Making an impact on the clean energy transition

MARKET UPTAKE

STRONGER STANDARDS FOR HYDROGEN

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Research and international cooperation

The hydrogen sector needs a clear set of strong and harmonised standards to commercialise and bolster its reputation as a clean and safe alternative. The FCH JU is contributing to this with a science-based approach alongside close cooperation with the Joint Research Centre and European standardisation bodies CEN and CENELEC.

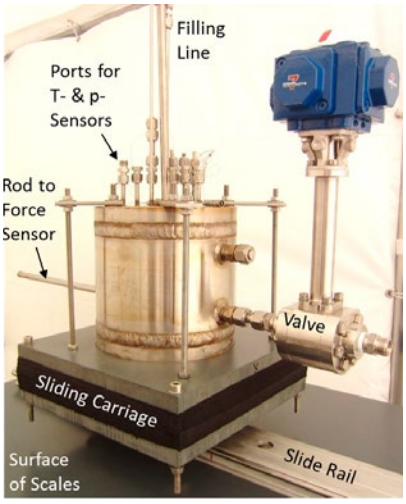
Focused on standards across the board, the FCH JU currently funds 10 projects with safety, central to building trust, paramount. To that end, for example, PRESLHY has proposed a new international standard on the safe use of liquid hydrogen while HyTunnel-CS recommendations are expected on ensuring a high degree of safety for hydrogen-powered vehicles in tunnels and similar spaces.

From trucks to stress tests

PRHYDE is working on the standardisation of hydrogen refuelling protocols for medium- and heavy-duty hydrogen vehicles such as trucks. Out to sea, E-SHYIPS aims to define guidelines for powering passenger ships with hydrogen.

While HYDRAITE has issued standardisation recommendations on hydrogen fuel quality and more, THyGA is tackling standards linked to bringing hydrogen and natural gas blends to homes and businesses. HIGGS is striving to fully assess the impact of high amounts of hydrogen on the natural gas pipeline network. MultHyFuel, meanwhile, is focusing on integrating hydrogen into existing refuelling stations. That leaves ID-FAST and AD-ASTRA, which deal with degradation and stress-testing protocols for fuel cells.

From quality control to refuelling protocols, FCH JU research and cooperation with key players is supporting the development and updating of standards across the hydrogen sector. The goal? To shape rules and regulations, build consumer confidence – and ensure a smooth roll-out.



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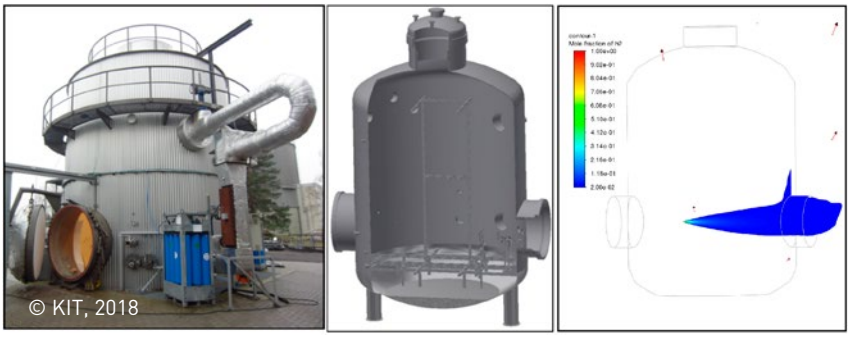
STRONGER STANDARDS FOR HYDROGEN

STANDARDS BREED SUCCESS

A lack of suitable, hydrogen-specific and performance-based standards – as well as clear rules and regulations – is holding back the development of mass-market hydrogen products and risk hampering the sector's overall success.



LETTING SCIENCE LEAD

To advance standardisation in the hydrogen sector, the FCH JU funds pre-normative research projects to identify and fill in knowledge gaps in a wide range of areas. **The goal?** To bring new, science-based facts to the table to develop and update hydrogen-sector standards. This will generate positive public perception, ensure a safe and smooth hydrogen roll-out, and spur commercialisation. **Key results?** A proposed new international standard on the safe use of liquid hydrogen in addition to boosting knowledge in areas including hydrogen-powered transport, quality control, as well as refuelling and stress-testing protocols.

KEY ACHIEVEMENTS

HYDRAITE

ISO recommendations on hydrogen fuel quality, quality assurance, sampling

3 European labs to analyse hydrogen quality

PRESLHY

New international standard proposal on the safe use of liquid hydrogen in non-industrial settings

Guidelines for safe design and operation of liquid hydrogen infrastructure

New Handbook of Hydrogen Safety chapter on liquid hydrogen

JRC COOPERATION

EU harmonised terminology and tests for low-temperature water electrolysis for energy-storage applications

Enabling framework for market uptake

EU harmonised protocols for PEM fuel cell testing for automotive applications

IMPACT

HYDRAITE

New European infrastructure for the hydrogen sector

HYTUNNEL-CS

Tunnel safety recommendations expected for hydrogen-powered vehicles

PRESLHY

Boosting liquid hydrogen safety knowledge and awareness

JRC COOPERATION

EU harmonised tests supporting the European hydrogen sector

CEN-CENELEC COOPERATION

Strengthened European hydrogen sector through filled-in knowledge gaps

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3 analytical laboratories ready for Hydrogen quality ISO 14687

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FUEL CELLS AND HYDROGEN JOINT UNDERTAKING

A partnership dedicated to clean energy and transport in Europe

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