



FIT-4-AMANDA

Future European Fuel Cell Technology: Fit for Automatic Manufacturing and Assembly

EUROPEAN COMMISSION

Horizon 2020 | FCH-01-1-2016 | Manufacturing technologies for PEMFC stack components and stacks

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Publishable Executive Summary

The main objective of the project Fit-4-AMandA¹ is to build a mass-manufacturing machine (MMM), which includes inline quality control (QC) using a non-destructive testing (NDT) and which is capable of ramping up the production of the polymer-electrolyte membrane fuel-cell (PEMFC) stacks. Although there is no real so-called off-the-shelf solution, the QC of the PEMFC stack's repeating parts such as bipolar plates (BPPs) and membrane-electrode-assemblies (MEAs) gained much attention by the fuel cell community in the recent years.

This report summarises the efforts to provide a concise overview of the QC methods suitable for BPPs, MEAs or catalyst coated membranes (CCMs) as investigated in the scope of WP5. It describes the road from lab-scale versions of QC methods to the large-scale implementation, which in the end will be suitable for implementation into the MMM.

Because of the measurement and quality-assurance (QA) tasks differ greatly, a variety of different measurement methodology approaches had to be taken into account. For this purpose, various technologies from different technology providers and measuring device manufacturers were identified, investigated with regard to their suitability for the specific measurement task and evaluated. It turned out that this task is not trivial. Not only there is no so-called off-the-self solution, but, in some cases, there are no suitable measuring technologies available on the market. Thus, compromises had to be made with regard to measuring accuracy or measuring time.

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Project partners:

#	Partner	Partner Full Name
1	UNR	Uniresearch BV
2	PM	Proton Motor Fuel Cell GmbH
3	IRD	IRD Fuel Cells A/S
4	Aumann	Aumann Limbach-Oberfrohna GmbH
5	Fraunhofer	Fraunhofer-Gesellschaft zur Foerderung der angewandten Forschung e.V.
6	TUC	Technische Universitaet Chemnitz
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