Objective

Six TSOs, eleven research partners, together with sixteen industry (manufacturers, solution providers) and market (producers, ESCo) players address, through a holistic approach, the identification and development of flexibilities required to enable the Energy Transition to high share of renewables. This approach captures synergies across needs and sources of flexibilities, such as multiple services from one source, or hybridizing sources, thus resulting in a cost-efficient power system. OSMOSE proposes four TSO-led demonstrations (RTE, REE, Terna and ELES) aiming at increasing the techno-economic potential of a wide range of flexibility solutions and covering several applications, i.e.: synchronisation of large power systems by multiservice hybrid storage; multiple services provided by the coordinated control of different storage and FACTS devices; multiple services provided by grid devices,
large demand-response and RES generation coordinated in a smart management system; cross-border sharing of flexibility sources through a near real-time cross-border energy market.

The demonstrations are coordinated with and supported by simulation-based studies which aim (i) to forecast the economically optimal mix of flexibility solutions in long-term energy scenarios (2030 and 2050) and (ii) to build recommendations for improvements of the existing market mechanisms and regulatory frameworks, thus enabling the reliable and sustainable development of flexibility assets by market players in coordination with regulated players.

Interoperability and improved TSO/DSO interactions are addressed so as to ease the scaling up and replication of the flexibility solutions. A database is built for the sharing of real-life techno-economic performances of electrochemical storage devices. Activities are planned to prepare a strategy for the exploitation and dissemination of the project’s results, with specific messages for each category of stakeholders of the electricity system.

Fields of science

natural sciences > chemical sciences > electrochemistry > electric batteries
engineering and technology > electrical engineering, electronic engineering, information engineering >
electronic engineering > control systems
engineering and technology > electrical engineering, electronic engineering, information engineering >
electrical engineering > power engineering > electric power distribution
natural sciences > computer and information sciences > databases
natural sciences > physical sciences > classical mechanics > fluid mechanics > fluid dynamics

Programme(s)

H2020-EU.3.3. - SOCIETAL CHALLENGES - Secure, clean and efficient energy

H2020-EU.3.3.4. - A single, smart European electricity grid

Topic(s)

LCE-04-2017 - Demonstration of system integration with smart transmission grid and storage technologies with increasing share of renewables

Call for proposal

H2020-LCE-2016-2017
See other projects for this call

Sub call
H2020-LCE-2017-SGS

Funding Scheme
IA - Innovation action

Coordinator

RTE RESEAU DE TRANSPORT D'ELECTRICITE
Net EU contribution
€ 3 723 588,75
Address
Immeuble Window - 7c Place Du Dome
92073 Paris La Defense Cedex
France
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
€ 1 595 823,75

Participants (52)

RED ELECTRICA DE ESPANA S.A.U.
Spain
Net EU contribution
EU contribution € 256,452.88

Address
Paseo Del Conde De Los Gaitanes 177
28109 Alcobendas - Madrid

Region
Comunidad de Madrid > Comunidad de Madrid > Madrid

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
€ 109,908.37

THIRD-PARTY
RED ELECTRICA Y DE TELECOMUNICACIONES INNOVACION Y TECNOLOGIA SA

Spain

Net EU contribution
€ 110,173.88

Address
Paseo Del Conde De Los Gaitanes 177
28109 Alcobendas

Region
Comunidad de Madrid > Comunidad de Madrid > Madrid

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
€ 47,217.37
TERNA - RETE ELETTRICA NAZIONALE SPA

Address
Viale Egidio Galbani 70
00156 Roma

Region
Centro (IT) > Lazio > Roma

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
€ 166 265,62

TERNA RETE ITALIA SPA

Address
Viale Egidio Galbani 70
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Centro (IT) > Lazio > Roma

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
REN - REDE ELECTRICA NACIONAL SA
Portugal
Net EU contribution
€ 283 500,00

Address
Avenida Estados Unidos Da America 55/12
1749 061 Lisboa

Region
Continente > Área Metropolitana de Lisboa > Área Metropolitana de Lisboa

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
€ 153 323,25

ELES DOO SISTEMSKI OPERATER PRENOSNEGA ELEKTROENERGETSKEGA OMREZJA
Slovenia
Net EU contribution
€ 479 101,88

