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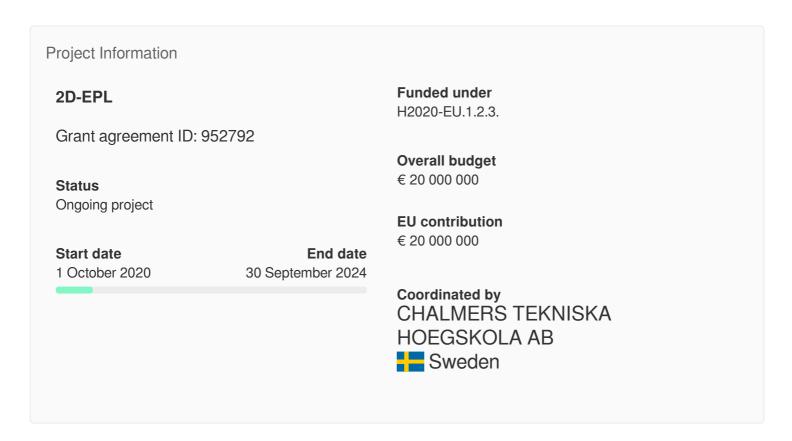
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# Graphene Flagship 2D Experimental Pilot Line

### **Fact Sheet**



# **Objective**

The 2D Experimental Pilot Line (2D-EPL) project will establish a European ecosystem for prototype production of Graphene and Related Materials (GRM) based electronics, photonics and sensors. The project will cover the whole value chain including tool manufacturers, chemical and material providers and pilot lines to offer prototyping services to companies, research centers and academics. The 2D-EPL targets to the adoption of GRM integration by commercial semiconductor foundries and integrated device manufacturers through technology transfer and licensing.

The project is built on two pillars. In Pillar 1, the 2D-EPL will offer prototyping services for 150 and 200 mm wafers, based on the current state of the art graphene device manufacturing and integration techniques. This will ensure external users and

customers are served by the 2D-EPL early in the project and guarantees the inclusion of their input in the development of the final processes by providing the specifications on required device layouts, materials and device performances. In Pillar 2, the consortium will develop a fully automated process flow on 200 and 300 mm wafers, including the growth and vacuum transfer of single crystalline graphene and TMDCs. The knowledge gained in Pillar 2 will be transferred to Pillar 1 to continuously improve the baseline process provided by the 2D-EPL.

To ensure sustainability of the 2D-EPL service after the project duration, integration with EUROPRACTICE consortium will be prepared. It provides for the European actors a platform to develop smart integrated systems, from advanced prototype design to small volume production. In addition, for the efficiency of the industrial exploitation, an Industrial Advisory Board consisting mainly of leading European semiconductor manufacturers and foundries will closely track and advise the progress of the 2D-EPL. This approach will enable European players to take the lead in this emerging field of technology.

#### Field of science

/natural sciences/physical sciences/electromagnetism and electronics/electrical conductivity/semiconductor

/engineering and technology/nanotechnology/nano-materials/two-dimensional nanostructures/graphene

### Programme(s)

## Topic(s)

## Call for proposal

H2020-SGA-FET-GRAPHENE-2-2019

## **Funding Scheme**

SGA-RIA - SGA-RIA

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Parque Cientifico Y Research Organisations
Tecnologico De Gipuzkoa

Deces Mikalatani O

Paseo Mikeletegi 2

20009 Donostia/san Sebastian

(Gipuzkoa)

Website **C** Contact the organisation **C** 

血

#### **POLYMEM**



FLI contribution

LO OOTHI IDAHOTI

€ 0

Address Activity type

3 Rue De L Industrie Zone De

Vic

31320 Castanet-tolosan

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

Contact the organisation



#### **UNIVERSITY COLLEGE LONDON**

United Kingdom

EU contribution

€ 0

Address Activity type

Gower Street Higher or Secondary WC1E 6BT London Education Establishments

Contact the organisation <a>Z</a>



#### IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE

United Kingdom

EU contribution

€ 0

Address Activity type

**South Kensington Campus** 

Exhibition Road SW7 2AZ London **Higher or Secondary** 

**Education Establishments** 

Website **☑** Contact the organisation **☑** 



#### **AMALYST LIMITED**

United Kingdom

EU contribution

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Address Activity type

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S65 1ED Rotherham (excluding Higher or
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UNITERIORIA DEMENUIUDI DI LADUTA

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EU contribution

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Via 8 Febbraio 2 Higher or Secondary 35122 Padova Education Establishments

Website **C** Contact the organisation **C** 

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#### **BRETON SPA**

Italy

EU contribution

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Address Activity type

Via Giuseppe Garibaldi 27 Private for-profit entities
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#### **TECHNISCHE UNIVERSITEIT EINDHOVEN**

Netherlands

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#### **ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE**

Switzerland

EU contribution

€ 0

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1015 Lausanne Education Establishments

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Italy

EU contribution

€ 0

Address Activity type

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Italy

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#### **TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY**

Israel

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Address Activity type

**Senate Building Technion City** 

32000 Haifa

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**Education Establishments** 

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Address Activity type

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FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

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EU contribution

€ 0

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Hansastrasse 27C Research Organisations

80686 Munchen

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EU contribution

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University Park Higher or Secondary
NG7 2RD Nottingham Education Establishments

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Firth Court Western Bank Higher or Secondary

S10 2TN Sheffield Education Establishments

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# ASOCIACION CENTRO DE INVESTIGACION COOPERATIVA EN BIOMATERIALES- CIC biomaGUNE

Spain

EU contribution

€ 0

Address Activity type

Paseo Miramon 182, Parque Research Organisations

Tecnologico De San Sebastian Edificio Empresarial C

20009 San Sebastian

Website **∠** Contact the organisation **∠** 

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#### **UNIVERSITA DI PISA**

Italy

EU contribution

€ 0

Address Activity type

Lungarno Pacinotti 43/44 **Higher or Secondary** 

56126 Pisa **Education Establishments** 

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#### **ENERGIATUDOMANYI KUTATOKOZPONT**

Hungary

EU contribution

€ 0

Address Activity type

Konkoly Thege Miklos Ut 29-

33

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#### Institute of Mechanics, Bulgarian Academy of Sciences

Bulgaria

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€ 0

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1113 Sofia

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**Research Organisations** 

**Research Organisations** 



#### UNIVERSITA DEGLI STUDI DI SALERNO

Italy

EU contribution

€ 0

Address Activity type

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84084 Fisciano Sa **Education Establishments** 

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#### NANOTECHNOLOGY NANO TECHLAB LTD

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€ 0

Address

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Acad G Bonchev Str Block 4

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#### **QUEEN MARY UNIVERSITY OF LONDON**

**H** United Kingdom

EU contribution

€ 0

Address

Activity type

327 Mile End Road E1 4NS London Higher or Secondary

**Education Establishments** 

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#### **PROGNOMICS LTD**

United Kingdom

EU contribution

€ 0

Address

Activity type

Broomfield & Alexander Ltd

Charter Court Phoenix Way Enterprise Park

SA7 9FS Swansea

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#### INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM

Belgium

EU contribution

€ 5 515 230

Address Activity type

Kapeldreef 75 Research Organisations

3001 Leuven

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#### **ERICSSON AB**

Sweden

EU contribution

€ 0

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164 80 Stockholm (excluding Higher or
Secondary Education

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Website **C** Contact the organisation **C** 



# CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE TELECOMUNICAZIONI

Italy

EU contribution

€ 0

Address Activity type

Viale G. P. Usberti 181A Higher or Secondary

43124 Parma Education Establishments

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#### GREATCELL SOLAR ITALIA SOCIETA' A RESPONSABILITA' LIMITATA



EU contribution

€ 0

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Viale Castro Pretorio 122 Private for-profit entities

00185 Roma (excluding Higher or Secondary Education

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#### **TARTU ULIKOOL**

Estonia

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€ 0

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Ulikooli 18 Higher or Secondary 51005 Tartu Education Establishments

Website 🗹

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#### **UNIVERSITAET AUGSBURG**

Germany

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€ 0

Address Activity type

Universitaetsstrasse 2 Higher or Secondary 86159 Augsburg Education Establishments

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#### **CENTRO RICERCHE FIAT SCPA**

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EU contribution

€ 0

Address Activity type

Strada Torino 50 Research Organisations

10043 Orbassano

Website **☑** Contact the organisation **☑** 



# INSTITUTO DE TECNOLOGIAS QUIMICAS EMERGENTES DE LA RIOJA ASOCIACION

Spain

EU contribution

€ 0

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Calle San Francisco 11 Research Organisations 26370 Navarrete La Rioja

Website **C** Contact the organisation **C** 



#### **NANESA SRL**

Italy

EU contribution

€ 0

Address Activity type

Via Del Gavardello 59 C Private for-profit entities 52100 Arezzo (excluding Higher or Secondary Education

#### Contact the organisation <a>C</a>



#### INTERNACIONAL DE COMPOSITES SA



EU contribution

€ 0

Address Activity type

Via Tarpeya Sn Poligono Industrial 3 Fase 45007 Toledo Private for-profit entities (excluding Higher or Secondary Education Establishments)

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#### **NOKIA SOLUTIONS AND NETWORKS ITALIA SPA**

Italy

EU contribution

€ 0

Address Activity type

Piazzale Biancamano 8 20121 Milano

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

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# FUNDACION PARA LA INVESTIGACION, DESARROLLO Y APLICACION DE MATERIALES COMPUESTOS

Spain

EU contribution

€ 0

Address Activity type

Avda Rita Levi Montalcini

(Tecnogetafe) 29 28906 Getafe **Research Organisations** 

Website Contact the organisation C



#### **FLEXENABLE LIMITED**

United Kingdom

EU contribution

€∩

T U

Address

34 Cambridge Science Park,

**Milton Road** 

**CB4 0FX Cambridge** 

Activity type

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

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#### INFINEON TECHNOLOGIES AG

Germany

EU contribution

€ 0

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Am Campeon 1-15 Private for-profit entities 85579 Neubiberg (excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

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#### M-SOLV LTD

**United Kingdom** 

EU contribution

€ 0

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OX5 1FP Kidlington

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

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#### **NANOSC AB**

Sweden

EU contribution

€ 0

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Private for-profit entities
16440 Kista
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Secondary Education
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#### **NOVALIA LIMITED**

United Kingdom

EU contribution

€ 0

Address

Activity type

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#### **LEONARDO - SOCIETA PER AZIONI**

Italy

EU contribution

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Address

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00195 Roma

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Activity type

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#### **EMBERION OY**



EU contribution

€ 0

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Metsanneidonkuja 8

02130 Espoo

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

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#### **Emberion Ltd**

**United Kingdom** 

EU contribution

€ 0

Address Activity type

C/o Bcs Accountants, Windsor Private for-profit entities

House, Station Ct, Station Rd, Great Shelford CB22 5NE Cambridge

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Contact the organisation 🗹



#### UNIVERSITAET DER BUNDESWEHR MUENCHEN

Germany

EU contribution

€ 0

Address Activity type

Werner Heisenberg Weg 39

85579 Neubiberg

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## INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE

France

EU contribution

€ 0

Address Activity type

Rue De Tolbiac 101

75654 Paris

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Website ☑ Contact the organisation ☑



# INSTITUTO NACIONAL DE INVESTIGACION Y TECNOLOGIA AGRARIA Y ALIMENTARIA OA MP



EU contribution

€ 0

Address Activity type

Carretera De La Coruna Research Organisations

Km7.5

28040 Madrid

Website **C** Contact the organisation **C** 



## **MULTI CHANNEL SYSTEMS MCS GMBH**

Germany

EU contribution

€ 0

Address Activity type

Aspenhaustrasse 21 72770 Reutlingen

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

Website **C** Contact the organisation **C** 

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#### PRINTED ELECTRONICS LIMITED

United Kingdom

EU contribution

€ 0

Address Activity type

Hedging Lane Industrial Private for-profit entities
Estate Wilnecote (excluding Higher or
B77 5HH Tamworth Secondary Education
Staffordshire Establishments)

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## THE UNIVERSITY OF WARWICK

United Kingdom

EU contribution

€ 0

Address Activity type

Kirby Corner Road - Higher or Secondary
University House Education Establishments
CV4 8UW Coventry

Website **∠** Contact the organisation **∠** 



## **GRAPHENE-XT SRL**

Italy

EU contribution

€ 0

Address Activity type

Via Massimo D Azeglio 15 Private for-profit entities
40123 Bologna Bo (excluding Higher or
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Establishments)

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Italy

EU contribution

€ 0

Address

Activity type

Viale Europa 118/120 55013 Capannori

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

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#### UNIVERSIDAD CARLOS III DE MADRID

Spain

EU contribution

€ 0

Address

Activity type

Calle Madrid 126 28903 Getafe (Madrid) Higher or Secondary Education Establishments

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## ARCELORMITTAL ESPANA SA

Spain

EU contribution

€ 0

Address

Activity type

Residencia La Granda 33418 Gozon Asturias Private for-profit entities (excluding Higher or Secondary Education Establishments)

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## **INTERACTIVE WEAR AG**

Germany

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€ 0

Address Activity type

Petersbrunner Strasse 3 82319 Starnberg

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

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## TREVIRA GMBH

Germany

EU contribution

€ 0

Address Activity type

Max-fischer 11 Private for-profit entities 86399 Bobingen (excluding Higher or Secondary Education

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#### **CRAYONANO AS**

Norway

EU contribution

€ 0

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#### **POLITECHNIKA WARSZAWSKA**

Poland

EU contribution

€ 0

Address Activity type

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00 661 Warszawa Education Establishments

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## **GRAPHENEA SEMICONDUCTOR SL**



EU contribution

€ 522 500

Address Activity type

Ps Mikeletegi 83

20009 Donostia

(excluding Higher or

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## Contact the organisation <a>C</a>



## **NOKIA UK LIMITED**

**United Kingdom** 

EU contribution

€ 0

Address

740 Waterside Drive Aztec

West

**BS32 4UF Almondsbury** 

**Bristol** 

Contact the organisation 🗹

Activity type

**Establishments**)

Private for-profit entities (excluding Higher or Secondary Education

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## **ICON LIFESAVER LIMITED**

**United Kingdom** 

EU contribution

€ 0

Address

Wilson Road

L363AN Liverpool

Activity type

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## **BIOAGE SRL**



EU contribution

€ 0

Address

Activity type

Via Trento 77 Private for-profit entities 88046 Lamezia Terme (excluding Higher or Secondary Education

**Establishments**)

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## **MEDICA S.P.A.**



EU contribution

€ 0

Address

Via Degli Artigiani 7 41036 Medolla Activity type

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

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## **SPAC SPA**



EU contribution

€ 0

Address

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## **GRAPHMATECH AB**

Sweden

EU contribution

€ 0

Address Activity type

Ulls Vag 29C 75651 Uppsala Private for-profit entities (excluding Higher or Secondary Education Establishments)

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## **FINISAR GERMANY GMBH**

Germany

EU contribution

€ 0

Address Activity type

Reuchlinstrasse 10/11 10553 Berlin

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## **BEDIMENSIONAL SPA**



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Via Albisola 121 16162 Genova Private for-profit entities (excluding Higher or Secondary Education

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#### SIEMENS AKTIENGESELLSCHAFT

Germany

EU contribution

€ 0

Address

Werner-von-siemens-str. 1

80333 Munchen

Activity type

Private for-profit entities (excluding Higher or

**Secondary Education** 

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## **Naturality Research & Development**

Spain

EU contribution

€ 0

Address

Activity type

Ctra Bv 1274 Num 1 Parque

Leitat

08225 Terrassa Barcelona

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

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## Lufthansa Technik Aktiengesellschaft

Germany

EU contribution

Mag Paim Jacque 102

€ 0

Address

Activity type

Drivata for profit antitios

weg beiiii Jaegei เฮง 22335 Hamburg (excluding Higher or Secondary Education Establishments)

Website 🗹

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## **PHI-STONE AG**

Germany

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#### SIXONIA TECH GMBH

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Germany

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Varta-platz 1 Private for-profit entities
73479 Ellwangen Jagst (excluding Higher or
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## SOCIETE NATIONALE DE CONSTRUCTION AEROSPATIALE SONACA SA

Belgium

EU contribution

€ 0

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Route Nationale Cinq Park Private for-profit entities

Industriel (excluding Higher or 6041 Gosselies Secondary Education

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## **AIRBUS HELICOPTERS**

France

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€ 0

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L Aeroport Private for-profit entities
13700 Marignane (excluding Higher or
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## AIRBUS DEFENCE AND SPACE GMBH

Germany

EU contribution

€ 0

Address Activity type

Willy-messerschmitt-strasse 1

82024 Taufkirchen

Private for-profit entities (excluding Higher or Secondary Education Establishments) 103 of 111



## **FUNDACION DONOSTIA INTERNATIONAL PHYSICS CENTER**

Spain

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Paseo Manuel Lardizabal 4 20018 Donostia San Sebastian **Research Organisations** 

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## Singulus Technologies AG

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EU contribution

€ 0

Address Activity type

Hanauer Landstrasse 103 63796 Kahl Am Main

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## **TYOTERVEYSLAITOS**

**Finland** 

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€ 0

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Topeliuksenkatu 41 B

00250 Helsinki

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## **BOSTON SCIENTIFIC LIMITED**

Ireland

EU contribution

€ 0

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**H91 Galway** 

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Website 🗹

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#### **MELLANOX TECHNOLOGIES LTD - MLNX**

Israel

**EU** contribution

€ 0

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## **CAMBRIDGE RAMAN IMAGING LTD**

United Kingdom

EU contribution

€ 0

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## **TOYOTA MOTOR EUROPE NV**

Belgium

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€ 0

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1140 Brussel (excluding Higher or
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## **NAWATECHNOLOGIES**



EU contribution

€ 0

Address

Av Louis Philibert Domaine
Du Petit Arbois Technopole
Arbois Moditorrange

Arbois Mediterranee 13100 Aix En Provence

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Activity type

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)



#### BARNICES Y PINTURAS MODERNAS SOCIEDAD ANONIMA

Spain

EU contribution

€ 0

Address Activity type

C/ San Fernando 116

26300 Najera

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#### **DALLARA AUTOMOBILI SPA**

Italy

EU contribution

€ 0

Address Activity type

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## **COMPOSITES EVOLUTION LIMITED**

**United Kingdom** 

EU contribution

€ 0

Address Activity type

1A Broom Business Park,

**Bridge Way** 

S41 9QG Chesterfield

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## **CASALS CARDONA INDUSTRIAL SA**



EU contribution

€ 0

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C/ Ferran Casablancas 24 Pol

**Ind Bufalvant** 08243 Manresa Activity type

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## **EVONIK OPERATIONS GMBH**

Germany

EU contribution

€ 0

Address

**Rellinghauser Strasse 1-11** 

45128 Essen

Activity type

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#### **VERSARIEN PLC**

United Kingdom

EU contribution

€ 0

Address

**Unit 2 Chosen View Road** 

**GL51 9LT Cheltenham** 

Gloucestershire

Activity type

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## **CONFINIS AG**

Switzerland

EU contribution

€ 0

Address Allaa dD Activity type

**Allee 1R** 6210 Sursee Private for-profit entities (excluding Higher or **Secondary Education Establishments**)

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## UNIVERSITAET FUER BODENKULTUR WIEN

Austria

EU contribution

€ 0

Address Activity type

**Gregor Mendel Strasse 33 Higher or Secondary** 1180 Wien **Education Establishments** 

Website 🗹 Contact the organisation



## SCHAFFHAUSEN INSTITUTE OF TECHNOLOGY AG

Other

Switzerland

EU contribution

€ 0

Address Activity type

Vordergasse 59

8200 Schaffhausen

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## **ABB AB**

Sweden

EU contribution

€ 0

Address Activity type

Kopparbergsvagen 2 **Private for-profit entities** 721 71 Vasteras (excluding Higher or **Secondary Education** 

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Contact the organisation



## **ENEL GREEN POWER SPA**

Italy

EU contribution

€ 0

Address Activity type

Viale Regina Margherita 125

00198 Roma

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## **BAYERISCHE MOTOREN WERKE AKTIENGESELLSCHAFT**

Germany

EU contribution

€ 0

Address Activity type

Petuelring 130 Private for-profit entities
80809 Muenchen (excluding Higher or
Secondary Education
Establishments)

Contact the organisation <a>C</a>



## MICRO RESIST TECHNOLOGY GESELLSCHAFT FUER CHEMISCHE MATERIALIEN SPEZIELLER PHOTORESISTSYSTEME MBH

Germany

EU contribution

€ 459 270

Address Activity type

Koepenicker Strasse 325 Private for-profit entities 12555 Berlin (excluding Higher or

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**Establishments**)

Website Contact the organisation C



## SUSS MicroTec Lithography GmbH

Germany

EU contribution

€ 1 520 000

Address Activity type

Schleissheimer Strasse 90

85748 Garching

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#### **AIXTRON SE**



EU contribution

€ 2 900 000

Address Activity type

Dornkaulstrasse 2 Private for-profit entities 52134 Herzogenrath (excluding Higher or Secondary Education

**Establishments**)

Website **☑** Contact the organisation **☑** 



# IHP GMBH - INNOVATIONS FOR HIGH PERFORMANCE MICROELECTRONICS/LEIBNIZ-INSTITUT FUER INNOVATIVE MIKROELEKTRONIK

Germany

EU contribution

€ 1 050 000

Address Activity type

Im Technologiepark 25 15236 Frankfurt Oder

Contact the organisation

Other



## **QURV TECHNOLOGIES SL**



EU contribution

€ 0

Address Activity type

**Av Carl Freiderich Gauss 3.3** 

Oficina 349

08860 Castelldefels

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**Establishments**)

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## INBRAIN NEUROELECTRONICS SL



EU contribution

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Last update: 7 February 2021 Record number: 232046

Permalink: https://cordis.europa.eu/project/id/952792

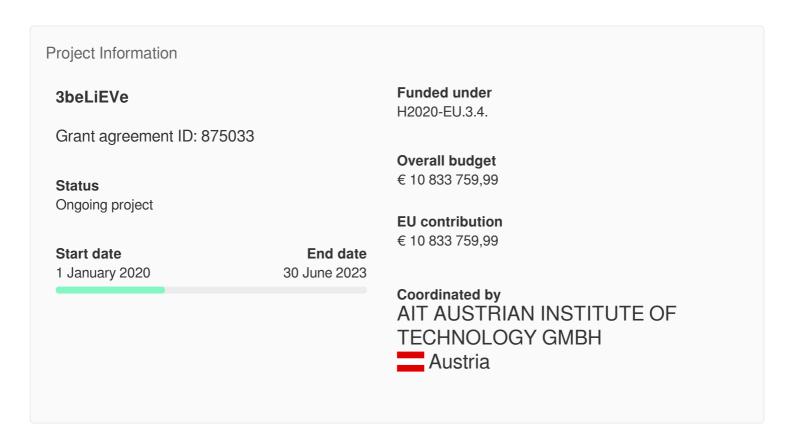
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# Delivering the 3b generation of LNMO cells for the xEV market of 2025 and beyond

## **Fact Sheet**



## **Project description**

## Delivering next-gen rechargeable batteries for electric vehicles

The development of better materials for use in rechargeable batteries is vital for the future of the electric vehicle market. One of these materials is lithium nickel manganese oxide (LNMO), a cobalt-free cathode material that's a cost-effective alternative to current lithium-ion (Li-ion) battery materials. Using LNMO, the EUfunded 3beLiEVe project aims to produce the next generation of Li-ion rechargeable batteries for electric vehicles in 2025 and beyond. Along with the next-gen battery cells, the project will also develop and integrate internal and external sensors for the cell. The data obtained from these sensors will provide a more timely and accurate

view of the state of the cell and will be used to implement smart operating strategies that extend the life of the cell and improve its safety. The smart battery management system will process this data and manage an adaptive liquid cooling system. Manufacturing, second life and recycling aspects are also considered. The project's innovations will play a role in strengthening the European battery and automotive industry.

## **Objective**

3beLiEVe aims at delivering the 3b generation of LNMO cells for the electrified vehicles market of 2025 and beyond. The project addresses the full scope of the LC-BAT-5-2019 call by delivering:

- 3b generation batteries with LNMO cathodes, LiFSI electrolyte, and a 10-20 wt.% Si-C anode in a cell architecture capable of 750 Wh/I, 300 Wh/kg, 1.4 kW/kg, and 2,000+ deep cycles, of which 10% at 3C+;
- a portfolio of internal and external sensors (22 sensors per module) and an adaptive liquid cooling system managed by a smart BMS with advanced diagnostic and operational functions;
- cradle to cradle approach, including cell/module/pack green manufacturing processes (gigafactory level), optical equipment for inline quality inspection, 1st and 2nd life performance and recyclability demonstration, achieving 90 €/kWh life cycle cost.

The project will deliver 250 cells of generation 3b in total and two demonstrator battery packs of 88 cells and 12 kWh capacity each at TRL 6 / MRL 8. These aim at demonstrating the 3beLiEVe technology performance for applications in light duty (i.e. passenger cars, freight vehicles) and commercial vehicles (i.e. city buses and trucks) in fully electric/plug-in hybrid (BEV/PHEV) configurations. 3beLiEVe technology is free of critical raw materials (cobalt and natural graphite), scalable and sustainable, aiming at 12.7 GWh production by 2025 and 33.7 GWh in 2030, for a market ranging from 1.1 to 2.5 billion €/year, i.e. 7% of the global manufacturing capacity. All the technological domains and innovations addressed in 3beLiEVe are essential for strengthening the position of the European battery and automotive industry in the future market of xEVs.

## Field of science

/engineering and technology/mechanical engineering/vehicle engineering/automotive engineering /engineering and technology/electrical engineering, electronic engineering, information engineering/electronic engineering/sensors

/social sciences/economics and business/business and management/commerce

## Programme(s)

## Topic(s)

## Call for proposal

H2020-LC-BAT-2019

## **Funding Scheme**

RIA - Research and Innovation action

## Coordinator



## AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH

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Giefinggasse 4 Research Organisations € 1 648 909,66

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## Participants (20)



## **CENTRO RICERCHE FIAT SCPA**

Italy

EU contribution

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Strada Torino 50 Research Organisations

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## **DSM ENGINEERING MATERIALS BV**

Netherlands

EU contribution

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## **INSPLORION SENSOR SYSTEMS AB**

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EU contribution

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#### **VALEO SYSTEMES THERMIQUES SAS**

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EU contribution

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## **VALEO KLIMASYSTEME GMBH**

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## RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

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## **CUSTOM CELLS ITZEHOE GMBH**

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## FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

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#### NXP SEMICONDUCTORS FRANCE

France

EU contribution

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#### **HALDOR TOPSOE AS**

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Italy

EU contribution

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## **AVESTA BATTERY & ENERGY ENGINEERING**

Belgium

EU contribution

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## COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

France

EU contribution

€ 537 525

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Rue Leblanc 25 **Research Organisations** 

75015 Paris 15

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Manz Italy Srl

Italy

EU contribution

€ 626 562,50

Address Activity type

Via San Lorenzo 19 Private for-profit entities 40037 Sasso Marconi (excluding Higher or

Secondary Education

**Establishments**)

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#### **ARKEMA FRANCE SA**

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EU contribution

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## **VOLVO TECHNOLOGY AB**

Sweden

EU contribution

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EU contribution

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Avenue Jean Jaures Private for-profit entities 12110 Viviez (excluding Higher or

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**Establishments**)

Last update: 28 November 2020

Record number: 225977

Permalink: https://cordis.europa.eu/project/id/875033

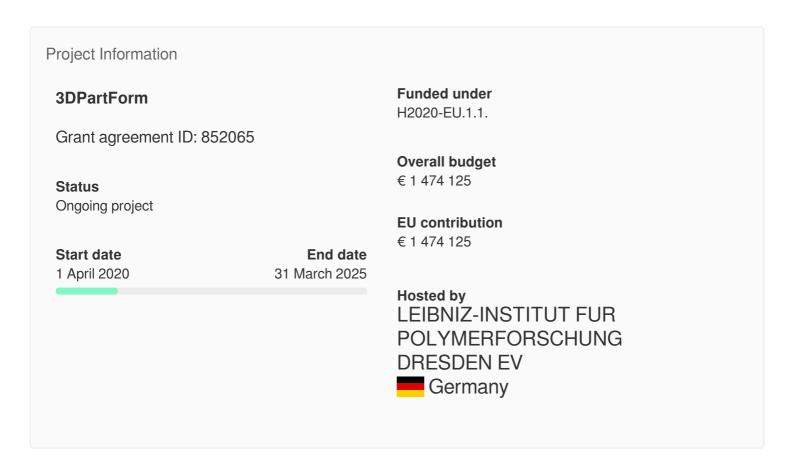
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# 3D-printing of PARTiculate FORMulations utilizing polymer microparticle-based voxels

## **Fact Sheet**



## **Project description**

# Programmable particle units in 3D-printed microrobotics for biomedical applications

Additive manufacturing, also called 3D printing, was originally developed in the 1980s for rapid prototyping of large parts. It has evolved tremendously since then, and is increasingly exploited to produce responsive and multifunctional polymeric parts for applications from biomedicine to microrobotics. To achieve a step-change in possibilities, novel materials and processes are required. The EU-funded 3DPartForm project is developing microparticulate formulations enabling embedded

functionality at the unit level. Much like a voxel, or volume pixel, defines a unit of volume of a 3D graphical object, scientists intend to create material 'voxels' with adaptive properties programmable in time and space that can assemble into novel hierarchical responsive structures. The result will be coupled sensing and actuating microrobotics for biomedical applications.

## **Objective**

New polymer materials are necessary to match the demand for highly integrated, multifunctional, responsive systems for sensing, information processing, soft robotics or multi-parametric implants. Both established

material design concepts based on lithography, and emerging engineering efforts based on additive manufacturing (AM) are currently not able to fully address the need for topologically complex, multifunctional

and stimuli-responsive polymer materials. This proposal aims at establishing a radically new approach for polymer material design, rethinking AM on both material and process level. Here, functionality will be already

embedded at the building block level to emerge into larger scales. The exact methodology relies on polymer microparticles as a novel material basis with arbitrary geometry, function, mechanics and responsiveness.

These microparticulate formulations will serve as predefined, voxel-like building blocks in AM yielding hierarchical assemblies with spatially defined voxel position and programmable, adaptive properties, which clearly go beyond existing functional material classes. With that, 3DPartForm will address the current lack of additive manufacturing providing multifunctional, stimuli-responsive materials, in which not only strongly different, but most importantly functional building blocks with intrinsic time axis will be processed into true 4D-polymer multimaterials. Products emerging from this approach will reach a previously unknown level of system integration, where optical transparency, electric and thermal conductivity as well as diffusivity and mechanical rigidity will become spatiotemporally tunable at single-voxel level. Coupled sensing and actuation operations will be realized by processing, transforming and manipulating single or combined input stimuli within these materials in the focus of 3DPartform, and platforms for biomimetics and cell-free biotechnology will be implemented as a long-term goal.

## Field of science

/natural sciences/chemical sciences/polymer science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /natural sciences/computer and information sciences/data science/data processing /engineering and technology/electrical engineering, electronic engineering, information engineering/electronic engineering/robotics/soft robotics

## Programme(s)

## Topic(s)

## Call for proposal

**ERC-2019-STG** 

## **Funding Scheme**

**ERC-STG - Starting Grant** 

## **Host institution**



## LEIBNIZ-INSTITUT FUR POLYMERFORSCHUNG DRESDEN EV

Address Activity type EU contribution

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01069 Dresden
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## **Beneficiaries (1)**



## LEIBNIZ-INSTITUT FUR POLYMERFORSCHUNG DRESDEN EV



EU contribution

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01069 Dresden

Website **C** Contact the organisation **C** 

Last update: 4 November 2019

Record number: 225642

**Permalink:** https://cordis.europa.eu/project/id/852065

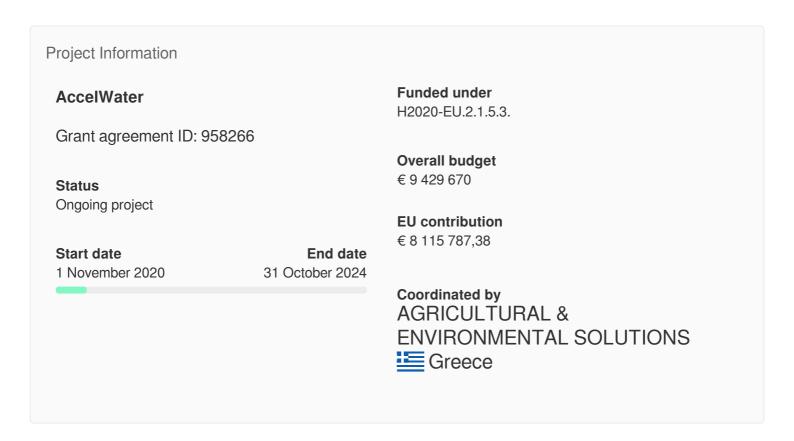
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# Accelerating Water Circularity in Food and Beverage Industrial Areas around Europe

## **Fact Sheet**



## **Project description**

## Improving water efficiency in the food and beverage industry

The food and beverage industry is one of the most water- and energy-intensive industries in the world in addition to producing large volumes of waste. Therefore, freshwater supplies are in high demand. Despite significant progress in improving water use efficiency, the food and beverage sector needs to do more to minimise the use of freshwater during the processing of raw materials. However, current solutions for wastewater treatment in industries under a water-waste-energy nexus remain limited. The aim of the EU-funded AccelWater project is to change this pattern and improve freshwater consumption in the food and beverage industry by focussing on

developing novel water reclaiming and reusing as well as artificial intelligenceenabled monitoring and control technologies.

## **Objective**

The food and drink industry is the EU's biggest manufacturing. However, this industry is one of the most water and energy intensive industries worldwide while the companies belong to that sector produce a lot of waste. Specifically, the food and beverage industry consumes 56% of the available water for industrial and urban use. Additionally, food processing embeds 28% of the total energy used for production, while the total direct energy consumed by the European food industry amounted to 28.4 Mt oil equivalent, while 30.6 Mt of food waste are produced in this industry. Although, huge steps have been made in increasing the water use efficiency through the use of modern technologies and methods, there is limited effort from the food and beverages industry to minimize freshwater use during the raw material processing. In addition, high water consumption in industrial areas lead to increased production costs due to the fact that the tariffs for public wastewater treatment can be very high in European cities as well as the industrial electricity prices can also be very high. Currently, solutions for wastewater treatment in industries include the use of clarification, membrane filtration, reverse osmosis, process water polishing, disinfection with water treatment chemicals and UV, and biological treatment technologies. However, the use of these technologies under a water-waste-energy nexus is very limited.

AccelWater's project main objective is to optimize freshwater water consumption in the food and beverage industry under a water-waste-energy nexus by introducing beyond state-of-the-art water reclaiming, reusing and Artificial Intelligence enabled monitoring and control technologies will permit the use of reclaimed water in the manufacturing processes of food and beverages and on the same time will allow waste and energy reclamation, optimization and management, and consequently will result to environmental and socioeconomic sustainability.

## Field of science

/engineering and technology/other engineering and technologies/food and beverages
/natural sciences/computer and information sciences/artificial intelligence
/engineering and technology/chemical engineering/separation technologies/desalination/reverse osmosis
/engineering and technology/environmental engineering/water treatment processes/wastewater treatment
processes

## Programme(s)

## Topic(s)

## Call for proposal

H2020-LCCI-2020-EASME-singlestage

## **Funding Scheme**

IA - Innovation action

## Coordinator



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## ATHINAIIKI ZYTHOPIIA ANONYMOS ETAIRIA

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## REZOS BRANDS ANONYMI EMPORIKI ETERIA IDON DIATROFIS

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#### **CALISPA SPA**



EU contribution

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## Associazione Nazionale Industriali Conserve Alimentari Vegetali

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## **FUNDACIO UNIVERSITARIA BALMES**



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EU contribution

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## MATADERO FRIGORIFICO DEL CARDONER SA

Spain

EU contribution

€ 287 385

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## **AXIA INNOVATION UG**

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## **HASKOLI ISLANDS**



EU contribution

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## **MATIS OHF**



EU contribution

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Last update: 26 January 2021

Record number: 231635

Permalink: https://cordis.europa.eu/project/id/958266

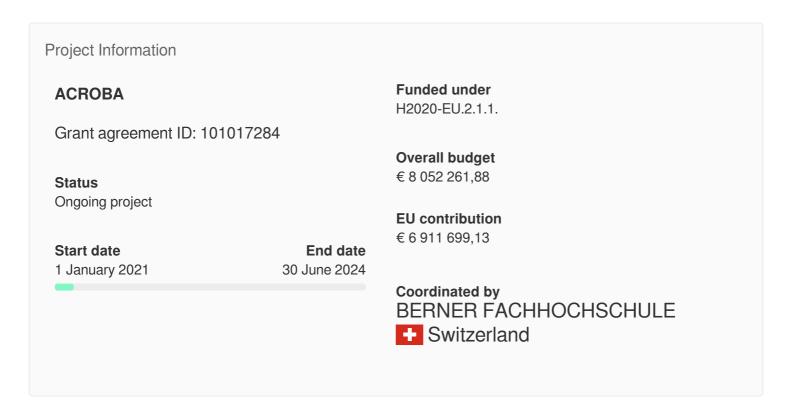
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# Al-Driven Cognitive Robotic Platform for Agile Production environments

# **Fact Sheet**



# **Objective**

ACROBA project aims to develop and demonstrate a novel concept of cognitive robotic platforms based on a modular approach able to be smoothly adapted to virtually any industrial scenario applying agile manufacturing principles. The novel industrial platform will be based on the concept of plug-and-produce, featuring a modular and scalable architecture which will allow the connection of robotic systems with enhanced cognitive capabilities to deal with cyber physical systems (CPS) in fast-changing production environments. ACROBA Platform will take advantage of artificial intelligence and cognitive modules to meet personalisation requirements and enhance mass product customisation through advanced robotic systems capable of self-adapting to the different production needs. A novel ecosystem will be built as a result of this project, enabling the fast and economic deployment of advanced robotic solutions in agile manufacturing industrial lines, especially industrial SMEs. The characteristics of the ACROBA platform will allow its cost-effective integration and

smooth adoption by diverse industrial scenarios to realise their true industrialisation within agile production environments.

The platform will depart from the COPRA-AP reference architecture for the design of a novel generic module-based platform easily configurable and adaptable to virtually any manufacturing line. This platform will be provided with a decentralized ROS node-based structure to enhance its modularity. ACROBA Platform will definitely serve as a cost-effective solution for a wide range of Industrial sectors, both inside the consortium as well as additional industrial sectors that will be addressed in the future. The Project approach will be demonstrated by means of five industrial large-scale real pilots, Additionally, the Platform will be tested through twelve dedicated Hackatons and two ACROBA On-Site Labs for technology transfer experiments.

#### Field of science

/natural sciences/computer and information sciences/artificial intelligence /engineering and technology/electrical engineering, electronic engineering, information engineering/electronic engineering/robotics/cognitive robots

# Programme(s)

Topic(s)

# Call for proposal

H2020-ICT-2020-2

# **Funding Scheme**

IA - Innovation action

### Coordinator



#### BERNER FACHHOCHSCHULE

Address

Activity type

EU contribution

Falkenplatz 24 3012 Bern Higher or Secondary
Education Establishments

€ 842 062,50

Switzerland

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# Participants (16)



#### **BIBA - BREMER INSTITUT FUER PRODUKTION UND LOGISTIK GMBH**

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EU contribution

€ 479 490

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#### **CABKA GROUP GMBH**

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#### STERIPACK IRELAND LTD

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**STAM SRL** 



EU contribution

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#### **ICPE SA**

Romania

EU contribution

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Address Activity type

Splaiul Unirii 313 Sector 3 Private for-profit entities

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# FUNDACION CENTRO DE TECNOLOGIAS DE INTERACCION VISUAL Y COMUNICACIONES VICOMTECH

Spain

EU contribution

€ 397 750

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Paseo Mikeletegi Parque Tecnologico De Miramon 57 20009 Donostia San Sebastian **Research Organisations** 

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#### **MOSES PRODUCTOS SL**

Spain

EU contribution

€ 302 225

Address Activity type

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12

50720 Zaragoza

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

62 of 111

血

#### **PRIZZTECH LTD**

**Finland** 

EU contribution

€ 367 625

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Other

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Last update: 26 January 2021

Record number: 232557

Permalink: https://cordis.europa.eu/project/id/101017284

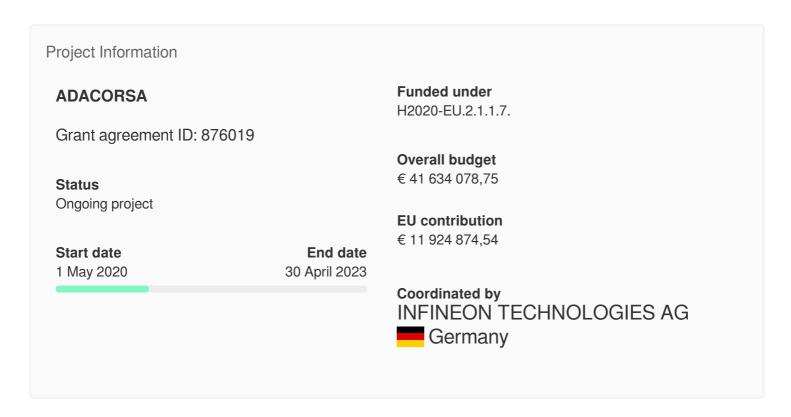
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# Airborne data collection on resilient system architectures

# **Fact Sheet**



# **Project description**

# Improved components and systems for safe drone operation

Europe's drone industry is required to rise to the challenge of new, beyond visual line of sight (BVLOS) technologies, which allow service providers to perform complex drone operations and to navigate without any human interference. The EU-funded ADACORSA project will increase public and regulatory acceptance of BVLOS by demonstrating technologies for safe, reliable and secure drone flight in all circumstances and flight phases. The project will perform research and development of components and systems for sensing, telecommunication and data processing. It will adapt technologies from the automotive sector to the drone market for radar and LiDAR sensors and 3D cameras; moreover, it will deliver hardware and software for accurate sensor fusion and data analytics as well as technologies for secure and reliable drone communication.

# **Objective**

ADACORSA targets to strengthen the European drone industry and increase public and regulatory acceptance of BVLOS (beyond visual line-of-sight) drones, by demonstrating technologies for safe, reliable and secure drone operation in all situations and flight phases.

The project will drive research and development of components and systems for sensing, telecommunication and data processing along the electronics value-chain. Additionally, drone lead smart industries with high visibility and place for improvement will be developed which will pave the way for a higher public / industry acceptance of the drone technologies.

#### In particular, ADACORSA will deliver:

- a) On the component level, functionally redundant and fail-operational radar and LiDAR sensors as well as 3D cameras. In order to reduce risk, time and costs, the project aims to adapt technologies from the automotive sector to the drone market for these components.
- b) On the system level, hardware and software for reliable sensor fusion and data analytics as well as technologies for secure and reliable drone communication using multipath TCP and registration and identification by developing platforms based on eUICCs/eSIM.
- c) On an architecture level, fail-operational drone control and investigation a preoperational Flight Information Management System (FIMS) the integration with CoTS components for Unmanned Air Vehicle Traffic Management System (UTM).

Within the project, 35 physical as well as virtual demonstrators of BLVOS, longrange drone flight shall pave the way toward certifiable systems for future integration of drone operations.

ADACORSA's innovations will leverage the expertise of a very strong consortium, comprising world renowned industrial (OEMs, Tier-1, Tier-2 and technology providers) and research partners along the complete aviation, semiconductor and also automotive value chains, providing Europe with a competitive edge in a growing drone and drone technologies market.

#### Field of science

/engineering and technology/electrical engineering, electronic engineering, information engineering/electronic engineering/robotics/autonomous robots/drones /natural sciences/computer and information sciences/data science/data processing /engineering and technology/electrical engineering, electronic engineering, information engineering/electronic engineering/sensors

# Programme(s)

# Topic(s)

# Call for proposal

H2020-ECSEL-2019-2-RIA

# **Funding Scheme**

ECSEL-RIA - ECSEL Research and Innovation Action

#### Coordinator



#### **INFINEON TECHNOLOGIES AG**

Address Activity type

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Germany

Website Contact the organisation C

EU contribution

€ 1 744 018,44

# Participants (48)



#### **RUHR-UNIVERSITAET BOCHUM**

Germany

EU contribution

€ 234 169,69

Address Activity type

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44801 Bochum Education Establishments

Website 🗹 Contact the organisation 🗹



**Private for-profit entities** 

(excluding Higher or

**Secondary Education** 

**Establishments**)

Germany

EU contribution

€ 147 396,81

Address

Activity type

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**Research Organisations** 

Website 🗹

Contact the organisation



#### GIESECKE+DEVRIENT MOBILE SECURITY GMBH

Germany

EU contribution

€ 498 075,31

Address

Activity type

Prinzregentenstr. 159 81677 Munchen Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation <a>C</a>



#### **ESC AEROSPACE GMBH**

Germany

EU contribution

€ 368 812,50

Address Activity type

Willy-messerschmitt-str. 1

82024 Taufkirchen

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation



#### OSTBAYERISCHE TECHNISCHE HOCHSCHULEAMBERG-WEIDEN

Germany

EU contribution

€ 284 819,06

Address Activity type

Kaiser Wilhelm Ring 23

92224 Amberg

**Higher or Secondary** 

**Education Establishments** 

Contact the organisation 🗹

血

#### UNIVERSITAET DER BUNDESWEHR MUENCHEN

Germany

EU contribution

€ 299 687,50

Address

Activity type

Werner Heisenberg Weg 39

85579 Neubiberg

Higher or Secondary Education Establishments

Website 🗹

Contact the organisation Z

血

#### Syrphus GmbH

Germany

EU contribution

€ 185 625

Address

Activity type

Zum Wendeplatz 3 21220 Seevetal

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

Contact the organisation

血

#### **BAUHAUS LUFTFAHRT EV**

Germany

EU contribution

€ 131 504,63

Address Activity type

Willy Messerschmitt Strasse 1

82024 Taufkirchen

**Research Organisations** 

Website 🗹 Contact the organisation 🗹

血

#### SYSGO GMBH

Germany

EU contribution

€ 199 937,50

Address Activity type

Am Pfaffenstein 8 Private for-profit entities 55270 Klein Winternheim (excluding Higher or

(excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

34 of 67



#### HFC HUMAN-FACTORS-CONSULT GMBH

Germany

EU contribution

€ 27 562,50

Address Activity type

Köpenicker Straße 325 Private for-profit entities 12555 Berlin (excluding Higher or

Secondary Education

**Establishments**)

Website **☑** Contact the organisation **☑** 



#### NXP SEMICONDUCTORS NETHERLANDS BV

Netherlands

EU contribution

€ 547 500

Address Activity type

High Tech Campus 60 Private for-profit entities 5656AG Eindhoven (excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



#### **ALMENDE BV**

Netherlands

EU contribution

€ 218 062,50

Address Activity type

Stationsplein 45 Unit A1.205-

207

3013 AK Rotterdam

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



#### **ANYWI TECHNOLOGY BV**

Netherlands

EU contribution

€ 122 437,50

Address

**3F Rinnenvestaracht 23 H** 

Activity type

Private for-profit entities

35 of 67

JE DIIIIIEIIVESIGIAUIII 20 II

2312 NR Leiden

(excluding Higher or Secondary Education

i ilvate loi-pioni entities

**Establishments**)

Website **C** Contact the organisation **C** 

<u></u>

#### **INNATERA NANOSYSTEMS BV**

Netherlands

EU contribution

€ 162 373,50

Address Activity type

Mekelweg 4 Tud-ewi-cas

2628 CD Delft

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

Contact the organisation



#### **TECHNISCHE UNIVERSITEIT DELFT**

Netherlands

EU contribution

€ 230 965,44

Address Activity type

Stevinweg 1 Higher or Secondary

2628 CN Delft Education Establishments

Website Contact the organisation C

 $\hat{\underline{\underline{m}}}$ 

#### **TECHNOLUTION BV**

Netherlands

EU contribution

€ 149 430,38

Address Activity type

**Burgermeester Jamessingel 1** 

2803 WV Gouda

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

Website 🗹 Contact the organisation 🗹

血

#### **CELESTIA TECHNOLOGIES GROUP BV**

Netherlands

EU contribution

€ 195 123,75

Address Activity type

Norindenplain 2B Private for-profit entities
2311 AH Leiden (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation 🗹



#### STICHTING NATIONAAL LUCHT- EN RUIMTEVAARTLABORATORIUM

Netherlands

EU contribution

€ 277 744,69

Address Activity type

Anthony Fokkerweg 2 1059CM Amsterdam **Research Organisations** 

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#### **AVULAR BV**

Netherlands

EU contribution

€ 174 750

Address Activity type

Achtseweg Zuid 153G, Gebouw Tq3 Verdieping 1 5651 GW Eindhoven Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation



#### **INFINEON TECHNOLOGIES AUSTRIA AG**

Austria

EU contribution

€ 416 525

Address Activity type

Siemensstrasse 2 Private for-profit entities 9500 Villach (excluding Higher or Secondary Education

Establishments)

Website **C** Contact the organisation **C** 

# <u></u>

#### TTTECH COMPUTERTECHNIK AG

Austria

EU contribution

€ 251 501,25

Address

**Schonbrunner Strasse 7** 

1040 Wien

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

Activity type

Website Contact the organisation C

血

#### **FREQUENTIS AG**

**A**ustria

EU contribution

€ 170 000,01

Address Activity type

Innovationsstrasse 1

1100 Wien

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

Contact the organisation <a>C</a>

血

#### **TECHNISCHE UNIVERSITAET GRAZ**

\_\_\_ Austria

**EU** contribution

€ 112 310,63

Address Activity type

Rechbauerstrasse 12 Higher or Secondary

8010 Graz Education Establishments

Website Contact the organisation C

血

#### VIRTUAL VEHICLE RESEARCH GMBH

Austria

EU contribution

€ 178 500

Address Activity type

Inffeldgasse 21 A Research Organisations

8010 Graz

Website Contact the organisation C



#### UNIVERSITAET KLAGENFURT

Austria

EU contribution

€ 111 913,81

Address Activity type

Universitaetsstrasse 65-67 Higher or Secondary

9020 Klagenfurt Education Establishments

Website **C** Contact the organisation **C** 

血

#### **CISC SEMICONDUCTOR GMBH**

Austria

EU contribution

€ 153 161,25

Address Activity type

Lakeside B07 Private for-profit entities
9020 Klagenfurt (excluding Higher or
Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

血

#### COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

France

EU contribution

€ 327 600

Address Activity type

Rue Leblanc 25 Research Organisations

75015 Paris 15

Website Contact the organisation C



#### **LUNDS UNIVERSITET**

Sweden

EU contribution

€ 353 380,13

Address Activity type

Paradisgatan 5C Higher or Secondary
22100 Lund Education Establishments

Contact the organisation

血

#### **ERICSSON AB**

Sweden

EU contribution

€ 243 750

Address Activity type

Torshamnsgatan 23 Private for-profit entities 164 80 Stockholm (excluding Higher or

Secondary Education

**Establishments**)

Website Contact the organisation C



#### **KATAM TECHNOLOGIES AB**

Sweden

EU contribution

€ 217 104

Address Activity type

The Ground, Bedgatan 4

211 30 Malmo

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

Contact the organisation 🗹



# IOTAM INTERNET OF THINGS APPLICATIONS AND MULTI LAYER DEVELOPMENT LTD

Cyprus

EU contribution

€ 150 000

Address Activity type

56 Griva Digeni Str Anna Tower Flat/office 3 3101 Limassol Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation



#### ALTUS LSA COMMERCIAL AND MANUFACTURING SA

Greece

EU contribution

€ 150 000

Address Activity type

Renieri Str 9 Private for-profit entities

40 of 67

73134 Chania (excluding Higher or

Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

血

#### CHAROKOPEIO PANEPISTIMIO

Greece

EU contribution

€ 124 687,50

Address Activity type

Eleftheriou Venizelou 70 Higher or Secondary

17671 Athina Education Establishments

Website **∠** Contact the organisation **∠** 

血

#### **UAB METIS BALTIC**

Lithuania

EU contribution

€ 136 125

Address Activity type

Jogailos G 4 Private for-profit entities
01116 Vilnius (excluding Higher or
Secondary Education

Establishments)

Website Contact the organisation C

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#### INSTITUTO SUPERIOR DE ENGENHARIA DO PORTO

Portugal

EU contribution

€ 80 500

Address Activity type

Rua Dr Antonio Bernardino De

Almeida 431 4200-072 Porto Higher or Secondary Education Establishments

Contact the organisation



#### **AIRHOLDING S.A.**

Portugal

EU contribution

€ 68 765,63

Address Activity type

Parque Aeronautico De

**Alverca** 

2615315 Alverca Do Ribatejo

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

Contact the organisation



#### FORD OTOMOTIV SANAYI ANONIM SIRKETI

Turkey

EU contribution

€ 131 562,50

Address Activity type

Akpinar Mah Hasan Basri Cad

No 2 Sancaktepe 34885 Istanbul Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation



#### TUSAS-TURK HAVACILIK VE UZAY SANAYII AS

Turkey

EU contribution

€ 268 125

Address Activity type

Fethiye Mahallesi Havacilik

Bulvari 17 Kazan 06980 Ankara Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Website Contact the organisation C



#### TURKCELL TEKNOLOJI ARASTIRMA VE GELISTIRME ANONIM SIRKETI

Turkey

EU contribution

€ 80 312,50

Address Activity type

Turkcell Kucukyali Plaza

Aydinevler Mah Inonu Cad 36

Kucukyali Ofispark C Block Maltepe

34854 Istanbul

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

Contact the organisation



#### TURKIYE BILIMSEL VE TEKNOLOJIK ARASTIRMA KURUMU

Turkey

EU contribution

€ 328 446,13

Address Activity type

Ataturk Bulvari 221

06100 Ankara

**Research Organisations** 

Website 🗹 Contact the organisation 🗹



#### SMART IS MAKINALARI SANAYI VE TICARET ANONIM SIRKETI

Turkey

EU contribution

€ 144 375

Address Activity type

Kecilkoyosb Mah. Ahmey Private for-profit entities
Nazif Zorlu Bulvari 4 Kisim (excluding Higher or
45140 Manisa Secondary Education

**Establishments**)

Contact the organisation



# ROBONIK MEKATRONIK TEKNOLOJILERI DANISMANLIK SANAYI VE TICARET LIMITEDSIRKETI

Turkey

EU contribution

€ 93 750

Address Activity type

Anittepe Mah. Kubilay Sok. Private for-profit entities
No:24/1 (excluding Higher or
06570 Ankara Secondary Education

**Establishments**)

Contact the organisation



#### INFINEON TECHNOLOGIES ITALIA SRL



EU contribution

€ 312 500

Address Activity type

Via Dei Valtorta 48 Private for-profit entities

20127 Milano (evoluding Higher or 43 of 67

ZUIZI WIIIAIIU

Secondary Education Establishments)

Website **C** Contact the organisation **C** 



#### CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LA NANOELETTRONICA

Italy

EU contribution

€ 131 250

Address Activity type

Via Toffano 2 Research Organisations

40125 Bologna

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#### UNIVERSITA DEGLI STUDI DI PARMA

Italy

EU contribution

€ 113 750

Address Activity type

Via Universita 12 Higher or Secondary
43100 Parma Education Establishments

Website **C** Contact the organisation **C** 



#### **NOKIA TECHNOLOGIES OY**

Finland

EU contribution

€ 470 500

Address Activity type

Karakaari 7 Private for-profit entities
02610 Espoo (excluding Higher or
Secondary Education
Establishments)

Website **C** Contact the organisation **C** 



#### TAMPEREEN KORKEAKOULUSAATIO SR

+ Finland

EU contribution

€ 293 545

Address Activity type

Contact the organisation <a>C</a>



#### **CROSSCONTROL OY**

+ Finland

EU contribution

€ 110 937,50

Address Activity type

Finlaysoninkuja 21 Private for-profit entities
33210 Tampere (excluding Higher or
Secondary Education

**Establishments**)

Website **☑** Contact the organisation **☑** 

Last update: 18 February 2021

Record number: 229690

Permalink: https://cordis.europa.eu/project/id/876019

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# **ADDitively Manufactured OPTimized** Structures by means of Machine Learning

# **Fact Sheet**

**Project Information** 

**ADDOPTML** 

Grant agreement ID: 101007595

**Status** 

Grant agreement signed

Start date

1 May 2021

**Funded under** 

H2020-EU.1.3.3.

**Overall budget** 

€ 2 410 400

**EU** contribution

€ 2 410 400

**End date** 

30 April 2025

Coordinated by

NATIONAL TECHNICAL

UNIVERSITY OF ATHENS - NTUA

Greece

# **Objective**

Additive Manufacturing (AM) has attracted the interest of industry due to its potential for flexible and automated production of complex geometry objects, combined with minimizing the time required to develop new products. According to recent analysis, the market for AM products is projected to grow annually by 18%. Although AM technologies are an integral part of digitized industrial production and of the 4th industrial revolution, Architectural, Engineering & Construction Industry (AECI) is reluctant to adopt them in design and construction. While AECI has been a pillar industry since 80's, its scale and impact on the global economy expands continuously. This development is also associated with important drawbacks, including large contribution to waste production, huge energy consumption and

severe environmental pollution. The recent Green New Deal for Europe sets as primary objective the reform of heavy industry, including AECI, which accounts for 40% of the energy consumed on the continent. The main tools for achieving this objective are to minimize both materials used and amount of AECI waste. The principal aim of ADDOPTML network is to create and validate a holistic machine learning aided, optimum design-manufacturing process of civil structures by developing strong synergies among a multi-disciplinary team of academic experts and SMEs from Belgium, Cyprus, Germany, Greece, Italy, Jordan, Netherlands and Spain. This will be achieved taking advantage of ongoing progress in AM technologies including recycled consumables, thus contributing to the European challenge to become the world's first climate-neutral bloc by 2050. As a primary application, an integrated structural design framework based on AM optimized structural elements for transitional structures will be developed, to address the shortage of hospital units faced by many countries as coronavirus pandemic continues to sweep the World and to develop novel human shelter structure for postdisaster housing.

#### Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /medical and health sciences/health sciences/infectious disease/RNA virus/coronavirus /natural sciences/computer and information sciences/artificial intelligence/machine learning

# Programme(s)

Topic(s)

# Call for proposal

H2020-MSCA-RISE-2020

# **Funding Scheme**

MSCA-RISE - Marie Skłodowska-Curie Research and Innovation Staff Exchange (RISE)

# Coordinator



#### NATIONAL TECHNICAL UNIVERSITY OF ATHENS - NTUA

Address Activity type EU contribution

**Heroon Polytechniou 9 Zographou Campus** 15780 Athina Greece

**Higher or Secondary Education Establishments**  € 1 113 200

Website 🗹

Contact the organisation

# Participants (12)



#### POLITECNICO DI TORINO

Italy

EU contribution

€ 184 000

Address

Corso Duca Degli Abruzzi 24 10129 Torino

Website 🗹

Activity type

**Higher or Secondary Education Establishments** 

Contact the organisation



#### **UNIVERSITY OF CYPRUS**

Cyprus

EU contribution

€ 73 600

Address Activity type

1, Panepistimiou Avenue, 2109, Aglantzia

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**Higher or Secondary Education Establishments** 

Website 🗹 Contact the organisation



#### **UNIVERSITY OF STUTTGART**

Germany

EU contribution

€ 46 000

Address Activity type

Keplerstrasse 7 **Higher or Secondary** 70174 Stuttgart **Education Establishments** 

Website 🗹 Contact the organisation

#### **IDEA75 SRL**



EU contribution

€ 50 600

Address Activity type

Via A.m. Calefati 197 Private for-profit entities 70122 Bari (excluding Higher or

Secondary Education

**Establishments**)

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#### SPACE APPLICATIONS SERVICES NV

Belgium

EU contribution

€ 23 000

Address Activity type

Leuvensesteenweg 325 Private for-profit entities

1932 Zaventem (excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



#### **FUNDACION IDONIAL**

Spain

EU contribution

€ 46 000

Address Activity type

**Avenida Jardin Botanico 1345** 

Parque Cientifico Y Tecnologico Zona Intra

33203 Gijon

Research Organisations

Website **∠** Contact the organisation **∠** 



#### **EUROPEAN FEDERATION FOR WELDING JOINING AND CUTTING**

Belgium

EU contribution

€ 46 000

Address Activity type

Av Antoon Van Oss 14

1120 Bruxelles

Other

Website Contact the organisation C

血

#### **MX3D BV**

Netherlands

EU contribution

€ 46 000

Address Activity type

Dynamostraat 46 Private for-profit entities
1014 BK Amsterdam (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



#### KATASKEVES & ESTHITIRES IDIOTIKI KEFALAIOUXIKI ETAIREIA

Greece

EU contribution

€ 230 000

Address Activity type

Kifisia 125-127 Private for-profit entities
11524 Athens (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation 🗹



#### RISA SICHERHEITSANALYSEN GMBH



EU contribution

€ 230 000

Address Activity type

Xantener Strasse 11 Private for-profit entities
10707 Berlin (excluding Higher or
Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



#### VRIJE UNIVERSITEIT BRUSSEL

Belgium

EU contribution

€ 92 000

Address Activity type

Pleinlaan 2 Higher or Secondary

1050 Brussel Education Establishments

53 of 57

1000 DIMOGOI ESTABIIGI

Website 🗹

Contact the organisation

<u></u>

#### **SOTIROPOULOS - KALLIORAS KAI SIA OE**

Greece

EU contribution

€ 230 000

Address Activity type

Georgiou Bakou 1 Private for-profit entities
11524 Athina (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation

# Partners (1)

血

#### JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Jordan

Address Activity type

Rbid Higher or Secondary
22110 Irbid Education Establishments

Contact the organisation <a>C</a>

Last update: 31 January 2021 Record number: 232858

**Permalink:** https://cordis.europa.eu/project/id/101007595

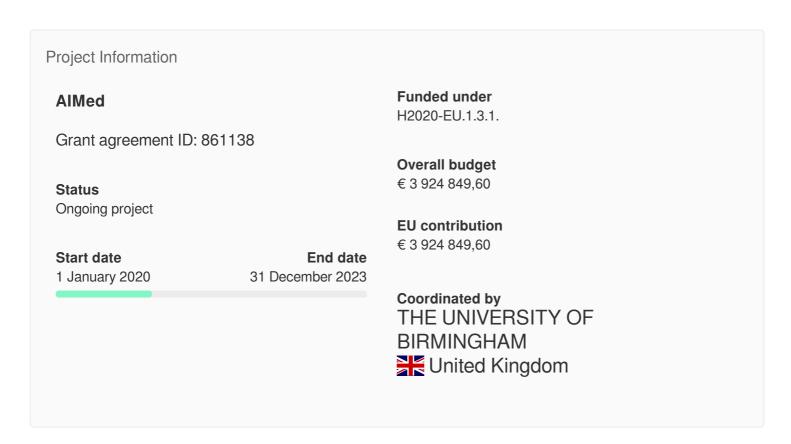
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# Antimicrobial Integrated Methodologies for orthopaedic applications

# **Fact Sheet**



# **Project description**

# Reducing infection in orthopaedics

In orthopaedic implants, such as joint prostheses, postoperative infections by antibiotic-resistant bacteria are on the rise, representing a heavy burden for patients and healthcare systems. This is why the prevention of biofilm formation on the surface of the implants is important. The EU-funded AIMed project will develop a series of biomaterials with anti-bacterial properties. Laser processing will be used to make the biomaterials more resistant to the formation of biofilms. The project, which consists of a network of 12 beneficiaries and six partner institutions, will test the properties of the new materials to demonstrate that they are suitable for use in future implant interventions.

# **Objective**

The AlMed network, consisting of 12 beneficiaries and 6 partner organisations, will develop a range of materials with anti-bacterial properties that are suitable for use on the surfaces of orthopaedic implants. This is in response to the increasing problem of post-operative infection by antibiotic-resistant bacteria. By combining several approaches to disrupt surface biofilm formation, the materials developed by the AlMed network will eventually result in fewer surgical infections, faster recovery of patients, and greatly reduced post-operative healthcare costs. The network will develop novel peptide sequences and ways of binding them to the surfaces of olymers, ceramics and metals. A complementary approach will be the developent of metal ion substituted calcium phosphate coatings which can be applied to implants by additive manufacturing techniques. The efficacy of these anti-bacterial surfaces will be further enhanced by laser processing of the material to make it unattractive to biofilms (by altering the roughness and wetting characteristics). The network will carry out a thorough investigation of the properties of the new materials to ensure that they are feasible for use in future implants. This work will include the evaluation of antibacterial action and biocompatibility using appropriate models. Training of the 15 ESR's appointed to the network will be multi-disciplinary and intersectoral, with an emphasis on the need for technology transfer from academic institutions to commercial users.

### Field of science

/medical and health sciences/clinical medicine/orthopaedics
/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing
/natural sciences/chemical sciences/inorganic chemistry/metals
/medical and health sciences/medical biotechnology/implants

# Programme(s)

Topic(s)

# Call for proposal

H2020-MSCA-ITN-2019

# **Funding Scheme**

MSCA-ITN-ETN - European Training Networks

#### Coordinator



#### THE UNIVERSITY OF BIRMINGHAM

Address Activity type

Edgbaston Higher or Secondary
B15 2TT Birmingham Education Establishments

**United Kingdom** 

Website **C** Contact the organisation **C** 

EU contribution

€ 909 517,68

# Participants (11)



#### INSTITUT NATIONAL POLYTECHNIQUE DE TOULOUSE

France

EU contribution

€ 274 802,04

Address Activity type

Allee Emile Monso 6 Higher or Secondary
31029 Toulouse Cedex 4 Education Establishments

Website **C** Contact the organisation **C** 

血

#### **UNIVERSITE PAUL SABATIER TOULOUSE III**

France

EU contribution

€ 274 802,04

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Route De Narbonne 118 Higher or Secondary
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#### UNIVERSITE POLYTECHNIQUE HAUTS-DE-FRANCE

France

EU contribution

€ 274 802,04

Address Activity type

Le Mont Houy Higher or Secondary
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Website **C** Contact the organisation **C** 

血

#### UNIVERSITA DEGLI STUDI DI TRIESTE

Italy

EU contribution

€ 261 499,68

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Piazzale Europa 1 Higher or Secondary

34127 Trieste Education Establishments

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血

#### **UNIVERSITY OF LIMERICK**

Ireland

EU contribution

€ 274 684,32

Address Activity type

National Technological Park,

Plassey

- Limerick

Education Establishments

**Higher or Secondary** 

Website Contact the organisation C

血

#### **UNIVERSIDADE DO PORTO**

Portugal

EU contribution

€ 237 720,24

Address Activity type

Praca Gomes Teixeira Higher or Secondary

4099 002 Porto Education Establishments

Website Contact the organisation C

血

#### **RUDER BOSKOVIC INSTITUTE**

Croatia

EU contribution

€ 237 367,08

Address Activity type

Bijenicka Cesta 54 Research Organisations

10000 Zagreb

Website Contact the organisation

**m** 

Germany

EU contribution

€ 252 788,40

Address Activity type

Schlossplatz 4 Higher or Secondary

91054 Erlangen Education Establishments

Website **C** Contact the organisation **C** 

血

# INSTITUT PRO ELEKTRONIKA NA BAN - INSTITUTE OF ELECTRONICS BULGARIAN ACADEMY OF SCIENCES

Bulgaria

EU contribution

€ 423 172,80

Address Activity type

**Tsarigradsko Shosse** 

Boulevard 72 1784 Sofia **Research Organisations** 

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#### **REGEMAT 3D LTD**

Spain

EU contribution

€ 250 904,88

Address Activity type

Avenida De La Innovacion 1

18100 Armilla

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

Contact the organisation 🗹



#### **PHOTON ENERGY GmbH**

Germany

EU contribution

€ 252 788,40

Address Activity type

Braunleinsberg 10 Private for-profit entities 91242 Ottensoos (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation 7

**Last update:** 11 February 2021 **Record number:** 226802

**Permalink:** https://cordis.europa.eu/project/id/861138

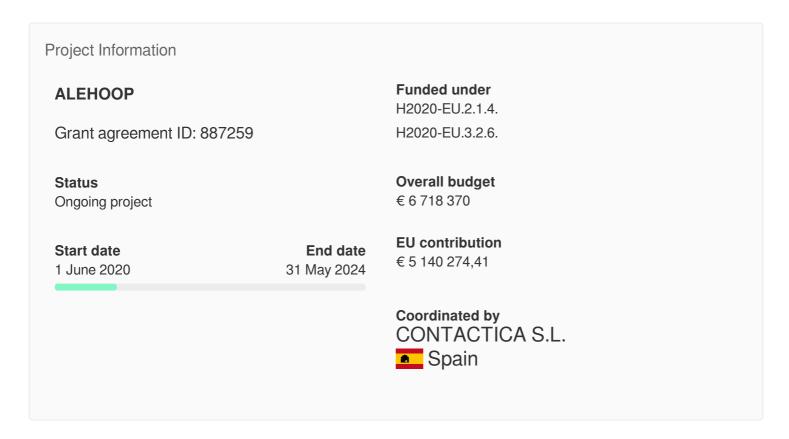
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Biorefineries for the valorisation of macroalgal residual biomass and legume processing by-products to obtain new protein value chains for high-value food and feed applications

# **Fact Sheet**



# **Project description**

# Natural alternative source of proteins from algae

As protein demand for both human food and animal feeding increases, the EU requires 30 million t of imported soy each year. Thus, the EU becomes dependent on imported soy. The existing source of protein is becoming unsustainable from an economic and environmental point of view for Europe, resulting in concerns over the future of food security. As a consequence, there is a rising demand for low-cost

natural alternative proteins. The EU-funded ALEHOOP project will demonstrate at pilot level sustainable macroalgae and legume-based biorefineries, aiming to extract dietary proteins as natural alternative proteins from algae-based and plant residual biomass for livestock feeding. The project intends to contribute to a reduction of the EU's dependency on imported proteins and the increase of raw material security.

# **Objective**

ALEHOOP provides the demonstration at pilot scale of both sustainable macroalgae and legume-based biorefineries for the recovery of low-cost dietary proteins from alga-based and plant residual biomass and their validation to meet market requirements of consumers and industry in the food and feed sectors. In these sectors, consumers are demanding affordable functional natural proteins from alternative sources and industry is demanding low-cost bio-based protein formulations with better performance and higher sustainability.

Current protein demand for the 7.3 billion inhabitants of the world is approximately 202 Mt. Due to the rise in meat consumption more proteins are therefore required for animal feeding. To satisfy the current protein demand, Europe imports over 30 Mt of soy from the Americas each year mainly for animal feeding, entailing 95% dependency of EU on imported soy. Current sources of proteins are becoming unsustainable from an economic and environmental perspective for Europe resulting in concerns for sustainability and food security and leading to search for new alternative proteins.

ALEHOOP addresses the obtaining of proteins from green macroalgal blooms, brown seaweed by-products from algae processors and legume processing by-products (peas, lupines, beans and lentils) as alternative protein sources for animal feeding (case of green seaweed) and food applications (case of brown seaweed and legume by-products), since they are low cost and under-exploited biomass that do not compete with traditional food crops for space and resources. This will reduce EU 's dependency on protein imports and contribute to our raw material security. The new proteins will be validated in foods for elderly, sporty and overweight people, vegetarians and healthy consumers as well as for animal feed creating cross-sectorial interconnection between these value chains and supporting the projected business plan.

## Field of science

/agricultural sciences/agriculture, forestry, and fisheries/agriculture/grains and oilseeds/legumes
/agricultural sciences/agricultural biotechnology/biomass
/natural sciences/biological sciences/biochemistry/biomolecules/proteins
/social sciences/other social sciences/social sciences interdisciplinary/sustainable development
/engineering and technology/other engineering and technologies/food and beverages/food safety

# Programme(s)

# Topic(s)

# Call for proposal

H2020-BBI-JTI-2019

# **Funding Scheme**

BBI-IA-DEMO - Bio-based Industries Innovation action - Demonstration

# Coordinator



#### **CONTACTICA S.L.**

Address

Calle Canchal 8 Local 3

28021 Madrid

Spain

Website 🗹

Activity type

**Private for-profit entities** (excluding Higher or **Secondary Education** 

**Establishments**)

Contact the organisation

EU contribution

€ 484 736,63

# Participants (15)



## ISANATUR SPAIN SL



EU contribution

€ 212 055

Address

Pol Ind Aloa Calle A Naves 01

31100 Puenta La Reina

Activity type

**Private for-profit entities** (excluding Higher or **Secondary Education** 

**Establishments**)

Contact the organisation <a>C</a>

# 血

#### **BIOZOON GMBH**



EU contribution

€ 252 087,50

Address

Activity type

Nansenstr. 8 27572 Bremerhaven Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Website 🗹

Contact the organisation



### **BIOSURYA SL**



EU contribution

€ 155 021,25

Address

Activity type

Calle Aneto Parcela 4G Nave

**Derecha Sector 2** 

**50410 Cuarte De Huerva** 

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

Contact the organisation 🗹



#### **CENTIV GMBH**



EU contribution

€ 220 513,75

Address

Activity type

Villinger Weg 10 28816 Stuhr Private for-profit entities (excluding Higher or Secondary Education Establishments)

Website 🗹

Contact the organisation



### GARLAN, S.COOP.



EU contribution

€ 193 922,29

Address

Antigua Nacional I, S/n

01192 Ilarraza

Activity type

Private for-profit entities (excluding Higher or

59 of 77

## Contact the organisation <a>C</a>



#### **ALGINOR ASA**

Norway

EU contribution

€ 410 453,73

Address Activity type

Haraldsgata 162 Private for-profit entities
5525 Haugesund (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



#### **NUTRITION SCIENCES**

Belgium

EU contribution

€ 219 525

Address Activity type

Booiebos 5 Private for-profit entities
9031 Drongen (excluding Higher or
Secondary Education

Establishments)

Contact the organisation

Website 🗹



### INDUKERN,S.A.



EU contribution

€ 264 248,25

Address Activity type

Calle Alta Ribagorza Sec Mas BI 6 Prat Llobregat

08820 Barcelona

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

Contact the organisation 🗹



# EIGEN VERMOGEN VAN HET INSTITUUT VOOR LANDBOUW- EN VISSERIJONDERZOEK

Belgium

EU contribution

€ 283 837,50

Address Activity type

Burg. Van Gansberghelaan 92

Bus 1

9820 Merelbeke

Website **☑** Contact the organisation **☑** 



# ASOCIACION NACIONAL DE FABRICANTES DE CONSERVAS DE PESCADOS Y MARISCOS-CENTRO TECNICO NACIONAL DE CONSERVACION DE PRODUCTOS DE LA PESCA

**Research Organisations** 

Spain

EU contribution

€ 347 062,50

Address Activity type

Lagoas Marcosende

36310 Vigo

**Research Organisations** 

**Research Organisations** 

Website 🗹 Contact the organisation 🗹



### **FUNDACION TECNALIA RESEARCH & INNOVATION**

Spain

EU contribution

€ 550 856,25

Address Activity type

Parque Cientifico Y

Tecnologico De Gipuzkoa

Paseo Mikeletegi 2

20009 Donostia/san Sebastian

(Gipuzkoa)

Website Contact the organisation C



#### **TECHNOLOGICAL UNIVERSITY DUBLIN**

Ireland

EU contribution

€ 490 725

Address Activity type

**North Circular Road 191 Park** 

House Grangegorman

D07 EWV4 Dublin

Higher or Secondary Education Establishments

血

#### **UNIVERSIDAD DE CADIZ**

Spain

EU contribution

€ 327 022,88

Address Activity type

Centro Cultural Reina Sofia Higher or Secondary

Paseo Carlos Iii N9

11003 Cadiz

Website <a>C</a>

Contact the organisation

**Education Establishments** 

亩

#### VYZKUMNY USTAV VETERINARNIHO LEKARSTVI

Czechia

EU contribution

€ 363 819,38

Address Activity type

Hudcova 296/70

621 00 Brno

Website 🗹

Contact the organisation 🗹

Other



### **UNIVERSIDAD DE VIGO**

Spain

EU contribution

€ 364 387,50

Address Activity type

Lg Campus Lagoas Higher or Secondary

Marcosende Education Establishments

36310 Vigo Pontevedra

Website **C** Contact the organisation **C** 

Last update: 15 December 2020

Record number: 229239

Permalink: https://cordis.europa.eu/project/id/887259

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# Advanced Multimodal Photonics Laser Imaging Tool for Urothelial Diagnosis in Endoscopy

# **Fact Sheet**



# **Project description**

# Advanced multimodal laser imaging for in vivo deep tissue endoscopy

Motivated by recent breakthroughs in multi-photon imaging, the AMPLITUDE project is developing a microscopy and endoscopy platform that exploits novel lasers in combination with state-of-the-art imaging and optical analyses technologies to address the poor reliability and accuracy of bladder cancer diagnosis and monitoring. The project explores the application of unique lasers to generate light in previously unavailable infra-red regions and penetrate much deeper into tissue, where early signs of cancer often lie undetected. By combining these lasers with multiphoton

microscopy, auto fluorescence imaging and Raman spectroscopy, the project aims to develop an integrated imaging platform that can capture high-resolution images at depths up to 10 times greater than existing diagnostic tools enabling doctors to more accurately identify and monitor tumours.

# **Objective**

There is an absence of lasers with the necessary wavelengths and characteristics to access the possibilities for deeper high-resolution biological tissue imaging in the third bio-window between 1650 nm and 1870 nm. Motivated by recent breakthrough results in multi-photon imaging at twice the depths currently achievable, we will meet the urgent need for new sources to address the outstanding research questions in this spectral region. Results will guide and enable instrument development in this appealing and relatively unexplored biophotonics imaging wavelength range.

The AMPLITUDE consortium proposes a new concept of label-free, multi-modal microscopy and endoscopic imaging operating in this new wavelength region with multiple imaging and spectroscopic technologies, including NIR confocal reflectance microscopy, multi-photon microscopy and spontaneous Raman spectroscopy.

By progressing ultrafast fibre laser developments at 1700 nm, we will deliver new imaging capabilities in an appropriate form factor and at cost suitable for widespread adoption. This will be further enhanced by providing additional output at 850 nm using second harmonic generation from one integrated laser device.

This will enable a pioneering new compact and efficient multi-modal capability combining confocal and non-linear imaging techniques, overcoming performance limitations in medical and biological imaging applications, including improved pathohistological staging of tumours and in-vivo endoscopic assessment of depth of lesion invasiveness. Deeper multi-photon microscopy with autofluorescence imaging of cellular metabolic conditions, whose aspects are tightly related to cellular functioning and to cancer, implemented in tandem with Raman spectroscopy will provide exhaustive characterisation of the examined tissue at morphological, metabolic and molecular levels, allowing in-vivo optical biopsy for bladder cancer diagnosis, grading and staging.

# Field of science

/natural sciences/chemical sciences/analytical chemistry/spectroscopy /medical and health sciences/clinical medicine/cancer/bladder cancer /natural sciences/physical sciences/optics/microscopy /natural sciences/physical sciences/optics/laser physics

# Programme(s)

# Topic(s)

# Call for proposal

H2020-ICT-2019-2

# **Funding Scheme**

RIA - Research and Innovation action

# Coordinator



#### TAMPEREEN KORKEAKOULUSAATIO SR

Kalevantie 4 33100 Tampere

+ Finland

Address

Contact the organisation

Activity type

Higher or Secondary

**Education Establishments** 

EU contribution

€ 710 000

# Participants (10)



#### **ASTON UNIVERSITY**

**United Kingdom** 

EU contribution

€ 620 657,50

Address Activity type

Aston Triangle Higher or Secondary
B4 7ET Birmingham Education Establishments

Website **C** Contact the organisation **C** 



### **CONSIGLIO NAZIONALE DELLE RICERCHE**



EU contribution

€ 512 000

Address Activity type

58 of 67

Piazzale Aldo Moro 7 00185 Roma

**Research Organisations** 

Website 🗹

Contact the organisation



#### **AMPLICONYX OY**

**Finland** 

EU contribution

€ 375 687,50

Address Activity type

Lautakatonkatu 18 Private for-profit entities 33580 Tampere (excluding Higher or **Secondary Education Establishments**)

Contact the organisation



#### **FUNDACIO INSTITUT DE CIENCIES FOTONIQUES**

Spain

EU contribution

€ 396 250

Address

**Avinguda Carl Friedrich** 

Gauss 3

08860 Castelldefels

Activity type

**Research Organisations** 

Website 🗹 Contact the organisation



# FEMTONICS KUTATO ES FEJLESZTO KORLATOLT FELELOSSEGU **TARSASAG**

Hungary

EU contribution

€ 593 740

Address Activity type

**Tuzolto Utca 59 Private for-profit entities** 1094 Budapest (excluding Higher or **Secondary Education Establishments**)

Contact the organisation



#### UNIVERSITA' DEGLI STUDI DI MILANO-BICOCCA



59 of 67

EU contribution

€ 330 400

Address Activity type

Piazza Dell'ateneo Nuovo 1

**20126 Milano** 

**Higher or Secondary** 

**Education Establishments** 

Website **C** Contact the organisation **C** 



#### UNIVERSITA DEGLI STUDI DI FIRENZE

Italy

EU contribution

€ 262 500

Address Activity type

Piazza San Marco 4 Higher or Secondary
50121 Florence Education Establishments

Website **☑** Contact the organisation **☑** 



#### HC PHOTONICS CORPORATION LIMITED

Taiwan

EU contribution

€ 0

Address Activity type

Technology Road V 2 F4

30078 Hsinchu

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



#### MODUS RESEARCH AND INNOVATION LIMITED

**United Kingdom** 

EU contribution

€ 233 750

Address Activity type

7-11 Melville Street

**EH3 7PE Edinburgh** 

**Research Organisations** 

Contact the organisation <a>C</a>



#### **LEONI FIBER OPTICS GMBH**

Germany

EU contribution

€ 451 765

Address Activity type

Muhldamm 6 Private for-profit entities 96524 Neuhaus Schierschnitz (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation 🗹

Last update: 2 June 2020 Record number: 226497

Permalink: https://cordis.europa.eu/project/id/871277

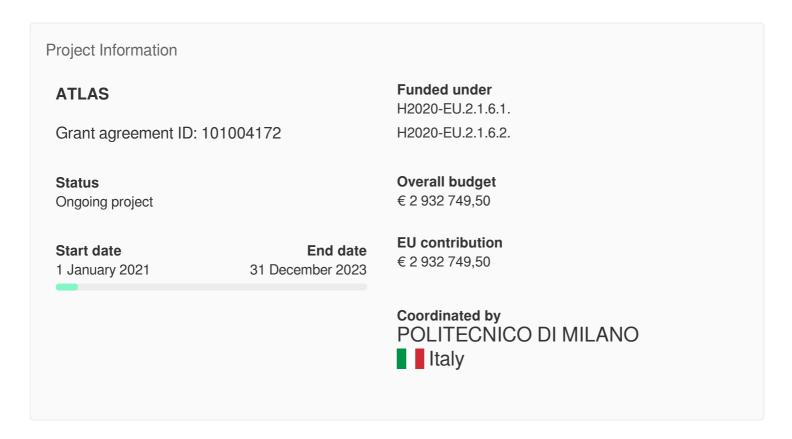
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# **Advanced Design of High Entropy Alloys Based Materials for Space Propulsion**

# **Fact Sheet**



# **Objective**

The development of next generation space exploration propulsion systems requires high temperature materials able to guarantee low density, high strength and ductility, oxidation resistance, good creep properties.

High Entropy Alloys (HEA) are an excellent candidate due to their potential high specific strength and oxidation resistance at high temperatures and have been identified as possible replacement for superalloys in propulsion systems components. HEAs are relatively new class of materials and although since 2004 more than 600 HEA journal and conference papers have been published the whole HEA world still leaves un-answered questions. Therefore, in order to exploit these advancements on HEA, further work is needed.

The main goal of ATLAS is to take over the present limitations and unsolved issues that limit the utilization of HEA through multidisciplinary materials design framework

that advances the state-of-the-art of High Entropy Alloys and related materials compounds towards the practical needs (current and future) of the space propulsion industry.

To achieve this ambitious result the following challenges will be addressed: defnition of an accurate material property database, design of the HEA, definition of Hybrid/Compound solutions with combination of HEA materials joined to Ceramics and/or Ceramic Matric Composites (CMCs) to create lightweight and temperature resistant functional materials, manufacturing of near-net shape manufacturing and materials integration/joining with Ceramics and CMCs.

To produce the HEA materials and related compounds materials designed within the project two different additive manufacturing processes will be used from the production of coupons and samples to the final full scale demenstration, thus paving the path for the application of HEAs for the new generation of space propulsion.

## Field of science

/natural sciences/chemical sciences/electrochemistry/electrolysis
/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing
/engineering and technology/materials engineering/ceramics
/natural sciences/physical sciences/astronomy/space exploration

# Programme(s)

Topic(s)

# Call for proposal

H2020-SPACE-2020

# **Funding Scheme**

RIA - Research and Innovation action

# Coordinator



#### **POLITECNICO DI MILANO**

Address

Piazza Leonardo Da Vinci 32 20133 Milano Activity type

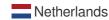
Higher or Secondary Education Establishments EU contribution

€ 571 250

# Participants (7)



#### **ARCEON BV**



EU contribution

€ 95 625

Address Activity type

Foulkeslaan 45

2625 PX Delft

(excluding Higher or Secondary Education Establishments)

Contact the organisation 🗹



#### **UNIVERSITY OF DERBY**

United Kingdom

EU contribution

€ 719 687,50

Address Activity type

Kedleston Road Higher or Secondary
DE22 1GB Derby Education Establishments

Website Contact the organisation C



#### **TISICS LIMITED**

United Kingdom

EU contribution

€ 222 500

Address Activity type

Invincible Road 22 Private for-profit entities
GU14 7QU Farnborough (excluding Higher or
Secondary Education

**Establishments**)

Website Contact the organisation C



#### **QUESTEK EUROPE AB**



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EU contribution

€ 449 375

Address Activity type

Rasundavagen 18 Private for-profit entities
169 67 Solna (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



#### **DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV**

Germany

EU contribution

€ 482 500

Address Activity type

Linder Hohe Research Organisations

51147 Koln

Website **C** Contact the organisation **C** 



#### YOURSCIENCEBC LIMITED

**United Kingdom** 

EU contribution

€ 94 937

Address Activity type

107 Image Court 328-334 Private for-profit entities

Molesey Road (excluding Higher or

KT12 3PD Walton On Thames Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



#### DAWN AEROSPACE NEDERLAND B.V.

Netherlands

EU contribution

€ 296 875

Address Activity type

Overslagweg 7 Private for-profit entities
2645 EK Delfgauw (excluding Higher or
Secondary Education

Establishments)

Last update: 25 February 2021

Record number: 232962

**Permalink:** https://cordis.europa.eu/project/id/101004172

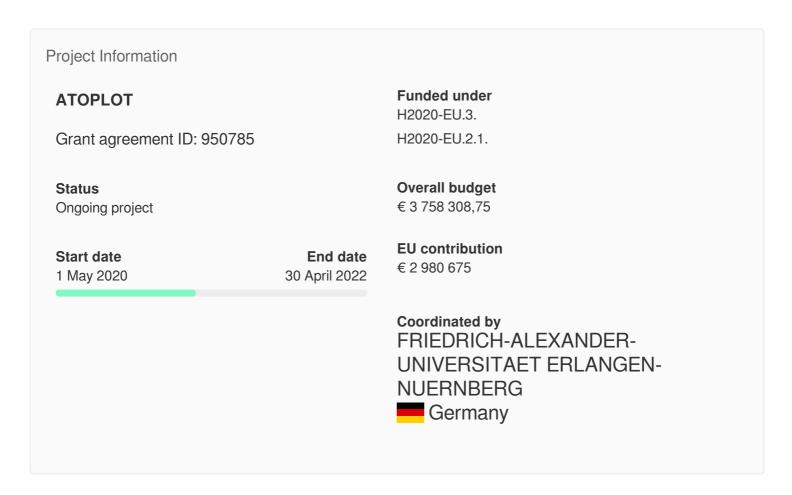
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# The atomic-layer 3D plotter

# **Fact Sheet**



# **Project description**

# Improved technology for 3D nanoprinting

Nanolithography comprises a growing field of techniques within nanotechnology concerning the engineering of structures on a nanometre scale. The field is of particular interest to computer engineering, providing experts the opportunity to create super-high density microprocessors and memory chips. Among the biggest market challenges in the field is reducing costs and time spent on the prototyping and fabrication process as well as being able to utilise a broader range of materials. The EU-funded ATOPLOT project aims to address those challenges and improve the capabilities of the ATLANT3D Nanofabricator for 3D nanoprinting technology.

# **Objective**

Micro- and nanofabrication represents important mainstream manufacturing processes across several industrial fast-growing sectors, such as MEMS & sensors, optics & photonics, RF devices, semiconductors, printed electronics, which in turn are significant building blocks in e.g. advanced healthtech, biotech, cleantech, and electronics. Yet, to improve the market stance, the micro-/nanofabrication sector is looking for solutions able to reduce costs and time spent on the prototyping and fabrication process, as well as more flexible, efficient and sustainable solutions, able to utilize a broader range of materials permitting custom-built components. While the most promising technology to address these challenges is found in the 3D printing market, there are currently no available 3D printers or technologies with the capabilities to address these challenges. To this purpose, ATL (DK) has developed the ATLANT3D Nanofabricator, a 3D nanoprinting technology with improved resolution and flexibility, while costing less 27% than the closest 3D printing competitor, and up to 92% less than conventional competitors. It will enable rapid prototyping, shorter time to market and lower barriers for companies and researchers already working in this field, as well as those for whom micro-/nanoprototyping is currently not feasible.

The overall aim of ATOPLOT project is to mature, extend capabilities and prove full functionality and benefits of the ATLANT3D Nanofabricator. ATOPLOT brings together a consortium of three SMEs (ATL, FEM, SEMPA) and two academic partners (FAU, SAS) – in unison representing a technical side specialized in nanofabrication, and a business side with experience in business development and B2B sales & marketing. The consortium expects a successful market introduction of the Nanofabricator within the next 3 years, tapping into a large business opportunity, from which the partners stand to capture more than 400M€ as profit and directly creating 165+ new jobs.

# Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /social sciences/economics and business/business and management/commerce

Programme(s)

Topic(s)

Call for proposal

# **Funding Scheme**

IA - Innovation action

# Coordinator



### FRIEDRICH-ALEXANDER-UNIVERSITAET ERLANGEN-NUERNBERG

Address Activity type EU contribution

Schlossplatz 4 Higher or Secondary € 814 946,25 91054 Erlangen Education Establishments

Germany

Website **☑** Contact the organisation **☑** 

# Participants (4)



## ATLANT HOLDING IVS

Denmark

EU contribution

€ 1 072 750

Address Activity type

Rordams Have 5,2. 3. Private for-profit entities 2800 Kongens Lyngby (excluding Higher or Secondary Education

Establishments)

Contact the organisation <a>C</a>



#### **UAB FEMTIKA**

**Lithuania** 

EU contribution

€ 395 500

Address Activity type

Sauletekio Al.15 Private for-profit entities
10224 Vilnius (excluding Higher or
Secondary Education
Establishments)

Contact the organisation <a>Z</a>

血

## Institute of Electrical Engineering, Slovak Academy of Sciences

Slovakia

EU contribution

€ 351 250

Address Activity type

Dubravska 9 Research Organisations

841 04 Bratislava

Website **C** Contact the organisation **C** 

血

## **SEMPA SYSTEMS GMBH**

Germany

EU contribution

€ 346 228,75

Address Activity type

Grenzstr. 13 Private for-profit entities
01109 Dresden (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation

Last update: 30 March 2020 Record number: 228344

**Permalink:** https://cordis.europa.eu/project/id/950785

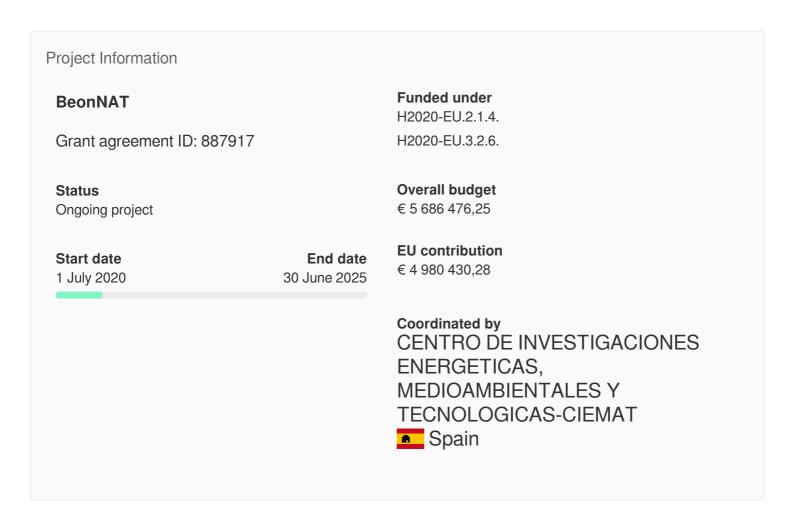
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# Innovative value chains from tree & shrub species grown in marginal lands as a source of biomass for bio-based industries

# **Fact Sheet**



# **Project description**

# Woody products for bioindustry

The rising interest in bioproducts is spurring the study of the potential of woody species, trees and shrubs to contribute to the bioindustry. The EU-funded BeonNAT project will increase our knowledge about bioindustry-oriented mixed crops and their potential use to produce raw materials for the bioproduct sector. The project will

estimate the basic aspects of the value chain, selecting the most adequate species for different EU countries. It proposes a concept that includes mixed cultivation of selected species using the coppice management systems. BeonNAT will produce eight bioproducts, including essential oils, woodpaper, bioplastics and active carbon, whose tests and related biorefinery processes will be performed in different countries. The project will also estimate the production's economic, social and environmental impacts.

# **Objective**

BeonNAT Project aims to increase knowledge in obtaining different bioproducts from woody species, trees and shrubs, currently underused. The project assesses the key aspects in the value chain including a selection of the and includes a selection of the most adequate species for different European countries (WP1). BeonNAT is based on the following concepts: mixed cultivation of selected woody species in marginal lands using the coppice management method (WP2) and to obtain of a cascade of products within the biorefinery conception (WP3-WP7). The cultivation tests will be executed in different locations: Germany, Romania and Spain; and the biorefinery processes will be studied in research laboratories located in Portugal, Germany, Italy and Spain. The BeonNAT project emphasizes: 1) the need to achieve a higher level of knowledge about bioindustry oriented mixed crops and 2) their sustainable management with the aim of generating the appropriate raw materials to produce the target bioproducts. In BeonNAT 8 bioproducts will be produced including essential oils, extracts, woodpaper, particleboard, bioplastics, biochar, active carbon and absorbents. The whole value chains sustainability is analyzed in WP8 including economic, environmental and social impacts related to the future BeonNAT Biorefineries as well as the effects on biodiversity and market key aspects. Additionally, the project has an ambitious strategy for communication, dissemination and exploitation of results already designed in WP9. The consortium consists of 8 Research Technology Organizations, 5 Small and Medium Enterprises, 2 Large Enterprises and 1 Association.

# Field of science

/agricultural sciences/agriculture, forestry, and fisheries/forestry/silviculture/coppicing

# Programme(s)

# Topic(s)

# Call for proposal

H2020-BBI-JTI-2019

# **Funding Scheme**

BBI-RIA - Bio-based Industries Research and Innovation action

# Coordinator



# CENTRO DE INVESTIGACIONES ENERGETICAS, MEDIOAMBIENTALES Y TECNOLOGICAS-CIEMAT

Address Activity type EU contribution

Avenida Complutense 40 Research Organisations € 1 162 622,06

28040 Madrid
Spain

Website **☑** Contact the organisation **☑** 

# Participants (15)



# FUNDACION CENTRO DE SERVICIOS Y PROMOCION FORESTAL Y DE SU INDUSTRIA DE CASTILLA Y LEON

Spain

EU contribution

€ 337 473,75

Address Activity type

**Poligono Industrial Las Casas** 

Calle C Parcela 4 40005 Soria **Research Organisations** 

Website Contact the organisation C



# CONSORZIO PER LA RICERCA E LA DIMOSTRAZIONE SULLE ENERGIE RINNOVABILI



EU contribution

€ 232 790,63

Address Activity type

Viale Kennedy 182 Research Organisations

50038 Scarperia E San Piero

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#### Contact the organisation



# AIMPLAS - ASOCIACION DE INVESTIGACION DE MATERIALES PLASTICOS Y CONEXAS

Spain

EU contribution

€ 314 469,15

Address Activity type

Calle Gustave Eiffel 4 Parque Tecnologico De Paterna 46980 Paterna Valencia

**Research Organisations** 

Website 🗹

Contact the organisation 🗹



#### LEIBNIZ INSTITUT FUER AGRARTECHNIK UND BIOOEKONOMIE E V

Germany

EU contribution

€ 232 244,25

Address Activity type

Max Eyth Allee 100 14469 Potsdam **Research Organisations** 

Website **C** Contact the organisation **C** 

血

#### BRANDENBURGISCHE TECHNISCHE UNIVERSITAT COTTBUS-SENFTENBERG

Germany

EU contribution

€ 449 655

Address Activity type

Platz Der Deutschen Einheit 1

03046 Cottbus

**Higher or Secondary** 

**Education Establishments** 

Website Contact the organisation C

血

### UNIVERSITATEA STEFAN CEL MARE DIN SUCEAVA

Romania

EU contribution

€ 262 725

Address Activity type

Strada University 13 Higher or Secondary
720229 Suceava Education Establishments

11 of 57



#### INSTITUTO POLITECNICO DE BRAGANCA

Portugal

EU contribution

€ 348 429,15

Address Activity type

Campus De Santa Apolonia

5301 253 Braganca

Higher or Secondary Education Establishments

Website **C** Contact the organisation **C** 



#### CONTACTICA S.L.

Spain

EU contribution

€ 408 293,25

Address Activity type

Calle Canchal 8 Local 3

28021 Madrid

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

Website **☑** Contact the organisation **☑** 



#### **IDOASIS 2002 SL**

Spain

EU contribution

€ 360 221,55

Address Activity type

C/ Tellez, 25 2-1 Private for-profit entities 28007 Madrid (excluding Higher or

Secondary Education

Establishments)

Contact the organisation <a>C</a>



## **EL JARPIL SL**

Spain

EU contribution

€ 329 961,68

Address Activity type

Sierra De Gredos 23 Bajo B Private for-profit entities

12 of 57

04009 Almeria

(excluding Higher or Secondary Education Establishments)

#### Contact the organisation



#### **ENVIROHEMP SL**

Spain

**EU** contribution

€ 224 595

Address Activity type

Pol Ind Aloa Calle A Nave 03 31100 Puente La Reina

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

Website **∠** Contact the organisation **∠** 

血

#### **NNFCC LIMITED**

United Kingdom

EU contribution

€ 199 299

Address Activity type

Biocentre, Innovation Way,

York Sci

YO10 5NY York

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



#### **TOLSA SA**



EU contribution

€ 0

Address Activity type

Calle Nunez Balboa 51-3

28001 Madrid

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

Contact the organisation 🗹



#### LABORATORIOS MAVERICK SL

Оран

EU contribution

€ 0

Address

Activity type

Calle Paris 4 Poligono Industrial Valldepins Ii 43550 Ulldecona Private for-profit entities (excluding Higher or Secondary Education

**Establishments)** 

Contact the organisation



# ASOCIACION PARA LA CERTIFICACION ESPANOLA FORESTAL - PEFC ESPANA

Other



EU contribution

€ 117 650,81

Address Activity type

Glorieta De Quevedo 8 2D

Derecha 28015 Madrid

Contact the organisation

Last update: 11 February 2021

Record number: 228833

Permalink: https://cordis.europa.eu/project/id/887917

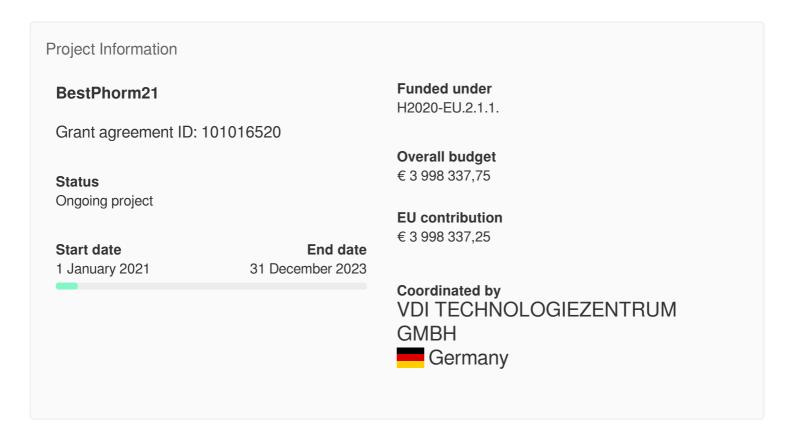
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# Boosting Europe's Sovereignty in Technology by driving Photonics from Research to Market – Photonics21

# **Fact Sheet**



# **Objective**

BestPhorm21 will provide the decisive support to Horizon Europe's "Photonics Partnership", which is currently established between the EU Commission and Photonics21, to stimulate the growth of the European photonics industry. The project is led by the Photoncs21 Secretariat, VDITZ, in partnership with 14 National Technology Platforms, representing Europe's photonics industry, Research and Technology Organisations (RTOs) and clusters. BestPhorm21 will develop a community driven European photonics industrial strategy and roadmap, engaging over 3,000 experts from industry and academia, that will guide Horizon Europe and industrial investments in R&D and advanced manufacturing. BestPhorm21 thus makes a significant contribution to increasing European technological sovereignty in

a key digital technology such as photonics. It will furthermore establish new strategic value chains between photonics and end user industries, through the delivery of 7 additional "photonics enabled" end user industry roadmaps. This will be done in close cooperation with the respective industry stakeholders organsiations, more than 700 experts from both the photonics and end-user industries will be involved. The industrial strategy will result in new product launches and services that drive sales growth and support the digitalization of these sectors. BestPhorm21 will trigger cross-member state and regional investments, which mobilise and leverage Europe's full innovation ecosystem to keep Europe at the global forefront in photonics R&D and technology development, delivering cross-member state calls valued at > EUR 10 m and 5 interregional investment projects. Finally, BestPhorm21 increases access to risk finance for over 300 photonics start-ups and SMEs in their critical growth phases, through "blended finance" (European Investment Council's Accelerator), "Venture Capital" (dedicated VC events) and "Venture debt" (European Investment Bank).

# Programme(s)

# Topic(s)

# Call for proposal

H2020-ICT-2020-2

# **Funding Scheme**

CSA - Coordination and support action

# Coordinator



#### VDI TECHNOLOGIEZENTRUM GMBH

Vdi-platz 1
40468 Duesseldorf
Germany

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

Activity type

EU contribution € 2 328 773,75

Website 🗹

Address

Contact the organisation

# Participants (14)

血

# ASSOCIAZIONE ITALIANA DI ELETTROTECNICA, ELETTRONICA, AUTOMAZIONE, INFORMATICA E TELECOMUNICAZIONI

Italy

EU contribution

€ 103 750

Address Activity type

Via Mauro Macchi 32

20124 Milano

Other

Other

Contact the organisation <a>C</a>



#### **PHOTONICS FINLAND**

+ Finland

EU contribution

€ 68 125

Address Activity type

Länsikatu 15

80110 Joensuu

Contact the organisation <a>C</a>



#### **EKONOMISKA FORENINGEN PHOTONICSWEDEN**

Sweden

EU contribution

€ 164 687

Address Activity type

Isafjordsgatan 22 Private for-profit entities
164 40 Kista (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



#### ELLINIKI ENOSI FOTONIKIS ASTIKI MIKERDOSKOPIKI ETAIRIA

Greece

EU contribution

€ 54 062,50

Address Activity type

Kolokotroni 8 Other

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#### KNOWLEDGE TRANSFER NETWORK LIMITED

**United Kingdom** 

EU contribution

€ 63 125

Address Activity type

52 Upper Street Suite 218

**Business Design Centre** 

Islington

N1 0QH London

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#### MOKSLINIU TYRIMU IR TECHNOLOGIJU ORGANIZACIJU ASOCIACIJA

Other

Other

Lithuania

EU contribution

€ 102 750

Address Activity type

Savanoriu Pr 231

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# PHOTONICS AUSTRIA - PLATTFORM ZUR FORDERUNG DER OSTERREICHISCHEN INTERESSEN IM BEREICH PHOTONIKEICH PHOTONIK

Austria

EU contribution

€ 128 488,75

Address Activity type

Franz-pichler-strasse 30

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Other

Contact the organisation



#### PHOTONICS FRANCE



EU contribution

€ 260 531,25

Address Activity type

13 Rue Moreau Other

**75012 Paris** 

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#### POLSKA PLATFORMA TECHNOLOGICZNA FOTONIKI

Poland

EU contribution

€ 88 437,50

Address Activity type

**UI. Poznanska 129/133** 

Other

00 850 Ozarow Mazowiecki

Contact the organisation



## UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK

Ireland

**EU** contribution

€ 175 667,50

Address Activity type

Western Road Higher or Secondary

T12 YN60 Cork Education Establishments

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#### UNIVERSITAT POLITECNICA DE CATALUNYA

Spain

EU contribution

€ 150 550

Address Activity type

Calle Jordi Girona 31 Higher or Secondary 08034 Barcelona Education Establishments

Website **C** Contact the organisation **C** 



#### VEREIN SCHWEIZER LASER UND PHOTONIK NETZ

Switzerland

EU contribution

€ 125 951,50

Address Activity type

Sihleggstrasse 23

Other

8832 Wollerau



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TELLENIALITA I LIO I OLINOCITE

Netherlands

EU contribution

€ 109 875

Address Activity type

Wooldriksweg 197

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7512 AR Enschede

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#### VRIJE UNIVERSITEIT BRUSSEL

Belgium

EU contribution

€ 73 562,50

Address Activity type

Pleinlaan 2 Higher or Secondary

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Website **☑** Contact the organisation **☑** 

Last update: 15 December 2020

Record number: 232725

Permalink: https://cordis.europa.eu/project/id/101016520

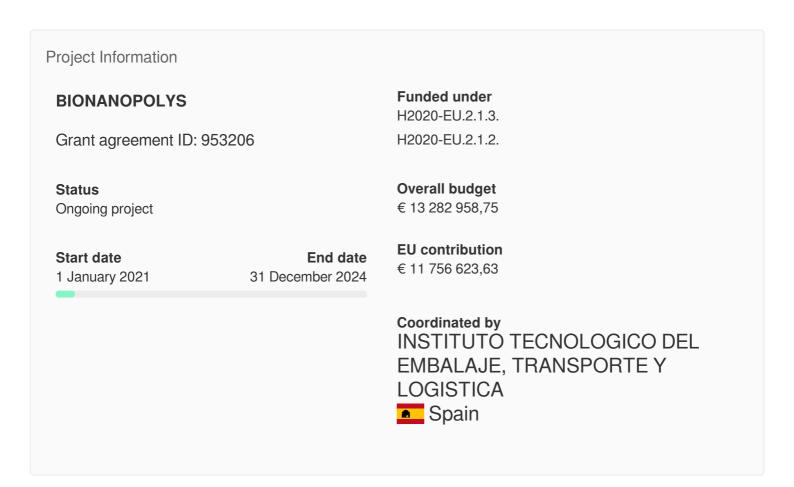
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# OPEN INNOVATION TEST BED FOR DEVELOPING SAFE NANO-ENABLED BIO-BASED MATERIALS AND POLYMER BIONANOCOMPOSITES FOR MULTIFUNCTIONAL AND NEW ADVANCED APPLICATIONS

# **Fact Sheet**



# **Objective**

To succeed in the ambitious objective of achieving a climate-neutral EU by 2050 the nano-enabled bio-based materials sector shall respond to some specific risks in the short term. BIONANOPOLYS will address the following risks and challenges in order to strengthen the circularity of nano-enabled bio-based materials in the economy:

- > Acceptance of new technology by the market.
- > Seasonal sustainability of feedstocks.
- > Price competition and market.
- Other risks: The existing legislation is costly in particular for small companies. For example, nano-ecotoxicology related to the use of nano-enabled materials in industry and/or food contact.

Considering these challenges, BIONONAPOLYS Open Innovation Test Bed will improve technologies, processes, considering different feedstock. BIONANOPOLYS offers:

- > PILOT LINES: Cutting edge technology upgraded at TRL 7 with the objetive to produce nanoenabled biobased materials with multifunctional properties to be dispersed in cellulose and polymeric matrices assuring the best dispersion and the robustness of the final properties. Developed materials will be validated in application such as packaging, cosmetic, medical, foam, nonwoven, coating, 3D printing, textiles and cellulose-paper.
- > PRIMARY RAW MATERIALS FROM DIFFERENT FEEDSTOCKS: BIONANOPOLYS will use the most relevant feedstock in Europe to obtain bio-based nano-enabled composites.
- > HIGH VOLUME APPLICATIONS: BIONANOPOLYS offer solutions for more than the 50% of the applications that are currently using bio-based materials.
- COMPLEMENTARY SERVICES: BIONANOPOLYS will offer to the industry a wide variety of services for the market uptake of a new bio-based nano-enabled products, such as safety protocols for bio-based nano-enabled materials, training for staff specialization, standardisation, business modelling, access to follow-on finance or IPR protection as a crucial mean of ensuring the capitalisation on the investments made by our stakeholders and other investors.

#### Field of science

/natural sciences/chemical sciences/polymer science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /social sciences/economics and business/business and management/commerce

# Programme(s)

# Topic(s)

# Call for proposal

H2020-NMBP-TO-IND-2020-two stage

# **Funding Scheme**

IA - Innovation action

#### Coordinator



#### INSTITUTO TECNOLOGICO DEL EMBALAJE, TRANSPORTE Y LOGISTICA

Address Activity type EU contribution

€ 1 420 812,50

Calle Albert Einstein 1 Parque **Research Organisations** 

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46980 Paterna

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Website 🗹 Contact the organisation

# Participants (26)



#### ASOCIACION DE INVESTIGACION DE LA INDUSTRIA TEXTIL

Spain

EU contribution

€ 579 125

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03801 Alcoy Alicante

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#### **FUNDACION CIDAUT**



EU contribution

€ 500 250

Address Activity type

**Plaza Vicente Aleixandre** 

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**Boecillo 209** 47151 Valladolid

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#### CENTRE TECHNIQUE DE L INDUSTRIE DESPAPIERS CARTONS ET **CELLULOSES**



**Research Organisations** 

ו ומווטט

EU contribution

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Address

**Domaine Universitaire** 

**38610 Gieres** 

**Research Organisations** 

Website **∠** Contact the organisation **∠** 



# CENTITVC - CENTRO DE NANOTECNOLOGIA E MATERIAIS TECNICOS FUNCIONAIS E INTELIGENTES ASSOCIACAO

Activity type

Portugal

EU contribution

€ 590 000

Address Activity type

Rua Fernando Mesquita 2785

4760 034 Vila Nova De

**Famalicao** 

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Website **☑** Contact the organisation **☑** 

血

#### SAECHSISCHES TEXTILFORSCHUNGSINSTITUT E.V.

Germany

EU contribution

€ 553 500

Address Activity type

**Annabergerstrasse 240** 

09125 Chemnitz

**Research Organisations** 

Website 🗹 Contact the organisation 🗹



#### **BIOPROCESS PILOT FACILITY BV**

Netherlands

EU contribution

€ 621 250

Address Activity type

Alexander Fleminglaan 1

2613 AX Delft

Other

Website **C** Contact the organisation **C** 

<u></u>

#### **ACIB GMBH**



EU contribution

€ 778 400

Address Activity type

Krenngasse 37/2 Research Organisations

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#### POLITECHNIKA WROCLAWSKA

Poland

EU contribution

€ 180 600

Address Activity type

Wybrzeze Wyspianskiego 27 Higher or Secondary 50-370 Wroclaw Education Establishments

Website **C** Contact the organisation **C** 



# INSTITUTUL NATIONAL DE CERCETAREDEZVOLTARE PENTRU MICROTEHNOLOGIE

Romania

EU contribution

€ 300 125

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#### COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

France

EU contribution

€ 647 050

Address Activity type

Rue Leblanc 25 Research Organisations

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#### IRIS TECHNOLOGY SOLUTIONS, SOCIEDAD LIMITADA

Spain

EU contribution

€ 300 562,50

Address Activity type

Calle Velazquez, No 94 Private for-profit entities
Primera Planta (excluding Higher or
28006 Madrid Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



#### **UNIVERSITEIT GENT**

Belgium

EU contribution

€ 555 500

Address Activity type

Sint Pietersnieuwstraat 25 Higher or Secondary

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Website 🗹 Contact the organisation 🗹



#### BIOTREND-INOVACAO E ENGENHARIA EM BIOTECNOLOGIA SA

Portugal

EU contribution

€ 418 559,75

Address Activity type

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

Website **C** Contact the organisation **C** 



# PARTICULA GROUP DRUSTVO S OGRANICENOM ODGOVORNOSCU ZA USLUGE

Croatia

EU contribution

€ 219 782,50

Address Activity type

Ivana Filipovica 4 Private for-profit entities
51000 Rijeka (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation

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#### **European Business Angels Network**

Belgium

**EU** contribution

€ 308 500

Address

Rue De La Science 14B

1040 Brussels

Contact the organisation <a>C</a>

Activity type

Other

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#### **EUROPEAN BUSINESS AND INNOVATION CENTRE NETWORK AISBL**

Belgium

EU contribution

€ 337 500

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Avenue De Tervuren 168/25

1150 Brussel

Other

Website **C** Contact the organisation **C** 

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#### **LAW IN NOVATION**

Belgium

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**Avenue Marie De Hongrie 111** 

Box 9

1083 Ganshoren

Activity type

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

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#### **AXIA INNOVATION UG**

Germany

EU contribution

€ 285 250

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Contact the organisation

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#### **AMBROSIALAB SRL**

Italy

EU contribution

€ 128 397,50

Address

Activity type

Via Mortara 171 44121 Ferrara

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

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#### HILOS TECNICOS SAN MIQUEL, SOCIEDADLIMITADA

Spain

EU contribution

€ 225 330

Address

Activity type

Calle Comerc-pol. Can Sunyer 1 S/n S Andreu Bar

08740 Sant Andreu De La

**Barca** 

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

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血

#### **TEXTISOL SL**



EU contribution

€ 185 062,50

Address

Calle Industria 10 03820 Cocentaina Activity type

**Private for-profit entities** (excluding Higher or **Secondary Education** 

**Establishments**)

Contact the organisation



#### **NOVAMONT SPA**

Italy

EU contribution

€ 507 937,50

Address

Activity type

50 of 86

Via Fauser 8 28100 Novara

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

Website 🗹

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#### DANIPACK, INDUSTRIA DE PLASTICOS, SA

Portugal

EU contribution

€ 172 375

Address

Activity type

Avenida Pacopar, Lote C04 Eco Parque Empresarial 3860-529 Estarreja Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation



#### **DS SMITH PLC**

United Kingdom

EU contribution

€ 218 750

Address Activity type

350 Euston Road NW1 3AX London Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation



#### **CELLMAT TECHNOLOGIES SL**



EU contribution

€ 386 085

Address Activity type

Centro De Tecnologia Y Transferencia Aplicada, Edi 47011 Valladolid Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation



Portugal EU contribution

€ 239 667,75

Address

Activity type

**Estrada Da Malveira Ed Logoplaste Mato Romao** 2750 782 Cascais

**Private for-profit entities** (excluding Higher or **Secondary Education** 

**Establishments**)

Website 🗹 Contact the organisation

Last update: 25 February 2021

Record number: 232312

Permalink: https://cordis.europa.eu/project/id/953206

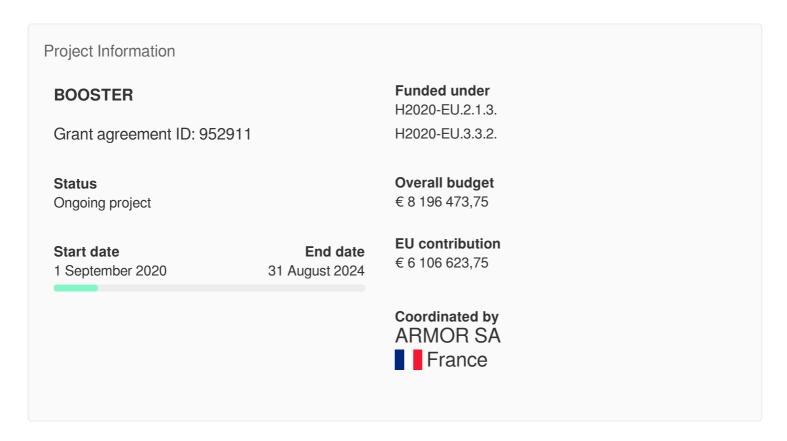
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# **Boost Of Organic Solar Technology for European Radiance**

# **Fact Sheet**



# **Project description**

# Organic photovoltaics for eco-friendly buildings

Building applied photovoltaic (BAPV) systems utilise solar panels retrofitted onto building structures such as rooftops or facades to generate electricity. The EUfunded BOOSTER project plans to use flexible organic photovoltaic (OPV) films, which are deemed suitable for BAPV applications. OPV modules feature a low energy payback time and use resources that are abundant, easily accessible and non-toxic. The project will bring OPV technology to TRL 7 by increasing module efficiency and lifetime while also optimising production costs. For successful proof of principle of the idea, researchers will demonstrate a "ready-to-stick" module and a textile-integrated product.

# **Objective**

In the context of increasing energy demand, thin film PV technologies contribute in reducing CO2 emission. Current PV technologies are suffering from several issues: 1 - the outsourcing of PV modules outside Europe, 2 - the large distance between consumption points and generating power plants and 3 - the use of agricultural fields by solar power plant. In this context, building applied photovoltaic (BAPV) approach can face these issues by bringing functionalization to facades or roofs with a small constraint on the building. BOOSTER project targets at deploying the OPV technology to the BAPV market. OPV is a technology that addresses the problematic of world energy production with an eco-responsible approach. Manufacturing OPV modules via printing techniques features a low energy-payback-time and uses resources that are abundant, easily accessible and non toxic. Additionally, OPV demonstrates properties (flexibility, lightweight) that make it easily suitable for BAPV. Recently, technology benefited from a rapid progress of performances with development of advanced materials. The project BOOSTER aims at bringing the OPV technology to a TRL 7 by increasing efficiency, lifetime together with optimizing costs and lowering carbon footprint. Two demonstrators will be installed to illustrated BAPV concepts: a "ready to stick module" and a textile integrated product. BOOSTER will provide an efficient multi-layer OPV architecture demonstrating efficiency up to 15 %. Advanced multifunctional barrier films will be manufactured to increase the lifetime to 35 years. With a large-scale production approach, efforts will be placed on scaling up all the materials and optimization of the R2R manufacturing line to coat all the layers with minimization of performance loss while targeting drastic cost reduction. BOOSTER BAPV products will be integrated in two different locations (FAU in Germany, ENI in Italy), where real-life efficiency will be studied during last year of the project.

