AGENDA

FURTHER-FC Workshop Agenda			
09:00	Welcome Coffee		
General Talks			
09:15	Welcome and Introduction to the workshop	Jens Mitzel	DLR
09:30	General challenges in PEMFC	Ludwig Jörissen	ZSW
10:00	Importance of strategic research challenges	Laurent Antoni	Hydrogen Europe Research
10:20	Overview of FURTHER-FC	Joël Pauchet	CEA
10:40	Introduction of Project Partners		
11:10	Main Progress	Arnaud Morin	CEA
11:30	Importance of the Project from Industry Point of View	Stephane Cotte	Toyota Motor Europe
12:00	Lunch break		
Scientific highlights from FURTHER-FC			
13:00	Ionomer Thin Films	Kunal Karan	University of Calgary
13:20	Characterization of the CCL structure – spatial distribution of the materials	Laure Guetaz Tobias Morawietz	CEA UES
13:40	Characterisation of CCL materials - local transport properties	Anthony Kucernak	ICL
14:00	Quantification of local conditions in MEA	Pierre Boillat	PSI
14:20	Electrochemical characterization	Jens Mitzel	DLR
14:40	Coffee Break		
15:00	Electrochemical modelling	Michael Eikerling	RWTH Aachen
15:30	Multiscale Modelling	Thomas Jahnke	DLR
16:00	High Oxygen Permeable Ionomers for Durable, High Power Density Cathodes	Andrew Park	Chemours US
16:20	Discussion with the audience	Joël Pauchet Arnaud Morin	CEA
16:45	Closing Remarks	Joël Pauchet	CEA
17:00	DLR Lab Tour	Jens Mitzel	DLR

CONTACT AND REGISTRATION

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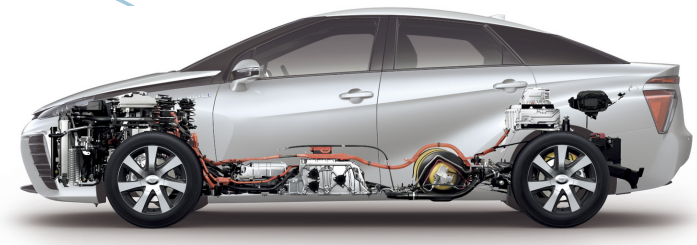


Co-funded by the European Union

Clean Hydrogen Partnership

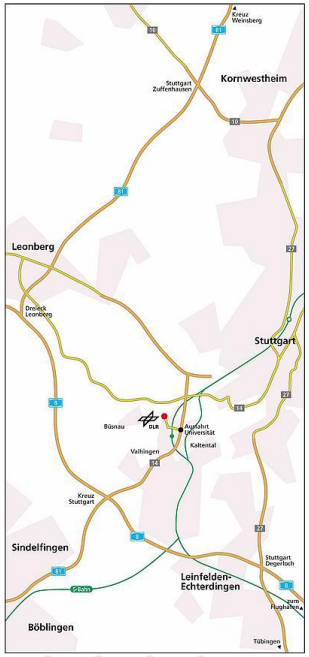
FURTHER-FC Workshop 06.07.2022 DLR Stuttgart, Germany

FURTHER UNDERSTANDING RELATED TO TRANSPORT LIMITATIONS AT HIGH CURRENT DENSITY TOWARDS FUTURE ELECTRODES FOR FUEL CELLS.