Address
Hajdrihova Ulica 2
1000 Ljubljana

Region
Slovenija > Zahodna Slovenija > Osrednjeslovenska

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
ELIA SYSTEM OPERATOR
Belgium
Net EU contribution
€ 356 212,50

Address
Boulevard De L’empereur 20
1000 Bruxelles

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

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

THIRD-PARTY
ELIA ENGINEERING SA
Belgium
Net EU contribution
€ 109 375,00

Address
Boulevard De L’Empereur 20
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
€ 46 875,00

EDISON SPA
Italy
Net EU contribution
€ 204 640,63

Address
Foro Buonaparte 31
20121 Milano

Region
Nord-Ovest > Lombardia > Milano

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
€ 87 703,12

HOLDING SLOVENSKE ELEKTRARNE DOO
HOLDING SLOVENSKE EELEKTARNE DOO

Slovenia

Net EU contribution

€ 821 975,00

Address

Koprska Ulica 92
1000 Ljubljana

Region

Slovenija > Zahodna Slovenija > Osrednjeslovenska

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

€ 352 275,00

THIRD-PARTY

HSE INVEST DRUZBA ZA INZENIRING INIZGRADNJO ENERGETSKIH OBJEKTOV DOO

Slovenia

Net EU contribution

€ 256 375,00

Address

Obrezna Ulica 170
2000 Maribor

Region

Slovenija > Vzhodna Slovenija > Podravska

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

€ 109 875,00
SAFT

France

Net EU contribution

€ 1 496 333,52

Address

26 Quai Charles Pasqua
92300 Levallois Perret

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

€ 641 285,79

---

GREEN POWER TECHNOLOGIES SL

Spain

Net EU contribution

€ 589 104,25

Address

Avenida Camas Pg Pibo 28
41110 Bollullos De La Mitacion Sevilla

SME

Yes

Region

Andalucía > Sevilla

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)
ABB SPA
Italy
Net EU contribution
€ 387 994,25

Address
Via Vittor Pisani 16
20124 Milano

Region
Nord-Ovest > Lombardia > Milano

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

IBM ITALIA SPA
Italy
Net EU contribution
€ 432 468,75

Address
Circonvallazione Idroscalo Snc
20090 Segrate
Non-EU contribution
€ 185 343,75

EFACEC ENERGIA - MAQUINAS E EQUIPAMENTOS ELECTRICOS SA
Portugal
Net EU contribution
€ 263 790,63
Address
Lugar Da Arrotela
4465 587 Leca Do Balio
Region
Continente > Norte > Área Metropolitana do Porto
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
€ 113 053,12

ENEL GREEN POWER SPA
Italy
THIRD-PARTY
ENEL X ITALIA SRL

Italy

Net EU contribution
€ 248 281,25

Address
Viale Regina Margherita 125
00198 Roma

Region
Centro (IT) > Lazio > Roma

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
€ 106 406,25

THIRD-PARTY
ENEL X ITALIA SRL

Italy

Net EU contribution
€ 91 831,25

Address
Via Flaminia 970
00189 Roma

Region
Centro (IT) > Lazio > Roma

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
€ 39 356,25
ENEL PRODUZIONE SPA

Net EU contribution
€ 172 659.38

Address
Viale Regina Margherita 125
00198 Roma

Region
Centro (IT) > Lazio > Roma

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
€ 73 996.87

COMPENDIA SRL

Net EU contribution
€ 170 909.38

Address
Via Tommaso Grossi 31
22066 Mariano Comense Co

SME
Yes

Region
Nord-Ovest > Lombardia > Como

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

Links
COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

French Net EU contribution
€ 857 027,50

Address
Rue Leblanc 25
75015 Paris 15

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

Activity type
Research Organisations

ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE

Switzerland Net EU contribution
€ 621 000,00

Address
Batiment Ce 3316 Station 1
1015 Lausanne
Schweiz/Suisse/Svizzera > Région lémanique > Vaud

