PROCEEDINGS

HYBRID EVENT

THE FUTURE OF HUMANITARIAN ORGANIZATIONS:

Technology, Artificial Intelligence, and Ethics in a World in Transformation

3iS information innovation impact
Queen's University
Cofinanciado por la Unión Europea Ayuda Humanitaria
Balcony
Government of Canada

The event: The Future of Humanitarian Organizations: Technology, Artificial Intelligence and Ethics in a World in Transformation draws upon research supported by the Government of Canada's New Frontiers in Research Fund (NFRF).

Mission of 3iS

The mission of 3iS is to strengthen and expand the use of information through innovative technology, driving strategic change and transforming decision-making processes.

We harness cutting-edge data and technology to generate knowledge that empowers leaders and changemakers to achieve their goals more effectively in the humanitarian, development, and academic sectors.

We envision a world where timely and reliable information drives organizational success and fosters continuous improvement, transforming lives and communities. Our goal is to pave the way for sustainable progress and self-directed learning, inspiring growth and positive change at all levels.

History of 3iS

3iS is a non-profit organization established in September 2008 and registered in France as an association under the 1901 Law. We primarily work with humanitarian, development, and academic actors around the world. To date, we have implemented approximately 200 projects in over 30 countries across Africa, Europe, the Middle East, Latin America, and South Asia.

We have received generous funding from various governments, including the French Ministry of Foreign Affairs, the Swiss Agency for Development and Cooperation (SDC), GIZ, and the European Union through its Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO), with whom we hold a Partnership Certificate for the 2021–2027 period, among others.

Multiple donors and partners also support us. Our teams leverage the latest technological innovations from the private sector and academic institutions to maximize the potential of information and generate a positive impact.

Introduction

A space for dialogue, exchange, and collective visioning

In a world marked by accelerated technological transformations and increasingly complex, prolonged, and interconnected humanitarian crises, the humanitarian sector is facing unprecedented challenges and opportunities. Against this critical backdrop—where funding constraints coincide with the rise of technologies such as Artificial Intelligence (AI)—3iS, with valuable support from Queen's University and Balcony, brought together leaders, experts, and key stakeholders in a hybrid event (held in person at the Bogotá Chamber of Commerce and virtually via Teams Premium).

The event aimed to foster deep dialogue around urgent questions:

- How can AI be ethical and people-centered?
- Which technologies truly transform humanitarian action, and which are empty promises?
- What legal and ethical frameworks do we need in this digital landscape?
- How can we ensure that innovation is inclusive, sustainable, and community-driven?
- What strategies can be adopted in the face of funding constraints?

A space for collective action

Over two days, the event stood out for its in-person engagement with speakers and active participation from attendees, promoting not only knowledge exchange but also meaningful networking across sectors. Discussions—held in both Spanish and English—covered critical topics such as:

- Ethics in the use of data and algorithms.
- Resource optimization amid limited funding.
- Digital divides and accessibility.
- Practical cases of technological innovation (Tech4Good) to enhance the efficiency and transparency of interventions.

This document captures the proceedings of an urgent dialogue where diverse perspectives came together to shape a more agile, ethical, and collaborative humanitarian future. We extend our special thanks to Queen's University, Balcony, and all participants for their commitment to responsible innovation. As a lasting contribution, an academic study will be developed to synthesize key recommendations, best practices, and emerging partnerships—further advancing 3iS's mission to transform decision-making through innovative technology, always guided by ethics and continuous learning.

"Imagining a new horizon for humanitarian action together is not just an exercise—it is a necessity in this transforming world."

Module 1:

Tech4Good – Innovation and Strategy for the Humanitarian Sector

The morning session of the first day explored how technology and Artificial Intelligence (AI) can transform humanitarian assistance, highlighting opportunities to enhance its efficiency and reach. Key challenges were addressed, including the digital divide, organizational resistance, funding shortages, and ethical dilemmas in the governance of technology. The session also emphasized the importance of engaging local communities and ensuring the responsible use of these tools, with a focus on transparency, trust, and the active participation of beneficiaries.

WATCH VIDEO

Christopher M. Hoffman (Humanity Link)

Humanitarian Innovation Trends

In the context of crises and limited funding, the humanitarian sector faces an urgent need to modernize its tools in order to keep pace with global technological advancements. Hoffman emphasized that, over the past five years, the use of digital technology has grown dramatically, opening new possibilities through AI.