#### Field of science

/engineering and technology/materials engineering/coating and films /engineering and technology/civil engineering/architecture engineering/sustainable architecture/sustainable building

Programme(s)

Topic(s)

Call for proposal

# **Funding Scheme**

IA - Innovation action

#### Coordinator



#### **ARMOR SA**

Address

20 Rue Chevreul
44100 Nantes
France

Contact the organisation

Activity type

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

€ 2 086 262,50

# Participants (9)



#### **AVANTAMA AG**

Switzerland

EU contribution

€ 472 062,50

Address

Laubisruetistrasse 50

8712 Staefa

Activity type

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

Contact the organisation



#### **DUPONT TEIJIN FILMS UK LTD**

**United Kingdom** 

EU contribution

€ 581 875

Address Activity type

Wilton Centre Wilton Works TS90 8JF Middlesbrough Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Website Contact the organisation C

34 of 77

血

#### **ELECTRONIQUE ORGANIQUE BRILLIANT MATTERS INC**

Canada

EU contribution

€ 0

Address Activity type

200-1405 Boulevard Du Parc-

technolo Gique G1P 4P5 Quebec Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation

血

# FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

Germany

EU contribution

€ 595 346,25

Address Activity type

Hansastrasse 27C Research Organisations

80686 Munchen

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#### FRIEDRICH-ALEXANDER-UNIVERSITAET ERLANGEN-NUERNBERG

Germany

EU contribution

€ 868 760

Address Activity type

Schlossplatz 4 Higher or Secondary 91054 Erlangen Education Establishments

Website Contact the organisation C

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#### IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE

United Kingdom

EU contribution

€ 747 742,50

Address Activity type

**South Kensington Campus** 

Exhibition Road SW7 2AZ London Higher or Secondary Education Establishments



#### SLOVENSKA TECHNICKA UNIVERZITA V BRATISLAVE

Slovakia

EU contribution

€ 248 875

Address Activity type

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81243 Bratislava Education Establishments

Website 🗹 Contact the organisation 🗹

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#### **ENI SPA**



EU contribution

€ 254 450

Address Activity type

Piazzale Mattei Enrico 1 Private for-profit entities

00144 Roma (excluding Higher or

Secondary Education

**Establishments**)

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#### AMIRES THE BUSINESS INNOVATION MANAGEMENT INSTITUTE ZU

Czechia

EU contribution

€ 251 250

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Stavitelska 1099/6 Other

160 00 Prague

Contact the organisation

Last update: 14 October 2020

Record number: 230473

Permalink: https://cordis.europa.eu/project/id/952911

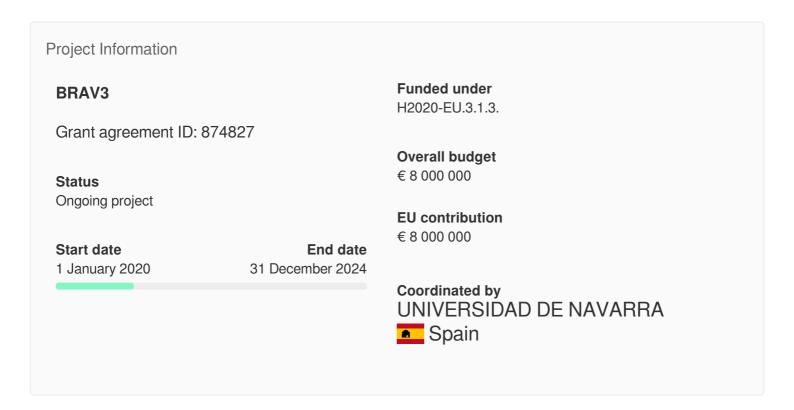
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Computational biomechanics and bioengineering 3D printing to develop a personalized regenerative biological ventricular assist device to provide lasting functional support to damaged hearts

#### **Fact Sheet**



# **Project description**

# 3D printing to restore a damaged heart

Ischemic heart disease (coronary artery disease) is the leading single cause of death in Europe. Biomedical researchers are seeking solutions in self-repairing mechanisms of tissues or organs. However, the most promising solution lies in advancements in cell reprogramming, biomaterials or 3D printing combined with the profound study of myocardial physiology. The EU-funded BRAV3 project will develop

a lasting biological device able to pump alongside a damaged heart through the engineering of a regenerative tissue with the use of biomaterials, stem cells and advanced computational modelling with 3D printable designs. By developing biological ventricular assist devices (BioVADs), BRAV3 will bring a quantum leap in regenerative medicine and its translation towards the clinic, as well as impact the development of novel medical technologies whilst greatly advancing our knowledge on human heart development.

# **Objective**

Ischemic heart disease is the main cause of death in the EU, straining patients and economies. Regenerative Medicine has failed at delivering a definitive solution, and even the breakthrough of cell reprogramming, biomaterials or 3D printing, have not been able to find a curative solution. Generating a muscle with efficient pumping requires a careful recapitulation of the myocardial architecture. BRAV3 is born with the ambition of shaping this quantum leap in the field. The overall concept is to provide a lasting functional support to injured hearts through the fabrication of regenerative personalized advanced tissue engineering-based biological ventricular assist devices (BioVADs). To do so, we will apply multimodal deep cardiac phenotyping, coupled to advanced Computational Modelling and biomechanical analysis in a large animal model of disease, to create a personalised 3D printable design. We will for the first time create a fibre-reinforced human heart-sized cardiac tissue able to recapitulate the low Young's Modulus of the myocardium while withstanding pressures generated during the cardiac circle. Using the latest human induced pluripotent stem cell (hiPSC) technology and industrial-scale growth and differentiation, we will cellularize this novel human heart-sized constructs, creating a highly efficiently aligned cardiac tissue (including vasculature). BioVADs will be matured in in-Consortium built electromechanical stimulation bioreactors before transplantation in a porcine model of disease. We anticipate our BioVADs will constitute a one-shot regenerative treatment of IHD, decreasing the burden on healthcare providers and improving the quality of life of patients. Crucially, we will for the first time generate a wealth of information on heart development at a human scale. Delivering this novel application whilst developing the technological environment (bioreactor, chamber, pacemaker) will boost the capacity of the EU to grow economically and lead the field.

#### Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /medical and health sciences/medical biotechnology/cells technologies/stem cells /engineering and technology/environmental biotechnology/bioremediation/bioreactor

# Programme(s)

# Topic(s)

# Call for proposal

H2020-SC1-2019-Single-Stage-RTD

# **Funding Scheme**

RIA - Research and Innovation action

#### Coordinator



#### UNIVERSIDAD DE NAVARRA

EU contribution Address Activity type

€ 800 500

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# Participants (13)

Central

Spain



#### **TECHNISCHE UNIVERSITEIT EINDHOVEN**

Netherlands

EU contribution

€ 490 000

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#### KATHOLIEKE UNIVERSITEIT LEUVEN

Belgium

EU contribution

€ 555 250

Address Activity type

Oude Markt 13 Higher or Secondary
3000 Leuven Education Establishments

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# UNIVERSITAETSKLINIKUM WUERZBURG - KLINIKUM DER BAYERISCHEN JULIUS-MAXIMILIANS-UNIVERSITAT

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€ 683 125

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Josef-schneider-strasse 2 Higher or Secondary

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#### SERVICIO MADRILENO DE SALUD

Spain

EU contribution

€ 441 875

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Secondary or Higher

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#### UNIVERSITAIR MEDISCH CENTRUM UTRECHT

Netherlands

EU contribution

€ 740 000

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#### **FUNDACIO INSTITUT DE BIOENGINYERIA DE CATALUNYA**

Spain

EU contribution

€ 740 000

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#### INSTITUTO DE BIOLOGIA EXPERIMENTAL E TECNOLOGICA

Portugal

EU contribution

€ 770 000

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**Research Organisations** 

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血

#### LEARTIKER, SCOOP

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€ 579 375

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arkina-yemein

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#### **UNIVERSIDAD DE ZARAGOZA**



EU contribution

€ 560 000

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#### **EBERS MEDICAL TECHNOLOGY SL**

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EU contribution

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

Activity type

Contact the organisation

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#### **BOSTON SCIENTIFIC LIMITED**

Ireland

EU contribution

€ 471 750

Address

Activity type

**Ballybrit Business Park** 

**H91 Galway** 

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Website 🗹

Contact the organisation

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#### **AE MEDICALIS BV**

Netherlands

EU contribution

€ 150 000

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Industrieweg 78 5145 PW Waalwijk Private for-profit entities (excluding Higher or Secondary Education Establishments)

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#### **PNO INNOVATION SL**



EU contribution

€ 458 750

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Activity type

Private for-profit entities (excluding Higher or Secondary Education

**Establishments)** 

Contact the organisation <a>C</a>

Last update: 17 January 2021

Record number: 226548

**Permalink:** https://cordis.europa.eu/project/id/874827

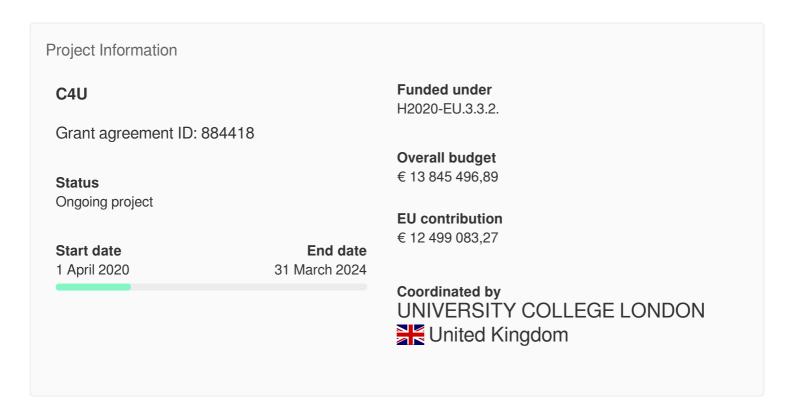
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# **Advanced Carbon Capture for steel industries integrated in CCUS Clusters**

# **Fact Sheet**



# **Project description**

# Full-scale integration in iron, steel plants

The Paris Agreement sets out a global framework to avoid dangerous climate change by limiting global warming to well below 2 °C and pursuing efforts to limit it to 1.5 °C. Without carbon capture, utilisation and storage (CCUS), it is difficult to realise the temperature levels indicated in the Paris Agreement. In the context of the European Energy Union, CCUS is a vital research and development priority to achieve 2050 climate objectives in a cost-effective way. With the focus on the iron and steel industry as part of the CCUS chain, the EU-funded C4U project will work with eight European countries and Mission Innovation countries (Canada, China and the United States) to address all the essential elements required for optimal integration of CO2 capture into the North Sea Port CCUS cluster.

# **Objective**

C4U is a holistic interdisciplinary project involving the collaboration with 8 European countries and Mission Innovation Countries, Canada, China and USA aimed at addressing all the essential elements required for the optimal integration of CO2 capture in the iron and steel industry as part of the CCUS chain. This spans demonstration of highly efficient CO2 capture technologies at TRL7 designed for optimal integration into an iron and steel plant and detailed consideration of the safety, environmental, societal, policy and business aspects for successful incorporation into the North Sea Port CCUS cluster.

The above involves the elevation from TRL5 to TRL7 two highly energy-efficient high-temperature solid-sorbent CO2 capture technologies for decarbonising blast furnace gas and other carbon containing gases. In addition, the C4U project assesses the societal readiness and analyses the optimal design for full-scale integration of such technologies in industrial plants operated by the world's largest iron and steel manufacturer, ArcelorMittal. For the first time, in combination, these two technologies will target up to 90% of the total emissions from the steel plant that come from a variety of sources.

Using a whole system approach, we account for the impact of the quality of the captured CO2 on the safety and operation of the CO2 pipeline transportation and storage infrastructure whilst exploring utilisation opportunities based on integration into the North Sea Port CCUS industrial cluster. A candidate for the fourth Union list of Projects of Common Interest2, CO2TransPorts aims to establish the necessary infrastructure to facilitate the large-scale capture, transport and storage of CO2 from three of the most important ports in Europe; North Sea, Rotterdam and Antwerp and to transport and store up to 10 Mt/yr of CO2 per year.

# Field of science

/social sciences/social and economic geography/transport
/engineering and technology/environmental engineering/carbon capture engineering
/natural sciences/chemical sciences/inorganic chemistry/inorganic compounds

# Programme(s)

# Topic(s)

# Call for proposal

# **Funding Scheme**

IA - Innovation action

#### Coordinator



#### **UNIVERSITY COLLEGE LONDON**

Address

Activity type

EU contribution

Gower Street WC1E 6BT London

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Education Establishments

€ 1 421 982,64

**#** United Kingdom

Contact the organisation <a>C</a>

# Participants (19)



#### **SWERIM AB**



EU contribution

€ 3 434 627

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971 25 Lulea

Activity type

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#### STICHTING KATHOLIEKE UNIVERSITEIT



EU contribution

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#### AGENCIA ESTATAL CONSEJO SUPERIOR DEINVESTIGACIONES CIENTIFICAS



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#### ARCELORMITTAL INNOVACION INVESTIGACION E INVERSION SL

Spain

EU contribution

€ 649 687,50

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Lugar Residencia La Granda

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33418 Gozon

Private for-profit entities (excluding Higher or Secondary Education

Establishments)

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#### ARCELORMITTAL BELGIUM NV

Belgium

EU contribution

€ 125 250,13

Address Activity type

Keizerinlaan 66 Private for-profit entities
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**Establishments**)

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#### THE UNIVERSITY OF MANCHESTER

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EU contribution

€ 443 820

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Oxford Road Higher or Secondary
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#### **POLITECNICO DI MILANO**

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EU contribution

€ 348 190

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20133 Milano

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#### NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO

Netherlands

EU contribution

€ 906 682,50

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#### **ELEMENT ENERGY LIMITED**

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EU contribution

€ 284 025

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**Establishments**)

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#### **BUNDESANSTALT FUER GEOWISSENSCHAFTEN UND ROHSTOFFE**

Germany

EU contribution

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Address Activity type

Stilleweg 2 Research Organisations

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France

**EU** contribution

€ 238 220

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Parc Technologique Alata 60550 Verneuil En Halatte

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#### **CENTRE FOR EUROPEAN POLICY STUDIES**

Belgium

EU contribution

€ 159 250

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#### AMEC FOSTER WHEELER ITALIANA SRL

Italy

EU contribution

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20094 Corsico

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#### CARMEUSE RESEARCH AND TECHNOLOGY SA

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EU contribution

€ 193 812,50

Address Activity type

**Boulevard De Lauzelle 65** 1348 Louvain La Neuve Private for-profit entities (excluding Higher or Secondary Education Establishments)

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#### **CLIMATE STRATEGIES**

United Kingdom

EU contribution

€ 253 875

Address Activity type

C/o Wework Aldgate Tower, 2

Leman Street E1 8FA London **Research Organisations** 

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#### JOHNSON MATTHEY PLC

United Kingdom

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€ 161 910

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#### THE UNIVERSITY OF SHEFFIELD

United Kingdom

EU contribution

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#### **KISUMA CHEMICALS BV**

Netherlands

EU contribution

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Address Activity type

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China China

EU contribution

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Activity type

Higher or Secondary
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Last update: 30 March 2020 Record number: 228225

Permalink: https://cordis.europa.eu/project/id/884418

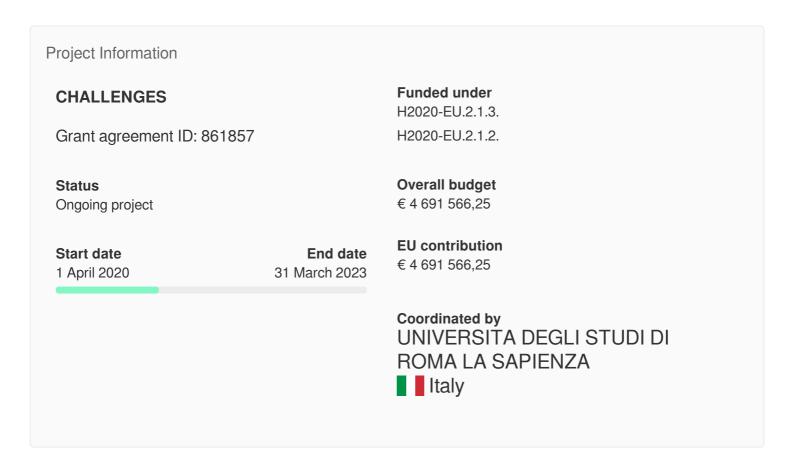
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# Real time nano CHAracterization reLatEd techNloGiEeS

# **Fact Sheet**



# **Project description**

### Real-time characterisation of nanoelectronic devices

The reliable production of innovative nanoelectronic devices requires continuous, real-time in-line control. The metrology tools required to accurately characterise products at the relevant scales of one to hundreds of nanometres have yet to be developed. State-of-the-art spectroscopy techniques (such as Raman, infrared and photoluminescence spectroscopy) that map physical observables at the nanoscale lack sufficient resolution for a detailed characterisation of nanodevices. The EUfunded CHALLENGES project will improve both the spatial resolution and the signal-to-noise ratio of these techniques by exploiting the optical phenomenon of localised surface plasmon resonance. Plasmon-enhanced spectroscopic techniques will

ensure the reliable manufacturing and performance of nanoelectronic devices. The project will demonstrate the new techniques in three areas: semiconductors, silicon photovoltaics and 2D materials.

# **Objective**

A cost-efficient production of reliable, innovative materials and devices like advanced electronics products (<65 nm strained channel transistors, CMOS image sensors) requires nanoscale real-time in-line control, nowadays not available, during manufacturing. State-of-the-art techniques capable to map physical observables at the nanoscale compatible with in-line operations, like Raman, InfraRed (IR), Photoluminescence (PL) spectroscopy, do not have typically enough resolution for the detailed characterization of nano-scaled devices. Signal amplification by localized plasmon resonance at a sharp tip can give the opportunity of improving both the spatial resolution and the signal/noise ratio. CHALLENGES main objective is to develop multipurpose nano-optical techniques and metrological protocols for real-time characterization, using plasmonic enhanced Raman, IR and PL signals, capable to enable an increase of speed, sensitivity, spectral range with full cleanroom compatibility within different production environments, to improve devices performance, quality and reliability. CHALLENGES will focus on development and demonstration of such technology on three relevant application contexts: Semiconductor Industry, Si Photovoltaics and 2D Materials. Overall, the envisaged results are expected to be applicable to many other industrial fields in which the materials control at the nanoscale is required, spanning from those others electronics-related (DRAM, non-volatile memory, MEMS) to those one materials science (additive manufacturing, nanocoatings) and life sciences (implants, softmatter apps) related. CHALLENGES is coordinated by a large silicon foundry company and it is strongly driven by industrial and applicative needs. The Consortium includes renowned EU research labs with top-class facilities and capacities, industry leading enterprises and innovative SMEs with a worldwide collaboration network that will boost the international dimension and impact of the project.

#### Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /engineering and technology/nanotechnology/nano-materials/two-dimensional nanostructures

# Programme(s)

# Topic(s)

# Call for proposal

H2020-NMBP-TO-IND-2019

# **Funding Scheme**

RIA - Research and Innovation action

#### Coordinator



#### UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA

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00185 Roma

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Website 🗹

Activity type

**Higher or Secondary** 

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**Education Establishments** 

EU contribution

€ 382 562,50

# Participants (13)



#### INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM



EU contribution

€ 406 966,25

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#### **GRAPHENEA SEMICONDUCTOR SL**

Spain

EU contribution

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#### LFOUNDRY SRL

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EU contribution

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#### **CONSIGLIO NAZIONALE DELLE RICERCHE**

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EU contribution

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#### TIBERLAB S.R.L.

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#### COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

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EU contribution

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**Private for-profit entities** 



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EU contribution

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Address

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Activity type

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#### NANONICS IMAGING LTD

Israel

EU contribution

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#### **SCANSENS GMBH**

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EU contribution

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21079 Hamburg (excluding Higher or
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#### APPLIED MATERIALS ITALIA SRL



EU contribution

€ 175 000

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#### PHYSIKALISCH-TECHNISCHE BUNDESANSTALT

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EU contribution

€ 350 365

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#### **BEWARRANT**

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#### **SOL INSTRUMENTS LTD**

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Last update: 14 July 2020 Record number: 227786

**Permalink:** https://cordis.europa.eu/project/id/861857

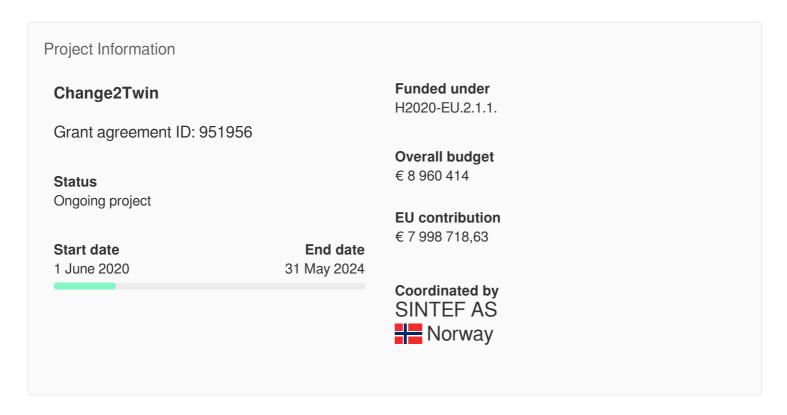
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# Create and Harvest Offerings to support Manufacturing SMEs to become Digital Twin Champions

# **Fact Sheet**



# **Project description**

# Making digital twins available to European manufacturers

The EU-funded Change2Twin project (part of I4MS) helps manufacturing SMEs in their digitalisation efforts to deploy digital twins. The concept of digital twins is one of the big game-changers in manufacturing and allows companies to significantly increase their global competitiveness. A digital twin is a digital replica of an artefact, process or service that is so accurate that it can be used as a basis for taking decisions. The digital replica is often connected with the physical world by streams of data. Change2Twin offers manufacturing SMEs a tailor-made solution including the analysis of their potential, an individual mentoring plan, and a ready-to-use recipe for digital twin deployment. Digital Innovation Hubs are important partners in this

process and will facilitate the uptake of the latest digital twin technologies across the European Union.

# **Objective**

The main ambition of Change2Twin is to ensure that 100% of manufacturing companies in Europe have access to 100% of technologies needed to deploy a digital twin.

Change2Twin will adopt the best practices developed so far in I4Ms – focus on local support provided by DIHs, keeping FSTP grants as accessible as posThe main ambition of Change2Twin is to ensure that 100% of manufacturing companies in Europe have access to 100% of technologies needed to deploy a digital twin. Specifically, we will focus on three sub-objectives:

- Developing and providing a truly end-to-end service to the manufacturing SMEs where the end user receives from its local, trusted party (e.g. a DIH) a thorough analysis of the digitalization potential and a cross-border, multi-stakeholder (involving both components providers and an integrator), and ready-to-use recipe for implementation.
- Providing an architecture-agnostic technology marketplace with dedicated knowledge models supporting the entity preparing the recipe for a complete solution in selecting the best components and most suitable providers.
- Taking one step back to see the bigger picture and to find the minimal interoperable model facilitating modularity, composability and interchangeability of components used, regardless of the individual architectures or frameworks.

# Change2Twin will deliver:

- A new benchmarked service model facilitating DIHs in providing support to manufacturing companies
- A Pan-European marketplace populated with the state-of-the-art service providers that create coverage for end-to-end Digital Twinning solutions
- A growing network of DIHs that have adopted the service model and marketplace based on a sustainable business model
- An open, widely available toolbox for establishing a new marketplace consisting of software and body of knowledge gathered during the project
- 4 Pilots proving the concept and 2 Open Calls for application experiments with a selection and support programme

# Field of science

/social sciences/economics and business/economics/sustainable economy

# Programme(s)

# Topic(s)

# Call for proposal

H2020-DT-2019-2

# **Funding Scheme**

IA - Innovation action

## Coordinator



#### SINTEF AS

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Activity type

**Research Organisations** 

EU contribution

€ 3 518 202,75

# Participants (17)



#### TTTECH INDUSTRIAL AUTOMATION AG



EU contribution

€ 383 417,13

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Activity type

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

Establishmen

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#### **JOTNE EPM TECHNOLOGY AS**



EU contribution

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#### **FUNDINGBOX ACCELERATOR SP ZOO**

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# NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO

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#### **BOC ASSET MANAGEMENT GMBH**

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ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA

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#### **CLOUDBROKER GMBH**

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#### **ASSOCIATION IMAGES & RESEAUX**

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#### INSTYTUT CHEMII BIOORGANICZNEJ POLSKIEJ AKADEMII NAUK

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#### **UNIT040 ONTWERP BV**

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#### **AUTHOR-E BV**

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#### **ADDITIVE INDUSTRIES BV**

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5651 GW Eindhoven (excluding Higher or
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#### CT INGENIEROS AERONAUTICOS DE AUTOMOCION E INDUSTRIALES SL

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#### **AETNA GROUP SPA**

Italy

EU contribution

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**Establishments**)

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#### INDUSTRIA ESPANOLA PARA EL DESARROLLO E INVESTIGACION 2100

Spain

EU contribution

€ 34 650

Addross

Activity type

Auuress

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Contact the organisation 🗹

Last update: 7 August 2020 Record number: 229854

Permalink: https://cordis.europa.eu/project/id/951956

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# Tissue-engineering the tumour microenvironment to improve treatment of pancreatic cancer

# **Fact Sheet**

**Project Information Funded under CHIPIN** H2020-EU.1.1. Grant agreement ID: 864253 **Overall budget** € 2 000 000 **Status** Grant agreement signed **EU** contribution € 2 000 000 Start date **End date** 1 April 2021 31 March 2026 Hosted by LEIBNIZ-INSTITUT FUR POLYMERFORSCHUNG **DRESDEN EV** Germany

# **Objective**

My vision is to address a clinical problem with a novel and transformative approach. Using my unique expertise in cell biology, tissue engineering and translational research I will design technology platforms to test new treatments for human pancreatic cancer.

Pancreatic tumours are cancers of unmet medical need with 85% of patients dying within 9 months of diagnosis. To find better therapies, we need patient-specific models that mimic the biology of tumour tissues and target interactions between malignant and non-malignant cells. Biomimetic tissue engineering is a powerful

approach to generate 3D cancer models, however, only a few scientists use these technologies. Most 3D cultures of human cells include reconstituted matrices that originate from murine tumours containing undefined amounts of extracellular matrix and growth factors. There is no tissue-engineered 3D model that allows control over patient-specific and biomechanical characteristics of the pancreatic tumour microenvironment.

I hypothesise that 3D approaches that replicate the native tissue composition and biomechanical properties will behave like real tumours to provide clinically predictive platforms and to test novel treatments that target both malignant and non-malignant cells.

To test my hypothesis, I will:

- •3D-print matrix and cellular elements of the microenvironment of human pancreatic tumours
- Develop a cancer-on-a-chip model of liver metastasis
- •Compare the crosstalk of malignant and other microenvironment components with the human disease
- •Validate my new platforms with treatments in clinical trials and test novel combination treatments that slow down or reduce tumour growth.

In a multidisciplinary project, I will use:

- •3D printing to build platforms composed of hydrogels, fibrous scaffolds and patient-derived cells
- •Extracellular matrix molecules for chemical crosslinking into hydrogels
- •Cancer-on-a-chip models to study tumour metastasis
- •Imaging, biomechanical and multi-omics analyses.

# Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /natural sciences/biological sciences/cell biology

/medical and health sciences/clinical medicine/cancer/pancreatic cancer /medical and health sciences/medical biotechnology/tissue engineering

# Programme(s)

# Topic(s)

# **Call for proposal**

# **Funding Scheme**

**ERC-COG - Consolidator Grant** 

## **Host institution**

血

#### LEIBNIZ-INSTITUT FUR POLYMERFORSCHUNG DRESDEN EV

Address Activity type EU contribution

Hohe Strasse 6 Research Organisations € 2 000 000

01069 Dresden
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Germany

EU contribution

€ 2 000 000

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Website Contact the organisation C

Last update: 19 December 2020

Record number: 232782

Permalink: https://cordis.europa.eu/project/id/864253

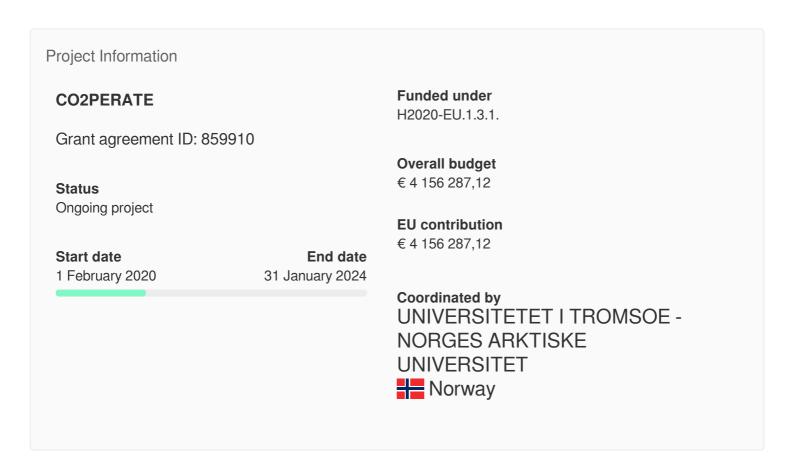
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# Cooperation towards a sustainable chemical industry

# **Fact Sheet**



# **Project description**

# CO2 may soon be taking its rightful place in sustainable organic synthesis

Carbon forms the backbone of all organic compounds and organic molecules present in numerous products including gasoline and natural gas, plastics, detergents, dyes, food additives and medicines. The typical starting materials for the industrial synthesis of these compounds are fossil fuels. The potential environmental and economic benefits of using CO2 as a feedstock have been known for decades. However, few industrial processes have been successful. The strong bonds in CO2 are not particularly reactive, requiring significant energy and harsh catalysts and

conditions that result in large greenhouse gas footprints. CO2PERATE is developing processes using CO2 and biomass as starting materials and non-precious metal catalysts. Their goal is the sustainable CO2-based synthesis of numerous chemicals for industrial and pharmaceutical applications.

# **Objective**

Our society depends on thousands of indispensable molecules such as pharmaceuticals, agrochemicals, dyes, and coatings. Such products are synthesized from starting materials that originate from fossil resources, mainly oil. As oil is depleting, alternative starting materials are needed. CO2 is a benign and sustainable carbon source, which in analogy to natural photosynthetic processes can be used to form chemical building blocks. However, despite the potential ascribed to CO2, the scope of chemicals available from CO2 remains narrow. In particular, the number of syntheses leading to carbon-carbon (C-C) bond formation from CO2 is limited, although C-C linkages constitute the core of all organic molecules. The CO2PERATE consortium is a cooperation between 3 industrial and 7 academic nodes, with a simple but essential vision: Training of European researchers in the synthesis of indispensable molecules from sustainable carbon sources and with sustainable catalysts. The main focus is on using CO2 as a synthon in C-C bond formation leading to industrially relevant compounds. In order to develop fully sustainable processes, CO2PERATE will react CO2 with biomass-derived starting materials and will use non-precious metal catalysts. The development of CO2-based synthetic pathways is highly beneficial not only for the chemical industry but also for pharmaceutical applications. In particular, CO2PERATE will have major impact on carbon-based isotopic labelling, which is an area of great economic value. The CO2PERATE research program unites leading expertise in catalysis, organic synthesis, computational modelling, isotopic labelling, process plant development, and manufacturing of pharmaceuticals and chemical additives. The research will be complemented by training in transferable skills, including entrepreneurship, patenting, outreach and open science, alongside personally adapted career development, with mentoring, intersectorial exchange, and international mobility.

Programme(s)

Topic(s)

Call for proposal

H2020-MSCA-ITN-2019

# **Funding Scheme**

MSCA-ITN-ETN - European Training Networks

## Coordinator



#### **UNIVERSITETET I TROMSOE - NORGES ARKTISKE UNIVERSITET**

Address Activity type EU contribution

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#### **AARHUS UNIVERSITET**

Denmark

EU contribution

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#### FUNDACIO PRIVADA INSTITUT CATALA D'INVESTIGACIO QUIMICA

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#### **UNIVERSITAT ZURICH**

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#### **HALDOR TOPSOE AS**

Denmark

**EU** contribution

€ 297 522

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#### **ASTRAZENECA AB**

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#### **EVONIK OPERATIONS GMBH**

Germany

EU contribution

€ 252 788,40

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Activity type

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#### **UNIVERSITETET I OSLO**

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Last update: 7 February 2021 Record number: 224719

Permalink: https://cordis.europa.eu/project/id/859910

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# COmponents and MAcrocomponents Packaging For Space

# **Fact Sheet**



# **Project description**

# A low-cost, efficient, integrated-circuit packaging solution for space applications

Space markets have entered a new age, thanks to contemporary business models as well as the increased use of integrated electronics aboard satellites. These tiny systems allow for drastic reductions of the satellite mass, thus enabling larger payloads and higher service revenues. Despite the fact that the space industry has moved from microscale electronics down to the submicron scale, efficient and competitive integrated-circuit packaging hinders downsizing efforts. The aim of the EU-funded COMAP-4S project is to design a 'macro-component' demonstration

model for space applications, offering unmatched figures of merit for packaging. Leveraging advanced technologies, it will drastically reduce interconnection density, integration density and die surface. Moreover, compared to alternative packaging solutions, it will reduce packaging costs by three times.

# **Objective**

Space markets have entered a new age, thanks to new business models but also to the increased use of deeply integrated electronics aboard satellites, either for digital or analog functions. Such miniaturized equipment allows for drastic reductions of the satellite mass, thus enabling larger payloads and more service revenues, and/or lighter satellites, and then cheaper launches.

However, despite the deep submicron technologies currently used for manufacturing space components, efficient and competitive packaging of large components remains a roadblock in trying to downsize further these equipment. This is especially true when we have to address dies beyond 300 mm² and/or beyond 625 pins, such integration being made worse with ever increased power dissipation, up to 10 or 20 W per die.

Following-up innovative approaches already developed by the Consortium members, such as European rad-hard FPGA (e.g. BRAVE, DAHLIA, OR VEGAS/OPERA projects), System In Package (SIP) technologies and High Density PCB as experienced with ESA contracts, the principal objective of this project is to design and ECSS qualify a "macro-component" Demonstration Model (DM) for space applications, offering unmatched Figures of Merit for space packaging, in terms of Interconnexion density, Die surface, Integration density, together with a cost reduction factor of 3 compared to ceramic CGA, among others. These challenges are made reachable within a 3-phase program, leveraging advanced technologies in organic high density low CTE PCBs, innovative thermal management and SIP integration up to a TRL7 stage, validating the full industrial processes vs. the ECSS Q ST standards.

Furthermore, thanks to the close partnership we have in our Consortium, this COMAP-4S Project will set the stage for a true European supply chain serving additional markets beyond rad-hard space equipment, such as embedded macro-components for Defense or Aeronautics, being fully in line with the objectives of SPACE-10-TEC-2019.

# Field of science

/social sciences/economics and business/business and management/commerce

# Programme(s)

# Topic(s)

# Call for proposal

H2020-SPACE-2019

# **Funding Scheme**

RIA - Research and Innovation action

## Coordinator



#### **SAFRAN ELECTRONICS & DEFENSE**

72-76 Rue Henry Farman

75015 Paris

France

Address

Private for-profit entities (excluding Higher or Secondary Education EU contribution

€ 1 710 556,25

**Establishments)** 

Activity type

Website **C** Contact the organisation **C** 

# Participants (3)



#### ADVANCED CIRCUIT BOARDS NV

Belgium

EU contribution

€ 442 026,25

Address Activity type

Vosmeer 3 Private for-profit entities
9200 Dendermonde (excluding Higher or
Secondary Education
Establishments)

Contact the organisation <a>C</a>



#### **TECHNISCHE UNIVERSITAT BERLIN**

Germany

EU contribution

€ 499 000

Address Activity type

18 of 58

Strasse Des 17 Juni 135 10623 Berlin

Website 🗹

Higher or Secondary Education Establishments

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血

#### **NANOXPLORE**

France

EU contribution

€ 323 692,50

Address

1 Avenue De La Cristallerie

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Activity type

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation

Last update: 29 February 2020

Record number: 226869

Permalink: https://cordis.europa.eu/project/id/870356

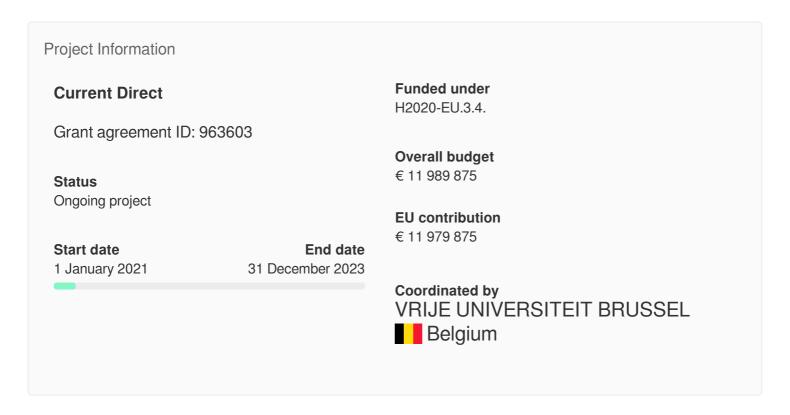
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# **CURRENT DIRECT – Swappable Container Waterborne Transport Battery**

# **Fact Sheet**



# **Objective**

The transport sector contributes to almost a quarter of Europe's greenhouse gas (GHG) emissions. Compared to other sectors, such as agriculture or energy industries, it is the only sector with emissions higher than that of 1990. Waterborne transport emissions represent around 13% of the overall EU greenhouse gas emissions from the transport sector. Moreover, waterborne transport emissions could increase between 50% and 250% by 2050 under a business-as-usual scenario, undermining the objectives of the Paris agreement. The challenge for a large-scale adoption and implementation of batteries for waterborne transport is mainly related to the high costs of the battery systems and cells.

The Current Direct project addresses these challenges by proposing an innovative lithium-ion cell optimized for waterborne transport, using novel manufacturing techniques allowing for a consistent cost reduction compared to the current market

prices. Additionally, a swappable containerized energy storage system optimized for cost and operation in the waterborne transport industry will be developed.

The overarching aim of the Current Direct project is to develop and demonstrate an innovative interchangeable waterborne transport battery system and EaaS Platform in an operational environment at the Port of Rotterdam at TRL7 that facilitates fast charging of vessels, fleet optimization and novel business models. The Current Direct project is dedicated to (i) significantly reduce the total cost of waterborne transport batteries, (ii) cut GHG emissions of the marine transport sector through electrification of vessel fleets, (iii) increase the energy density of waterborne battery cells and (iv) trigger investments for innovation, job and knowledge creation in the European marine transport and battery sector.

## Field of science

/social sciences/social and economic geography/transport

# Programme(s)

Topic(s)

# Call for proposal

H2020-LC-BAT-2020

# **Funding Scheme**

RIA - Research and Innovation action

# Coordinator



#### VRIJE UNIVERSITEIT BRUSSEL

Address

Pleinlaan 2 1050 Brussel

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Website [2]

Activity type

Higher or Secondary Education Establishments

Contact the organisation

EU contribution

€ 339 297,50

# Participants (12)



#### **WARTSILA NORWAY AS**

Norway

EU contribution

€ 1 685 325

Address Activity type

Wichmannvegen 3 Private for-profit entities
Rubbestadneset (excluding Higher or
5420 Bomlo Secondary Education

**Establishments**)

Contact the organisation 🗹



#### LLOYD'S REGISTER EMEA IPS

**United Kingdom** 

EU contribution

€ 723 450

Address Activity type

Fenchurch Street 71

EC3M 4BS London

Other

Website 🗹 Contact the organisation 🗹



#### **BLACKSTONE TECHNOLOGY GMBH**

Germany

EU contribution

€ 2 089 978,75

Address Activity type

Anger 10 Private for-profit entities
99084 Dobeln (excluding Higher or
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**Establishments**)

Contact the organisation



#### **ROI ASTIKES TECHNOLOGIES IKE RHOE URBAN TECHNOLOGIES**

Greece

EU contribution

€ 323 950

Address Activity type

Odyssea Elyti 2 54248 Thessaloniki Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation <a>C</a>



#### **CNET CENTRE FOR NEW ENERGY TECHNOLOGIES SA**

Portugal

EU contribution

€ 526 250

Address Activity type

Rua Cidade De Goa 4 2685 039 Sacavem E Prior

Velho Lisboa

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

Contact the organisation 🗹



#### VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.

Belgium

EU contribution

€ 432 500

Address Activity type

Boeretang 200 Research Organisations

2400 Mol

Website 🗹 Contact the organisation 🗹



#### **AVILOO GMBH**

Austria

EU contribution

€ 536 750

Address Activity type

Perlasgasse 53 Private for-profit entities 2362 Biedermannsdorf (excluding Higher or

**Secondary Education** 

**Establishments**)

Contact the organisation



### **KOTUG INTERNATIONAL BV**



**FLI** contribution

€ 766 800

Address

Activity type

Wilhelminakade 318 3072 AR Rotterdam

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation



#### **FORESHIP OY**

+ Finland

EU contribution

€ 293 250

Address Activity type

Suolakivenkatu 1 00810 Helsinki Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation <a>C</a>



### **UNIVERSITEIT HASSELT**

Belgium

EU contribution

€ 337 500

Address Activity type

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3500 Hasselt Education Establishments

Website **C** Contact the organisation **C** 



#### SPEAR POWER SYSTEMS BV

Belgium

EU contribution

€ 3 643 222,50

Address Activity type

De Keyserlei 58-60 Boite 19

2018 Antwerpen

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

Contact the organisation <a>C</a>

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## **UMICORE**

Belgium

EU contribution

€ 281 601,25

Address

Activity type

Rue Du Marais 31 1000 Bruxelles Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation 🗹

Last update: 7 February 2021

Record number: 232384

Permalink: https://cordis.europa.eu/project/id/963603

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# Design and manufacture of sustainable materials for additive manufacturing technologies

# **Fact Sheet**

Project Information

**DeMANS** 

Grant agreement ID: 101007584

**Status** 

Grant agreement signed

Start date

1 May 2021

Funded under

H2020-EU.1.3.3.

**Overall budget** 

€ 345 000

**EU** contribution

€ 303 600

**End date** 

30 April 2025

Coordinated by

THE PROVOST, FELLOWS, FOUNDATION SCHOLARS & THE OTHER MEMBERS OF BOARD, OF THE COLLEGE OF THE HOLY & UNDIVIDED TRINITY OF QUEEN ELIZABETH NEAR DUBLIN

Ireland

# **Objective**

There is an urgent need to reduce reliance on fossil fuel derived plastics. The vast majority of these polymers cannot be recycled due to additives within them and developing more sustainable material approaches is an imperative. This international and intersectoral RISE has the ambitious goal of world-class innovation in the design and additive manufacture (AM) of parts, components and devices using sustainable

(bio)polymer materials. DeMANS will explore replacing traditional synthetic plastics with biomaterials in consumer products, simultaneously reducing our reliance on fossil fuels and developing new innovations and markets for bio-based products, contributing to the circular economy objectives of the European Green Deal. In line with the principle of 'transforming knowledge into innovation', DeMANS will define the key challenges that have to be met to move from laboratory to manufacturing by demonstrating the feasibility of the approach in the area of computer peripherals. DeMANS brings together complementary world-leading expertise from a network of 7 academic and industrial organisations from 3 European and 2 Southern hemisphere countries. The technical approach includes 1) identifying suitable biopolymers with properties matching industry standards, 2) identifying printing methods and 3) fabricating demonstrators and prototypes. The information will be synthesised to define a technological roadmap for sustainable approaches in AM. Knowledge sharing will be undertaken through a series of secondments, complemented by network-wide training events. DeMANS will enhance the quality of research & innovation in Europe, leading to increased competitiveness and growth. DeMANS will develop skills, offer exposure to new research environments and widen the career perspectives of the staff involved. Project results will be disseminated to relevant scientific, industry and governmental agencies to deliver impact in the largely unexplored field of sustainable material AM.

### Field of science

/natural sciences/chemical sciences/polymer science
/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing
/engineering and technology/environmental engineering/energy and fuels

# Programme(s)

Topic(s)

# Call for proposal

H2020-MSCA-RISE-2020

# **Funding Scheme**

MSCA-RISE - Marie Skłodowska-Curie Research and Innovation Staff Exchange (RISE)

## Coordinator



# THE PROVOST, FELLOWS, FOUNDATION SCHOLARS & THE OTHER MEMBERS OF BOARD, OF THE COLLEGE OF THE HOLY & UNDIVIDED TRINITY OF QUEEN ELIZABETH NEAR DUBLIN

Address Activity type EU contribution

College Green Higher or Secondary € 174 800

2 Dublin Education Establishments

Ireland

Website **C** Contact the organisation **C** 

# Participants (4)



#### LOGITECH IRELAND SERVICES LIMITED

Ireland

EU contribution

€ 23 000

Address Activity type

Building 3400 Cork Airport Private for-profit entities
Business (excluding Higher or
T12AE76 Cork Secondary Education

**Establishments**)

Contact the organisation



# UNIVERSITAETSKLINIKUM WUERZBURG - KLINIKUM DER BAYERISCHEN JULIUS-MAXIMILIANS-UNIVERSITAT

Germany

EU contribution

€ 59 800

Address Activity type

Josef-schneider-strasse 2 Higher or Secondary 97080 Wurzburg Education Establishments

Website **☑** Contact the organisation **☑** 



### **LUONNONVARAKESKUS**

Finland

EU contribution

€ 32 200

Address Activity type

34 of 57

Latokartanonkaari 9 00790 Helsinki **Research Organisations** 

Website Contact the organisation C

血

#### **OCEAN PRINT LIMITED**

Ireland

EU contribution

€ 13 800

Address Activity type

Anne Brady Mcquillan Iveagh

**Court Harcourt St** 

**Dublin** 

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

Contact the organisation 🗹

# Partners (2)



#### UNIVERSITY OF WOLLONGONG

🌄 Australia

Address Activity type

Northfields Avenue Higher or Secondary
2522 Wollongong Nsw Education Establishments

Website **☑** Contact the organisation **☑** 

血

#### **New Zealand Forest Research Institute LTD**

**New Zealand** 

Address Activity type

Sala St 49 Private for-profit entities
Rotorua 3046 Rotorua (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation 🗹

Last update: 24 November 2020

Record number: 232251

**Permalink:** https://cordis.europa.eu/project/id/101007584

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# Development and scaled Implementation of sAfe by design tools and Guidelines for multicOmponent aNd hArn nanomateriaLs

# **Fact Sheet**

**Project Information** Funded under **DIAGONAL** H2020-EU.2.1.3. Grant agreement ID: 953152 H2020-EU.2.1.2. **Overall budget Status** € 6 340 223,75 Grant agreement signed **EU** contribution Start date **End date** € 6 265 103,75 1 May 2021 31 October 2024 Coordinated by UNIVERSIDAD DE BURGOS Spain

# **Objective**

"DIAGONAL will bring SbD knowledge and tools to a development stage which can be implemented in the MCNMs and HARNs related industries, relying on experimental (in-vitro) and modelling (in-silico) research, to study specific hazard and exposure properties that MCNMs & HARNs exhibit along their life cycle, with emphasis in the interactions between NM constituents, with other particles and the environment, as well as their release rate and fate. While hazard and exposure determination will allow gaining understanding on the MCNMs & HARNs behaviour and evolution, multi-scale modelling will answer the questions ""what are they?"" and ""where do they go?"", through novel predictors for properties estimation, resulting

from additive and/or synergistic interactions between components, as well as system-dependent properties. Ultimately, the obtained results will serve as basis to provide adapted or novel risk management guidelines, ready to use SbD tools and strategies to increase nanomaterials safety, including Sustainable-by-Design considerations, and recommendations for risk governance.

DIAGONAL partners are involved in current R&D projects (NMBP-12-2017, NMBP-13-2018, NMBP-14-2018, NMBP-15-2019), networks (e.g. NanoSafety Cluster and EMMC) and working groups (e.g. OECD - WPMN and BNCT). The project will establish cooperation lines with the US nanosafety research community involving a US partner and integrating renowned US institutions on its advisory board, guaranteeing resource-efficient working plans, aligned with current EU and international efforts in the nanosafety field, and facilitating the use of existing reference platforms and databases.

7 industrial cases producing or using MCNMs/HARNs will participate providing data from scaled up scenarios, validating models, and implementing the novel SbD approaches and tools developed in the project. Exploitation activities and connection with Open Innovation Test Beds will allow mainstreaming SbD among targeted industries

## Field of science

/engineering and technology/nanotechnology/nano-materials /social sciences/sociology/governance/crisis management

# Programme(s)

# Topic(s)

# Call for proposal

H2020-NMBP-TO-IND-2020-twostage

# **Funding Scheme**

RIA - Research and Innovation action

# Coordinator



#### **UNIVERSIDAD DE BURGOS**

Address Activity type EU contribution

**Education Establishments** 

Hospital Del Rey Higher or Secondary € 509 130

09001 Burgos

Spain

Website **C** Contact the organisation **C** 

# Participants (21)



#### CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

France

EU contribution

€ 370 320

Address Activity type

Rue Michel Ange 3 Research Organisations

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### INSTITUTO TECNOLOGICO DEL EMBALAJE, TRANSPORTE Y LOGISTICA

Spain

EU contribution

€ 409 375

Address Activity type

Calle Albert Einstein 1 Parque

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46980 Paterna

**Research Organisations** 

Website Contact the organisation C



#### **WAGENINGEN UNIVERSITY**

Netherlands

EU contribution

€ 543 397,50

Address Activity type

Droevendaalsesteeg 4 Higher or Secondary 6708 PB Wageningen Education Establishments

Website Contact the organisation C



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Greece

EU contribution

€ 321 250

Address Activity type

N Plastira Str 100

70013 Irakleio

**Research Organisations** 

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# INSTITUTO DE SOLDADURA E QUALIDADE

Portugal

EU contribution

€ 322 906,25

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**Taguspark Avenida Professor** 

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2740 120 Porto Salvo

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# **NOVAMECHANICS LIMITED**

Cyprus

EU contribution

€ 440 000

Address Activity type

Prigkipissis Nte Tyras 16 Karantoki Building 5Th Floor

Flat/office 13-14 1065 Nicosia Private for-profit entities (excluding Higher or Secondary Education Establishments)

Website **C** Contact the organisation **C** 



# **QSAR LAB SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA**

Poland

EU contribution

€ 420 562,50

Address Activity type

Al Grunwaldzka 190/102

80-266 Gdansk

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Establishments)

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# **BIONANONET FORSCHUNGSGESELLSCHAFT MBH**

Austria

EU contribution

€ 277 500

Address Activity type

Steyrergasse 17 Research Organisations

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### RINA CONSULTING - CENTRO SVILUPPO MATERIALI SPA

Italy

EU contribution

€ 404 115

Address Activity type

Via Di Castel Romano 100 Private for-profit entities 00128 Roma (excluding Higher or

**Secondary Education** 

**Establishments**)

Website 🗹 Contact the organisation 🗹



# LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY

Luxembourg

EU contribution

€ 522 496,25

Address Activity type

5 Avenue Des Hauts Research Organisations

**Fourneaux** 

4362 Esch Sur Alzette

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# **BRIMATECH SERVICES GMBH**

Austria

EU contribution

€ 300 375

Address Activity type

Lothringerstrasse 14/3 Private for-profit entities

1030 Wien (excluding Higher or Secondary Education

Establishments)

38 of 86



# **IZES GGMBH**

Germany

EU contribution

€ 122 151,25

Address

Altenkesseler Strasse 17

66115 Saarbruecken

Website 🗹

Activity type

**Research Organisations** 

Contact the organisation



# **NEOVILI SA**

Switzerland

EU contribution

€ 113 672,50

Address

**Avenue De Rumine 29** 

1005 Lausanne

Activity type

Private for-profit entities (excluding Higher or Secondary Education

**Establishments)** 

Contact the organisation



# **VIREO ADVISORS LLC**

United States

EU contribution

€ 0

Address

Activity type

111 Perkins St 223 02130 Boston Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation



# PHORNANO HOLDING GMBH

**Austria** 

EU contribution

€ 199 227,50

Address Activity type

/latinanianianianiani Otinaaaa O4 - Dubisata fan i

39 of 86

Kieinengersaorter Strasse 24 2100 Korneuburg Private for-profit entities (excluding Higher or Secondary Education Establishments)

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# **IRIS SRL**



EU contribution

€ 170 625

Address Activity type

Corso Unione Sovietica Private for-profit entities
612/21 (excluding Higher or
10135 Torino Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



# MONOLITHOS KATALITES KE ANAKIKLOSI ETAIREIA PERIORISMENIS EVTHINIS

Greece

EU contribution

€ 170 500

Address Activity type

Vrilissou 83 Private for-profit entities
11476 Athina (excluding Higher or
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**Establishments**)

Website **C** Contact the organisation **C** 



# **CREATIVE NANO PC**

Greece

EU contribution

€ 173 000

Address Activity type

Leventi 4 Private for-profit entities
12132 Peristeri (excluding Higher or
Secondary Education

**Establishments**)

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# **OCSIAL EUROPE SARL**

Luxembourg

EU contribution

€ 115 000

Address

Activity type

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Private for-profit entities (excluding Higher or Secondary Education

**Establishments)** 

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# **TEKNOLOGISK INSTITUT**

Denmark

EU contribution

€ 175 000

Address

Gregersensvej 1 2630 Taastrup

Website ☑ Contact the organisation ☑

Activity type

**Research Organisations** 

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# **GRAPHENE-XT SRL**

| Italy

EU contribution

€ 184 500

Address

Activity type

Via Massimo D Azeglio 15

40123 Bologna Bo

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

Contact the organisation

Last update: 19 January 2021 Record number: 233187

Permalink: https://cordis.europa.eu/project/id/953152

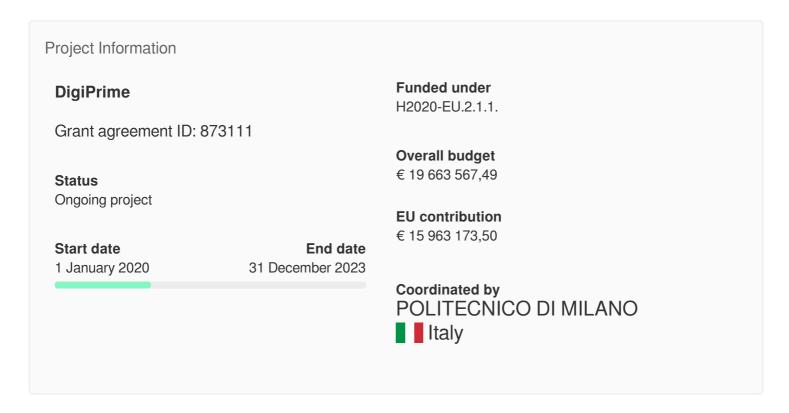
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# Digital Platform for Circular Economy in Cross-sectorial Sustainable Value Networks

# **Fact Sheet**



# **Project description**

# Circular economy going digital

Digital technology plays a big role in our transition to a circular economy, which aims to make optimum use of resources within industries. Investing in innovation is good for the protection of the environment, and it also contributes to Europe's competitiveness. The EU-funded DigiPrime project will develop the concept of a circular economy digital platform in order to create circular business models based on the data-enhanced recovery and reuse of functions and materials. Specifically, it will create and operate a federated model of digital platforms for cross-sector business in the circular economy. DigiPrime will be validated through several cross-sectoral pilots, further detailed in 20 use cases covering different European industrial

sectors (automotive, renewable energy, electronics, textile, construction), and by additional pilots in new sectors, funded through an open call mechanism.

# **Objective**

DigiPrime has the mission to develop a new concept of Circular Economy digital platform overcoming current information asymmetry among value-chain stakeholders, in order to unlock new circular business models based on the dataenhanced recovery and re-use of functions and materials from high value-added post-use products with a cross-sectorial approach. DigiPrime will create and operate a federated model of digital platforms for cross-sector business in the Circular Economy. Nodes of the federation will offer interoperable functions and data, that can be accessed by other nodes, combined with local data and services, that are not exposed outside; connectors and open interfaces enable easy integration of new services, provided by third parties, that are not made accessible outside. Specific attention will be devoted to create trustable data sharing mechanisms, preserving the confidentiality of business-critical data. Security and sovereignity of information are guaranteed by IDSA (Industrial Data Space Association)-based solutions for ondemand and controlled sharing of data among organisations, regulated by smart contracts and tracked by block-chain. The services covers: i) the cross-sector value-Chains dimension (De- and remanufacturing oriented product information management, product co-creation, LCA-LCC for eco-design, demand-supply matching, sustainable value network and reverse logistics barriers identification and legislation support, etc.), ii) the operational dimension (rediction of product conditions, de-and remanufacturing decision support system, demand and supply forecasting, circular production planning and control, material testing and certificationetc). DigiPrime, will be thoroughly validated through 6 cross-sectorial pilots, further detailed in 20 use-cases covering 5 different European industrial sectors (automotive, renewable energy, electronics, textile, construction), and by additional pilots in new sectors, funded through an Open Call mechanism.

# Field of science

/engineering and technology/environmental engineering/waste management/waste treatment processes/remanufacturing

/social sciences/economics and business/economics/production economics

# Programme(s)

# Topic(s)

# Call for proposal

H2020-DT-2019-1

# **Funding Scheme**

IA - Innovation action

# Coordinator



### POLITECNICO DI MILANO

Address

Activity type

EU contribution

Piazza Leonardo Da Vinci 32

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Italy

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Contact the organisation Z

# Participants (38)



# KARLSRUHER INSTITUT FUER TECHNOLOGIE

Germany

EU contribution

€ 748 750

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### SZAMITASTECHNIKAI ES AUTOMATIZALASI KUTATOINTEZET

Hungary

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€ 460 000

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Kende Utca 13-17 Research Organisations

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NATIONAL TECHNICAL UNIVERSITY OF ATHENS - NIUA

Greece

EU contribution

€ 412 500

Address Activity type

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15780 Athina

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# **LULEA TEKNISKA UNIVERSITET**

Sweden

EU contribution

€ 736 000

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**Higher or Secondary** 

**Education Establishments** 

**Research Organisations** 

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### **FUNDACION TECNALIA RESEARCH & INNOVATION**

Spain

EU contribution

€ 603 750

Address Activity type

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20009 Donostia/san Sebastian

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### CENTRO TESSILE COTONIERO E ABBIGLIAMENTO SPA

Italy

EU contribution

€ 556 750

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### **HOLONIX SRL**

Italy

EU contribution

€ 488 687,50

Address Activity type

Corso Italia 8 Private for-profit entities 20821 Meda (Mb) (excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



# SIEMENS GAMESA RENEWABLE ENERGY INNOVATION & TECHNOLOGY S.L.

Spain

EU contribution

€ 306 950

Address Activity type

Avenida Ciudad De La Private for-profit entities Innovacion 9 Y 11 (excluding Higher or 31621 Sarriguren Secondary Education

**Establishments**)

Website 🗹 Contact the organisation 🗹



# **CIRCULAR ECONOMY SOLUTIONS GMBH**

Germany

EU contribution

€ 433 650

Address Activity type

Wilhelm-lambrecht-strasse 6

37079 Gottingen

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



### **FLEXIS AG**

Germany

EU contribution

€ 339 412,50

Address Activity type

, ......

/ wilvity typo

Schockenriedstrasse 46

70565 Stuttgart

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

Contact the organisation

### **EDAG ENGINEERING GMBH**

Germany

EU contribution

€ 428 750

Address Activity type

Kreuzberger Ring 40 65205 Wiesbaden

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

Contact the organisation

皿

# KNORR-BREMSE SYSTEME FUR NUTZFAHRZEUGE GMBH

Germany

EU contribution

€ 430 500

Address Activity type

Moosacher Str. 80 **Private for-profit entities** 80809 Munchen (excluding Higher or **Secondary Education** 

**Establishments**)

Contact the organisation <a>C</a>



# BOSCH REXROTH AG (1)



Germany

EU contribution

€ 0

Address Activity type

**Zum Eisengiesser 1** Private for-profit entities 97816 Lohr (excluding Higher or **Secondary Education** 

**Establishments**)

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**HIVIEHASUA SPA** 

Italy

EU contribution

€ 348 250

Address

Activity type

Via Strasburgo 7 24040 Bottanuco

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

Contact the organisation

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# **COBAT SERVIZI**

Italy

EU contribution

€ 306 875

Address

Activity type

Via Vicenza 29

00185 Roma

Other

Contact the organisation

# **SIMPLAN AG**

Germany

EU contribution

€ 431 812,50

Address

Activity type

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63452 Hanau

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

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Germany

EU contribution

€ 0

Address

Activity type

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30165 Hannover

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



### ENGINSOFT TURKEY MUHENDISLIK YAZILIM TICARET LIMITED SIRKETI

Turkey

EU contribution

€ 421 750

Address

Sanayi Mah Teknopark Bulvary No: 1/2A/102 Pendik

34906 Istanbul

Activity type

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# E REPAIR S.R.L.

Italy

EU contribution

€ 252 000

Address

Via Dei Pelaghi 306

57124 Livorno

Activity type

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

Contact the organisation 🗹



# **VELTHA IVZW**

Belgium

EU contribution

€ 371 750

Address Activity type

Hofkensstraat 3 Research Organisations

3080 Tervuren

Website **C** Contact the organisation **C** 



# TTS TECHNOLOGY TRANSFER SYSTEMS SRL

Italy

EU contribution

€ 272 475

Address Activity type

Largo Caleotto 1 Private for-profit entities

60 of 65

23900 Lecco Lc

(excluding Higner or **Secondary Education Establishments**)

Website 🗹 Contact the organisation



# SAUBERMACHER DIENSTLEISTUNGS AG

Austria

EU contribution

€ 307 125

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Hans Roth Strasse 1 **Private for-profit entities** 8073 Feldkirchen (excluding Higher or **Secondary Education** 

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### **INDRA SAS**

France

EU contribution

€ 299 643,75

Address Activity type

**Avenue Condorcet 80** Private for-profit entities Immeuble Gazelle Zac Du (excluding Higher or Parc Technologique Business **Secondary Education Airport** 

**Establishments**)

38090 Vaulx Milieu

# IDEA STRATEGISCHE ECONOMISCHE CONSULTING

Belgium

Website 🗹

EU contribution

€ 218 750

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**Establishments**)

Contact the organisation



France

EU contribution

€ 61 875

Address

Activity type

Other

180 Rue Pierre Et Marie Curie

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01115 Bellignat

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### **INOTEX SPOL SRO**

Czechia

Website 🗹

EU contribution

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Address Activity type

Stefanikova 1208 **Private for-profit entities** 544 01 Dvur Kralove Nad (excluding Higher or Labem **Secondary Education** 

**Establishments**)

Website 🗹 Contact the organisation



# INGENIERIA Y APLICACIONES SOLARES ZARAGOZA 2005 SL

Spain

EU contribution

€ 143 500

Address Activity type

C/ Argualas 40 1 **Private for-profit entities** 50012 Zaragoza (excluding Higher or **Secondary Education** 

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### **ENVIROBAT ESPANA SL**



EU contribution

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Address Activity type

Avda Lyon De Num 10 Pg Ind.

