Invited Session on "**Technological advancements for resilient and adaptable humanitarian operations**"

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Session Overview:

Technological advancements have created new possibilities to improve humanitarian operations. Yet, technology is not neutral. It must be harnessed to reinforce the human-centered nature of humanitarian operations. This session calls for evidence-based studies that examine how advancements contribute to resilient and adaptable humanitarian operations.

Example Topics:

- Satellite technology

Satellite technology can support addressing humanitarian data gaps, specifically in predicting slow-developing crises, such as food insecurity stemming from weak crop yields. The technology facilitates facilitating better planning, resource allocation, and impact assessment.

- Artificial intelligence (AI) and anticipatory action

AI can play an important role in humanitarian operations by supporting the analysis of complex and large volumes of data. In many cases, AI can reliably predict when disasters are imminent, and as a result lives and livelihoods could be protected through anticipatory action.

- Mobile communications

Mobile phones have created an unprecedented opportunity for real-time data collection, issuing emergency alerts and early warning systems, and delivering aid (e.g., cash-based assistance). Moreover, mobile technology has enhanced the speed and accuracy of information dissemination and empowered the affected to participate more actively in humanitarian efforts.

- Crowdsourcing initiatives

A complementing factor to the rise of social media has been crowdsourcing initiatives, which have emerged as a powerful force in humanitarian operations. Crowdsourcing platforms have empowered the affected communities to contribute to data collection and crisis mapping, providing valuable on-the-ground information to aid organizations and responders.

- **Unmanned Aerial Vehicles (UAVs)**

Whether delivering aid in disaster-stricken areas or providing real-time data in critical situations, UAVs like drones can support humanitarian operations. Drones with a carrying capacity of up to 20 kg and a flying range of 20 km can also enhance preparedness, ensuring that critical supplies reach those in need swiftly and effectively, even in hard-to-reach areas.

- **Other technologies (blockchain, virtual reality, etc.)**

Humanitarians are still exploring the utility of blockchain, virtual reality (VR), augmented reality (AR), etc., for better response. Blockchain, for example, could also enable humanitarian actors to provide vulnerable communities with digital financial accounts during crises, even when local systems may be unstable. As another example, VR can support simulating real-life scenarios to enable practitioners to make more accurate and data-driven decisions in crises.

- **Context-specific developments through cross-sector collaboration**

Cross-sector collaborations help develop innovative solutions while ensuring that they target the needs and consider the constraints of vulnerable populations.

Submission:

For author guidelines, please refer to www.ifac-control.org. All papers must be submitted electronically using https://ifac.papercept.net/ and must follow the two-column format in accordance with the IFAC manuscript style. Please use the official IFAC instructions and template to prepare your contribution as a full-length draft paper (6 pages).

Submission details are available on the symposium website. There is the possibility to submit discussion papers (limited to 4 pages) that are published in the preprints only. All submissions must be written in English. All articles that comply with the submission guidelines will be peer-reviewed by IPC members. The corresponding author submits the paper online (PDF format) as an open-invitation session paper.

Key Points for Submission Consideration:

- Submission as an invited paper requires the invited session code: XXXX.
- Accepted papers will be published open access in Elsevier's IFAC-PapersOnLine.
- Special issues of MIM 2025 Conference are planned in IFAC and other high-ranking journals.

Important Dates:

Full paper submission deadline: 30/11/2024

Notification to acceptance: 30/01/2025

Final paper submission deadline: 28/02/2025

IFAC MIM 2025 Conference date: 30/06/2025 – 03/07/2025