ID-FAST - Investigations on degradation mechanisms and Definition of protocols for PEM Fuel cells Accelerated Stress Testing

Grant agreement no: 779565

Call: H2020-JTI-FCH-2017-1

D6.1: Project identity set (Logo, public website)

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Confidentiality	Public
First issue date	21.06.2018
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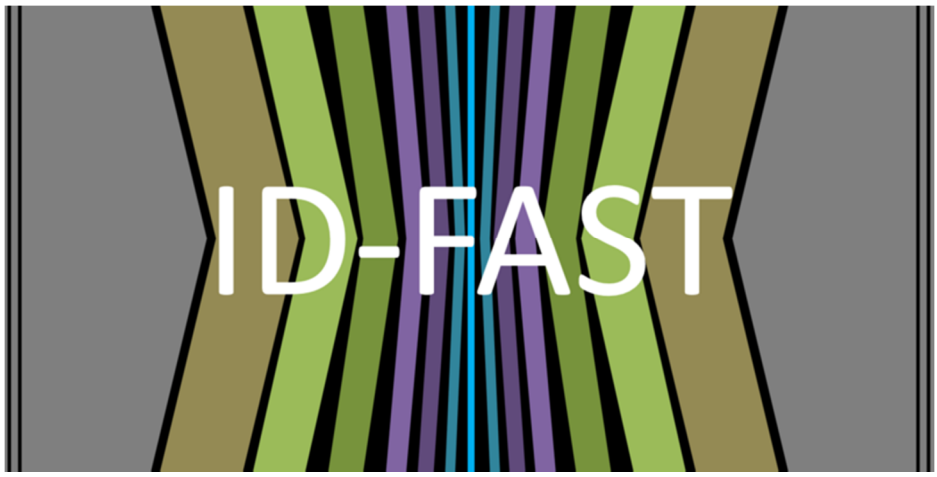
Summary

This report shows ID-FAST identity set with the LOGO and template used for the reports and the description given as an introduction on the public website.



http://id-fast.eu

Revisions

Version	Date	Author(s)	Commments *(inputs added, revision, approval…)*
1	21.06.2018	F. Wilhelm (ZSW)	Version loaded on the project share point
final	07.06.2019	S. Escribano	Format adapted for submission

Contents

1. Title and overview

Investigations on degradation mechanisms and **D**efinition of protocols for PEM **F**uel cells **A**ccelerated **S**tress **T**esting

The objective of the ID-Fast project is to **support and promote the deployment of fuel cell vehicles**, through the development of **Accelerated Stress Tests (AST)** of Proton Exchange Membrane Fuel Cells (PEMFC) components and **associated transfer functions** allowing predicting **the performance degradation during real world operation**, and accelerating the **introduction of innovative materials in next generation designs**.

The project started in January 2018 with a duration of 36 month and a total funding of 2 748 195 €. This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under the European Union's Horizon 2020 research and innovation program under grant agreement No. 779565.

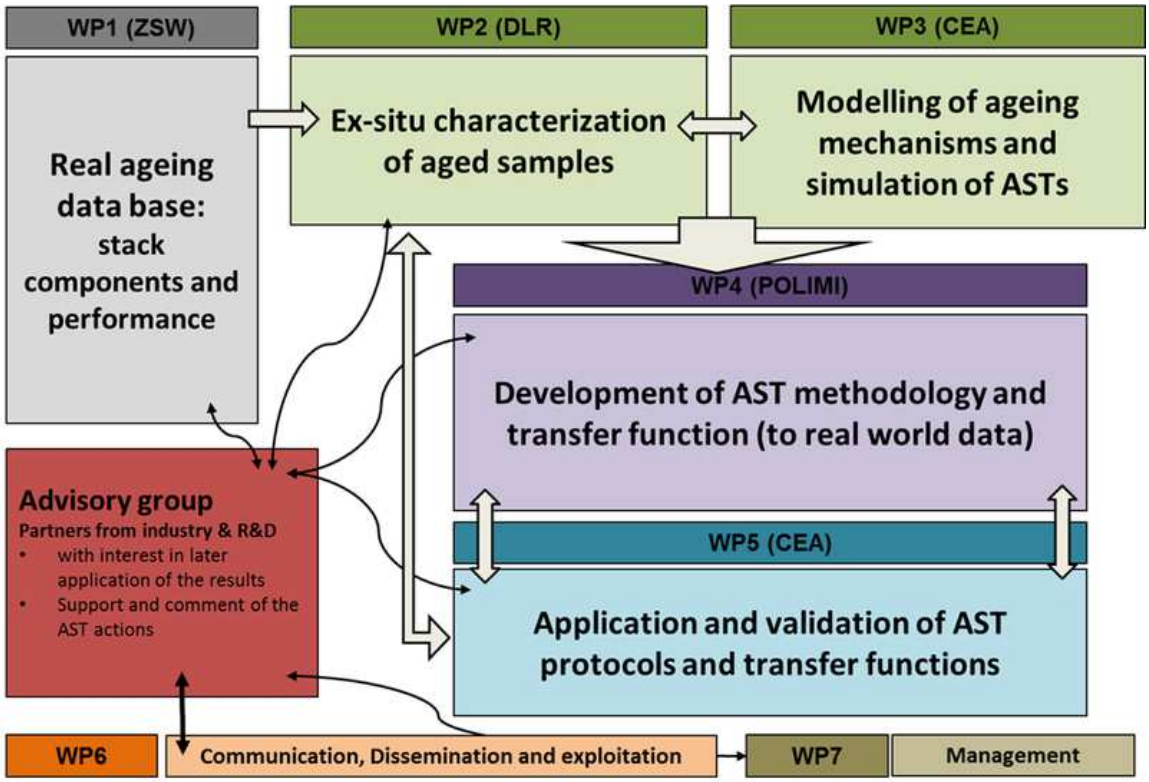
2. Logo and web-site

http://id-fast.eu

3. Methodology

The project is following a consecutive approach of establishing a sample base from previous projects, ex-situ characterization of pristine and aged samples accompanied by modelling efforts leading to the definition of an Accelerated Stress Test (AST) Methodology, validated test protocols and transfer functions between AST and real time ageing. The general approach and organisation are shown in the following table and figure.

Key Steps in the Project	Objectives
Identification or confirmation and quantification of degradation phenomena (morphology, composition and properties of components) involved in real ageing.	Determination of major causes of component degradation for real time ageing cases in correlation with operating conditions.
Analysis of the impact of stressors and of their accelerating factor for each single mechanism AST.	Identification of stressors and quantification of their impact on degradation.
Analysis and development of combined AST protocols (superposition of degradation modes and acceleration through coupling).	Definition of combined AST with regard to their relative impact.
Validation of combined Ass and development of transfer functions to link AST ageing in single cell to real ageing in stack with realistic lifetime estimation.	Validation of correlation to real world ageing and definition of a methodology to predict stack lifetime.



4. Contact

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5. Partners

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France
Coordinator

Bayerische Motorenwerke Aktiengesellschaft (BMW)
Germany

Deutsches Zentrum für Luft- und Raumfahrt
Germany

Fraunhofer
Institut für Solare Energietechnologien
Germany

Freudenberg Performance Materials
Germany

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France

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