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

62 of 65



# **INNOVA SRL**

Italy

EU contribution

€ 306 250

Address Activity type

Via Cicerone, 66 Private for-profit entities
00193 Roma (excluding Higher or
Secondary Education

**Establishments**)

Other

Website **C** Contact the organisation **C** 



# **DESIGNAUSTRIA (DA)**

Austria

EU contribution

€ 333 562,50

Address Activity type

Museumsplatz 1 Hof 7

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# ATLANTIS ENGINEERING AE

Greece

EU contribution

€ 275 100

Address Activity type

Antoni Tritsi 21 Private for-profit entities
55102 Thessaloniki (excluding Higher or
Secondary Education
Establishments)

Contact the organisation 🗹



# **BALANCE TECHNOLOGY CONSULTING GMBH**

Germany

EU contribution

€ 185 062,50

Address Activity type

Contrescarpe 33 Private for-profit entities

63 of 65

28203 Bremen

(excluding Higher or Secondary Education Establishments)

Website 🗹

Contact the organisation



# RESEARCH AND EDUCATION LABORATORY IN INFORMATION TECHNOLOGIES



Greece

EU contribution

€ 2 145,84

Address Activity type

Adrianiou 2 & Papada

**11525 Athens** 

**Research Organisations** 

Website 🗹 Contact the organisation 🗹



# **EXTRA RED SRL**

Italy

EU contribution

€ 542 018,75

Address Activity type

Via Salvo D'acquisto 40/P

56025 Pontedera

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

Contact the organisation



# UNIVERSIDAD AUTONOMA DE BARCELONA



EU contribution

€ 260 712,50

Address Activity type

**Calle Campus Universitario** 

Sn Cerdanyola V

08290 Cerdanyola Del Valles

**Higher or Secondary** 

**Education Establishments** 

Website **C** Contact the organisation **C** 



# **INTRASOFT INTERNATIONAL SA**

Luxembourg

EU contribution

€ 391 604 16

C 00 1 00 7, 10

Address Activity type

Rue Nicolas Bove 2B Private for-profit entities 1253 Luxembourg (excluding Higher or

Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

血

# **VITESCO TECHNOLOGIES GMBH**

Germany

EU contribution

€ 369 250

Address Activity type

Vahrenwalder Str. 9 Private for-profit entities
30165 Hannover (excluding Higher or
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Establishments)

Contact the organisation

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### **ROBERT BOSCH GMBH**

Germany

EU contribution

€ 442 750

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Robert-bosch-platz 1 Private for-profit entities 70839 Gerlingen-schillerhoehe (excluding Higher or

Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

Last update: 27 December 2020

Record number: 226531

Permalink: https://cordis.europa.eu/project/id/873111

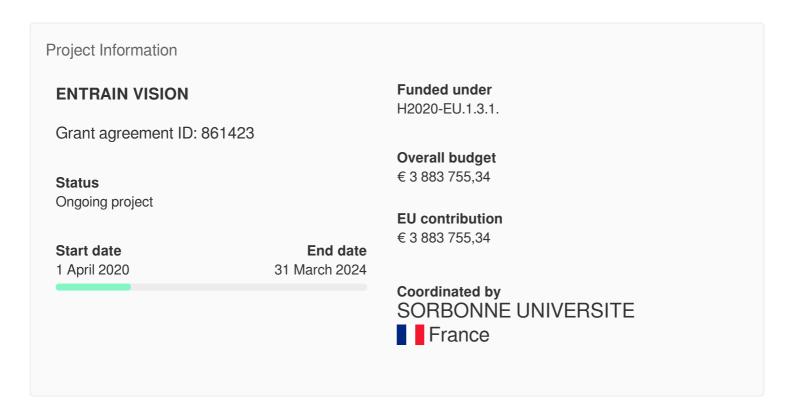
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# European Network for integrated TRAINing on Innovative Therapies for VISion RestoratiON

# **Fact Sheet**



# **Project description**

# Innovative ESR training for vision restoration

Affecting 39 million people worldwide, blindness is a handicap that reduces autonomy and mobility. Clinical tests have demonstrated that retinal prostheses in patients who have lost photoreceptors can lead to a certain degree of vision. This is improved by the introduction of new methods into clinical tests such as photovoltaic implants, optogenetic therapy and even cortical prostheses for patients who have a lost eye-to-brain connection. The EU-funded ENTRAIN VISION project will train early stage researchers (ESR) on these innovative technologies, aiming to establish a distinctive European network of researchers, clinicians and industrialists dealing with vision restoration in blind patients. The training will include winter and summer

schools offering theoretical and practical knowledge on specific issues regarding vision restoration as well as advice on transferable skills in technology, start-up establishment and communication to media.

# **Objective**

Blindness is the most feared handicap leading to the greatest exclusion from society by reducing patient autonomy and mobility. There are still an estimated 39 million blind people worldwide. Clinical trials have demonstrated the possibility to regain some useful vision with retinal prostheses in patients having lost photoreceptors. New approaches are entering into clinical trials such as photovoltaic implants, optogenetic therapy and even cortical prostheses for patients having lost eye to brain connection.

In the present ENTRAIN-Vision project, the Early Stage Researchers (ESRs) will work on these innovative technologies for restoring vision in blind patients. Their training in academic institutes or industry will be completed by several secondments, including one at an industry partner. In addition, several winter/summer schools will address scientific subjects on vision restoration and transferable skills in technology transfer, clinical trials, start-up creation, communication to media. Lectures will be followed by practice e.g. innovative technologies for assessing brain function. The project will thus create a unique European network of researchers, clinicians and industrials on visual restoration. This network will provide a comprehensive training across multiple disciplines including neuroscience, vision, psychophysics, genetic, electronic, bio-engineering and computational modelling. It will therefore prepare a new generation of leaders able to carry the new therapeutic strategies from bench to patients. ESRs will encounter founders of start-up and industrial partners enlarging thereby job opportunities to 1) remain in the career path of research & innovation, 2) contribute to clinical trials and/or develop the rehabilitation programs or 3) get involved in product manufacture, distribution and marketing throughout Europe. This project will generate great social and economic benefits in Europe by improving patient autonomy and daily life.

Programme(s)

Topic(s)

Call for proposal

H2020-MSCA-ITN-2019

# **Funding Scheme**

MSCA-ITN-ETN - European Training Networks

# Coordinator



# **SORBONNE UNIVERSITE**

Address

Activity type

EU contribution

21 Rue De L'ecole De

Higher or Secondary
Education Establishments

€ 549 604,08

Medecine 75006 Paris

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Contact the organisation 🗹

# Participants (10)



# **ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE**

Switzerland

EU contribution

€ 281 276,64

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**Batiment Ce 3316 Station 1** 

1015 Lausanne

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# UNIVERSITATEA DE MEDICINA SI FARMACIE CAROL DAVILA DIN BUCURESTI

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EU contribution

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Address Activity type

Dionisie Lupu 37 Higher or Secondary
020021 Bucuresti Education Establishments

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NATURWISSENSCHAFTLICHES UND MEDIZINISCHES INSTITUT AN DER UNIVERSITAET TUEBINGEN 1

Germany

EU contribution

€0

Address Activity type

Markwiesenstrasse 55

72770 Reutlingen

**Research Organisations** 

Website **C** Contact the organisation **C** 

血

### EBERHARD KARLS UNIVERSITAET TUEBINGEN

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€ 252 788,40

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72074 Tuebingen Education Establishments

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# **AALTO KORKEAKOULUSAATIO SR**

+ Finland

EU contribution

€ 561 611,52

Address Activity type

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血

# UNIVERSIDAD MIGUEL HERNANDEZ DE ELCHE

Spain

EU contribution

€ 501 809,76

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Avenida De La Universidad S-

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П

**Higher or Secondary** 

**Education Establishments** 

03202 Elche

Website 🗹 Contact the organisation 🗹

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# **UNIVERZITA KARLOVA**

Czechia

EU contribution

€ 469 743,12

A - -1 - 1-

56 of 58

Address Activity type

Ovocny Trh 560/5 Higher or Secondary
116 36 Praha 1 Education Establishments

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血

# FONDAZIONE ISTITUTO ITALIANO DI TECNOLOGIA

Italy

EU contribution

€ 522 999,36

Address Activity type

Via Morego 30 Research Organisations

16163 Genova

Website **C** Contact the organisation **C** 

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# **Streetlab**

France

EU contribution

€ 274 802,04

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**Establishments**)

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# **TECHNISCHE UNIVERSITAET WIEN**

Austria

EU contribution

€ 249 529,06

Address Activity type

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Website **☑** Contact the organisation **☑** 

Last update: 6 December 2020

Record number: 229668

**Permalink:** https://cordis.europa.eu/project/id/861423

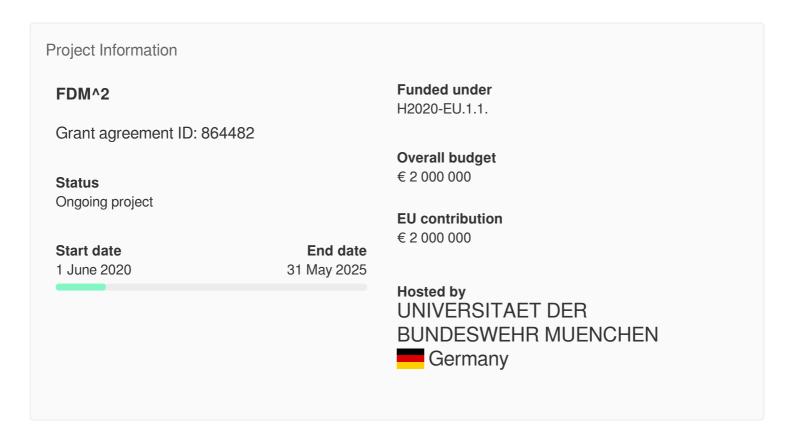
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# Structural multiscale modelling of extrusion-based 3D and 4D printed materials

# **Fact Sheet**



# **Project description**

# A closer look at FDM technology

Fused deposition modelling (FDM) is a widespread 3D printing technology based on the extrusion of thermoplastic filaments initially used only for prototyping but recently also for the manufacturing of mechanical components. As regards 4D printing, it is an innovative technology used for smart material and structure production through 3D printing of shape memory materials. However, there is still a gap in our understanding of FDM materials' behaviour. The EU-funded FDM^2 project suggests that existing models are not able to conceive the complex behaviour of FDM materials; for that reason, the project intends to deliver a net understanding of the

mechanics of FDM materials associated with instruments for the planning, analysis and perfection of FDM structural components.

# **Objective**

Fused Deposition Modelling (FDM) is a common 3D printing technology based on the extrusion of thermoplastic filaments. While it was initially used only for prototyping, it is nowadays shifting towards manufacturing of mechanical components. 4D printing is a very novel technology to produce smart materials and structures through 3D printing of shape memory materials. Due to the specific process of FDM, the material obtains a characteristic mesostructure, which can be controlled through the print process. It is well known that mechanical properties like strength and toughness of the printed material significantly differ from those of the filament material and that they depend on the mesostructure. However, a real understanding of the material behaviour and the governing phenomena is still missing. The common modelling approach is to consider it as a composite laminate. In this proposal, I show that such models cannot capture the complex behaviour of FDM materials beyond the linear elastic regime. I argue that it can only be understood by considering nonlinear effects at the mesostructure, which needs to be interpreted as a 3D structure of bonded fibres rather than an anisotropic solid. Based on these observations, I will develop a new theoretical and computational framework, where representative volume elements of the mesostructure are modelled as an arrangement of beams with adhesive bonding and are linked to the macroscale through a multiscale approach. To make such computations feasible, it will be necessary to adopt modelling simplifications and a major challenge will be to find the right level of simplification that still can capture the relevant effects. It will also require fundamental development of novel high-order/low-cost numerical methods. The results of the successful project will be a clear understanding of the mechanics of FDM materials as well as tools for the design, analysis, and optimization of FDM structural components.

# Field of science

/natural sciences/mathematics/applied mathematics/numerical analysis /engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing

Programme(s)

Topic(s)

Call for proposal

# **Funding Scheme**

**ERC-COG - Consolidator Grant** 

# **Host institution**



### UNIVERSITAET DER BUNDESWEHR MUENCHEN

Address

Activity type

EU contribution

Werner Heisenberg Weg 39

85579 Neubiberg

**Higher or Secondary Education Establishments**  € 2 000 000

Germany

Website 🗹

Contact the organisation

# **Beneficiaries (1)**



### UNIVERSITAET DER BUNDESWEHR MUENCHEN

Germany

EU contribution

€ 2 000 000

Address Activity type

Werner Heisenberg Weg 39

85579 Neubiberg

**Higher or Secondary** 

**Education Establishments** 

Website 🗹 Contact the organisation 🗹

Last update: 11 April 2020 Record number: 227165

Permalink: https://cordis.europa.eu/project/id/864482

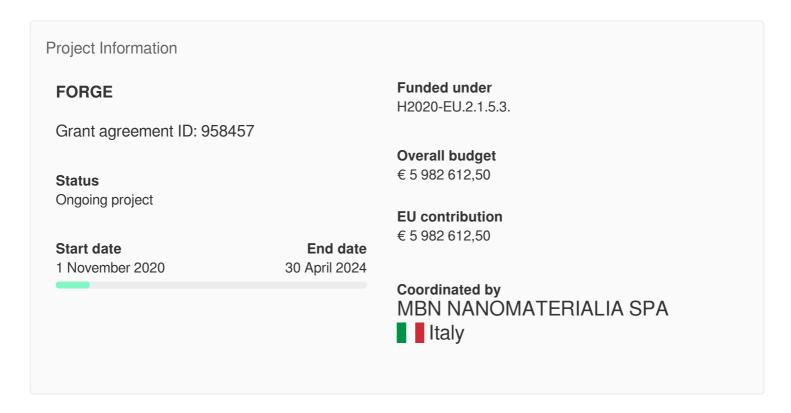
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# Development of novel and cost-effective coatings for high-energy processing applications

# **Fact Sheet**



# **Project description**

# Innovative coatings for energy-intensive industries

The equipment used in energy-intensive industries is pushed to the limit, but improvement of current and future equipment is essential to increase production efficiency, component lifetime and reduce environmental impact. Innovation of the materials is the key. The EU-funded FORGE project will develop novel coatings of compositionally complex alloys and ceramics, combining machine learning models, thermodynamic calculations, and high-throughput experiments. FORGE will demonstrate these coatings on processes such as CO2-capture, waste heat recovery, components undergoing wear and in kilns, defying the acting degradation forces, and assuring coating effectiveness with smart monitoring of their

deterioration. FORGE aims to minimise the overall capital and operative expenses especially in steelmaking, aluminium, tiles and cement industries.

# **Objective**

"The FORGE project has been specified as necessary by our energy-intensive industrial members, who, in order to intensify and update their future processes, need to improve equipment capability to withstand corrosion, erosion and brittle failures from gas collection and kiln operations, to maintain the equipment's up-time and production efficiency. Current materials used in these exceptionally harsh environments, (and the corresponding design models) are not capable of robustly resisting degradation, leading to the constant need to inspect and repair damage. The FORGE project will train a machine-learning model to guide high-throughput experiments, to develop novel high performance coatings of targeted "Compositionally Complex Alloys"" and Ceramic counterparts, to be applied to the key specified vulnerable process stages (eg CO2 capture and waste heat recovery pipework, heat exchangers, kiln refractories) in response to the specific degradation forces we find at each point. We will also capture the underlying principles of the material resistance, to proactively design the equipment for performance while minimising overall capex costs from these new alloys. The FORGE consortium has industrial user members from steel, cement, aluminium and ceramic industries and specialist materials, to ensure the project's focus on real-world issues, coupled with world-leading experience in the development of materials, protective coatings and their application to harsh environments. In addition to developing the new coating materials and techniques, we also aim to provide a new overarching set of design paradigms and generate an underpinning Knowledge Based System to inform this and future work in other energy intensive industries."

# Field of science

/engineering and technology/materials engineering/coating and films /engineering and technology/materials engineering/ceramics

Programme(s)

Topic(s)

Call for proposal

H2020-NMBP-ST-IND-2020-singlestage

# **Funding Scheme**

RIA - Research and Innovation action

# Coordinator



# **MBN NANOMATERIALIA SPA**

Address

Activity type

EU contribution

Via Bortolan 42 31030 Carbonera Private for-profit entities (excluding Higher or

€ 625 125

Italy

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Website 🗹

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# Participants (12)



# CIMSA CIMENTO SANAYI VE TICARET ANONIM SIRKETI

Turkey

EU contribution

€ 258 750

Address

Activity type

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**Establishments**)

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# TWI LIMITED

**H** United Kingdom

EU contribution

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### **TAILORLUX GMBH**



ELI contribution

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€ 403 750

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# **EIDGENOSSISCHE MATERIALPRUFUNGS- UND FORSCHUNGSANSTALT**

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Ueberlandstrasse 129 Higher or Secondary 8600 Dubendorf Education Establishments

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### ASAS ALUMINYUM SANAYI VE TICARET ANONIM SIRKETI

Turkey

EU contribution

€ 363 125

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Ruzgarlibahce Mah. Kumlu Private for-profit entities
Sok. Asas Ism. 2 (excluding Higher or
34810 Istanbul Secondary Education

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### MAX PLANCK INSTITUT FUR EISENFORSCHUNG GMBH

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EU contribution

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Address Activity type

Max Planck Strasse 1

40237 Dusseldorf

**Research Organisations** 

Website **C** Contact the organisation **C** 



Spain

EU contribution

€ 180 625

Address Activity type

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12006 Castellon

**Research Organisations** 

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Website 🗹

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# ONDERZOEKSCENTRUM VOOR AANWENDING VAN STAAL NV

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EU contribution

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Address Activity type

President Jf Kennedylaan 3

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# FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

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EU contribution

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### **AEONX AI**

France

EU contribution

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# **TECHNOVATIVE SOLUTIONS LTD**

United Kingdom

EU contribution

€ 575 000

Address

First Floor, Unit 4, Rutherford

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Activity type

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### **UNIVERSITY OF LEICESTER**

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€ 414 692,50

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University Road Higher or Secondary
LE1 7RH Leicester Education Establishments

Website **C** Contact the organisation **C** 

Last update: 5 October 2020 Record number: 231637

Permalink: https://cordis.europa.eu/project/id/958457

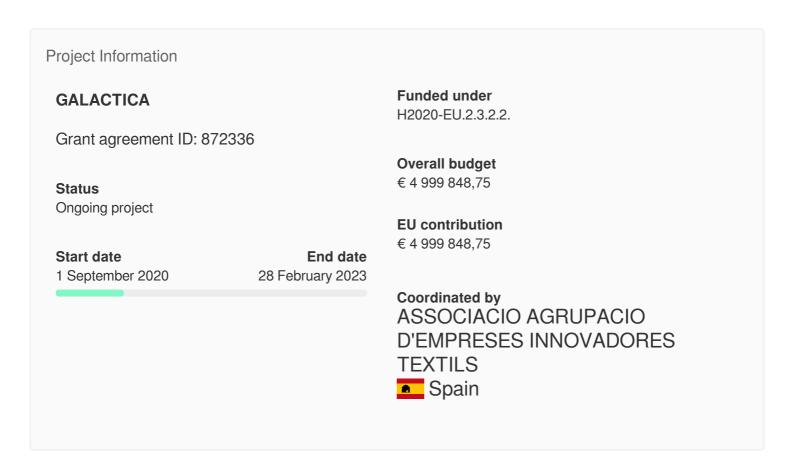
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# Smart Industrial innovation as enabler to drive new value chains for textiles and aerospace

# **Fact Sheet**



# **Project description**

# Bringing about a digital transformation in the textile and aerospace industries

The EU-funded GALACTICA project aims to place the European textile and aerospace industries at the forefront of innovation. The new industrial value chains the project envisages are based on intelligent systems (Internet of Things solutions) that should advance the manufacturing process and foster cross-sectoral cooperation. The GALACTICA partnership will provide financial support to 80 SMEs complemented with mentoring and coaching. In total, EUR 4 million will be offered to

SMEs through diverse vouchers to support technological innovation and value chain creation. SMEs will be encouraged to change their mindset about digitalisation and collaborate with private investors to scale up innovation.

# **Objective**

GALACTICA aims to bring Europe to the forefront of textile and aerospace GALACTICA aims to support the creation of new industrial value chains around textile and aerospace based on advanced manufacturing across EU to throttle growth and employment of the future by the development of long-term internationally competitive goods and services that require combining different competences and innovative solutions. This way, GALACTICA will empower Industrial intelligent systems or Industrial Internet of Things as part of the strategic alignment with President Juncker priorities on strategic emerging value chains for Europe towards 2030 as outcome of the High-level industrial roundtable.

# GALACTICA's strategy is:

- 1. Cultivation within an open collaboration space focused on supporting SMEs to change the mindset about digitalization and empower them to start partnerships.
- 2. A set of dedicated grants complemented with coaching to assess the feasibility and small technical tests aimed at minimum viable products of a new value chain.
- 3. Large scale demo of the new value chain with dedicated grant for SME consortia with coaching and technological support.
- 4. Scale-up support to leverage additional funds. GALACTICA will connect successful SMEs with private investors and other initiatives for scaling up the innovations.

In total, 4M€ (79% of budget) will be dedicated to SMEs through diverse vouchers to support technological innovation and value chain creation.

New value chains will find synergies with RIS3 policies through partners' active participation in different S3 Thematic platforms on industrial modernization and S3 Vanguard Initiative pilots (3DP, ESM and RegioTex).

GALACTICA partnership will allow to reach directly (as cluster members) 1.400 SMEs, 170 large companies and over 200 research facilities across 8 EU-countries, and indirectly over 7.000 SMEs across 38+ countries though EU-wide networks and European Strategic Cluster Partnerships.

# Field of science

/engineering and technology/materials engineering/textiles

# Programme(s)

# Topic(s)

## Call for proposal

H2020-INNOSUP-2019-01-two-stage

# **Funding Scheme**

IA - Innovation action

## Coordinator



#### ASSOCIACIO AGRUPACIO D'EMPRESES INNOVADORES TEXTILS

Address Activity type EU contribution

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Other

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Spain

Contact the organisation 🗹

## Participants (9)



## ASOCIACION DE EMPRESARIOS TEXTILES DE LA REGION VALENCIANA



EU contribution

€ 136 558,75

Address Activity type

Calle Els Telers P I El Pla 20

Other

46870 Ontinyent

Contact the organisation



## NEXT TECHNOLOGY TECNOTESSILE SOCIETA NAZIONALE DI RICERCA R L



EU contribution

€ 162 302,50

Address Activity type

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59100 Prato

**Research Organisations** 



## WACHSTUMSINITIATIVE SUDERELBE AKTIENGESELLSCHAFT

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Germany

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21079 Hamburg

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## ATHINA-EREVNITIKO KENTRO KAINOTOMIAS STIS TECHNOLOGIES TIS PLIROFORIAS, TON EPIKOINONION KAI TIS GNOSIS

Greece

EU contribution

€ 1 029 062,50

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Artemidos 6 Kai Epidavrou

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**Research Organisations** 

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## **POLE EMC2**

France

EU contribution

€ 160 687,50

Address Activity type

Zi Le Chaffault All Du

Chaffault

44340 Bouguenais

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Other

皿

## FUNDACION CORPORACION TECNOLOGICA DE ANDALUCIA

Spain

EU contribution

€ 2 209 187,50

Address Activity type

Calle Albert Einstein S/n

41092 Sevilla

**Research Organisations** 



## **European Business Angels Network**

Belgium

EU contribution

€ 212 812,50

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cience 14B Other

1040 Brussels

Contact the organisation <a>C</a>



## **SCIENCE PARK GRAZ GMBH**

Austria

EU contribution

€ 348 373,75

Address Activity type

Stremayrgasse 16

8010 Graz

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# PRODUTECH-ASSOCIACAO PARA AS TECNOLOGIAS DE PRODUCAO SUSTENTAVEL

Other

Portugal

EU contribution

€ 172 427,50

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Rua Dos Platanos 197

97 Other

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Contact the organisation <a>C</a>

Last update: 27 December 2020

Record number: 228785

Permalink: https://cordis.europa.eu/project/id/872336

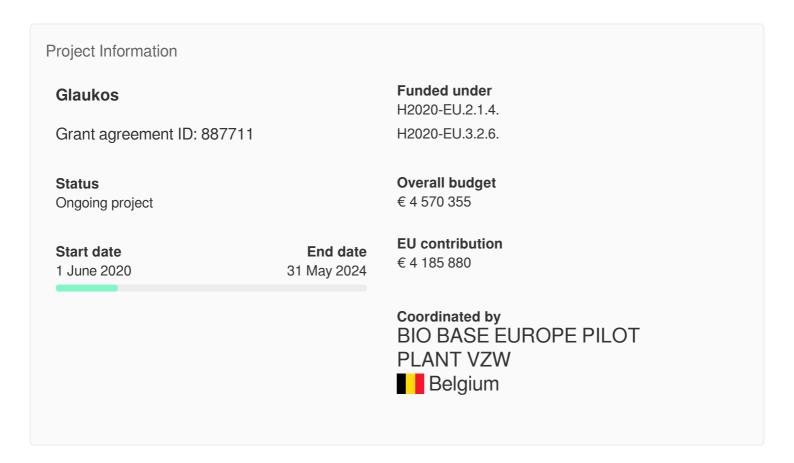
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# **Circular solutions for the textile industry**

## **Fact Sheet**



# **Project description**

# Sustainable clothing and fishing gear

The EU-funded Glaukos project aims to develop innovative and environmentally sustainable textile fibres and coatings. The complete life cycle of these textiles will be redesigned: their sustainability performance (i.e. biodegradability and biorecyclability) will be enhanced significantly, while their technical performance will be matched to end-user requirements. Glaukos builds on two concepts: triggerable biodegradability as a key concept in polymer design to mitigate textile-based microplastics pollution, and bio-recycling as a sustainable end-of-life solution. The supply chain distance is also substantially reduced by scaling up a disruptive way of producing the main polymer building block from several bio-based feedstocks. The

underlying objective of Glaukos is to reduce the carbon and the plastic footprint of clothing and fishing gear. Stakeholders' engagement will be encouraged through the involvement of individuals from the clothing and fishing gear industry.

# **Objective**

Glaukos will develop innovative textile fibres and textile coatings that reconcile an excellent environmental performance with adequate technical characteristics. The focus lies on two important contributors to the (micro)plastic pollution in our oceans: fishing gear and clothing. The complete life cycle of these textiles will be redesigned: their sustainability performance (i.e. biodegradability and bio-recyclability) will be enhanced significantly, while their technical performance will be matched to end-user requirements. Glaukos builds upon i) triggerable biodegradability as key concept in polymer design to mitigate textile-based microplastics pollution, and ii) bio-recycling as sustainable end-of-life solution. In addition, the supply chain distance is substantially reduced by scaling up a disruptive way of producing the main polymer building block from several bio-based feedstocks. The underlying objective of Glaukos is to reduce the carbon and the plastic footprint of clothing and fishing gear.

Stakeholder engagement is an integral part of the project: i) Stakeholder Labs will be set up to involve end-users from the clothing and fishing gear industry (e.g. to match technical requirements), ii) consumer awareness will be raised via e.g. influencer marketing, and iii) the fishing gear industry will be supported as regards to Extended Producer Responsibility (EPR) on fishing gear litter. New Life Cycle Assessment methods will be developed to better assess the plastic footprint of textile value chains. Finally, integrated methods to assess the biodegradability and ecotoxicity of microplastics in marine environments will be developed and their standardization initiated.

(\* Glaukos is the Greek sea god of fishermen. He was commonly believed to protect the oceans, as is the ambition of this project by developing innovative alternatives for textiles that are currently polluting our oceans.)

## Field of science

/natural sciences/chemical sciences/polymer science
/agricultural sciences/agriculture, forestry, and fisheries
/natural sciences/earth and related environmental sciences/environmental sciences/pollution
/engineering and technology/materials engineering/textiles

# Programme(s)

# Topic(s)

## Call for proposal

H2020-BBI-JTI-2019

# **Funding Scheme**

BBI-RIA - Bio-based Industries Research and Innovation action

## Coordinator



## **BIO BASE EUROPE PILOT PLANT VZW**

Address Activity type

Other

Rodenhuizekaai 1 9042 Desteldonk Gent

Belgium

Contact the organisation

EU contribution

€ 934 425

# Participants (13)



#### **UNIVERSITEIT MAASTRICHT**

Netherlands

EU contribution

€ 667 875

Address Activity type

Minderbroedersberg 4-6 **Higher or Secondary** 6200 MD Maastricht **Education Establishments** 

Website 🗹 Contact the organisation 🗹



## **B4PLASTICS**



EU contribution

€ 486 500

Address Activity type

Paul Lambertlaan 88 **Private for-profit entities** 3630 Maasmechelen (excluding Higher or **Secondary Education** 

3 of 57

## Contact the organisation <a>C</a>



## **NOVOZYMES A/S**

Denmark

EU contribution

€ 0

Address Activity type

Krogshoejvej 36 Private for-profit entities
2880 Bagsvaerd (excluding Higher or
Secondary Education

**Establishments)** 

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#### FORSCHUNGSZENTRUM JULICH GMBH

Germany

EU contribution

€ 564 955

Address Activity type

Wilhelm Johnen Strasse

**52428 Julich** 

**Research Organisations** 

Website **C** Contact the organisation **C** 



## **EUROCORD**

Belgium

EU contribution

€ 192 500

Address Activity type

**Archimedesstraat 17** 

1000 Brussel

Contact the organisation

ACTIVITY I

Other

血

## **I-COATS**

Belgium

EU contribution

€ 127 750

Address Activity type

Kardinaal Mercierlei 29 2600 Antwern Private for-profit entities (excluding Higher or 4 of 57 LOUG AIRTOID

Secondary Education Establishments)

## Contact the organisation <a>C</a>



## **NEXIS FIBERS A.S.**

Slovakia

EU contribution

€ 0

Address

Chemlonska 1 066 12 Humenne

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

Activity type

Contact the organisation <a>C</a>



#### **VAN BEELEN GROUP**

Netherlands

EU contribution

€ 65 625

Address Activity type

Industriestraat 48 Private for-profit entities
1976CV Ijmuiden (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation 🗹



## **UNIVERSIDAD DE VIGO**



EU contribution

€ 411 500

Address Activity type

Lg Campus Lagoas

Marcosende

36310 Vigo Pontevedra

Higher or Secondary Education Establishments

Contact the organisation 🗹

血

## **QUANTIS**

Website 🗹

Switzerland

EU contribution

€ 309 750

Address Activity type

Parc Scientifique Epfl Pse D

1024 Ecublens Vd

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

Website **C** Contact the organisation **C** 



## BUNDESVERBAND DER DEUTSCHEN SPORTARTIKEL-INDUSTRIE (BSI) EV

Other

Germany

EU contribution

€ 140 000

Address Activity type

Adenauerallee 134

53113 Bonn

Contact the organisation 🗹



#### **FVA SAS DI LOUIS FERRINI & C**

Italy

EU contribution

€ 285 000

Address Activity type

Viale Gorgia Di Leontini 131

00124 Roma

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

Website **C** Contact the organisation **C** 



## PAK GIDA URETIM VE PAZARLAMA ANONIM SIRKETI

Turkey

EU contribution

€ 0

Address Activity type

Prof. Dr Bulent Tarcan Cad.

Engin Pak Is Merkezi N

Gayreteppe Mah

41135 Istanbul

Private for-profit entities
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Contact the organisation 🗹

Last update: 7 February 2021

Record number: 228829

Permalink: https://cordis.europa.eu/project/id/887711

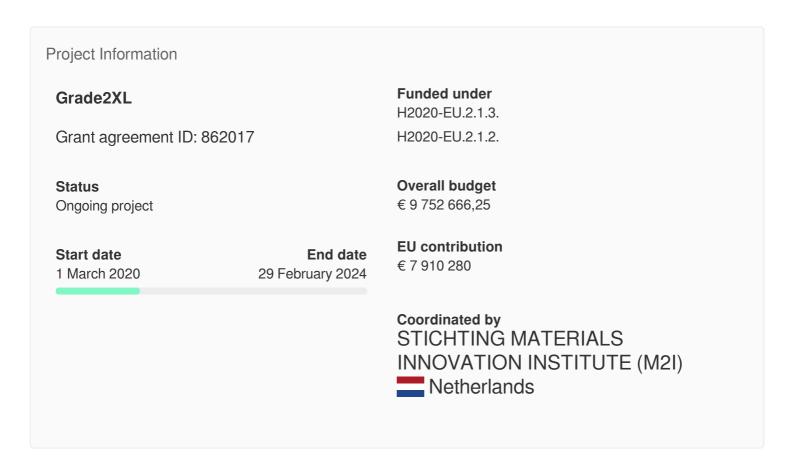
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# **Application of Functionally Graded Materials to Extra-Large Structures**

## **Fact Sheet**



# **Project description**

# A 3D-printing method for high-performance large structures

Large engineering structures like turbines, bridges or industrial machinery are still manufactured by traditional processes such as forging and casting. These processes do not allow engineers to control material properties locally in order to achieve anti-corrosion or hardness functions, only at the exposed or loaded locations. The EU-funded Grade2XL project will tap into the potential of wire arc additive manufacturing. This method combines high printing rates with the ability to control material properties down to the nanoscale, enabling the design of strong and durable engineering structures. The project is expected to deliver devices of superior quality

and performance, cut lead times by up to 96 % and unlock massive cost savings for the maritime and energy industries.

# **Objective**

Large engineering structures like turbines, bridges or industrial machinery are still manufactured by traditional processes such as forging, casting or by machining from solid blocks. These processes do not allow local control of material properties to achieve a specific function like anti-corrosion or hardness. To meet the functional specifications, engineers must operate within a limited range of design options, with high "buy-to-fly" ratios and long lead times.

Unlike any other metal AM technology, wire arc additive manufacturing (WAAM) produces fully dense metallic structures with no porosity. WAAM is also unbeatable in terms of production times, making it uniquely suited for large and functionally demanding engineering structures.

In Grade2XL, we will demonstrate the potential of multi-material wire arc additive manufacturing (WAAM) for large scale structures. The high printing rate of WAAM, combined with the ability to control material properties down to the nanoscale, will allow us to build strong and durable engineering structures. Grade2XL will deliver multi-material products of superior quality and performance, cut lead times by up to 96% and enable massive cost savings for the maritime and energy industry, as well as for industrial machinery. These outputs will rapidly roll out to other sectors with similar key performance indicators and become an attractive investment opportunity for SMEs. This project will strengthen Europe's capacity to drive manufacturing innovation globally and withstand growing competition from Asia.

## Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /natural sciences/chemical sciences/inorganic chemistry/metals

Programme(s)

Topic(s)

Call for proposal

H2020-NMBP-TR-IND-2019

# **Funding Scheme**

IA - Innovation action

## Coordinator



## STICHTING MATERIALS INNOVATION INSTITUTE (M2I)

Address Activity type EU contribution

Van Der Burghweg 1 Research Organisations € 457 375

2628 CS Delft

Netherlands

Website Contact the organisation C

# Participants (20)



#### **RAMLAB BV**

Netherlands

EU contribution

€ 1 015 875

Address Activity type

Wilhelminakade 909 Private for-profit entities
3072 AP Rotterdam (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



## **UNIVERSITEIT GENT**



EU contribution

€ 698 550

Address Activity type

Sint Pietersnieuwstraat 25 Higher or Secondary

9000 Gent Education Establishments

Website Contact the organisation C

<u></u>

#### **TECHNISCHE UNIVERSITEIT DELFT**

Netherlands

EU contribution

- --- ---

€ 809 680

Address Activity type

Stevinweg 1 Higher or Secondary
2628 CN Delft Education Establishments

Website Contact the organisation C

血

#### COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

France

EU contribution

€ 821 545

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Rue Leblanc 25 Research Organisations

75015 Paris 15

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血

#### DANMARKS TEKNISKE UNIVERSITET

Denmark

EU contribution

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## **VOESTALPINE BOHLER WELDING GERMANY GMBH**

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EU contribution

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Contact the organisation 🗹



#### **VALK WELDING BV**

Netherlands

EU contribution

€ 346 237,50

Address

Activity type

Staalindustrieweg 15 2952 AT Alblasserdam Private for-profit entities (excluding Higher or Secondary Education

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Contact the organisation 🗹



## **AIR PRODUCTS**



EU contribution

€ 273 523,25

Address

Activity type

Leonardo Da Vincilaan 19C

Bus4

1831 Diegem

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

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## LINCOLN SMITWELD BV

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EU contribution

€ 81 550

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Activity type

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Contact the organisation



## POLITECHNIKA WROCLAWSKA

Poland

EU contribution

€ 197 760

Address

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50-370 Wroclaw

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Website 🗹

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## **NAVAL GROUP**

France

EU contribution

€ 845 538,75

Address Activity type

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#### **GORENJE ORODJARNA DOO VELENJE PARTIZANSKA 12**

Slovenia

EU contribution

€ 177 695

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## **ELECTRICITE DE FRANCE**

France

EU contribution

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**Establishments**)

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## SHAPER'S FRANCE

France

EU contribution

€ 231 544,25

Address Activity type

8 Rue Gutenberg Zone

Industrielle D

10000 La Caminiara

**Private for-profit entities** (excluding Higher or Secondary Education

15 of 86

## Contact the organisation



## MAN ENERGY SOLUTIONS SE

Germany

EU contribution

€ 299 425

Address Activity type

Stadtbachstrasse 1 Private for-profit entities 86153 Augsburg (excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



#### **UCOSAN BV**

Netherlands

EU contribution

€ 251 956,25

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**Establishments**)

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## **GKN AEROSPACE SERVICES LIMITED**

United Kingdom

EU contribution

€ 133 350

Address Activity type

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**B90 8BG Solihull** 

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

Website **☑** Contact the organisation **☑** 



#### **KUZNIA JAWOR SPOLKA AKCYJNA**

Poland

EU contribution

€ 148 575

Address Activity type

Ul. Kuziennicza, Nr 4 **Private for-profit entities** 59 400 Jawor

(excluding Higher or **Secondary Education** 

**Establishments**)

Contact the organisation <a>C</a>



## **BUREAU VERITAS MARINE & OFFSHORE REGISTRE INTERNATIONAL DE** CLASSIFICATION DE NAVIRES ET DE PLATEFORMES OFFSHORE

France

EU contribution

€ 100 012,50

Address Activity type

8 Cours Du Triangle **Private for-profit entities** 92800 Puteaux (excluding Higher or **Secondary Education** 

**Establishments**)

Website 🗹 Contact the organisation

#### **POLE EMC2**

France

EU contribution

€ 199 750

Address Activity type

Zi Le Chaffault All Du

Chaffault

44340 Bouguenais

Contact the organisation

Other

Last update: 10 April 2020

Permalink: https://cordis.europa.eu/project/id/862017

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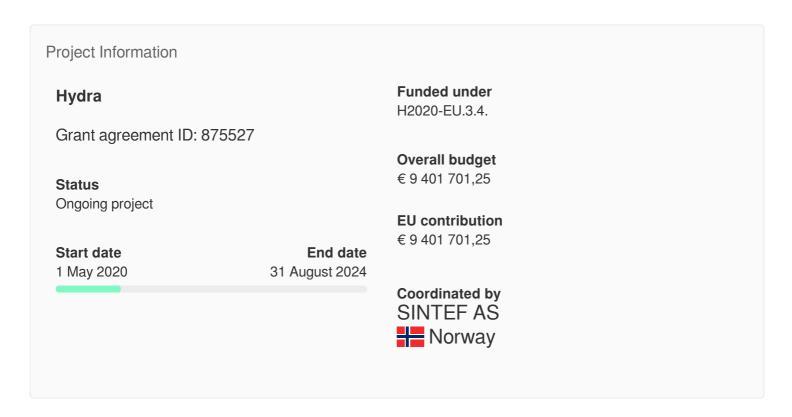
Record number: 228593





# Hybrid power-energy electrodes for next generation lithium-ion batteries

## **Fact Sheet**



# **Project description**

## **Next-generation lithium-ion batteries**

Lithium-ion (Li-ion) batteries are an advanced battery technology that are used in a wide range of products including personal electronics and electric vehicles. They are also a key enabling technology in emerging markets like grid-scale renewable energy integration and aerospace. To ensure the continued success of these markets, new innovations in Li-ion battery technology are needed to improve performance and reduce the reliance on critical raw materials. The EU-funded Hydra project aims to develop a new generation of Li-ion technology that uses sustainable materials to improve the energy, power, and cost of the battery. The project will combine novel materials and environmentally friendly manufacturing techniques with pilot-scale cell manufacturing to develop high-energy batteries with long lifetime. Moreover, it will

build a synergy with strong investments by the project's industrial partners, aiming to retain a significant market share for Europe.

# **Objective**

The core technological approach of the HYDRA project consists of using hybrid electrode technology to overcome the fundamental limits of current Li-ion battery technology in terms of energy, power, safety and cost to enter the age of generation 3b of Li ion batteries.

HYDRA, taking its name from the mythological beast, will use a multi-headed integrative approach: In addition to novel material development and scale-up of components and battery cells manufacturing, assisted by modelling, HYDRA will build a synergy with strong investments by the project's industrial partners and foster reaching and keeping a significant market share for Europe.

The necessary competitiveness will be obtained by hybridizing high energy with high power materials.

These materials will be implemented at the cell/electrode level, via sustainable, ecodesigned scaled-up manufacture and safe electrolyte systems, demonstrated in pilot scale to TRL6, and will be ready for commercialisation 3 years after the project end.

To reach this target, HYDRA mobilizes a strong industry commitment: the partners include a strong value-chain of suppliers with global competitiveness for xEV batteries and a direct liaison to the market in sectors such as automotive and maritime transport, ensuring a fast-uptake of results, with an added value of 1BN € in the next decade.

Ecological and economical sustainability also keep a strong importance, as HYDRA will be performing life cycle assessments and value-chain analyses on local and global scales. All aspects from raw materials via battery cell production and end-use/market to recycling and 2nd life usage will be evaluated.

The HYDRA concept uses abundant electrode materials like iron, manganese and silicon, and eliminates the use of the CRMs cobalt and natural graphite, with a net CRM reduction of >85%. The new materials will be produced in an environmentally friendly, energy-efficient manner, and using water in place of organic solvents.

# Field of science

/social sciences/economics and business/business and management/commerce /natural sciences/chemical sciences/inorganic chemistry/inorganic compounds

# Programme(s)

# Topic(s)

# Call for proposal

H2020-LC-BAT-2019

# **Funding Scheme**

RIA - Research and Innovation action

## Coordinator



#### SINTEF AS

Address

Strindvegen 4 7034 Trondheim

**Norway** 

Contact the organisation <a>C</a>

Activity type

**Research Organisations** 

EU contribution

€ 2 168 748,75

# Participants (12)



## UNIVERSITE CATHOLIQUE DE LOUVAIN



EU contribution

€ 1 152 030

Address

Activity type

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Website 🗹

Contact the organisation <a>C</a>



LITHOPS SRL 1





EU contribution

€0

Address

Activity type

25 of 65

**Centro Aziendale Quercete** 

Snc

81016 San Potito Sannitico

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

Website 🗹

Contact the organisation



#### **DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV**

Germany

EU contribution

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## NATIONAL RESEARCH AND DEVELOPMENT INSTITUTE FOR CRYOGENICS AND ISOTOPIC TECHNOLOGIES ICSI RM VALCEA

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**Research Organisations** 



## SOLVIONIC



EU contribution

€ 523 625

Address Activity type

195 Rte D'espagne Site **Private for-profit entities Bioparc Sanofi** (excluding Higher or 31100 Toulouse **Secondary Education Establishments**)

Website 🗹 Contact the organisation



## **CORVUS NORWAY AS**



EU contribution

€ 672 500

Address

Activity type

Sandbrekketoppen 30

5224 Nesttun

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

Contact the organisation



## **POLITECNICO DI TORINO**



EU contribution

€ 435 750

Address

Corso Duca Degli Abruzzi 24

10129 Torino

Website 🗹

Activity type

**Higher or Secondary** 

**Education Establishments** 

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血

## **ELKEM AS**



EU contribution

€ 321 981,25

Address Activity type

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0277 Oslo

Private for-profit entities (excluding Higher or Secondary Education

**Establishments)** 

Website **C** Contact the organisation **C** 



## **JOHNSON MATTHEY PLC**

United Kingdom

EU contribution

€ 934 490

Address Activity type

Farringdon Street 25 5Th

**Floor** 

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**Establishments**)

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.......

血

#### **UPPSALA UNIVERSITET**

Sweden

EU contribution

€ 776 000

Address

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**Higher or Secondary** 

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Contact the organisation



#### COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

France

EU contribution

€ 696 506,25

Address Activity type

Rue Leblanc 25

75015 Paris 15

**Research Organisations** 

Website Contact the organisation C

血

## FAAM RESEARCH CENTER S.R.L.

Italy

Snc

EU contribution

€ 507 687,50

Address Activity type

Centro Aziendale Quercete

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81016 San Potito Sannitico

Secondary Education

Private for-profit entities

**Establishments**)

Contact the organisation

Last update: 17 January 2021 Record number: 228009

Permalink: https://cordis.europa.eu/project/id/875527

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# **Hybrid Rocket Technology Exploration**

## **Fact Sheet**



# **Objective**

The space industry is going through a transformational phase, creating unprecedented levels of growth for space and nonspace actors/industry. In the next years a significant increase in the market of small satellites up to 500 kg is expected. The Hylmpulse start-up has been created recently and intends to bring to the market the key technologies for a game-changing, unique, low risk, innovative small launcher, with a 500 kg payload capability to LEO. The launcher will be based on a combination of novel and established technologies, using inherently safe hybrid propulsion (paraffin/LOX propellants). These engines combine a liquid oxidizer with a solid fuel thus enabling to benefit from both bi-liquid and solid technologies and advantages.

Unlike solid and liquid technologies, hybrid engines did not benefit from large

investments and research in the past due to the inherent complex phenomena occurring into their combustion chamber. This is however changing with the new space constraints which make hybrid motors serious candidate for future applications. This research fellowship aims at bringing hybrid propulsion from the current state of development to a fully mature technology enabling the flight of sounding rockets and small launchers.

The action will allow the elaboration of novel measurement and analysis techniques to study the fuel regression rate, the wax composition properties & the engine performances and stability. In addition to the scientific investigations of complex and coupled phenomena occurring in the combustion chamber of a hybrid engine, an innovative wax manufacturing process will be optimised in collaboration with colleagues from Hylmpulse. The most original aspect of the fellowship is the combination of scientific investigations of complex phenomena with innovative technical developments that are required to make hybrid propulsion technology competitive in the coming years.

## Field of science

/engineering and technology/environmental engineering/energy and fuels
/natural sciences/physical sciences/astronomy/observational astronomy/x-ray astronomy
/social sciences/economics and business/business and management/commerce

## Programme(s)

Topic(s)

## Call for proposal

H2020-MSCA-IF-2020

## **Funding Scheme**

MSCA-IF-EF-RI - RI - Reintegration panel

## Coordinator



**HYIMPULSE TECHNOLOGIES GMBH** 

Address Activity type EU contribution

Im Langen Grund
74239 Hardthausen Am
Kocher
Germany

Private for-profit entities (excluding Higher or Secondary Education Establishments) € 174 806,40

Contact the organisation <a>Z</a>

Last update: 2 March 2021 Record number: 233662

Permalink: https://cordis.europa.eu/project/id/101022868

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# Immune Niches for Cancer ImmunoTherapy Enhancement

**End date** 

30 April 2025

## **Fact Sheet**

**Project Information** 

**INCITE** 

Grant agreement ID: 964955

**Status** 

Grant agreement signed

Start date

1 May 2021

Funded under

H2020-EU.1.2.1.

Overall budget

€ 3 998 665

**EU** contribution

€ 3 998 665

Coordinated by

NORGES TEKNISK-

NATURVITENSKAPELIGE

**UNIVERSITET NTNU** 

Norway

# **Objective**

Cancer is rapidly becoming the most frequent cause of morbidity and mortality in the EU, accounting for a quarter of all deaths in EU. Without breakthroughs in treatment, cancer is likely to remain one of the biggest killers in the 21st century. Immunotherapy of cancer by checkpoint inhibitors, vaccines or adoptive T cell therapy is coming of age and has the potential to cure cancer, but is still hampered by some major limitations. For instance, Adoptive Cell Therapy (ACT) with unmanipulated or engineered T cells (TCR-transgenic and CAR-T cells) has indeed demonstrated success in the treatment of patients affected by leukemias, but is much less effective against lymphomas and solid tumors. One likely explanation is that we do not educate the right type of anti-tumor T cells. The T cells considered to be the gold standard for tumor therapy have stem cell memory features, but the

proper and safe way to generate these fit T cells for clinical purposes is still an unresolved matter. Here we propose an advanced transformative technology termed INCITE, utilizing a novel high-resolution 3D microfabrication technology to engineer a specially tailored microenvironment that will be inhabited by cells central for T cells education in order to generate the fittest anti-tumor T cells for advanced adoptive T cell therapy. INCITE will bring together a transdisciplinary consortium capable of developing this innovative platform by combining state-of-the-art 3D printing, computer modeling, bioengineering, bioinformatics, immunology, developmental and cancer biology approaches, toward the development of a functional immune niche for selection and expansion of tumor-rejecting T cells. The INCITE platform will revolutionize the treatment of cancer patients with ACT, with a profound impact on the quality of life and well-being of millions of people.

## Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /medical and health sciences/medical biotechnology/cells technologies/stem cells /medical and health sciences/basic medicine/immunology/immunotherapy /medical and health sciences/clinical medicine/cancer

## Programme(s)

Topic(s)

## Call for proposal

H2020-FETOPEN-2018-2019-2020-01

## **Funding Scheme**

RIA - Research and Innovation action

## Coordinator



## NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET NTNU

Address

Hogskoleringen 1 7491 Trondheim

Norway

Activity type

**Higher or Secondary** 

**Education Establishments** 

EU contribution

€ 710 000

# Participants (7)



#### **UPNANO GMBH**

Austria

EU contribution

€ 647 500

Address

Modecenterstrasse 22, D36

**1030 Wien** 

Activity type

Private for-profit entities (excluding Higher or

Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



## **TECHNISCHE UNIVERSITAET WIEN**

Austria

EU contribution

€ 239 365

Address Activity type

Karlsplatz 13 Higher or Secondary

1040 Wien Education Establishments

Website **☑** Contact the organisation **☑** 



## MEDIZINISCHE UNIVERSITAT INNSBRUCK

Austria

EU contribution

€ 462 540

Address Activity type

Christoph Probst Platz 1 Higher or Secondary

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## **OSPEDALE SAN RAFFAELE SRL**

Italy

EU contribution

€ 829 750

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Website 🗹 Contact the organisation

皿

## **DE DUVE INSTITUTE AISBL**

Belgium

EU contribution

€ 381 500

Address Activity type

**Avenue Hippocrate 75/50** 

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**Research Organisations** 

Website 🗹 Contact the organisation

皿

## STIFTUNG REGENSBURGER CENTRUM FUR INTERVENTIONELLE **IMMUNOLOGIE**

Germany

EU contribution

€ 389 135

Address Activity type

Franz Josef Strauss Allee 11

93053 Regensburg

Contact the organisation

**Research Organisations** 



## **BOUKJE.COM CONSULTING BV**

Netherlands

EU contribution

€ 338 875

Address Activity type

**Bulkemstraat 4A Private for-profit entities** 6369 XW Simpelveld (excluding Higher or **Secondary Education** 

**Establishments**)

Website 🗹 Contact the organisation

Last update: 22 December 2020

**Record number: 232828** 

**Permalink:** https://cordis.europa.eu/project/id/964955

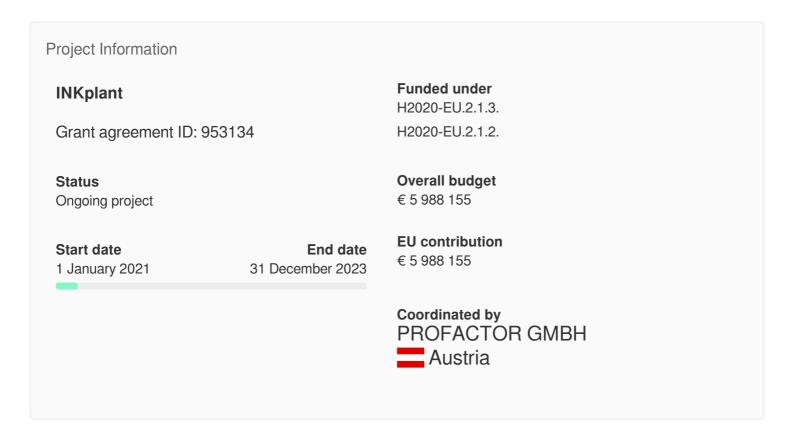
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# INK-BASED HYBRID MULTI-MATERIAL FABRICATION OF NEXT GENERATION IMPLANTS

## **Fact Sheet**



# **Objective**

Improving the life quality of Europe's increasingly elderly population is one of the most pressing challenges our society faces today. The need to treat age-related degenerative changes in e.g. articular joints or dental implants will boost the market opportunities for tissue regeneration products like biological scaffolds. State of the art 3D printing technologies can provide biocompatible implants with the right macroscopic shape to fit a patient-specific tissue defect. However, for a real functionality, there is a need for new biomaterials, technologies and processes that additionally allow the fabrication of a scaffold microstructure that induces tissue-specific regeneration. It is not possible to address the complexity in structure and properties of human tissues with a single material or fabrication technique. Besides,

there are many types of tissue in the human body, each with their own internal structures and functions. INKplant vision is the fusion/combination of different biomaterials (6 different inks), high-resolution, high throughput additive manufacturing technologies already proved for industrial processes (ceramic sterolithography and 3D multimaterial inkjet printing), and advanced simulation and biological evaluation, to bring a new concept for the design and fabrication of biomimetic scaffolds (3D printed patient specific resorbable cell-free implants) which can address the complexity of the different tissue in the human body, demonstrated for 2 Use Cases. For a successful future translation, INKplant will consider all the relevant clinical adoption criteria already at the beginning of the development process. To address INKplant challenging objective the consortium includes the best expertise from the main areas of relevance to the project: biomaterials, 3D printing technology, tissue engineering, regulatory bodies and social humanities.

## Field of science

/medical and health sciences/clinical medicine/odontology/dental implantology
/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing
/engineering and technology/industrial biotechnology/biomaterials
/medical and health sciences/medical biotechnology/implants
/medical and health sciences/medical biotechnology/tissue engineering

## Programme(s)

## Topic(s)

## Call for proposal

H2020-NMBP-TR-IND-2020-two stage

## **Funding Scheme**

RIA - Research and Innovation action

## Coordinator



**PROFACTOR GMBH** 

Address Activity type EU contribution

Other € 808 830

Im Stadtgut D1
4407 Steyr Gleink

Austria
Website

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## Participants (18)



#### STRATASYS LTD

Israel

EU contribution

€ 382 402,50

Address

Holzman Street 2 76124 Rehovot Activity type

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#### **LITHOZ GMBH**

Austria

EU contribution

€ 406 200

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1060 Wien

Activity type

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**Establishments**)

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#### **FLUIDINOVA SA**

Portugal

EU contribution

€ 183 968,75

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Maia

4470 605 Maia

Activity type

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#### 3D MATRIX EUROPE SAS

France

EU contribution

€ 202 160

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#### **LUXINERGY GMBH**

**A**ustria

EU contribution

€ 161 000

Address

Activity type

**Peter Tunner Strasse 19** 

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#### **ELKEM SILICONES FRANCE SAS**



EU contribution

€ 273 643,75

Address

Activity type

**Avenue Georges Pompidou 21** 

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#### **TIGER Coatings**



EU contribution

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#### UNIVERSIDAD POLITECNICA DE MADRID

Spain

EU contribution

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#### **UNIVERSITAT LINZ**

Austria

EU contribution

€ 354 300

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#### KEPLER UNIVERSITATSKLINIKUM GMBH

Austria

EU contribution

€ 172 775

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#### **BIOMED CENTER INNOVATION GGMBH**

Germany

EU contribution

€ 389 660

Address Activity type

Ludwig-thoma-strasse 36C 95447 Bayreuth

**Research Organisations** 

Contact the organisation



#### LUDWIG BOLTZMANN GESELLSCHAFT OSTERREICHISCHE VEREINIGUNG ZUR FORDERUNG DER WISSENSCHAFTLICHEN FORSCHUNG

**A**ustria

EU contribution

€ 303 933,75

Address Activity type

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#### MEDIZINISCHE UNIVERSITAET WIEN

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EU contribution

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1090 Wien Education Establishments

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#### **CHARITE - UNIVERSITAETSMEDIZIN BERLIN**

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EU contribution

€ 383 506,25

Address Activity type

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10117 Berlin Education Establishments

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#### TRANSTISSUE TECHNOLOGIES GMBH

Germany

EU contribution

€ 340 528,75

Address Activity type

Chariteplatz 1 Virchowweg 11 Private for-profit entities

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#### **BIOTECHNOLOGY INSTITUTE I MAS D**

Spain

EU contribution

€ 270 080

Address Activity type

Calle San Antonio 15 5

01005 Vitoria

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#### UNIVERSITAIR MEDISCH CENTRUM UTRECHT

Netherlands

EU contribution

€ 204 606,25

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Heidelberglaan 100 Higher or Secondary

3584 CX Utrecht Education Establishments

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#### ASOCIACION ESPANOLA DE NORMALIZACION

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EU contribution

€ 98 570

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Last update: 7 February 2021 Record number: 232802 **Permalink:** https://cordis.europa.eu/project/id/953134

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# Integrated Telematics for Next Generation 5G Vehicular Communications

## **Fact Sheet**



## **Project description**

## Training the next generation of experts in the European car industry

Designed to be the global standard for the air interface of 5G networks, 5G NR (5G new radio), the physical connection method for radio-based communication, is revolutionising how data is sent and received. For instance, all mobile telephones convert voice into digital sound using radio waves. The EU-funded ITN-5VC project will address the need to deploy advanced communication and autonomous driving capabilities in vehicles. Eleven early-stage researchers will work with leading industrial manufacturers and academics to investigate the problems that arise from the integration of multi-band, multi-antenna communications, including mmWave,

with radar heads and other wireless sensors. The aim is to ensure the transmission chains and radiation systems are efficiently reused and deliver the required performance.

## **Objective**

The imminent need of deploying advanced communication and autonomous driving capabilities in vehicles is turning the race towards the realization of the so called fifth generation new radio (5G NR) networks into a real odyssey for the European automotive industry. The challenges arising from the coexistence of MIMO systems on vehicles, the growing number of sensors and radars and cooperative intelligent transport systems (C-ITS) in the realm of vehicle-to-everything (V2X) communications are piling up. Many of them have not been solved yet due to the lack of qualified personnel with joint expertise in communications and sensing technologies. Thus, the acute need of the proposed ITN-5VC project, a European Industrial Doctorate (EID) training network, arises.

ITN-5VC aims to investigate the key problems of the integration of multi-band multiantenna communications, including mmWave, with radar heads and other wireless sensors into the same telematics unit, so that transmission chains and radiation systems were efficiently reused in a cost-efficient manner while delivering the required performance. Multiple antenna deployment, joint operation and performance of the resulting automotive solution will be investigated by 11 Early Stage Researchers (ESRs) working with top industrial manufacturers and academia in Europe. The training will tackle three main topics:

- Vehicular communications integrated with radar sensors for the sake of simplified telematics.
- Improved antenna and phased array technology deployment on the vehicle's body or surface.
- Efficient protocol integration on V2X-specific system on chips for joint communication and sensing deployment on vehicles.

ITN-5VC will apply a new training Programme that follows the EU principles for Innovative Doctoral Training. Additionally, ITN-5VC training will apply short term missions, periodic challenges and an ECTS credit competition to boost the participation and engagement of the students to the Programme.

