SDN - microgrid reSilient Electrical eNergy SystEm

Fact Sheet

Project Information

SDN-microSENSE
Grant agreement ID: 833955

Funded under
H2020-EU.3.7.4.
H2020-EU.3.7.2.

Project website

Start date
1 May 2019

End date
30 April 2022

Overall budget
€ 10 100 963,21

EU contribution
€ 7 992 462,50

Coordinated by
AYESA ADVANCED TECHNOLOGIES SA
Spain

Project description

Security tools for smart energy ecosystems

The smart energy ecosystem is the next step of the conventional electrical grid, offering increased reliability, augmented service quality and efficient exploitation of existing infrastructures. However, it generates significant security and privacy problems as it contains a combination of heterogeneous, coexisting smart and legacy technologies. The EU-funded SDN-microSENSE project will provide secure, privacy-enabled and resistant-to-cyberattacks tools to ensure electrical power and energy system (EPES) operation and the integrity and confidentiality of communications. The project will adopt an SDN-based technology and implement risk assessment processes to identify the risk level of each EPES component, self-healing abilities to...
isolate the critical parts of the network, large-scale detection tools, prevention mechanisms and a privacy protection structure.

**Objective**

The smart energy ecosystem constitutes the next technological leap of the conventional electrical grid, providing multiple benefits such as increased reliability, better service quality and efficient utilization of the existing infrastructures. However, despite the fact that it brings beneficial environmental, economic and social changes, it also generates significant security and privacy challenges, as it includes a combination of heterogeneous, co-existing smart and legacy technologies. Based on this reality, the SDN-microSENSE project intends to provide a set of secure, privacy-enabled and resilient to cyberattacks tools, thus ensuring the normal operation of EPES as well as the integrity and the confidentiality of communications. In particular, adopting an SDN-based technology, SDN-microSENSE will develop a three-layer security architecture, by deploying and implementing risk assessment processes, self-healing capabilities, large-scale distributed detection and prevention mechanisms, as well as an overlay privacy protection framework. Firstly, the risk assessment framework will identify the risk level of each component of EPES, identifying the possible threats and vulnerabilities. Accordingly, in the context of self-healing, islanding schemes and energy management processes will be deployed, isolating the critical parts of the network in the case of emergency. Furthermore, collaborative intrusion detection tools will be capable of detecting and preventing possible threats and anomalies timely. Finally, the overlay privacy protection framework will focus on the privacy issues, including homomorphic encryption and anonymity processes.

**Fields of science**

> > >
>  > > >

**Programme(s)**

**Topic(s)**

**Call for proposal**

H2020-SU-DS-2018
Funding Scheme
IA - Innovation action

Coordinator

AYESA ADVANCED TECHNOLOGIES SA
Address
Calle Gonzalo Jimenez De Quesada 2 Planta 11 Torre Sevilla Torre Pelli
41092 Sevilla
Spain
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
EU contribution
€ 484 625
Contact the organisation

Participants (32)

PANEPISTIMIO DYTIKIS MAKEDONIAS
Address
Parko Agiou Dimitriou 1
50100 Kozani
Greece
Activity type
Higher or Secondary Education Establishments
EU contribution
€ 372 500
Website
Contact the organisation

ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS
Address
Charilaou Thermi Road 6 Km
57001 Thermi Thessaloniki
Greece
Activity type
Research Organisations
EU contribution
€ 462 500
Website
Contact the organisation

PREDUZECE ZA TELEKOMUNIKACIJSKE USLUGE REALAIZ DOO BEOGRAD (SAVSKI VENAC)
Address
Serbia
EU contribution
Website
Contact the organisation
**EU contribution**

€ 252 875

Address

Mihajla Bogicevica 7
11000 Beograd

Activity type

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

Contact the organisation

---

**ATOS SPAIN SA**

Spain

EU contribution

€ 233 380,48

Address

Calle De Albarracin 25
28037 Madrid

Activity type

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

Website

Contact the organisation

---

**SCHNEIDER ELECTRIC FRANCE SAS**

France

EU contribution

€ 25 357,28

Address

Rue Joseph Monier 35
92500 Rueil Malmaison

Activity type

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

Contact the organisation

---

**PUBLIC POWER CORPORATION S.A.**

Greece

EU contribution

€ 181 125

Address

Chalkokondyl Street 30
104 32 Athina

Activity type

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

Website

Contact the organisation
FUNDACION TECNALIA RESEARCH & INNOVATION
Spain
EU contribution
€ 492,812.50
Address
Parque Cientifico Y Tecnologico De Gipuzkoa
Paseo Mikeletegi 2
20009 Donostia/san Sebastian (Gipuzkoa)
Website
Contact the organisation

DIMOS AVDIRON
Greece
EU contribution
€ 82,250
Address
Genisea
67064 Genisea
Contact the organisation