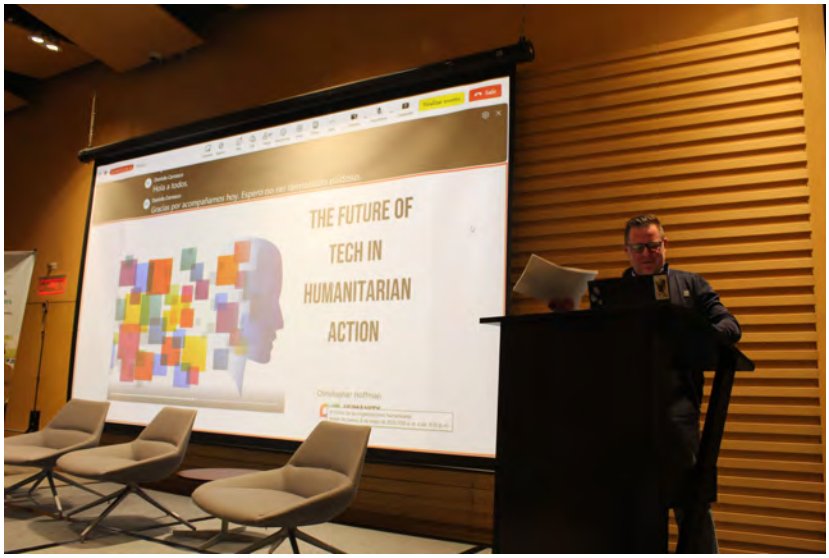
However, he warned that implementation comes with responsibilities and risks, such as operational costs, ethical dilemmas, and the need for contextual adaptation. Among promising innovations, he mentioned blockchain for beneficiary tracking (e.g., its use in the Ukraine crisis by the World Food Programme) and cryptocurrencies as tools for financial inclusion. He also highlighted tools like the Hunger Map for predictive analysis of food insecurity. Nevertheless, he noted that organizations are often constrained by limited technological knowledge or donor risk aversion, which delays the adoption of innovative solutions.

Key Reflections

- AI and blockchain can optimize humanitarian aid, but they require strategic investment and capacity building.
- Most vulnerable populations have access to mobile phones, yet organizations are not leveraging this channel efficiently.
- Technology is not a magic solution, but it can free up resources to reestablish communication in emergencies.

Challenges

- Internal resistance due to a lack of understanding of the tools.
- Insufficient funding and donor risk aversion.
- Gap between theoretical potential and practical application in the field.



"Technology is not the savior of the humanitarian sector, but it is a powerful tool to anticipate crises, close access gaps, and accelerate innovation—if we understand it, adapt it, and apply it ethically."

Phuong Pham (Harvard Humanitarian Initiative)

AI and Trust in Humanitarian Action

Pham presented AI as an ecosystem that must balance benefits and vulnerabilities, particularly for high-risk groups. She emphasized that its impact is not neutral—it depends on who controls it and how it is governed. To build trust, she proposed safeguarding the right to human oversight when algorithms affect essential services, alongside transparency in access to information.

She presented ten practical applications of AI, ranging from early disaster alerts to predictive disease diagnostics. However, she stressed that success depends on validating models with local data, auditing biases, and aligning with regulations such as the EU AI Act. A flagship example was Kobo, a tool designed with end-users in mind, demonstrating that collaboration is key to scaling solutions.

Key Reflections

- AI enhances efficiency, but ethical governance is a top priority.
- Involving communities in the design of tools ensures their real usefulness ("user-to-user" approach).
- Access gaps persist in remote areas, requiring energy and connectivity solutions.

Challenges

- Distrust in automated decisions without human oversight.
- Difficulty integrating local worldviews (e.g., indigenous communities).
- Risk of exclusion in areas lacking digital infrastructure.

"Artificial intelligence must be seen as an ecosystem of solutions that combines geospatial data and predictive analytics to identify and protect the most vulnerable populations— always ensuring the right to human review."

