

FROM DIGITAL PROMISE TO FRONTLINE PRACTICE: NEW AND EMERGING TECHNOLOGIES IN HUMANITARIAN ACTION

New and emerging technologies have the potential to support a **paradigm shift** from reaction to anticipation by enabling earlier, faster and potentially more effective humanitarian action. Artificial intelligence can facilitate analysis and interpretation of vast and complex humanitarian datasets to improve projections and decision-making. Mobile applications, chatbots and social media can create immediate feedback loops with people affected by humanitarian crises. Unmanned aerial vehicles and remote sensing can speed up the assessment, mapping and monitoring of vulnerabilities. Digital cash can provide rapid and flexible assistance. And biometrics can help establish digital identity and reconnect families.

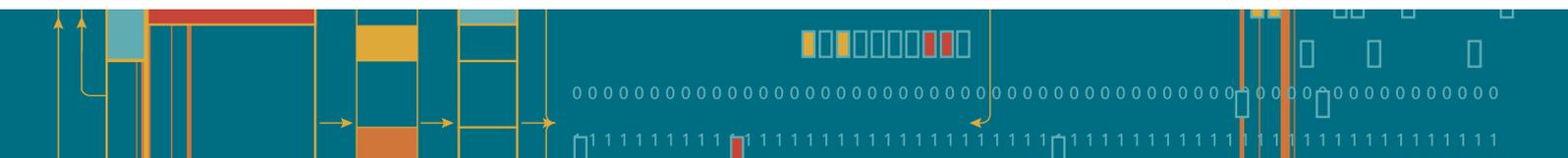
But these advantages come with an array of complex **challenges and risks**. Inadequate data protection can cause harm, intensify insecurities and hinder the principled delivery of humanitarian assistance. Unequal connectivity, access to technology and digital literacy can exacerbate core vulnerabilities and intensify gender biases. Incomplete datasets about affected people can lead to digital discrimination. Technologies can malfunction, break down, and sow mistrust. And technology's potential is only ever as strong as its underlying data set, decision-making process, user distribution, and political buy-in.

The past decade has seen recognition of information as a basic need in humanitarian emergencies, and great efforts towards better data-driven decision-making. In the coming decade, technology can further enable earlier, faster and more effective humanitarian action. But technology is not an end in itself, and its adoption alone cannot shift a paradigm. Rather, investment in technology must go hand-in-hand with efforts to ensure that it is responsible, sustainable and inclusive and that it protects, above all, human life and dignity. Undertaken jointly with affected communities and partners across sectors, such converging efforts could **powerfully enable transformation** in the years to come.

OPPORTUNITIES OF NEW AND EMERGING TECHNOLOGIES IN HUMANITARIAN ACTION



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ENABLERS OF NEW AND EMERGING TECHNOLOGIES IN HUMANITARIAN ACTION

<p style="text-align: center;">INCLUSION AND LOCALIZATION</p> <p style="text-align: center; font-size: small;">EMPOWER COMMUNITIES AND BRIDGE THE DIGITAL DIVIDE</p>	<ul style="list-style-type: none"> Enhance connectivity, access to basic technology and digital literacy in humanitarian contexts, with special focus on vulnerable and marginalized groups. Strengthen local partnerships and transfer power to local communities through equal access to opportunities, local leadership, investment and capacity-building. Design pilot projects around their long-term integration into programmatic efforts and, where appropriate community-led initiatives.
<p style="text-align: center;">PEOPLE-CENTRED DESIGN AND LEADERSHIP</p> <p style="text-align: center; font-size: small;">WORK WITH AND FOR USERS</p>	<ul style="list-style-type: none"> Engage with communities to assess the need for and effectiveness of a technology solution, including field research on information needs and preferences, digital literacy levels, access to technology, programme perception, and local partners and capacities. Conduct a thorough assessment of benefits and risks to affected communities at the pre-design stage and update it throughout the development process. Develop and adapt existing technologies to the humanitarian sector and ensure their proper contextual tailoring, testing, efficacy and safety before deployment. Develop common standards, definitions and protections for research and experimentation.
<p style="text-align: center;">DATA, CAPACITY AND SKILLS</p> <p style="text-align: center; font-size: small;">ENSURE THE BASICS ARE IN PLACE</p>	<ul style="list-style-type: none"> Build humanitarian' digital literacy, capacity and skill through cross-sector hires and upskilling, recruitment structure adaptations and institutional memory loss prevention. Build and promote interoperable data sharing platforms with adequate protections for personal and sensitive data within and across organizations and sectors. Adopt comprehensive cybersecurity strategies and build secure technical infrastructure, including through private sector collaboration that ensures data protection and privacy.
<p style="text-align: center;">DATA RESPONSIBILITY AND THE HUMANITARIAN PRINCIPLES</p> <p style="text-align: center; font-size: small;">FIRST, DO NO HARM</p>	<ul style="list-style-type: none"> Adopt and implement robust data responsibility policies, processes and safeguards. Design context-specific guides to technologies, providing information on the nature and purpose of data collection as well as opportunity for clarification and objection. Protect against data use for non-humanitarian purposes, including through technical and organizational safeguards and data-sharing agreements with partners. Respect, and ensure respect for, a neutral, impartial and independent humanitarian cyberspace.
<p style="text-align: center;">COLLABORATION AND COORDINATION</p> <p style="text-align: center; font-size: small;">FORM LASTING PARTNERSHIPS</p>	<ul style="list-style-type: none"> Establish and plan for existing partnerships prior to emergencies based on clear roles and responsibilities, joint risk-assessments, skills-integration and sharing of lessons learned. Coordinate across the UN and the humanitarian sector to consolidate a fragmented landscape, decrease overlap and duplication, and maximize efficiencies in resource allocation and the achievement of collective programmatic outcomes. Facilitate more seamless and sustainable collaboration with the private sector, including through the integration of humanitarian and private sector expertise.
<p style="text-align: center;">LAW AND POLICY</p> <p style="text-align: center; font-size: small;">TAKE AN ENABLING, RIGHTS-BASED APPROACH</p>	<ul style="list-style-type: none"> Promote cross-sector cooperation and multi-stakeholder commitments, as well as domestic laws and regulations, to protect the security of cyberspace and human rights in the digital space and ensure data protection and the ethical use of technology in humanitarian action. Design local laws and regulations that both protect people's rights and enable technology deployments, e.g., by establishing interoperability, avoiding prohibitive restrictions and ensuring the independence of humanitarian data.
<p style="text-align: center;">INVESTMENT AND SCALING</p> <p style="text-align: center; font-size: small;">MEASURE IMPACT AND TARGET LONG-TERM SOLUTIONS</p>	<ul style="list-style-type: none"> Develop a comprehensive research and practice agenda for the development, application and scaling of new and emerging technologies in humanitarian action. Conduct further multidisciplinary research to develop a catalogue of high-potential use-cases, with special focus on long-term impact, effectiveness and scalability in different contexts. Promote the integration of pilot projects into long-term, programmatic efforts. Provide long-term and flexible funding for sustainable humanitarian innovation.

