nexT gEneRation sMart INterconnectEd IoT

Fact Sheet

Project Information

TERMINET
Grant agreement ID: 957406

Funded under
INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Information and Communication Technologies (ICT)

DOI
10.3030/957406

Total cost
€ 7 998 285

EU contribution
€ 7 998 285

Start date
1 November 2020

End date
31 October 2023

Coordinated by
PANEPISTIMIO DYTIKIS
MAKEDONIAS
Greece

Project description

Making it simple to connect devices

Tens of billions of devices are connected to the Internet of Things (IoT), and the number of connections is growing every second. Information is being constantly sent and received from one smart device to another. Based on cutting-edge technologies such as software-defined networking (SDN), multiple-access edge computing, and virtualisation for next-generation IoT, the EU-funded TERMINET project will develop a novel next-generation reference architecture. Its main aim is to simplify the connection of a vast number of different devices through a flexible SDN-enabled middleware layer. To improve supply chain processes, the project will design an IoT-
driven decentralised and distributed blockchain framework within manufacturing. TERMINET’s approach will be tested in real-life situations such as energy, smart buildings, smart farming, healthcare and manufacturing.

**Objective**

The vision of TERMINET is to provide a novel next generation reference architecture based on cutting-edge technologies such as SDN, multiple-access edge computing, and virtualisation for next generation IoT, while introducing new, intelligent IoT devices for low-latency, market-oriented use cases. TERMINET’s primary intention is to bring (more efficient and accurate) decisions to the point of interest to better serve the final user targeting at applying distributed AI at the edge by using accelerated hardware and sophisticated software to support local AI model training using federated learning. Our solution aspires to reduce the complexity of the connecting vast number of heterogeneous devices through a flexible SDN-enabled middleware layer. It also aims to design, develop, and integrate novel, intelligent IoT devices such as smart glasses, haptic devices, energy harvesting modules, smart animal monitoring collars, AR/VR environments, and autonomous drones, to support new market-oriented use cases. Great expectation of the proposal is to foster AR/VR contextual computing by demonstrating applicable results in realistic use cases by using cutting-edge IoT-enabled AR/VR applications. By designing and implementing an IoT-driven decentralised and distributed blockchain framework within manufacturing, TERMINET aims to support maintenance and supply chain optimisation. Our solution intends to apply a vertical security by design methodology by meeting the privacy-preserving and trust requirements of the NG-IoT architecture. To foster standardisation activities for the IoT ecosystem, TERMINET will provide novel disruptive business models. For the evaluation of its wide applicability, TERMINET will validate and demonstrate six proof-of-concept, realistic use cases in compelling IoT domains such as the energy, smart buildings, smart farming, healthcare, and manufacturing.

**Fields of science**

- natural sciences > computer and information sciences > internet > internet of things
- social sciences > economics and business > business and management > business models
- engineering and technology > materials engineering
- engineering and technology > electrical engineering, electronic engineering, information engineering
- electronic engineering > robotics > autonomous robots > drones
- natural sciences > biological sciences > ecology > ecosystems

**Programme(s)**
Topic(s)

ICT-56-2020 - Next Generation Internet of Things

Call for proposal

H2020-ICT-2018-20

See other projects for this call

Sub call

H2020-ICT-2020-1

Funding Scheme

RIA - Research and Innovation action

Coordinator

PANEPISTIMIO DYTIKIS MAKEDONIAS

Net EU contribution

€ 881 250,00

Address

Parko Agiou Dimitriou 1
501 00 Kozani
Greece

Region

Γρεβενά > Δυτική Μακεδονία > Βόρεια Ελλάδα

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website Participation in EU R&I programmes HORIZON collaboration network
Participants (26)

ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS

Greece

Net EU contribution
€ 401 562,50

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
HORIZON collaboration network

Non-EU contribution
€ 0,00

KAROLINSKA INSTITUTET

Sweden

Net EU contribution
€ 199 687,50

Address
Nobels Vag 5
17177 Stockholm

Region
Östra Sverige > Stockholm > Stockholms län

Activity type
Higher or Secondary Education Establishments
DIMOSIA EPICHEIRISI ILEKTRISMOU ANONYMI ETAIREIA

Greece
Net EU contribution
€ 171 875,00
Address
Chalkokondyli Street 30
104 32 Athina
Region
Κεντρικός Τομέας Αθηνών > Αττική > Αττική
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

ARISTOTELIO PANEPISTIMIO THESSALONIKIS

Greece
Net EU contribution
€ 239 375,00
Address
Kedea Building, Tritis Septemvriou, Aristotle Univ Campus
54636 Thessaloniki
Region
Θεσσαλονίκη > Κεντρική Μακεδονία > Βόρεια Ελλάδα
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

---

SCHNEIDER ELECTRIC ESPANA SA
Spain
Net EU contribution
€ 196 875,00

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

Non-EU contribution
€ 0,00

---

FUTURE INTELLIGENCE LTD
United Kingdom
Net EU contribution
€ 336 562,50

Address
Regent Street 207 3rd Floor
W1B 3HH London

SME
Yes
London > Inner London — West > Westminster

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
€ 0,00

---

ERICSSON TELECOMUNICAZIONI SPA

Italy
Net EU contribution
€ 410 625,00

Address
Via Anagnina 203
00118 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
€ 0,00

---

INNOVATION SPRINT

Belgium
Net EU contribution
€ 216 875,00

Address
Rue Cloe Chapelle aux champs 30 Bte 1 3 30
Rue Clos Chapelle-aux-Champs 30 Bte 1.3.30
1200 Bruxelles

