Towards industrialisation of an MSC-based HT-SOEC Electrolyser

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In July 2022, the European Commission approved the first Important Project of Common European Interest (IPCEI) in the field of hydrogen. Austria is among the fifteen Member States that jointly prepared the so-called IPCEI Hy2Tech focusing on technologies for hydrogen production, transportation, and its use.

In order to reduce the production cost of renewable hydrogen via water electrolysis and to fulfil Europe’s challenging capacity targets, the improvement and scale-up in terms of costs, durability and efficiency is of great importance.

In the course of the IPCEI Hy2Tech project, Christof Industries Global and AVL List GmbH are cooperating on the development, optimisation and ultimately industrialisation of the world’s first 1 MW high-temperature solid oxide electrolyser (HT-SOEC) based on metal-supported cells (MSCs) and its transfer to a serial production. This will enable renewable hydrogen to be produced at significantly lower cost and with higher efficiency than that achieved by currently available technologies. By integrating the HT-SOEC into a wide range of industries (e.g. steel, cement, chemical and waste treatment), the project is making a significant contribution to the decarbonization of energy and industrial systems.

The presentation will provide an overview of the unique MSC-based HT-SOEC electrolyser on its way to industrialisation and the advantages it offers over currently available low-temperature electrolysis systems.

Christof Industries Global is a turnkey partner for the development, installation and servicing of industrial plants. We are a full-service provider and take care of every stage along the lifecycle of a plant through our 360° portfolio – with the highest technical perfection and innovation.