# OPEN INNOVATION TEST BED FOR ELECTROCHEMICAL ENERGY STORAGE MATERIALS

## Fact Sheet

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<th>Project Information</th>
<th>Funded under</th>
<th>Total cost</th>
<th>EU contribution</th>
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<tr>
<td><strong>TEESMAT</strong>&lt;br&gt;Grant agreement ID: 814106</td>
<td>INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Advanced materials</td>
<td>€ 10 208 602.76</td>
<td>€ 8 900 252.16</td>
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<td><strong>DOI</strong>&lt;br&gt;10.3030/814106</td>
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<td><strong>Start date</strong>&lt;br&gt;1 January 2019</td>
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<td><strong>End date</strong>&lt;br&gt;31 August 2022</td>
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**Coordinated by**<br>COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES<br>France

This project is featured in...
Project description

Powering innovative solutions for batteries

Batteries have been significantly developed and improved over the last 200 years. But they have yet to reach the physical limits of their performance due to complex physio-chemical processes. Understanding these limits in current industrialised systems theoretically allows substantial improvement. However, several obstacles prevent companies from accessing the necessary innovative techniques. The EU-funded TEESMAT project will facilitate access to physical facilities, capabilities and services by introducing innovative characterisation solutions. It will launch a sustainable Open Innovation Test Bed where specialised public and private partners will demonstrate valuable services for materials advanced characterisation within the value chain of electrochemical energy storage systems.

Objective

Despite more than 200 years of development of batteries, the physical limits of battery performance are far from being reached. The complexity of physio-chemical processes inside batteries render any development strongly dependent on a proper description and monitoring of the inherent evolution and interaction of all materials involved in the functioning of an electrochemical cell. It can be said that rarely any progress in a technology where all basic processes are understood did depend so much on characterization than electrochemical energy storage systems. The mean figures of merit (specific energy per mass, volume or cost unit, cyclability) can all theoretically be substantially improved, under the condition of a proper understanding of where and how their limits are reached in today’s industrialized systems. This underlines how much this important branch of our technological future depends on novel and accessible characterization techniques. Given this grand challenge, access to advanced characterisation solutions for the EU industry will be key to accelerate innovation and reduce the large cost share of materials. However, several bottlenecks are preventing access by companies to
novel techniques, to which TEESMAT brings a comprehensive response by leveraging European strengths from 11 Countries and facilitating access to physical facilities, capabilities and services implementing novel characterisation solutions with unprecedented capability & performance. Instrumental to this is the launch of a sustainable Open Innovation Test Bed in which qualified public/private partners will demonstrate high-value services for materials advanced characterisation on industrial cases in the value chain of electrochemical energy storage systems. A strong EU community will be built up to propel the continuity of the initiative beyond TEESMAT with a viable, business driven and lean model of operation to create a market for advanced characterisation services, ultimately.

**Fields of science**

natural sciences > chemical sciences > electrochemistry

**Programme(s)**

H2020-EU.2.1.3. - INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Advanced materials (MAIN PROGRAMME)

H2020-EU.2.1.2. - INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies – Nanotechnologies

**Topic(s)**

DT-NMBP-07-2018 - Open Innovation Test Beds for Characterisation (IA)

**Call for proposal**

H2020-NMBP-TO-IND-2018-2020

See other projects for this call

**Sub call**

H2020-NMBP-TO-IND-2018

**Funding Scheme**

IA - Innovation action
Coordinator

COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

Net EU contribution
€ 2 110 580,25

Address
Rue Leblanc 25
75015 Paris 15
France

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

Activity type
Research Organisations

Links
Contact the organisation  Website  Participation in EU R&I programmes  H2020 collaboration network

Non-EU contribution
€ 0,00

Participants (26)