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
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
€ 0,00

---

AMERICAN FARM SCHOOL POST SECONDARY EDUCATIONAL AND TRAINING ASSOCIATION

Greece

Net EU contribution
€ 167 937,50

Address
Marinou Antypa 54 23
57001 Thessaloniki

Region
Θεσσαλονίκη > Κεντρική Μακεδονία > Βόρεια Ελλάδα

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
NETCOMPANY-INTRASOFT SA

Luxembourg

Net EU contribution
€ 407 500,00

Address
Rue Nicolas Bove 2b
1253 Luxembourg

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 HORIZON collaboration network

Non-EU contribution
€ 0,00

WELLNESS TELECOM SL

Spain

Net EU contribution
€ 469 375,00

Address
Calle Gregor J. Mendel 6 Planta 1 Edificio Da Vinc
41092 Sevilla

Region
Andalucía > Sevilla

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
€ 0,00
SIDROCO HOLDINGS LIMITED
- Cyprus
Net EU contribution
€ 277 500,00
Address
Petraki Giallourou 22
1077 Nicosia
SME
Yes
Region
Κύπρος
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
€ 0,00

GIOUMPITEK MELETI SCHE DIASMOS YLOPOISIS KAI POLISI ERGON
PLIROFORIKIS ETAIREIA PERIORISMENIS EFTHYNIS
- Greece
Net EU contribution
€ 418 125,00
Address
Mithridatou 36-38
11632 Athina
SME
Yes
Region
Κεντρικός Τομέας Αθηνών > Αττική > Αττική
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
Links
INCITES CONSULTING SA
Luxembourg
Net EU contribution
€ 230 000,00
Address
130 Route D’arlon
8008 Strassen
SME
Yes
Region
Luxembourg > Luxembourg > Luxembourg
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
€ 0,00

EIGHT BELL LTD
Cyprus
Net EU contribution
€ 261 875,00
Address
Agias Paraskevis 23 Strovolos
2002 Nicosia
SME
Yes
MAKEDONIKI VIOMIHANIA GALAKTOS ANONIMOS ETERIA (MEVGAL SA)

Greece

Net EU contribution
€ 103 125,00

Address
Koyfalia
57100 Koyfalia, Thessaloniki

Region
Θεσσαλονίκη > Κεντρική Μακεδονία > Βόρεια Ελλάδα

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
€ 0,00

ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA

Italy

Net EU contribution
€ 252 500,00

Address
Via Zamboni 33
40126 Bologna

Region
Nord-Est > Emilia-Romagna > Bologna

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

LOGOS RICERCA E INNOVAZIONE

Italy
Net EU contribution
€ 256 875,00

Address
Via Palazzo Dei Diavoli 36/c
50142 Firenze

Region
Centro (IT) > Toscana > Firenze

Activity type
Research Organisations

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

Non-EU contribution
€ 0,00

FUNDACION TECNALIA RESEARCH & INNOVATION

Spain
Net EU contribution
€ 287 750,00

Address
Parque Científico Y Tecnológico De Bizkaia Astondo Bidea Edificio 700
48160 Derio (Bizkaia)

Region

Noreste > País Vasco > Bizkaia

Activity type
Research Organisations

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

Non-EU contribution
€ 0,00

GEIE ERCIM

France

Net EU contribution
€ 250 000,00

Address
Route Des Lucioles 2004 Sophia Antipolis
06410 Biot

SME
Yes

Region
Provence-Alpes-Côte d’Azur > Provence-Alpes-Côte d’Azur > Alpes-Maritimes

Activity type
Other

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

Non-EU contribution
€ 0,00

NEC LABORATORIES EUROPE GMBH

Germany
Germany

Net EU contribution
€ 445 472,50

Address
Kurfürsten-anlage 36
69115 Heidelberg

Region
Baden-Württemberg > Karlsruhe > Heidelberg, Stadtkreis

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
€ 0,00

---

MARTEL GMBH
Switzerland

Net EU contribution
€ 409 187,50

Address
Uberlandstrasse 111
8600 Dubendorf

SME
Yes

Region
Schweiz/Suisse/Svizzera > Zürich > Zürich

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
€ 0,00
OPTINVENT
France
Net EU contribution
€ 245,625.00
Address
14e Rue Du Patis Tatelin Metropolis II
35700 Rennes
SME
Yes
Region
Bretagne > Bretagne > Ille-et-Vilaine
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
€ 0.00

FUNDACIO PRIVADA I2CAT, INTERNET I INNOVACIO DIGITAL A CATALUNYA
Spain
Net EU contribution
€ 263,250.00
Address
Calle Gran Capita 2-4, Edifici Nexus I
08034 Barcelona
Region
Este > Cataluña > Barcelona
Activity type
Research Organisations
Links
Contact the organisation Website Participation in EU R&I programmes HORIZON collaboration network
FONDAZIONE POLICLINICO UNIVERSITARIO AGOSTINO GEMELLI IRCCS

Italy
Net EU contribution
€ 103 125,00
Address
Largo Francesco Vito 1
00168 Roma
Region
Centro (IT) > Lazio > Roma
Activity type
Research Organisations
Links
Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

ALTERUNA AB

Sweden
Net EU contribution
€ 94 375,00
Address
Halsningegatan 45
11331 Stockholm
SME
Yes
Region
Östra Sverige > Stockholm > Stockholms län
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Non-EU contribution
€ 0,00