Heather Leson (International Federation of Red Cross and Red Crescent Societies)

Don't Believe the Hype: Realities of Humanitarian Technology

Leson criticized the "hype cycle" surrounding technology (referring to the Gartner Hype Cycle), noting that many expectations are unrealistic. While she acknowledged advances such as the use of generative AI by volunteers to draft proposals, she warned that the digital divide continues to exclude millions of people.

She proposed focusing on digital fundamentals (access and infrastructure) before implementing complex solutions. She also emphasized that humanitarian education is vital to empowering local actors and that a holistic analysis must guide how technology transforms volunteer work.

Key Reflections

- Technology must be adapted to local scales, not just global visions.
- Tech hype distracts from fundamental problems like lack of electricity or connectivity.
- Volunteers already use AI for everyday tasks—we need to learn from them.

Challenges

- Misaligned expectations between donors and operational realities.
- Unequal access to digital tools.

"We must break out of the technology hype cycle and focus on real, local, and ethical applications of AI, recognizing the transformative role of volunteers and digital public goods."

Perspectives on Humanitarian Innovation

Panel Discussion

Panelists: Christopher M. Hoffman, Phuong Pham, and Heather Leson.

Central Theme: How can we overcome barriers to integrating technology into humanitarian aid?

Main takeaways

Data and Ethics: AI must be human-driven, with informed consent and transparent algorithmic review.

Local Leadership: There are no one-size-fits-all approaches, but partnerships with local universities and businesses (e.g., innovation hubs in Nigeria) have shown promising outcomes.

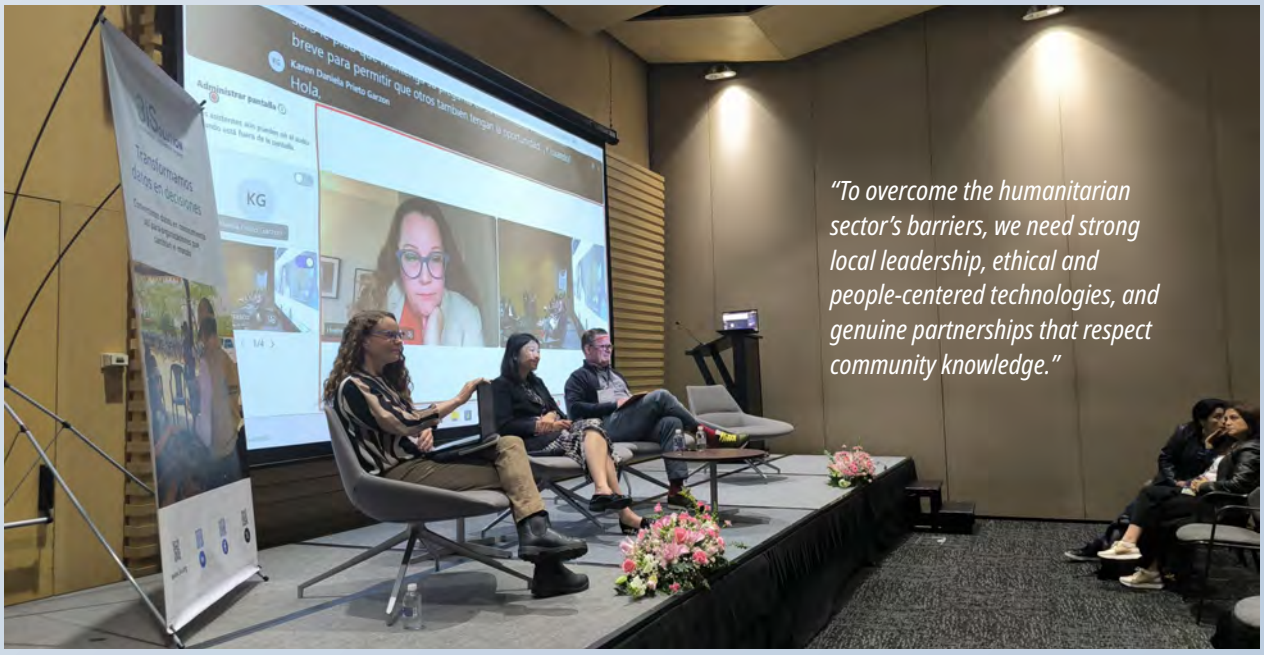
Governance: Regulatory frameworks are needed to protect rights without stifling innovation—especially in indigenous communities.