EUROPEAN SYNCHROTRON RADIATION FACILITY

France

Net EU contribution
€ 640 612,50

Address
71 Avenue Des Martyrs
38000 Grenoble

Region
Auvergne-Rhône-Alpes > Rhône-Alpes > Isère

Activity type
Research Organisations

Links
SERMA TECHNOLOGIES
France
Net EU contribution
€ 642,337.50
Address
14 Rue Galilee
33600 Pessac
Region
Nouvelle-Aquitaine > Aquitaine > Gironde
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Non-EU contribution
€ 275,287.50

ZENTRUM FUR SONNENERGIE- UND WASSERSTOFF-FORSCHUNG
BADEN-WURTTEMBERG
Germany
Net EU contribution
€ 899,948.75
Address
Meitnerstrasse 1
70563 Stuttgart
Region
Baden-Württemberg > Stuttgart > Stuttgart, Stadtkreis
VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.

Belgium

Net EU contribution
€ 817,193.75

Address
Boeretang 200
2400 Mol

Region
Vlaams Gewest > Prov. Antwerpen > Arr. Turnhout

Activity type
Research Organisations

Links
Contact the organisation Website
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 0,00

FUNDACION TECNALIA RESEARCH & INNOVATION

Spain

Net EU contribution
€ 474,375.00

Address
Parque Cientifico Y Tecnologico De Bizkaia Astondo Bidea Edificio 700
48160 Derio (Bizkaia)
Region
Noreste > Pais Vasco > Bizkaia

Activity type
Research Organisations

Links
Contact the organisation
Website
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 0,00

ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS
Greece
Net EU contribution
€ 543 312,50

Address
Charilaou Thermi Road 6 Km
57001 Thermi Thessaloniki

Region
Θεσσαλονίκη > Κεντρική Μακεδονία > Βόρεια Ελλάδα

Activity type
Research Organisations

Links
Contact the organisation
Website
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 0,00

IN-CORE SYSTEMES
France
Net EU contribution
€ 345 501,63

Address
10 Rue Ampere Aktiland
69680 Chassieu

SME Yes

Region
Auvergne-Rhône-Alpes > Rhône-Alpes > Rhône

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

Links
Contact the organisation Website Participation in EU R&I programmes H2020 collaboration network

Non-EU contribution
€ 148 072,12

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SEMLAB FELVEZETO FIzikai Laboratorium Zartkoruen Mukodo Reszvenytarsasag

Hungary

Net EU contribution
€ 428 305,50

Address
Prielle Kornelia Utca 4/a.
1117 Budapest

SME Yes

Region
Közép-Magyarország > Budapest > Budapest

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

Links
Contact the organisation Website Participation in EU R&I programmes H2020 collaboration network

Non-EU contribution
€ 183 559,50
WAVESTONE LUXEMBOURG SA

Net EU contribution
€ 15 925,00

Address
10 Rue Du Château D'eau
3364 Leudelange

Region
Luxembourg > Luxembourg > Luxembourg

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

Links
Contact the organisation · Website · Participation in EU R&I programmes · H2020 collaboration network

Non-EU contribution
€ 6 825,00

THIRD-PARTY
WAVESTONE ADVISORS

Net EU contribution
€ 12 031,25

Address
100-101 Terrasse Boieldieu Tour Franklin
92042 Paris La Defense

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

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

Links
Contact the organisation · Website · Participation in EU R&I programmes · H2020 collaboration network

Non-EU contribution
ZINERGY UK LIMITED

United Kingdom
Net EU contribution
€ 180 114,38

Address
Future Business Centre Kings Hedges Road
CB4 2HY Cambridge

SME
Yes

Region
East of England > East Anglia > Cambridgeshire CC

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

Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 77 191,87

LITHOPS SRL

Italy
Net EU contribution
€ 15 796,38

Address
Centro Aziendale Quercete Snc
81016 San Potito Sannitico

Region
Sud > Campania > Caserta

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

Links
UMICORE
Belgium

Net EU contribution
€ 95 221,00

Address
Rue Du Marais 31
1000 Bruxelles

Region
Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest > Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest > Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad

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

Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 40 809,00

THIRD-PARTY
UMICORE SPECIALTY POWDERS FRANCE
France

Net EU contribution
€ 35 038,50

Address
54 Avenue Rhin Et Danube
38000 Grenoble

Region
Auvergne-Rhône-Alpes > Rhône-Alpes > Isère
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 15 016,50

YUNASKO-UKRAINE LLC
Ukraine
Net EU contribution
€ 179 599,88

Address
33/37 Laboratorna Street
03150 Kyiv

SME
Yes

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

Links
Contact the organisation
Website
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 76 971,37

GENES'INK
France
Net EU contribution
€ 184 111,38

Address
39 Avenue Gaston Imbert Zi De Rousset
13790 Rousset
ARKEMA FRANCE SA

Net EU contribution
€ 177 198,00

Address
Rue Estienne D Orves
92700 Colombes

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

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

Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 75 942,00

SYSTEMS SUNLIGHT INDUSTRIAL & COMMERCIAL COMPANY OF DEFENSIVE, ENERGY, ELECTRONIC AND TELECOMMUNICATION SYSTEMS AND MANAGEMENT AND TREATMENT OF RECYCLING MATERIALS AND
TRADING OF RECOVERED MATERIALS

Greece

Net EU contribution
€ 179 609,50

Address
2 Ermou And Nikis Street Syntagma Square
10563 Athina

Region
Κεντρικός Τομέας Αθηνών > Αττική > Αττική

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

Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 76 975,50

NORTHVOLT AB

Sweden

Net EU contribution
€ 37 371,69

Address
Gamla Brogatan 26
111 20 Stockholm

Region
Östra Sverige > Stockholm > Stockholms län

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

Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 16 016,44
CENTRO RICERCHE FIAT SCPA

Italy

Net EU contribution
€ 187,411.25

Address
Strada Torino 50
10043 Orbassano

Region
Nord-Ovest > Piemonte > Torino

Activity type
Research Organisations

Links
Contact the organisation
Website
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 0,00

CEGASA PORTABLE ENERGY SLU

Spain

Net EU contribution
€ 0,00

Address
Avenida Los Huetos 75
01010 Vitoria Gasteiz

SME
Yes

Region
Noreste > País Vasco > Araba/Álava

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

Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 0,00

EUROPEAN BUSINESS AND INNOVATION CENTRE NETWORK AISBL
Belgium
Net EU contribution
€ 174 000,00
Address
Avenue De Tervuren 168/25
1150 Brussel
SME
Yes
Region
Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest > Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest > Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad
Activity type
Other
Links
Contact the organisation
Website
Participation in EU R&I programmes
H2020 collaboration network
Non-EU contribution
€ 0,00

CEGASA ENERGIA S.L.U.
Spain
Net EU contribution
€ 179 736,38
Address
Calle Marie Curie, 1
01510 Miñano Mayor, Vitoria-gasteiz
Region
16 of 19
Region

Noreste > País Vasco > Araba/Álava

Activity type

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

Links

Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution

€ 77 029,87

FAAM RESEARCH CENTER S.R.L.

Italy

Net EU contribution

€ 107 604,00

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Centro Aziendale Quercete Snc
81016 San Potito Sannitico

Region

Sud > Campania > Caserta

Activity type

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

Links

Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution

€ 46 116,00

E MAGY BV

Netherlands

Net EU contribution

€ 122 379,69

Address
Bijlestaal 54a
1721 PW Broek Op Langedijk

SME
Yes
Region
West-Nederland > Noord-Holland > Alkmaar en omgeving
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network
Non-EU contribution
€ 52 448,44

HYDRAREDOX IBERIA, S.L.
Spain
Net EU contribution
€ 114 936,50
Address
Calle Gran Via Num 36 Planta 1 Puerta Iz
50005 Zaragoza

SME
Yes
Region
Noreste > Aragón > Zaragoza
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network
Non-EU contribution
€ 49 258,50