



# Hydrogen Europe: European Hydrogen & Fuel cell Project Database

## Project SOFC-Life

Solid Oxide Fuel Cells – Integrating Degradation Effects into Lifetime Prediction Models

Long-term stable operation of Solid Oxide Fuel Cells (SOFC) is a basic requirement for introducing this technology to the stationary power market. Degradation phenomena limiting the lifetime can be divided into continuous (baseline) and incidental (transient) effects. This project is concerned with understanding the details of the major SOFC continuous degradation effects and developing models that will predict single degradation phenomena and their combined effect on SOFC cells and single repeating units. The outcome of the project will be an in-depth understanding of the degradation phenomena as a function of the basic physico-chemical processes involved, including their dependency on operational parameters. Up to now research has rarely succeeded in linking the basic changes in materials properties to the decrease in electro-chemical performance at the level of multi-layer systems and SOFC cells, and even up to single repeating units.

## Project Information

**Type of project :** Research

**Timing :** 01/01/2011 > 31/12/2013

**Project website:** [http://www.sofc-life.eu/sofc-life/EN/Home\\_2/home\\_node.html](http://www.sofc-life.eu/sofc-life/EN/Home_2/home_node.html)

**Project Budget :** 5.649.854 €

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## Funding

European Union through FCH JU: **Grant agreement 256885 - CORDIS link**

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## Project partners

**Coordinator :**

JÜLICH - Forschungszentrum Jülich GmbH

**Partners :**

CEA - Commissariat à l'énergie atomique et aux énergies alternatives

DVGW - German Technical and Scientific Association for Gas and Water

Empa - Eidgenössische Materialprüfungs- und Forschungsanstalt

VTT - Technical Research Centre of Finland

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INSTITUTE OF HIGH TEMPERATURE ELECTROCHEMISTRY

ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE

IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE

ELECTRICITE DE FRANCE

ZURCHER HOCHSCHULE FÜR ANGEWANDTE WISSENSCHAFTEN

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## Sub project(s)

# Sub project 1

**Country:** Germany

**Address:**

Leo-Brandt-Strasse 52425 JUELICH

**Sub project categories**

Research

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Project Id: 1089

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