



# Hydrogen Europe: European Hydrogen & Fuel cell Project Database

## Project SAPIENS

SOFC Auxiliary Power In Emissions/Noise Solutions

This project aims to design, optimise and build several 200W mSOFC stacks and to integrate them into hybrid power systems comprising the fuel cell, a battery and appliances found in a recreational vehicle (RV). Additional components of the system are a gas processor to clean up the autogas propane fuel plus other equipment for 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 an RV platform. The project is primarily aimed at the RV platform from Autosleepers, an SME based in the UK, but other applications such as boats, ambulances and environmental testing vehicles will also be studied. Propane was chosen as the the fuel because of its superior energy density compared to hydrogen and methanol, and also because it is the generally preferred fuel for auxiliary systems on RVs, such as cookers, fridges and water heaters. Autogas propane is widely available at filling stations throughout Europe. The SOFC was chosen because it can convert propane while also providing low noise, low emissions and heat for hot water supply. The overall objectives are: Develop the fuel cell power supply to fit the RV Test the Autogas propane fuel Study the needs of the market to reduce the risks of commercialisation Improve the SOFC in terms of materials, lifetime, performance and costs Innovate on noise reduction and emissions Provide several fuel cells for testing optimisation and proving To test long term durability and cycling for obtaining approvals To disseminate by getting real users to apply the new device and report results across Europe Impact will be substantial because the general public will be using these RVs. Also three special conferences will be organised to disseminate information, ten refereed publications will be submitted and patents will be published on the innovations.

## Project Information

**Type of project :** Demonstration

**Timing :** 01/11/2012 > 31/10/2015

**Project website:** <http://sapiens-project.eu/>

**Project Budget :** 2.369.507 €

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## Funding

European Union through FCH JU: Grant agreement 303415 - [CORDIS link](#)

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## Project partners

**Coordinator :**

ADELAN LTD

**Partners :**[IREC - Institut de Recerca en Energia de Catalunya](#)

AUTO-SLEEPERS GROUP LIMITED

CENTER FOR ABRASIVES AND REFRACTORIES RESEARCH &amp; DEVELOPMENT - C.A.R.R.D.

CLAUSTHALER UMWELTECHNIK INSTITUT GMBH

JRC - JOINT RESEARCH CENTRE - EUROPEAN COMMISSION

ZACHODNIOPOMORSKI UNIWERSYTET TECHNOLOGICZNY W SZCZECINIE

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**Sub project(s)****Sub project 1****Country:** United Kingdom**Address:**

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**Sub project categories**

Demonstration

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Project Id: 1080

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