Highlighted Challenges

- Lack of proven models for developing local capacity.
- Tensions between intellectual property rights and open collaboration.
- Cultural resistance to external technologies.

Key Insights

- Technology can optimize aid but requires ethics, training, and local adaptation.
- A double divide (internal and external) limits its potential.
- Trust is built through community participation and transparency.



"To overcome the humanitarian sector's barriers, we need strong local leadership, ethical and people-centered technologies, and genuine partnerships that respect community knowledge."

Module 2:

Humanitarian Digital Transformation – Successes, Failures, and Challenges

The second day of the event explored the technological paradox of the humanitarian sector. While society at large adopts advanced digital tools in everyday life, many organizations still rely on outdated systems to manage emergencies. This module explored concrete cases of innovation—such as the Balcony platform and the experience of Save the Children—along with critical reflections on how to implement solutions with real impact. The speakers agreed that success does not lie solely in the technology but in overcoming resistance to change, prioritizing contextual evidence, and ensuring that solutions reach those who need them most.

WATCH VIDEO

David Hammel (Balcony)

Revolutionizing Crisis Communication: Balcony

Hammel presented the origin of Balcony, a platformed designed to address an evident contraction where in emergencies, organizations with modern technological infrastructure still rely on outdated methods such as sirens or radios, while in every day life, they use apps like Waze or Uber. Balcony proposes a "situational network" dedicated to critical information, combining geolocated messaging, AI, Internet of Things (IoT) sensors, and augmented reality. Its design features tailored interfaces for decision-makers and field teams, allowing for massive interactions without sacrificing precision.

Examples such as evacuations in Afghanistan or the response to the Mexico City earthquake demonstrated its effectiveness: response times with reduced by up to 100 times, and privacy was prioritized through features like "ghost mode." According to Hammel, the key is adapting the fluidity of everyday communication to the humanitarian sphere—where every second counts.

"An intelligent situational network revolutionizing crisis communication by replacing obsolete systems with a geolocated, secure platform tailored to the challenges of modern emergencies."

Jeremias Pabon (Save the Children)

Lessons from a Digital Transformation: Save the Children

Quoting Heraclitus—"The only constant is change"—Pabón narrated Save the Children's journey from paper-based systems to AI. The process began with the Venezuelan migration crisis in Colombia, where paper registration became unsustainable. The adoption of Kobo improved efficiency but led to internal resistance and data fragmentation. During the pandemic, the lack of coordination led to the creation of 400 different forms, which complicated data analysis.

An attempt to develop an in-house platform failed due to overlooking critical needs such as offline work. However, the organization eventually integrated Kobo and CommCare into an interoperable ecosystem, laying the groundwork for implementing AI in child accountability. Today, a system automatically processes feedback from children and routes it to responsible actors, improving traceability and response times.

"The transition from paper to artificial intelligence. A structured digital ecosystem shows that embracing technological change with realism and order is key to better responding to humanitarian crises."

Ana Krause (Queen's University)

Implementation Science – Beyond Innovation

Krause questioned the current focus on technological innovation without assessing real-world implementation. She cited examples such as the 2023 Turkey earthquake, where interventions failed to consider access gaps. She proposed implementation science as a framework to prioritize how solutions are executed: "Improving the coverage of existing tools is often more impactful than launching new ones."

She criticized the disconnect between academia and the field: "Local organizations must be partners in generating evidence, not just recipients." Krause also emphasized the importance of evaluating failures publicly and adapting strategies to social—not just technical—determinants.

"Prioritize strategic implementation based on contextual evidence, remembering that true humanitarian impact depends not only on what we do but how we do it."

Main Findings

- **Technology and Gaps:** A disconnect exists between everyday tools and emergency systems, but platforms like Balcony demonstrate that this gap can be bridged.
- **Change Management:** The Save the Children experience reveals that digital transformation requires overcoming resistance, unifying data, and aligning tools with real needs.
- **Smart Implementation:** As Krause noted, the impact depends less on technological novelty and more on how it is adapted and evaluated in the field.

Recommendations

- Prioritize "situational networks" for crisis communication, integrating geolocation and privacy safeguards.
- Invest in unified data architectures and train local teams to manage change.
- Adopt implementation science: assess existing interventions before launching new ones.
- Promote academia–field partnerships to generate actionable evidence.

