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
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
HORIZON collaboration network

Non-EU contribution
€ 1 595 823,75

Participants (52)

RED ELECTRICA DE ESPANA S.A.U.

Spain
Net 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 HORIZON 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 HORIZON collaboration network

Non-EU contribution
€ 47 217,37

TERNA - RETE ELETTRICA NAZIONALE SPA
Italy

Net EU contribution
€ 387 953,13

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
HORIZON collaboration network

Non-EU contribution
€ 166 265,62

THIRD-PARTY

TERNA RETE ITALIA SPA

Net EU contribution
€ 357 754,25

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
HORIZON collaboration network

Non-EU contribution
€ 153 323,25
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
HORIZON collaboration network

Non-EU contribution

€ 121 500,00

---

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)

Links

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

Non-EU contribution

€ 205 329,37
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. Brussel-Hoofdstad

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

Non-EU contribution
€ 152 662,50

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
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)

Non-EU contribution

€ 87 703,12

HOLDING SLOVENSKE ELEKTRARNE 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)
THIRD-PARTY

HSE INVEST DRUZBA ZA INZENIRING INIZGRADNJO ENERGETSKIH OBJEKTÓV 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
HORIZON 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
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
Andalucia > Sevilla
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
Non-EU contribution
€ 252,473,25

ABB SPA
Italy
Net EU contribution
€ 387,994,25
Address
Vi Vi Pi i 6
10 of 31
Via Vittor Pisani 16
20124 Milano

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
HORIZON collaboration network

Non-EU contribution
€ 166,283.25

---

IBM ITALIA SPA

Italy

Net EU contribution
€ 432,468.75

Address
Circonvallazione Idroscalo Snc
20090 Segrate

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
HORIZON collaboration network

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
HORIZON collaboration network

Non-EU contribution
€ 113 053,12

---

ENEL GREEN POWER SPA

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
HORIZON collaboration network

Non-EU contribution
€ 106 406,25

---

THIRD-PARTY
ENEL PRODUZIONE SPA

Address
Viale Regina Margherita 125
00198 Roma

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

Non-EU contribution
€ 113 053,12
**ET U CO T BUTO**

**€ 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 [ ]  
HORIZON collaboration network [ ]

**Non-EU contribution**
€ 73 996,87

---

**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 [ ]  
HORIZON collaboration network [ ]

**Non-EU contribution**
€ 39 356,25

---

**COMPENDIA SRL**

**Italy**

**13 of 31**
ITALY

Net EU contribution
€ 170 909,38

Address
Via Tommaso Grossi 31
22066 Mariano Comense Co

SME
Yes

Region
Nord-Ouest > Lombardia > Como

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

Non-EU contribution
€ 73 246,87

COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

France

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

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

Non-EU contribution
€ 0,00
ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE
Switzerland
Net EU contribution
€ 621 000,00
Address
Batiment Ce 3316 Station 1
1015 Lausanne
Region
Schweiz/Suisse/Svizzera > Région lémanique > Vaud
Activity type
Higher or Secondary Education Establishments
Links
Contact the organisation  Website  Participation in EU R&I programmes  HORIZON collaboration network
Non-EU contribution
€ 0,00

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
Links
Contact the organisation  Website  Participation in EU R&I programmes  HORIZON collaboration network
Non-EU contribution
UNIVERSITAET DUISBURG-ESSEN
Germany
Net EU contribution
€ 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 HORIZON collaboration network
Non-EU contribution
€ 0,00

TECHNISCHE UNIVERSITAT BERLIN
Germany
Net EU contribution
€ 860 218,75
Address
Strasse Des 17 Juni 135
10623 Berlin
Region
Berlin > Berlin
Activity type
Higher or Secondary Education Establishments
Links
Contact the organisation Website Participation in EU R&I programmes HORIZON collaboration network
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
HORIZON 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
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

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
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

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

Non-EU contribution

€ 0,00

---

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
Participation in EU R&I programmes
HORIZON collaboration network

Non-EU contribution

€ 0,00
Higher or Secondary Education Establishments

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

Non-EU contribution
€ 0,00

THIRD-PARTY  
UNIVERSITA DI PISA
 italiano
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  HORIZON collaboration network

Non-EU contribution
€ 0,00

THIRD-PARTY  
POLITECNICO DI TORINO
 italiano
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

UNIVERSITA DEGLI STUDI DEL SANNIO

Italy

Net EU contribution
€ 163,781.25

Address
Piazza Guerrazzi 1
82100 Benevento

Region
Sud > Campania > Benevento

Activity type
Higher or Secondary Education Establishments

POLITECNICO DI MILANO

Italy

Net EU contribution
€ 217,500.00

Address
Piazza Leonardo Da Vinci 32
20133 Milano
### ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA

**Country**: Italy  
**Address**: Via Zamboni 33  
**City**: 40126 Bologna  
**Region**: Nord-Est > Emilia-Romagna > Bologna

**Activity type**: Higher or Secondary Education Establishments

**Net EU contribution**: € 78,750.00

**Non-EU contribution**: € 0.00

### UNIVERSITA DEGLI STUDI DELLA CAMPANIA LUIGI VANVITELLI

**Country**: Italy  
**Address**: Viale Abramo Lincoln 5  
**City**: 81100 Caserta

**Region**: Sud > Campania > Caserta

**Activity type**: Higher or Secondary Education Establishments

**Net EU contribution**: € 35,000.00

**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

Region

Nord-Ovest > Liguria > Genova

Activity type

Higher or Secondary Education Establishments

Non-EU contribution

€ 0,00

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 HORIZON 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 HORIZON collaboration network

Non-EU contribution
€ 0,00

IT4POWER GMBH

Switzerland
Net EU contribution
€ 150 675,00

Address
Chollerstrasse 3
6300 Zug
SME Zug

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
HORIZON 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 > Београдски 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
HORIZON collaboration network

Non-EU contribution

€ 413 463,75

---

CENTRO DE INVESTIGACAO EM ENERGIA REN - STATE GRID SA

Portugal

Net EU contribution

---

25 of 31
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
HORIZON collaboration network

Non-EU contribution

€ 249 356,25

EDISON RINNOVABILI SPA
EDISON RINNOVABILI SPA
Italy
Net EU contribution
€ 211 421,88
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
Participation in EU R&I programmes
HORIZON collaboration network
Non-EU contribution
€ 90 609,37

INGETEAM POWER TECHNOLOGY SA
Spain
Net EU contribution
€ 190 575,00
Address
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48170 Zamudio
Region
Noreste > Pais 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
HORIZON collaboration network
Non-EU contribution
€ 81 675,00
INGETEAM R&D EUROPE, S.L.

Spain

Net EU contribution
€ 109,375,00

Address
Parque Tecnologico Edificio 106 Zamudio
48170 Bizkaia

Region
Noreste > Pais Vasco > Bizkaia

Activity type
Research Organisations

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

Non-EU contribution
€ 46,875,00

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
HORIZON 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
38123 Trento Tn

SME

Yes

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
HORIZON collaboration network

Non-EU contribution

€ 12 375,00

---

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
HORIZON collaboration network

29 of 31
SCHNEIDER ELECTRIC ESPANA SA
Spain

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
HORIZON collaboration network

FONDAZIONE BRUNO KESSLER
Italy

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
Participation in EU R&I programmes

HORIZON collaboration network

Non-EU contribution

€ 0,00

EC signature date: 22 November 2017
Last update: 27 October 2022
Record number: 213922

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

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