



Platform-aware Model-driven Optimization of Cyber-Physical Systems

Fact Sheet

Project Information

oCPS

Grant agreement ID: 674875

[Project website](#)

DOI

[10.3030/674875](https://doi.org/10.3030/674875)

Project closed

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11 August 2015

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1 November 2015

End date

31 October 2019

Funded under

EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

Total cost

€ 3 820 273,63

EU contribution

€ 3 820 273,63

Coordinated by

TECHNISCHE UNIVERSITEIT
EINDHOVEN



Netherlands

Objective

Many modern industrial systems fall in the realm of Cyber-Physical Systems (CPS) because of the tight interaction between computation, communication and control elements (the cyber part), and physical processes such as motion, heating/cooling, vibration, wear and tear (the physical part) within these systems. Traditional design methods involve multiple, often isolated, design phases involving different disciplines (mechanical, electrical, control and software engineering). Requirements related to cost, quality and reliability enforce designs with over-provisioning of platform

resources (computation, communication, memory) by large margins at each phase to be able to fulfill system-level requirements in the worst-case scenarios. To replace such overly conservative design process, there is an urgent need for integrative design trajectories that allow for tradeoffs between cost, quality and reliability coping with the tight coordination between the cyber and the physical components. This gives rise to the need for models that accurately capture the interaction between various components (e.g. software, electronics, mechanics, algorithms, power, energy, etc.) and novel design methods that exploit the artifacts of the underlying platforms.

The key scientific objective of the oCPS program is to enable the design of a new generation of cost-effective, quality-driven and reliable CPS by developing model-driven design methods that capture the interaction between different models at various design layers, that take into account physical constraints and processes, and that introduce platform-awareness at all levels. The program aims to train a generation of young researchers in cross-disciplinary thinking and deliver industrially validated tool chains. We bring together the state of the practice through six key industrial players, including SMEs, and the state of the art through four top universities and one research institute across Europe.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [mechanical engineering](#) > [vehicle engineering](#) > [automotive engineering](#) > **[autonomous vehicles](#)**

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

[engineering and technology](#) > [electrical engineering](#), [electronic engineering](#), [information engineering](#) > [electronic engineering](#) > **[control systems](#)**

[social sciences](#) > [economics and business](#) > [business and management](#) > **[entrepreneurship](#)**

[engineering and technology](#) > [environmental engineering](#) > **[energy and fuels](#)**



Programme(s)

[H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions](#)

MAIN PROGRAMME

[H2020-EU.1.3.1. - Fostering new skills by means of excellent initial training of researchers](#)

Topic(s)

[MSCA-ITN-2015-ETN - Marie Skłodowska-Curie Innovative Training Networks \(ITN-ETN\)](#)

Call for proposal

[H2020-MSCA-ITN-2015](#)

[See other projects for this call](#)

Funding Scheme

[MSCA-ITN-ETN - European Training Networks](#)

Coordinator



TECHNISCHE UNIVERSITEIT EINDHOVEN

Net EU contribution

€ 1 269 777,67

Total cost

€ 1 269 777,67

Address

GROENE LOPER 3

5612 AE Eindhoven

 **Netherlands** 

Region

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

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Participants (10)



INTEL BENELUX BV 

 **Netherlands**

Net EU contribution

€ 0,00

Address

CARPONILAAN 37

1119 NG SCHIPHOL RIJK



Region

West-Nederland > Noord-Holland > Groot-Amsterdam

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



PHILIPS MEDICAL SYSTEMS NEDERLAND BV

 Netherlands

Net EU contribution

€ 255 374,28

Address

VEENPLUIS 6

5684 PC Best



Region

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

Activity type

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

Links

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Total cost

€ 255 374,28



TECHNOLUTION BV

 Netherlands

Net EU contribution

€ 0,00

Address

BURGERMEESTER JAMESSINGEL 1
2803 WV Gouda 

SME 

Yes

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Total cost

No data



TECHNISCHE UNIVERSITAET MUENCHEN

 Germany

Net EU contribution

€ 498 432,96

Address

Arcisstrasse 21
80333 Muenchen 

Region

Bayern > Oberbayern > München, Kreisfreie Stadt

Activity type

Higher or Secondary Education Establishments

Links

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

[HORIZON collaboration network](#) 