INNOVATIVE ENERGY AND INFORMATION TECHNOLOGIES LTD
Bulgaria
EU contribution
€ 505,750
Address
Ul Magnurska School N11 Hay Tek Park By Office 316
1784 Sofia
Contact the organisation

ELEKTROENERGIIEN SISTEMEN OPERATOR EAD
Bulgaria
EU contribution
€ 103,250
<table>
<thead>
<tr>
<th>Organisation</th>
<th>EU contribution</th>
<th>Address</th>
<th>Activity type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEZ DISTRIBUTION BULGARIA AD</td>
<td>€ 96 250</td>
<td>Tsarigradsko Shouse Blv 159 1784 Sofia</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>UBITECH LIMITED</td>
<td>€ 285 906,25</td>
<td>26 Nikou &amp; Despinas Pattchi 3071 Limassol</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>CYBERLENS LTD</td>
<td>€ 183 750</td>
<td>10 12 Mulberry Green Old Harlow CM17 0ET Essex</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>Company Name</td>
<td>Country</td>
<td>EU Contribution</td>
<td>Address</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------</td>
<td>-----------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>SIDROCO HOLDINGS LTD</td>
<td>Cyprus</td>
<td>€ 262,937.50</td>
<td>Petraiki Giallourou 22, 1077 Nicosia</td>
</tr>
<tr>
<td>0 INFINITY LIMITED</td>
<td>United Kingdom</td>
<td>€ 260,636.25</td>
<td>2A Heigham Road Imperial Office, E6 2JG London</td>
</tr>
<tr>
<td>EIGHT BELLS LTD</td>
<td>Cyprus</td>
<td>€ 256,375</td>
<td>Agias Paraskevis 23 Strovolos, 2002 Nicosia</td>
</tr>
<tr>
<td>INCITES CONSULTING SA</td>
<td>Luxembourg</td>
<td>€ 254,625</td>
<td>130 Route D’arlon, 8008 Strassen</td>
</tr>
</tbody>
</table>
ENERGYNAUTICS GMBH
Germany
EU contribution
€ 134 925
Address
Robert Bosch Strasse 7
64293 Darmstadt
Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)

NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET NTNU
Norway
EU contribution
€ 443 000
Address
Hogskoleringen 1
7491 Trondheim
Activity type
Higher or Secondary Education Establishments
Website
Contact the organisation

SIAXAMPANIS E.E.
Greece
EU contribution
€ 123 900
Address
Kalis Elpidos 26
554 37 Thessaloniki
Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)

GOTTFRIED WILHELM LEIBNIZ UNIVERSITAET HANNOVER
Germany
EU contribution
€ 225 307,50
RAVNA HYDRO LTD
Bulgaria
EU contribution
€ 99 750
Address
Ul. General Karzov 21
4300 Karlovo
Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)
Website
Contact the organisation

FUNDACIO INSTITUT DE RECERCA DE L'ENERGIA DE CATALUNYA
Spain
EU contribution
€ 367 187,50
Address
C/ Jardins De Les Dones De Negre 1
08930 Sant Adria De Besos
Activity type
Research Organisations
Website
Contact the organisation

ESTABANELL Y PAHISA ENERGIA SA
Spain
EU contribution
€ 183 697,50
Address
Calle Rec 26-28
08400 Granollers
Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)
Website
Contact the organisation

CHECKWATT AB
Sweden
INDEPENDENT POWER TRANSMISSION OPERATOR SA

Greece

EU contribution
€ 177 625

Address
Dyrrachiou Str. & Kifisou 89
10443 Athens

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

Website
Contact the organisation

SINTEF ENERGI AS

Norway

EU contribution
€ 453 320

Address
Sem Saelandsveg 11
7465 Trondheim

Activity type
Research Organisations

Website
Contact the organisation

DIL DIEL

Bulgaria

EU contribution
€ 103 250

Address
8, Boris Hristov Str., Fl. 2, Ap.5
1111 Sofia

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

Contact the organisation
OPTIMIZACION ORIENTADA A LA SOSTENIBILIDAD SL
Spain
EU contribution
€ 122,150
Address
Calle Early Ovington 4 Nave 8
41300 La Rinconada (Sevilla)
Website
Contact the organisation

GEIE ERCIM
France
EU contribution
€ 137,500
Address
Route Des Lucioles 2004
Sophia Antipolis
06410 Biot
Website
Contact the organisation

SCHNEIDER ELECTRIC INDUSTRIES SAS
France
EU contribution
€ 364,455,22
Address
Rue Joseph Monier 35
92500 Rueil Malmaison
Website
Contact the organisation

ATOS IT SOLUTIONS AND SERVICES IBERIA SL
Spain
EU contribution
€ 86,432,02
Address
Ronda De Europa 5
28760 Tres Cantos Madrid
Website
Contact the organisation
Last update: 24 April 2021
Record number: 222641

Permalink: https://cordis.europa.eu/project/id/833955

© European Union, 2021