A LIGHTWEIGHT SOFTWARE STACK AND SYNERGETIC META-ORCHESTRATION FRAMEWORK FOR THE NEXT GENERATION COMPUTE CONTINUUM

Fact Sheet

Project Information

**NEPHELE**
Grant agreement ID: 101070487

DOI
[10.3030/101070487](https://doi.org/10.3030/101070487)

**EC signature date**
17 June 2022

**Funded under**
Digital, Industry and Space

**Total cost**
€ 9 127 711,25

**EU contribution**
€ 9 127 711,00

**Coordinated by**
ETHNICON METSOVION
POLYTECHNION
Greece

**Start date**
1 September 2022

**End date**
31 August 2025

Project description

**A software stack and orchestration framework for the compute continuum**

The next generation IoT and Edge Computing technologies are evolving at a rapid pace. This evolution moves in parallel with the increase in the heterogeneity of the IoT technologies. To efficiently manage hyper-distributed applications across heterogeneous infrastructure in the Cloud-to-Edge-to-IoT continuum, convergence of
IoT technologies and development of synergetic orchestration mechanisms has to take place. NEPHELE aims to tackle these challenges and enable the efficient, reliable and secure end-to-end orchestration of hyper-distributed applications over programmable infrastructure across the compute continuum, considering the integration of IoT devices with the rest part of the infrastructure. A set of use cases across various vertical industries are considered, including disaster management, logistic operations in ports, energy management in smart buildings and remote healthcare services.

Fields of science

- engineering and technology > electrical engineering, electronic engineering, information engineering > information engineering > telecommunications > telecommunications networks > mobile network > 5G
- natural sciences > computer and information sciences > internet > internet of things
- natural sciences > computer and information sciences > software
- social sciences > sociology > industrial relations > automation
- medical and health sciences > health sciences > health care services

Keywords

- software stack
- meta-orchestration mechanisms
- sensors virtualization
- service mesh
- semantic interoperability
- autonomic functions

Programme(s)

- HORIZON.2.4 - Digital, Industry and Space
- HORIZON.2.4.7 - Advanced Computing and Big Data

Topic(s)

- HORIZON-CL4-2021-DATA-01-05 - Future European platforms for the Edge: Meta Operating Systems (RIA)

Call for proposal
HORIZON-CL4-2021-DATA-01

See other projects for this call

Funding Scheme

HORIZON-RIA - HORIZON Research and Innovation Actions

Coordinator

ETHNICON METSOVION POLYTECHNION

Net EU contribution

€ 2 416 875,00

Address

HEROON POLYTECHNIOU 9 ZOGRAPHOU CAMPUS
157 80 ATHINA

Region

Αττική > Αττική > Κεντρικός Τομέας Αθηνών

Activity type

Higher or Secondary Education Establishments

Links

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

Total cost

€ 2 416 875,00

Participants (17)

CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE TELECOMUNICAZIONI

Net EU contribution

€ 558 750,00
VIALE G. P. USBERTI 181A
43124 Parma

SME  Yes

Region
Nord-Est > Emilia-Romagna > Parma

Activity type
Higher or Secondary Education Establishments

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

Total cost
€ 558 750,00

SIEMENS AKTIENGESELLSCHAFT
Germany

Net EU contribution
€ 799 375,00

Address
WERNER-VON-SIEMENS-STR. 1
80333 Munchen

Region
Bayern > Oberbayern > München, Kreisfreie Stadt

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

Total cost
€ 799 375,00
ATOS IT SOLUTIONS AND SERVICES IBERIA SL
Spain
Net EU contribution
€ 381 500,00
Address
RONDA DE EUROPA 5
28760 Tres Cantos 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
Participation in EU R&I programmes
HORIZON collaboration network
Total cost
€ 381 500,00

INSTITUT NATIONAL DE RECHERCHE EN INFORMATIQUE ET AUTOMATIQUE
France
Net EU contribution
€ 432 147,50
Address
DOMAINE DE VOLUCEAU ROCQUENCOURT
78153 Le Chesnay Cedex
Region
Ile-de-France > Ile-de-France > Yvelines
Activity type
Research Organisations
Links
Contact the organisation
Website
Participation in EU R&I programmes
HORIZON collaboration network
Total cost
€ 432 147,50
UNIVERSITY OF MACEDONIA

