



Hydrogen Europe: European Hydrogen & Fuel cell Project Database

Project IMMEDIATE

Innovative autoMotive MEa Development – implementation of Iphe-genie Achievements Targeted at Excellence

The prime focus of IMMEDIATE is to develop high performing MEAs aimed for automotive applications through material R&D & process optimisation. The technical targets aimed in IMMEDIATE are addressing the JTI targets for automotive MEAs with respect to performance & cost. The proposed project is a continuation of the recently terminated and very successful FP6 R&D-project: IPHE-GENIE. The IMMEDIATE project approach is based on utilisation and further improvement of the materials and processes. Thus, the approach and the technical IMMEDIATE targets are as follows: -Development of a membrane with -A proton conductivity of at least 0.1 S/cm at 120°C & 25% RH -Thermal stability up to 160°C -Low dimensional changes (<10%, wet/dry) -Development of MEAs that show high performance [1 W/cm² @ UCell=0.68V (hEl=55%)] at low Platinum loadings [0.15g Pt/kW] through: -Catalyst development and design -Ionomer and membrane optimisation -Electrode design -GDL optimisation -Process optimisation -Testing of the developed MEAs on single cell and on small stacks level at realistic automotive operating conditions i.e. T=120°C, RH 25%, P=1.5bar, yet being able to start from -20°C - Application of automotive AST protocols to make a 5,000 h's lifetime probable It is considered that especially the combination of these targets is both challenging and a significant step forward. The project is scheduled for 3 years. The Consortium is well balanced, with the following 9 partners complementing one another to achieve the project target goals: •A PEM MEA manufacturing company (IRD [SME]) - coordinator •A leading manufacturer of ion exchange polymers and membranes (FuMa) •A huge producer of specialised carbon and graphite (TC) •A huge GDL manufacturing company (SGL) •A leading supplier (OEM) of commercial transport solutions (Volvo) -4 R&D centres/universities, with more than 15 years' experience working within PEM catalyst, ionomer, membrane & MEA development (ICPF, CNRS, SJTU & JRC)

Project Information

Type of project : Research

Timing : 01/01/2013 > 31/03/2016

Project website: <http://www.immediate.ird.dk/>

Project Budget : 3.685.553 €

Funding

European Union through FCH JU: Grant agreement 303466 - CORDIS link

Project partners

Coordinator :[EWII Fuel Cells A/S \(previously IRD\)](#)**Partners :**[CNRS - Centre National de la Recherche Scientifique](#)[Volvo Group](#)

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IMERYS GRAPHITE & CARBON SWITZERLAND SA

Sub project(s)**Sub project 1****Country:** Denmark**Address:**

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Sub project categories

Research

Project Id: 1020

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