

FCH JU Grant Agreement number: 245156

Project acronym: DEMMEA

Project title: Understanding the Degradation Mechanisms of Membrane-Electrode-Assembly for High Temperature PEMFCs and Optimization of the Individual Components

Deliverable 7.5: Communication action plan to the wide public

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Dissemination strategy

Dissemination of the information to the relevant industrial world follows more or less the same mechanism of publications, scientific conferences and public website. On top of this and because not all of the industrial world follows scientific conferences, the dissemination of the work progress and most importantly the project results will be made through the Enterprise Europe Network, the largest European network offering services primarily to SMEs with 554 organisations members in 44 countries supported by the Competitiveness and Innovation programme and providing amongst others Innovation, technology and knowledge transfer services. The project coordinator Advent Technologies is already working closely with the Enterprise Europe Network – Hellas partner, HELP-FORWARD. The Enterprise Europe Network is the mechanism recommended by the IPR help desk concerning the dissemination and exploitation of research results coming from FP7 EU funded projects.

http://www.iprhelpdesk.org/documents/ES_PlanUseDisseminationNew_000006666_00.xml.html.

The Enterprise Europe Network will also aid during the progress of the work by offering the opportunity to do a “technology watch” on what technologies are currently available in this field as the Network concentrates all the latest innovative technologies from all 44 member countries hence cutting edge technologies are very likely to be in the Networks database.

All information in order to obtain maximum transparency for all and to increase the synergy of the cooperation (monthly progress reports, minutes of meetings, relevant publications etc.) is transmitted to the project coordinator who is responsible for adequately forwarding the content to the other partners.

Exploitation activities (confidential)

Exploitable results - markets

This project developed methodologies and diagnostic tools for the study and understanding of the degradation mechanisms of the high temperature phosphoric acid imbibed pyridine type polymer electrolyte membranes, thus posing an ambitious technological and research challenge which is to be shared with the scientific community, the relevant industry and the wider public through a proper dissemination mechanism allowing to follow the project progress and to access the project results by all interested parties. Furthermore, the improvement of the MEA technology will be an innovative enabling technology, which should be exploited by the project partners however ensuring its protection through proper intellectual property rights management and a transparent consortium agreement.

The successful implementation of the DEMMEA project's activities can be viewed as an enabling technology, opening the road to a wide variety of new applications, which could increasingly come from renewable sources. The High-Temperature PEM Fuel Cell stack will allow significantly simpler balance of Plant thus resulting in an increase in the volume power density of the integrated system thus seining valuable space. In addition the optimization and development of new diagnostic tools will strengthen the Pre-normative inputs for testing and control methods as well as for safety procedures

The Enterprise Europe Network will also play an important role in the exploitation of the technology, which provides a large pool of potential buyers and future development partners, including individual companies, industrial associations and clusters of companies. The consortium will take part in relevant technology transfer brokerage events organized by the Network which normally take place in the framework of large conferences or sectoral exhibitions after having inserted in the Networks database their technology. Technology missions through the Enterprise Europe Network in order to present the project results to groups of interested companies, eg. Regional or National Clusters or associations will be organized. Various European Technology Platforms related to the industries targeted will also be target groups as they concentrate the most relevant and key players in the sector. Indicative platforms which will be targeted for dissemination and exploitation purposes are the: Advisory Council for Aeronautics Research in Europe, the European Rail Research Advisory Council, the European Space Technology Platform and the Waterborne ETP.

As already mentioned the technology utilises methanol as fuel and the project will also consider ethanol as an alternative liquid fuel. Hence this will open the road to the use of more types of liquid fuels, and especially those coming from renewable energy sources such as bio-ethanol (from biomass) or methanol products from renewable sources other than the use of natural gas. In this case, the European technology platforms dealing with this, such as the Renewable Heating & Cooling ETP, the European Biofuels Technology Platform and the European Technology Platform for the Electricity Networks of the Future will also be kept informed.

Table 1: OVERVIEW TABLE WITH EXPLOITABLE FOREGROUND

OVERVIEW TABLE WITH EXPLOITABLE FOREGROUND				
Exploitable Foreground (description)	Exploitable product(s) or measure(s)	Timetable, commercial use	Patents or other IPR exploitation (licences)	Owner & Other Beneficiary(s) involved
Preparation of a series of polymeric materials (aromatic polyethers bearing polar pyridine groups) with tailor-made physicochemical properties	Polymer Electrolytes	Depends on market evolution	Greek Patent Application, 2011010000058	ADVENT, FORTH
Preparation of well defined nanostructured catalysts with enhanced support corrosion resistance and/or higher catalyst utilization	Catalysts and Catalytic layers	Depends on market evolution	-	FORTH
Preparation of well defined nanostructured catalysts based on vertically aligned carbon nanotubes	Catalysts and Catalytic layers	Depends on market evolution	-	CNRS
MEAs testing and degradation	Protocol of MEA testing		-	ALL
Development of a mathematical model of the catalysts degradation in HT PEMFCs	A mathematical model of the catalysts degradation in HT PEMFCs		-	ICTP

