

Project ARTION consortium members: *University of Cyprus, Centrum Badan Kosmicznych Polskiej Akademii Nauk, Cyprus Civil Defence, Université de Lille, Regione Autonoma della Sardegna* are pleased to invite you to a workshop on the subject of the **Practical utilisation of AI tools in emergency management**.

The workshop will be held virtually, and will consist of two parts:

- **Seminar** event, **22nd February, 10 AM CET** – dedicated to presenting successful operational AI adaptation in Civil Protection area and allowing discussion with “the fathers” of that success stories,
- **Training** session held a week later (**1st March, 10 AM CET**) and aiming to upskill first responder stakeholders (more about below).

About the Seminar:

Recent technological advancements have made it possible to collect huge amounts of data regarding various disasters, that can be invaluable in gaining situational awareness and helping stakeholders make the right decisions both before and after a disaster happens. However, such stream of data might become difficult to make sense of, especially in time-critical and time-varying situations.

It is necessary to develop intelligent systems that can aid humans in such situations. **Artificial Intelligence (AI)** can be used to analyse the large volumes of heterogeneous spatio-temporal data in critical time-bound situations, in turn providing high-level actionable information which stakeholders and emergency responders can process effectively.

The training session will cover the following aspects: An introduction highlighting the usefulness and motivation behind the employment of AI for disaster management, an introduction to AI providing a brief background on this scientific field, a selection of topics on AI for disaster management and a detailed approach on testing and evaluating AI technologies for disaster management.

About the ARTION Project:

Project ARTION (**Disaster Management Artificial Intelligence Knowledge Network**), aims at facilitating the knowledge sharing in the area of artificial intelligence for disaster management and wishes to guide the development and use of AI tools by first responders across Europe.

ARTION aspires to bridge the gap between AI scientists and disaster management experts, build capacity and competency of first responders in the use of AI technology, share knowledge and data, and stimulate further AI research towards application-specific challenges faced throughout the disaster management cycle. For more information (or to get our datasets or free training materials), please visit our [web portal](#).

In a nutshell: a seminar about utilisation of artificial intelligence for disaster management:

- ✓ Digestive in form and informative enough for more advanced users.
- ✓ For crisis management practitioners, researchers and policymakers with an interest in innovation.
- ✓ Registration for the event is free of charge.
- ✓ The seminar will be followed with a concise 3-hour training, organised a week later.

[Register on the CMINE platform \(account not required\)](#) or directly via: kdabrowska@cbk.waw.pl



Funded by
European Union
Civil Protection

The project has received funding from the European Union’s Call for proposals in the field of Civil Protection under the Union Civil Protection Knowledge Network under grant agreement 101017763.

Project ARTION seminar: Practical utilisation of AI tools in emergency management. 02.02.2022

Introduction 10.05 – 10.30 Project ARTION in a nutshell: developments so far & ongoing work
Keynote speech: Why UAV's and AI make a perfect couple?

Success Story: *Recently established drone team of Polish Volunteer High-Mountain S&R (GOPR) team achieved their first successful operational identification of a missing person by AI supported drone. Presentation will describe how it was possible and who is behind that success.*

GOPR operates in difficult circumstances - high mountains hamper both communication and navigation. Weather conditions are often considered too extreme for aircrafts, nevertheless the team managed to overcome these issues and even went one step further: put AI algorithms into use to maximise efficiency of UAV collected data.

Success Story: *In 2020 Poland's largest national park struggled to tackle the worst fire in decades. When a vast number of water bombing missions started, a completely unknown before safety issue arose: the amount of low-flying manned aircrafts forced a full grounding of the Polish State Fire Service UAV fleet, partially blinding forces on the ground.*

Success stories
10.30 – 11.40

The complete reservation of airspace currently prevails as a go-to solution to ensure safe flights during emergencies. To address that gap, Space Research Centre together with State Fire Service and Polish Air Navigation Services Agency started discussing possible alternatives in area of Aircraft Operations Coordination for Emergency and Rescue.

A year later a study exercise was organised (coupled with regular exercises of forces) to test innovative approach to airspace management. Several aircrafts, both manned and unmanned worked safely together in the course of two days. Developments following this unprecedented experiment will allow (and ease) safe and legal drone operations during large –scale emergencies. As an outcome, we will see more separation and less reservation in the usage of airspace in the following years.

Success Story: *AI supported Stratumsein - systems installed on Stratumseind street (the busiest pub street in the Netherlands), in Eindhoven historical city centre, allowed significantly better situation awareness, improved reaction time of emergency response and helped with finding patterns of abnormal behaviour.*

This presentation will describe the process of building and testing the system during global pandemics, its current capabilities and plans for near future, with extra focus on possibilities arising for other cities and institutions and on lessons that has been identified during system implementation.

Panel discussion 11.40-12.00 Seminar guests together with consortium experts will try to address questions about present capacities and upcoming developments of AI.

Refreshment breaker 12.00 – 12.10

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Project
ARTION
developments
so far & soon
available
studies

Project ARTION field exercises were organised to collect the data and to evaluate the effectiveness of the proposed AI solutions. Those datasets are available and can be used by any practitioner or scientific actor to assess existing solutions and develop different response strategies. Each of those three events will be presented and discussed, including event background description and gathered data showcase.

12.10 – 13.00

Novel datasets and AI tools, AI technology evaluation Report and structured overview of the existing work based on the systematic literature review. As the amount of existing scientific work is already vast, the systematic reviews are crucial to act as guides for the interested scientists to acquire information about the state-of-the-art in the field, and for the interested researchers to identify gaps and open problems and deliver novel methods and results.

Project ARTION Training. 01.03.2022

If you wish to learn more about the topic, you are kindly invited to participate in a training session on the 1st of March. Training is delivered as a separate virtual event. All materials presented, together with Training manual supporting them, are available on the project web portal. We encourage their download and further use.

[Click to register for the training](#) on CMINE platform.

Please inform us if you are interested in personalised training session.

Introduction
10.05 – 10.30

Short introduction and presentation of results of the general seminar.

Training: AI
10.30 – 12.30

One of the four strategic pillars of ARTION is devoted to training and networking aiming to upskill first responder stakeholders by exemplifying AI technologies, detailing the data collection and analysis procedures and setting the expectations on what can be achieved by AI tools.

The training material covers the following aspects:

- An introduction highlighting the usefulness and motivation behind the employment of AI for disaster management.
 - An introduction to AI providing a brief background on this scientific field.
 - A selection of topics on AI for disaster management.
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Panel
discussion
12.30 – 13.00

Testing and Evaluating AI technologies for disaster management

A guide to organising structured trials of AI solutions by utilising a detailed approach on testing and evaluating AI technologies for disaster management – Trial Guidance Methodology developed in DRIVER+ project.