



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 production of fuel cells and stacks is currently on the way from manual laboratory production to industrial small batch production and later on mass production. For this purpose automatic production technologies and the associated system technology has to be developed and tested.

This phase is economically very critical for the companies, since high production costs and thus high prices make the sales more difficult and at the same time investments in new production technology have to be made. As a result, customers need scalable, growing plant technology that allows tiered investments with reusability of the technology in the subsequent expansion stages.

As part of the project, the production technologies for two different stack concepts were developed. For the automatic assembly of the fuel cell stacks the functional units for the realization of the individual technology steps were developed as well as a scalable system concept, with which start-up systems for the entry into the automatic stack assembly as well as complex plant systems for the mass production can be projected, built and operated.

The fuel cell stack design was adapted - parallel with development of assembly technology and equipment system - according the process requirements of automated manufacturing, assembly, transportation, handling, image processing and testing.

As result of task 4.3 the assembly line with its stations, handlings and functional units is designed in 3D and detailed to the purchase documents (drawings, part lists, etc.).

The purchasing process is completed. The experimental machine system is assembled. The pneumatic and electrical installation is completed. The experimental machine system is now ready to start with mechanical tests of the functional units and to put it step by step into operation.