Truly Sustainable Printed Electronics-based IoT Combining Optical and Radio Wireless Technologies

Fact Sheet

Project Information

SUPERIOT
Grant agreement ID: 101096021

DOI
10.3030/101096021

EC signature date
21 November 2022

Funded under
Digital, Industry and Space

Total cost
€ 4 848 952,00

EU contribution
€ 4 757 739,50

Coordinated by
OULUN YLIOPISTO
Finland

Start date
1 January 2023

End date
31 December 2025

Project description

A truly sustainable and highly flexible IoT system

The sustainability of Internet of Things (IoT) technologies is essential and must be considered at the design and implementation phase. With this in mind, the EU-funded SUPERIOT project will develop a truly sustainable and highly flexible IoT system based on optical and radio communication and the exploitation of printed electronics technology to implement sustainable IoT nodes. The dual-mode optical-radio approach provides unique characteristics to the IoT system reconfigured to use optical, radio or both connectivity approaches. This hybrid system will combine the advantages of both wireless communication methods. The energy-autonomous
nodes will harvest energy from both sources and have essential IoT functionalities such as sensing, actuating and computational capabilities. The project will also identify, develop and demonstrate applications for the proposed concept.

**Fields of science**

natural sciences > computer and information sciences > internet > internet of things

engineering and technology, > electrical engineering, electronic engineering, information engineering > information engineering > telecommunications > radio technology

**Keywords**

Sustainable IoT, printed electronics, optical communications, radio communications

**Programme(s)**

HORIZON.2.4 - Digital, Industry and Space

**Topic(s)**

HORIZON-JU-SNS-2022-STREAM-B-01-03 - Communication Infrastructure Technologies and Devices

**Call for proposal**

HORIZON-JU-SNS-2022

See other projects for this call

**Funding Scheme**

HORIZON-JU-RIA - HORIZON JU Research and Innovation Actions

**Coordinator**
OULUN YLIOPISTO
Net EU contribution
€ 883 625,00
Address
Pentti kaiteran katu 1
90014 Oulu
Finland
Region
Manner-Suomi > Pohjois- ja Itä-Suomi > Pohjois-Pohjanmaa
Activity type
Higher or Secondary Education Establishments
Links
Contact the organisation  Website  Participation in EU R&I programmes  HORIZON collaboration network
Other funding
€ 0,00

Participants (9)

INESC TEC - INSTITUTO DE ENGENHARIADE SISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA
Portugal
Net EU contribution
€ 560 625,00
Address
Rua dr roberto frias campus da feup
4200 465 Porto
Region
Continente > Norte > Área Metropolitana do Porto
Activity type
Research Organisations
Links
Contact the organisation  Website  Participation in EU R&I programmes
TEKNOLOGIAN TUTKIMUSKESKUS VTT OY
Finland
Net EU contribution
€ 817 417,00
Address
Tekniikantie 21
02150 Espoo
Region
Manner-Suomi > Helsinki-Uusimaa > Helsinki-Uusimaa
Activity type
Research Organisations
Links
Contact the organisation Website Participation in EU R&I programmes HORIZON collaboration network
Other funding
€ 0,00

NOVA ID FCT - ASSOCIACAO PARA A INOVACAO E DESENVOLVIMENTO DA FCT
Portugal
Net EU contribution
€ 691 205,00
Address
Campus de caparica faculdade de ciencias e tecnologia da universidade nova de lisboa
2829 516 Caparica
Region
Continente > Área Metropolitana de Lisboa > Área Metropolitana de Lisboa
Activity type
Research Organisations
STICHTING IMEC NEDERLAND

Netherlands
Net EU contribution
€ 461 455,00

Address
High tech campus 31
5656 AE Eindhoven

Region
Zuid-Nederland > Noord-Brabant > Zuidoost-Noord-Brabant

Activity type
Research Organisations

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

Other funding
€ 0,00

LIGHTBEE SL

Spain
Net EU contribution
€ 212 400,00

Address
Parque científico tecnologico de ulpgc edificio polivalente ii oficina 8
35017 Las palmas de grand canaria

SME
Yes
Canarias > Canarias > Gran Canaria

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

Other funding
€ 23 600,00

MPICOSYS - EMBEDDED PICO SYSTEMS SPZOO
Poland
Net EU contribution
€ 252 000,00

Address
Ul. al zwyciestwa 96 98
81 451 Gdynia

SME
Yes

Region
Makroregion północny > Pomorskie > Trójmiejski

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

Other funding
€ 28 000,00

KATHOLIEKE UNIVERSITEIT LEUVEN
Belgium
Net EU contribution

6 of 9
€ 522 500,00

Address
Oude markt 13
3000 Leuven

Region
Vlaams Gewest > Prov. Vlaams-Brabant > Arr. Leuven

Activity type
Higher or Secondary Education Establishments

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

Other funding
€ 0,00

---

VIVID COMPONENTS GERMANY UG

Germany

Net EU contribution
€ 219 825,00

Address
Dr rorig damm 22
33102 Paderborn

SME
Yes

Region
Nordrhein-Westfalen > Detmold > Paderborn

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

Other funding
€ 24 425,00
WAVECOM SOLUCOES RADIO SA

Portugal
Net EU contribution
€ 136 687,50

Address
Rua das cardadeiras 107 lugar de agra de cima
3800 125 Aveiro

SME
Yes

Region
Continente > Centro (PT) > Região de Aveiro

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

Other funding
€ 15 187,50

UNIVERSITY OF BRISTOL

United Kingdom
Net EU contribution
€ 0,00

Address
Beacon house queens road
BS8 1QU Bristol

Region
South West (England) > Gloucestershire, Wiltshire and Bristol/Bath area > Bristol, City of

Activity type
Higher or Secondary Education Establishments