



CAIcium Rechargeable BAattery Technology

Fact Sheet

Project Information

CARBAT

Grant agreement ID: 766617

[Project website](#)

DOI

[10.3030/766617](https://doi.org/10.3030/766617)

Project closed

EC signature date

18 July 2017

Start date

1 October 2017

End date

31 March 2021

Funded under

EXCELLENT SCIENCE - Future and Emerging Technologies (FET)

Total cost

€ 2 036 981,25

EU contribution

€ 2 036 981,25

Coordinated by

AGENCIA ESTATAL CONSEJO
SUPERIOR DE
INVESTIGACIONES CIENTIFICAS
 Spain

Project description

Innovative calcium-based rechargeable batteries

Less than 1 % of cars currently run on batteries. However, despite a remarkable 50 % reduction in the cost of the dominant Li-ion battery (LIB) technology over the past decade, LIBs are gradually approaching their fundamental limits in terms of energy density. Furthermore, there is a potential risk to the supply of lithium. Batteries based on calcium (Ca) show promise and are particularly appealing since Ca is the fifth most abundant element in the Earth's crust and can be used as a metallic anode in organic solvent based wide potential window electrolytes. The EU-funded CARBAT project aims to achieve proof-of-concept for a rechargeable Ca anode battery by

synergising scientific efforts and expertise in computational screening, solid-state and coordination chemistry, materials science, electrochemistry, and battery engineering.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [materials engineering](#) > **[crystals](#)**

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

[natural sciences](#) > [chemical sciences](#) > [inorganic chemistry](#) > **[alkaline earth metals](#)**

[natural sciences](#) > [earth and related environmental sciences](#) > [atmospheric sciences](#) > [climatology](#) > **[climatic changes](#)**

[natural sciences](#) > [physical sciences](#) > [optics](#) > **[spectroscopy](#)**



Programme(s)

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

MAIN PROGRAMME

[H2020-EU.1.2.1. - FET Open](#)

Topic(s)

[FETOPEN-01-2016-2017 - FET-Open research and innovation actions](#)

Call for proposal

[H2020-FETOPEN-2016-2017](#) 

[See other projects for this call](#)

Sub call

H2020-FETOPEN-1-2016-2017

Funding Scheme

[RIA - Research and Innovation action](#)

Coordinator



AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS

Net EU contribution

€ 583 086,25

Total cost

€ 583 086,25

Address

CALLE SERRANO 117

28006 Madrid

Spain

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](#)

Participants (3)



CHALMERS TEKNISKA HOGSKOLA AB

Sweden

Net EU contribution

€ 506 278,75

Address

-

412 96 Goteborg

Region

Södra Sverige > Västsverige > Västra Götalands län

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 506 278,75



UNIVERSIDAD COMPLUTENSE DE MADRID

 Spain

Net EU contribution

€ 274 937,50

Address

AVENIDA DE SENECA 2

28040 Madrid 

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 274 937,50



FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV

 Germany

Net EU contribution

€ 672 678,75

Address

HANSASTRASSE 27C

80686 Munchen 

Region

Bayern > Oberbayern > München, Kreisfreie Stadt

Activity type

Research Organisations

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 672 678,75

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Permalink: <https://cordis.europa.eu/project/id/766617>

European Union, 2025