Adapt or Fall Behind – Strategies Amid the Funding Crisis

Panel Discussion

Panelists: Cedric Perus (European Civil Protection and Humanitarian Aid Operations – ECHO), José Luis Barreiro (NGO Forum), Barbara Batista (United Nations Office for the Coordination of Humanitarian Affairs – OCHA), Santiago Quiñones (Presidential Agency for International Cooperation – APC Colombia).

Main takeaways

- **Strategic Adaptation:** It is crucial to prioritize resources toward essential goals and vulnerable populations, encouraging triangular cooperation and multi-stakeholder engagement.
- **Technology as an Ally:** Big Data, Artificial Intelligence, and digital tools enhance efficiency, transparency, and decision-making in humanitarian aid.
- **Strengthened Coordination** Greater collaboration is needed among government, NGOs, local authorities, and international agencies to reduce gaps and external dependence.
- **Rethinking Models:** Global crises demand new methodologies, better communication with the private sector, and synergy between local and international investments.
- **Urgent Actions:** Create a national humanitarian financing mechanism and incorporate the subject into academic programs.

Highlighted Challenges

- **Structural Gaps:** Lack of a dedicated humanitarian aid fund and limited academic training in the field.
- **External Dependence:** Insufficient state investment increases reliance on international support.

Key Insights

- **Effective Strategies:** Geographic and population-based prioritization, along with emerging technologies, help optimize resources.
- **Technological Impact:** Digital tools have enhanced transparency, increased access to information, and facilitated risk assessment.
- **Crisis as Opportunity:** Global crises can drive innovation and reposition the humanitarian sector.
- **Need for Education:** Academic training in humanitarian aid would strengthen both local capacities and professional development.

Module 3:

Technology with Purpose – Solutions and Tools

The second day of the event also saw a deep analysis of the crisis in traditional humanitarian data infrastructure, exacerbated by reduced funding. Despite this scenario, the session highlighted the opportunity to innovate through technologies such as online surveys, gig work, and data syndication, which enable resource optimization without compromising information quality.

The role of Artificial Intelligence (AI) was also addressed as a general-purpose technology capable of solving humanitarian challenges—but it also poses risks, such as misinformation. The session emphasized the need for responsible development, narrowing digital gaps, and fostering education to empower communities in this new technological era.

WATCH VIDEO

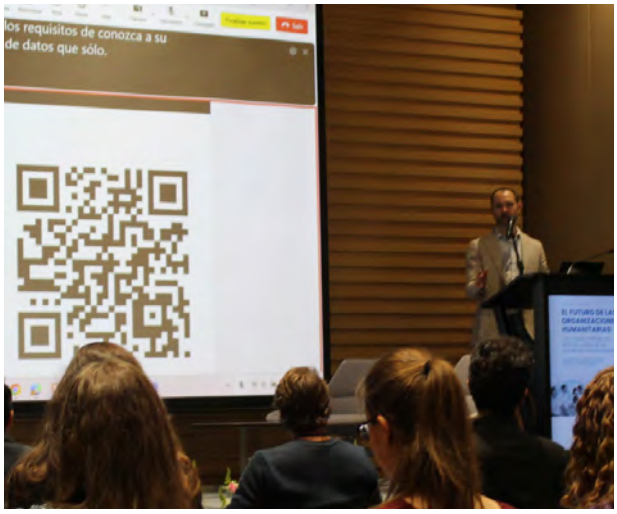
Chris Watson (Premise)

The Recalibration of Humanitarian Data: Crisis and Opportunity

The crisis in humanitarian data collection is clear: budget cuts have led to the collapse of key programs such as early warning systems and demographic surveys, while demand for rigorous information to inform decision-making continues to grow. This reality forces the sector to rethink traditional methods and adopt innovative solutions that enable us to "do more with less."

Key Takeaways

- Traditional funding will not return to previous levels—technological innovation is imperative.
- AI and digital tools can optimize processes but must follow ethical and privacy protocols.
- The sector must scale successful pilot projects into strategic implementations supported by ongoing training.



"The current crisis in humanitarian data funding is driving a necessary shift toward more efficient, sustainable, and innovative technological solutions."