Face to Face meeting / online
Free of charge

PARTNERS

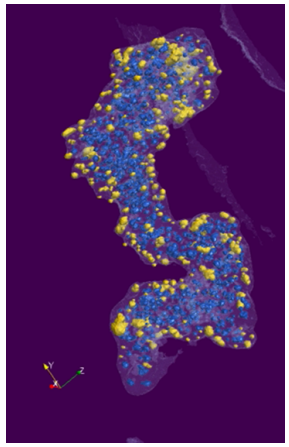
FURTHER-FC will benefit from the active role of renowned partners gathering significant experience on membrane electrode assembly manufacturing and testing [Toyota Europe (TME), French Alternative Energies and Atomic Energy Commission (CEA), German Aersospace Center (DLR)], state-of-the Art experimental techniques [CEA, DLR, Paul Scherrer Institut (PSI), University of Montpellier (IEM), Univ. of Applied Sciences Esslingen (UES), Imperial College London (ICL)] and modelling tools [CEA, DLR, National Polytechnic Institute of Toulouse (INPT)] supported by international entities [The Chemours Company (CC), University of Calgary(UCA)].



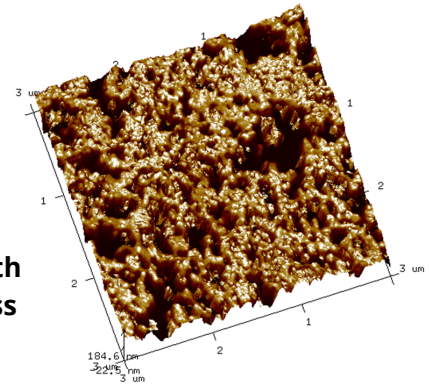
DLR site Stuttgart German Aerospace Center (DLR) Lecture Haal "Gräfin von Linden" Pfaffenwaldring 38-40 70569 Stuttgart

DLR Stuttgart is located on the University of Stuttgart Campus at Stuttgart-Vaihingen.

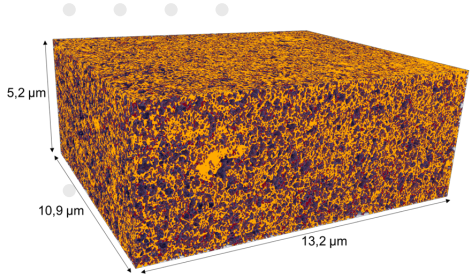
RESULTS



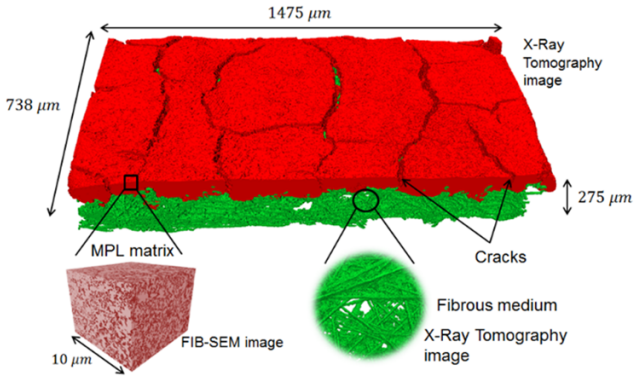
3D rendered image showing the interior (blue) and exterior (yellow) Pt NPs



AFM: 3D height-image with superposed stiffness values



FIB-SEM: 3D rendered image of the segmented CCL volume

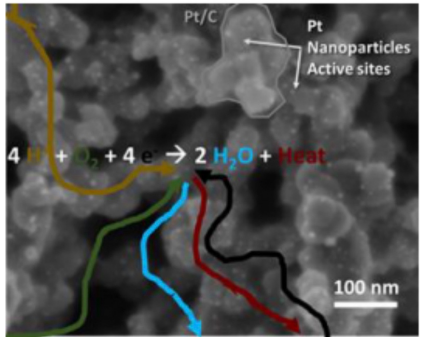


3D digital image of gas diffusion layer combining X-ray Tomography (fibrous medium, cracks) and FIB-SEM (MPL matrix)

AMBITION

FURTHER-FC will bring new knowledge on the catalyst coated layer (CCL):

- Microstructure
- Correlation between transport properties, performance and components (Platinum, Carbon, Ionomer) and their structure
- local conditions during operation
- limitations induced by transport phenomena
- modelling of transport phenomena
- Propose and validate structure and composition of CCL with improved catalyst efficiency and durability



METHODOLOGY