



SSH2S

Project ID: 256653

Funded under: [FP7-JTI](#)

Fuel Cell Coupled Solid State Hydrogen Storage Tank

From 2011-02-01 **to** 2015-03-31, closed project

Project details

Total cost: EUR 3 501 748,45 EU contribution: EUR 1 595 685 Coordinated in: Italy	Topic(s): SP1-JTI-FCH.2009.2.4 - Improved solid state hydrogen storage systems Call for proposal: FCH-JU-2009-1 See other projects for this call Funding scheme: JTI-CP-FCH - Joint Technology Initiatives - Collaborative Project (FCH)
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Objective

"The main objective of SSH2S is to develop a full tank-FC integrated system according to the requirements of the call and to demonstrate its application on a real system. A new class of material for hydrogen storage (i.e. $MM'(BH_4)_n$ mixed borohydrides) as well as an already known system (Li-Mg-N-H) will be explored. A new concept of solid state hydrogen tank (i.e. combination of two materials) will be investigated. The application of hydrogen tank on real system will be experimented with a 1 kW prototype on High Temperature Polymer Electrolyte Membrane (HTPEM) fuel cells. On the basis of the results obtained in the first part of the project, a ON/OFF milestone will be considered. If suitable performances will be obtained for the prototype integrated system, a scale up of the tank will be applied to a 5 kW APU. The final goal is to clearly demonstrate the applicability of the proposed integrated system in real applications. This final step in the project will allow a critical analysis of the system cost.

For this goal, a consortium has been developed with the following expertises:

- Materials development, synthesis and characterisation: UNITO, IFE, KIT, JRC
- Tank design and production: DLR, TD, KIT, UNITO, JRC
- Tank-FC integration and demonstration: DLR, TD, SER, CRF, UNITO

The consortium is well balanced among research centres, for basic materials research and modelling, and industries, for system development and test. All research centres are members of N.ERGHY and one industry is member of the IG of the FCH-JU. Two industries are SME."

Related information

Result In Brief	Hydrogen storage goes solid-state
Report Summaries	Final Report Summary - SSH2S (Fuel Cell Coupled Solid State Hydrogen Storage Tank)

Coordinator

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Subjects

[Hydrogen and fuel cells - Scientific Research](#)

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