Andrés Rengifo (Microsoft)

AI in Service of Humanitarian Work

This presentation traced historical, technological milestones—from the printing press to cloud computing—to illustrate the exponential pace of innovation. Today, AI emerges as a transformative technology, yet its social adoption is not keeping pace with its development.

Two key attributes of AI were emphasized

- **Problem-solving potential:** Its capacity to address challenges such as migration and climate change.
- **Democratizing nature:** As a general-purpose technology, broad access to AI can reduce inequalities.
- Projects in Colombia such as *Airband* (connectivity in Tumaco) and carbon credit models.
- Microsoft's AI Lab for *Common Good*, which promotes open-source solutions for social benefit.

"AI, as a general-purpose technology, represents an unprecedented opportunity to address humanitarian challenges—if adopted with a practical approach and an inclusive vision."

Daniel Mendoza (Tools for Humanity)

Verifying Humanity in the Digital Age

With the rise of deepfakes and bots, verifying humanity in digital environments has become critical—especially for protecting vulnerable populations. *Worldcoin*, founded by the creator of OpenAI, proposes a solution using iris scanning to generate an anonymous *World ID* that enables secure interactions.

Principles and Applications

- **Privacy by design:** No personal data is stored.
- **Humanitarian uses:** Financial inclusion, traceable donations, and incentive-based education through tokens.

Challenges

- Balancing innovation with rights protection.
- Preventing exclusion due to technological barriers.

"In the age of artificial intelligence, verifying our humanity safely and privately is essential to protect rights, uphold dignity, and drive human development through people-centered technologies."

Main Findings

- Traditional humanitarian data systems have collapsed, requiring the adoption of more efficient technologies like online surveys, gig work, AI, and biometric verification.
- Verifying digital humanity is crucial to safeguarding vulnerable populations and fostering trust in digital environments.
- Digital education, cross-sector collaboration, and responsible technology development are key to inclusive and sustainable solutions.

Recommendations

- Invest strategically in innovative and responsible technologies, moving beyond pilot phases to ensure ethical and large-scale implementation.
- Strengthen digital education and community capacity to close the digital divide and empower people as informed digital citizens.
- Promote robust digital humanity verification and the development of secure, collaborative, and sustainable ecosystems for technology adoption in the humanitarian sector.

Technology with Purpose: Solutions and Tools for Humanitarian Sector

Panel Discussion

Panelists: Ana Krause (Queen's University), Chris Watson (Premise), Andrés Rengifo (Microsoft), Daniel Mendoza (Tools for Humanity).

Main takeaways

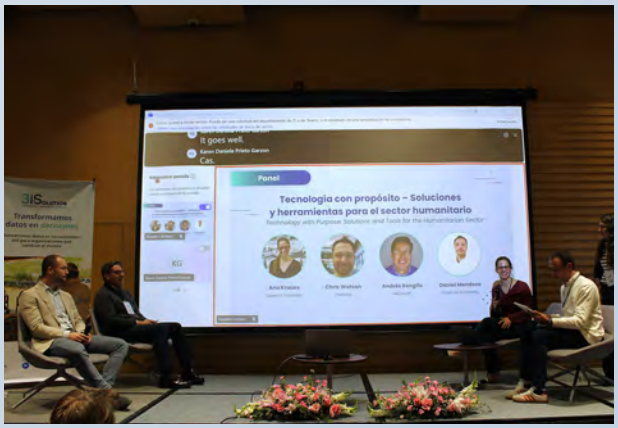
- **Digital divide:** The exclusion of populations without access to smartphones or the internet demands inclusive solutions.
- **Sustainability:** Tech projects must align with local economies to ensure long-term impact.
- **Regulation:** Global principles for AI are urgently needed as legislation lags behind the rapid pace of innovation.
- **Environmental impact:** Data centers and hardware must prioritize energy efficiency and waste reduction to minimize their environmental footprint.

