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**
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
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

Italy
Net EU contribution
€ 558 750,00
Address
VIALE G. P. USBERTI 181A
43124 Parma

SME
Yes

Region
Nord-Est > Emilia-Romagna > Parma

Activity type
Higher or Secondary Education Establishments

Total cost
€ 558 750,00

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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)

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 ➔
**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

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**ODIN SOLUTIONS SOCIEDAD LIMITADA**

Spain

Net EU contribution

€ 433 187,50

Address

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

SME
Yes
**ALTER WAY**

**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

**INTERNET INSTITUTE, COMMUNICATIONS SOLUTIONS AND CONSULTING LTD**

**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

**INTERNET INSTITUTE, COMMUNICATIONS SOLUTIONS AND CONSULTING LTD**

**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**
€ 413 500,00
CRNA VAS 128
1000 Ljubljana

SME Yes

Region
Slovenija > Zahodna Slovenija > Osrednjeslovenska

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
€ 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

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

Dublin

Activity type

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

Links
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**

- **Country**: 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

**SMILE**

- **Country**: France
- **Net EU contribution**: €586,250.00
- **Address**: 12 of 14
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