



ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

EPFL inaugurates the fueling station of the future

EPFL Valais/Wallis has built an experimental fueling station in Martigny that relies on clean energies, allowing users to fill their tank with hydrogen or charge their battery. On Saturday 10th of September, it is presented to the public.

In the not-too-distant future, a significant proportion of cars in Switzerland will be electric. Lithium technology is currently leading the way, but there are also hydrogen cars, which the major carmakers are betting on and Japan has allocated millions to developing. In this spirit, on Saturday 10th of September, EPFL inaugurates its prototype fueling station in Martigny, in the presence of Marc-Henry Favre, President of Martigny, Philippe Gillet, EPFL Vice-President as well as representatives from the Swiss Federal Office of Energy (SFOE).

200 years after Valais-based inventor Isaac de Rivaz came up with plans for hydrogen-powered carriages, this fueling station seeks to tap into the same energy vector. It is equipped with two fuel dispensers for charging battery-powered electric cars and for filling the tank of hydrogen cars. The station is packed with sensors and will provide the engineers with the data they need to measure, understand and improve all the steps involved in producing, compressing, storing and distributing the fuel in order to optimize the energy balance.

Clean energy

“Valais is an ideal testing ground,” says Hubert Girault, who heads the Laboratory of Physical and Analytical Electrochemistry (LEPA). “This canton produces electricity using renewable energies like solar, wind and hydroelectric, and thanks to our decision to transform this electricity through electrolysis, we produce hydrogen without any CO₂ emissions.”

Hydrogen is commonly produced from natural gas, in a process that releases carbon dioxide. But that’s not how it works in Martigny. To keep the fueling station’s dispensers operating, the laboratory installed a megabattery capable of holding 400 kWh. It is connected to the power grid and, in addition to storing energy, it can also produce hydrogen thanks to a system developed specifically in Martigny.

The purpose of this facility is to see what fueling stations could be like once the car population shifts away from fossil energies. “We could, for example, set up a fleet of taxis or specially equip ambulance services, because you can fill up on hydrogen in 3 minutes versus 30 minutes for the battery-based technology,” says Girault. The hydrogen car is an electric car that works with a fuel cell and a small backup battery under its hood.

Two test cars will ply the roads in Valais in order to collect field data and consume some of the hydrogen. One of them will be used by Sinergy, the local utility company, in its day-to-day repair service, and the other will be used by EPFL.

This experimental fueling station is a collaborative effort of EPFL, the *Centre de Recherches Energétiques et Municipales* (CREM), Sinergy and the city of Martigny. It receives financial support from the Swiss Federal Office of Energy (SFOE).

Press kit:

<http://bit.ly/2016HydrogenStation>

Video:

https://www.youtube.com/watch?v=_dh7iMag8Nw&feature=youtu.be

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