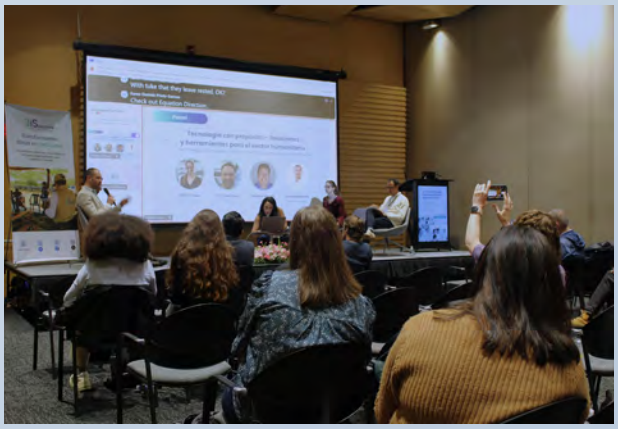
Highlighted Challenges

- Need to develop responsible technology with clear standards that protect privacy and prevent bias.
- Risk of digital exclusion for populations without access to connectivity, devices, or digital education.

Key Insights

- **Innovating under constraints:** Adopt agile technologies (AI, gig work) to address funding gaps.
- **Ethics and collaboration:** Develop clear standards in partnership with the private sector, governments, and communities.
- **Digital education:** Focus on cultivating critical "digital citizens," not just users.
- **Sustainability:** Align projects with local economic opportunities and clean energy solutions.



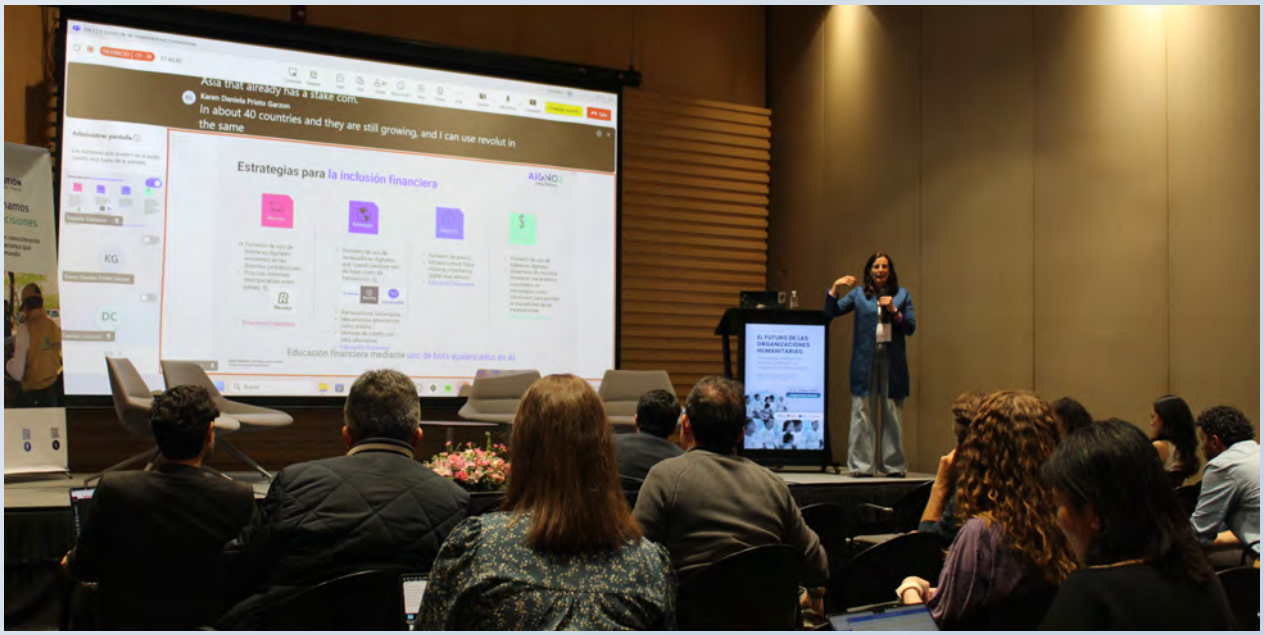


"Technology is not neutral—it reflects the intentions of its creators. This is why business models must be critically evaluated."

Module 3:

Technology with Purpose – Solutions and Tools

Current humanitarian challenges—forced displacement, food insecurity worsened by climate change, and financial exclusion—demand innovative, data-driven solutions. Technology, especially Artificial Intelligence (AI), is emerging as a key tool to optimize responses, from managing food banks to tracking displacement. However, its implementation carries ethical risks, such as algorithmic bias or privacy violations, which call for robust governance frameworks. Financial inclusion and real-time data collection complete a landscape in which innovation must strike a balance between efficiency and responsibility.



