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# Engineered nanomaterial mechanisms of interactions with living systems and the environment: a universal framework for safe nanotechnology

## Fact Sheet

### Project Information

**NANOMILE**

Grant agreement ID: 310451

Project closed

**Start date**

1 March 2013

**End date**

28 February 2017

**Funded under**

Specific Programme "Cooperation": Nanosciences, Nanotechnologies, Materials and new Production Technologies

**Total cost**

€ 12 965 197,01

**EU contribution**

€ 9 624 979,00

**Coordinated by**

THE UNIVERSITY OF  
BIRMINGHAM

 United Kingdom

## Objective

The NanoMILE project is conceived and led by an international elite of scientists from the EU and US with the aim to establish a fundamental understanding of the mechanisms of nanomaterial interactions with living systems and the environment,

and uniquely to do so across the entire life cycle of nanomaterials and in a wide range of target species. Identification of critical properties (physico-chemical descriptors) that confer the ability to induce harm in biological systems is key to allowing these features to be avoided in nanomaterial production (“safety by design”). Major shortfalls in the risk analysis process for nanomaterials are the fundamental lack of data on exposure levels and the environmental fate and transformation of nanomaterials, key issues that this proposal will address, including through the development of novel modelling approaches. A major deliverable of the project will be a framework for classification of nanomaterials according to their impacts, whether biological or environmental, by linking nanomaterial-biomolecule interactions across scales (sub-cellular to ecosystem) and establishing the specific biochemical mechanisms of interference (toxicity pathway).

## Fields of science (EuroSciVoc)

[engineering and technology](#) > [nanotechnology](#) > [nano-materials](#)



## Programme(s)

[FP7-NMP - Specific Programme "Cooperation": Nanosciences, Nanotechnologies, Materials and new Production Technologies](#)

## Topic(s)

[NMP.2012.1.3-1 - Systematic investigations of the mechanisms and effects of engineered nanomaterial interactions with living systems and/or the environment](#)

## Call for proposal

FP7-NMP-2012-LARGE-6  
[See other projects for this call](#)

## Funding Scheme

[CP-IP - Large-scale integrating project](#)

## Coordinator



## THE UNIVERSITY OF BIRMINGHAM

EU contribution

€ 1 484 724,85

Total cost

**No data**

Address

**Edgbaston**

**B15 2TT Birmingham**

**United Kingdom**

Region

**West Midlands (England) > West Midlands > Birmingham**

Activity type

**Higher or Secondary Education Establishments**

Links

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

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

[HORIZON collaboration network](#)

## Participants (28)

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## KARLSRUHER INSTITUT FUER TECHNOLOGIE

**Germany**

EU contribution

€ 659 343,00

Address

**KAISERSTRASSE 12**

**76131 Karlsruhe**

Region

**Baden-Württemberg > Karlsruhe > Karlsruhe, Stadtkreis**

Activity type

**Higher or Secondary Education Establishments**

Links

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

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

[HORIZON collaboration network](#)

Total cost

**No data**

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## UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN

 Ireland

EU contribution

**€ 586 688,00**

Address

**BELFIELD**

**4 Dublin** 

Region

**Ireland > Eastern and Midland > Dublin**

Activity type

**Higher or Secondary Education Establishments**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**

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## COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

 France

EU contribution

**€ 610 161,00**

Address

**RUE LEBLANC 25**

**75015 PARIS 15** 

Region

**Ile-de-France > Ile-de-France > Paris**

Activity type

**Research Organisations**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**

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## JRC -JOINT RESEARCH CENTRE- EUROPEAN COMMISSION

 Belgium

EU contribution

**€ 568 116,00**

Address

**Rue de la Loi 200**

**1049 Bruxelles / Brussel** 

Region

**Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest > Région de Bruxelles-Capitale/ Brussels Hoofdstedelijk Gewest > Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad**

