## Project Information

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<th>SDN-microSENSE</th>
<th>Grant agreement ID: 833955</th>
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<td>Coordinated by</td>
<td>AYESA ADVANCED TECHNOLOGIES SA</td>
<td>Spain</td>
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## 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

### Coordinator

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<th>Organisation</th>
<th>Address</th>
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<td>AYESA ADVANCED TECHNOLOGIES SA</td>
<td>Calle Gonzalo Jimenez De Quesada 2 Planta 11 Torre Sevilla Torre Pelli 41092 Sevilla Spain</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
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### Participants (32)

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<td>ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS</td>
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<td>€ 462 500</td>
<td>Charilaou Thermi Road 6 Km 57001 Thermi Thessaloniki</td>
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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
Chalkokondyi Street 30
104 32 Athina

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

Website
Contact the organisation
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<td>INNOVATIVE ENERGY AND INFORMATION TECHNOLOGIES LTD</td>
<td>Bulgaria</td>
<td>€ 505 750</td>
<td>Ul Magnurska School N11 Hay Tek Park By Office 316 1784 Sofia</td>
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<td>ELEKTROENERGIEN SISTEMEN OPERATOR EAD</td>
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CEZ DISTRIBUTION BULGARIA AD
Bulgaria
EU contribution
€ 96 250
Address
Tsarigradsko Shouse Blv 159
1784 Sofia
Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)
Contact the organisation

UBITECH LIMITED
Cyprus
EU contribution
€ 285 906,25
Address
26 Nikou & Despinas Pattchi
3071 Limassol
Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)
Contact the organisation

CYBERLENS LTD
United Kingdom
EU contribution
€ 183 750
Address
10 12 Mulberry Green Old Harlow
CM17 0ET Essex
Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)
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SIDROCO HOLDINGS LIMITED
Cyprus
EU contribution
€ 262 937,50

Address
Petraki Giallourou 22
1077 Nicosia

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

Contact the organisation

0 INFINITY LIMITED
United Kingdom

EU contribution
€ 260 636,25

Address
2A Heigham Road Imperial Office
E6 2JG London

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

Contact the organisation

EIGHT BELLS LTD
Cyprus

EU contribution
€ 256 375

Address
Agias Paraskevis 23 Strovolos
2002 Nicosia

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

Contact the organisation

INCITES CONSULTING SA
Luxembourg

EU contribution
€ 254 625

Address
130 Route D’arlon
8008 Strassen

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

Website

Contact the organisation

Activity type

Higher or Secondary Education Establishments

**SIAXAMPANIS E.E.**

Greece

EU contribution

€ 123 900

Address

Kalis Elpidos 26
554 37 Thessaloniki

Contact the organisation

Activity type

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

**GOTTFRIED WILHELM LEIBNIZ UNIVERSITAET HANNOVER**

Germany

EU contribution

€ 225 307,50

Address

Welfengarten 1

Activity type

Higher or Secondary
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)
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)
Contact the organisation

CHECKWATT AB
Sweden
EU contribution
€ 173 057,50
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)
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

IDENER TECHNOLOGIES SL
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Last update: 30 December 2021
Record number: 222641

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

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