

# Development of a Support System for Improved Resilience and Sustainable Urban areas to cope with Climate Change and Extreme Events based on GEOSS and Advanced Modelling Tools

## Fact Sheet

### Project Information

**HARMONIA**

Grant agreement ID: 101003517


**Start date**  
1 June 2021

**End date**  
31 January 2025

**Funded under**  
H2020-EU.3.5.5.  
H2020-EU.3.5.  
H2020-EU.3.5.1.

**Overall budget**  
€ 4 999 803,61

**EU contribution**  
€ 4 999 794

**Coordinated by**  
**POLITECNICO DI MILANO**  
 Italy

## Project description

### Satellite data to quantify climate change effects on urban areas

Combatting climate change requires all sorts of tools, methods, and policy commitments. To support the adaptation and mitigation measures of the Paris Agreement, the EU-funded HARMONIA project will focus on a solution for climate applications. It will test modern remote sensing tools and 3D-4D monitoring.

Specifically, the project will leverage existing tools and services to deliver an integrated assessment platform working on top of Global Earth Observation System of Systems (GEOSS). Machine learning/deep learning techniques will also be used to develop a modular, scalable, data-driven, multi-layer knowledge base of urban areas. HARMONIA will consider the local ecosystems of European urban areas with extra attention to sustainable urban development goals. HARMONIA aims to deliver an integrated resilience assessment platform (IRAP).

## Objective

HARMONIA will leverage existing tools, services and novel technologies to deliver an integrated resilience assessment platform working on top of GEOSS, seeing the current lack of a dedicated process of understanding and quantifying Climate Change (CC) effects on urban areas using Satellite and auxiliary data available on GEOSS, DIAS, urban TEP, GEP etc. platforms. HARMONIA will focus on a solution for climate applications supporting adaptation and mitigation measures of the Paris Agreement. HARMONIA will test modern Remote Sensing tools and 3D-4D monitoring, Machine Learning/Deep Learning techniques and develop a modular scalable data-driven multi-layer urban areas observation information knowledge base, using Satellite data time series, spatial information and auxiliary data, in-situ observing systems, which will integrate detailed information on local level of neighborhoods/building blocks. HARMONIA focuses on two pillars: a) Natural and manmade hazards intensified by CC: urban flooding, soil degradation and geo-hazards (landslides, earthquake, ground deformation) and b) Manmade hazards: heat islands, urban heat fluxes, Air Quality, Gas emissions. Sustainable reconstruction of urban areas and the health of humans and ecosystems, are top priorities. HARMONIA will take into account the local ecosystems of European urban areas, following an integrated and sustainable approach by incorporating the active communities' participation initiative, which will involve the use of a social platform. Paying extra attention to Sustainable Urban Development, one of the Societal Benefit Areas posits that use of EO is a crucial tool towards resilient cities and the assessment of urban footprints, to promote equity, welfare and shared prosperity for all, feed new indicators for the monitoring of progress towards the Sustainable Development Goals in an EU context.

## Fields of science

- > > >
- > > > >
- > >
- > >
- > > > >

# Programme(s)

## Topic(s)

## Call for proposal

H2020-LC-CLA-2020-2

## Funding Scheme

## Coordinator



### POLITECNICO DI MILANO

Address

Piazza Leonardo Da Vinci 32  
20133 Milano

 Italy

[Website](#) 

Activity type

**Higher or Secondary  
Education Establishments**

EU contribution

**€ 550 000**

[Contact the organisation](#) 

## Participants (21)

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### INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS

 Greece

EU contribution

**€ 350 625**

Address

Patission Str. 42  
10682 Athina

[Website](#) 

Activity type

**Research Organisations**

[Contact the organisation](#) 



### RESILIENCE GUARD GMBH

 Switzerland

EU contribution

**€ 250 000**

Address

Zurcherstrasse 37D  
8852 Altendorf

Activity type

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

[Contact the organisation](#) 

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## GEOSYSTEMS HELLAS IT KAI EFARMOGESGEOPLIROFORIAKON SYSTIMATON ANONIMIETAIREIA

 Greece

EU contribution

€ 408 625

Address

**Imittou 225  
11632 Athina**

Activity type

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

[Contact the organisation](#) 

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## CREOTECH INSTRUMENTS SPOLKA AKCYJNA

 Poland

EU contribution

€ 344 625

Address

**Ul Gen Leopolda Okulickiego  
Nr 7 Lok 9  
05 500 Piaseczno**

Activity type

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

[Contact the organisation](#) 

