Fraunhofer ENAS

Technology

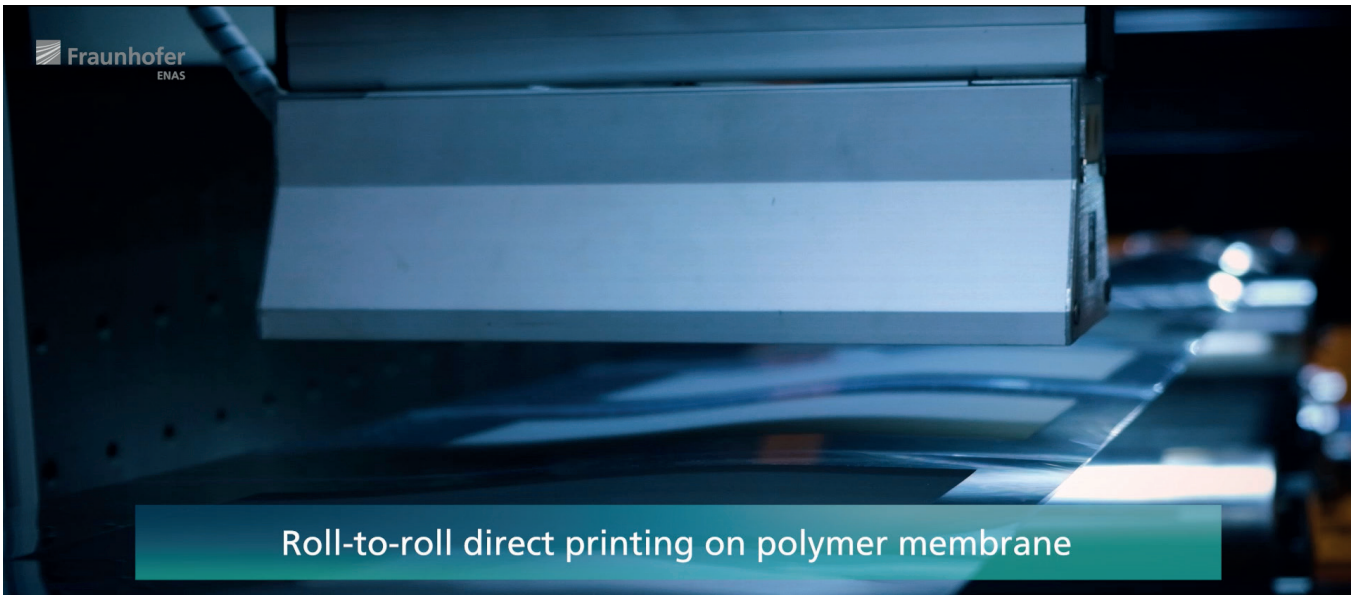
CCM/MEA Manufacturing by Inkjet Printing Process

Fast Facts

- Research and development service provider (process and product development)
- Inkjet printing of catalyst inks
- Direct printing on membrane
- Roll-to-roll and sheet-to-sheet

Inkjet printed catalyst layers (CCM production) for use in the field of fuel cells or electrolyzers

In order to enable the high rate capability of the production of catalyst coated membranes (CCM) with simultaneous efficient use of catalyst materials (e.g. platinum), Fraunhofer ENAS has further developed the inkjet printing process. Fraunhofer ENAS is thus able to produce a Membrane Electrode Assembly (MEA) for the use in fuel cells or electrolyzers by means of inkjet direct printing on a membrane.



Roll-to-roll direct printing on polymer membrane

In-house ink development

Adapted inkjet inks based on platinum, carbon, iridium, ionomer and additives are developed to produce catalyst layers directly on membrane material in a highly productive roll-to-roll process.

Anode and cathode development

Flexible production of catalyst layers with adjustable layer thickness, adjustable platinum group metal loading, adjustable areas, sizes and shapes.

More about Printed Functionalities

Fraunhofer ENAS is part of
Forschungsfabrik Mikroelektronik Deutschland

Contact

Prof. Dr. Ralf Zichner
Phone +49 371 45001-441
ralf.zichner@enas.fraunhofer.de

Christian Zeiner
Phone +49 371 45001-632
christian.zeiner@enas.fraunhofer.de

Fraunhofer ENAS
Technologie-Campus 3
09126 Chemnitz | Germany

www.enas.fraunhofer.de