

AutoStack-CORE: Second Generation PEM-Fuel Cell Stack for Automotive Applications

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Car manufacturers such as Toyota, Honda and Hyundai have started market introduction of fuel cell vehicles in regions with existing hydrogen refueling infrastructure. Other OEMs such as Daimler have announced launch plans in 2017 or will follow in a not too distant future. Europe has a strong position in fuel cell component development and manufacturing, as well as in system integration yet competence in automotive stack technology needs to be strengthened.

AutoStack-CORE is a European project started in 2013 joining forces of automotive OEMs, the component supply industry and research organizations with the objective to develop best of its class automotive stack technology using industrially manufactured components while meeting the cost constraints for market introduction.

In this project, two stack generations were developed and tested. A power density of $\sim 4\text{kW}\cdot\text{l}^{-1}$ was reached while meeting cost targets. Performance and endurance was assessed by short stack and full sized stack tests. A benchmark analysis showed that the second stack evolution favorably compares to state of the art stack technology and can be considered best of class concerning power density.

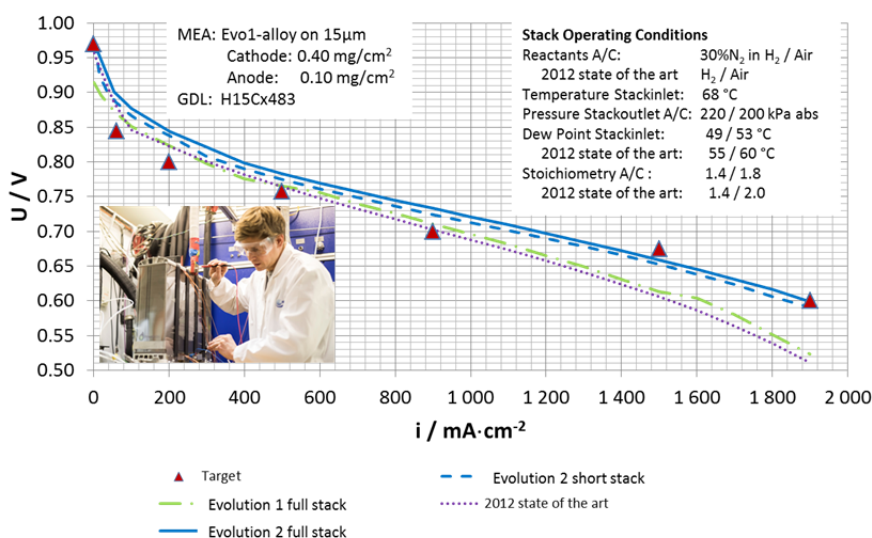


Figure 1: BoL performance evolution of AutoStack-CORE

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