

Hy Transfer

Pre-normative Research on Gaseous Hydrogen Transfer



www.HyTransfer.eu

Duration:

30 Months: June 2013 – November 2015

Application Area:

SP1-JTI-FCH.2: Hydrogen Production & Distribution

Budget:

Total budget: 3,1 M€ (FCH JU -Funding: 1,6 M€)

Partnership / consortium list:

Ludwig-Bölkow-Systemtechnik GmbH (LBST), Raufoss Fuel Systems AS, Air Liquide SA, Honda R&D Europe (Deutschland) GmbH, Joint Research Center - European Commission (JRC), Centre National de la Recherche Scientifique (CNRS), TesTneT Engineering GmbH, The CSS Global Group Ltd

Summary / main objectives of the project:

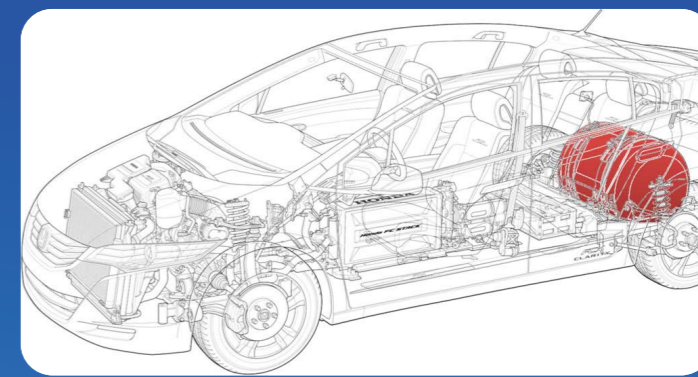
HyTransfer aims to develop and experimentally validate a practical approach for optimizing means of temperature control during fast transfers of compressed hydrogen to meet the specified temperature limit (gas or material) taking into account the container and system's thermal behaviour. This project aims to create conditions for an uptake of the approach by international standards, for wide-scale implementation into refuelling protocols.

Future Steps:

- 1 – Development of simple thermodynamic model
- 2 – Experimental validation
- 3 – Techno-economic Analysis
- 4 – Recommendations for Regulations, Codes and Standards



Source: JRC



Source: Honda

Contribution to the Programme Objectives:

| OBJECTIVES OF THE CALL AND PROJECT | CURRENT STATUS |
|--|-----------------------|
| Evaluation of potential benefits with regards to refuelling performance | To be started in 2014 |
| Proposed approach for standardization | To be started in 2014 |
| Improved approaches for carrying out the transfer with less pre-cooling | To be started in 2014 |
| Recommendations for implementation in international Regulations, Codes and Standards | 2015 |

Conclusions, major findings and perspectives:

The new approach to be developed within HyTransfer will allow a hydrogen station to directly and accurately calculate an end-of-fill temperature in a hydrogen tank and thereby maximize the fill quantity and minimize the refuelling time