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## UNIVERSITATEA DE VEST DIN TIMISOARA

 Romania

EU contribution

€ 200 000

Address

**Bd Vasile Parvan 4  
300223 Timisoara**

Activity type

**Higher or Secondary  
Education Establishments**

[Website](#) 

[Contact the organisation](#) 

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## KUNGLIGA TEKNISKA HOEGSKOLAN

 Sweden

EU contribution

€ 210 000

€ 249 625

Address

**Brinellvagen 8  
100 44 Stockholm**

[Website](#)

Activity type

**Higher or Secondary  
Education Establishments**

[Contact the organisation](#)

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## ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA

Italy

EU contribution

€ 198 750

Address

**Via Di Vigna Murata 605  
00143 Roma**

[Website](#)

Activity type

**Research Organisations**

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## IDRYMA TECHNOLOGIAS KAI EREVNAS

Greece

EU contribution

€ 200 000

Address

**N Plastira Str 100  
70013 Irakleio**

[Website](#)

Activity type

**Research Organisations**

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## URBASOFIA SRL

Romania

EU contribution

€ 170 312,50

Address

**Soseaua Colentina 11 Bloc  
R26 Scara 1 Etaj 3 Ap 16  
Camera Nr 1  
021154 Bucuresti**

[Contact the organisation](#)

Activity type

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

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## AGENCY FOR SUSTAINABLE DEVELOPMENT AND EUROINTEGRATION - ECOREGIONS

Bulgaria

EU contribution

€ 206 937,50

Address

**Kokitche 9  
1164 Sofia**

[Website](#)

Activity type

**Research Organisations**

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## ILMATIETEEN LAITOS

Finland

EU contribution

€ 220 375

Address

**Erik Palmenin Aukio 1  
00560 Helsinki**

[Website](#)

Activity type

**Research Organisations**

[Contact the organisation](#)

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## ASSIMILA LTD\*

United Kingdom

EU contribution

€ 200 000

Address

**Green Road 45  
RG6 7BS Reading**

[Website](#)

Activity type

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

[Contact the organisation](#)

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## EUROPEAN ASSOCIATION OF REMOTE SENSING COMPANIES

Belgium

EU contribution

€ 231 250

Address

**Rue Beranger 26  
1190 Bruxelles**

[Contact the organisation](#)

Activity type

**Other**

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## HUMANITAS MIRASOLE SPA

Italy

EU contribution

€ 200 625

Address

**Via Manzoni 56  
20100 Rozzano (Mi)**

[Website](#)

Activity type

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

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## **EURONET CONSULTING**

 Belgium

EU contribution

**€ 230 249**

Address

**43 Rue Saint Christophe  
1000 Brussels**

[Contact the organisation](#)

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Activity type

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



## **COMMUNE D'IXELLES**

 Belgium

EU contribution

**€ 124 375**

Address

**Chaussee D Ixelles 168A  
1050 Bruxelles**

[Contact the organisation](#)

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Activity type

**Public bodies (excluding  
Research Organisations and  
Secondary or Higher  
Education Establishments)**



## **COMUNE DI MILANO**

 Italy

EU contribution

**€ 125 000**

Address

**Piazza Della Scala 2  
20121 Milano**

[Website](#)

Activity type

**Public bodies (excluding  
Research Organisations and  
Secondary or Higher  
Education Establishments)**

[Contact the organisation](#)



## STOLICHNA OBSHTINA

Bulgaria

EU contribution

€ 116 312,50

Address

**Moskovska Str 33  
1000 Sofia**

Activity type

**Public bodies (excluding  
Research Organisations and  
Secondary or Higher  
Education Establishments)**

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## DIMOS PEIRAIA

Greece

EU contribution

€ 123 125

Address

**Dragatsi 12  
185 35 Piraeus**

Activity type

**Public bodies (excluding  
Research Organisations and  
Secondary or Higher  
Education Establishments)**

[Contact the organisation](#)



## DATAREADY LIMITED

United Kingdom

EU contribution

€ 129 607,50

Address

**5 Bathurst Square  
N15 4FU London**

Activity type

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

[Contact the organisation](#)



## MARKOPOULOU-PAPAKONSTANTINOU KAI SYNERGATES ETAIREIA DIKIGORON

Greece

EU contribution

€ 169 375

Address

Activity type



**Ethnikis Antistateos 84B**  
**15231 Chalandri Athina**

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

Contact the organisation [↗](#)

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**Permalink:** <https://cordis.europa.eu/project/id/101003517>

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