

HORIZON
2020

Mathematical Modelling, Simulation and Optimization for Societal Challenges with Scientific Computing

Fact Sheet

Project Information

MSO4SC

Grant agreement ID: 731063

[Project website](#) 

DOI

[10.3030/731063](https://doi.org/10.3030/731063) 

Project closed

EC signature date

30 September 2016

Start date

1 October 2016

End date

30 September 2018

Funded under

EXCELLENT SCIENCE - Research Infrastructures

Total cost

€ 2 435 064,50

EU contribution

€ 2 435 064,50

Coordinated by

ATOS SPAIN SA



Spain

This project is featured in...



Objective

The challenges of society show rising complexity and their solution process increasingly requires a holistic approach. It is necessary to provide decision makers with tools that allow long-term risk analysis, improvements or even optimization and control.

One of the key technologies in this process is the use of mathematical Modelling, Simulation and Optimisation (MSO) methods, which have proven effective tools for solving many problems, e.g. realistic prediction of wind fields, solar radiation, air pollution and forest fires, prediction of climate change, improving the filtration process for drinking water treatment and optimization methods for intensity-modulated radiation therapy.

These methods are highly complex and are typically processed via the most modern tools of ICT including high performance computing and access to big data bases and usually need support of skilled experts, which often are not available, in particular in small and medium enterprises.

To improve this situation, the pan-European network EU-MATHS-IN (European Service Network of Mathematics for Industry and Innovation) has been founded from national networks containing leading research centres of Europe with high excellence of MSO and ICT.

The major objective of this proposal is to construct an e-infrastructure that provides, in a user-driven, integrative way, tailored access to the necessary services, resources and even tools for the fast prototyping, providing the service producers with the mathematical frameworks as well.

The e-infrastructure consists of an integrated MSO application catalogue containing models, software, validation and benchmark and the MSOcloud: a user friendly cloud infrastructure for selected MSO applications and developing frameworks from the catalogue.

This will reduce the 'time-to-market' for consultants working in the above-mentioned societal challenges.

Fields of science (EuroSciVoc)

[natural sciences](#) > [computer and information sciences](#) > **[software](#)**

[engineering and technology](#) > [environmental engineering](#) > [water treatment processes](#) > **[drinking water treatment processes](#)**

[engineering and technology](#) > [environmental engineering](#) > **[air pollution engineering](#)**

[engineering and technology](#) > [electrical engineering, electronic engineering, information engineering](#) > [electronic engineering](#) > [computer hardware](#) > **[supercomputers](#)**

[natural sciences](#) > [mathematics](#) > [applied mathematics](#) > **[mathematical model](#)**



Programme(s)

[H2020-EU.1.4. - EXCELLENT SCIENCE - Research Infrastructures](#)

MAIN PROGRAMME

[H2020-EU.1.4.1.3. - Development, deployment and operation of ICT-based e-infrastructures](#)

Topic(s)

[EINFRA-22-2016 - User-driven e-infrastructure innovation](#)

Call for proposal

[H2020-EINFRA-2016-2017](#)

[See other projects for this call](#)

Sub call

H2020-EINFRA-2016-1

Funding Scheme

[RIA - Research and Innovation action](#)

Coordinator



ATOS SPAIN SA

Net EU contribution

€ 349 375,00

Total cost

€ 448 125,00

Address

CALLE DE ALBARRACIN 25

28037 Madrid

 Spain 

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

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](#) 

Participants (11)

 THIRD-PARTY 

ATOS IT SOLUTIONS AND SERVICES IBERIA SL

 Spain

Net EU contribution

€ 98 750,00

Address

ALBARRACIN 25

28037 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
€ 98 750,00



TECHNISCHE UNIVERSITAT BERLIN

 Germany

Net EU contribution

€ 125 500,00

Address

STRASSE DES 17 JUNI 135
10623 Berlin 

Region

Berlin > Berlin > Berlin

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost
€ 125 500,00



UNIVERSITE DE STRASBOURG

 France

Net EU contribution

€ 339 527,00

Address

RUE BLAISE PASCAL 4
67081 Strasbourg 

Region

Grand Est > Alsace > Bas-Rhin

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#)
[HORIZON collaboration network](#)

Total cost
€ 339 527,00



STIFTELSEN SINTEF

Norway

Net EU contribution
€ 137 982,50

Address
STRINDVEIEN 4
7034 Trondheim

Region
Norge > Trøndelag > Trøndelag

Activity type
Research Organisations

Links
[Contact the organisation](#) [Website](#)
[Participation in EU R&I programmes](#)
[HORIZON collaboration network](#)

Total cost
€ 137 982,50



BCAM - BASQUE CENTER FOR APPLIED MATHEMATICS

Spain

Net EU contribution
€ 245 287,50

Address
AL MAZARREDO 14
48009 Bilbao

Region
Noreste > País Vasco > Bizkaia

Activity type
Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 245 287,50



SZECHENYI ISTVAN EGYETEM

 Hungary

Net EU contribution

€ 189 375,00

Address

EGYETEM TER 1

9026 Győr 

Region

Dunántúl > Nyugat-Dunántúl > Győr-Moson-Sopron

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 189 375,00



ZUSE-INSTITUT BERLIN

 Germany

Net EU contribution

€ 125 500,00

Address

TAKUSTRASSE 7

14195 Berlin Dahlem 

Region

Berlin > Berlin > Berlin

Activity type

Research Organisations

Links

[Contact the organisation](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

€ 125 500,00



FUNDACION PUBLICA GALLEGA CENTRO TECNOLOGICO DE SUPERCOMPUTACION DE GALICIA

 Spain

Net EU contribution

€ 322 500,00

Address

AVENIDA DE VIGO

15705 Santiago De Compostela 

Region

Noroeste > Galicia > A Coruña

Activity type

Other

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

€ 322 500,00



KUNGLIGA TEKNISKA HOEGSKOLAN

 Sweden

Net EU contribution

€ 292 000,00

Address

BRINELLVAGEN 8
100 44 Stockholm 

Region
Östra Sverige > Stockholm > Stockholms län

Activity type
Higher or Secondary Education Establishments

Links
[Contact the organisation](#)  [Website](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost
€ 292 000,00



**STICHTING EUROPEAN SERVICE NETWORK OF MATHEMATICS FOR
INDUSTRY AND INNOVATION**

 Netherlands
Net EU contribution
€ 96 000,00

Address
**FRANKISCHE DRIEHOEK 36
5052BM Goirle** 

Region
Zuid-Nederland > Noord-Brabant > Midden-Noord-Brabant

Activity type
Other

Links
[Contact the organisation](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost
€ 96 000,00



SINTEF AS
 Norway

Net EU contribution

€ 113 267,50

Address

STRINDVEGEN 4

7034 Trondheim



Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 113 267,50

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European Union, 2025