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In situ H2 supply technology for micro fuel cells powering mobile electronics appliances

Fact Sheet

Project Information

ISH2SUP

Grant agreement ID: 245294

[Project website](#) 

Project closed

Start date

1 January 2010

End date

31 March 2013

Funded under

Specific Programme "Cooperation": Joint Technology Initiatives

Total cost

€ 1 684 530,80

EU contribution

€ 1 000 625,00

Coordinated by

AALTO KORKEAKOULUSAATIO
SR
 Finland

This project is featured in...



Objective

In the project two novel solutions for fuelling micro fuel cells are studied and developed to a demonstration level. The primary application area is fuel cell based power sources of portable electronic appliances such as cell phones, mp3-players and laptop computers, but also similar niche products. A generally recognized fact is that today's battery technology is not sufficient for many of those applications despite expected progress in the field due to the increasing number of features implemented. Fuel cell technology provides in principle a solution to the problem by enabling the use of chemical energy storages. The low temperature PEM technology is inherently feasible choice for consumer products because of the close-to-human nature of the applications provided that logistics of hydrogen can be solved. In the project we consider a solution, which combines hydrogen PEM with fuelling technology, where hydrogen is stored in a chemical form in a primary fuel and released in-situ on-demand bases. This provides benefits as to DMFC technology. The fuel cell using hydrogen can be made in a more compact size because of higher volumetric power density. The primary fuel can be stored in a disposable or recycled cartridge, which is changeable and logistically easily available. Two different technologies to produce hydrogen will be considered. One is based on NaBH as the fuel and the other on catalyzed electrolysis of methanol. The project has two main objectives: - Firstly, to show that the both technologies consider are feasible and fulfil the RCS requirements of mobile/portable electronic appliances in consumer markets. - Secondly, to find the best ways to build up logistics for fuelling using disposable or recycled cartridges. The power range targeted in the practical development work for demonstration is 5 – 20 W. Feasibility of the cartridge technologies and applications will be, however, explored in a wider range from 0.5 W up to 100 W level.

Fields of science (EuroSciVoc)

[natural sciences](#) > [chemical sciences](#) > [electrochemistry](#) > [electric batteries](#)

[natural sciences](#) > [chemical sciences](#) > [electrochemistry](#) > **[electrolysis](#)**

[natural sciences](#) > [chemical sciences](#) > [organic chemistry](#) > **[alcohols](#)**

[engineering and technology](#) > [electrical engineering, electronic engineering, information engineering](#) > [information engineering](#) > [telecommunications](#) > **[mobile phones](#)**

[engineering and technology](#) > [environmental engineering](#) > [energy and fuels](#) > **[fuel cells](#)**



Programme(s)

[FP7-JTI - Specific Programme "Cooperation": Joint Technology Initiatives](#)

Topic(s)

[SP1-JTI-FCH-4.2 - Fuel supply technology for portable and micro FC](#)

Call for proposal

FCH-JU-2008-1

[See other projects for this call](#)

Funding Scheme

[JTI-CP-FCH - Joint Technology Initiatives - Collaborative Project \(FCH\)](#)

Coordinator



AALTO KORKEAKOULUSAATIO SR

EU contribution

€ 283 817,00

Total cost

No data

Address

OTAKAARI 1

02150 Espoo

+ Finland 

Region

Manner-Suomi > Helsinki-Uusimaa > Helsinki-Uusimaa

Activity type

Higher or Secondary Education Establishments

Links

- Contact the organisation Website
- Participation in EU R&I programmes
- HORIZON collaboration network

Participants (3)



COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

France

EU contribution

€ 292 832,00

Address

RUE LEBLANC 25
75015 PARIS 15



Region

Ile-de-France > Ile-de-France > Paris

Activity type

Research Organisations

Links

- Contact the organisation Website
- Participation in EU R&I programmes
- HORIZON collaboration network

Total cost

No data



MYFC AB

Sweden

EU contribution

€ 230 081,00

Address

Saltmätargatan 8A
11359 Stockholm 

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



OY HYDROCELL LTD

 Finland

EU contribution

€ 193 895,00

Address

MINKKIKATU 1-3
04430 JARVENPAA 

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data

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Permalink: <https://cordis.europa.eu/project/id/245294>

European Union, 2025