

## ***H2Sense - Launch of the first EU-US common project on gas sensors for safety in hydrogen and fuel cell technologies***

Hydrogen is recognized as a key option for climate-friendly energy production and utilization. Accordingly, there will be a large number of hydrogen-powered fuel cells for both stationary and mobile applications in the future. Since hydrogen is an odourless and colourless gas with a lower flammable limit of four per cent by volume, sensors are needed to detect its presence. A number of hydrogen sensors are required to ensure safety, including sensors for the detection of leaks in fuel cells, tanks and vehicle cabins, as well as for hydrogen refuelling stations. To minimize the hazards associated with unintended releases of hydrogen, the sensors must respond reliably. They must be sensitive, accurate, fast, and not prone to false alarms. Also, since hydrogen fuelling will probably be performed proximal to conventional fuelling operations, the presence of petrol or diesel vapour must not trigger the sensor alarm. These copious and challenging requirements will be explicitly addressed through the recently launched project called ***H2Sense 'Cost-effective and reliable hydrogen sensors for facilitating the safe use of hydrogen'***.

*H2Sense* is partially supported by the **Fuel Cells and Hydrogen Joint Undertaking (FCH JU)**, a unique public private partnership supporting research, technological development and demonstration (RTD) activities in fuel cell and hydrogen energy technologies in Europe. For the first time in a project funded by the FCH JU, **six European partners** have started explicitly to exchange knowledge, experience and know how with a U.S. consortium headed by the **U.S. Department of Energy (US DoE)** and two of its laboratories (National Renewable Energy Laboratory and Los Alamos National Laboratory) to address the hydrogen safety sensor needs for different applications. Such cooperation will provide an important broader perspective of the issues facing hydrogen safety sensors.

### European partners

- BAM Federal Institute for Materials Research and Testing (Coordinator, Germany)
- Joint Research Centre of the European Commission - Institute for Energy and Transport (the Netherlands)
- UST Umweltsensortechnik GmbH (Germany)

- Baden-Württemberg Centre for Solar Energy and Hydrogen Research (Germany)
- AppliedSensor GmbH (Germany)
- Sensitron S.r.l. (Italy)

For more information:

Project website: [www.h2sense.bam.de](http://www.h2sense.bam.de)

Coordinator contact: Dr. Thomas Hübert

Department 6 Materials Protection and Surface Technology

Email: [thomas.huebert@bam.de](mailto:thomas.huebert@bam.de)