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“SOFC Degradation” Joint research project

As industrial partner, FuelCon is involved in the BMBF project for the analysis of degradation reasons and the development of countermeasures

For the development of operational SOFC fuel cell systems, optimizing the long-term stability is a significant issue of current research activities. In this regard, the reduction of the degradation which means a continuous loss of capability during operation plays an important role. Previous analysis and experienced data show that due to these losses in performance today's SOFC fuel cell components are not qualified yet for a long-term and reliable operation.

With the “SOFC Degradation” joint research project the leading German SOFC research groups aim, in close consultation with their industrial partners, to develop a deeper understanding of the degradation processes occurring in SOFC fuel cells. One of these industrial partners is the FuelCon AG in Magdeburg-Barleben. Together with their project partners, they want to contribute to the significant increase of the life cycle of SOFC fuel cell systems compared to existing durabilities. In a first step, detailed information about how different parameters (like for example temperature, partial pressure, or current) influence the degradation process and life cycle shall be gained in several sub-projects. On the basis of these results, the project partners aim to draft appropriate countermeasures.

One of the industrial partners, FuelCon contributes to the project with extensive experience in the fields of electrochemical impedance analysis of SOFC fuel cells, testing environments for evaluation of long-term behavior, and accelerated test procedures. In regular working sessions, FuelCon communicates with other joint project partners and discusses the realized results.

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FuelCon:

Consequently intelligent: that's how we love solutions. FuelCon is the global leading supplier of test and diagnostic systems for fuel cells and batteries. For years, our name is recognized for innovative engineering and high quality, for highest safety standards and close consultation with our customer.

With our testing systems for fuel cells we offer optimal solutions for all typical technologies like PEM, DMFC, SOFC or MCFC in a power range between a few watts up to 150kW. In addition, innovative test systems for evaluating electrolyser are available. With the "Evaluator-B" series we have developed a concept that fulfils the challenging testing requirements of modern batteries with high accuracy and flexibility. The test systems enable the comparison, evaluation and optimization of battery cells and packs, as well as simulation of different requirements for customized applications.

Contact:

FuelCon AG
Ms. Andrea Bartels
Steinfeldstr. 1
D-39179 Magdeburg-Barleben

T + 49 39203 514 400
F + 49 39203 514 409
andrea.bartels@fuelcon.com
www.fuelcon.com