



Thin Film Reversible Solid Oxide Cells for Ultracompact Electrical Energy Storage

Fact Sheet

Project Information

EPISTORE

Grant agreement ID: 101017709

[Project website](#)

DOI

[10.3030/101017709](https://doi.org/10.3030/101017709)

EC signature date

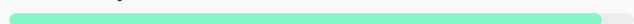
1 December 2020

Start date

1 January 2021

End date

30 June 2025



Funded under

EXCELLENT SCIENCE - Future and Emerging Technologies (FET)

Total cost

€ 4 599 128,75

EU contribution

€ 4 599 128,75

Coordinated by

FUNDACIO INSTITUT DE
RECERCA DE L'ENERGIA DE
CATALUNYA



Spain

Project description

Thin-film technology for energy storage

Advanced thin-film technology has allowed several technological innovations in electronics and lighting through excellent nanoscale phenomena performance in reliable products that involve ultra-low contents of critical raw materials (CRMs). The EU-funded EPISTORE project will develop pocket-sized kilowatt-range stacks based on thin-film reversible solid oxide cells (TF-rSOCs) to efficiently store renewable electricity for applications where the use of batteries is insufficient. The project will combine nanoscale advances and materials yet to be explored with pioneering TF-rSOCs to provide new ultra-compact and fast-response power-to-gas and power-to-power storage solutions with high performance and minor use of CRMs. TF-rSOCs

will be integrated with scalable silicon technology as a potentially low-cost model of large-scale energy storage.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [nanotechnology](#)

[engineering and technology](#) > [materials engineering](#) > [coating and films](#)

[natural sciences](#) > [biological sciences](#) > [ecology](#) > [ecosystems](#)

[natural sciences](#) > [chemical sciences](#) > [inorganic chemistry](#) > [metalloids](#)



Keywords

[Reversible Solid Oxide Cells](#)

[thin film](#)

[P2G](#)

[P2P](#)

[nanoionics](#)

Programme(s)

[H2020-EU.1.2. - EXCELLENT SCIENCE - Future and Emerging Technologies \(FET\)](#)

MAIN PROGRAMME

[H2020-EU.1.2.2. - FET Proactive](#)

Topic(s)

[FETPROACT-EIC-07-2020 - FET Proactive: emerging paradigms and communities](#)

Call for proposal

[H2020-FETPROACT-2018-2020](#)

[See other projects for this call](#)

Sub call

H2020-FETPROACT-2020-2

Funding Scheme

Coordinator



FUNDACIO INSTITUT DE RECERCA DE L'ENERGIA DE CATALUNYA

Net EU contribution

€ 682 500,00

Total cost

€ 682 500,00

Address

C/ JARDINS DE LES DONES DE NEGRE 1

08930 Sant Adria De Besos

 **Spain** 

Region

Este > Cataluña > Barcelona

Activity type

Research Organisations

Links

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

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

[HORIZON collaboration network](#) 

Participants (14)



THE CHANCELLOR MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE

 **United Kingdom**

Net EU contribution

€ 446 806,25

Address

TRINITY LANE THE OLD SCHOOLS

CB2 1TN Cambridge 

Region

East of England > East Anglia > Cambridgeshire CC

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 446 806,25



KARLSRUHER INSTITUT FUER TECHNOLOGIE

 Germany

Net EU contribution

€ 451 352,50

Address

KAISERSTRASSE 12

76131 Karlsruhe 

Region

Baden-Württemberg > Karlsruhe > Karlsruhe, Stadtkreis

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 451 352,50



AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS

 Spain

Net EU contribution

€ 561 883,75

Address

CALLE SERRANO 117

28006 Madrid 

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

Research Organisations

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

€ 561 883,75



THE UNIVERSITY COURT OF THE UNIVERSITY OF ST ANDREWS

United Kingdom

Net EU contribution

€ 499 716,25

Address

NORTH STREET 66 COLLEGE GATE
KY16 9AJ St Andrews

Region

Scotland > Eastern Scotland > Clackmannanshire and Fife

Activity type

Higher or Secondary Education Establishments

Links

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- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

€ 499 716,25



IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE

United Kingdom

Net EU contribution

€ 517 436,25

Address

SOUTH KENSINGTON CAMPUS EXHIBITION ROAD
SW7 2AZ LONDON 

Region

London > Inner London — West > Westminster

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 517 436,25



CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

 France

Net EU contribution

€ 428 205,00

Address

RUE MICHEL ANGE 3
75794 Paris 

Region

Ile-de-France > Ile-de-France > Hauts-de-Seine

Activity type

Research Organisations

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 450 080,00

 THIRD-PARTY 

INSTITUT POLYTECHNIQUE DE GRENOBLE

 France

Net EU contribution

€ 21 875,00

Address

AVENUE FELIX VIALLET 46
38031 Grenoble Cedex 1 

Region

Auvergne-Rhône-Alpes > Rhône-Alpes > Isère

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Total cost

No data



RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

 Germany

Net EU contribution

€ 291 250,00

Address

TEMPLERGRABEN 55
52062 Aachen 

Region

Nordrhein-Westfalen > Köln > Städteregion Aachen

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 291 250,00



JOHNSON MATTHEY PLC

 United Kingdom

Net EU contribution

€ 162 771,25

Address

2 GRESHAM STREET, 5TH FLOOR
EC2V 7AD LONDON 

Region

London > Inner London — West > Camden and City of London

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

€ 162 771,25



LAM RESEARCH INTERNATIONAL BV 

 Netherlands

Net EU contribution

€ 25 203,75

Address

AUKE VLEERSTRAAT 3
7521 PE ENSCHEDE 

Region

Oost-Nederland > Overijssel > Twente

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Total cost

€ 25 203,75



SOLYDERA SA

 Switzerland

Net EU contribution

€ 215 625,00

Address

AVENUE DES SPORTS 26

1400 Yverdon-les-Bains 

SME 

Yes

Region

Schweiz/Suisse/Svizzera > Région lémanique > Vaud

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Total cost

€ 215 625,00



HYGEAR BV

 Netherlands

Net EU contribution

€ 145 957,50

Address

WESTERVOORTSEDIJK 73

6827 AV Arnhem 

SME 

Yes

Region

Oost-Nederland > Gelderland > Arnhem/Nijmegen

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

€ 159 707,50

 THIRD-PARTY

HYGEAR OPERATIONS BV

 Netherlands

Net EU contribution

€ 13 750,00

Address

WESTERVOORTSEDIJK 73
6827 AV Arnhem 

Region

Oost-Nederland > Gelderland > Arnhem/Nijmegen

Activity type

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

Links

- [Contact the organisation](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

No data



TECHNISCHE HOCHSCHULE DEGGENDORF

 Germany

Net EU contribution

€ 134 796,25

Address

DIETER GORLITZ PLATZ 1
94469 Deggendorf 

Region

Bayern > Niederbayern > Deggendorf

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#) 

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

[HORIZON collaboration network](#) 

Total cost

€ 134 796,25

Last update: 7 April 2025

Permalink: <https://cordis.europa.eu/project/id/101017709>

European Union, 2025