Hydrogen Europe:
European Hydrogen & Fuel cell Project Database

Project SSH2S

Fuel Cell Coupled Solid State Hydrogen Storage Tank

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'(BH4)n mixed boroydrides) as well as an allready 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.

Project Information

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Timing : 01/02/2011 > 31/03/2015
Project Budget : 3.501.748 €

Funding

European Union through FCH JU: **Grant agreement 256653 - CORDIS link**

Project partners

Coordinator :
University of Turin
Partners :
IFE - Institutt for energiteknikk
KIT - Karlsruher Institut für Technologie
DLR - German Aerospace Center
TECNODELTA SRL
SerEnergy A/S
CENTRO RICERCHE FIAT SCPA
JRC -JOINT RESEARCH CENTRE- EUROPEAN COMMISSION

Sub project(s)

Sub project 1

Country: Italy
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Sub project categories
Research

Project Id: 1095
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