BACKGROUND NOTE

AI for emergency and crisis management: Today's use and tomorrow's options for civil protection

1. Purpose

This session aims **to facilitate an exchange of views on a set of policy options that can guide the development and use of Artificial Intelligence (AI) in civil protection** at both national and European levels. The objective of this exploratory discussion is to establish how AI could realistically support emergency preparedness and response. The session will be based on the findings of the latest publication of the European Commission's Scientific Advice Mechanism (SAM) on AI in crisis management as well as the Commission's institutional analysis on AI in DRM from December 2025. Participants are invited to **provide input on matters such as what priority areas should be considered for future work,** how risk and uncertainty should be managed, what conditions would be needed for scaling up and where restraint could be necessary.

2. Context

AI is rapidly evolving, leading to a growing number of new tools and applications emerging on the market. This is mirrored in the development of tools and applications to be gradually incorporated into the systems that the Emergency Response Coordination Centre (ERCC) uses daily for early warning and situational awareness. This will be the case for the decision support system using AI within the Copernicus Global Wildfire Information System (GWIS). At the same time, major EU regulations on AI and data, such as the AI Act and the General Data Protection Regulation (GDPR), are creating both opportunities and challenges for AI applications. More generally, the use of AI may have a great performance potential if properly and effectively used.

In this context, DG ECHO identified the need to better understand how AI is being used in emergency management, how reliable and mature these applications are, and **what are the opportunities and risks for its further development and use within the ERCC and the broader civil protection community.** Accordingly, DG ECHO requested support from the Scientific Advice Mechanism[1]. Their conclusions are compiled in the publication: Rapid evidence review report on Artificial Intelligence in Emergency and Crisis Management and Statement by the Group of chief scientific advisors of December 2025.

This report is part of a broader initiative from DG ECHO, aiming to advance AI for Disaster Risk Management (DRM), as part of the EU's commitment to preparedness, resilience, and sustainability. Over the past two years, DG ECHO, under the umbrella of the Union Civil Protection Knowledge Network, organised a series of capacity building workshops for Member States and UCPM Participating States on the topic. Dedicated training opportunities (e-Learning) and further needs assessment for AI upscaling in Member States and Participating States will be made available in 2026.

3. Summary of the Scientific Advice Mechanism evidence review report on AI

The report gives an overview of how AI can support emergency and crisis management, underlining in **which areas AI performs well, where it still faces challenges** and where the opportunities and

[1] The Scientific Advice Mechanism (SAM) is an EU initiative that provides independent scientific evidence and policy recommendations to the College of European Commissioners and EU institutions on any subject. The SAM brings together leading scientists and European academies.

challenges are. **The report does not provide a list or inventory of AI tools** that can be used in crisis management. Instead, it provides **guiding principles** - including legal and ethical considerations - on how to select and use an AI tool for different phases of crisis management. This approach aims to empower the readers and users by offering criteria that allow to evaluate whether a particular AI system is fit for purpose in a specific context.

To illustrate this, **four case studies** are presented to give practical examples of how to use the criteria to evaluate AI systems on: disinformation detection, weather forecasting, disaster response in Nepal, and the COVID-19 pandemic.

The report concludes with a set of policy options designed to foster a discussion on how to strengthen European crisis management AI capabilities.

Main findings:

The evidence shows that **AI performs best in tasks that are well defined and data intensive.** AI systems can process large volumes of data from many different sources such as satellite imagery, sensor networks and social media, at scale and pace unseen before. In emergencies, this can help improve early warnings or support rapid damage assessment. **However, AI systems still struggle when faced with new situations**, when training data is lacking (e.g. in rare events). AI's performance also decreases when AI systems trained in one context (e.g. on a specific region) are applied elsewhere. Ultimately, AI is only as good as the data it learns from and operates on. AI also **lacks the ability to understand complex context in the way people do**. Because of this, the report emphasises that AI cannot replace human decision-making. It looks at legal and ethical concerns when using AI in emergencies and stresses the importance of complying with the AI Act and data protection rules (GDPR).

Example of policy options outlined in the report:

1. **Provide AI literacy into crisis training programmes:** AI remains a 'black box' for many users, including civil protection practitioners. Targeted trainings on AI for disaster management authorities, analysts and policymakers with training around the different uses of AI for preparedness and response.
2. **Advance European strategic autonomy for crisis AI** by prioritising European AI.
3. **Establish a European Data Preparedness Framework:** Establish European common data standards, pre-approved data sharing protocols and mechanisms that are needed for preparedness and response, whilst preserving privacy and assuring data quality.
4. **Develop dedicated AI evaluation frameworks and establish knowledge-sharing Platforms.** Develop clear benchmarks and evaluation protocols for the use of AI in crisis management that are aligned with EU standards and guidance on AI. The evaluation of results, experiences and lessons learned can feed into a dedicated European AI knowledge- sharing platform.
5. **Ensure full compliance with the AI Act and GDPR in crisis contexts**. The legal framework was adopted in 2024, but most rules will start applying in August 2026. Further guidelines are expected in 2026 to provide clarification on aspects such as the classification of high-risk AI systems.

4. Commission activities and support to Member States

The Commission's institutional analysis on AI in DRM from December 2025 outlined several needs and ongoing activities in the area from several Directorates-General. Those specifically fitting and applicable to the civil protection mandate are listed below:

1. Support the development of solutions which are fit-for-purpose and ready to be integrated into operations at national and EU-level, thereby also **strengthening European competitiveness and strategic autonomy**.
    a. Procurement of a UCP Knowledge Network study on Member and Participating State project **needs for AI upscaling** and identification of EU-funded tools available for scale-up to address needs.
    b. Increase **innovation procurement funding** to facilitate strong end-user involvement in solution design resulting in fit-for-purpose solutions and uptake of innovation into civil protection systems across the Union.
    c. Support to solution identification and end-user involvement through industry-public sector **matchmaking initiatives**, for example at the upcoming Civil Protection Forum

2. Development of an **eLearning programme** on AI for DRM to enhance AI literacy and skills aimed at policy and operational staff under the UCP Knowledge Network. The first eLearning is available on EU Academy since March. Four more modules will follow throughout the year.

3. Cross-cutting objective for the development of AI tools under selected UCPM & Knowledge Network specific capacity-building tools. Mainstreaming use of AI in capacity building tools and dissemination of good practises and guidance to all Knowledge Network stakeholders.

5. Questions for discussion

- What is a priority in the field of AI in Civil Protection for you nationally and what could add more value at European level while maintaining an acceptable level of operational risk?
- What capabilities must be in place before scaling up AI use? What support at EU-level could help to address these?
- Would you like to share any examples of application(s) you are currently deploying or using that could be relevant for other Member States and Participating States?
- Do you see innovation procurement as a suitable avenue for AI upscaling? Would you be interested in being interviewed for the needs assessment study?

ANNEX

1. Statement of the Group of Chief Scientific Advisors (5 pages)
2. Commission institutional analysis on AI in DRM
3. Case study 2. AI for weather forecasting and early warning systems (2 pages)