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

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
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
GREECE

Region
ΑΤΤΙΚΗ > ΑΤΤΙΚΗ > ΚΕΝΤΡΙΚΟΣ ΤΟΜΕΑΣ ΑΘΗΝΩΝ

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

IT Italy

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  

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 München  

Region  
Bayern › Oberbayern › München, Kreisfreie Stadt  

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

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

Total cost  
€ 799 375,00  

4 of 14
ATOS IT SOLUTIONS AND SERVICES IBERIA SL
Spain
Net EU contribution
€ 381 500,00
Address
ROND 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
Sur > Región de Murcia > Murcia

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
€ 433 187,50

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ALTER WAY
France

Net EU contribution
€ 0,00

Address
1 RUE ROYALE
92210 Saint-Cloud

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
No data

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INTERNET INSTITUTE, COMMUNICATIONS SOLUTIONS AND CONSULTING LTD
Slovenia

Net EU contribution
€ 413 500,00
**ECLIPSE FOUNDATION EUROPE GMBH**

*Germany*

Net EU contribution

*€ 303 125,00*

**Address**

**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)*

**Links**

Contact the organisation

Participation in EU R&I programmes

HORIZON collaboration network

**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

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

**Total cost**

€ 641,775.00

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**ESAOTE SPA**

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)

**Links**

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

**Total cost**

€ 273,750.00

---

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

Slovenia

**Net EU contribution**

€ 244,987.50

**Address**

Vojkovo nabrezje, 38
6000 Koper

**Region**

Slovenija > Zahodna Slovenija > Obalno-kraška

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

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 > Alpes-Maritimes

Activity type

Other

SMILE

France

Net EU contribution

€ 586 250,00

Address
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