#### Field of science

/engineering and technology/electrical engineering, electronic engineering, information engineering/information engineering/telecommunications/wireless/5g /engineering and technology/mechanical engineering/vehicle engineering/automotive engineering

/social sciences/social and economic geography/transport/sustainable transport/intelligent transport system

/engineering and technology/electrical engineering, electronic engineering, information engineering/information engineering/telecommunications/radio technology/radar /engineering and technology/electrical engineering, electronic engineering, information engineering/electronic engineering/sensors

## Programme(s)

## Topic(s)

## Call for proposal

H2020-MSCA-ITN-2020

## **Funding Scheme**

MSCA-ITN-EID - European Industrial Doctorates

#### Coordinator



#### UNIVERSITAT POLITECNICA DE VALENCIA

Address

Camino De Vera Sn Edificio

3Λ

46022 Valencia

Spain

Website 🗹

Activity type

Higher or Secondary

Contact the organisation <a>C</a>

**Education Establishments** 

EU contribution

€ 501 809,76

### Participants (7)



#### **VOLKSWAGEN AG**

Germany

EU contribution

€ 252 788,40

Address

Berliner Ring 2 38440 Wolfsburg Activity type

Private for-profit entities (excluding Higher or

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Website 🗹

Contact the organisation



#### **ROBERT BOSCH GMBH**

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EU contribution

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#### **TECHNISCHE UNIVERSITAET ILMENAU**

Germany

EU contribution

€ 505 576,80

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#### **UNIVERSITEIT TWENTE**

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EU contribution

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#### **GAPWAVES AB**

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EU contribution

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**Establishments**)

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#### **5G COMMUNICATIONS FOR FUTURE INDUSTRY VERTICALS SL**

Spain

EU contribution

€ 250 904,88

Address Activity type

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#### CASA COMMUNICATIONS TECHNOLOGY SL

Spain

EU contribution

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Last update: 27 November 2020

Record number: 231070

Permalink: https://cordis.europa.eu/project/id/955629

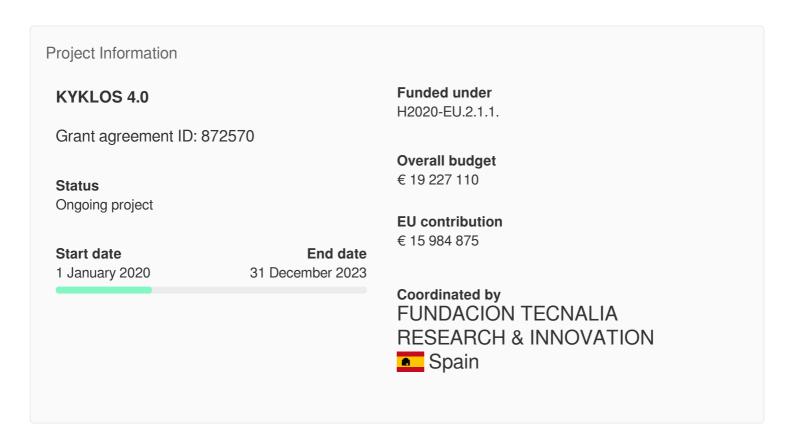
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## An Advanced Circular and Agile Manufacturing Ecosystem based on rapid reconfigurable manufacturing process and individualized consumer preferences

#### **Fact Sheet**



## **Project description**

## Towards advanced circular manufacturing

In circular manufacturing (CM), manufacturers find ways to eliminate waste by reusing and recycling materials and goods. The EU-funded KYKLOS 4.0 project aims to show how cyber-physical systems, product life-cycle management, life-cycle assessment, augmented reality, and artificial intelligence technologies and methods are able to transform CM. It will achieve this through seven large-scale pilot projects that will demonstrate improvements in operational efficiency and deliver solutions for resource reuse. It will further ensure the scalability of novel CM technologies, engage

over 100 European industry actors, transfer know-how and mobilise additional sector investments. The project's advanced ecosystem can reshape factory processes and services so as to benefit manufacturing throughout Europe.

## **Objective**

KYKLOS 4.0 will demonstrate, in a realistic, measurable, and replicable way the transformative effects that CPS, PLM, LCA, AR and AI technologies and methodologies will have to the Circular Manufacturing (CM)Framework. To this end, KYKLOS 4.0 will (1) perform large-scale piloting in 7 pilots to demonstrate the technical, environmental and economic viability of KYKLOS 4.0 Ecosystem to reshape intra-factory processes and services, (2) show KYKLOS 4.0 value in terms of operational efficiency improvements by at least 15%, (3) deliver resources reusable solutions (second use of material, part and components reuse) for the whole manufacturing sectors, (4) ensure scalability for future scale of novel CM technologies and services at least at the level of year 2024, (5) engage over 100 key European industry actors, (through open calls and workshops) (6) transfer knowledge and technology to increase use of KYKLOS 4.0 Ecosystem to at least 50%, (7) strengthen the position of EU CM technologies providers and sector fostering a market share of up to 12% (8) pursue a strong plan for sustainability by incubating at least 3 post-project replication sites, (9) mobilize additional sector investments of at least 6 times the EC contribution.

Bringing together knowledge and solutions of major European CPS, PLM, LCA and AI technology providers together with the competence and experience of key European industry players in the CM domain, KYKLOS 4.0 will demonstrate a measurable increase of KYKLOS 4.0 Ecosystem penetration in CM market, reduction of environmental impact due to the reduce of the use of fossil fuels and raw materials and impact in seven pilot domains, which cover areas of major importance for the CM sector in EuropeA unique characteristic of KYKLOS 4.0 is that all CM related technologies, sectors and stakeholders together with their relevant expertise are covered. Thereby, the delivered by KYKLOS 4.0 are relevant for the whole manufacturing sector and market in Europe.

#### Field of science

/natural sciences/biological sciences/ecology/ecosystems /social sciences/economics and business/business and management/commerce

## Programme(s)

## Topic(s)

## Call for proposal

H2020-DT-2019-1

## **Funding Scheme**

IA - Innovation action

#### Coordinator



#### **FUNDACION TECNALIA RESEARCH & INNOVATION**

Address Activity type EU contribution

**Research Organisations** 

€ 3 909 810

Parque Cientifico Y

Tecnologico De Gipuzkoa

Paseo Mikeletegi 2

20009 Donostia/san Sebastian

(Gipuzkoa)

Spain

Website Contact the organisation C

## Participants (30)



#### **MAGGIOLI SPA**



EU contribution

€ 517 125

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47822 Santarcangelo Di (excluding Higher or
Romagna Secondary Education

Establishments)

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#### CENTRO DI RICERCHE EUROPEO DI TECNOLOGIE DESIGN E MATERIALI



EU contribution

€ 632 500

- - - - - -

Address Activity type

Strada Statale 7 Appia Km

706+030 Snc

72100 Cittadella Della Ricerca

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**Research Organisations** 

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**Research Organisations** 

血

#### TWI ELLAS ASTIKI MI KERDOSKOPIKI ETAIREIA

Greece

EU contribution

€ 551 600

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15232 Chalandri

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#### JOTNE EPM TECHNOLOGY AS

Norway

EU contribution

€ 580 125

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0663 Oslo (excluding Higher or
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#### **F6S NETWORK LIMITED**

United Kingdom

EU contribution

€ 199 587,50

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160

**EC1V 2NX London** 

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**Establishments**)

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#### FORSCHUNG E.V.

Germany

**EU** contribution

€ 803 750

Address Activity type

Hansastrasse 27C Research Organisations

80686 Munchen

Website **C** Contact the organisation **C** 



#### **EUROPEAN DIGITAL SME ALLIANCE**

Belgium

EU contribution

€ 382 500

Address Activity type

Rue Du Commerce 123

1000 Bruxelles

Other

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#### CENTRE INTERNACIONAL DE METODES NUMERICS EN ENGINYERIA

Spain

EU contribution

€ 364 375

Address Activity type

C Gran Capitan, Edifici C1,

**Campus Nord Upc Sn** 

08034 Barcelona

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#### **CIRTES SRC**

France

EU contribution

€ 406 140

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**Establishments**)

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#### SIVECO ROMANIA SA (1)



EU contribution

€ 0

Address

Activity type

Soseaua Bucuresti-ploiesti 73-81 Complex Victoria Park Corp Cladire C4 Sector 1 013685 Bucuresti Private for-profit entities (excluding Higher or Secondary Education Establishments)

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#### ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS

Greece

EU contribution

€ 656 875

Address Activity type

Charilaou Thermi Road 6 Km 57001 Thermi Thessaloniki

**Research Organisations** 

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#### **GFT ITALIA SRL**

Italy

EU contribution

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#### KONNEKT ABLE TECHNOLOGIES LIMITED

Ireland

EU contribution

€ 652 750

Address Activity type

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#### **ADVANTIC SISTEMAS Y SERVICIOS SL**



EU contribution

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**Establishments**)

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#### UNIVERSIDAD POLITECNICA DE MADRID

Spain

EU contribution

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28040 Madrid

Website Contact the organisation C



## PDM E FC PROJECTO DESENVOLVIMENTO MANUTENCAO FORMACAO E CONSULTADORIALDA

Portugal

EU contribution

€ 389 375

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1 Dto (excluding Higher or

1300 066 Lisboa Secondary Education

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## ENGINEERS FOR BUSINESS IPIRESIES TECHNOLOGIAS KAI MICHANIKIS ANONIMI ETAIRIA

Greece

EU contribution

€ 255 062,50

Address Activity type

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**Establishments**)

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#### ALGOSYSTEMS ANONIMI TECHNIKI EMPORIKI ETAIRIA PLIROFORIKIS AUTOMATISMON KAI METROLOGIAS

Greece

EU contribution

€ 541 625

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Leoforos Syggrou 206 Private for-profit entities
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#### UNIVERSIDADE DE COIMBRA

Portugal

EU contribution

€ 595 625

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#### **INNOV-ACTS LIMITED**

Cyprus

EU contribution

€ 152 687,50

Address Activity type

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#### **ASTILLEROS DE SANTANDER SA**



EU contribution

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#### **GE MEDICAL SYSTEMS ISRAEL LTD**

Israel

EU contribution

€ 717 675

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#### **VESTEL ELEKTRONIK SANAYI VE TICARET ANONIM SIRKETI**

Turkey

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Bolgesi 45030 Manisa Private for-profit entities (excluding Higher or Secondary Education Establishments)

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#### **PRO MEDICARE SRL**



EU contribution

€ 213 500

Address Activity type

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#### KANFIT LTD 1



Israel

EU contribution

€ 0

Address

Activity type

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#### **DIAD GROUP SRL**



EU contribution

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Address Activity type

Via Nicola Fabrizi 136 10145 Torino

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Website 🗹 Contact the organisation



#### "AGROTIKOS PTINOTROFIKOS SYNETERISMOS IOANNINON ""I PINDOS"""

Greece

EU contribution

€ 182 000

Address Activity type

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**Establishments**)

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#### **CONTINENTAL AUTOMOTIVE ROMANIA SRL**



EU contribution

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Activity type

Strada Siemens 1 300704 Timisoara Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

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#### **KANFIT3D LTD**

Israel

EU contribution

€ 350 875

Address Activity type

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#### **SOFTWARE IMAGINATION & VISION SRL**

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EU contribution

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Last update: 19 December 2020

Record number: 225877

Permalink: https://cordis.europa.eu/project/id/872570

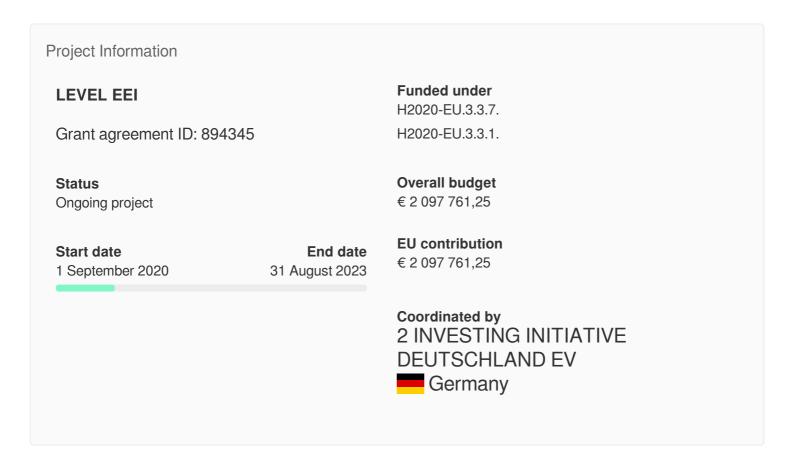
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## Level the playing field for Energy Efficiency Investment products

## **Fact Sheet**



## **Project description**

## Fresh insight into current energy efficiency schemes

Greening investments is a top priority for the EU, which requires financial advisers to consider the environmental objectives of their clients and beneficiaries. However, energy efficiency (EE) and sustainable energy (SE) investments face a finance gap. The EU-funded LEVEL EEI project will make these EE and SE products more competitive. It will conduct behavioural science field experiments to assess end users' demands for environmental products. It will also review the compliance of green marketing claims associated with financial products. The findings will provide fresh insight into current regulatory schemes, support the spread of the solutions throughout Europe and deliver a database for environmental financial products.

## **Objective**

Energy Efficiency (EE) and Sustainable Energy (SE) Investments face a finance gap. To help addressing this gap, the project aims at making the financial products contributing to EE/SE more competitive.

In the context of the reforms introduced by the EC on investors' duties, financial advisors have now an obligation to take into account the environmental objectives of their clients and beneficiaries. Our preliminary findings suggest that 2/3 of end-users have such objectives. Building on these findings and the reform, the project will reveal the demand for environmental products, through surveys in 8 countries (360M citizens). We will then verify that end-users 'walk the talk' through behavioral science field experiments.

The second part of the project will focus on the offer of "green" products: our lawyers will analyze the compliance of the green marketing claims associated with financial products, and recommend best practices and an evolution of the regulatory framework. To help product manufacturers further improve their practices, we will design and pilot-test an environmental management framework for financial products and help strengthen the draft criteria of the related future EU Eco-label.

Finally, to enable the deployment of our solutions across Europe, we will develop a toolkit for both product manufacturers and distributors including an online questionnaire for clients and a database of environmental financial products.

The expected impact is to leverage the demand from end-users to push environmental objectives into institutional investors investment strategies, and introduce proper environmental management to ensure that these objectives are translated into additional EE/SE investments in the real economy.

## Programme(s)

Topic(s)

## Call for proposal

H2020-LC-SC3-EE-2019

## **Funding Scheme**

#### Coordinator



#### **2 INVESTING INITIATIVE DEUTSCHLAND EV**

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EU contribution

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## Participants (4)



#### **UNIVERSITEIT MAASTRICHT**

Netherlands

EU contribution

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## FEDERATION EUROPEENNE DES EPARGNANTS ET USAGERS DES SERVICES FINANCIERS

Belgium

EU contribution

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Address Activity type

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Other

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#### WWF EUROPEAN POLICY OFFICE

Belgium

EU contribution

€ 365 928,75

Address Activity type

123 Rue De Commerce

Other

#### Contact the organisation



#### **ASSOCIATION 2 INVESTING INITIATIVE**

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EU contribution

€ 504 125

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75010 Paris

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Last update: 15 May 2020 Record number: 229763

Permalink: https://cordis.europa.eu/project/id/894345

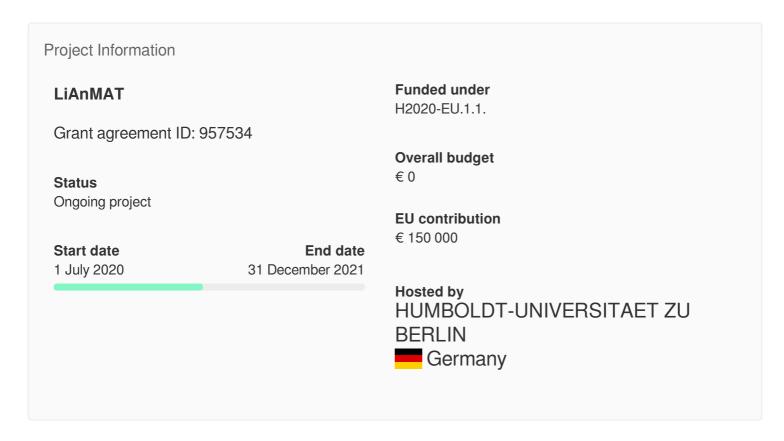
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## Ultra-high energy storage Li-anode materials

## **Fact Sheet**



## **Project description**

## Simplifying the recipe sweetens the deal when it comes to lithium—ion battery anodes

Since the first lithium–ion (Li–ion) battery was developed in the 1980s, these rechargeable batteries have become ubiquitous, freeing mobile devices such as consumer electronics and power tools from the restrictions of power cables. They are now gaining traction for use in electric vehicles and have also been implemented in grid-connected and off-grid energy storage systems. The EU-funded LiAnMAT project is out to create a step change in Li–ion battery anode production, significantly reducing additives and manufacturing steps while minimising capacity loss. The innovative anode materials that will speed production time, reduce production cost

and enhance performance could pave the way for widespread adoption and benefits for people and the environment alike.

## **Objective**

Lithium (Li) ion batteries – present in all consumer electronics and battery-powered vehicles - are produced in a capital and know-how intensive way, in particular during the initial steps of materials synthesis and cell manufacturing. The anodes of Liion batteries are currently prepared by mixing an ink of binders, solvents, silicon (Si) nanoparticles and graphite under strictly controlled conditions (order, timing, temperature), and they undergo several steps like application of the slurry to metal contacts, drying and pressing before completion of the actual anode. In the course of the ERC Starting Grant BEGMAT we have developed a new Li-ion anode material (LiAnMAT), that (a) works without any classical additives (binder, graphite) and hence cuts down on material weight, cost, and problems in materials handling, (b) does not require mixing and application of a mixed ink to metal contacts during the preparation of the active materials - the anode material comes ready asreceived on copper (Cu) metal, and (c) it does not require post-production like pressing - the films are uniformly flat as-received and can be tuned in thickness from several nm up to ~20 µm. Further, the material properties are fantastic and close to the theoretical limit for LiSi-ion batteries.

Hence, the objective of this ERC PoC Grant LiAnMAT is to develop this technology further and to achieve together with our tech transfer liaison Humboldt-Innovation GmbH, and our industrial partner VARTA Micro Innovation GmbH the following goals:

- Elimination of (most or) all conventional additives (binder, graphite, Si NPs) in anode materials.
- Minimising the number of manufacturing steps in anode and battery assembly.
- Elimination of the solid-electrolyte interface (SEI) and associated capacity loss in the 1st lithiation cycle.
- Transfer of the LiAnMAT synthesis to large-scale industrial processes.
- Finding a market for LiAnMAT anodes/batteries and value creation by licensing and spin-offs.

### Field of science

/natural sciences/chemical sciences/inorganic chemistry/metals

## Programme(s)

## Topic(s)

## Call for proposal

ERC-2020-PoC

## **Funding Scheme**

ERC-POC-LS - ERC Proof of Concept Lump Sum Pilot

#### **Host institution**



#### **HUMBOLDT-UNIVERSITAET ZU BERLIN**

Address Activity type

Unter Den Linden 6 Higher or Secondary € 150 000 10117 Berlin Education Establishments

EU contribution

Germany

Website **☑** Contact the organisation **☑** 

## **Beneficiaries (1)**



#### **HUMBOLDT-UNIVERSITAET ZU BERLIN**

Germany

EU contribution

€ 150 000

Address Activity type

Unter Den Linden 6 Higher or Secondary
10117 Berlin Education Establishments

Website **C** Contact the organisation **C** 

Last update: 19 June 2020 Record number: 231005

Permalink: https://cordis.europa.eu/project/id/957534

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# Lightening and Innovating transmission for improving Vehicle: Environmental Impacts

## **Fact Sheet**



## **Project description**

## Designing lighter transmissions for energy-efficient vehicles

Car safety has been associated with several components that combine to add extra weight to a vehicle. As pressure to conserve energy and reduce emissions increases, the question of reducing vehicle weight without compromising safety is paramount. LIVE-I project will focus on redesigning the transmission gear system, the centre of several complex and interdependent functions in a vehicle. It will model new structures and materials while also paying attention to adjusting noise, vibration and harshness levels. In addition, LIVE-I will also set up a programme involving ESR training to build more efficient gear transmission systems.

## **Objective**

For several decades, vehicles have seen their weight increase to meet more demanding requirements of safety and comfort. At the present time, manufacturers need drastically reduce the energy consumption and greenhouse gas emissions without sacrificing any safety or comfort. Each vehicle element must be considered for weight reduction. In this regard, gear transmissions are a first choice candidate. They form a reliable, versatile, and efficient way to transfer power while representing a significant fraction of the vehicle's mass. LIVE-I project main objective is to achieve breakthrough technological progress in the design of lightweight gear transmission and to build an innovative training network in order to educate early stage researchers in this hot topic. The technical objective of LIVE-I project is to demonstrate a significant weight reduction of transmission using advanced modeling tools and digital twins together with advanced materials and systems. This objective will be pursued along different ways, each starting with mass reduction and exploring ways to achieve compromises between weight, efficiency, noise and vibration impacts. The modeling will cope with physical complexities of the problem, connected to non-linearities, multi-scale character among others. The weight/NVH (Noise, Vibration, Harshness) and efficiency improvements of gear transmissions will be tackled by introducing new paradigms in the design of housing and components, using new meta-materials and meta-structures, studying the robustness of a given optimization with respect to real manufacturing conditions, developing smart concepts. Numerical simulations and experiments will be carried out to validate the solutions. In addition to the described technical approaches a tight integration of the individual ESRs into the overall research program is taken care of and a specific training plan devoted to their up to date education in gearboxes design and optimization is offered.

## Programme(s)

Topic(s)

## Call for proposal

H2020-MSCA-ITN-2019

## **Funding Scheme**

MSCA-ITN-EID - European Industrial Doctorates

#### Coordinator



#### **ECOLE CENTRALE DE LYON**

Address

Activity type

EU contribution

**Avenue Guy De Collongue 36** 

**69134 Ecully** 

**Higher or Secondary Education Establishments**  € 824 406,12

France

Website 🗹

Contact the organisation

## Participants (6)



#### **VIBRATEC**

France

EU contribution

€ 0

Address

Activity type

28 Chemin Du Petit Bois

**69131 Ecully** 

Website 🗹

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

Contact the organisation



#### UNIVERSITA DEGLI STUDI DI NAPOLI FEDERICO II



EU contribution

€ 784 499,04

Address Activity type

**Higher or Secondary** Corso Umberto I, 40 **Education Establishments** 80138 Napoli

Website 🗹 Contact the organisation



#### **POWERFLEX SRL**



EU contribution

€ 0

Address

Via Campitiello 6 82030 Limatola

Activity type

**Private for-profit entities** (excluding Higher or **Secondary Education** 

#### Contact the organisation



#### **TECHNISCHE UNIVERSITAT DARMSTADT**

Germany

EU contribution

€ 758 365,20

Address Activity type

Karolinenplatz 5 Higher or Secondary

64289 Darmstadt Education Establishments

Website 🗹 Contact the organisation 🗹



#### **ADAPTRONICA ZOO SP**

Poland

EU contribution

€ 0

Address Activity type

UI. Szpitalna 32 Private for-profit entities 05 092 Lomianki (excluding Higher or

Secondary Education Establishments)

Website **C** Contact the organisation **C** 



#### **COMPREDICT GMBH**

Germany

EU contribution

€ 0

Address Activity type

Caroline-herschel-str. 8 Private for-profit entities 64293 Darmstadt (excluding Higher or

**Secondary Education** 

**Establishments**)

Contact the organisation <a>C</a>

**Last update:** 5 August 2019 **Record number:** 224425

**Permalink:** https://cordis.europa.eu/project/id/860243

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# **Modelling Assisted Solid State Materials Development and Additive Manufacturing**

# **Fact Sheet**

**Project Information** 

MA.D.AM

Grant agreement ID: 101001567

**Status** 

Grant agreement signed

Start date 31 May 2026

1 June 2021

**Funded under** 

H2020-EU.1.1.

Overall budget

€ 1 999 587

**EU** contribution

€ 1 999 587

**End date** 

Hosted by

**HELMHOLTZ-ZENTRUM** GEESTHACHT ZENTRUM FUR

MATERIAL- UND

KUSTENFORSCHUNGGMBH

Germany

# **Objective**

The MA.D.AM project addresses the strong need of wire-based additive manufacturing (AM) for customized value-added metallic materials that are not established yet. The project aims at establishing novel scientific knowledge for the fabrication of novel wire materials and AM parts with hitherto not reached properties, based on the application of high-strength Al-Cu-Li alloys, as cutting-edge candidates for AM in aerospace applications. For this purpose, innovative solid-state materials development and AM processes are utilized to obtain alloys beyond the known thermodynamic borders. The solid-state Friction Extrusion process allows generating phases under non-equilibrium conditions, leading to so far unexplored microstructural states, enabling to produce novel high-performance wire material

with tailored properties. To avoid microstructural deterioration and preserve or even improve the beneficial properties of the designed wires, the Solid State Layer Deposition process is employed. The overarching objective of MA.D.AM is to establish the real-world process chain paired with numerical approaches, leading to a digital twin to achieve a hitherto unavailable decryption of the composition-process-microstructure-property relationships for solid-state materials development and AM. To achieve this objective, a systematic multidisciplinary approach based on the combination of sophisticated physical modelling concepts, advanced experimental approaches including characterization techniques and machine learning is pursued. The selected modelling approaches along computational thermodynamics, microstructure and process modelling, together with special-designed (in situ) experiments will establish a clear link between process characteristics and evolution mechanisms such as phase formation and recrystallization kinetics. The digital twin will be built via a novel hybrid modelling strategy based on experimental and numerical data developed on the concepts of machine learning.

### Field of science

/natural sciences/physical sciences/thermodynamics

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /natural sciences/computer and information sciences/artificial intelligence/machine learning

# Programme(s)

Topic(s)

# Call for proposal

ERC-2020-COG

# **Funding Scheme**

**ERC-COG - Consolidator Grant** 

# **Host institution**



# HELMHOLTZ-ZENTRUM GEESTHACHT ZENTRUM FUR MATERIAL- UND KUSTENFORSCHUNGGMBH

Address Activity type EU contribution

Germany

Website 🗹

Contact the organisation

# **Beneficiaries (1)**



# HELMHOLTZ-ZENTRUM GEESTHACHT ZENTRUM FUR MATERIAL- UND KUSTENFORSCHUNGGMBH

Germany

EU contribution

€ 1 999 587

Address Activity type

Max Planck Strasse 1 21502 Geesthacht

**Research Organisations** 

Website **C** Contact the organisation **C** 

Last update: 28 January 2021 Record number: 233366

Permalink: https://cordis.europa.eu/project/id/101001567

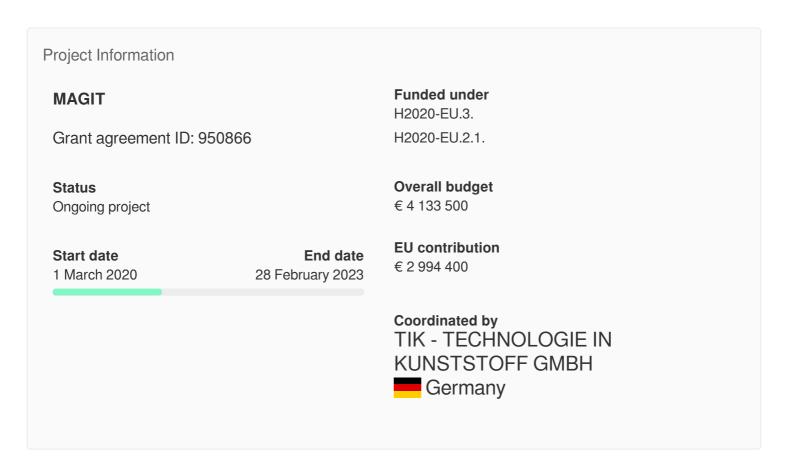
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# Magnesium and Aluminium Gas Injection Technology for High Pressure Die Casting

# **Fact Sheet**



# **Project description**

# Innovative technology generates hollow metal components with die casting

Die casting is a common manufacturing process used to produce shaped metal parts by forcing molten metal under high pressure into reusable metal dies. The automotive industry already uses die casting to produce a variety of solid metal components. Production of hollow components currently requires additional upstream and downstream processes. The engineers behind the EU-funded MAGIT project have developed a novel gas injection technology for high-pressure die casting of hollow

aluminium and magnesium parts. It promises significant savings in time, money and materials and also accommodates novel shapes such as integrated fluid duct components for the cooling of electronics and electric motors or vehicle batteries. With the EU's support, the technology is on the fast track to market uptake and deployment.

# **Objective**

The MAGIT consortium comprises a German engineering company for product and process development (TiK), a Swiss

aluminium die casting foundry (ALUWAG), a Belgium tool manufacturer (surtechno) (all SMEs) as well as a German Foundry

Institute (Aalen University of Applied Sciences). Thus, the consortium has all necessary competences to achieve the objectives of the FTI project.

The European automotive industry is faced with wide-ranging challenges in the common years. Especially electric mobility,

lightweight design and intelligent use of materials is essential for current and future car development. In modern cars, many

components are already produced in die casting, which is the most promising technology regarding cost-effective large-scale

production. To extend the application possibilities of this technology, a new and disrupting process was developed, which

enables the use of gas injection in aluminium or magnesium high pressure die casting and the production of components

with hollow structures. Through this, significant cost savings can be achieved by the elimination of upstream and

downstream manufacturing processes and weight can be reduced drastically by using lighter materials, but also new

constructional possibilities for complex, hollow and thin-walled components with a load-adjusted design. By MAGIT,

integrated fluid duct components can be realised. These can be used for cooling of power electronics and electric motors or

temperature controlling of vehicle batteries.

While the complex hollow components primarily address the European automotive industry, the new technology and the

MAGIT device primarily addresses the European die casting industry for non-ferrous metals. By the innovative technology,

the MAGIT consortium expects to generate additional cumulative turnover of 40 million € and an increase in staff headcount of 55 in 2024.

### Field of science

/engineering and technology/mechanical engineering/vehicle engineering/automotive engineering /natural sciences/chemical sciences/inorganic chemistry/inorganic compounds

# Programme(s)

Topic(s)

# Call for proposal

H2020-EIC-FTI-2018-2020

# **Funding Scheme**

IA - Innovation action

### Coordinator



### **TIK - TECHNOLOGIE IN KUNSTSTOFF GMBH**

Address

Siemensstrasse 21 79331 Teningen

Germany

Contact the organisation <a>C</a>

Activity type

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

€ 767 375

# Participants (3)



### **ALUWAG AG**

Switzerland

EU contribution

€ 1 083 250

Address

Nellen 12 9246 Niederburen Activity type

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

21 of 65



### **SURTECHNO NV**

Belgium

EU contribution

€ 807 275

Address Activity type

Siberiestraat 5 Private for-profit entities
3900 Pelt (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



### **HOCHSCHULE AALEN - TECHNIK UND WIRTSCHAFT**

Germany

EU contribution

€ 336 500

Address Activity type

Beethovenstrasse 1 Higher or Secondary
73430 Aalen Education Establishments

Contact the organisation 🗹

Last update: 29 February 2020

Record number: 227437

Permalink: https://cordis.europa.eu/project/id/950866

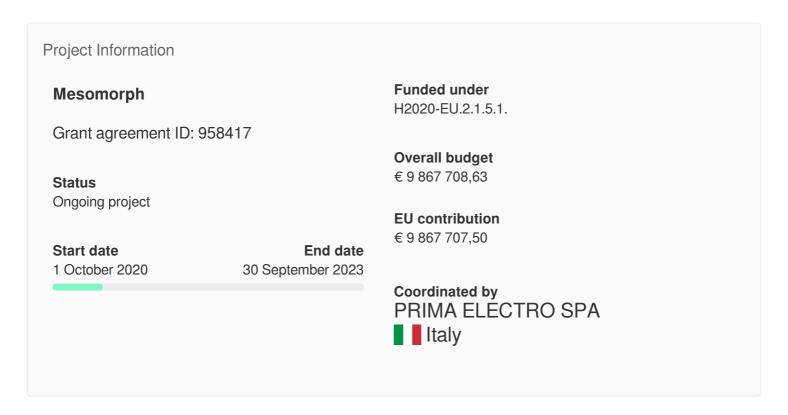
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# all-in-one machine for hybrid technologies enabling high value added multi-scale integrated micro.optoelectronics

## **Fact Sheet**



# **Project description**

# An innovative concept for microsystems

Microsystems can play a big role in industrial automation design and contribute to the EU's economic growth. With this in mind, the EU-funded Mesomorph project proposes a concept that will integrate an all-in-one machine featuring an innovative process limiting the number of micromanipulations. Bringing together 13 partners from 5 countries, the project will propose a scale-up throughput by parallelisation and batch processing. It includes a qualified Design-to-Lifevalue Platform fully exploiting the new processes and implements a new Manufacturing as a Service business model to address financial risk.

# **Objective**

The new emerging generation of microsystems represents a major opportunity for a substantial EU economic growth, in an industry counting already more than 200.000 workers and a turnover in 2019 of €450 billion. The Mesomorph concept provides the means to overcome the following 4 main hurdles:

- 1. The intrinsic physic of microsystems doesn't allow the simple downsizing of conventional technologies to industrialize micromanufacturing processes. Mesomorphallows to limit the number of micromanipulation tasks by integrating an all-in-onemachine featuring novel processes for the direct creation of functions (electronic, fluidic, optic) directly on a substrate, with a RESOLUTION down to 300nm, by combining multi-material addition (Two-Photon Polymerization, Atomic Layer 3D nano printing) and subtraction (Femtolaser micro-ablation) in a self-contained white room.
- 2. Because of the intrinsic slowness of physical processes at microscale, productivity cannot be achieved by sequencing multiple single steps. Mesomorph proposes a scaleup throughput by PARALLELIZATION and batch processing UP TO 50k PARTS/YEAR, leveraging a new multiple micronozzles system to extend the SADALP working area from 10x10mm up to 500x500mm, and concurrently leveraging on the beam splitting technique of a high-power fs laser for ablation.
- 3. Microsystems cannot be conceived with subcomponents. Mesomorph includes a specific Design-to-Lifevalue Platform to guide the development of new microsystems by fully exploiting the new processes.
- 4. Innovation cannot be limited by the financial risk associated with the necessary investments. Mesomorph implements a new "Manufacturing as a Service" business model in which all the value chain's actors can benefit from a positive net cash flow since production's start, effectively removing entry barriers for innovators. Mesomorph consortium is composed of 13 partners from 5 different countries. Each partner represents excellence in its own field.

### Field of science

/social sciences/economics and business/economics/production economics/productivity

Programme(s)

Topic(s)

Call for proposal

# **Funding Scheme**

RIA - Research and Innovation action

### Coordinator



### PRIMA ELECTRO SPA

Address

Strada Carignano 48 2

10024 Moncalieri

Italy

Website 🗹

Activity type

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

Contact the organisation Z

EU contribution

€ 887 500

# Participants (12)



### SCUOLA UNIVERSITARIA PROFESSIONALE DELLA SVIZZERA ITALIANA

Switzerland

EU contribution

€ 1 840 000

Address

7.001000

Stabile Le Gerre 6928 Manno

Website 🗹

Activity type

Higher or Secondary

**Education Establishments** 

Contact the organisation 🗹



### **IRIS SRL**



EU contribution

€ 483 125

Address

Activity type

Corso Unione Sovietica

612/21 10135 Torino Private for-profit entities (excluding Higher or Secondary Education

**Establishments)** 

Website 🗹

Contact the organisation



### **UAB FEMTIKA**

**Lithuania** 

EU contribution

€ 661 250

Address

Activity type

Sauletekio Al.15 10224 Vilnius Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation



### ATLANT HOLDING IVS

Denmark

EU contribution

€ 752 500

Address

Rordams Have 5,2. 3. 2800 Kongens Lyngby

Activity type

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

Contact the organisation 🗹



### **OPI PHOTONICS SRL**

Italy

EU contribution

€ 342 500

Address

Activity type

Via Conte Rosso 3 10121 Torino Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation



### MORPHICA SOCIETA A RESPONSABILITA LIMITATA

Italy

EU contribution

€ 561 500

Address

Activity type

Via Ricasoli 19-21 70043 Monopoli Private for-profit entities (excluding Higher or

41 of 77

# Secondary Education Establishments)

### Contact the organisation <a>C</a>



### FRIEDRICH-ALEXANDER-UNIVERSITAET ERLANGEN-NUERNBERG

Germany

EU contribution

€ 584 332,50

Address Activity type

Schlossplatz 4 Higher or Secondary

91054 Erlangen Education Establishments

Website **C** Contact the organisation **C** 

血

### **POLITECNICO DI TORINO**

Italy

EU contribution

€ 425 000

Address Activity type

Corso Duca Degli Abruzzi 24

10129 Torino

**Higher or Secondary** 

**Education Establishments** 

Website Contact the organisation C

血

### STMICROELECTRONICS SRL

Italy

EU contribution

€ 502 500

Address Activity type

Via C.olivetti 2 Private for-profit entities
20864 Agrate Brianza (excluding Higher or
Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

血

### **SMOLSYS AG**

Switzerland

EU contribution

€ 488 750

Address Activity type

Platz 4 Private for-profit entities

42 of 77

(excluding Higher or Secondary Education Establishments)

Contact the organisation <a>C</a>



### **HELIOTIS AG**

Switzerland

EU contribution

€ 990 000

Address Activity type

Langenbold 5 Private for-profit entities
6037 Root (excluding Higher or
Secondary Education
Establishments)

Contact the organisation 🗹



### **MCH-TRONICS SAGL**

Switzerland

EU contribution

€ 1 348 750

Address Activity type

Via Cantonale Centro Galleria Private for-profit entities

3 (excluding Higher or 6928 Manno Secondary Education

Establishments)

Contact the organisation

Last update: 26 September 2020

Record number: 231377

Permalink: https://cordis.europa.eu/project/id/958417

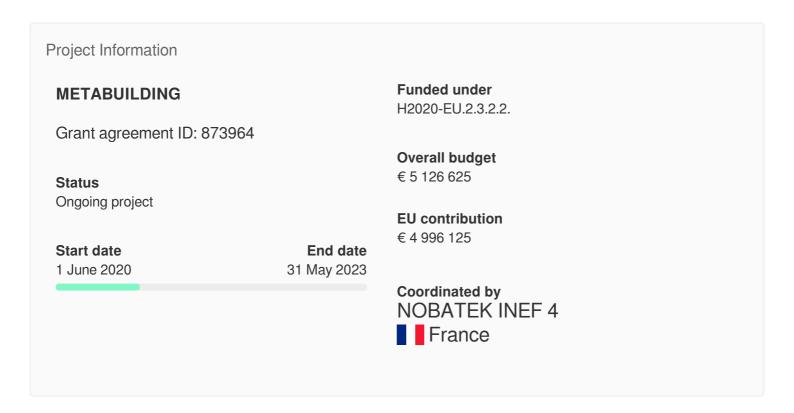
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# METAclustering for cross-sectoral and cross-border innovation ecosystem BUILDING for the European Construction, Additive Manufacturing and Nature-Based Solutions industrial sectors' SMEs

# **Fact Sheet**



# **Project description**

# SME innovation in the construction sector

The European construction industry needs to improve the innovation of its SMEs in order to extend its value chain and integrate new dynamic industrial sectors. To achieve critical mass and promote internationalisation, the European Construction Technology Platform (ECTP) has initiated a synergy with the ICT, additive manufacturing, nature-based solutions and recycling industrial sectors. The EUfunded METABUILDING project will complete a sustainable and expandable

synergistic innovation ecosystem to reach clusters and their SMEs in their business environment. This advanced ecosystem will be supported by an open-innovation digital platform to build and sustain the rise of new cross-sectoral, cross-border industrial value chains delivering a metaclustering process. The project will advise and technically support SMEs and perform several cascade funding mechanisms in six EU countries: Spain, France, Italy, Hungary, Austria and Portugal.

# **Objective**

The EU construction industry is challenged to boost innovation of SMEs (99% of companies) inside a traditional sector, to expand its value chain and integrate new dynamic industrial sectors. The European Construction Technology Platform (ECTP) is joining efforts with 4 industrial sectors: ICT, Additive Manufacturing, Nature Based Solutions, and the Recycling industry, to underpin and fuel the emergence of new cross-sectoral, cross-border industrial value chains, delivering a metaclustering process to achieve critical mass and boost internationalisation. To reach Clusters and their SMEs in their business environment, METABUILDING will achieve a sustainable and expandable collaborative innovation ecosystem backed by an open innovation digital platform performing 6 main functions: 1) Cross-sectoral/border Digital Marketplace; 2) interactive Knowledge Repository; 3) Industrial commons database with technology assets from EU funded R&D, 4) Business Strategy resourcing, 5) Innovation Funding Scaling knowledge support and 6) Metaclustering Network Management. MB will nurture, mentor and technically assist SMEs and implement several cascade funding mechanisms, achieve at least 140 crosssectoral, cross-border challenge-based SME-led innovation ideas/projects coming from regional clusters in 6 target countries: Austria, Spain, Portugal, France, Italy and Hungary. Coordinated by an experienced construction sector RTO, MB will feature: 6 Metaclusters working with 4 EU level R&D roadmapping institutions (ECTP, AM Platform, EuRic and EFB) and 90 clusters with reach to more than 9000 SMEs; 3 National Technology Platforms, 1 national Construction Federation, 1 Industrial Association and 1 Business Network to build an EU level enlarged innovation Ecosystem and value chain with actors involved from across the innovation chain (from EU R&D platforms, RTOs/UNIs, funding bodies, to regionals SMEs; being supported in each country by an External Pool of technical and value chain resources.

### Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /natural sciences/biological sciences/ecology/ecosystems /social sciences/economics and business

# Programme(s)

# Topic(s)

# Call for proposal

H2020-INNOSUP-2019-01-two-stage

# **Funding Scheme**

IA - Innovation action

# Coordinator



### **NOBATEK INEF 4**

Address Activity type EU contribution

Rue De Mirambeau 67 Research Organisations € 468 875

64600 Anglet
France

Website **☑** Contact the organisation **☑** 

# Participants (14)



# EUROPEAN CONSTRUCTION, BUILT ENVIRONMENT AND ENERGY EFFICIENT BUILDINGS TECHNOLOGY PLATFORM

Belgium

EU contribution

€ 166 125

Address Activity type

Avenue Cortenbergh 52 Other

1000 Bruxelles

Website 🗹

Contact the organisation 🗹

血

### **EUROPAISCHE FODERATION BAUWERKSBEGRUNUNGSVERBANDE - EFB**

Austria

EU contribution

€ 49 100

Address

Activity type

Other

Wiedner Hauptstrasse 63

1045 Wien

Contact the organisation



### **FUNDACION IDONIAL**

Spain

EU contribution

€ 120 500

Address Activity type

**Avenida Jardin Botanico 1345** 

Parque Cientifico Y **Tecnologico Zona Intra** 

33203 Gijon

Website 🗹

**Research Organisations** 

Contact the organisation



## FUNDACION PLATAFORMA TECNOLOGICA ESPANOLA DE LA CONSTRUCCION

Spain

EU contribution

€ 532 625

Address Activity type

C/ Diego De Leon 50 4A Planta

28006 Madrid

Contact the organisation

Other



### PTPC - PLATAFORMA TECNOLOGICA DA PORTUGUESA DA CONSTRUCAO -**ASSOCIACAO**

Portugal

EU contribution

€ 556 425

Address Activity type

**Rua Alvares Cabral 306** 

4050-040 Porto

Other

Contact the organisation



### **CERCLE PROMODUL INEF4**



EU contribution

€ 577 750

Address Activity type

76 Route De La Demi-lune,

Les Colline De L'arche Im

Opera

92800 Puteaux

Contact the organisation

Other

Other



### FEDERAZIONE DELLE COSTRUZIONI



EU contribution

€ 587 500

Address Activity type

Via Antonio Giuseppe

Guattani 16 00161 Roma

Contact the organisation



### PANNON BUSINESS NETWORK NONPROFIT KFT

Hungary

EU contribution

€ 538 000

Address Activity type

Zanati Ut 32-36

9700 Szombathely

Contact the organisation



### INDRA SOLUCIONES TECNOLOGIAS DE LA INFORMACION SL



EU contribution

€ 108 500

Address Activity type

Avda Bruselas, Num. 35 **Private for-profit entities** 28108 Alcobendas - (Madrid) (excluding Higher or

**Secondary Education** 

**Research Organisations** 

**Establishments**)

Contact the organisation



**A**ustria

EU contribution

€ 601 150

Address

Activity type

**Favoritenstrasse 50** 

1040 Wien

**Research Organisations** 

Contact the organisation <a>C</a>

血

### **ECOWISE EKODENGE LIMITED**

United Kingdom

EU contribution

€ 169 575

Address Activity type

C/o Alliotts Imperial House

**Kean Street** 

WC2B 4AS London

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation <a>C</a>

血

### STEINBEIS INNOVATION GGMBH

Germany

EU contribution

€ 286 375

Address Activity type

Adornostrasse 8

70599 Stuttgart

**Research Organisations** 

Website 🗹 Contact the organisation 🗹

血

# OCTOPUSSY AGENCE POUR LA CREATION ET LA DIFFUSION D'ACTIVITES CULTURELLES ARTISTIQUES TECHNOLOGIQUES SCIENTIFIQUES

France

EU contribution

€ 154 000

Address Activity type

1 Rue Rene Duvert

Other

64340 Boucau

Contact the organisation

EUNOPEAN NEOTOLING INDUSTRIES CONFEDERATION

Belgium

EU contribution

€ 79 625

Address

Activity type

**Boulevard Auguste Reyers 80** 

Other

1030 Brussels

Contact the organisation <a>I</a>

Last update: 11 February 2021

Record number: 228786

Permalink: https://cordis.europa.eu/project/id/873964

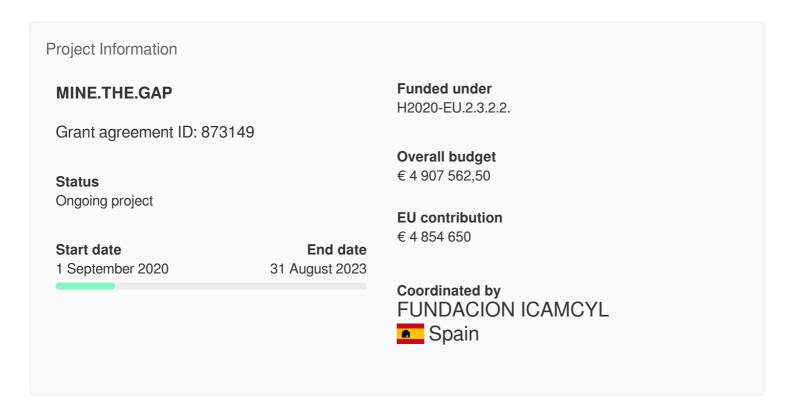
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# Creation and Integration of Novel Industrial Value Chains for SMEs in the Raw Materials & Mining Sectors through ICT, Circular Economy, Resource Efficiency & Advanced Manufacturing Innovation Support

# **Fact Sheet**



# **Project description**

# Novel industrial value chains in the mining sector

Mineral raw materials in today's society are important though largely ignored. In addition, the concept of mining is mostly viewed in a negative light, focussing on its use of non-modern, less environmentally friendly and even outdated methods and technologies. The EU-funded MINE.THE.GAP project aspires to provide a support platform for the reinforcement of existing value chains and the development of new

industrial value chains in the raw materials and mining 'target' sectors by means of cross-sectoral and cross-regional innovation. It will also provide support services in cluster-related SMEs through synergies and interactions with providers and facilitators from the existing and emerging fields of ICT, circular economy, resource efficiency and advanced manufacturing.

# **Objective**

"There is a general lack of awareness of the importance of mineral raw materials in today's society and an (overall) negative view on the concept of mining, strongly related to the use of non-modern, less environmentally-friendly and even outdated methods and technologies. This is particularly relevant for SMEs, which lack the tractor effect of big industries and therefore suffer from innovation deficit, crosssector fertilisation and disruptive potential. In order to adapt to current trends and technologies, promote industrial modernisation and digitalisation of the sector, and embrace, interact and profit from other emerging industries, the mining & raw materials sectors must undergo a cross-sectoral and cross-fertilisation exercise, with a particular emphasis on SMEs, in order to develop novel industrial value chains that can support the integration of novel materials, techniques and processes. In this respect, industrial clusters and associated entities are therefore the ideal vehicle to promote and accelerate investments in order to develop innovation capacity and product development in SMEs. The overall aim of MINE.THE.GAP is to provide a support platform for the reinforcement of existing value chains and the development of new industrial value chains in the raw materials and mining ""target"" sectors by means of cross-sectoral and cross-regional innovation and support services in cluster-related SMEs through synergies and interactions with providers and facilitators from the existing and emerging fields of ICT, circular economy, resource efficiency and advanced manufacturing (""provider"" sectors""). A well-balanced consortium comprising of 9 Clusters, 1 RTO and 1 Association from 9 regions and 7 European countries representing over 500 SMEs participate in the project to develop a three layered management structure, methodology and strategy including direct financial support to SMEs, additional business support services and access to new investments.

Programme(s)

Topic(s)

Call for proposal

# **Funding Scheme**

IA - Innovation action

### Coordinator



### **FUNDACION ICAMCYL**

Poligono Industrial El Bayo,

19

24412 Cubillos Del Sil Leon

Spain

Address

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Activity type

**Research Organisations** 

EU contribution

€ 3 733 000

# Participants (10)



# CLUSTER PARA LA MINERIA SOTENIBILEY SERVICIOS ASOCIADOS DE LA PENINSULA IBERICA - IBERIAN SUSTAINABLE MINING CLUSTER

Spain

EU contribution

€ 130 750

Address Activity type

C/julia Morros S/n Oficina 107 Parque Tecnologico Armunia

24009 Leon

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Activity type

**Research Organisations** 



### **ACPMR - ASSOCIACAO CLUSTER PORTUGAL MINERAL RESOURCES**

Portugal

EU contribution

€ 72 800

Address Activity type

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### ASSOCIACAO PORTUGUESA DOS INDUSTRIAIS DE MARMORES E RAMOS

### **AFINS**

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EU contribution

€ 81 500

Address

Av. Luis De Camoes, Bairro

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Sao Miguel G1

2480-308 Porto De Mos

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Activity type
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Other

血

### **GEOKOMPETENZZENTRUM FREIBERG EV**

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EU contribution

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### **KEMIN DIGIPOLIS OY**



EU contribution

€ 174 750

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### INDUSTRIAL CLUSTER SREDNOGORIE

**B**ulgaria

EU contribution

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### CENTRUM KOOPERACJI RECYKLINGU - NOT FOR PROFIT SYSTEM SP ZOO

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### **AXELERA - ASSOCIATION CHIMIE-ENVIRONNEMENT LYON ET RHONE-ALPES**

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EU contribution

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# CLUSTER DE FABRICACION AVANZADA DE LA INDUSTRIA DEL METAL DE ASTURIAS- METAINDUSTRY4

Spain

EU contribution

€ 50 662,50

Address Activity type

Calle Marques De San

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### ASOCIACION INVESTIGACION, DESARROLLO E INNOVACION EN ARAGON

Spain

EU contribution

€ 141 187,50

Address Activity type

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Portal 6

50009 Zaragoza

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**Last update:** 7 August 2020 **Record number:** 230280

**Permalink:** https://cordis.europa.eu/project/id/873149

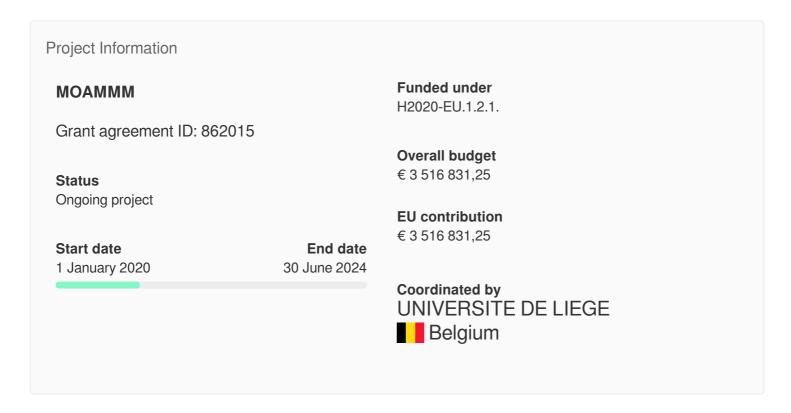
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# Multi-scale Optimisation for Additive Manufacturing of fatigue resistant shockabsorbing MetaMaterials

# **Fact Sheet**



# **Project description**

# 3D printed design optimisation of metamaterials at small scales

The field of metamaterials involves designing complicated, composite engineering parts which can demonstrate properties that are impossible to find in naturally occurring materials. Additive manufacturing technology is making it possible to create many more metamaterial shapes and patterns at ever smaller scales. Advanced experimental and numerical multi-scale methods are needed to leverage the potential of additive manufacturing and produce damage-tolerant metamaterials. The EU-funded MOAMMM project will develop a data-driven methodology for (micro)structural properties that should facilitate the design of optimised printed shock absorbers. Targeted applications include shock absorbers that either suffer

from fatigue (such as in sport shoe soles) or dissipate the maximum energy during their failure (such as in bicycle helmets).

# **Objective**

The emergence of metamaterials has opened a new paradigm in designing engineering parts in which the design of full structural parts can be optimised together with the metamaterial they are locally composed of. Moreover, additional morphing at local and global scales may support their adaptation to variable loading conditions and shifted user needs. As polymeric materials can fulfill simultaneously structural mechanical and functional requirements, the combination of this design paradigm with additive manufacturing can support/generate novel applications. However, many challenges are left in order for this change of paradigm to become a reality:

- To improve metamaterial design and fabrication technique to produce damage tolerant metamaterials
- Robust and efficient concurrent multiscale techniques should be developed as part of a multiscale optimisation problem.
- Because micro-structure and material properties suffer from uncertainties affecting structural responses, techniques for uncertainty quantification should be developed for this multiscale design problem.

These challenges can only be addressed by considering experimental and numerical multi-scale methods. However, current existing approaches are limited in several aspects because on the one hand of the difficulty in representing the micro-structure and characterising micro-scale constituent materials, and on the other hand in the computational cost inherent to these approaches. The overall objective of this project is to develop a data-driven methodology relying on a structural properties-micro-structure linkage and able to design optimised shock-absorption devices based on bi-stable metamaterials and printable using additive manufacturing. Targeted applications are user-optimised shock absorber devices which either potentially suffer from fatigue such as in the case of sport shoe soles or which should dissipate the maximum energy during their failure such as in the bicycle helmets.

### Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing

# Programme(s)

# Topic(s)

# Call for proposal

H2020-FETOPEN-2018-2019-2020-01

# **Funding Scheme**

RIA - Research and Innovation action

### Coordinator



### **UNIVERSITE DE LIEGE**

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Activity type

EU contribution

Place Du 20 Aout 7

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€ 994 000

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### UNIVERSITE CATHOLIQUE DE LOUVAIN



EU contribution

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### **FUNDACION IMDEA MATERIALES**



EU contribution

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39 of 57

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### **UNIVERSITAT LINZ**

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EU contribution

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4040 Linz

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### **CIRP GMBH**

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Last update: 15 December 2020

Record number: 224937

Permalink: https://cordis.europa.eu/project/id/862015

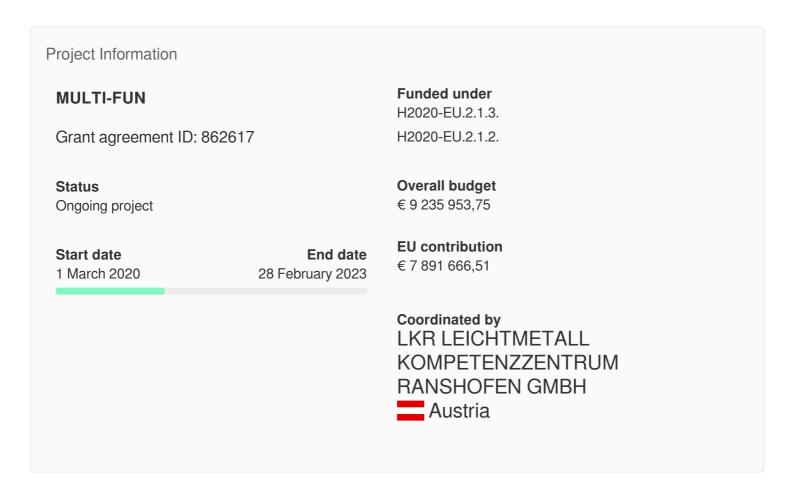
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# Enabling MULTI-FUNctional performance through multi-material additive manufacturing

# **Fact Sheet**



# **Project description**

# Multi-material additive manufacturing

The EU-funded MULTI-FUN project aims to focus on market-creating innovation, developing advanced materials and equipment for the additive manufacturing of multi-material parts. These new material combinations will give a significant performance and efficiency boost to MAM products through fully integrated multi-functionalities based on novel active materials; moreover, they will enable multi-material design in geometrically complex 3D metal parts without size limitations via

innovative, cost-effective AM technologies. The novel integrated functionalities include embedded electrical conductivity, fibre-optic sensing features or innovative heat management concepts, including the application of nanotechnologies in at least three variants.

# **Objective**

MULTI-FUN sets a clear focus on market-creating innovation, developing advanced materials and equipment for Additive Manufacturing of multi-material parts. These new material combinations will provide a significant performance & efficiency gain in MAM products by fully integrated multi-functionalities based on novel active materials and enable MULTI-MATERIAL design in geometrically complex 3D metal parts without size limitations by innovative, cost-effective AM technologies. The novel integrated functionalities include embedded electrical conductivity, fibre-optical sensing features or innovative heat management concepts, incl. applying nanotechnologies in at least 3 variants.

Leading experts in AM process & equipment manufacturing (from SMEs, IND, RTOs and UNIV) will fully cover the physical integration of these advanced materials into metallic substrates. Significant improvements in efficiency, quality & reliability of products will result in KPI numbers beyond the request (>40%), alongside reduced environmental impact as well as lower costs also much better than the given number of >35%.

The evaluation assessment (reg. general performance & quality of novel functionalities) and LCA will be performed on 7 industrial demonstrators, addressing structural parts, moulds and test equipment for aerospace, automotive and general industrial usage.

By wide usage of cost-effective wire & arc-based AM systems, complemented by efficient powder processing methods (esp. thin multi-material features), market uptake will be benefited, esp. for SMEs. MULTI-FUN includes 9 EU SMEs as key players in advanced materials research for AM, providing a great opportunity to accelerate market uptake. Stakeholder involvement (e.g. reg. Certification & Standardization) will foster business models & marketing of strong USPs of MULTI-FUN.

# Field of science

/natural sciences/physical sciences/electromagnetism and electronics/electrical conductivity
/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing
/natural sciences/chemical sciences/inorganic chemistry/metals

/social sciences/economics and business/business and management/commerce

# Programme(s)

# Topic(s)

# Call for proposal

H2020-NMBP-TR-IND-2019

# **Funding Scheme**

IA - Innovation action

### Coordinator



### LKR LEICHTMETALL KOMPETENZZENTRUM RANSHOFEN GMBH

EU contribution Address Activity type

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### **VOESTALPINE METAL FORMING GMBH**

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EU contribution

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### **DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV**

Germany

EU contribution

€ 370 705

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Linder Hohe Research Organisations

51147 Koln

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# FUNDACION BCMATERIALS - BASQUE CENTRE FOR MATERIALS, APPLICATIONS AND NANOSTRUCTURES

Spain

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### **INOCON TECHNOLOGIE GMBH**

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# FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

Germany

EU contribution

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### **LORTEK S COOP**



EU contribution

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### **INPHOTECH SP ZOO**

Poland

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### INSTITUTO DE SOLDADURA E QUALIDADE

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### **EUROPEAN FEDERATION FOR WELDING JOINING AND CUTTING**

Belgium

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### RHP TECHNOLOGY GMBH

**A**ustria

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Forschungszentrum Private for-profit entities
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### **CRANFIELD UNIVERSITY**

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### **AEROTECNIC METALLIC SL**

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### **RUAG SPACE GMBH**

**A**ustria

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### **ALUWAG AG**

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### **AVL LIST GMBH**



EU contribution

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Last update: 17 January 2021

Record number: 228601

**Permalink:** https://cordis.europa.eu/project/id/862617

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# Nanoscale 3D Printing of a Lithium Ion Battery: Rethinking the Fabrication Concept for a Revolution in Energy Storage

# **Fact Sheet**

**Project Information Funded under** NANO-3D-LION H2020-EU.1.1. Grant agreement ID: 948238 **Overall budget** € 2 255 055 **Status** Ongoing project **EU** contribution € 2 255 055 Start date **End date** 1 February 2021 31 January 2026 Hosted by CARL VON OSSIETZKY UNIVERSITAET OLDENBURG Germany

# **Objective**

One of the greatest technological challenges of today is efficient storage of electrical energy for portable applications, including electric vehicles, mobile electronic devices, and robotic systems. Further progress in these areas, however, is often hindered by the limitations of current rechargeable lithium ion battery technologies, which are among the most common power sources for these systems. Despite tremendous progress in electrode materials, the intrinsic drawbacks of current batteries are related to their planar two-dimensional design, which restrains the performance in terms of output power and charging speed. NANO-3D-LION is aimed to make a breakthrough in these major battery characteristics by a paradigm shift in

battery engineering: the goal is to develop and employ advanced nanoscale 3D printing techniques to fabricate active battery materials with ultrasmall structural features, which will provide almost a thousand-fold increase in the surface area of the battery enabled by nanoscale spacing between its electrodes without compromising the battery capacity. To reach this, high-aspect ratio metal features will be fabricated and further converted into the active material of the cathode and the anode. This will enable unprecedented level of control of the battery architecture, allowing groundbreaking improvement of the key battery performance characteristics, including higher output power and charging times of only several seconds. NANO-3D-LION will establish a unique engineering approach with a potential to completely change the future landscape in research and industry related to portable electronic devices and electric vehicles and will also benefit many technologies beyond battery research, where nanoscale 3D printing opens new unparalleled capacity, therefore ensuring its broad scientific, economical and societal impact.

### Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /social sciences/social and economic geography/transport/electric vehicles /natural sciences/chemical sciences/inorganic chemistry/inorganic compounds

# Programme(s)

Topic(s)

# Call for proposal

ERC-2020-STG

# **Funding Scheme**

ERC-STG - Starting Grant

### **Host institution**

Address



### CARL VON OSSIETZKY UNIVERSITAET OLDENBURG

Ammerlaender Heerstrasse

Activity type
Higher or Secondary
Education Establishments

EU contribution € 2 255 055

Website 🗹

Contact the organisation

# **Beneficiaries (1)**



### CARL VON OSSIETZKY UNIVERSITAET OLDENBURG

Germany

EU contribution

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Last update: 10 September 2020

Record number: 231109

Permalink: https://cordis.europa.eu/project/id/948238

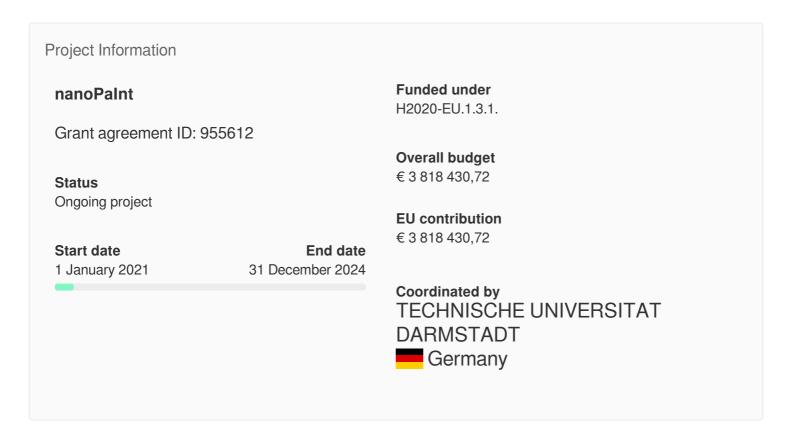
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# Dynamics of dense nanosuspensions: a pathway to novel functional materials

# **Fact Sheet**



# **Project description**

# Probing the dynamics of dense nanosuspensions far from equilibrium

Nanoparticle additives are highly efficient in controlling fluid properties, and thus they are extensively used in home care products, food industry, and in ink and paint formulations. In addition, they facilitate the design of functional materials and are very promising drug carriers. Unlike their dense counterparts, dilute suspensions of nanoparticles have been the subject of detailed studies. However, in certain applications suspensions are dense and experience significant external stresses. Funded by the Marie Skłodowska-Curie programme, the nanoPaInt project aims to

investigate the behaviour of dense out-of-equilibrium nanosuspensions which remains poorly explored until now.

# **Objective**

Nanoparticles serve as additives for controlling the liquid properties. They are extensively applied in food industry and home care products, they are the essential part of ink and paint formulations and of

coatings, they are used for manufacturing of functional materials and are very promising drug carriers. The presence of nanoparticles

in air or in water can influence the Earth ecology and human health. Although dilute suspensions of nanoparticles which are close to

equilibrium have been extensively studied, in many important applications, such as food industry and printing, the suspensions are

dense, or strongly interacting, they experience significant external stress and are far from equilibrium. A fundamental understanding

of interaction between nanoparticles in liquid bulk and at interfaces, allowing to effectively use particulate systems in these

applications, has not yet been achieved. The aim of the NanoPaInt network is understanding, predictive modelling and application

of the strongly interacting nanoparticle-laden systems out of equilibrium. The specific objectives are: understanding strong

interactions between the nanoparticles and their effect on the rheological properties of suspensions; understanding the behavior of

nanoparticles in complex interfacial flows under strong external forces and with wetting and dewetting; design and applications of

smart capillary nanosuspensions; drying of nanosuspensions towards assembly and fabrication of functional superparticulate

systems. The training aim of NanoPaInt network is to support the career development of young researchers both in academic and

non-academic sectors and to train a new generation of creative, mobile, entrepreneurial and innovative early-stage researchers

(ESRs) through the experience of independent and interdisciplinary research, participation at local and network-wide training activities and intersectorial and international secondments.

# Programme(s)

# Topic(s)

# **Call for proposal**

H2020-MSCA-ITN-2020

# **Funding Scheme**

MSCA-ITN-ETN - European Training Networks

### Coordinator



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Germany

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**Research Organisations** 

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ш

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### TECHNION RESEARCH AND DEVELOPMENT FOUNDATION LTD

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### **UNIVERSIDAD DE GRANADA**



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### **EVONIK OPERATIONS GMBH**

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Last update: 7 February 2021

Record number: 231174

Permalink: https://cordis.europa.eu/project/id/955612

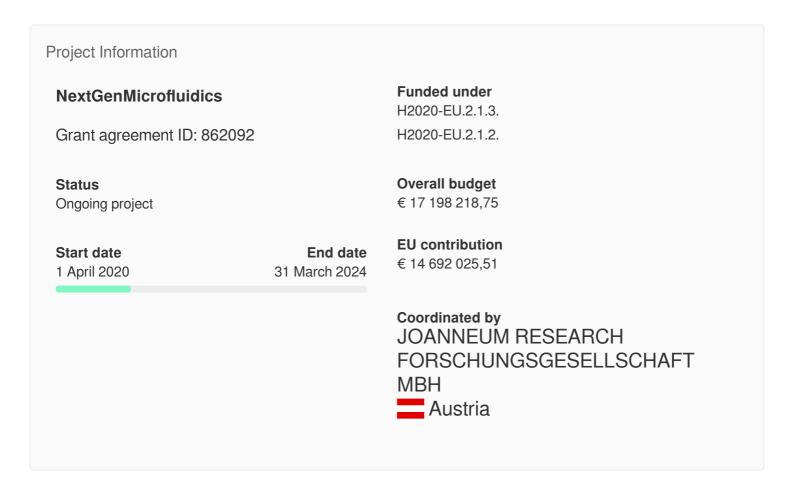
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# Next generation test bed for upscaling of microfluidic devices based on nanoenabled surfaces and membranes

# **Fact Sheet**



# **Project description**

# Novel nanomaterial production platform to upscale microfluidics manufacturing

Microfluidic applications encompass nanomaterials such as nano-enabled surfaces (NES) and nano-enabled membranes (NEMs). However, current production technologies do not support the mass production of complex nano-patterned surfaces, prohibiting the transfer of NES and NEMs into commercial microfluidic devices. To address this, scientists of the EU-funded NextGenMicrofluidics project

are in the process of developing a platform for the large-scale production of NES and NEMs. The platform combines polymer foil technology with classic technologies such as injection moulding and high-resolution biomolecule printing. The project's unique approach is expected to reach a high-throughput production capacity of one million components per year, advancing the industrial manufacturing of microfluidic devices.

# **Objective**

Nano enabled components are essential key parts for microfluidic applications mostly in form of nano-enabled surfaces (NES) and nano-enabled membranes (NEMs). However, crucial challenges hinder the transfer of NES and NEMs into commercial microfluidic devices. Current production technologies (e.g. injection moulding) don't allow large volume upscaling of complex nano-patterned surfaces and the produced microfluidic components need to be handled in single pieces in all subsequent processes. Therefore, subsequent backend processing (nano-coatings, printing of nano-based inks, lamination of NEMs) demands for complex single peace handling operations. This restricts upscaling potential and process throughput. The proposed project NextGenMicrofluidics addresses this challenge with a platform for production of NES and NEMs based microfluidics on large area polymer foils. This approach enables upscaling to high throughput of 1 million devices per year and more. The polymer foil technology is complemented with classic technologies of injection moulding and wafer based glass and silicon processing. These core facilities are combined with essential backend processing steps like high resolution biomolecule printing with the worldwide first roll-to-roll microarray spotter, printing of nano-enabled inks, as well as coating and lamination processes. These unique facilities will be combined and upgraded to a platform for testing of upscaling of microfluidic use cases from TRL4 to TRL7. The services comprise device simulation, mastering of nanostructures, nanomaterial development, material testing, rapid prototyping, device testing, nano-safety assessment and support in regulatory and standardization issues.

The platform will be opened for additional use cases from outside of the consortium, and is therefore called Open Innovation Test Bed (OITB). The operation of such use cases will form the basis for self-sufficient operation of the platform after the project duration of 4 years

### Field of science

/natural sciences/chemical sciences/polymer science /natural sciences/physical sciences/classical mechanics/fluid mechanics/microfluidics

# Programme(s)

# Topic(s)

# Call for proposal

H2020-NMBP-HUBS-2019

# **Funding Scheme**

IA - Innovation action

### Coordinator



### JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT MBH

Address Activity type EU contribution

Leonhardstrasse 59 Research Organisations € 5 937 715

8010 Graz

Austria

Website **C** Contact the organisation **C** 

# Participants (20)



### **BIFLOW SYSTEMS GMBH**

Germany

EU contribution

€ 459 331,25

Address Activity type

Technologie-campus 1 09126 Chemnitz

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

Contact the organisation



### **BIONANONET FORSCHUNGSGESELLSCHAFT MBH**

Austria

EU contribution

€ 775 663,75

Address Activity type

Steyrergasse 17 Research Organisations

55 of 86



### **BIONIC SURFACE TECHNOLOGIES GMBH**

**A**ustria

EU contribution

€ 376 250

Address Activity type

**Liebenauer Hauptstrasse 2-6** 

8041 Graz

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

Contact the organisation <a>C</a>



### Condensia Quimica SA

Spain

**EU** contribution

€ 238 043,75

Address Activity type

Calle Junqueras 16, 11-A

08003 Barcelona

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

Website **C** Contact the organisation **C** 



### **ERBA TECHNOLOGIES AUSTRIA GMBH**

Austria

EU contribution

€ 420 185,50

Address Activity type

Kratkystrasse 2 Private for-profit entities 8020 Graz (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation



### **FUNDACION TECNALIA RESEARCH & INNOVATION**

Spain

EU contribution

C 004 F00

€ 984 500

Address Activity type

Parque Cientifico Y

Tecnologico De Gipuzkoa

Paseo Mikeletegi 2

20009 Donostia/san Sebastian

(Gipuzkoa)

Website Contact the organisation C

血

### **GENSPEED BIOTECH GMBH**

Austria

EU contribution

€ 348 118,75

Address Activity type

Gewerbepark 2

4261 Rainbach Im Muhlkreis

Private for-profit entities (excluding Higher or Secondary Education

**Research Organisations** 

**Establishments**)

Contact the organisation



### **IBIDI GMBH**

Germany

EU contribution

€ 413 214,38

Address Activity type

Am Klopferspitz 19

82152 Planegg Martinsried (excluding Higher or

**Secondary Education** 

**Private for-profit entities** 

**Establishments**)

Website **C** Contact the organisation **C** 



### IDRYMA IATROVIOLOGIKON EREUNON AKADEMIAS ATHINON

Greece

EU contribution

€ 481 875

Address Activity type

Soranou Efesiou 4

115 27 Athina

**Research Organisations** 

Website Contact the organisation C

# 血

### INFINEON TECHNOLOGIES AUSTRIA AG

\_\_\_ Austria

EU contribution

€ 402 633

Address Activity type

Siemensstrasse 2 Private for-profit entities 9500 Villach (excluding Higher or

**Secondary Education** 

**Establishments**)

Website Contact the organisation C



### **INMOLD AS**

Denmark

EU contribution

€ 758 782,50

Address Activity type

Savsvinget 4 Private for-profit entities
2970 Horsholm (excluding Higher or
Secondary Education

**Establishments**)



### **Innovative Technologies in Biological Systems**



EU contribution

€ 268 362,50

Address Activity type

Parque Tecnologico De Private for-profit entities
Bizkaia 502-1 (excluding Higher or
48160 Derio Secondary Education

**Establishments**)

Website Contact the organisation C



### **MICRONIT MICROTECHNOLOGIES BV**

Netherlands

EU contribution

€ 775 488,88

Address Activity type

Colosseum 15 Private for-profit entities 7521 PV Enschede (excluding Higher or

58 of 86

Secondary Education Establishments)

Website **C** Contact the organisation **C** 



# MICRO RESIST TECHNOLOGY GESELLSCHAFT FUER CHEMISCHE MATERIALIEN SPEZIELLER PHOTORESISTSYSTEME MBH

Germany

EU contribution

€ 412 125

Address Activity type

Koepenicker Strasse 325

12555 Berlin

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

Website 🗹 Contact the organisation 🗹



### **NATURSTOFF-TECHNIK GMBH**

Germany

EU contribution

€ 208 950

Address Activity type

Marie-curie-strasse 11 Private for-profit entities 27711 Osterholz-scharmbeck (excluding Higher or

**Secondary Education** 

**Establishments**)

Website **C** Contact the organisation **C** 



### **RESCOLL**

France

EU contribution

€ 176 346,25

Address Activity type

Allee Geoffroy Saint Hilaire 8

33600 Pessac

**Research Organisations** 

Website Contact the organisation C



### **SCIENION AG**



EU contribution

€ 288 750

Address Activity type

Otto Hahn Strasse 15 Private for-profit entities 44227 Dortmund (excluding Higher or

**Secondary Education** 

**Establishments**)

Website **C** Contact the organisation **C** 



### **SVEUCILISTE U SPLITU**

**Croatia** 

EU contribution

€ 287 291,25

Address Activity type

Poljicka Cesta 35 Higher or Secondary

21000 Split Education Establishments

Website **☑** Contact the organisation **☑** 



### TECHNISCHE UNIVERSITAET GRAZ

Austria

EU contribution

€ 304 380

Address Activity type

Rechbauerstrasse 12 Higher or Secondary

8010 Graz Education Establishments

Website **C** Contact the organisation **C** 



### **TEMICON GMBH**

Germany

EU contribution

€ 374 018,75

44263 Dortmund

Address Activity type

Konrad Adenauer Allee 11 Private for-profit entities

(excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

Last update: 26 January 2021

Record number: 227790

**Permalink:** https://cordis.europa.eu/project/id/862092

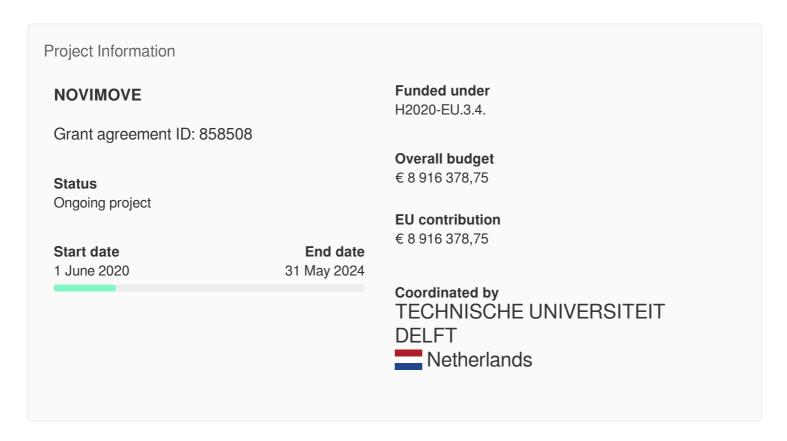
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# Novel inland waterway transport concepts for moving freight effectively

# **Fact Sheet**



# **Project description**

# Improving the Rhine-Alpine freight corridor

The ability of ports to ensure efficient cargo transfers is central to their overall function and an important factor that influences port terminal attractiveness. The EUfunded NOVIMOVE project will conduct research on how to improve the logistics of this transport system. With a consortium consisting of logistics operators, ports, system developers and research organisations in the Netherlands, Belgium, Germany, Switzerland, Sweden and Norway, the project will reduce waiting times at seaports by improving river voyage planning and execution and facilitating smooth passages through bridges and locks. Focusing on the Rhine–Alpine water corridor from Rotterdam/Antwerp all the way to Basel, it will validate its new technology with virtual simulations, scaled model tests and full-scale demonstrations.

# **Objective**

Inland Waterborne Transport (IWT) advantages as low-energy and low CO2 emitting transport mode are not fully exploited today due to gaps in the logistics system. Inland container vessels pay 6-8 calls at seaport terminals with long waiting times. More time is lost by sub-optimal navigation on rivers and waiting at bridges and locks. In addition, low load factors of containers and vessels impact the logistics systems with unnecessary high numbers of containers being transported and trips being made. NOVIMOVE strategy is to "condense" the logistics system by improving container load factors and by reducing waiting times in seaports, by improved river voyage planning and execution, and by facilitating smooth passages through bridges and locks. NOVIMOVE's innovations are: (1) cargo reconstruction to raise container load factors, (2) mobile terminals feeding inland barges, (3) smart river navigation by merging satellite (Galileo) and real time river water depths data, (4) smooth passage through bridges/locks by dynamic scheduling system for better corridor management along the TEN-T Rhine-Alpine (R-A) route, (5) concepts for innovative vessels that can adapt to low water condition while maintaining a full payload, and (6) close cooperation with logistic stakeholders, ports and water authorities along the R-A route: Antwerp, Rotterdam, Duisburg, Basel. NOVIMOVE technology developments will be demonstrated by virtual simulation, scaled model tests and full-scale demonstrations. NOVIMOVE innovations will impact the quantity of freight moved by IWT along the R-A corridor by 30% with respect to 2010 baseline data. The NOVIMOVE 21-members consortium combines logistics operators, ports, systemdevelopers and research organisations from 4 EU member states and two associate countries. The work plan contains 4 technical Work Packages. The project duration is four years; the requested funding is 8,9 MIO.

### Field of science

/social sciences/social and economic geography/transport

Programme(s)

Topic(s)

Call for proposal

H2020-MG-2019-TwoStages

# **Funding Scheme**

### Coordinator



### **TECHNISCHE UNIVERSITEIT DELFT**

Address Activity type EU contribution

Stevinweg 1 Higher or Secondary € 1 496 632,50

2628 CN Delft Education Establishments

Website Contact the organisation C

# Participants (20)



### **UNIVERSITEIT ANTWERPEN**

Belgium

EU contribution

€ 815 750

Address Activity type

Prinsstraat 13 Higher or Secondary
2000 Antwerpen Education Establishments

Website **C** Contact the organisation **C** 

<u></u>

### **PANTEIA BV**

Netherlands

EU contribution

€ 248 790

Address Activity type

Bredewater 26 Private for-profit entities
2715 CA Zoetermeer (excluding Higher or
Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



### **SEAFAR**

Belgium

EU contribution

€ 588 375

Address Activity type

Schalienstraat 3 2000 Antwerpen

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

Contact the organisation <a>C</a>



### **VAN MOER GROUP**

Belgium

EU contribution

€ 89 000

Address Activity type

Vitshoekstraat 11 Private for-profit entities
2070 Zwijndrecht (excluding Higher or
Secondary Education
Establishments)

Contact the organisation Z



### **DUISBURGER HAFEN AKTIENGESELLSCHAFT**

Germany

EU contribution

€ 132 000

Address Activity type

**Alte Ruhrorter Strasse 42-52** 

47119 Duisburg

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



### STICHTING MARITIEM RESEARCH INSTITUUT NEDERLAND

Netherlands

EU contribution

€ 545 000

Address Activity type

Haagsteeg 2 Research Organisations

6708 PM Wageningen

Website **C** Contact the organisation **C** 



### **MARLO AS**



FII contribution

LO CONTRIBURION

€ 256 875

Address Activity type

Tryms Vei 6 Private for-profit entities 1445 Heer (excluding Higher or

Secondary Education Establishments)

Website **C** Contact the organisation **C** 

血

### **SCANDINAOS AB**

Sweden

EU contribution

€ 314 485

Address Activity type

Patrullgatan 6E Private for-profit entities
42676 Vastra Frolunda (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



# ENTWICKLUNGSZENTRUM FUR SCHIFFSTECHNIK UND TRANSPORTSYSTEME EV

Germany

EU contribution

€ 847 625

Address Activity type

Oststrasse 77 Research Organisations

47057 Duisburg

Website **C** Contact the organisation **C** 



### **COVADEM SERVICES BV**

Netherlands

EU contribution

€ 723 750

Address Activity type

Werfkade 2 Private for-profit entities
1033 RA Amsterdam (excluding Higher or
Secondary Education

Establishments)

Contact the organisation



### HAVENBEDRIJF ROTTERDAM NV

Netherlands

EU contribution

€ 127 500

Address Activity type

Wilhelminakade 909 Private for-profit entities 3072 AP Rotterdam (excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



### **HAVENBEDRIJF ANTWERPEN**

Belgium

EU contribution

€ 89 000

Address Activity type

Zaha Hadidplein 1 Private for-profit entities
2030 Antwerpen (excluding Higher or
Secondary Education

**Establishments**)

Website Contact the organisation C



### STICHTING PROJECTEN BINNENVAART

Netherlands

EU contribution

€ 566 250

Address Activity type

Vasteland 78 Other

3011 BN Rotterdam

Contact the organisation



# NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO

Netherlands

EU contribution

€ 765 767,50

Address Activity type

Anna Van Buerenplein 1 2595 DA Den Haag **Research Organisations** 

27 of 67

Website 🗹

### Contact the organisation



### **MERCURIUS SCHEEPVAART BV**

Netherlands

EU contribution

€ 105 250

Address Activity type

Langesteijn 102 Private for-profit entities
3342 LG Hendrik Ido Ambacht (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



### SYSTEMS NAVIGATOR CONSULTANTS BV

Netherlands

EU contribution

€ 629 745

Address Activity type

Delftechpark 38 Private for-profit entities
2628 XH Delft (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



### **HERMESS BV**

Netherlands

EU contribution

€ 96 000

Address Activity type

Voorsterweg 28 Private for-profit entities 8316PT Marknesse (excluding Higher or Secondary Education

**Establishments)** 

Website **C** Contact the organisation **C** 



### **ELKEM AS**

Norway

EU contribution

€ 96 750

Address Activity type

Drammensveien 169 Private for-profit entities 0277 Oslo (excluding Higher or

**Secondary Education** 

**Establishments**)

Website **C** Contact the organisation **C** 

血

### INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM

Belgium

EU contribution

€ 277 321,25

Address Activity type

Kapeldreef 75 Research Organisations

3001 Leuven

Website 🗹 Contact the organisation 🗹

血

### SCHWEIZERISCHE RHEINHAFEN

Switzerland

EU contribution

€ 104 512,50

Address Activity type

Hafenstrasse 4 Public bodies (excluding 4127 Birsfelden Research Organisations and

**Secondary or Higher** 

**Education Establishments)** 

Contact the organisation <a>C</a>

Last update: 14 July 2020 Record number: 229372

Permalink: https://cordis.europa.eu/project/id/858508

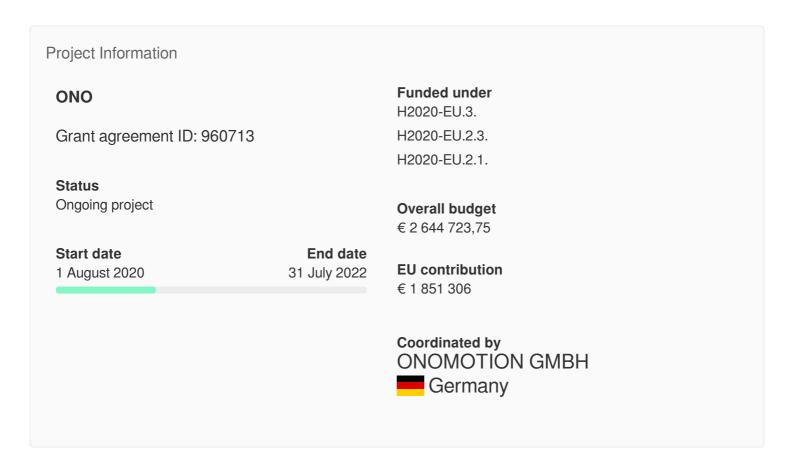
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# A Whole New Category of Vehicle: The ONO Pedal Assisted Transporter

# **Fact Sheet**



# **Project description**

# A new pedal assisted category of vehicle

The COVID-19 pandemic is transforming online shopping. This is due to the challenges faced by logistic operators related to the increased demand for ecommerce. A new approach to urban logistics is needed. The German company ONO which specialises in innovative solutions for urban transport has created a whole new type of vehicles: the ONO Pedal Assisted Transporter (PAT). The weather-protected electric vehicle PAT, which combines the flexibility and advantages of a bicycle with the durability and cargo capacity of a van, reduces road congestion and air pollution. The EU-funded ONO project intends to optimise the ONO PAT and its cargo-unit prototypes for a pre-series production, further develop

the technology and software innovations and prepare it for manufacturing and commercialisation.

# **Objective**

Worldwide, e-commerce is booming and parcel delivery and urban logistics have experienced rapid growth. And in light of the current Covid-19 virus pandemic, logistics operators are struggling to cope with the enormous increase in demand as people are confined to their homes, doing their part to slow the virus. This adds to the strain on operators' already present challenges such as polluting vehicles, driver shortages, being stuck in traffic jams, and the lack of flexibility in routing and costs. Yet, delivery methods have hardly evolved in the last 90 years. The time is now to rethink and transform urban logistics.

At ONO, we believed that there was a need for a vehicle that would bring about change in a positive and meaningful way. So, we created a whole new category of vehicle: the ONO Pedal Assisted Transporter (PAT). It's a unique solution that is meant to improve city life quality by reducing road congestion and air pollution, all while being accessible to all genders. The ONO PAT combines the flexibility and advantages of a bicycle with the durability and cargo capacity of a van. The weather-protected electric vehicle features over 2100 litres of load volume capacity, integrated cargo loading ramps, an easy battery-swapping system, use of quality Tier-1 automotive components, and an aesthetically polished and distinctive design. Our vehicle also features the very unique selling point of having a modular platform base where one unit can be easily swapped for another module.

The scope of this project includes optimising the ONO PAT, and its cargo-unit prototypes for a pre-series production, further developing the technology and software innovations, as well as optimising the business structure needed for commercialisation; preparing and setting-up for manufacturing; setting-up, testing and adjusting our service model ecosystem; testing our pre-series vehicles through fleet deployments; and conducting R&D for additional module-units and a solar roof.

### Field of science

/natural sciences/biological sciences/microbiology/virology /engineering and technology/environmental engineering/air pollution engineering /social sciences/social and economic geography/transport/electric vehicles

# Programme(s)

# Topic(s)

# **Call for proposal**

H2020-EIC-SMEInst-2018-2020-3

# **Funding Scheme**

SME-2b - SME Instrument (grant only and blended finance)

### Coordinator

血

### **ONOMOTION GMBH**

Address

Bouchestrasse 12, Halle 20 12435 Berlin

Germany

Activity type

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

€ 1 851 306

Contact the organisation 🗹

Last update: 10 September 2020

Record number: 230589

Permalink: https://cordis.europa.eu/project/id/960713

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# Progress towards Federated Logistics Through The Integration Of TEN-T into A Global Trade Network

# **Fact Sheet**



# **Project description**

# Paving the way for smarter, more integrated transport and logistics

The Trans-European Transport Network (TEN-T) consists of hundreds of projects aimed at ensuring cohesion, interconnection and interoperability of all modes of transport across the EU. With TEN-T projects located in every EU member state, numerous challenges are associated with assessing the impact of emerging global trade corridors on the TEN-Ts. The EU-funded PLANET project will address this issue by demonstrating the emerging concepts of the physical internet and technologies such as the Internet of Things and blockchain in three EU-global real-world corridors (China–EU–US). The project will model, analyse, demonstrate and

assess EU-global T&L networks (EGTN). It will deliver a symbiotic digital clone for EGTNs as well as an active blueprint and roadmap towards their realisation.

# **Objective**

PLANET addresses the challenges of assessing the impact of emerging global trade corridors on the TEN-T network and ensuring effective integration of the European to the Global Network by focusing in two key R&D pillars: • A Geo-economics approach, modelling and specifying the dynamics of new trade routes and its impacts on logistics infrastructure & operations, with specific reference to TEN-T, including peripheral regions and landlocked developing countries; • An EU-Global network enablement through disruptive concepts and technologies (IoT, Blockchain and PI, 5G, 3D printing, autonomous vehicles /automation, hyperloop) which can shape its future and address its shortcomings, aligned to the DTLF concept of a federated network of T&L platforms. PLANET goes beyond strategic transport studies, and ICT for transport research, by rigorously modelling, analysing, demonstrating & assessing their interactions and dynamics thus, providing a more realistic view of the emerging T&L environment. The project employs 3 EU-global real-world corridor Living Labs including sea and rail for intercontinental connection and provides the experimentation environment for designing and exploiting future PI-oriented Integrated Green EU-Global T&L Networks [EGTN]. To facilitate this process, PLANET delivers a Symbiotic Digital Clone for EGTNs, as an open collaborative planning tool for TEN-T Corridor participants, infrastructure planners, and industry/technology strategists. PLANET also delivers an Active Blueprint and Road Map, providing guidance and building public & private actor capacity towards the realisation of EGTNs, and facilitating the development of disadvantaged regions. The project engages major T&L stakeholders, contributing to both strategy and technology and (importantly) has the industry weight and influence to create industry momentum in Federated Logistics and TEN-T's integration into the Global Network.

### Field of science

/social sciences/social and economic geography/transport

/engineering and technology/mechanical engineering/vehicle engineering/automotive engineering/autonomous vehicle

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /natural sciences/physical sciences/astronomy/planetary science/planets

/social sciences/economics and business/business and management/commerce

# Programme(s)

# Topic(s)

# Call for proposal

H2020-MG-2019-TwoStages

# **Funding Scheme**

RIA - Research and Innovation action

### Coordinator



### **INLECOM GROUP**

Square De Meeus 38 1050 Bruxelles

Belgium

Address

Activity type

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

€ 617 500

Contact the organisation

# Participants (32)



### ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS

Greece

EU contribution

€ 300 000

Address

Activity type

Charilaou Thermi Road 6 Km

57001 Thermi Thessaloniki

**Research Organisations** 

Website **☑** Contact the organisation **☑** 



### **CHINA ACADEMY OF TRANSPORTATION SCIENCES**



EU contribution

€ 0

Address

Activity type

Huixingli 240 - Chaoyang

**District** 

**Research Organisations** 

12 of 111



### **COSCO SHIPPING LINES SPAIN SA**

Spain

EU contribution

€ 340 000

Address Activity type

Casanova 2 Private for-profit entities
08011 Barcelona (excluding Higher or
Secondary Education

Establishments)

Contact the organisation <a>C</a>



### COSCO SHIPPING TECHNOLOGY (BEIJING)CO. LTD

\*\* China

EU contribution

€ 0

Address Activity type

66 Zhongguancun East Road, Private for-profit entities
4-17, 3Rd Floor, Building 2, (excluding Higher or
Haidian District Secondary Education
100027 Beijing Establishments)

Website Contact the organisation C



### CPLS - COMUNIDADE PORTUARIA E LOGISTICA DE SINES

Portugal

EU contribution

€ 116 250

Address Activity type

**Edificio Sede Aps Apartado** 

16, Ec Sines7521-953 Sines

Contact the organisation <a>C</a>

Other



### KONNECTA SYSTEMS LIMITED

Ireland

EU contribution

€ 254 375

Address

Core B, Block 71, The Plaza

Park West 12 Dublin Activity type

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

Contact the organisation



### **DHL EXEL SUPPLY CHAIN SPAIN SL**

Spain

EU contribution

€ 173 125

Address Activity type

Calle Rumania 1 C.t. Coslada

28821 Madrid

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

Contact the organisation



### **EBOS TECHNOLOGIES LIMITED**

EU contribution

€ 265 625

Address Activity type

Arch. Makariou lii And Private for-profit entities

Mesaorias 1 Office 101 (excluding Higher or

2322 Nicosia Secondary Education

**Establishments**)

Website Contact the organisation C



### INTERREGIONAL ALLIANCE FOR THE RHINE-ALPINE CORRIDOR EVTZ

Germany

EU contribution

€ 168 750

Address Activity type

M1, 4-5 Public bodies (excluding 68161 Mannheim Research Organisations and

**Secondary or Higher** 

**Education Establishments**)

Contact the organisation <a>C</a>



### **ERASMUS UNIVERSITEIT ROTTERDAM**

Netherlands

EU contribution

€ 402 250

Address Activity type

Burgemeester Oudlaan 50 3062 PA Rotterdam

**Education Establishments** 

**Higher or Secondary** 

Website C Contact the organisation C

血

# EUROPEAN COUNCIL OF TRANSPORT USERS-CONSEIL EUROPEEN DES USAGERS DES TRANSPORTS

Belgium

EU contribution

€ 132 500

Address Activity type

Reyerslaan 80 Other

1030 Brussel

Website 🗹 Contact the organisation 🗹

血

### CITYLOGIN IBERICA SL

Spain

EU contribution

€ 128 187,50

Address Activity type

Paseo De La Castellana 230

28046 Madrid

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

Contact the organisation



# FUNDACION DE LA COMUNIDAD VALENCIANA PARA LA INVESTIGACION, PROMOCION Y ESTUDIOS COMERCIALES DE VALENCIAPORT

Spain

EU contribution

€ 394 687,50

Address Activity type

Avenida Muelle Del Turia S/n

46024 Valencia

**Research Organisations** 

Website **☑** Contact the organisation **☑** 

# 血

### **FUNDACION ZARAGOZA LOGISTICS CENTER**



EU contribution

€ 190 625

Address

Avenida Ranillas 5 Bloque 5 Portal A, Planta Baj 50018 Zaragoza

**Higher or Secondary Education Establishments** 

Activity type

Website 🗹

Contact the organisation



### ARTICLE NUMBERING CENTER OF CHINA

China

EU contribution

€ 0

Address Activity type

3 To 6 Floor Wing B, Imperial International Buildi **Andingmenwai Street** 100011 Beijing

Contact the organisation

Other

### **FUNDACJA GS1 POLSKA**

Poland

EU contribution

€ 100 000

Address Activity type

Estkowskiego 6 61-755 Poznan

Contact the organisation

Other

### **HARDT BV**

Netherlands

EU contribution

€ 101 250

Address Activity type

Paardenmarkt 1 **Private for-profit entities** 2611 PA Delft (excluding Higher or **Secondary Education** 

### Contact the organisation <a>C</a>



### **IBM IRELAND LIMITED**

Ireland

EU contribution

€ 358 750

Address Activity type

Ibm House, Shelbourne Road Dublin 4 Ballsbridge Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation



### UNION INTERNATIONALE DES SOCIETES DE TRANSPORT COMBINE RAIL-ROUTE SCRL

Belgium

EU contribution

€ 343 750

Address Activity type

Rue Montoyer 31 Private for-profit entities
1000 Bruxelles (excluding Higher or
Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



### INSTITUTO TECNOLOGICO DE ARAGON

Spain

EU contribution

€ 190 875

Address Activity type

Maria De Luna 8 Research Organisations

50018 Zaragoza

Website Contact the organisation C



### SIEC BADAWCZA LUKASIEWICZ INSTYTUTLOGISTYKI I MAGAZYNOWANIA

Poland

EU contribution

€ 367 500

Address Activity type

UI Estkowskiego 6 61-755 Poznan **Research Organisations** 

Website Contact the organisation C

血

### BEIJING JINGDONG ZHENSHI INFORMATION TECHNOLOGY CO. LTD

China

EU contribution

€ 0

Address Activity type

76 Zhichun Road 6Th Floor Haidian District 100080 Beijing Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation



### **NEW GENERATION SENSORS SRL**

Italy

EU contribution

€ 153 125

Address Activity type

Via Della Stazione 64/A Private for-profit entities
52048 Monte San Savino (Ar) (excluding Higher or
Secondary Education
Establishments)

Contact the organisation



### **NEW OPERA AISBL**

Belgium

EU contribution

€ 193 750

Address Activity type

Rue Montoyer 31 Research Organisations

Website 🗹 Contact the organisation 🗹

<u></u>

### SIRMA AI EAD

1000 Bruxelles

Bulgaria

EU contribution

-

€ 253 750

Address

Activity type

135 Tsarigradsko Shose Blvd

1784 Sofia

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

Contact the organisation



### **PANTEIA BV**

Netherlands

EU contribution

€ 423 545

Address Activity type

Bredewater 26 Private for-profit entities
2715 CA Zoetermeer (excluding Higher or
Secondary Education

**Establishments**)

Website Contact the organisation C



### **PNO INNOVATION SL**

Spain

EU contribution

€ 135 625

Address Activity type

Calle Gran De Gracia 1 Planta

2 Puerta 3

08012 Barcelona

Drivete for profit

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

Contact the organisation



### **BLOCKCHAIN FIELDLAB BV**

Netherlands

EU contribution

€ 263 750

Address Activity type

Wilhelminakade 909 Private for-profit entities
3072 AP Rotterdam (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



### **POCZTA POLSKA SA**

Poland

EU contribution

€ 103 125

Address

UI. Rodziny Hiszpanskich 8

00-940 Warszawa

Activity type

Private for-profit entities (excluding Higher or

Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



### **ROHLIG SUUS LOGISTICS S.A.**

Poland

EU contribution

€ 80 625

Address Activity type

Rownolegla 4A Private for-profit entities
02235 Warsaw (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



### **VLTN GCV**



EU contribution

€ 336 250

Address Activity type

Welvaartstraat 33B Private for-profit entities
2000 Antwerpen (excluding Higher or
Secondary Education

**Establishments)** 

Website **C** Contact the organisation **C** 



### WUPPERTAL INSTITUT FUR KLIMA, UMWELT, ENERGIE GGMBH

Germany

EU contribution

€ 148 125

Address Activity type

Doppersberg 19 Research Organisations

42103 Wuppertal

Website 🗹

Contact the organisation **Z** 

Last update: 18 February 2021

Record number: 229502

Permalink: https://cordis.europa.eu/project/id/860274

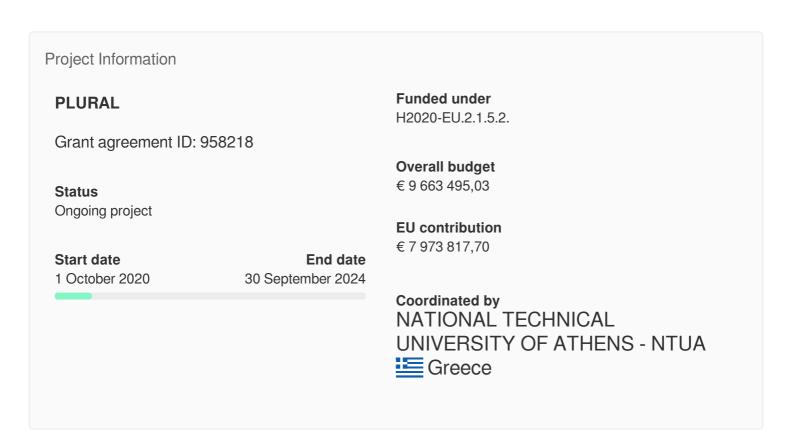
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# PLUG-AND-USE RENOVATION WITH ADAPTABLE LIGHTWEIGHT SYSTEMS

# **Fact Sheet**



# **Project description**

# Innovative solutions for deep building renovation

The deep renovation of residential buildings has emerged as an essential step towards the reduction of buildings' total primary energy consumption. The EU-funded PLURAL project will design and validate a set of flexible, adaptable, scalable, off-site prefabricated plug and play façade components, the Plug-and-Use (PnU) kits. It will deliver optimal practice, deep renovation examples for post-war residential buildings in different European climates. Partners will evaluate three key systems that couple heating-cooling, ventilation, and heat-harvesting systems with smart windows, 3D printing, low carbon footprint and nano-empowered coating materials. PLURAL relies on building information modelling, or BIM, Big Data management platform and a

decision support tool to achieve optimal component selection and integration, perfect PnU kit design, and fast and low-cost manufacturing and installation.

# **Objective**

PLURAL aims to design validate and demonstrate a palette of versatile, adaptable, scalable, off-site prefabricated plug and play facades accounting for user needs ("Plug-and-Use" kits). Three different core systems are assessed, coupling heatingcooling, ventilation, heat harvesting systems with smart windows, 3D printing, low carbon footprint and nano-enabled coating materials to reduce the building total primary energy consumption to less than 60 kWh/m2 per year and ensure on-site renewable energy generation to more than 50 kWh/m2 reaching NZEB status for different European climates and different residential building typologies. A BIM based big data management platform and a Decision Support Tool (DST) are coupled to enable the optimal component selection, and integration, best PnU kit design, speedy and low-cost manufacturing and installation. Renewable energy and smart control systems are coupled with low environmental footprint prefabricated façade components to create the integrated all-in-one PnU kits for post war residential building deep renovation. The project creates best practice renovation examples for the residential sector based on innovation and competitiveness, with benefits for the citizens and the environment. It develops business cases and models for key stakeholders and improves the life cycle based performance standards applied in the building sector.

The solutions are implemented in three real and three virtual residential buildings to evaluate reduction in renovation time and costs, the PnU kit performance, carbon saving and users' acceptance. The selected buildings cover all European climatic zones and are representative residential typologies. PLURAL will achieve at least 50% reduction in the time required for deep renovation of e.g. multi-family blocks. 58% reduction in renovation costs will be achieved through off-site prefabrication lean manufacturing and construction, interactively supported by the BIM based platform and DST.

### Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /natural sciences/earth and related environmental sciences/atmospheric sciences/climatology/climatic zones

/engineering and technology/environmental engineering/energy and fuels/renewable energy /natural sciences/computer and information sciences/data science/big data /engineering and technology/electrical engineering, electronic engineering, information engineering/electronic engineering/automation and control systems

# Programme(s)

# Topic(s)

# Call for proposal

H2020-NMBP-ST-IND-2020-singlestage

# **Funding Scheme**

IA - Innovation action

### Coordinator



### NATIONAL TECHNICAL UNIVERSITY OF ATHENS - NTUA

Address Activity type EU contribution

Heroon Polytechniou 9 Higher or Secondary € 1 026 812,50

Zographou Campus Education Establishments
15780 Athina

Website **☑** Contact the organisation **☑** 

# Participants (17)

Greece



### PROIGMENES EREVNITIKES & DIAHIRISTIKES EFARMOGES

Greece

EU contribution

€ 680 006,25

Address Activity type

Dim. Glinou 7 Private for-profit entities

14122 Irakleio (excluding Higher or

Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



### **DIMOS VARIS - VOULAS - VOULIAGMENIS**



EU contribution

€ 89 500

Address

Activity type

Leoforos Karamnli 18

16673 Voula

Public bodies (excluding Research Organisations and

**Secondary or Higher** 

**Education Establishments**)

Contact the organisation



### **FENIX TNT SRO**



EU contribution

€ 227 325

Address Activity type

Dusikova 906/33 Private for-profit entities 638 00 Brno (excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



### **OBEC KASAVA**



EU contribution

€ 168 437,50

Address Activity type

Kasava 217 Public bodies (excluding 763 19 Kasava Research Organisations and

**Secondary or Higher** 

**Education Establishments**)

Contact the organisation



### **CESKE VYSOKE UCENI TECHNICKE V PRAZE**

Czechia

EU contribution

€ 550 750

Address Activity type

Jugoslavskych Partyzanu Higher or Secondary

1580/3 Education Establishments

160 00 Praha

Website **C** Contact the organisation **C** 

# 血

### **BERGAMO TECNOLOGIE SPZOO**

Poland

EU contribution

€ 697 987,50

Address Activity type

Ulica Sienkiewicza 5 Private for-profit entities 95050 Konstantynow Lodzki (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation



### DAIKIN AIRCONDITIONING HELLAS SA

Greece

EU contribution

€ 327 433,75

Address Activity type

Agiou Konstantinou 50 Private for-profit entities 15124 Marousi (excluding Higher or

**Secondary Education** 

**Establishments**)

Contact the organisation <a>C</a>



### **INTRASOFT INTERNATIONAL SA**

Luxembourg

EU contribution

€ 388 412,50

Address Activity type

Rue Nicolas Bove 2B Private for-profit entities
1253 Luxembourg (excluding Higher or
Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



### HSR HOCHSCHULE FUR TECHNIK RAPPERSWIL

Switzerland

EU contribution

€ 807 062,50

Address Activity type

Oberseestrasse 10 Higher or Secondary

8640 Rapperswil

**Education Establishments** 

Website 🗹

Contact the organisation <a>C</a>



### INSTITUT DE TECNOLOGIA DE LA CONSTRUCCION DE CATALUNYA

Other

Spain

EU contribution

€ 450 750

Address Activity type

Calle Wellington 19

08018 Barcelona

Contact the organisation <a>C</a>



### PICH-AGUILERA ARQUITECTOS SL

Spain

EU contribution

€ 274 575

Address Activity type

Calle Avila 138 4 1 Private for-profit entities 08018 Barcelona (excluding Higher or Secondary Education

Establishments)

Website **∠** Contact the organisation **∠** 



### FUNDACIO INSTITUT DE RECERCA DE L'ENERGIA DE CATALUNYA

Spain

EU contribution

€ 527 375

Address Activity type

C/ Jardins De Les Dones De

Negre 1

08930 Sant Adria De Besos

**Research Organisations** 

Website **☑** Contact the organisation **☑** 



### AGENCIA DE L'HABITATGE DE CATALUNYA

Spain

EU contribution

€ 410 550

Address Activity type

Calle De La Diputacio 92 Public bodies (excluding

08015 Barcelona

**Research Organisations and Secondary or Higher** 

**Education Establishments**)

Contact the organisation <a>C</a>



### ZRS ARCHITEKTEN GESELLSCHAFT VONARCHITEKTEN MBH

Germany

EU contribution

€ 258 331,50

Address Activity type

Schlesische Strasse 26 **Private for-profit entities Aufgang A** (excluding Higher or 10997 Berlin **Secondary Education Establishments**)

Website 🗹 Contact the organisation



### RECUAIR S.R.O.

Czechia

EU contribution

€ 169 793,70

Address Activity type

Trojanova 117 **Private for-profit entities** 27801 Kralupy Nad Vitavou (excluding Higher or **Secondary Education** 

**Establishments**)

Contact the organisation



### **DENVELOPS TEXTILES SL**

Spain

EU contribution

€ 489 790

Address Activity type

Calle Luxembourg 9 **Private for-profit entities** 08700 Igualada (excluding Higher or **Secondary Education** 

**Establishments**)

Contact the organisation



### **RD RYMAROV SRO**

EU contribution

€ 428 925

Address Activity type

8 Kvetna 1191/45 Private for-profit entities
795 01 Rymarov (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation 🗹

Last update: 26 September 2020

Record number: 231376

Permalink: https://cordis.europa.eu/project/id/958218

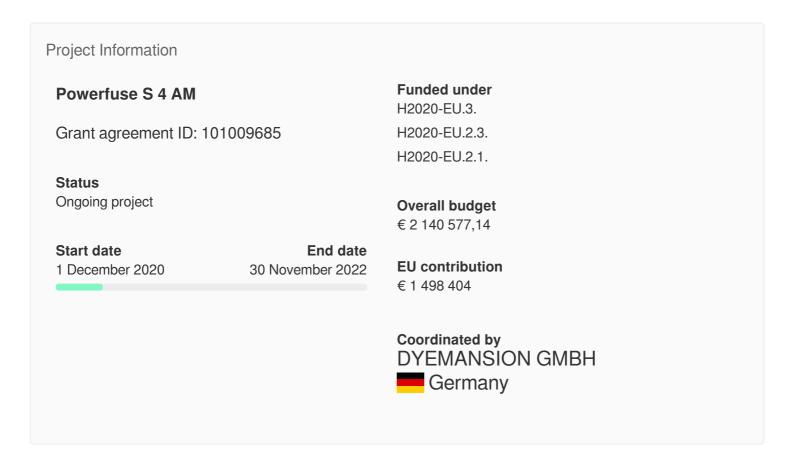
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# POWERFUSE S: Fusing the gap between 3D-printing and Additive Manufacturing — the revolutionary manufacturing method for better products and a more sustainable future

### **Fact Sheet**



# **Objective**

Today, plastic 3D-printing cannot fully exploit its potential. The surface qualities do not meet the requirements of the

products. Rough surfaces, obtained on as-printed parts, are matt, susceptible to dirt, a breeding ground for germs and do not

exhibit an appealing appearance. This is where the Powerfuse S comes in. It enables a scalable surface smoothing of 3Dprinted

polymer parts by a stable, reproducible and environmentally friendly physio-chemical process, the so-called

VaporFuse Surfacing (VFS). Apart from optical advantages, the VFS treated parts offer smooth, water-repellent and glossy

surfaces. The parts have wipeable surfaces for food and medical applications, increased mechanical properties and scratch

resistance and assure water- and airtightness for carrying fluids or gases. VFS can substitute the extensive preparation for

subsequent spray coating and delivers powder residue-free parts for clean room applications. VFS challenges traditional

injection molding for the first time and enables 3D-printing to finally become Additive Manufacturing. Within this project, the

Powerfuse S is to be further developed into a large-scale, industry 4.0-ready, sustainable system. The smoothing processes

are optimized and developed for other industry-relevant polymers. Parallel to the technical side, all legal, sales and

operational foundations are being laid to get this pioneering product to market. Automated post-processing of AM

parts is inevitable to fully exploit all advantages of AM like mass customization of complex products with reduced costs and

production times as well as a decrease of waste and scrap. It opens unprecedented possibilities for the production of tomorrow and has the potential to disrupt whole industries. Especially the enablement of

on-site production and reducing complexity of global supply chains as well as enabling weight reduction in the aerospace industry through complex product design is a key enabler in saving energy and GHG emissions.

### Field of science

/natural sciences/chemical sciences/polymer science /engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing

# Programme(s)

# Topic(s)

# Call for proposal

H2020-EIC-SMEInst-2018-2020-4

# **Funding Scheme**

SME-2b - SME Instrument (grant only and blended finance)

### Coordinator



### **DYEMANSION GMBH**

Address

Robert Koch Strasse 1 82152 Planegg-munich

Germany

Contact the organisation 🗹

Activity type

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

€ 1 498 404

Last update: 6 December 2020

Record number: 232406

Permalink: https://cordis.europa.eu/project/id/101009685

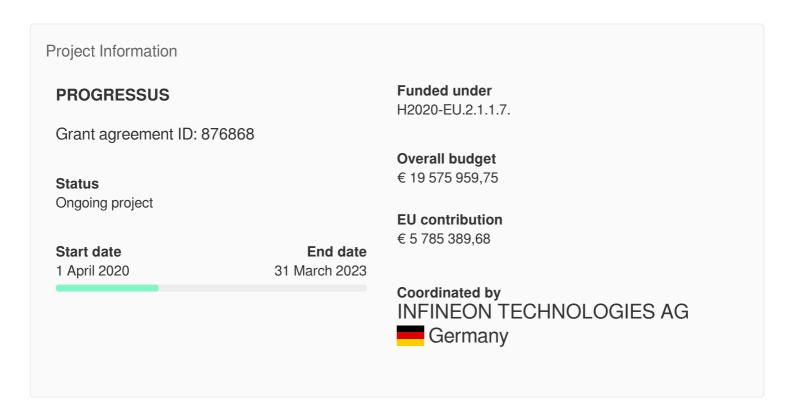
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# Highly efficient and trustworthy electronics, components and systems for the next generation energy supply infrastructure

### **Fact Sheet**



# **Project description**

# Next generation smart grid to reduce greenhouse gas emissions and grid peak power

The high-power requirements of ultra-fast charging stations give rise to special challenges when designing smart charging infrastructure. In support of Europe's 2030 climate targets, the EU-funded PROGRESSUS project aims to introduce a next-generation smart grid demonstrated by the application example of a smart charging infrastructure integrating seamlessly into current smart-grid architecture concepts. To do so, it will research new efficient high-power converters that support bidirectional power flow. New DC microgrid management strategies for energy

efficiency and service provision that consider renewable energy sources, storage and flexible loads will be investigated. It will also explore novel sensor types, inexpensive high-bandwidth communication technologies and security measures based on hardware security modules and blockchain technology to protect communication and services. The project's solution will promote a more environmentally friendly and efficient next-generation energy supply infrastructure.

# **Objective**

Progressus supports the European climate targets for 2030 by proposing a next generation smart grid, demonstrated by the application example "smart charging infrastructure" that integrates seamlessly into the already existing concepts of smartgrid architectures keeping additional investments minimal. The expected high-power requirements for ultra fast charging stations lead to special challenges for designing and establishing an intelligent charge-infrastructure. As emission free traffic concepts are a nascent economic topic also the efficient use of charging infrastructure is still in its infancy. Thus, novel sensor types, hardware security modules, inexpensive high bandwidth technologies and block-chain technology as part of an independent, extendable charging energy-management and customer platform are researched for a charging-station energy-microgrid. Research of new efficient high-power voltage converters, which support bidirectional power flow and provide a new type of highly economical charging stations with connected storage and metering platform to locally monitor the grid state complements the activities. The stations are intended to exploit the grid infrastructure via broadband power-line as communication medium, removing the need for costly civil engineering activities and supplying information to the energy management solutions for utilization optimization. Smart-Contracts via block-chain offer a distributed framework for the proposed energy management and services platform. Furthermore hardware security hardens the concept against direct physical attacks such as infiltration of the network by gaining access to the encryption key material even when a charging station is compromised. Progressus solutions are estimated to enable a carbon dioxide saving of 800.000 tons per year for only Germany, will secure the competitiveness of European industry and research by extending the system know how and will thus safeguard employment and production in Europe.

### Field of science

/engineering and technology/civil engineering /natural sciences/chemical sciences/inorganic chemistry/inorganic compounds

# Programme(s)

# Topic(s)

# Call for proposal

H2020-ECSEL-2019-2-RIA

# **Funding Scheme**

ECSEL-RIA - ECSEL Research and Innovation Action

### Coordinator



### **INFINEON TECHNOLOGIES AG**

Address

Am Campeon 1-15 85579 Neubiberg

Germany

Website 🗹

Activity type

Private for-profit entities (excluding Higher or Secondary Education

**Establishments)** 

Contact the organisation 🗹

EU contribution

€ 1 012 269

# Participants (21)



### **DEVOLO AG**

Germany

EU contribution

€ 261 668,13

Address

Charlottenburger Allee 67

52068 Aachen

Activity type

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

Contact the organisation



### **MIXED MODE GMBH**

Germany

EU contribution

€ 244 125

Address Activity type

Lochhamer Schlag 17 82166 Graefelfing

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

Contact the organisation <a>C</a>



### **CEUS UG**

Germany

EU contribution

€ 75 000

Address Activity type

Henkestrasse 91 Private for-profit entities
91052 Erlangen (excluding Higher or
Secondary Education
Establishments)

Contact the organisation



### FRIEDRICH-ALEXANDER-UNIVERSITAET ERLANGEN-NUERNBERG

Germany

EU contribution

€ 225 312,50

Address Activity type

Schlossplatz 4 Higher or Secondary

91054 Erlangen Education Establishments

Website Contact the organisation C



### TECHNISCHE HOCHSCHULE KOLN

Germany

EU contribution

€ 223 082,56

Address Activity type

Gustav-heinemann-ufer 54 Higher or Secondary

50968 Koln Education Establishments

Website **C** Contact the organisation **C** 



### STICHTING ELAADNL

Netherlands

EU contribution

€ 72 500

Address

Utrechtseweg 310 Kantoorgebouw B42 6812 AR Arnhem Activity type

**Research Organisations** 

Contact the organisation 🗹

血

### **HELIOX BV**

Netherlands

EU contribution

€ 731 705,25

Address Activity type

De Waal 24 Private for-profit entities 5684 PH Best (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



### **GREENFLUX ASSETS BV**

Netherlands

EU contribution

€ 531 750

Address Activity type

Mauritskade 63 Private for-profit entities
1092 AD Amsterdam (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



### **TECHNISCHE UNIVERSITEIT EINDHOVEN**

Netherlands

EU contribution

€ 213 517,06

Address Activity type

Groene Loper 3 Higher or Secondary
5612 AE Eindhoven Education Establishments

Website 🗹 Contact the organisation 🗹

血

### TECHNISCHE UNIVERSITEIT DELFT



EU contribution

€ 305 711,88

Address Activity type

Stevinweg 1 Higher or Secondary

2628 CN Delft Education Establishments

Website **C** Contact the organisation **C** 

血

### **IQUADRAT INFORMATICA SL**

Spain

EU contribution

€ 157 500

Address Activity type

Calle Doctor Rizal 10, P.bj2 Private for-profit entities
Pta 2 (excluding Higher or

08006 Barcelona Secondary Education

**Establishments**)

Website Contact the organisation C

血

### HYBRID ENERGY STORAGE SOLUTIONS SOCIEDAD LIMITADA

Spain

EU contribution

€ 152 713,80

Address Activity type

Calle Wilbur Y Orville Wright, Private for-profit entities

27 (excluding Higher or

41309 La Rinconada Sevilla Secondary Education

**Establishments**)

Contact the organisation



### CENTRE TECNOLOGIC DE TELECOMUNICACIONS DE CATALUNYA

Spain

EU contribution

€ 150 500

Address Activity type

Avinguda Carl Friedrich Research Organisations

**Gauss 7 Parc Mediterrani De** 

**Tecnologia** 

08860 Castelldefels Barcelona

Website Contact the organisation C



### **ACONDICIONAMIENTO TARRASENSE ASSOCIACION**



EU contribution

€ 72 892,31

Address

Carrer De La Innovacio 2

08225 Terrassa

**Research Organisations** 

Activity type

Website 🗹 Contact the organisation 🗹

血

### STMICROELECTRONICS SRL

Italy

EU contribution

€ 256 431,25

Address Activity type

Via C.olivetti 2 Private for-profit entities 20864 Agrate Brianza (excluding Higher or

Secondary Education Establishments)

Website **C** Contact the organisation **C** 

血

### **ENEL X SRL**



EU contribution

€ 229 035,94

Address Activity type

Viale Di Tor Di Quinto 47

00191 Roma

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

Contact the organisation



### **POLITECNICO DI BARI**



EU contribution

€ 159 757,50

Address Activity type

Via Amendola 126 B Higher or Secondary

70126 Bari Education Establishments

Website **☑** Contact the organisation **☑** 



### CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LA NANOELETTRONICA

Italy

EU contribution

€ 426 580

Address Activity type

Via Toffano 2 Research Organisations

40125 Bologna

Contact the organisation <a>C</a>



### UNIVERSITA DEGLI STUDI DI MESSINA

Italy

EU contribution

€ 74 025

Address Activity type

Piazza Pugliatti 1 Higher or Secondary

98122 Messina Education Establishments

Website **C** Contact the organisation **C** 



### SLOVENSKA TECHNICKA UNIVERZITA V BRATISLAVE

Slovakia

EU contribution

€ 101 500

Address Activity type

Vazovova 5 Higher or Secondary

81243 Bratislava Education Establishments

Website **C** Contact the organisation **C** 



### R-DAS, SRO

Slovakia

EU contribution

€ 107 812,50

Address Activity type

Rybarska 408/28 Private for-profit entities 962 31 Sliac (excluding Higher or

**Secondary Education** 

**Establishments**)

Contact the organisation

Last update: 22 October 2020

Record number: 229694

**Permalink:** https://cordis.europa.eu/project/id/876868

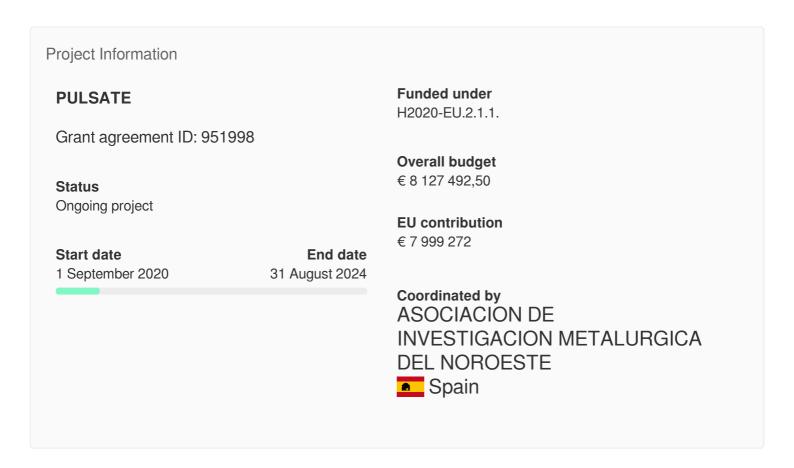
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# Fostering the PAN-European infrastructure for empowering SMEs digital competences in laser-based advance and additive manufacturing.

