Hydrogen Europe:
European Hydrogen & Fuel cell Project Database

Project EVOLVE

Evolved materials and innovative design for high-performance, durable and reliable SOFC cell and stack

Evolve focuses on an innovative concept for SOFC, particularly for the anode compartment, enable cell operation at reduced temperature of 750 °C. Targeting the full removal and or replacement of Nickel as electrocatalysts at the anode side by electronic conducting ceramic oxides,this concept is expected to enhance the durability and reliability of SOFC while exhibiting performance level comparable to main-stream anode-supported cells. It is thus targeted: -to reduce the amount of Nickel in the current collector -to replace Nickel within the Anode Functional Layer by the a composite LST-CGO modified by catalysts: Co/Fe-Pd or alternatively Rh-CGO and Ru-CGO. The main objectives of EVOLVE are: - the demonstration at the stack level of a SOFC implementing an innovative substrate resilient toward redox cycles with higher durability than mainstreams Metal Supported Cells implementing porous ferritic stainless steel substrates and cyclability than mainstreams anode supported cells implementing the Ni based cermet. - the identification of innovative combinations of advanced materials with reduced amount of nickel, showing improved tolerance against Sulfur poisoning compared to mainstreams nickel based cermet Anode and higher resilience against redox cycles.

Project Information

Type of project : Research
Timing : 01/11/2012 > 31/01/2017
Project website: http://www.evolve-fcell.eu/
Project Budget : 5.711.231 €

Funding

European Union through FCH JU: **Grant agreement 303429** - **CORDIS link**

Project partners

Coordinator :
DLR - German Aerospace Center
Partners :
MINES ParisTech/ARMINES PERSEE
CNR - Consiglio Nazionale delle Ricerche
ALANTUM EUROPE GMBH
Ceramic Powder Technology AS
INSTITUT POLYTECHNIQUE DE GRENOBLE
SAAN ENERGI AB
CERACO CERAMIC COATING GMBH

Sub project(s)

Sub project 1

Country: Germany
Address:
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Sub project categories
Research

Project Id: 962
This project datasheet was last updated on : 21.11.2017
Modify this project datasheet