



Kick-off for the COSMHYC project: innovative compression solutions for efficient hydrogen mobility

The project COSMHYC, funded by the EU, has started its work in January 2017 for 3 years of effort towards the development of innovative technologies for hydrogen refueling stations.

During the coming 36 months 5 European industrial and research institutions will aim at developing an innovative concept for improving hydrogen compression. The objectives are to lower investments and operational costs, to address the noise level related to the mechanical processor, to increase the availability of stations and, more globally to propose solutions to increase the efficiency of hydrogen production and delivery. A prototype will be developed, built and tested under real conditions. At each stage, technical economic assessment will provide inputs to ensure that the developed technology will contribute to make hydrogen a competitive fuel for transport applications.

“Hydrogen mobility is part of the solution to fight against climate change, alongside with battery electric vehicles, especially if Hydrogen is produced carbon-free e.g. from renewable electricity in a water electrolyser. Due to its low density, hydrogen has to be stored onboard at pressures up to 70 MPA (700 bar). This requires a compression system in the refueling station. Current compressor technologies are too expensive and consume electricity which reduces the efficiency of hydrogen mobility. There is a need for breakthrough solutions!” stated Mr. David Colomar, coordinator of COSMHYC and researcher at EIFER.

The project has been officially launched on 12th of January 2017 at the European Institute for Energy Research (EIFER) in Karlsruhe. It has an overall budget of 2.5 M€ and is funded by the European Commission in the scope of its Fuel Cell and Hydrogen 2 Joint Undertaking (FCH 2 JU), which is part of the European Research and Innovation programme Horizon 2020. This Joint Undertaking is a public private partnership supporting research and technological development in fuel cell and hydrogen technologies in Europe. Its aim is to accelerate the market introduction of hydrogen technologies and thereby contribute to the European targets in cutting CO2 emissions.

The consortium is composed of partners out of 3 European countries (Germany, France and Denmark) and gathers expertise covering the whole value chain from development to industrial implementation in the field of hydrogen refueling stations. Two industrial partners (MAHYTEC and Nel Hydrogen) will work in close collaboration with experts of hydrogen technologies (LBST), specialists of innovation management (Steinbeis 2i) and researchers (EIFER). The consortium is coordinated by the research center, which guarantees a strong innovation oriented approach. The involvement of two industrial partners and their intensive interactions with consultancy companies shows the high willingness of the consortium not only to demonstrate solutions for decarbonisation of the transport sector, but also to industrialize them.

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COSMHYC is coordinated by the European Institute For Energy Research (EIFER) in cooperation with 4 partners: MAHYTEC SARL; Nel Hydrogen; Steinbeis 2i GMBH and Ludwig-Boelkow-Systemtechnik GmbH.



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