### **Fact Sheet**



# **Project description**

# **Empowering SMEs to adopt laser-based advanced and additive manufacturing technologies**

Laser-based advanced and additive manufacturing (LBAAM) technologies play an important role in furthering digital production and offer important advantages to the companies that adopt them. However, barriers such as high investment costs, complex technology and system integration and awareness hinder their adoption by SMEs. The EU-funded PULSATE project intends to mitigate these barriers to boost

the adoption of LBAAM technologies by SMEs and promote the development of SME-friendly laser-based equipment and solutions. To achieve this, it will set up a Europe-wide network to encourage SME participation in LBAAM innovation. It will therefore connect digital innovation hubs to support a structure designed to tackle the issues currently hindering LBAAM technology adoption. The project's work will help to increase the competitiveness of European SMEs.

# **Objective**

Digitizing European industry is essential for European competitivity in the 21st century, but only 1/5 of EU SMEs is highly digitised. Laser Based Advanced and Additive Manufacturing (LBAAM) technologies are regarded as Key Enablers for Digital Production and offer important advantages to the adopters. SMEs have strong entry barriers for the technology: Investment cost, technology complexity, system integration and awareness/adoption readiness. PULSATE aims to lower all said barriers to boost the adoption of Laser Based technologies by SMEs and promote the development of SME-friendly laser based equipment and solutions. PULSATE will establish a Pan-European Network to stimulate SMEs to take part in Innovation Ecosystem of LBAAM, by connecting Digital Innovation Hubs (DIHs) to a support structure of knowledge, infrastructure and services, designed to tackle the issues currently limiting the adoption of LBAAM technology. A balanced combination is proposed between wide outreach using interconnected Virtual Communities and ICT tools (a Single Entry Point will connect a wide range of networking and servicing tools), and close exchange and interaction via DIHs.

The project relies on a consortium of 6 competence centres (AIMEN, FTMC, MTC, SINTEF, Fraunhofer, CEA), service community and marketplace providers (FBA, CLESGO) and a photonics industry association (EPIC). With >50 previous projects outcomes, existing tools and services, connections with 74 running DIHs, Clusters and regional initiatives, PULSATE counts with the explicit support of companies and institutions (>80LoS), and an independent Board of Stakeholders gathering key players in LBAAM will ensure the quality and pertinence of PULSATE orientation. PULSATE will operate under 4 action areas: Business, Technology, Competence & Awareness, addressing the following technology domains: Nano/Micro Fabrication, AM, High Power Laser Manufacturing and Digitisation, and implementing 4 Open Calls and a catalogue of services.

Programme(s)

Topic(s)

# Call for proposal

H2020-DT-2019-2

# **Funding Scheme**

IA - Innovation action

### Coordinator



### ASOCIACION DE INVESTIGACION METALURGICA DEL NOROESTE

Address Activity type EU contribution

Calle Relva Torneiros 27A Research Organisations € 4 778 437,50

36410 Porrino

Spain

Website **☑** Contact the organisation **☑** 

# Participants (8)



### SINTEF AS



EU contribution

€ 439 687,50

Address Activity type

Strindvegen 4 Research Organisations

7034 Trondheim

Contact the organisation <a>C</a>



### COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

France

EU contribution

€ 440 937,50

Address Activity type

Rue Leblanc 25 Research Organisations

75015 Paris 15

Website Contact the organisation C

<u></u>

# FORSCHUNG E.V.

Germany

EU contribution

€ 442 550

Address Activity type

Hansastrasse 27C Research Organisations

80686 Munchen

Website **∠** Contact the organisation **∠** 

血

# VALSTYBINIS MOKSLINIU TYRIMU INSTITUTAS FIZINIU IR TECHNOLOGIJOS MOKSLU CENTRAS

Lithuania

EU contribution

€ 368 750

Address Activity type

Savanoriu 231 Research Organisations

02300 Vilnius

Website **∠** Contact the organisation **∠** 

血

### THE MANUFACTURING TECHNOLOGY CENTRE LIMITED

United Kingdom

EU contribution

€ 440 312,50

Address Activity type

Pilot Way, Ansty Business Research Organisations

Park

**CV7 9JU Coventry** 

Website ☑ Contact the organisation ☑

血

### **FUNDINGBOX ACCELERATOR SP ZOO**

Poland

EU contribution

€ 608 284,50

Address Activity type

Al.jerozolimskie 136

02-305 Warszawa

Contact the organisation

Other



### **EUROPEAN PHOTONICS INDUSTRY CONSORTIUM**

France

EU contribution

€ 202 500

Address

Rue Hamelin 17

75116 Paris 16

Contact the organisation <a>C</a>

Activity type

Other



### **CLESGO GMBH**

Germany

EU contribution

€ 277 812,50

Address Activity type

Seyfferstrasse 34 Private for-profit entities 70197 Stuttgart (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation 🗹

Last update: 21 May 2020 Record number: 229855

Permalink: https://cordis.europa.eu/project/id/951998

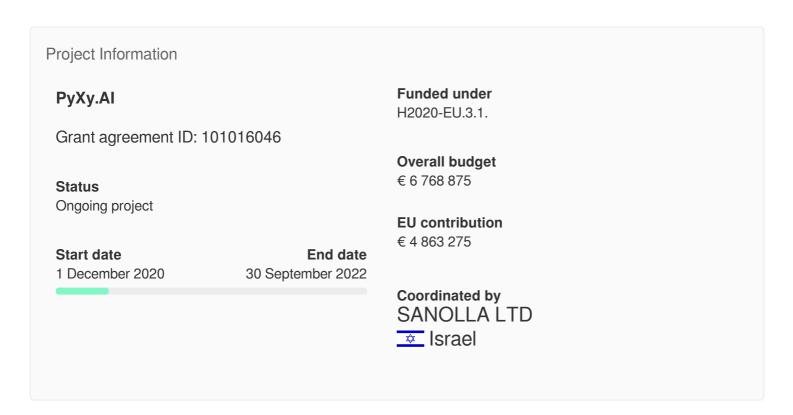
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# Telehealth-ready Al-powered multiparametric system for surveillance of COVID-19 and cardio-pulmonary chronic patients

### **Fact Sheet**



# **Objective**

The COVID-19 outbreak causes world health care systems to crumble under the load. This consortium proposes a Home-use/Point-of-Care device, incorporating improved clinical parameters, providing early detection, and monitoring of COVID-19 patients.

This consortium presents a computerized auscultation device – the PyXy – which provides expert-level lung and heart check-up. The PyXy brings breakthrough capabilities in terms of sound and infrasound analysis, body temperature, blood oxygen levels, heart rate and respiratory cycle, all analyzed by artificial intelligence (AI) for accurate diagnostic data. The device recently showed very promising results in relation to managing COVID-19 disease. Using H2020 funds, the consortium plans

to introduce the PyXy to the market within 22 months: allowing anyone to perform diagnostic at an accuracy not normally accessible to the medical staff. In this project the consortium will collect COVID-19 patient data and take the PyXy to high volume manufacturing level. The consortium gathers two technology provider SMEs – Sanolla, the developer of the PyXy device, and Medsensio, experts in AI for classification – together with an established player in the medical devices and e-health solutions – Riester. The work will be done in collaboration with four healthcare service providers (Natali, BeneVit, Helgeland and PhilonMed) to ensure the PyXy will be accepted by the market from all possible aspects.

We believe that PyXy is capable to substantially reduce the health-economic impact on healthcare and elderly care services by preventing hospitalization in emergent-care situations. In addition, as PyXy can be used by lesser skilled individuals, we believe it will potentially bridge the gap in care settings that face extreme shortage of skilled workers, and can even be used by informal caregivers at home reducing the overall hospitalization rate even further.

### Field of science

/medical and health sciences/health sciences/health care services
/natural sciences/computer and information sciences/artificial intelligence
/medical and health sciences/health sciences/infectious disease/RNA virus/coronavirus
/social sciences/economics and business/business and management/commerce

# Programme(s)

Topic(s)

# Call for proposal

H2020-SC1-PHE-CORONAVIRUS-2020-2-CNECT

# **Funding Scheme**

IA - Innovation action

# Coordinator



**SANOLLA LTD** 

Address Activity type EU contribution

Israel

Private for-profit entities (excluding Higher or Secondary Education Establishments) € 1 777 212,50

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### **RUDOLF RIESTER GMBH**

Germany

EU contribution

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### **MEDSENSIO AS**

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EU contribution

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#### PHILONMED GMBH

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#### **BENEVIT HOLDING GMBH**

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Last update: 22 October 2020

Record number: 231747

**Permalink:** https://cordis.europa.eu/project/id/101016046

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# Reliable Energy and Cost Efficient Traction system for Railway

## **Fact Sheet**



## **Objective**

Rail is a fundamental service for modern societies and the backbone of a sustainable transport system. To meet the numerous challenges ahead, the global rail sector must increasingly rely on the emerging disruptive technologies such as advanced robotics, 3-D printing, high computing power and connectivity, etc. which are integrated with analytical and cognitive technologies that enable machine-to-machine and machine-to-human communication. On top comes the pressure to reduce energy consumption, pollution and the consumption of other resources. Mastering the breakthrough developments of new technologies is of capital importance for the railway industry to deliver smart and efficient solutions. Indeed, essential to the growth of the rail industry is the reduction of the overall life cycle exploitation costs of all rail sub-systems. The Traction Drive sub-system is one of the main sub-systems of a

train as it moves the train converting energy from an electrical source (directly or via a chemical source) into a mechanical one. RECET4Rail will focus on the following new technologies for the Traction Drive sub-system: development of design approaches, end-to-end conception time evaluation and feasibility/performance study of 3D printing technologies for new traction's components use cases; Dynamic Wireless Power Transfer system sizing for actual city profiles focused on opportunistic charging; improving the understanding of the robustness and reliability of high voltage SiC modules; and development of smart maintenance approaches enabled by predictive analytics, trained on big data. RECET4Rail will provide essential knowledge that will lead to future improvement of the high TRL level S2R traction demonstrations on trains done by the S2R Members, preparing also future S2R key work on domains like digitalisation applied to Traction, environmental sustainability (especially devising carbon free traction systems) or reinforcement of standardisation to lower complexity and costs

#### Field of science

/social sciences/social and economic geography/transport/sustainable transport
/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing
/natural sciences/computer and information sciences/data science/big data

## Programme(s)

Topic(s)

## Call for proposal

H2020-S2RJU-OC-2020

## **Funding Scheme**

Shift2Rail-RIA - Research and Innovation action

## Coordinator



#### UNION DES INDUSTRIES FERROVIAIRES EUROPEENNES - UNIFE

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## Participants (12)



#### **ZABALA BRUSSELS**



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#### **SAFT**

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Establishments)

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#### POLITECHNIKA WARSZAWSKA



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LStabilishini

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#### **INSTITUT CATHOLIQUE D'ARTS ET METIERS**

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Last update: 15 December 2020

Record number: 232706

Permalink: https://cordis.europa.eu/project/id/101015423

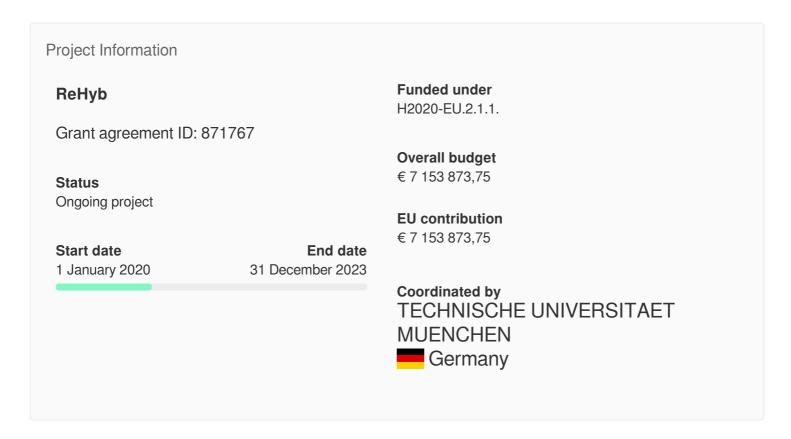
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# Rehabilitation based on Hybrid neuroprosthesis

## **Fact Sheet**



## **Project description**

## New technology for robot-assisted physical therapy

Compared with manual repetitive therapy, the use of robotic technologies can deliver intensive, long-term rehabilitation treatments at lower costs. In particular, combining electrical stimulation for human motor functions with an active exoskeleton is gaining ground in rehabilitation of patients with mobility impairment. The EU-funded ReHyb project will develop a patient-specific, assist-as-needed device that supports patients in daily life activities and offers home-based rehabilitation by means of serious gaming. To offer effective support and pleasant user experience, ReHyb will design an upper-body hybrid neuroprosthesis using cooperative control strategies based on data-driven system identification and probabilistic estimation techniques for the internal human states, namely digital twin of a user.

## **Objective**

Advancements in mechanical engineering and automation technologies have led to global expectations for robotic devices in rehabilitation to cope with a forecast of global ageing and shortage in clinical professionals in the near future. In particular, stroke patients often have to go through extensive rehabilitation or lose daily skills required for an independent self-determined life due to motor deficits. In contrast to classical physical therapists, robotic systems are able to tirelessly and precisely apply intense manual labour, while accurately measuring performance and improvements of the patient. Active exoskeletons meet these requirements and possess the additional advantage of non-stationary design that allows for flexible training and mobility of the patient. Preliminary studies indicate that the training efficiency can be improved if, in addition to the guidance by the exoskeleton, the users motor functions are actively controlled using functional electrical stimulation (FES). Such hybrid systems are advantageous because the users' own muscular activity initialise the movements and are not passively guided through an external force. However, the required control which coordinates the active exoskeleton and stimulation for the human motor functions, especially in terms of dexterity skills necessary for activities of daily living, is more complex due to the unsolved questions on shared control and the missing models of the human motor function with respect to FES. Thus, the ReHyb project designs an upper-body hybrid neuroprosthesis using cooperative control strategies based on data-driven system identification and probabilistic estimation techniques for the internal human states, namely digital twin of a user. Our goal is a patient-specific, assist-as-needed device which maximises the training efficiency during home-based rehabilitation as means of serious gaming, and offers a pleasant user experience by supporting patients in daily life activities.

## Field of science

/engineering and technology/mechanical engineering
/engineering and technology/electrical engineering, electronic engineering, information
engineering/electronic engineering/robotics
/medical and health sciences/clinical medicine/physiotherapy

## Programme(s)

Topic(s)

## Call for proposal

## **Funding Scheme**

RIA - Research and Innovation action

#### Coordinator



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**Establishments**)

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EU contribution

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17 of 67

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Contact the organisation <a>C</a>

Last update: 11 February 2021

Record number: 226513

**Permalink:** https://cordis.europa.eu/project/id/871767

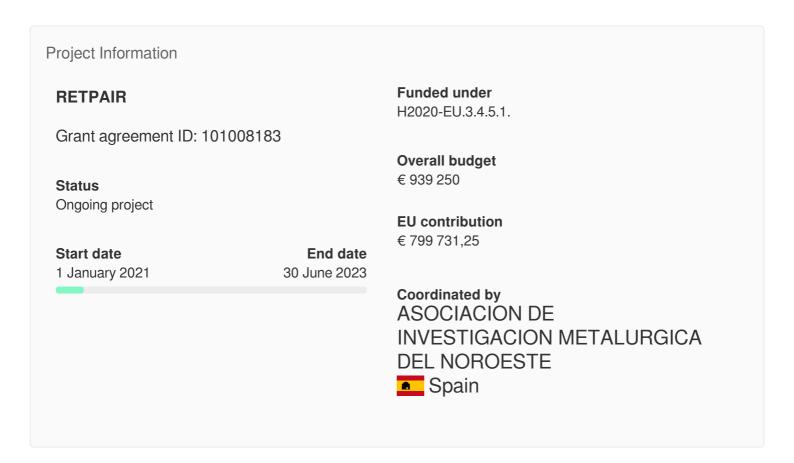
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## REsearch on ThermoPlastic repAIRs

## **Fact Sheet**



## **Objective**

The future of aeronautic factories is oriented to manufacture lighter and cost-effective components using greener materials like thermoplastic composites (TPCs). In this sense, given their increasing use, providing with cost-efficient repair methods for their complete integration in production is needed.

The main objective of RETPAIR is the development of new high performance, flexible and cost-effective, automated and robotized net-shape technologies to rework and repair TPC parts to be integrated in the manufacturing line. The proposed solutions assure one-side accessibility and are supported by a digital-based methodology to assist the patch design and manufacturing. An induction welding solution for structural damages repair based on pre-manufactured patches will be developed, and two in-situ consolidation solutions for structural and non-

structural applications based on automated and robotized layer-by-layer patch in-situ creation: an automated laying (AL) solution based on ATL/AFP technologies (automated tape laying/automated fibre placement) will be investigated for structural and large size repairs, and a 3D printing FFF-based (Fused Filament Fabrication) solution, using both continuous carbon fibre filaments and short fibre filaments will allow to tune patches' strength for different repair requirements (structural and cosmetic)

To assure the thermal and mechanical quality of the repair, the critical process parameters (temperature, pressure, times/rates) will be monitored and controlled. The applicability of the new repair technologies for different damage scenarios (Single Part Level, on Major Component Assembly Level, Final Assembly Line) will be investigated, and the required work of a future industrial implementation for the technologies towards TRL6 will be analyzed

RETPAIR developments will result in flexible and accurate repair technologies for high performance and quality solutions, thus collaborating in TPCs growing use in the aeronautic industry

#### Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing

## Programme(s)

Topic(s)

## Call for proposal

H2020-CS2-CFP11-2020-01

## **Funding Scheme**

CS2-IA - Innovation action

Address

## Coordinator



#### ASOCIACION DE INVESTIGACION METALURGICA DEL NOROESTE

Calle Relva Torneiros 27A 36410 Porrino Activity type

EU contribution

Research Organisations

€ 474 187,50



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## Participants (2)



#### CT INGENIEROS AERONAUTICOS DE AUTOMOCION E INDUSTRIALES SL

Spain

EU contribution

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Last update: 6 December 2020

Record number: 232508

Permalink: https://cordis.europa.eu/project/id/101008183

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# SAFE AND FLEXIBLE INTEGRATION OF ADVANCED U-SPACE SERVICES FOCUSING ON MEDICAL AIR MOBILITY

## **Fact Sheet**



## **Objective**

The SAFIR-Med project's vision is to achieve safe, sustainable, socially accepted and socially beneficial urban air mobility.

SAFIR-Med represents all value chain actors and stakeholder as either project partner (ATC, USPs, Operators, UAS Manufacturers, cities) or formal associate partner (major customers, technology & service providers) at a representative international level. Five unmanned UAV platforms (passenger eVTOL, Hydrogen fuel cell VTOL, AED medical drone, X8 medical transport) will be combined with manned aviation in real life exercises validating technology in real urban environment. Technologies of all partners will be leveraged to make use of the maximum number of U-Space services towards the highest possible operational safety level, including advanced Detect And Avoid U-space service.

The demonstrations will take place in the cities of Antwerp (BE), Aachen (DE) and Heerlen (NL), leveraging the MAHHL trans-border region, following a full de-risking exercise at the DronePort BVLOS test-facility in Sint-Truiden, Belgium. The demonstration results will be further virtually enhanced through large-scale simulations in order to test the maximum airspace capacity of the CONOPS. The project results will then further be validated and made representable for the whole of the EU, by simulating demonstrations in two additional locations in Europe, namely Athens, Greece (South EU) and Prague, Czech Republic (East EU). Lessons learnt will be documented in a Performance Assessment and recommendations report, providing refinements to the current U-space architecture principles and creating measurable indicators for UAM which will enable Smart Cities to include UAM in their Transport Roadmaps, support standardisation and thereby safety. Finally, SAFIR-Med will have made an important contribution to the EU healthcare system, by ensuring that future generations will continue to democratically have access to the best cure and care.

#### Field of science

/social sciences/social and economic geography/transport /engineering and technology/environmental engineering/energy and fuels/fuel cell /engineering and technology/civil engineering/urban engineering/smart city

## Programme(s)

Topic(s)

## Call for proposal

H2020-SESAR-2020-1

## **Funding Scheme**

SESAR-IA - Innovation action

## Coordinator



**HELICUS BVBA** 

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#### **UNIFLY**



EU contribution

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#### **AGENTFLY TECHNOLOGIES SRO**

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#### ELLINIKO INSTITOUTO MI EPANDROMENON SYSTIMATON KAI DIASTIMATOS ASTIKI MI KERDOSKOPIKI ETAIREIA

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#### **SKEYDRONE**

Belgium

EU contribution

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#### **INVOLISA**

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#### **HYFLY BV**

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### SOCIETE ANONYME BELGE DE CONSTRUCTIONS AERONAUTIQUES-S.A.B.C.A.

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#### **STADT AACHEN**

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Contact the organisation

Last update: 15 December 2020

Record number: 232772

Permalink: https://cordis.europa.eu/project/id/101017701

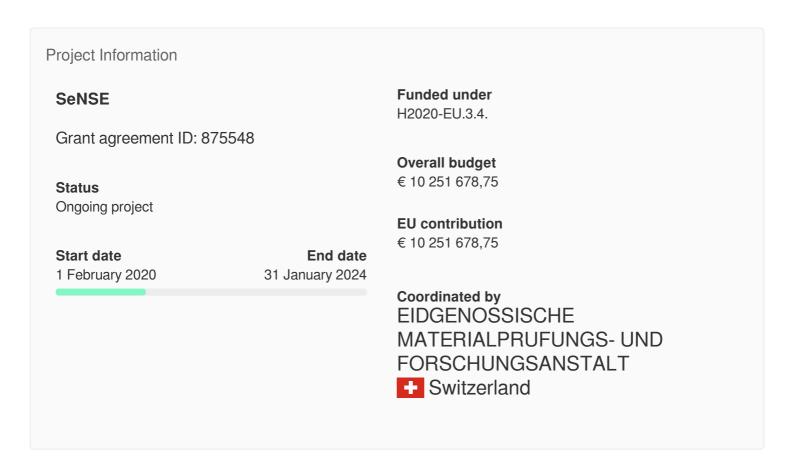
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# Lithium-ion battery with silicon anode, nickel-rich cathode and in-cell sensor for electric vehicles

## **Fact Sheet**



## **Project description**

## Next-generation of lithium-ion batteries to power electric vehicles

Lithium-ion batteries are the most popular power sources for future transportation. Extending the driving range and enabling fast charging are key for promoting the adoption of electric vehicles. The EU-funded SeNSE project aims to create next-generation lithium-ion batteries with a silicon-graphite composite anode and a nickel-rich NMC cathode to reach a volumetric energy density of 750 Wh/l. The new battery will also provide a battery management system couped to dynamic in-cell sensors to

enable faster charging, improved sustainability and recyclability, and reduced production costs.

## **Objective**

The SeNSE proposal aims at enabling next generation lithium-ion batteries with a silicon-graphite composite anode and a nickel-rich NMC cathode to reach 750 Wh/L. Cycling stability is the key challenge for the adoption of this cell chemistry. The objective is to reach 2000 deep cycles by (i) reducing the surface reactivity of the active materials by a combination of novel film-forming electrolyte additives and active materials coatings, (ii) compensating irreversible lithium losses during the first cycles employing pre-lithiated silicon and providing an on-demand reservoir of excess lithium in the cathode, (iii) identifying and controlling critical cycling parameters with data provided from in-cell sensors. Adaptive fast charging protocols will be integrated into the battery management system based on dynamic in-cell sensor data and by implementing thermal management concepts on materials and electrode level. To improve the sustainability of the battery and to lower production cost, the content of the critical raw materials cobalt and natural graphite will be reduced. Enabled by protective coatings, aqueous slurry processing will be developed for the cathode. Costs will be further lowered and energy density improved by the development of thinner textured current collector foils offering enhanced adhesion. The feasibility and scalability of the SeNSE battery technology with respect to the call targets will be demonstrated through 25 Ah pouch cell prototypes and a 1 kWh module. Scalability to the gigawatt scale and costeffectiveness of the proposed solutions, including aspects of recycling and secondlife use, will be continuously monitored via regular briefings led by Northvolt, which currently undertakes one of the most ambitious efforts to establish a European cell manufacturing plant at scale. To strengthen the European IP portfolio in the battery field, patent applications are the preferred way of dissemination of technology developed within SeNSE.

#### Field of science

/engineering and technology/materials engineering/coating and films
/engineering and technology/electrical engineering, electronic engineering, information
engineering/electronic engineering/sensors
/social sciences/social and economic geography/transport/electric vehicles
/natural sciences/chemical sciences/inorganic chemistry/inorganic compounds

## Programme(s)

## Topic(s)

## Call for proposal

H2020-LC-BAT-2019

## **Funding Scheme**

RIA - Research and Innovation action

#### Coordinator



#### **EIDGENOSSISCHE MATERIALPRUFUNGS- UND FORSCHUNGSANSTALT**

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**Establishments**)

Website **C** Contact the organisation **C** 



#### **FPT MOTORENFORSCHUNG AG**

Switzerland

EU contribution

€ 1 327 000

Address Activity type

Schlossgasse 2 Private for-profit entities 9320 Arbon (excluding Higher or Secondary Education

Fstablishments) 50 of 65

#### Contact the organisation <a>C</a>



#### **LITHOPS SRL**



EU contribution

€ 574 000

Address

**Centro Aziendale Quercete** 

Snc

81016 San Potito Sannitico

Activity type

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Website 🗹 Contact the organisation 🗹



#### **NORTHVOLT AB**

Sweden

EU contribution

€ 1 418 750

Address Activity type

Gamla Brogatan 26 Private for-profit entities
111 20 Stockholm (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



#### **ENWIRES**



EU contribution

€ 646 226,25

Address Activity type

22 Allee Du Pre Blanc Private for-profit entities 38240 Meylan (excluding Higher or

Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



#### **HUNTSMAN ADVANCED MATERIALS (SWITZERLAND) GMBH**

Switzerland

EU contribution

€ 530 750

Address Activity type

Klybeckstrasse 200 Private for-profit entities 4057 Basel (excluding Higher or

(excluding Higher or Secondary Education Establishments)

Contact the organisation <a>I</a>

Last update: 26 November 2020

Record number: 225991

Permalink: https://cordis.europa.eu/project/id/875548

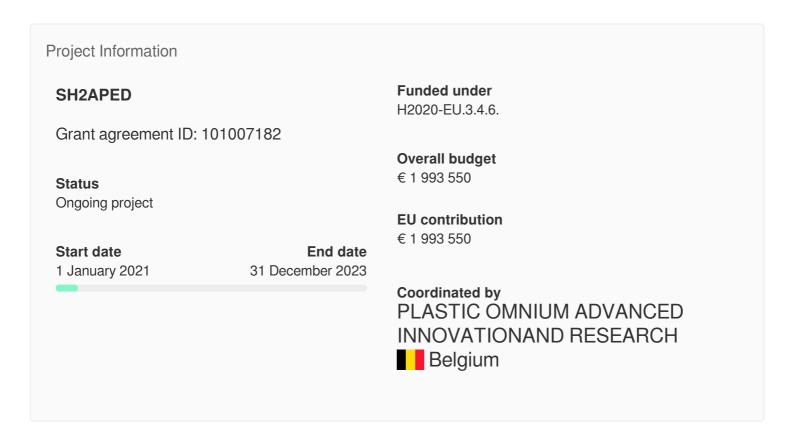
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## STORAGE OF HYDROGEN: ALTERNATIVE PRESSURE ENCLOSURE DEVELOPMENT

## **Fact Sheet**



## **Objective**

The goal of the SH2APED project is to develop and test at TRL4 a conformable and cost-effective hydrogen 70 MPa storage system with increased efficiency and unprecedented safety performance.

The innovative storage system is composed of the assembly of 9 tubular vessels fitting into a design space of 1800x1300x140 mm used for the battery pack. Fire resistance and mechanical robustness are drastically improved while the cost is decreased by 20% compared to the state-of-the-art Type IV tanks. This architecture allows a modular system configuration fitting into the flat space of light-duty car underbodies. All the vessel and the system elements are being manufactured using know-hows and high-throughput processes. Performance parameters and KPIs are

monitoring in compliance with the current regulations, codes and standards (RCS) aiming the update of RCS by new knowledge and technological breakthroughs and simplification of certification. Economic assessment for industrial mass manufacturing is in line with the expectations of the automotive industry. The SH2APED consortium is a strong partnership of two industrials, one federal institute and one university. Optimum CPV - Plastic Omnium is the leader in hydrogen vessels fabrication for the automotive industry. Misal Srl is the highly skilled on mechanical components machining. BAM is the expert on safety and reliability of high-pressure composite cylinders. Ulster University is one of key providers of hydrogen safety research globally.

In addition, a vital contribution to the project is expected from the Advisory Board comprising vehicle manufacturers including Daimler, Toyota, Audi, Geely, FIA, GreenGT. They will advise the project on the SH2APED system integration in light-duty fuel cell vehicles and validate the project results. The project testing capabilities are reinforced by the unique facilities and experts in performance evaluation of hydrogen tanks from the Joint Research Centre of the European Commission.

#### Field of science

/engineering and technology/mechanical engineering/vehicle engineering/automotive engineering /engineering and technology/environmental engineering/energy and fuels/fuel cell

## Programme(s)

Topic(s)

## Call for proposal

H2020-JTI-FCH-2020-1

## **Funding Scheme**

FCH2-RIA - Research and Innovation action

## Coordinator



#### PLASTIC OMNIUM ADVANCED INNOVATIONAND RESEARCH

Address Activity type EU contribution

€ 592 125

Rue De La Fusee 98 100 1130 Bruxelles

Belgium

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

Website 🗹

Contact the organisation 🗹

## Participants (3)



#### **MISAL SRL**

Italy

EU contribution

€ 502 250

Address

Activity type

Via Rose Di Sotto 38/C 25126 Brescia Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation <a>Z</a>



#### **BUNDESANSTALT FUER MATERIALFORSCHUNG UND -PRUEFUNG**

Germany

EU contribution

€ 481 250

Address Activity type

**Unter Den Eichen 87** 

12205 Berlin

**Research Organisations** 

Website 🗹 Contact the organisation 🗹



#### **UNIVERSITY OF ULSTER**

**United Kingdom** 

EU contribution

€ 417 925

Address Activity type

Cromore Road Higher or Secondary
BT52 1SA Coleraine Education Establishments

Website **☑** Contact the organisation **☑** 

Last update: 18 December 2020 Record number: 232864

**Permalink:** https://cordis.europa.eu/project/id/101007182

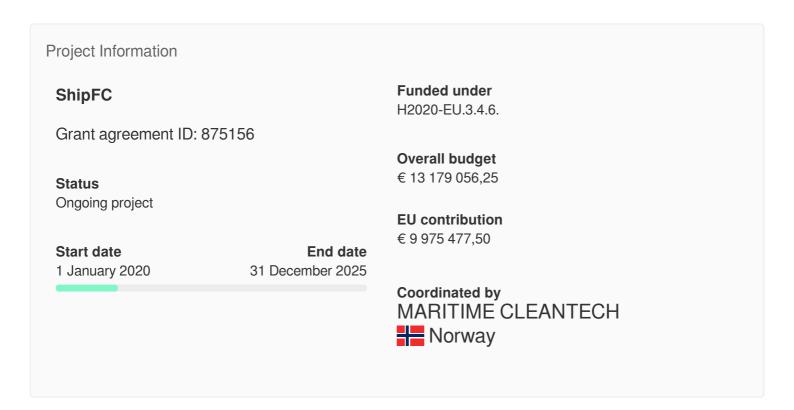
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## Piloting Multi MW Ammonia Ship Fuel Cells

## **Fact Sheet**



## **Project description**

## World-first offshore vessel to run on ammonia-powered fuel cell

Recent research suggests that ammonia holds great promise as a marine fuel that can help the shipping sector meet the IMO target of halving greenhouse gas emissions by 2050. The EU-funded ShipFC project will install the world's first ammonia-powered fuel cell on a vessel. The project will see an offshore vessel retrofitted with a large, 2-megawatt, ammonia fuel cell, which allows it to sail solely on the clean fuel for up to 3 000 hours annually. As such, the project will demonstrate that long-range zero-emission voyages with high power on larger ships is possible.

## **Objective**

ShipFC's main mission is to prove and show the case for large-scale zero-emission shipping. We do this through developing, piloting and replicating a modular 2MW fuel cell technology using ammonia as fuel. The project will first adapt and scale-up existing fuel cell solutions to a 2MW system, develop ship and land fuel systems for ammonia and integrate the full system onboard a large offshore construction vessel. Then the solution will be validated through commercial operation for at least 3000 hours during a one-year period. Moreover, socio-technical models and analysis will be performed and a full feasibility study on a series of additional vessels will be conducted.

#### Field of science

/engineering and technology/environmental engineering/energy and fuels/fuel cell /natural sciences/chemical sciences/inorganic chemistry/inorganic compounds

## Programme(s)

Topic(s)

## Call for proposal

H2020-JTI-FCH-2019-1

## **Funding Scheme**

FCH2-IA - Innovation action

## Coordinator



#### MARITIME CLEANTECH

Address

Activity type

Other

EU contribution

Meatjonnsvegen 74 5412 Stord

Norway

\_

€ 776 500

Contact the organisation

## Participants (13)

# 血

# **WARTSILA NORWAY AS**

Norway

EU contribution

€ 1 614 550

Address Activity type

Wichmannvegen 3 Private for-profit entities
Rubbestadneset (excluding Higher or
5420 Bomlo Secondary Education

**Establishments**)

Contact the organisation



# FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

Germany

EU contribution

€ 448 925

Address Activity type

Hansastrasse 27C Research Organisations

80686 Munchen

Website Contact the organisation C



# **Prototech AS**

Norway

EU contribution

€ 1 009 312,50

Address Activity type

Fantoftvegen 38 Private for-profit entities 5072 Bergen (excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



# **UNIVERSITY OF STRATHCLYDE**

**W** United Kingdom

EU contribution

€ 839 577,50

Address Activity type

Richmond Street 16 Higher or Secondary
G1 1XQ Glasgow Education Establishments

9 of 58



# "NATIONAL CENTER FOR SCIENTIFIC RESEARCH ""DEMOKRITOS"""



EU contribution

€ 455 875

Address Activity type

End Of Patriarchou Grigoriou E And 27 Neapoleos Street

15341 Agia Paraskevi

**Research Organisations** 

Website **∠** Contact the organisation **∠** 

血

#### **PERSEE**

France

EU contribution

€ 175 087,50

Address Activity type

12 PI Fontaine Private for-profit entities
39130 Pont De Poitte (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



# **NORTH SEA SHIPPING AS**

Norway

EU contribution

€ 61 250

Address Activity type

Kvaloya 18 Private for-profit entities 5385 Bakkasund (excluding Higher or Secondary Education Establishments)

Contact the organisation



# CAPITAL-EXECUTIVE SHIP MANAGEMENT CORP

Marshall Islands

EU contribution

€ 67 725

Address Activity type

Trust Company Complex Ajeltake Road Ajeltake Island MH96960 Majuro Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation <a>C</a>



# STAR BULK SHIPMANAGEMENT CO. (CYPRUS) LTD

Cyprus

EU contribution

€ 66 675

Address

Christodoulou Hadjipavlou

177 (Molos) 3036 Limassol Activity type

Private for-profit entities (excluding Higher or Secondary Education

Establishments)

Contact the organisation <a>C</a>



# Yara International ASA

**Norway** 

EU contribution

€ 315 000

Address Activity type

Drammensveien 131 Private for-profit entities
0277 Oslo (excluding Higher or
Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



# SUSTAINABLE ENERGY AS

Norway

EU contribution

€ 640 625

Address Activity type

Meatjonnsvegen 74 Private for-profit entities

5412 Stord (excluding Higher or

Secondary Education Establishments)

\_\_\_\_\_\_

Contact the organisation **Z** 



Norway

EU contribution

€ 0

Address Activity type

Forusbeen 50 Private for-profit entities
4035 Stavanger (excluding Higher or
Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

血

# **EIDESVIK SHIPPING AS**

Norway

EU contribution

€ 3 504 375

Address Activity type

Vestvikvegen 1 Private for-profit entities 5443 Bomlo (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation 🗹

Last update: 18 March 2020 Record number: 226559

Permalink: https://cordis.europa.eu/project/id/875156

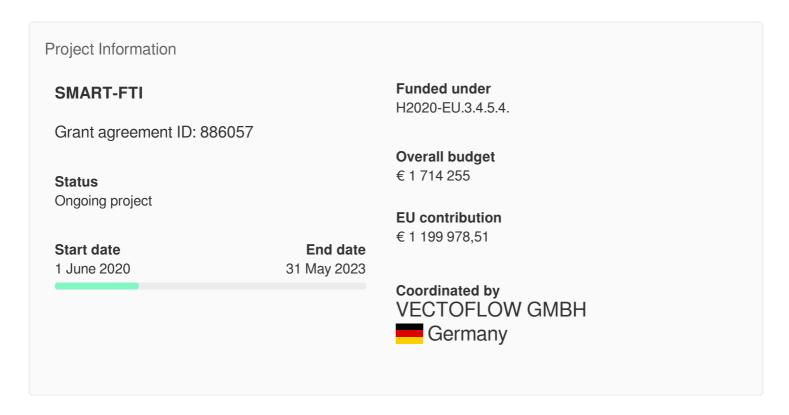
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# Surface Module Approach for Rapid Testing in Flight Test Instrumentation

# **Fact Sheet**



# **Project description**

# Novel flight test instrumentation approach with fully integrated modules

To support the aerodynamic characterisation of the RACER high-speed rotorcraft's innovative aircraft demonstrator platform, the aerodynamic flight test instrumentation needs to meet special requirements. The EU-funded SMART-FTI project therefore aims to introduce an innovative flight test instrumentation approach that will be achieved through the development of a fully integrated instrumentation module technology. Surface-conformal and aerodynamic instrumentation modules will be manufactured using additive manufacturing. The modules will be strong, thin, lightweight and temperature-resistant. For aerodynamic characterisation, various sensors and probes will be integrated into the modules. The project's approach will

ensure that the technology is sustainable and compatible with other flight test instrumentation systems.

# **Objective**

For the aerodynamic characterization of the RACER IADP, an aerodynamic flight test instrumentation that fulfills the special requirements is demanded. In this project, an innovative flight test instrumentation approach will be realized with the development of a fully integrated instrumentation module technology.

The instrumentation modules will be thin, lightweight, and of high-strength and temperature resistance in a surface-conformal and aerodynamic shape and will be fabricated from compound materials and metals by additive manufacturing. Different sensors and probes, such as pressure ports, Kiel probes or multi-hole probes, will be integrated into these modules for aerodynamic characterization. For data acquisition, miniaturized distributed acquisition nodes (DAN) (pressure and temperature scanners, equipped with an Ethernet interface) will be distributed. These elements and all additional internal channels, wiring, and connectors will be integrated into the modules without disturbing the aerodynamic design.

These modules can be calibrated offsite and installed nonintrusively by reversible bonding on a protection layer and positive locking with low effort. After mounting, only power and data connection will need to be established, presenting a 'plug&play' installation scheme. The module approach in combination with an ethernet interface ensures sustainability and compatibility with other flight test instrumentation (FTI) systems. This is crucial to ensure synchronization with the existing flight test instrumentation of the topic manager.

# Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing

Programme(s)

Topic(s)

Call for proposal

H2020-CS2-CFP10-2019-01

# **Funding Scheme**

# Coordinator



# **VECTOFLOW GMBH**

Address

Activity type

EU contribution

Friedrichshafener Str. 1 82205 Gilching Private for-profit entities (excluding Higher or Secondary Education € 441 576,63

Germany

**Establishments**)

Contact the organisation <a>C</a>

# Participants (2)



# **EVOLUTION MEASUREMENT LIMITED**

United Kingdom

EU contribution

€ 385 345,63

Address Activity type

7 Regents Court, Walworth

**Business** 

SP105NX Andover

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



# **ANY-SHAPE - ADDITIVE TECHNOLOGIES FOR INDUSTRY**



EU contribution

€ 373 056,25

Address Activity type

Rue De La Digue 37 Private for-profit entities
4400 Flemalle (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation

Last update: 8 May 2020 Record number: 229558

**Permalink:** https://cordis.europa.eu/project/id/886057

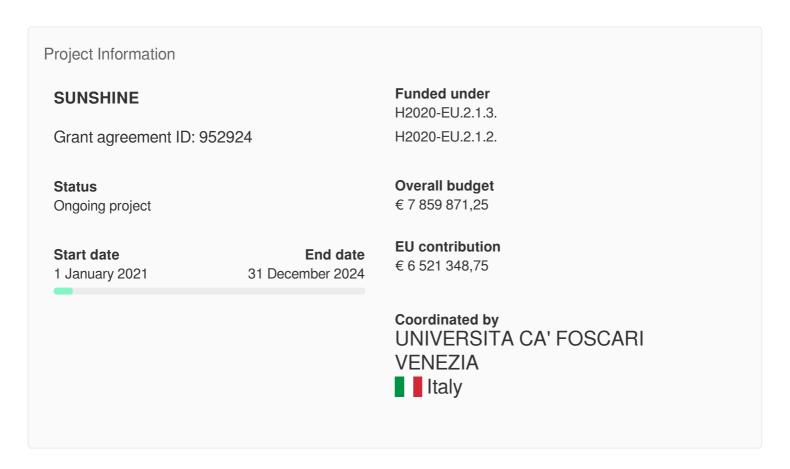
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# Safe and sUstainable by desigN Strategies for HIgh performance multicomponent NanomatErials

# **Fact Sheet**



# **Objective**

The main goal of SUNSHINE is to develop and implement S&SbD strategies for products enabled by multi-component (advanced) nanomaterials (MCNM), including high aspect-ratio nanomaterials (HARNs). To this end, the project will generate essential knowledge, tools and data on the exposure, hazard and functionality characteristics of these materials, especially those arising from their unique properties and interactions (e.g. mixture effects due to the multi-component nature of the materials). To facilitate the uptake and utilisation of the S&SbD strategies by industry, especially SMEs, we will deliver them as part of a user-friendly e-infrastructure designed to: (1) facilitate collaboration and information exchange

between actors along nanotechnology supply chains (developers, producers, downstream users) to promote the development and implementation of S&SbD strategies for MCNM-based materials, products and processes; (2) support SMEs and large industries in the selection and application of simple, robust and costeffective experimental, modelling and grouping/read-across approaches to acquire/generate the data needed to test the effectiveness of the S&SbD strategies; (3) enable risk-benefit analysis of the S&SbD-modified materials and products at each stage of the innovation process to ensure that they are safe for the human health and the environment without compromising their technical and/or commercial probability of success The S&SbD strategies that are effective in reducing the risks from MCNMs, while retaining product performance and economic viability, will be proposed for full scale industrial implementation. In addition, the project will contribute to Regulatory Preparedness by providing recommendations on improvement and adaptation of the current regulatory hazard, exposure and risk assessment guidance (e.g. REACH, Biocides, Consumer Products, Food and Feed, Medical Technologies) and standard guidelines (OECD, ISO, CEN) for MCNMs.

# Field of science

/engineering and technology/nanotechnology/nano-materials

Programme(s)

Topic(s)

Call for proposal

H2020-NMBP-TO-IND-2020-twostage

# **Funding Scheme**

RIA - Research and Innovation action

# Coordinator



# **UNIVERSITA CA' FOSCARI VENEZIA**

Address

Dorsoduro 3246 30123 Venezia Activity type

Higher or Secondary
Education Establishments

EU contribution

€ 401 625

Website 🗹

Contact the organisation

# Participants (33)



#### **EUROPEAN RESEARCH SERVICES GMBH**

Germany

EU contribution

€ 183 750

Address Activity type

Roentgenstrasse 19 Private for-profit entities
48149 Muenster (excluding Higher or
Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



# RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU

Netherlands

EU contribution

€ 515 957,50

Address Activity type

Antonie Van Research Organisations

Leeuwenhoeklaan 9 3721 MA Bilthoven

Website **C** Contact the organisation **C** 



# JRC -JOINT RESEARCH CENTRE- EUROPEAN COMMISSION

Belgium

EU contribution

€ 212 295

Address Activity type

Rue De La Loi 200 Research Organisations

1049 Brussels

Website Contact the organisation C



# **SWANSEA UNIVERSITY**

United Kingdom

EU contribution

€ 305 655

Address Activity type

Singleton Park Higher or Secondary

SA2 8PP Swansea Education Establishments

Website **☑** Contact the organisation **☑** 

血

# **GREENDECISION SRL**

Italy

EU contribution

€ 342 375

Address Activity type

Via Torino 155/A Private for-profit entities
30172 Venezia (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation

血

# **HERIOT-WATT UNIVERSITY**

United Kingdom

EU contribution

€ 370 775

Address Activity type

Riccarton Higher or Secondary

EH14 4AS Edinburgh Education Establishments

Website Contact the organisation C

血

# NATIONAL TECHNICAL UNIVERSITY OF ATHENS - NTUA

Greece

EU contribution

€ 145 625

Address Activity type

Heroon Polytechniou 9 Higher or Secondary

Zographou Campus Education Establishments

15780 Athina

Website **C** Contact the organisation **C** 

血

# **ROYAL COLLEGE OF SURGEONS IN IRELAND**

Ireland

EU contribution

€ 204 125

Address Activity type

Saint Stephen's Green 123 Higher or Secondary

2 Dublin Education Establishments

Website Contact the organisation C

血

#### AGENCIA ESTATAL CONSEJO SUPERIOR DEINVESTIGACIONES CIENTIFICAS

Spain

EU contribution

€ 148 412,50

Address Activity type

Calle Serrano 117 Research Organisations

28006 Madrid

Website 🗹 Contact the organisation 🗹



# CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

France

EU contribution

€ 238 950

Address Activity type

Rue Michel Ange 3 Research Organisations

75794 Paris

Website 🗹 Contact the organisation 🗹



#### UNIVERSITA DEGLI STUDI DI GENOVA

Italy

EU contribution

€ 158 125

Address Activity type

Via Balbi 5 Higher or Secondary
16126 Genova Education Establishments

Website 🗹 Contact the organisation 🗹



# PURPOSEFUL IDIOTIKI KEFALAIOUXIKI ETAIREIA

Greece

EU contribution

€ 179 672,50

Address Activity type

66 of 86

Tritis Septemvriou 144 11251 Athina Private for-profit entities (excluding Higher or Secondary Education Establishments)

**Research Organisations** 

Contact the organisation



# INSTITUTE OF OCCUPATIONAL MEDICINE

United Kingdom

EU contribution

€ 298 620

Address Activity type

**Research Avenue North,** 

**Riccarton 45** 

EH14 4AP Edinburgh

Website 🗹 Contact the organisation 🗹



#### **EIDGENOSSISCHE MATERIALPRUFUNGS- UND FORSCHUNGSANSTALT**

Switzerland

EU contribution

€ 289 031,25

Address Activity type

Ueberlandstrasse 129 Higher or Secondary

8600 Dubendorf Education Establishments

Website **C** Contact the organisation **C** 



# INSTITUTO TECNOLOGICO DEL EMBALAJE, TRANSPORTE Y LOGISTICA

Spain

EU contribution

€ 302 437,50

Address Activity type

Calle Albert Einstein 1 Parque

Tecnologico De Valencia

46980 Paterna

**Research Organisations** 

Website 🗹 Contact the organisation 🗹



# **RHODIA OPERATIONS**

France

EU contribution

€ 135 751,25

Address Activity type

25 Rue De Clichy Private for-profit entities 75009 Paris (excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

血

#### **FUNDACION TECNALIA RESEARCH & INNOVATION**

Spain

EU contribution

€ 207 500

Address Activity type

Parque Cientifico Y Research Organisations

Tecnologico De Gipuzkoa

Paseo Mikeletegi 2

20009 Donostia/san Sebastian

(Gipuzkoa)

Website Contact the organisation C

血

#### **AVANZARE INNOVACION TECNOLOGICA SL**

Spain

EU contribution

€ 105 781,25

Address Activity type

Avenida Lentiscares 4 6 Private for-profit entities 26370 Navarrete (excluding Higher or

Secondary Education

**Establishments**)

Website Contact the organisation C

血

# FUNDACION CIAC CENTRO DE INNOVACION ANDALUZ PARA LA SOSTENIBILIDAD EN LA CONSTRUCCION

Spain

EU contribution

€ 107 543,75

Address Activity type

Calle Astronomo Kepler 4.2

**Parque Tecnologico** 

Rabanales 21 14014 Cordoba **Research Organisations** 



# **ENCAPSULAE SL**

Spain

EU contribution

€ 107 951,25

Address Activity type

Lituania 10 Private for-profit entities
12006 Castellon (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



#### LAURENTIA TECHNOLOGIES SLL

Spain

EU contribution

€ 103 125

Address Activity type

Plaza Honduras 9 1 Private for-profit entities
46022 Valencia (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



# **OCSIAL EUROPE SARL**

Luxembourg

EU contribution

€ 102 986,25

Address Activity type

1 Rue De La Poudrerie Private for-profit entities
3364 Leudelange (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



# **CONSIGLIO NAZIONALE DELLE RICERCHE**

Italy

EU contribution

€ 166 000

Address Activity type

69 of 86

Piazzale Aldo Moro 7 Research C

00185 Roma

Research Organisations

Website 🗹 Contact the organisation 🗹

血

# **TEMAS SOLUTIONS GMBH**

Switzerland

EU contribution

€ 311 368,75

Address Activity type

Laetteweg 5 Private for-profit entities 5212 Hausen (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation <a>C</a>

血

# EAST EUROPEAN RESEARCH AND INNOVATION ENTERPRISE LTD

Bulgaria

EU contribution

€ 356 910

Address Activity type

Mladost 2, 280A, Entr. 3, Floor Private for-profit entities 4, Ap. 19 (excluding Higher or 1799 Sofia Secondary Education

**Establishments**)

Contact the organisation



# YORDAS GMBH

Germany

EU contribution

€ 288 000

Address Activity type

**Aussere Nurnberger Strasse** 

62

91301 Forchheim

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

Contact the organisation



#### **WARRANT HUB SPA**



EU contribution

€ 137 500

Address Activity type

Corso Mazzini 11 Private for-profit entities
42015 Correggio Re (excluding Higher or
Secondary Education

**Establishments**)

**Research Organisations** 

Website **C** Contact the organisation **C** 



#### **MINTEK**

South Africa

**EU** contribution

€ 93 500

Address Activity type

Malibongwe Drive 200

2125 Randburg

Contact the organisation <a>C</a>





# **DUKE UNIVERSITY**

United States

EU contribution

€ 0

Address Activity type

Allen Building 207 Higher or Secondary
27708 Durham Nc Education Establishments

Website **∠** Contact the organisation **∠** 



# **ARIZONA BOARD OF REGENTS**

United States

EU contribution

€ 0

Address Activity type

660 S Mill Avenue Centerpoint

312

85281 Tempe

Higher or Secondary

**Education Establishments** 

Website **C** Contact the organisation **C** 



#### KOREA RESEARCH INSTITUTE OF STANDARDS AND SCIENCE

EU contribution

€ 0

Address Activity type

Gajeong-ro Yuseong-gu 267

305-340 Daejeon

**Research Organisations** 

**Research Organisations** 

Contact the organisation



# NATIONAL CENTER FOR NANOSCIENCE AND TECHNOLOGY, CHINA

China

EU contribution

€ 0

Address Activity type

**Zhong Guan Cun Bei Yi Tiao** 

11

100190 Beijing

Website **☑** Contact the organisation **☑** 

血

# NANO POLYMER SOLUTIONS LLC

United States

EU contribution

€ 0

Address Activity type

117 Lark Spur Lane Private for-profit entities
29685 Sunset (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation 🗹

Last update: 18 February 2021

Record number: 232646

Permalink: https://cordis.europa.eu/project/id/952924

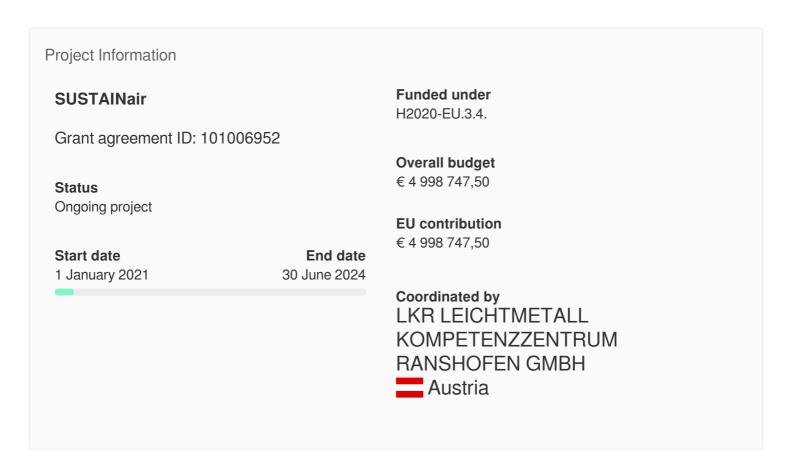
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# SUSTAINablility increase of lightweight, multifunctional and intelligent airframe and engine parts

# **Fact Sheet**



# **Objective**

Multiple challenges exist with respect to the development of multifunctional and intelligent airframe and engine parts. These are situated along the entire aircraft component value chain - design, manufacturing, MRO and recycling. SUSTAINair addresses each of these phases. With respect to design, new joining techniques for metal and composite designs are developed and demonstrated. For metal joining, these include a novel pin-pattern creation with Laser Powder Bed Fusion/Wire Arc Additive Manufacturing/Laser Direct Energy Deposition. For composites, these consist of thermoplastic welding. With respect to both design and manufacturing, a flexible wing with morphing capabilities is made industrially possible by introducing a

novel concept using tailored elastomers, seamless integrated with conventional structural wing parts for lowest integration risk, providing a realistic industrial morphing technology. The problem of high production waste in the manufacture of composite materials, Ti AM and AI HPDC is addressed, thereby reducing waste streams, e.g.: For thermoset prepreg manufacturing waste and thermoplastic waste, new recycled materials are developed and characterized to allow re-use with recyclability up to 100%, bringing FTB ratio close to 1 (KET3-KPI); Increased BTF ratio of Ti powders by using it 6x (vs. 1x now) (KET4-KPI); Incredible BTF ratio <1.1 by advanced HPDC processing of thermal stable nano-eutectics (KET5-KPI). A Structural Health Monitoring system optimizing MRO activity is proven using radically new ZnO nanowires, which will be integrated into polymer as well as metal parts. Finally, SUSTAINair raises the bar with respect to aircraft EoL, introducing Industry 4.0 automated technology for robotic dismantling.

# Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /natural sciences/physical sciences/optics/laser physics

/engineering and technology/materials engineering/composites

/natural sciences/chemical sciences/inorganic chemistry/metals

/engineering and technology/mechanical engineering/vehicle engineering/aerospace engineering/aircraft

# Programme(s)

# Topic(s)

# Call for proposal

H2020-MG-2020-SingleStage-INEA

# **Funding Scheme**

RIA - Research and Innovation action

# Coordinator



# LKR LEICHTMETALL KOMPETENZZENTRUM RANSHOFEN GMBH

Address Activity type EU contribution

Research Organisations € 854 828,75

16 of 57

Austria

Website 🗹

Contact the organisation

# Participants (10)



#### STICHTING NATIONAAL LUCHT- EN RUIMTEVAARTLABORATORIUM

Netherlands

EU contribution

€ 530 000

Address Activity type

Anthony Fokkerweg 2

1059CM Amsterdam

**Research Organisations** 

Website 🗹 Contact the organisation 🗹

血

#### **DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV**

Germany

EU contribution

€ 449 638,75

Address Activity type

Linder Hohe Research Organisations

51147 Koln

Website 🗹 Contact the organisation 🗹

血

# JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT MBH

Austria

EU contribution

€ 449 412,50

Address Activity type

Leonhardstrasse 59 Research Organisations

8010 Graz

Website 🗹 Contact the organisation 🗹

血

# **UNIVERSITAT LINZ**

Austria

EU contribution

€ 392 750

Address Activity type

**Altenberger Strasse 69 Higher or Secondary** 

4040 Linz **Education Establishments** 

Website 🗹 Contact the organisation

皿

# **TECHNISCHE UNIVERSITEIT DELFT**

Netherlands

EU contribution

€ 450 000

Address Activity type

Stevinweg 1 **Higher or Secondary** 

2628 CN Delft **Education Establishments** 

Website 🗹 Contact the organisation

血

# **AEROCIRCULAR**

Belgium

EU contribution

€ 400 562,50

Address Activity type

Nieuwpoortsesteenweg 887

**Box 40** 

8400 Oostende

**Private for-profit entities** (excluding Higher or **Secondary Education** 

**Establishments**)

Contact the organisation



#### **INOCON TECHNOLOGIE GMBH**

Austria

EU contribution

€ 297 055

Address Activity type

Wiener Strasse 3 **Private for-profit entities** 4800 Attnang-puchheim (excluding Higher or **Secondary Education** 

**Establishments**)

Contact the organisation



# INVENT INNOVATIVE VERBUNDWERKSTOFFEREALISATION UND VERMARKTUNG NEUERTECHNOLOGIEN GMBH



EU contribution

€ 403 750

Address Activity type

**Christian Pommer Strasse 47** 

38112 Braunschweig

**Private for-profit entities** (excluding Higher or **Secondary Education** 

**Establishments**)

Website 🗹 Contact the organisation



# **DUTCH THERMOPLASTIC COMPONENTS BV**

Netherlands

EU contribution

€ 353 250

Address Activity type

**Bolderweg 2 Private for-profit entities** 1332AT Almere (excluding Higher or **Secondary Education** 

**Establishments**)

Website 🗹 Contact the organisation



# RTDS - VEREIN ZUR FORDERUNG DER KOMMUNIKATION UND VERMITTLUNG VON FORSCHUNG, TECHNOLOGIE UND INNOVATION (RTDS VEREIN, ENGL. RTDS ASSOCIATION)

Austria

EU contribution

€ 417 500

Address

Lerchengasse 25/2-3

1080 Wien

Contact the organisation

Activity type

Other

Last update: 31 January 2021 Record number: 232288

Permalink: https://cordis.europa.eu/project/id/101006952

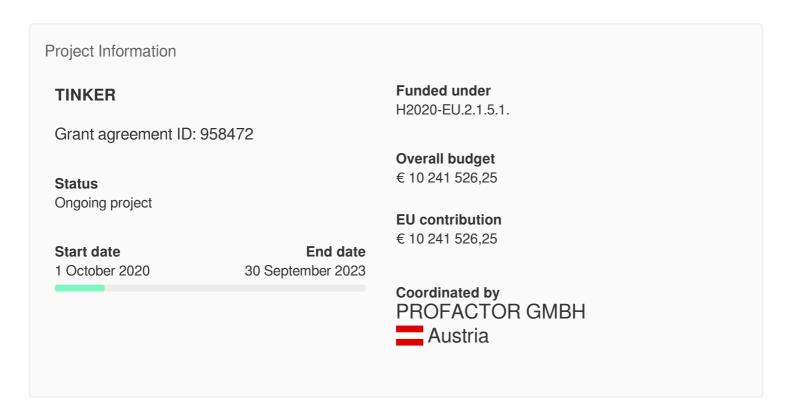
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# FABRICATION OF SENSOR PACKAGES ENABLED BY ADDITIVE MANUFACTURING

# **Fact Sheet**



# **Project description**

# Cost- and resource-efficient sensor packaging for autonomous and self-driving cars

The use of microelectronics and sensors (such as RADAR and LiDAR sensors) in autonomous driving and self-driving cars is essential. As the market is expected to grow, the further miniaturisation and safety of such sensor packages is necessary. What's more, the weight and power consumption of such instruments is causing a rising demand for high-value and high-performance RADAR and LiDAR systems for advanced driver-assistance systems (ADAS) and robotic cars. The EU-funded TINKER project will create a new cost-affordable and resource-efficient method for RADAR and LiDAR sensor package production for the European automotive and

microelectronics industry. The method is based on additive manufacturing and inline feedback control mechanisms ensuring high throughput, flexibility, improved automation, accuracy and reliability, as well as a significant reduction in rejection rates.

