



Hydrogen Europe: European Hydrogen & Fuel cell Project Database

Project SUAV

Microtubular Solid Oxide Fuel Cell Power System development and integration into a Mini-UAV

SUAV aims to design, optimise and build a 100-200W mSOFC stack, and to integrate it into a hybrid power system comprising the mSOFC stack and a battery. Additional components of the system are a fuel processor to generate reformat gas from propane and other electrical, mechanical and control balance of plant (BoP). All these components will be constituents of an entire fuel cell power generator which will first be tested in the lab and, after further optimisation and miniaturisation, in a mini UAV platform. SUAV is primarily aiming at platforms like the CopterCity UAV platform from Survey Copter (France) but will consider other options (in particular fixed wing vehicles) too. Propane was chosen as the fuel due to its superior energy density compared to hydrogen, whichever storage technique is used. The SOFC was chosen since it can convert reformat (i.e. CO/H₂-mixtures) to electricity, as compared to other types of fuel cell that require very pure hydrogen, which significantly reduces fuel processing. The design of the mSOFC power generator will be primarily driven by the weight and volume available in the mini-UAV. The project intends to optimise mission duration, while efficiency is of less concern. It will open opportunities for exploitation in other light-weight man-portable applications.

Project Information

Type of project : Research

Timing : 01/12/2011 > 30/11/2015

Project website: <http://www.suav-project.eu>

Project Budget : 3.796.031 €

Funding

European Union through FCH JU: Grant agreement 278629 - [CORDIS link](#)

Project partners

Coordinator :

[HyGear Fuel Cell Systems B.V.](#)

Partners :

[CNR - Consiglio Nazionale delle Ricerche](#)

[University of the Basque Country - Departamento de Ingeniería Química y del Medio Ambiente](#)

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SURVEY COPTER SAS

Sub project(s)

Sub project 1

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Sub project categories

Research

Project Id: 1100

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