



Research Factory for H₂ and Fuel Cells



HyFaB Research Platform - Producing Fuel Cells Industrially



HyFaB supports **large and small companies** in the **ramp-up** of production of **PEM fuel cell stacks**.

The German federal government and the state of Baden-Württemberg support activities with industry participation.

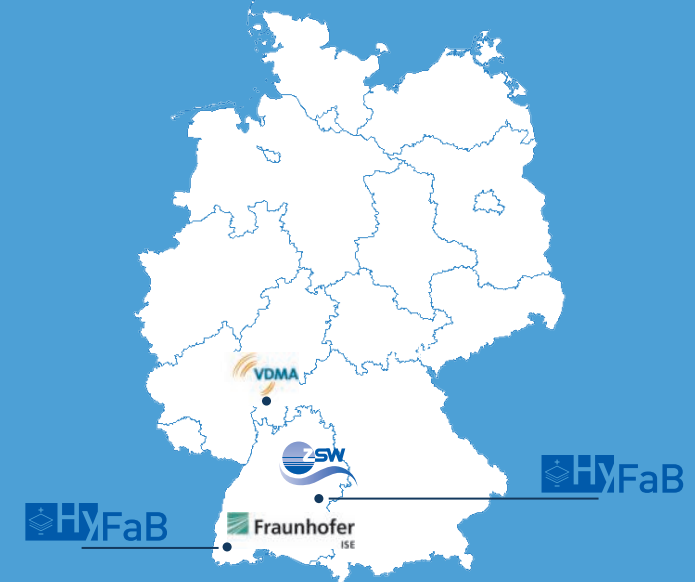
Technology Transfer

The HyFaB research factory is open to the **commercial vehicle/automotive** and **fuel cell supplier industry** as well as to companies from the **mechanical and plant engineering** sector. In addition to the production and qualification of fuel cell stacks, skilled workers are to be qualified and industry expertise shall be generated.

HyFaB is a public funded project of the research institutes ZSW in Ulm, Fraunhofer ISE in Freiburg and the Fuel Cell Working Group of the German Engineering Federation (VDMA).



Location



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“HyFaB offers an **entry platform** into **PEM fuel cell stack technology for established companies and newcomers**, especially for small and medium-sized enterprises. A central element is a **manufacturer-independent fuel cell stack** as a **universal tool** for joint development projects.”

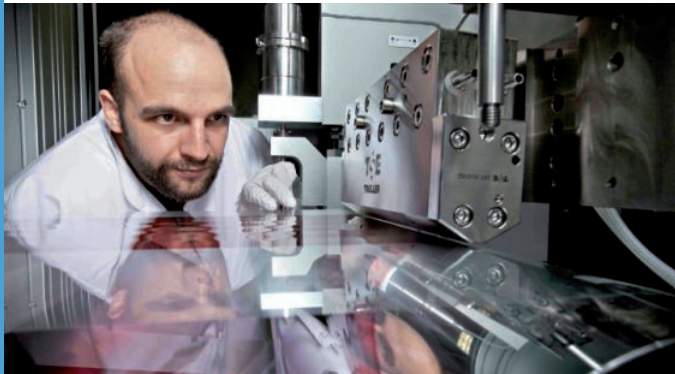
Prof. Dr. Markus Hölzle (ZSW)

MEA Production

Catalyst-coated membranes are manufactured in a complex value chain from ink mixing, coating, drying, transfer, lamination and cutting.

The aim at Fraunhofer ISE is to implement the relevant process technologies for these components on a laboratory scale. Extensive analytics will be used to clarify the relationship between component composition and material structures as well as the operating properties.

(MEA: Membrane Electrode Assembly)



Fuel Cell Testing



Already since 2001, the ZSW in Ulm has been operating a fuel cell test center with currently 35 fully automated test benches for professional 24/7-characterization of fuel cell stacks, systems and system components.

With the HyFaB project, the number of fully automated test benches has been expanded to 50, several of them in the power class up to 150 kilowatts. More than 100 tons of hydrogen utilization annually are possible. In 2021, the ZSW built a new test hall with 3,000 square meters for this purpose.



Stack Assembly

The developments at ZSW include the near-series production of PEM fuel cell stacks: from the components, through assembly, to end-of-line testing.

HyFaB is a globally unique model factory allowing individual process steps for different fuel cell stack designs or manufacturers to be developed independently from one another.



Steering Committee

With the “Innovation Cluster for Large-Scale Production of Fuel Cell Stacks (GO-Start BZ)”, the VDMA Fuel Cell Working Group accompanies the HyFaB project network. The steering and industry support group publishes and discusses the project results. This serves to identify further issues and to transfer knowledge to industry.

Join this lighthouse project: We **offer** close **contact** to **institutional research** with long-standing **knowledge** of fuel cell stack manufacturing, a highly interesting **industry network** - and we can help you apply for funding.