and curriculum increasing implementation of fuel cell vehicles into the transportation sector using fuel cell and hydrogen technology.

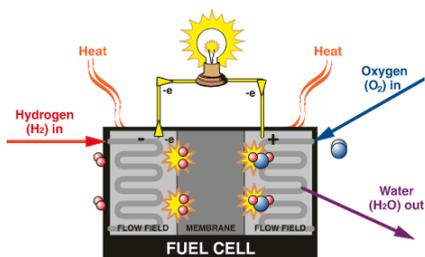
The project was initiated in late 2016 and set out to gather experience and knowledge from Denmark, Belgium and Scotland (each owning an area of excellence in fuel cell and hydrogen technology) and develop a training programme for technicians of FCH vehicles.

The partnership behind the project is made up of experts in different fields, who together have the appropriate know-how and competences to develop a training program for technicians of FCH vehicles.

The FCH Train project is funded by the Erasmus+ programme of the European Union. The project will conclude in September 2018.

Did you know that?

- A fuel cell is a device that produces electricity to the vehicle through a chemical reaction but without combustion.
- The only emission from a fuel cell is water.
- Unlike a battery, which eventually discharges, a fuel cell continues to produce energy as long as hydrogen and oxidant are supplied.
- A FCH vehicle can be refueled just as easily as a conventional diesel- or gasoline vehicles.



Partners in the FCH Train project

BALLARD

Ballard Europe: fuel cell integrator company located in Denmark, owned by Ballard Power System Inc. Canada, who is a leader in research, development, manufacturing, sales and servicing of PEM fuel cells. www.ballard.com

VANHOOL

Van Hool: independent Belgian manufacturer of buses, touring coaches and industrial vehicles. Van Hool is also a World leading manufacturer of fuel cell buses. www.vanhool.be

Teknologisk videncenter

Teknologisk Videncenter: vocational education and training college in Viborg, Denmark with more than 40 different courses, including the Auto Technical Center (ATC), which provides technical training for mechanics and the automotive aftermarket. www.mercantec.dk/autoteknisk-center



Aberdeen City Council: Scottish local authority, which aims to become a leading European region in the early deployment of hydrogen fuel cell vehicles, as well as becoming a hub for hydrogen technologies in Scotland. www.aberdeencity.gov.uk

HYDROGEN VALLEY

Hydrogen Valley: non-profit organisation acting as a driver in the hydrogen industry. Hydrogen Valley assists in projects and activities which establish how green gasses (hydrogen and biogas) can advance a green transition of the energy system. www.hydrogenvalley.dk



NESCol: located in North East Scotland, is the largest provider of vocational education and training in the region with subject areas such as science, maritime and automotive and construction. www.nescol.ac.uk

For more information about the FCH Train project please contact Project Manager, Daniela Laursen from Ballard Power Systems Europe at dl@ballardeurope.com



FCH TRAIN

– a training program for technicians of fuel cell and hydrogen vehicles



Fuel cells and hydrogen in the future transport sector

The world's dependency on fossil fuels is taking a toll on the environment, especially within transport as this is a significant and growing contributor to overall greenhouse gas emissions.

With the need to reduce fossil fuels in the transport sector, fuel cells and hydrogen (FCH) technologies hold great promise for transport applications. The implementation of fuel cells in transportation can supplement a significant portion of fossil fuel use and contribute to a reduction in local emissions.

Fuel cells are capable of powering our cars, buses, trucks etc. with hydrogen replacing the petroleum fuel that is used in most vehicles today.

Many vehicle manufactures are actively researching and developing transportation fuel cell technologies, and it is expected that the number of FCH vehicles will continue to rise in the near future.

Advancing the Education of FCH Vehicle Technicians

Education and training in the FCH sector is critical for the current and future workforce. With the increasing number of FCH vehicles it will create a demand for skilled technicians within the automotive market. This will not only lead to growth in the employment sector and maintenance of these vehicles, but it will also support the roll-out of more FCH vehicles.

Meanwhile the increasing demand for skilled labour in the FCH field contrasts with the lack of education provided today for the technicians in the automotive market.

This highlights the need for transferable skills, and a common training approach for the FCH sector.

Through the EU funded project "FCH Train", a training program has been developed for technicians to inspire today's students to become the next generation of potential fuel cell technicians.

The FCH training program

The training program is part of the teaching materials for car mechanics and is used as reference work by the future technicians of FCH vehicles.

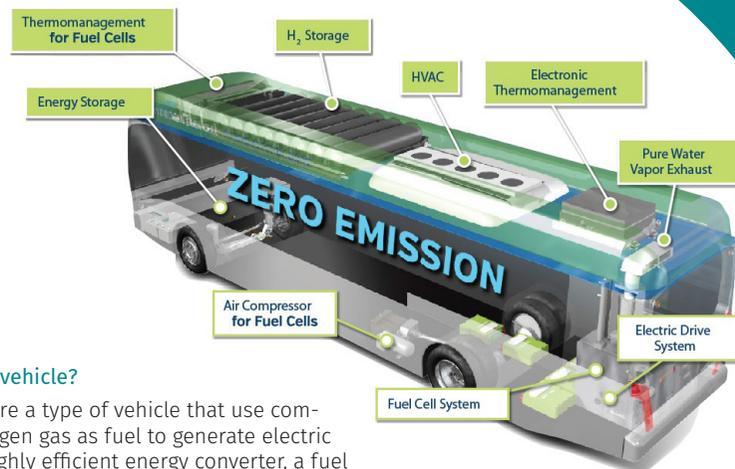
The training program aims to give the participant knowledge about the basic principles of fuel cell technology, and addresses amongst other subjects:

- A general introduction to fuel cells and system overview in vehicles.
- Fuelling of fuel cell vehicles – tank, pipes and filters.
- Fuel cell module and battery control.
- Testing, inspection and basic diagnostics on hydrogen and fuel cell components.
- Safety issues and how to make the fuel cell vehicle safe.
- Work place layout.

The new training program has been tested in Denmark at the Auto Technical Center (ATC), which is part of the vocational and education and training (VET) school, Mercantec in Viborg.

The training program will be accredited and implemented in the public educational system in Denmark and Scotland, as the first European countries to offer basic education in fuel cells and hydrogen vehicles.

If you are interested to know more about the FCH training program, please contact Kim Bjørndal Børsting from Mercantec at kibb@mercantec.dk



What is a FCH vehicle?

FCH vehicles are a type of vehicle that use compressed hydrogen gas as fuel to generate electric power via a highly efficient energy converter, a fuel cell. The fuel cell transforms the hydrogen directly into electricity to power an electric generator.