Higher or Secondary Education Establishments

UNIVERSITE PARIS DAUPHINE
France
Net EU contribution
€ 428,860.00

Address
Place Du Marechal De Lattre De Tass Igny
75775 Paris Cedex 16

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

Activity type
Higher or Secondary Education Establishments

UNIVERSITAET DUISBURG-ESSEN
Germany
Net EU contribution

16 of 33
€ 950 006,25

Address
Universitatsstrasse 2
45141 Essen

Region
Nordrhein-Westfalen > Düsseldorf > Essen, Kreisfreie Stadt

Activity type
Higher or Secondary Education Establishments

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

Non-EU contribution
€ 0,00

---

TECHNISCHE UNIVERSITAT BERLIN

Address
Strasse Des 17 Juni 135
10623 Berlin

Region
Berlin > Berlin > Berlin

Activity type
Higher or Secondary Education Establishments

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

Non-EU contribution
€ 0,00

17 of 33
RICERCA SUL SISTEMA ENERGETICO - RSE SPA

Italy

Net EU contribution

€ 942 593,75

Address
Via Raffaele Rubattino 54
20134 Milano

Region
Nord-Ovest > Lombardia > Milano

Activity type
Research Organisations

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

Non-EU contribution

€ 0,00

---

CONSORZIO INTERUNIVERSITARIO NAZIONALE PER ENERGIA E SISTEMI ELETTRICI

Italy

Net EU contribution

€ 177 375,00

Address
Via Marconi 10
03043 Cassino

Region
Centro (IT) > Lazio > Frosinone

Activity type
Research Organisations

Links
Contact the organisation  Website  Participation in EU R&I programmes
UNIVERSITA DI PISA

Net EU contribution
€ 131 250,00

Address
Lungarno Pacinotti 43/44
56126 Pisa

Region
Centro (IT) > Toscana > Pisa

Activity type
Higher or Secondary Education Establishments

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

UNIVERSITA DEGLI STUDI DEL SANNIO

Net EU contribution
€ 163 781,25

Address
Piazza Guerrazzi 1
82100 Benevento

Region
Sud > Campania > Benevento

Activity type
Higher or Secondary Education Establishments
THIRD-PARTY
POLITECNICO DI BARI
Italy
Net EU contribution
€ 35 000,00

Address
Via Amendola 126 B
70126 Bari

Region
Sud > Puglia > Bari

Activity type
Higher or Secondary Education Establishments

Non-EU contribution
€ 0,00

THIRD-PARTY
UNIVERSITA DEGLI STUDI DI GENOVA
Italy
Net EU contribution
€ 52 500,00

Address
Via Balbi 5
16126 Genova
Nord-Ovest > Liguria > Genova

Activity type
Higher or Secondary Education Establishments

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

Non-EU contribution
€ 0,00

THIRD-PARTY
UNIVERSITA DEGLI STUDI DI CAGLIARI
Italy
Net EU contribution
€ 131 250,00

Address
Via Universita 40
09124 Cagliari

Region
Isole > Sardegna > Cagliari

Activity type
Higher or Secondary Education Establishments

Links
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Non-EU contribution
€ 0,00

THIRD-PARTY
UNIVERSITA DEGLI STUDI DELLA CAMPANIA LUIGI VANVITELLI
Italy
Net EU contribution
€ 35 000,00
Address
Viale Abramo Lincoln 5
81100 Caserta

Region
Sud > Campania > Caserta

Activity type
Higher or Secondary Education Establishments

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

Non-EU contribution
€ 0,00

THIRD-PARTY
ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA

Italy

Net EU contribution
€ 78 750,00

Address
Via Zamboni 33
40126 Bologna

Region
Nord-Est > Emilia-Romagna > Bologna

Activity type
Higher or Secondary Education Establishments

Links
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Non-EU contribution
€ 0,00

THIRD-PARTY
POLITECNICO DI MILANO
Italy

Net EU contribution

€ 217 500,00

Address

Piazza Leonardo Da Vinci 32
20133 Milano 📍

Region

Nord-Ovest › Lombardia › Milano

Activity type

Higher or Secondary Education Establishments

Links

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

Non-EU contribution

€ 0,00

THIRD-PARTY 🌐

UNIVERSITA DEGLI STUDI DI NAPOLI FEDERICO II

Italy

Net EU contribution

€ 35 000,00

Address

Corso Umberto I, 40
80138 Napoli 📍

Region

Sud › Campania › Napoli

Activity type

Higher or Secondary Education Establishments

Links

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

Non-EU contribution

€ 0,00
THIRD-PARTY

POLITECNICO DI TORINO

Italy

Net EU contribution

€ 43 750,00

Address

Corso Duca Degli Abruzzi 24
10129 Torino

Region

Nord-Ovest > Piemonte > Torino

Activity type

Higher or Secondary Education Establishments

Links

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

Non-EU contribution

€ 0,00

---

THIRD-PARTY

UNIVERSITA DEGLI STUDI DI PADOVA

Italy

Net EU contribution

€ 35 000,00

Address

Via 8 Febbraio 2
35122 Padova

Region

Nord-Est > Veneto > Padova

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation
Website
Participation in EU R&I programmes
H2020 collaboration network
UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA

Spain

Net EU contribution
€ 276 445,00

Address
C/ Juan De Quesada 30
35001 Las Palmas De Gran Canaria

Region
Canarias > Canarias > Gran Canaria

Activity type
Higher or Secondary Education Establishments

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

Non-EU contribution
€ 0,00

FUNDACION CENER

Spain

Net EU contribution
€ 904 218,75

Address
Avenida Ciudad De La Innovacion 7
31621 Sarriguren

Region
Noreste > Comunidad Foral de Navarra > Navarra
Activity type
Research Organisations

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

Non-EU contribution
€ 0,00

---

IT4POWER GMBH

Switzerland

Net EU contribution
€ 150 675,00

Address
Chollerstrasse 3
6300 Zug

SME Yes

Region
Schweiz/Suisse/Svizzera > Zentralschweiz > Zug

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
€ 64 575,00

---

ELEKTROENERGETSKI KOORDINACIONI CENTAR DOO

Serbia

Net EU contribution
€ 964 748,75

Address
Vojvode Stepe 412
11040 Beograd

Region
Србија - север > Беовградски регион > Београдска област

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
€ 413 463,75

---

CENTRO DE INVESTIGACAO EM ENERGIA REN - STATE GRID SA
Portugal

Net EU contribution
€ 466 624,38

Address
Rua Cidade De Goa, 4-b
2685 038 Sacavém

Region
Continente > Área Metropolitana de Lisboa > Área Metropolitana de Lisboa

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
€ 199 981,87
ENGINEERING - INGEGNERIA INFORMATICA SPA
Italy
Net EU contribution
€ 581 831,25

Address
Piazzale Dell’agricoltura 24
00144 Roma

Region
Centro (IT) > Lazio > Roma

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
€ 249 356,25

---

EDISON RINNOVABILI SPA
Italy
Net EU contribution
€ 211 421,88

Address
Foro Buonaparte 31
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Region
Nord-Ovest > Lombardia > Milano

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

Links
Contact the organisation
Participation in EU R&I programmes
INGETEAM POWER TECHNOLOGY SA
Spain
Net EU contribution
€ 190 575,00

Address
Parque Tecnologico De Bizkaia Edificio 106
48170 Zamudio

Region
Noreste > País Vasco > Bizkaia

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
€ 81 675,00

THIRD-PARTY
INGETEAM R&D EUROPE, S.L.
Spain
Net EU contribution
€ 109 375,00

Address
Parque Tecnologico Edificio 106 Zamudio
48170 Bizkaia

Region
Noreste > País Vasco > Bizkaia
HYDRO DOLOMITI ENERGIA SRL

Italy

Net EU contribution
€ 90 934,38

Address
Viale Trieste 43
38122 Trento

Region
Nord-Est > Provincia Autonoma di Trento > Trento

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
€ 38 971,87

THIRD-PARTY

DOLOMITI ENERGIA TRADING SPA

Italy

Net EU contribution
€ 28 875,00

Address
Via Fersina 23
**SCHNEIDER ELECTRIC FRANCE SAS**

*France*

Net EU contribution

€ 104 103,13

Address

*Rue Joseph Monier 35*

92500 Rueil Malmaison

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

€ 44 615,62
THIRD-PARTY

SCHNEIDER ELECTRIC ESPANA SA

Spain

Net EU contribution
€ 4,921,88

Address
Bac De Roda 52 Edif A
08019 Barcelona

Region
Este > Cataluña > Barcelona

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
€ 2,109,37

----

FONDAZIONE BRUNO KESSLER

Italy

Net EU contribution
€ 126,781,25

Address
Via Santa Croce 77
38122 Trento

Region
Nord-Est > Provincia Autonoma di Trento > Trento

Activity type
Research Organisations

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

€ 0.00

EC signature date: 22 November 2017
Last update: 25 July 2022
Record number: 213922

Permalink: https://cordis.europa.eu/project/id/773406

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