Total cost

€ 498 432,96



INCHRON GMBH

 Germany

Net EU contribution

€ 249 216,48

Address

AM WEICHSELGARTEN 7

91052 ERLANGEN 

SME 

Yes

Region

Bayern > Mittelfranken > Erlangen, Kreisfreie Stadt

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Total cost

€ 249 216,48



FORTISS GMBH

 Germany

Net EU contribution

€ 249 216,48

Address

GUERICKESTRASSE 25

80805 MÜNCHEN 

Region

Bayern > Oberbayern > München, Kreisfreie Stadt

Activity type

Research Organisations

Links

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

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

Total cost

€ 249 216,48



TECHNISCHE UNIVERSITAT DORTMUND

 Germany

Net EU contribution

€ 249 216,48

Address

AUGUST SCHMIDT STRASSE 4
44227 Dortmund 

Region

Nordrhein-Westfalen > Arnsberg > Dortmund, Kreisfreie Stadt

Activity type

Higher or Secondary Education Establishments

Links

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

[HORIZON collaboration network](#) 

Total cost

€ 249 216,48



KUNGLIGA TEKNISKA HOEGSKOLAN

 Sweden

Net EU contribution

€ 527 318,64

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

€ 527 318,64



IMSYS AB

 Sweden

Net EU contribution

€ 263 659,32

Address

JOHANNESLUNDSVAGEN 3
19461 UPPLANDS VASBY 

SME 

Yes

Region

Östra Sverige > Stockholm > Stockholms län

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Total cost

€ 263 659,32



ODYS SRL

 Italy

Net EU contribution

€ 258 061,32

Address

VIA A PASSAGLIA 185
55100 Lucca 

SME 

Yes

Region

Centro (IT) > Toscana > Lucca

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

€ 258 061,32

Partners (7)



PARTNER 
ERICSSON AB

 Sweden

Net EU contribution

€ 0,00

Address

TORSHAMNSGATAN 23
164 80 Stockholm 

Region

Östra Sverige > Stockholm > Stockholms län

Activity type

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

Links

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- Participation in EU R&I programmes
- HORIZON collaboration network

Total cost

No data



PARTNER ⓘ

SCANIA CV AB

 Sweden

Net EU contribution

€ 0,00

Address

VAGNMAKARVAGEN 1

151 87 Sodertalje 

Region

Östra Sverige > Stockholm > Stockholms län

Activity type

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

Links

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Total cost

No data



PARTNER ⓘ

SIEMENS AKTIENGESELLSCHAFT

 Germany

Net EU contribution

€ 0,00

Address

WERNER-VON-SIEMENS-STR. 1

80333 Munchen 

SME ⓘ

Yes

Region

Bayern > Oberbayern > München, Kreisfreie Stadt

Activity type

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

Links

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Total cost

No data



PARTNER ⓘ

UNIVERSITAET ULM

Germany

Net EU contribution

€ 0,00

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HELMHOLTZSTRASSE 16

89081 Ulm

Region

Baden-Württemberg > Tübingen > Ulm, Stadtkreis

Activity type

Higher or Secondary Education Establishments

Links

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

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

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Total cost

No data



PARTNER ⓘ

TECHNISCHE UNIVERSITAET WIEN

Austria

Net EU contribution

€ 0,00

Address

KARLSPLATZ 13

1040 Wien

Region

Ostösterreich > Wien > Wien

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



PARTNER 

SCUOLA IMT (ISTITUZIONI, MERCATI, TECNOLOGIE) ALTI STUDI DI LUCCA

 Italy

Net EU contribution

€ 0,00

Address

PIAZZA SAN PONZIANO 6

55100 Lucca 

Region

Centro (IT) > Toscana > Lucca

Activity type

Higher or Secondary Education Establishments

Links

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Total cost

No data



PARTNER 

**NEDERLANDSE ORGANISATIE VOOR TOEGEPAST
NATUURWETENSCHAPPELIJK ONDERZOEK TNO**

 Netherlands

Net EU contribution

€ 0,00

Address

ANNA VAN BUERENPLEIN 1

2595 DA Den Haag 

Activity type

Research Organisations

Links

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

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

[HORIZON collaboration network](#) 

Total cost

No data

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European Union, 2025