Activity type

**Research Organisations**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**

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## EIDGENOSSISCHE MATERIALPRUFUNGS- UND FORSCHUNGSANSTALT

 Switzerland

EU contribution

**€ 253 704,00**

Address

**UEBERLANDSTRASSE 129**

**8600 Dubendorf** 

Region

**Schweiz/Suisse/Svizzera > Zürich > Zürich**

Activity type

**Higher or Secondary Education Establishments**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**

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## **EIDGENOESSISCHE ANSTALT FUER WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWAESSERSCHUTZ**

 Switzerland

EU contribution

**€ 258 538,00**

Address

**UBERLANDSTRASSE 133**

**8600 Dubendorf** 

Region

**Schweiz/Suisse/Svizzera > Zürich > Zürich**

Activity type

**Other**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**

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## **UNIVERSITE DE GENEVE**

 Switzerland

EU contribution

**€ 252 746,00**

Address

RUE DU GENERAL DUFOUR 24

1211 Geneve 

Region

Schweiz/Suisse/Svizzera > Région lémanique > Genève

Activity type

**Higher or Secondary Education Establishments**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**



## RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU

 Netherlands

EU contribution

**€ 459 011,00**

Address

**Antonie Van Leeuwenhoeklaan 9**

**3721 MA Bilthoven** 

Activity type

**Research Organisations**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**



## THE UNIVERSITY OF EXETER

 United Kingdom

EU contribution

**€ 517 260,00**

Address

## THE QUEEN'S DRIVE NORTHCOTE HOUSE

EX4 4QJ Exeter 

Region

**South West (England) > Devon > Devon CC**

Activity type

**Higher or Secondary Education Establishments**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**

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## LUDWIG-MAXIMILIANS-UNIVERSITAET MUENCHEN

 Germany

EU contribution

**€ 240 000,00**

Address

**GESCHWISTER SCHOLL PLATZ 1**

**80539 MUNCHEN** 

Region

**Bayern > Oberbayern > München, Kreisfreie Stadt**

Activity type

**Higher or Secondary Education Establishments**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**

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## THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

 United States

EU contribution

**No data**

Address

**FRANKLIN STREET 1111 12 FLOOR**  
**94607 Berkeley** 

Activity type

**Higher or Secondary Education Establishments**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**

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## DUKE UNIVERSITY

 United States

EU contribution

**No data**

Address

**ALLEN BUILDING 207**  
**27708 Durham Nc** 

Activity type

**Higher or Secondary Education Establishments**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**

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## UNIVERSITEIT UTRECHT

 Netherlands

EU contribution

**€ 300 000,00**

Address

**HEIDELBERGLAAN 8**  
3584 CS Utrecht 

Activity type

**Higher or Secondary Education Establishments**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**



**DET NATIONALE FORSKNINGSCENTER FOR ARBEJDSMILJØ**

 Denmark

EU contribution

**€ 404 880,00**

Address

**LERSO PARKALLE 105**

**2100 Kobenhavn** 

Region

**Danmark > Hovedstaden > Byen København**

Activity type

**Research Organisations**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**



**THE UNIVERSITY OF EDINBURGH**

 United Kingdom

EU contribution

**€ 206 785,00**

Address

OLD COLLEGE, SOUTH BRIDGE

EH8 9YL Edinburgh 

Region

Scotland > Eastern Scotland > Edinburgh

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Total cost

No data



IUF - LEIBNIZ-INSTITUT FUR UMWELTMEDIZINISCHE FORSCHUNG GMBH

 Germany

EU contribution

€ 253 920,00

Address

AUF M HENNEKAMP 50

40225 Dusseldorf 

Region

Nordrhein-Westfalen > Düsseldorf > Düsseldorf, Kreisfreie Stadt

Activity type

Other

Links

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

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

[HORIZON collaboration network](#) 

Total cost

No data



VITROCELL SYSTEMS GMBH

 Germany

EU contribution

€ 152 499,00

Address

**FABRIK SONNTAG 3**

**79183 WALDKIRCH** 

Region

**Baden-Württemberg > Freiburg > Emmendingen**

Activity type

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

Links

[Contact the organisation](#) 