Greece
Net EU contribution
€ 403 750,00
Address
EGNATIA STREET 156
540 06 Thessaloniki
Region
Βόρεια Ελλάδα > Κεντρική Μακεδονία > Θεσσαλονίκη
Activity type
Higher or Secondary Education Establishments
Links
Contact the organisation
Website
Participation in EU R&I programmes
HORIZON collaboration network
Total cost
€ 403 750,00

FUNDINGBOX ACCELERATOR SP ZOO

Poland
Net EU contribution
€ 195 476,00
Address
UL POSTEPU 15
02-676 WARSZAWA
SME
Yes
Region
Makroregion województwo mazowieckie > Warszawski stołeczny > Miasto Warszawa
Activity type
Other
Links
Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Total cost
€ 301 226,25

THIRD-PARTY

FUNDINGBOX COMMUNITIES SL
Spain
Net EU contribution
€ 105 750,00

Address
CALLE MENDEZ ALVARO 20
28045 Madrid

SME
Yes

Region
Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type
Other

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

Total cost
€ 105 750,00

ODIN SOLUTIONS SOCIEDAD LIMITADA
Spain
Net EU contribution
€ 433 187,50

Address
CALLE PERU 5, NUM. 5, PLANTA 3, PUERTA 5, POLIGONO L OESTE-EDIFICIO FORUM
30820 ALCANTARILLA MURCIA

SME
Yes
CRNA VAS 128
1000 Ljubljana

SME Yes
Region
Slovenija > Zahodna Slovenija > Osrednjeslovenska
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Total cost
€ 413 500,00

ECLIPSE FOUNDATION EUROPE GMBH
Germany

Net EU contribution
€ 303 125,00

BERLINER ALLEE 47
64295 Darmstadt

SME Yes
Region
Hessen > Darmstadt > Darmstadt, Kreisfreie Stadt
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Total cost
€ 303 125,00
WINGS ICT SOLUTIONS TECHNOLOGIES PLIROFORIKIS KAI EPIKOINONION ANONYMI ETAIREIA

Greece

Net EU contribution

€ 453,750.00

Address

189, SYGGROU AVENUE
171 21 Nea Smyrni

SME
Yes

Region

Αττική > Αττική > Νότιος Τομέας Αθηνών

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

Total cost

€ 453,750.00


IBM IRELAND LIMITED

Ireland

Net EU contribution

€ 641,775.00

Address

BD 2 IBM TECHNOLOGY CAMPUS DAMASTOWN INDUSTRIAL PA MULHUDDART
D15 HN66 DUBLIN

Region

Ireland > Eastern and Midland > Dublin

Activity type

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

Links
**ESAOTE SPA**

- **Country**: Italy
- **Net EU contribution**: € 273 750,00
- **Address**: VIA ENRICO MELEN 77
  16152 Genova
- **Region**: Nord-Ovest > Liguria > Genova
- **Activity type**: Private for-profit entities (excluding Higher or Secondary Education Establishments)

**LUKA KOPER, PORT AND LOGISTIC SYSTEM, D.D.**

- **Country**: Slovenia
- **Net EU contribution**: € 244 987,50
- **Address**: Vojkovo nabrezje, 38
  6000 Koper
- **Region**: Slovenija > Zahodna Slovenija > Obalno-kraška

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**Total cost**

- **€ 641 775,00**
Private for-profit entities (excluding Higher or Secondary Education Establishments)

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

Total cost
€ 244 987,50

GEIE ERCIM

France
Net EU contribution
€ 483 762,50

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

Total cost
€ 483 762,50

SMILE

France
Net EU contribution
€ 586 250,00

Address
163 QUAI DU DOCTEUR DERVAUX
92600 Asnieres-Sur-Seine

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

Total cost
€ 586 250,00

Partners (1)

ZURCHER HOCHSCHULE FUR ANGEWANDTE WISSENSCHAFTEN
Switzerland

Net EU contribution
€ 0,00

Address
GERTRUDSTRASSE 15
8401 Winterthur

Region
Schweiz/Suisse/Svizzera > Zürich > Zürich

Activity type
Higher or Secondary Education Establishments

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

Total cost
No data

Last update: 26 August 2022