## **ONGOING RESEARCH IN H-C3 SCOPE**

# **Micro Fuel Cell**

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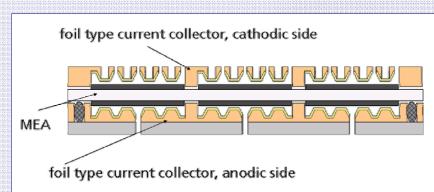
- Hydrogen Polymer Electrolyte Membrane
  Fuel Cell
- Miniaturization and high throughput production of micro fuel cells
- Adapted electronics manufacturing processes technology
- Complete micro system with button cell type hydrogen generator



in cooperation with

IZM

#### Fraunhofer <sub>Institut</sub> Zuverlässigkeit und Mikrointegration



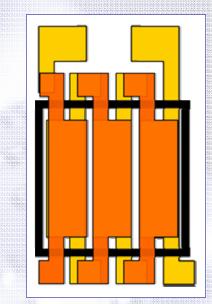
Schematic cross section

## **Technical Data**

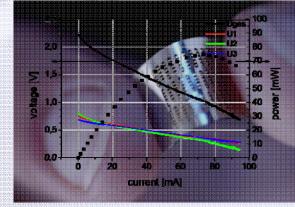
- Size 1 cm<sup>2</sup>, (active area 0.5 cm<sup>2</sup>) 200 µm thickness,
- Voltage: 2 ... 3 V
- Power: 50 mW/cm<sup>2</sup> (10-60 °C; RH =10-90%) 200 mW/cm<sup>2</sup> in the average realm T and RH

## Technology

- · Reel-to-reel assembly of 3 separate foils
- RIE structured micro flow fields
- · No need for gas diffusion layers
- One membrane with laser structured electrodes for the complete planar stack



Top view of 3 in series connected single cells



Micro Fuel Cell and energy yield