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

[HORIZON collaboration network](#) 

Total cost

**No data**



## **NOVAMECHANICS LIMITED**

 Cyprus

EU contribution

€ 353 640,00

Address

**DIGENI AKRITA 51**

**1070 Nicosia** 

Region

**Κύπρος > Κύπρος > Κύπρος**

Activity type

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

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**



## **NANO4IMAGING GMBH**

 Germany

EU contribution

**€ 274 000,00**

Address

**MEROWINGER PLATZ 1**  
**52074 Dusseldorf** 

Region

**Nordrhein-Westfalen > Düsseldorf > Düsseldorf, Kreisfreie Stadt**

Activity type

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

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**



## **UNIVERZA V LJUBLJANI**

 Slovenia

EU contribution

**€ 189 200,00**

Address

**KONGRESNI TRG 12**  
**1000 Ljubljana** 

Region

**Slovenija > Zahodna Slovenija > Osrednjeslovenska**

Activity type

**Higher or Secondary Education Establishments**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**



## PROMETHEAN PARTICLES LTD

 United Kingdom

EU contribution

**€ 225 600,00**

Address

**1-3 Genesis Park, Midland Way  
NG7 3EF Nottingham** 

Region

**East Midlands (England) > Derbyshire and Nottinghamshire > Nottingham**

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**



## EUROFINS AGROSCIENCE SERVICES ECOCHEM GMBH

 Germany

EU contribution

**€ 144 378,00**

Address

**EUTINGER STRASSE 24  
75223 NIEFERN OSCHELBRONN** 

Activity type

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

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**



## EUROPEAN RISK & RESILIENCE INSTITUTE (EU-VRI) EWIV

 Germany

EU contribution

**€ 371 200,00**

Address

**FANGELSBACHSTRASSE 14**  
**70178 STUTTGART** 

Region

**Baden-Württemberg > Stuttgart > Stuttgart, Stadtkreis**

Activity type

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

Links

[Contact the organisation](#) 

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

[HORIZON collaboration network](#) 

Total cost

**No data**



## BASF SE

 Germany

EU contribution

**€ 225 000,00**

Address

**CARL BOSCH STRASSE 38**  
**67063 Ludwigshafen Am Rhein** 

Region

**Rheinland-Pfalz > Rheinhessen-Pfalz > Ludwigshafen am Rhein, Kreisfreie Stadt**

Activity type

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

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**



## BIOMAX INFORMATICS AG

 Germany

EU contribution

**€ 249 450,00**

Address

**ROBERT KOCH STRASSE 2  
82152 STEINKIRCHEN** 

Region

**Bayern > Oberbayern > München, Landkreis**

Activity type

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

Links

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

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

[HORIZON collaboration network](#) 

Total cost

**No data**



## ATTANA AB

 Sweden

EU contribution

**€ 250 000,00**

Address

**GREV TUREG 14 3 1/2 TR  
114 46 Stockholm** 

Region

**Östra Sverige > Stockholm > Stockholms län**

Activity type

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

Links

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

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

[HORIZON collaboration network](#) 

Total cost

No data

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**NANOSIGHT LIMITED** 

 United Kingdom

EU contribution

€ 48 930,50

Address

**LONDON ROAD MINTON PARK  
SP4 7RT WILTSHIRE** 

Activity type

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

Links

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

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

[HORIZON collaboration network](#) 

Total cost

No data

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**MALVERN PANALYTICAL LIMITED**

 United Kingdom

EU contribution

€ 85 204,65

Address

**GROVEWOOD ROAD ENIGMA BUSINESS PARK  
WR14 1XZ Malvern** 

Region

**West Midlands (England) > Herefordshire, Worcestershire and Warwickshire >  
Worcestershire**

Activity type

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

Links

[Contact the organisation](#) 

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

[HORIZON collaboration network](#) 

Total cost

**No data**

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**Permalink:** <https://cordis.europa.eu/project/id/310451>

European Union, 2025