# **Objective**

The vision of TINKER is to provide a new cost- and resource efficient pathway for RADAR and LIDAR sensor package fabrication with high throughput up to 250units/min, improved automation by 20%, improved accuracy by 50% and reliability by a factor of 100 to the European automotive and microelectronic industry via additive manufacturing and inline feedback control mechanisms. Autonomous driving and self-driving cars represent one prominent example for the use of microelectronics and sensor, most importantly RADAR and LIDAR sensors. Their respective markets have a big potential, e.g. it is estimated that the market size of LIDAR in automotive will double itself in the next two years (within 2020 to 2022). The public awareness and the industrial need for further miniaturization of such sensor packages is the main driver of ongoing efforts in the automotive sector to be able to integrate such devices into the car body like in the bumps and head lamps instead of attaching them (e.g. on top of the car in case of LIDAR device). Safety (for the driver and others) is the most important key aspect of the automotive sector. Therefore highly-value and high performance RADAR and LIDAR systems are required for advanced driver-assistance systems (ADAS) as well as robotic cars. Current bottlenecks are relevantly large size of such sensor devices, their weight and power consumption. Since these factors are highly limited within cars, further miniaturization and improving functionality and efficient use of resources is highly demanded.

# Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /engineering and technology/electrical engineering, electronic engineering, information engineering/telecommunications/radio technology/radar /natural sciences/physical sciences/electromagnetism and electronics/microelectronics /engineering and technology/electrical engineering, electronic engineering, information engineering/electronic engineering/sensors /social sciences/economics and business/business and management/commerce

# Programme(s)

# Topic(s)

# Call for proposal

H2020-NMBP-TR-IND-2020-singlestage

# **Funding Scheme**

RIA - Research and Innovation action

# Coordinator

血

# **PROFACTOR GMBH**

Address

**Im Stadtgut D1** 4407 Steyr Gleink

Austria

Website 🗹

Activity type

Other

EU contribution

€ 1 181 275

Contact the organisation

# Participants (14)



#### **AMIRES SRO**

Czechia

EU contribution

€ 199 375

Address

Activity type

Stavitelska 1099/6 160 00 Praha 6

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

Contact the organisation



# **ROBERT BOSCH GMBH**

Germany

EU contribution

€ 556 415

Address

Activity type

Robert-bosch-platz 1 **Private for-profit entities** 

75 of 86

70839 Gerlingen-schillerhoehe (excluding Higher or

Secondary Education Establishments)

Website **C** Contact the organisation **C** 



#### MARELLI AUTOMOTIVE LIGHTING ITALIA SPA

Italy

EU contribution

€ 289 251,25

Address Activity type

Via Cavallo 18 Private for-profit entities
10078 Venaria (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



# **BESI AUSTRIA GMBH**

**A**ustria

EU contribution

€ 1 060 718,75

Address Activity type

Innstrasse 16 Private for-profit entities
6240 Radfeld (excluding Higher or
Secondary Education
Establishments)

,

Website **C** Contact the organisation **C** 



# COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

France

EU contribution

€ 2 058 252,50

Address Activity type

Rue Leblanc 25 Research Organisations

75015 Paris 15

Website Contact the organisation C



# **NOTION SYSTEMS GMBH**

Germany

EU contribution

C 004 000 0E

€ 824 306,25

Address Activity type

Carl-benz-strasse 22A Private for-profit entities 68723 Schwetzingen (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation



#### INFINEON TECHNOLOGIES AG

Germany

EU contribution

€ 799 203,75

Address Activity type

Am Campeon 1-15 Private for-profit entities 85579 Neubiberg (excluding Higher or Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

血

# **EV GROUP E. THALLNER GMBH**

Austria

EU contribution

€ 645 175

Address Activity type

Di Erich Thallner Strasse 1 4782 St Florian Am Inn Private for-profit entities (excluding Higher or Secondary Education Establishments)

Website 🗹 Contact the organisation 🗹



# SENTECH INSTRUMENTS GMBH

Germany

EU contribution

€ 495 950

Address Activity type

Schwarzschildstrasse 2 Private for-profit entities 12489 Berlin (excluding Higher or

Secondary Education

**Establishments)** 

Website Contact the organisation C



# **IDRYMA TECHNOLOGIAS KAI EREVNAS**

Greece

EU contribution

€ 290 000

Address Activity type

N Plastira Str 100 70013 Irakleio **Research Organisations** 

Website 🗹

Contact the organisation



# P.V. NANO CELL LTD

Israel

EU contribution

€ 660 625

Address Activity type

Hamasger 8 2310102 Migdal Haemek Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation 🗹



# **TIGER Coatings**

Austria

EU contribution

€ 559 768,75

Address Activity type

Negrellistrasse 36 Private for-profit entities
4600 Wels (excluding Higher or
Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 



#### **INKRON OY**

+ Finland

EU contribution

€ 486 255

Address Activity type

Kutojantie 2 B Private for-profit entities
02630 Espoo (excluding Higher or
Secondary Education

78 of 86

# Contact the organisation <a>Z</a>



# **AUSTRIAN STANDARDS INTERNATIONAL**

Austria

EU contribution

€ 134 955

Address Activity type

Heinestrasse 38 Other

1020 Wien

Website **☑** Contact the organisation **☑** 

Last update: 17 January 2021

Record number: 231384

Permalink: https://cordis.europa.eu/project/id/958472

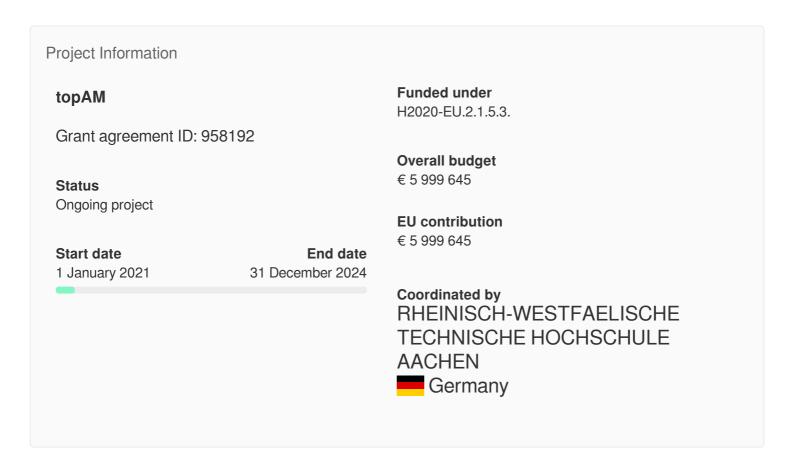
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# Tailoring ODS materials processing routes for additive manufacturing of high temperature devices for aggressive environments

# **Fact Sheet**



# **Objective**

Europe's industry is facing many challenges such as global competition and the big change towards energy and resource efficiency. topAM can contribute to these demands by development and application of novel processing routes for new oxide-dispersoid strengthened (ODS) alloys on FeCrAI, Ni and NiCu basis. Novel ODS materials offer a clear advantage for the process industry by manufacturing e.g. topology-optimized, sensor-integrated high temperature devices (gas burner heads, heat exchangers) that are exposed to aggressive environments. Alloy and process development will be targeted by an advanced integrated computational materials

engineering (ICME) approach combining computational thermodynamics, microstructure and process simulation to contribute to save time, raw materials and increase the component's lifetime. Physical alloy production will be realized by combining nanotechnologies to aggregate ODS composites with laser-powder bed fusion and post-processing. The ICME approach will be complemented by comprehensive materials characterization and intensive testing of components under industrially relevant in-service conditions. This strategy allows to gain a deeper understanding of the process-microstructure-properties relationships and to quantify the improved functionalities, properties and life cycle assessment. This will promote cost reduction, improved energy efficiency and superior properties combined with a significant lifetime increase. The consortium consists of users, materials suppliers and research institutes that are world leading in the fields relevant for this proposal, which guarantees efficient, high-level, application-oriented execution of topAM. The industrial project partners, in particular the SMEs, will achieve higher competitiveness due to their strategic position in the value chain of materials processing, e.g. powder production, to strengthen Europe's leading position in the emerging technology field of AM in a unique combination with ICME.

# Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing

# Programme(s)

Topic(s)

# Call for proposal

H2020-NMBP-ST-IND-2020-singlestage

# **Funding Scheme**

RIA - Research and Innovation action

# Coordinator



# RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

Address Activity type EU contribution

€ 1 453 800

Templergraben 55
52062 Aachen
Germany

Higher or Secondary Education Establishments

Website 🗹

Contact the organisation

# Participants (14)



# LA ROCHELLE UNIVERSITE

France

EU contribution

€ 534 273,75

Address Activity type

Avenue Albert-einstein 23 Higher or Secondary
17031 La Rochelle Education Establishments

Website **C** Contact the organisation **C** 



#### STIFTUNG FACHHOCHSCHULE OSNABRUCK

Germany

EU contribution

€ 234 270

Address Activity type

Caprivistrasse 30A Higher or Secondary
49076 Osnabruck Education Establishments

Contact the organisation



#### UNIVERSIDAD COMPLUTENSE DE MADRID



EU contribution

€ 448 437,50

Address Activity type

Avenida De Seneca 2 Higher or Secondary
28040 Madrid Education Establishments

Website **C** Contact the organisation **C** 



Ustav fyziky materialu, Akademie Ved Ceske republiky, v.v.i.

Czechia

EU contribution

€ 404 495

Address Activity type

Zizkova 22 Research Organisations

61662 Brno

Website Contact the organisation C



# **DECHEMA-FORSCHUNGSINSTITUT STIFTUNG**

Germany

EU contribution

€ 507 500

Address Activity type

**Theodor Heuss Allee 25** 

60486 Frankfurt

**Research Organisations** 

Website 🗹 Contact the organisation 🗹



# SIEC BADAWCZA LUKASIEWICZ - KRAKOWSKI INSTYTUT TECHNOLOGICZNY

Poland

EU contribution

€ 261 075

Address Activity type

UI. Zakopianska 73 Research Organisations

30 418 Krakow

Website 🗹 Contact the organisation 🗹



# **VDM METALS INTERNATIONAL GMBH**

Germany

EU contribution

€ 159 375

Address Activity type

Plettenberger Str. 2 Private for-profit entities 58791 Werdohl (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation



# **KME SPECIAL PRODUCTS GMBH**

Germany

EU contribution

€ 180 000

Address Activity type

Klosterstrasse 29 **Private for-profit entities** 49074 Osnabruck (excluding Higher or

> **Secondary Education Establishments**)

Website 🗹 Contact the organisation

血

### **LINDE GMBH**

Germany

EU contribution

€ 304 541,25

Address Activity type

Dr.-carl-von-linde-str. 6-14 82049 Pullach Lisartal

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

Contact the organisation

### **RISE IVF AB**

Sweden

EU contribution

€ 500 100

Address Activity type

**Argongatan 30** 

431 53 Molndal

Other

Website 🗹 Contact the organisation <a>C</a>

### **ZOZ GMBH**

Germany

EU contribution

€ 227 125

Address Activity type

**Private for-profit entities** Maltozstrasse 57482 Wenden (excluding Higher or **Secondary Education** 

**Establishments**)

Website 🗹 Contact the organisation

### **INDUTHERM GIESSTECHNOLOGIE GMBH**



EU contribution

€ 329 797,50

Address Activity type

Brettener Strasse 32 Private for-profit entities 76045 Walzbachtal (excluding Higher or

Secondary Education Establishments)

Contact the organisation <a>C</a>



### **QUESTEK EUROPE AB**

Sweden

**EU** contribution

€ 323 355

Address Activity type

Rasundavagen 18 Private for-profit entities
169 67 Solna (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



### **AKTIEBOLAGET SANDVIK MATERIALSTECHONOLOGY**

Sweden

EU contribution

€ 131 500

Address Activity type

. Private for-profit entities 811 81 Sandviken (excluding Higher or

Secondary Education

**Establishments**)

Website **C** Contact the organisation **C** 

Last update: 6 December 2020

Record number: 232457

Permalink: https://cordis.europa.eu/project/id/958192

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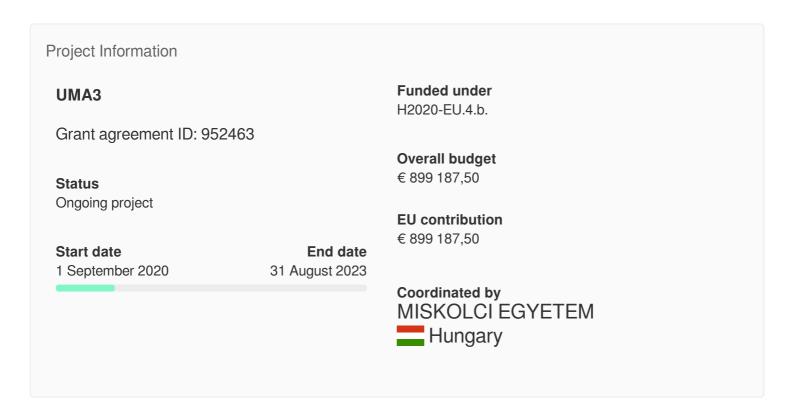
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## Unique Materials for Advanced Aerospace Applications

### **Fact Sheet**



## **Project description**

## Cooperation towards market-based innovations for advanced aerospace applications

Researchers and industry are coming together under the EU-funded UMA3 project to develop new material systems for aerospace applications. Undertaking the entire process, from theoretical elaboration to experimental engineering, the project will contribute to market-based innovations. Specifically, UMA3 will build a value chain consisting of research institutions that are involved in studies on powder metallurgy processes, additive manufacturing, surface technology (coatings) and fully 3D investigations. It will focus on new materials and solutions based on cooperative knowledge, common resources and synergy. The implementation of the project is

part of the Institution Development Plan of the University of Miskolc, in the framework of the Centre of Excellence for Advanced Materials and Technologies.

### **Objective**

The concept of integrated knowledge centre UMA3 (Unique Materials for Advanced Aerospace Applications) is based on creation a value chain of knowledge of research entities in the scope of powder metallurgy process, additive manufacturing, surface technology (coatings) and fully 3D investigations. In this period of disruptions when innovation is redefining future success of organizations, it is extremely important to provide a coherent network, allowing for transnational cooperation for researchers and industry. The project members join forces to develop new material systems and create new solutions, while using their competencies (knowledge, human resources, infrastructures) and cooperating in synergistic. The multi-step process of the project (from theoretical elaboration and experimental engineering to computational modelling) will remarkably contribute to existing know-how and concept-driven, market-based innovation and scientific & research progress as well. Knowledge transfer between partners is realized on each topic, led by an internationally recognized researcher. The implementation of the UMA3 is linked to the Regional Smart Specialization Strategy (RIS3) for Advanced Vehicle and Machine Engineering Technologies and Intelligent Technologies for Research and Development of Special Materials at county level. The implementation of the project is fitted on Institution Development Plan of the University of Miskolc in the framework of Centre for Excellence of Advanced Materials and Technologies and carried out by Special Materials Scientific Workshop: in Modern materials, Nanotechnology, Aerospace Applications topic.

### Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing

Programme(s)

Topic(s)

Call for proposal

H2020-WIDESPREAD-2020-5

### **Funding Scheme**

CSA - Coordination and support action

### Coordinator



### **MISKOLCI EGYETEM**

Address EU contribution Activity type

**Egyetemvaros Higher or Secondary** € 223 125

3515 Miskolc **Education Establishments** 

Website 🗹 Contact the organisation

### Participants (7)

Hungary



### **FUNDACION ICAMCYL**

Spain

EU contribution

€ 122 500

Address

Poligono Industrial El Bayo,

19

24412 Cubillos Del Sil Leon

Contact the organisation

Activity type

**Research Organisations** 



### FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

Germany

EU contribution

€ 123 500

Address Activity type

Hansastrasse 27C **Research Organisations** 

80686 Munchen

Website 🗹 Contact the organisation



### **PANEPISTIMIO PATRON**

Greece

EU contribution

€ 101 875

Address Activity type

**University Campus Rio Patras** 

265 04 Rio Patras

Higher or Secondary Education Establishments

Website **C** Contact the organisation **C** 

血

### **ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA**

Italy

EU contribution

€ 105 000

Address Activity type

Via Zamboni 33 Higher or Secondary
40126 Bologna Education Establishments

Website **C** Contact the organisation **C** 

血

### **ALTRAN DEUTSCHLAND SAS & CO KG**

Germany

**EU** contribution

€ 94 687,50

Address Activity type

Frankfurter Ring 81 Private for-profit entities
80807 Munchen (excluding Higher or
Secondary Education

**Establishments**)

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### **COMET GESINCO SL**

Spain

EU contribution

€ 68 500

Address Activity type

Calle Unio Num 32 Private for-profit entities
08302 Mataro Barcelona (excluding Higher or
Secondary Education

**Establishments**)

Contact the organisation



### EASN TECHNOLOGY INNOVATION SERVICES BVBA



EU contribution

€ 60 000

Address Activity type

Terweidenstraat 28 Private for-profit entities 3440 Budingen (excluding Higher or

**Secondary Education** 

**Establishments**)

Contact the organisation

Last update: 26 September 2020

Record number: 230365

Permalink: https://cordis.europa.eu/project/id/952463

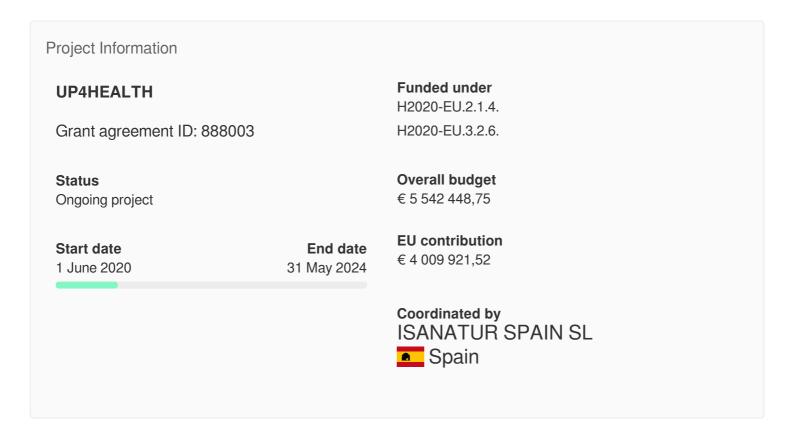
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Sustainable and cost-effective production process for the upcycling of olive, grape and nut by-products into 4 natural and healthy ingredients for nutraceutical and cosmetic applications

### **Fact Sheet**



### **Project description**

### A second life for olive and grape by-products

Olive and grape processing produces a residual biomass which most of time remains underexploited. To tap the potential of this residual biomass, the EU-funded UP4HEALTH project aims to work on a zero-waste sustainable process for olive and grape pomace, nut by-products and olive pits. Their residue will be transformed into a natural fruit water rich in polyphenols, polyphenol-rich dietary fibres, natural oily

fruit extracts and prebiotic xylooligosaccharides that will be used in functional food, nutraceutical supplements and cosmetics. What is more, the remaining solid fraction from the hydrolysis of the olive pits will be used to produce energy.

### **Objective**

The UP4HEALTH project provides the demonstration at pre-industrial scale of an INTEGRATED BIOREFINERY for the recovery of valuable biomolecules from food processing by-products and their conversion into natural, healthy and sustainable high added-value products for the NUTRACEUTICALS and COSMETIC sectors. UP4HEALTH ingredients will be of suitable quality to meet market requirements of CONSUMERS and INDUSTRY in these sectors: consumers are demanding functional natural products and industry is demanding bio-based formulations for better performance and higher sustainability.

Olive and grape by-products are underexploited residual biomass rich in bioactive compounds, resulting in a great market opportunity for the UP4HEALTH project. Although existing technologies are promising for the recovery of high added-value ingredients inside the food chain, products from the valorisation of food by-products are still rather limited in the market. The main challenge is to validate an appropriate business model for the affordable upgrading at large scale of a wide variety in composition of by-products from the food processing industry, overcoming bottlenecks like logistic issues and investment costs.

UP4HEALTH upcycling process integrates a unique ZERO WASTE sustainable process for 4 locally available Mediterranean feedstocks from food processing (olive pomace, grape pomace, nut by-products and olive pits) to deliver 4 ORGANIC, NATURAL, SUSTAINABLE & HEALTHY INGREDIENTS: natural fruit water rich in polyphenols, polyphenol-rich dietary fibre, fruit natural oily extracts and prebiotic Xylooligosaccharides. UP4HEALTH ingredients will be integrated intofunctional food, nutraceutical supplements and cosmetics, targeting a wide niche population. The remaining solid fraction from the hydrolysis of the olive pits is intended to be used for energy production responding to the concept of BIOREFINERY, since biomass will be processed into a spectrum of bio-based products and bioenergy.

### Field of science

/agricultural sciences/agricultural biotechnology/biomass
/social sciences/economics and business/economics/production economics
/agricultural sciences/agriculture, forestry, and fisheries/agriculture/horticulture/fruit growing
/social sciences/economics and business/business and management/commerce

### Programme(s)

### Topic(s)

### Call for proposal

H2020-BBI-JTI-2019

### **Funding Scheme**

BBI-IA-DEMO - Bio-based Industries Innovation action - Demonstration

### Coordinator



### **ISANATUR SPAIN SL**

Address

Pol Ind Aloa Calle A Naves 01

02

31100 Puenta La Reina

Spain

Contact the organisation <a>C</a>

Activity type

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

€ 758 702,66

### Participants (9)



### **CONTACTICA S.L.**



EU contribution

€ 411 605,91

Address

Calle Canchal 8 Local 3

28021 Madrid

Activity type

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

Website **☑** Contact the organisation **☑** 



### **LABORATORIOS AMEREX SAU**



EU contribution

€ 254 695

Address Activity type

52 of 77

Calle Prado Banderillas N7 Nave 4 Poligono Industrial La

Mina

28770 Colmenar Viejo

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

Contact the organisation



### ZADE VITAL ILAC KIMYA GIDA SAN VE TICARET ANOMIM SIRKETI

Turkey

EU contribution

€ 334 785,94

Address

Buyukkayacik Osb Mahallesi

Guzelkonak Sokak No:8-b

Selcuklu 42250 Konya

Contact the organisation 🗹

Activity type

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

血

### **BIOZOON GMBH**

Germany

EU contribution

€ 389 025

Address Activity type

Nansenstr. 8 Private for-profit entities 27572 Bremerhaven (excluding Higher or Secondary Education

**Establishments**)

Website 🗹 Contact the organisation 🗹



### **MORENO RUIZ HERMANOS SL**

Spain

EU contribution

€ 211 101,76

Address Activity type

Avda. De Andalucia, 229

41560 Estepa

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

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INDUKERN,S.A.

Spain

EU contribution

€ 223 827,75

Address

Activity type

Calle Alta Ribagorza Sec Mas

**BI 6 Prat Llobregat** 08820 Barcelona

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

Contact the organisation



### **UNIVERSIDAD DE VIGO**



EU contribution

€ 689 480

Address Activity type

Lg Campus Lagoas

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36310 Vigo Pontevedra

**Higher or Secondary** 

**Education Establishments** 

Website 🗹 Contact the organisation



### INSTITUTO POLITECNICO DE BRAGANCA

Portugal

EU contribution

€ 283 772,50

Address Activity type

Campus De Santa Apolonia

5301 253 Braganca

**Higher or Secondary** 

**Education Establishments** 

Website 🗹 Contact the organisation



### **TECHNOLOGICAL UNIVERSITY DUBLIN**



EU contribution

€ 452 925

Address Activity type

**North Circular Road 191 Park** 

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D07 EWV4 Dublin

**Higher or Secondary Education Establishments** 

Contact the organisation

Last update: 30 April 2020 Record number: 229423

**Permalink:** https://cordis.europa.eu/project/id/888003

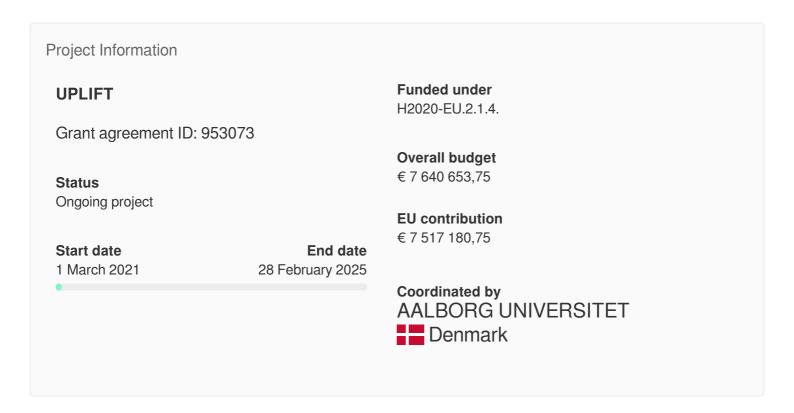
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# sUstainable PLastIcs for the Food and drink packaging indusTry

### **Fact Sheet**



### **Objective**

Recycling facilities are currently struggling when dealing with challenging plastic multi-layers, blends, and additives. Consequently, packaging plastics are mostly landfilled, incinerated or spilled into the environment. The concept of UPLIFT is to introduce biological depolymerization technology as an addition and integration to established recycling practices, by converting persistent plastic waste into more easily recyclable and/or degradable polymers. The project will start by analyzing the value-chains of the future to match and exploit the potential of microbe-and enzyme technology to effectively depolymerize the EoL plastic into monomers. Overall, the project aims at engineering towards greater scale and efficiency. Moreover, in order to contribute to further innovation, UPLIFT will also make use of an advanced high-throughput screening platform to further explore the potential of new and more efficient biocatalysts, among bacteria, yeasts and fungi. Synergies between genetic and protein engineering, as well as eco-engineering of microbial mixed consortia will

be under Uplift's scope. Furthermore, the knowledge of bio-depolymerization will be strategically applied for the eco-design and development of renewable and easyrecyclable polymers, thus making plastic packaging an available feedstock for the circular economy. Introducing biological depolymerization to current recycling practices will increase the capability of dealing with large amounts of currently nonrecycled plastics. By doing so, UPLIFT will contribute and facilitate the transition to more efficient recycling facilities, thus paving the way to a sustainable plastic system.

### Field of science

/natural sciences/chemical sciences/polymer science

/engineering and technology/environmental engineering/waste management/waste treatment processes/recycling

/engineering and technology/industrial biotechnology/biomaterials/bioplastics

### Programme(s)

### Topic(s)

### Call for proposal

H2020-NMBP-TR-IND-2020-twostage

### **Funding Scheme**

RIA - Research and Innovation action

### Coordinator



### **AALBORG UNIVERSITET**

Address

Fredrik Bajers Vej 7K 9220 Aalborg

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Website 1

Activity type

**Higher or Secondary Education Establishments** 

Contact the organisation

EU contribution

€ 1 171 351,25

### Participants (14)

血

### FORSCHUNGSZENTRUM JULICH GMBH

Germany

EU contribution

€ 662 756,25

Address Activity type

Wilhelm Johnen Strasse

52428 Julich

**Research Organisations** 

Website Contact the organisation C

血

### **ACIB GMBH**

Austria

EU contribution

€ 600 866,25

Address Activity type

Krenngasse 37/2

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**Research Organisations** 

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血

### DANMARKS TEKNISKE UNIVERSITET

Denmark

EU contribution

€ 877 857,50

Address Activity type

Anker Engelundsvej 1

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2800 Kgs Lyngby

**Higher or Secondary** 

**Education Establishments** 

Website **C** Contact the organisation **C** 



### **LUNDS UNIVERSITET**

Sweden

EU contribution

€ 434 267,50

Address Activity type

Paradisgatan 5C Higher or Secondary

22100 Lund Education Establishments

Contact the organisation



### ш

### NACHWACHSENDER ROHSTOFFE MBH

Germany

EU contribution

€ 316 336,25

Address Activity type

Bustadt 40 Private for-profit entities
74360 llsfeld (excluding Higher or
Secondary Education

Establishments)

Website **C** Contact the organisation **C** 



## BIO-MI DRUSTVO S OGRANICENOM ODGOVORNOSCU ZA PROIZVODNJU, ISTRAZIVANJEI RAZVOJ

Croatia

EU contribution

€ 421 491,25

Address Activity type

Put Brdo 15 Private for-profit entities 51211 Matulji (excluding Higher or Secondary Education

**Establishments**)

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### **BIO BASE EUROPE PILOT PLANT VZW**

Belgium

EU contribution

€ 437 528,75

Address Activity type

Rodenhuizekaai 1 Other

9042 Desteldonk Gent

Contact the organisation



## LEIBNIZ-INSTITUT FUR NATURSTOFF-FORSCHUNG UND INFEKTIONSBIOLOGIE EV HANS-KNOLL-ISTITUT

Germany

EU contribution

€ 457 916,25

Address Activity type

**Beutenberg Strasse 11A** 

07745 Jena

**Research Organisations** 

67 of 77



## AIMPLAS - ASOCIACION DE INVESTIGACION DE MATERIALES PLASTICOS Y CONEXAS

**Research Organisations** 

Spain

EU contribution

€ 547 908,75

Address Activity type

Calle Gustave Eiffel 4 Parque Tecnologico De Paterna

46980 Paterna Valencia

Website Contact the organisation C



## UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN

Ireland

EU contribution

€ 504 307,50

Address Activity type

Belfield Higher or Secondary

4 Dublin Education Establishments

Website **∠** Contact the organisation **∠** 



### **BIOPLASTECH LTD**

Ireland

EU contribution

€ 410 823,75

Address Activity type

Cashel Road Unit 9 Block C

**Cashel Business Centre** 

12 Dublin

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

Contact the organisation



### SUSTAINABLE INNOVATIONS EUROPE SL

Spain

EU contribution

€ 255 886,25

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A attribut to ma

Address

асичиу цуре

Calle Piamonte 23, Oficina 303

28004 Madrid

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

Contact the organisation <a>C</a>

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### RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

Germany

EU contribution

€ 402 886,25

Address Activity type

Templergraben 55 Higher or Secondary 52062 Aachen Education Establishments

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### IS VESTFORBRAEDING

Denmark

EU contribution

€ 14 997

Address Activity type

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2600 Glostrup (excluding Higher or
Secondary Education

**Establishments**)

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Last update: 25 February 2021

Record number: 233623

Permalink: https://cordis.europa.eu/project/id/953073

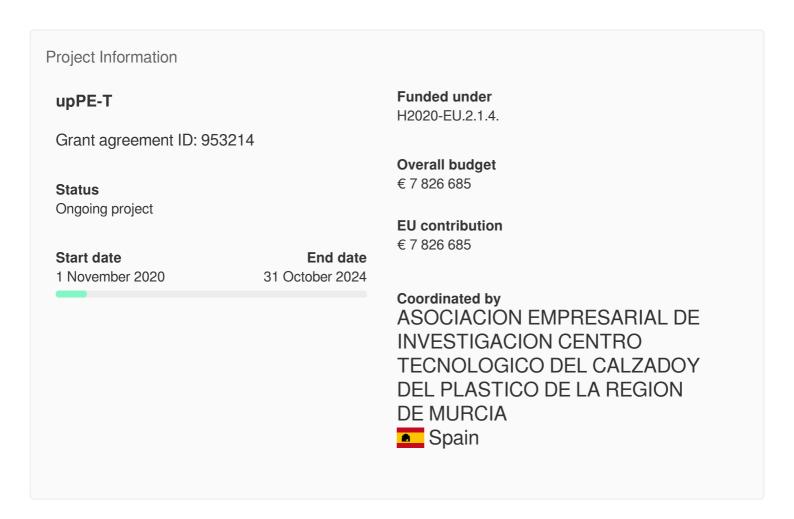
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# Upcycling of PE and PET wastes to generate biodegradable bioplastics for food and drink packaging

### **Fact Sheet**



### **Objective**

The upPE-T project aims upcycling recalcitrant oil-based plastics by bioconversion into biodegradable bioplastic for food and drink packaging production.

Plastic packaging, which make up nearly 60% of the total plastic waste in Europe, is highly problematic from a waste management- and environmental- point of view due to their durability and resistance to degradation. Polyethylene (PE) and Polyethylene terephthalate (PET) are the leading plastic use in food and drink packaging (43% PE and 19% PET). The sustainable management of this plastic waste has become a

very challenging problem for global society.

In upPE-T we will include sustainable strategies as an alternative for plastic chemical degradation. The consortium will improve PE and PET depolymerization through enzymatic engineering to positively impact food and drink packaging recycling rate and achieving the European Union expected impact. In upPE-T we will turn PE and PET waste streams via enzymatic degradation and microbial assimilation into raw material for the production of biodegradable bioplastics. In addition, we will simplify the downstream bioplastic recovery process from cell biomass using an efficient and green extraction approach in which toxic solvents are not used. Finally, together with customers and food and drink brand owners, bio-based end-packaging will be demonstrated and validated to ensure fast market deployment.

Additionally, in order to ensure 100% of PE and PET recyclability, plastic rejections not optimal for microbial bioconversion into bioplastics will be valorized by their use in building applications instead of be sent to incineration or landfilling. upPE-T will be an important part of the actions for compliance with the European Strategy for Plastics in a Circular Economy.

### Field of science

/agricultural sciences/animal and dairy science/pets
/engineering and technology/environmental engineering/waste management
/engineering and technology/industrial biotechnology/biomaterials/bioplastics

### Programme(s)

Topic(s)

### Call for proposal

H2020-NMBP-TR-IND-2020-twostage

### **Funding Scheme**

RIA - Research and Innovation action

### Coordinator



ASOCIACION EMPRESARIAL DE INVESTIGACION CENTRO TECNOLOGICO DEL CALZADOY DEL PLASTICO DE LA REGION DE MURCIA

Address Activity type EU contribution

Avenida Europa 4 5 Poligono Industrial Las Salinas 30840 Alhama De Murcia **Research Organisations** 

€ 778 187,50

Spain

Website **C** Contact the organisation **C** 

### Participants (19)



### **ENZYMICALS AG**

Germany

EU contribution

€ 697 125

Address Activity type

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

Website **C** Contact the organisation **C** 



## DRUSTVO SA OGRANICENOM ODGOVORNOSCU ECO Plastics Beograd CUKARICA

Serbia Serbia

EU contribution

€ 208 500

Address Activity type

Brace Vuckovic 52 Private for-profit entities
11147 Beograd (excluding Higher or
Secondary Education
Establishments)

Contact the organisation



### ASOCIACION PARA LA PROMOCION, INVESTIGACION, DESARROLLO E INNOVACION TECNOLOGICA DE LA INDUSTRIA DEL CALZADO Y CONEXAS DE LA RIOJA



EU contribution

€ 294 437,50

Address Activity type

Pol Ind Fl Rangeal - Calle Research Organisations

72 of 77

i vi. iiiv. Li riaposai - valic

Raposal 65 26580 Arnedo

Website **C** Contact the organisation **C** 

血

### UNIVERSITAET FUER BODENKULTUR WIEN

Austria

EU contribution

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### TAMPEREEN KORKEAKOULUSAATIO SR

**Finland** 

EU contribution

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33100 Tampere Education Establishments

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### LAPPEENRANNAN-LAHDEN TEKNILLINEN YLIOPISTO LUT

**Finland** 

EU contribution

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Address Activity type

Yliopistonkatu 34 Higher or Secondary

53850 Lappeenranta Education Establishments

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### **TECNOALIMENTI S.C.P.A.**

Italy

EU contribution

€ 328 125

Address Activity type

Via Gustavo Fara 39 Research Organisations

20124 Milano



### **INSTITUT ZA RAZVOJ I INOVACIJE - IRI**

Serbia Serbia

EU contribution

€ 388 375

Address

**Gospodar Jevremova 53** 

11000 Beograd

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Activity type

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### **DIGIOTOUCH OU**

Estonia

EU contribution

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### UNIONE NAZIONALE CONSUMATORI UMBRIA



EU contribution

€ 394 812,50

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06124 Perugia

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### **DIMOS NEAS SMYRNI**

Greece

EU contribution

€ 468 487,50

Address Activity type

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**Public bodies (excluding Research Organisations and** 

Secondary or Higher

74 of 77

### Contact the organisation <a>C</a>



### **DURUKAN SEKERLEME SANAYI VE TICARETANONIM SIRKETI**

Turkey

EU contribution

€ 121 312,50

Address Activity type

Ankara Sanayi Odasi 1 Private for-profit entities
Organize Sanayi Bolgesi (excluding Higher or
Dagistan Caddesi 11 Secondary Education
06935 Ankara Establishments)

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### ASOCIACION ESPANOLA DE NORMALIZACION

Spain

EU contribution

€ 110 812,50

Address Activity type

Calle Genova 6 Other

28004 Madrid

Website **C** Contact the organisation **C** 



### **CETEC BIOTECHNOLOGY SL**

Spain

EU contribution

€ 349 687,50

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Avda Europa 4 Y 5 Poligono Private for-profit entities
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30840 Alhama De Murcia Secondary Education
Establishments)

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### **UNIVERSIDAD DE ALICANTE**

Spain

EU contribution

€ 276 562,50

Address Activity type

75 of 77

**Campus De San Vicente** 

03690 Alicante

Raspeig

**Higher or Secondary Education Establishments** 

Website 🗹

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### BIO-MI DRUSTVO S OGRANICENOM ODGOVORNOSCU ZA PROIZVODNJU, **ISTRAZIVANJEI RAZVOJ**

Croatia

EU contribution

€ 377 812,50

Address Activity type

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**Establishments**)

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### **VILLANI SPA**



EU contribution

€ 185 750

Address Activity type

Via Zanasi 24 **Private for-profit entities** 41051 Castelnuovo Rangone (excluding Higher or **Secondary Education Establishments**)

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### **MOSES PRODUCTOS SL**

Spain

EU contribution

€ 233 812,50

Address Activity type

**Calle Romero PI Empresarium** 

12

50720 Zaragoza

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### UNIVERSITAET GREIFSWALD

Germany

EU contribution

€ 500 500

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17489 Greifswald Education Establishments

Website Contact the organisation C

Last update: 28 November 2020

Record number: 232378

Permalink: https://cordis.europa.eu/project/id/953214

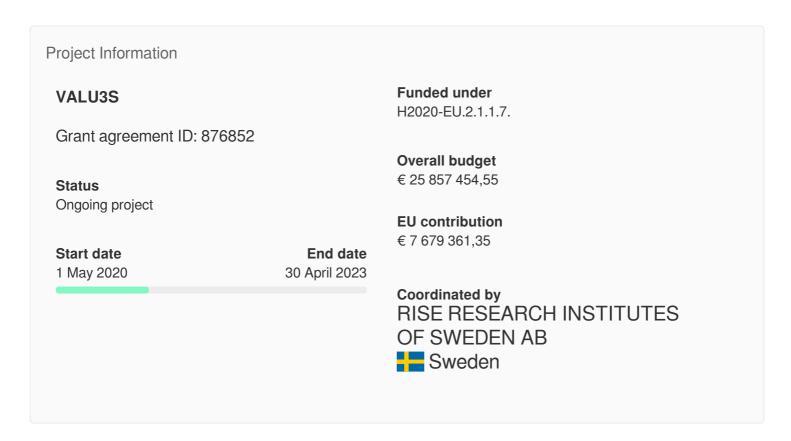
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# Verification and Validation of Automated Systems' Safety and Security

### **Fact Sheet**



### **Project description**

### **Cutting-edge V&V for automated systems**

Failures in highly automated systems can be catastrophic. With increasing complexity and connectivity, unknown properties of systems may emerge, making thorough verification and validation (V&V) essential. The high complexity makes the V&V process time-consuming and costly. The EU-funded VALU3S project evaluates the state-of-the-art V&V methods and tools for automated systems in the automotive industry, agriculture, railway, healthcare, aerospace and industrial automation and robotics. The aim is to design a multi-domain framework. This includes implementing and evaluating methods and tools by qualification and quantification of safety, security and privacy using demonstrators. The methods investigated will be used to improve process workflows and implement tools that support the improved

processes. This will reduce the time and cost needed to verify and validate automated systems.

### **Objective**

Manufacturers of automated systems and the manufacturers of the components used in these systems have been allocating an enormous amount of time and effort in the past years developing and conducting research on automated systems. The effort spent has resulted in the availability of prototypes demonstrating new capabilities as well as the introduction of such systems to the market within different domains. Manufacturers of these systems need to make sure that the systems function in the intended way and according to specifications which is not a trivial task as system complexity rises dramatically the more integrated and interconnected these systems become with the addition of automated functionality and features to them.

With rising complexity, unknown emerging properties of the system may come to the surface making it necessary to conduct thorough verification and validation (V&V) of these systems. VALU3S aims to design, implement and evaluate state-of-the-art V&V methods and tools in order to reduce the time and cost needed to verify and validate automated systems with respect to safety, cybersecurity and privacy (SCP) requirements. This will ensure that European manufacturers of automated systems remain competitive and that they remain world leaders. To this end, a multi-domain framework is designed and evaluated with the aim to create a clear structure around the components and elements needed to conduct V&V process through identification and classification of evaluation methods, tools, environments and concepts that are needed to verify and validate automated systems with respect to SCP requirements.

The implemented V&V methods as well as improved process workflows and tools will also be evaluated in the project using a comprehensive set of demonstrators built from 13 use cases with specific SCP requirements from 6 domains of automotive, industrial robotics, agriculture, Aerospace, railway and health.

Programme(s)

Topic(s)

Call for proposal

H2020-ECSEL-2019-2-RIA

### **Funding Scheme**

ECSEL-RIA - ECSEL Research and Innovation Action

### Coordinator



### RISE RESEARCH INSTITUTES OF SWEDEN AB

Address Activity type EU contribution

Brinellgatan 4 Research Organisations € 642 681,31

501 15 Boras
Sweden

Website **☑** Contact the organisation **☑** 

### Participants (40)



### **STAM SRL**

Italy

EU contribution

€ 111 750

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16129 Genova Ge
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Secondary Education

Establishments)

Website **C** Contact the organisation **C** 



### FONDAZIONE BRUNO KESSLER

Italy

EU contribution

€ 67 812,50

Address Activity type

Via Santa Croce 77 Research Organisations

**38122 Trento** 

Website Contact the organisation C



### KNOWLEDGE CENTRIC SOLUTIONS SL

Spain

EU contribution

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€ 179 156,25

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Activity type

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Parque Tecnologico Legate
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Portugal

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### UNIVERSITA DEGLI STUDI DI GENOVA



EU contribution

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Address Activity type

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16126 Genova Education Establishments

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### **CAMEA SPOL SRO**



EU contribution

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621 00 Brno

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### **IKERLAN S. COOP**

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EU contribution

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P Jose Maria Arizmendiarrieta

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20500 Mondragon

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### R G B MEDICAL DEVICES SA

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EU contribution

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Address Activity type

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### UNIVERSIDADE DE COIMBRA

Portugal

EU contribution

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3001 451 Coimbra Education Establishments

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Czechia

EU contribution

€ 228 375

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Antoninska 548/1 Higher or Secondary
601 90 Brno Stred Education Establishments

Website **C** Contact the organisation **C** 

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### ROBOAUTO S.R.O.

Czechia

EU contribution

€ 96 000

Address Activity type

Mojmirovo Namesti 2923/11

612 00 Brno

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

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### **ESKISEHIR OSMANGAZI UNIVERSITESI**

Turkey

EU contribution

€ 110 250

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**Education Establishments** 

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### KUNGLIGA TEKNISKA HOEGSKOLAN

Sweden

EU contribution

€ 102 375

Address Activity type

Brinellvagen 8 Higher or Secondary

100 44 Stockholm Education Establishments

Website **☑** Contact the organisation **☑** 

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### STATENS VAG- OCH TRANSPORTFORSKNINGSINSTITUT

EU contribution

€ 103 512,50

Address Activity type

Olaus Magnus Vag 35

58195 Linkoeping

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### UNIVERSIDAD DE CASTILLA - LA MANCHA

Spain

EU contribution

€ 119 270,38

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Calle Altagracia 50 Higher or Secondary

13071 Ciudad Real Education Establishments

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## FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

Germany

EU contribution

€ 220 775,19

Address Activity type

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80686 Munchen

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### SIEMENS AKTIENGESELLSCHAFT OESTERREICH

Austria

EU contribution

€ 204 028,13

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Siemensstrasse 90 Private for-profit entities
1210 Wien (excluding Higher or
Secondary Education

**Establishments**)

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**RULEX INNOVATION LABS SRL** 

Italy

EU contribution

€ 72 000

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Activity type

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**16122 Genova** 

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**Establishments**)

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### NXP SEMICONDUCTORS GERMANY GMBH

Germany

EU contribution

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### **PUMACY TECHNOLOGIES AG**

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EU contribution

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### UNITED TECHNOLOGIES RESEARCH CENTREIRELAND, LIMITED

Ireland

EU contribution

€ 103 950,63

Address Activity type

Penrose Quay Penrose Wharf Penrose Business Centre

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50 of 111



#### NATIONAL UNIVERSITY OF IRELAND MAYNOOTH

Ireland

EU contribution

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Address Activity type

Co Kildare Higher or Secondary
W23 Maynooth Education Establishments

Website ☑ Contact the organisation ☑

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#### INOVASYON MUHENDISLIK TEKNOLOJI GELISTIRME DANISMANLIK SANAYI VE TICARET LIMITED SIRKETI

Turkey

EU contribution

€ 240 804

Address Activity type

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26480 Eskisehir

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

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## ERGUNLER INSAAT PETROL URUNLERI OTOMOTIV TEKSTIL MADENCILIK SU URUNLER SANAYI VE TICARET LIMITED STI.

Turkey

EU contribution

€ 370 638,38

Address Activity type

Pirimehmet Mh.113 Cad No.75

32100 Isparta

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

Contact the organisation <a>C</a>



#### OTOKAR OTOMOTIV VE SAVUNMA SANAYI AS

Turkey

EU contribution

€ 224 625

Address Activity type

Aydinevler Mah Saygi Cad No

58

Maltepe

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

Contact the organisation



## TECHY BILISIM TEKNOLOJILERI DANISMANLIK SANAYI VE TICARET LIMITED SIRKETI

Turkey

EU contribution

€ 130 500

Address Activity type

Buyukdere Mah. Genclik Blv.

4/59-Z1

26480 Odunpazari Eskisehir

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Establishments)

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#### **ELECTROTECNICA ALAVESA SL**

Spain

EU contribution

€ 154 143,75

Address Activity type

Viktorialanda 8 Pabellon 2

01010 Alava

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#### INTECS SOLUTIONS SPA



EU contribution

€ 122 500

Address Activity type

Via Giacomo Peroni 130

00131 Roma

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**Establishments**)

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#### LIEBERLIEBER SOFTWARE GMBH

Austria

EU contribution

€ 189 640,13

Address

Activity type

Handelskai 340 Top 5

1020 Wien

Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Contact the organisation <a>C</a>



#### AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH

Austria

EU contribution

€ 327 188,75

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Activity type

Giefinggasse 4

1210 Wien

**Research Organisations** 

Website 🗹

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#### E.S.T.E. SRL



EU contribution

€ 135 000

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Activity type

Via Francesco Luigi Ferrari

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44122 Ferrara

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**Establishments**)

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#### NXP SEMICONDUCTORS FRANCE



EU contribution

€ 347 719,38

Address

Activity type

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53 of 111

**Algorithmes Batiment Thales** 

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Website 🗹

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#### **BOMBARDIER TRANSPORTATION SWEDEN AB**

Sweden

EU contribution

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Ostra Ringvagen 2 721 73 Vasteras Private for-profit entities (excluding Higher or Secondary Education Establishments)

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#### **QRTECH AKTIEBOLAG**

Sweden

EU contribution

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#### **CAF SIGNALLING S.L**

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EU contribution

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#### PERCEIVE3D SA

Portugal

EU contribution

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Rua Pedro Nunes Edif Ipn C

3030 199 Coimbra

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### MONDRAGON GOI ESKOLA POLITEKNIKOA JOSE MARIA ARIZMENDIARRIETA S COOP

Spain

EU contribution

€ 189 875

Address Activity type

Loramendi 4 Higher or Secondary
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Website **C** Contact the organisation **C** 

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#### **INFOTIV AB**

Sweden

EU contribution

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Secondary Education

**Establishments**)

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#### **BERGE CONSULTING AB**

Sweden

EU contribution

€ 493 125

Address Activity type

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41756 Goteborg (excluding Higher or
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**Establishments**)

Contact the organisation

Last update: 11 February 2021

Record number: 229699

**Permalink:** https://cordis.europa.eu/project/id/876852

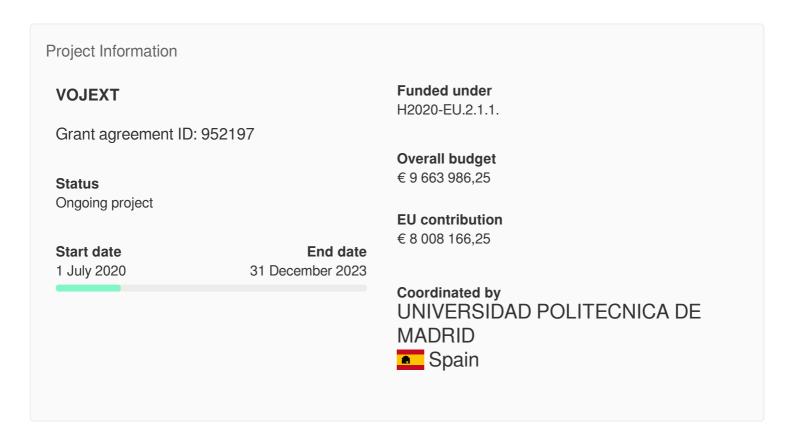
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# Value Of Joint Experimentation in digital Technologies for manufacturing and construction

## **Fact Sheet**



## **Project description**

# Promoting cognitive autonomous systems for human-robot interaction in industry

Robots and autonomous systems that use human-like strategies and knowledge are an important component in the development of Europe's industry. Under the vision of Value Of Joint Experimenation in digital technologies, the EU-funded VOJEXT project aims at providing a business and technological framework that will match and encourage producers and SMEs to adopt cognitive autonomous systems for human-robot interaction, and cobots in particular. To this end, VOJEXT creates cost-effective, market-oriented, and easy-to-repurpose autonomous, mobile and

dexterous robotic systems as the main component of a smart, agile and scalable cognitive cyber-physical system for industry. VOJEXT will deploy five experimental pilots in four EU countries and five industrial sectors. Fifteen new demonstrators will be integrated during the project through open calls. The VOJEXT project's efforts will help to boost science-driven industry approaches for the EU manufacturing and construction industry.

## **Objective**

The VOJEXT project aims at providing a favourable business and technological framework to enable matchmaking and encourage producers and adopters (mainly SMEs including small crafters) of Cognitive autonomous systems for human-robot interaction, specially "cobots", dynamizing science-driven industry approaches for the European industry. For this purpose VOJEXT will design, develop, validate and demonstrate affordable, market-oriented, agile, multipurpose and easy-to-repurpose, autonomous, mobile and dexterous robotic systems as the main component of a smart, agile and scalable cognitive CPS for industry; under the vision of providing Value Of Joint Experimenttion (VOJEXT) in digital technologies to manufacturing and construction industry; while having DIHs as drivers of innovation based economic development in Europe. t

VOJEXT will demonstrate its value by deploying the solution through a 42-months work plan scaling the project to at least 5 additional different markets; starting with 5 experimental pilots (and 9 SMEs) in the plastic textile, electronics, automotive, construction and creative architecture for urban regeneration, VOJEXT cover traditional and non-traditional areas for Al-robotics and cognitive ICT developments; aiming to extend to 15 experimental pilots, integrating 20 more SMEs through open calls. The open calls will foster scientific and business driven innovation together Digital Innovation Hubs led by UPM-AIR4S (Spain), together with other 3 DIHs – Fortiss (Germany), PIAP (Poland) and EMC2 (France). These Open Calls will gather the most innovative SMEs, that will bring new challenges into project's pilots and propose alternative scenarios. Moreover, the project will carry out with 2 S+T+ARTS residencies, that will allow artists stimulate the creation of new product in different contexts and support creative craft experimental pilots in Italy. DIHs will create a new niched oriented offering based on VOJEXT technical areas and for crafting sector.

### Field of science

/social sciences/other social sciences/social sciences interdisciplinary/sustainable development /social sciences/economics and business

## Programme(s)

## Topic(s)

## Call for proposal

H2020-DT-2019-2

## **Funding Scheme**

IA - Innovation action

#### Coordinator



#### UNIVERSIDAD POLITECNICA DE MADRID

Calle Ramiro De Maeztu 7 **Edificio Rectorado** 

28040 Madrid

Spain

Address

Website 🗹

**Higher or Secondary Education Establishments** 

Activity type

€ 1 684 000

EU contribution

Contact the organisation

## Participants (19)



#### **FORTISS GMBH**

Germany

EU contribution

€ 800 437,50

Address Activity type

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**Research Organisations** 

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## SIEC BADAWCZA LUKASIEWICZ - PRZEMYSLOWY INSTYTUT AUTOMATYKI I **POMIAROW PIAP**

Poland

EU contribution

€ 429 125

Address Activity type

Aleje Jerozolimskie 202 **Research Organisations** 

41 of 65

Website 🗹

#### Contact the organisation



#### **POLE EMC2**

France

EU contribution

€ 210 500

Address

Activity type

Other

Zi Le Chaffault All Du

Chaffault

44340 Bouguenais

Contact the organisation <a>C</a>



#### THE SHADOW ROBOT COMPANY LIMITED

United Kingdom

EU contribution

€ 468 518,75

Address Activity type

Unit 31 Spectrum House 32-34

Gordon House Road NW5 1LP London Private for-profit entities (excluding Higher or Secondary Education

**Establishments**)

Website **☑** Contact the organisation **☑** 



#### **ROBOTNIK AUTOMATION SLL**

Spain

EU contribution

€ 1 115 187,50

Address Activity type

Carrer De Barcelona, 3-A. P.i. Fuente Del Jarro 46988 Paterna Private for-profit entities (excluding Higher or Secondary Education Establishments)

Website **C** Contact the organisation **C** 



#### FONDAZIONE ISTITUTO ITALIANO DI TECNOLOGIA

Italy

EU contribution

€ 420 550

Address Activity type

Via Morego 30 16163 Genova **Research Organisations** 

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<u></u>

#### TREE TECHNOLOGY SA

Spain

EU contribution

€ 418 250

Address Activity type

De La Pomarada 76 Private for-profit entities
33429 Siero (excluding Higher or
Secondary Education
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Contact the organisation



#### **TECHNOVATIVE SOLUTIONS LTD**

**United Kingdom** 

EU contribution

€ 382 156,25

Address Activity type

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#### **UNIVERSITAS NEBRISSENSIS SA**

Spain

EU contribution

€ 175 875

Address Activity type

Cd Residencial Berzosa Higher or Secondary 28240 Hoyo De Manzanares Education Establishments

Contact the organisation



#### **KONTOR 46 DI BONASSO MATTEO SAS**



EU contribution

€ 269 354,75

Address Activity type

Via San Francesco De Paola 6

10123 Torino

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

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#### **F6S NETWORK IRELAND LIMITED**

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€ 126 656,25

Address Activity type

39 Fitzwilliam Place Dublin 2

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#### SDRUZHENIE BULGARSKA TARGOVSKO-PROMISHLENA PALATA

Bulgaria

EU contribution

€ 128 062,50

Address Activity type

UI. Iskar 9 Other

1058 Sofia

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#### STICHTING WAAG SOCIETY

Netherlands

EU contribution

€ 273 000

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Nieuwmarkt 4 Research Organisations

1012 CR Amsterdam

Website **C** Contact the organisation **C** 



#### OFFICINA KELLER LANIFICIO NAPOLI SRL



EU contribution

€ 132 125

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Via Del Grande Archivo 32

80138 Napoli

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#### PEMU MUANYAGIPARI ZARTKORUEN MUKODORESZVENYTARSASAG

Hungary

EU contribution

€ 160 769

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Terstyanszky Utca 89 Private for-profit entities 2083 Solymar (excluding Higher or Secondary Education

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#### **ACCIONA CONSTRUCCION SA**

Spain

EU contribution

€ 174 387,50

Address Activity type

Avenida De Europa 18 Parque

**Empresarial** 

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Private for-profit entities (excluding Higher or Secondary Education

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Contact the organisation



#### **OSAI AUTOMATION SYSTEM SPA**



EU contribution

€ 264 250

Address Activity type

Via Sondrio 13/I Private for-profit entities
10144 Torino (excluding Higher or
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Establishments)

45 of 65



#### **DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV**

Germany

EU contribution

€ 198 911,25

Address Activity type

Linder Hohe Research Organisations

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#### **MERCEDES-BENZ TURK AS**

Turkey

EU contribution

€ 176 050

Address Activity type

Akcaburgaz Mah Suleyman Sah Cad 2 Essenyurt 34522 Istanbul Private for-profit entities (excluding Higher or Secondary Education

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Last update: 17 January 2021 Record number: 230193

Permalink: https://cordis.europa.eu/project/id/952197

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# Enabling X-ray CT based Industry 4.0 process chains by training Next Generation research experts

## **Fact Sheet**



## **Project description**

## Increasing autonomy, robustness and speed in CT metrology

Computed tomography (CT) plays an important role in both medical and material inspection applications. Fifteen young and promising researchers will be trained to take the lead in conceiving the next generation of European Industry 4.0-ready CT technology. Success in this field will help to reinforce Europe's global leadership position in manufacturing. The EU-funded xCTing project, which consists of nine beneficiaries and six partner organisations, will focus on increasing the autonomy, robustness and speed in CT metrology. It will support the transition towards a quality assurance technology fully in line with Industry 4.0 environments. X-ray CT metrology

is the only known technology that can certify non-destructively the quality of internal complex structures, such as those produced by additive manufacturing or found in assemblies.

## **Objective**

First-time-right and zero-defect manufacturing of customized lot-size-one products are essential elements of the Industry 4.0 paradigm shift to reinforce Europe's global leadership in manufacturing. X-ray Computed Tomography (CT) metrology has a key role to play in this transition, since it is the only known technology that can certify non-destructively the quality of internal complex structures, such as those produced by additive manufacturing or found in assemblies.

However, CT largely remains an off-line technology, due to the unsolved trade-off between scan speed and scan quality, and the need for extensive expert user input. xCTing will therefore focus on significantly increasing autonomy, robustness and speed in CT metrology in order to support its transition towards a fully in-line quality assurance technology as required in Industry 4.0 environments. Meeting these challenges requires the integration of a broad range of interdisciplinary expertise, including physics, manufacturing, dimensional metrology, machine learning, as well as efficient and reliable big data analytics and visualization.

In order to achieve the envisaged innovation breakthrough in the European industry, Europe is in dire need of young innovators who can combine this variety of competences with entrepreneurial skills. The xCTing project is a pan-European industrial-academic initiative committed to provide the unique and encompassing training environment required to foster this new generation of innovation-minded research engineers, that will act as catalysts in the further transformation of Europe's manufacturing industry towards global technological leadership. The overall aim of the xCTing project is to train 15 young and promising researchers (ESRs) that will take the lead in conceiving the next generation of European Industry 4.0-ready CT technology. The xCTing consortium consists of 9 beneficiaries and 6 partner organisations.

## Field of science

/engineering and technology/mechanical engineering/manufacturing engineering/additive manufacturing /natural sciences/computer and information sciences/data science/big data

## Programme(s)

## Topic(s)

## Call for proposal

H2020-MSCA-ITN-2020

## **Funding Scheme**

MSCA-ITN-ETN - European Training Networks

#### Coordinator



#### KATHOLIEKE UNIVERSITEIT LEUVEN

Address EU contribution Activity type

€ 768 960 **Oude Markt 13 Higher or Secondary** 

3000 Leuven **Education Establishments** Belgium

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## Participants (9)



#### FH OO FORSCHUNGS & ENTWICKLUNGS GMBH

Austria

EU contribution

€ 528 414,48

Address

Roseggerstrasse 15

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**Research Organisations** 



#### UNIVERSITA DEGLI STUDI DI PADOVA



EU contribution

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#### STICHTING NEDERLANDSE WETENSCHAPPELIJK ONDERZOEK INSTITUTEN

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# FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

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#### **MATERIALISE NV**

Belgium

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#### **BAKER HUGHES DIGITAL SOLUTIONS GMBH**

Germany

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#### **VOLUME GRAPHICS GMBH**

Germany

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#### **UNIVERSITEIT LEIDEN**

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Last update: 28 August 2020 Record number: 230862

Permalink: https://cordis.europa.eu/project/id/956172

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