

Deep Learning Powered Holographic Microscopy for Biothreat Detection on Field

Fact Sheet

Project Information

HoloZcan

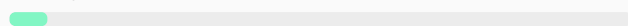
Grant agreement ID: 101021723

Start date

1 May 2021

End date


30 April 2024



Funded under
H2020-EU.3.7.5.

Overall budget
€ 4 380 400

EU contribution
€ 4 380 400

Coordinated by
IDEAS SCIENCE KFT
 Hungary

Objective

HoloZcan brings a new tool for security actors (police, relief workers, disaster managers, crisis managers, stakeholders responsible for public safety, critical infrastructure, and service providers) notably in the fields of autonomous detection and response capabilities.

The project will increase (environmental and exhaled) bio-aerosol sensing/measurement capability of CBRN practitioners by developing a high resolution, large throughput, automatic and highly portable detection system for making automatic classification of pathogens and particles.

HoloZcan develops of a novel holographic microscopy and imaging technology for rapid and cost-efficient screening of potential biological threats and unknown, potentially dangerous substances, combined with methods of artificial intelligence

and machine learning. It establishes a framework of a dynamic feature selection and validation algorithm to support the continuous innovation capability of the system in the field of adaptive learning and database optimization for specific bioinformatic applications. The project also develops comprehensive and innovative means of respiratory, ventilation and environmental biological data sampling that can be used in real-time, standoff or in mobile bio-detection context.

The project indicates the HoloZcan technique versatility for a wide range of applications and demonstrates its technical feasibility. The project responds to the actual needs of European practitioners and technological gaps identified by the ENCIRCLE project as indicated in the ENCIRCLE Catalogue of Technologies and addresses several shortcomings of the current approaches to bio-threat agent detection.

The HoloZcan project applies a flexible adaptive approach to design and CBRN practitioners are engaged as project partners or as external stakeholders in the process.

Fields of science

> > >

> >

Programme(s)

Topic(s)

Call for proposal

H2020-SU-SEC-2020

Funding Scheme

RIA - Research and Innovation action

Coordinator



IDEAS SCIENCE KFT

Address

**Varadhegyfok Utca 6. B. Ep.
2100 Godollo**

Activity type

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

EU contribution

€ 742 037,50

[Contact the organisation](#) 

Participants (8)



DATASENSELABS KFT

 Hungary

EU contribution

€ 384 562,50

Address

Kiraly Utca 80 Fsz 11
1068 Budapest

Activity type

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

[Contact the organisation](#) 



Zug Medical Systems SAS

 France

EU contribution

€ 401 500

Address

291 Rue Albert Caquot,
Cs40095
06560 Valbonne

Activity type

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

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POLITECNICO DI MILANO

 Italy

EU contribution

€ 270 000

Address

Piazza Leonardo Da Vinci 32
20133 Milano

Activity type

Higher or Secondary
Education Establishments

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UNIWERSYTET LODZKI

 Poland

 Poland

EU contribution

€ 611 500

Address

**UI Prezydenta Gabriela
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90 136 Lodz**

[Website](#) 

Activity type

**Higher or Secondary
Education Establishments**

[Contact the organisation](#) 



SIOUX TECHNOLOGIES BV

 Netherlands

EU contribution

€ 662 812,50

Address

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5633 AJ Eindhoven**

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Activity type

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



KOMENDA STOLECZNA POLICJI

 Poland

EU contribution

€ 361 987,50

Address

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Activity type

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



D.M.I

 France

EU contribution

€ 446 812,50

Address

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69001 Lyon**

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Activity type

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



INSTITUT PASTEUR

 France

EU contribution

€ 499 187,50

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75724 Paris Cedex 15**

[Website](#)

Activity type

Research Organisations

[Contact the organisation](#)

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