WATCH VIDEO

Ricardo Baeza-Yates

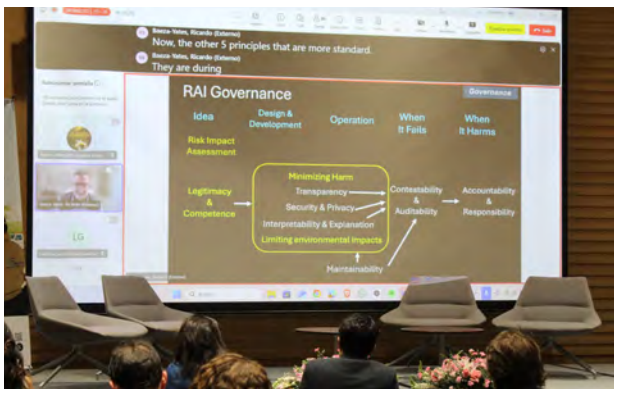
(Barcelona Supercomputing Center)

Ethical Challenges of AI

AI poses urgent ethical dilemmas for the humanitarian sector—from automated discrimination to generative misinformation. Baeza-Yates highlighted how these risks are intensified by rapid technological advancement, citing examples such as pseudoscientific facial recognition and the mental health impact of chatbots. OECD data shows a 900% increase in reported incidents since 2022, underscoring the need for regulation.

He proposed an ethical framework inspired by bioethics: autonomy (human dignity), beneficence (maximizing benefits), and justice (equity). He complemented these with practical tools such as red teaming (multi-stakeholder evaluation), risk matrices, and blockchain for privacy. Baeza-Yates criticized current regulation for its fragmented approach—for example, the EU regulates AI broadly, while the U.S. focuses on specific uses—and advocated for certifying human competencies rather than algorithms, given their rapid obsolescence.

AI governance requires scientific legitimacy and ongoing participation from diverse actors. Key issues include child privacy, conflict prediction, and regulatory harmonization—critical to avoiding a "digital colonialism" that perpetuates inequalities.



Laura Tovar

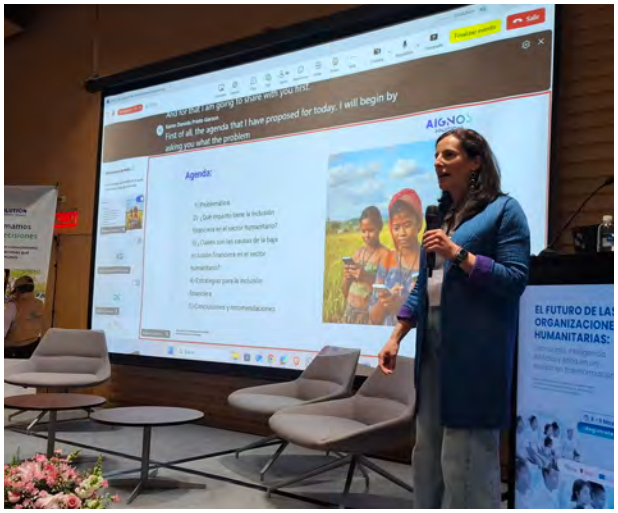
(Tools for Humanity)

Financial Inclusion in the Humanitarian Sector

Financial exclusion deepens vulnerability during humanitarian crises. Tovar examined barriers such as cultural mistrust, lack of identity documents, and the digital divide—all of which limit access to basic services among displaced populations. She emphasized that financial inclusion is not only an emergency tool but a long-term driver of resilience.

She presented multisectoral strategies: financial institutions must design flexible products; humanitarian organizations should promote digital literacy; and governments must create cross-border regulatory frameworks. Examples such as digital wallets demonstrated potential but require interoperability and education to overcome resistance. Tovar stressed the importance of addressing gender biases—women face greater obstacles—and coordinating responses with local actors.

Cross-sector cooperation is vital. Tovar concluded with a call to integrate financial inclusion into all phases of humanitarian action, from preparedness to sustainable recovery.



Ana Catalina Suárez and Juan David Suárez (The Global FoodBanking Network)

AI for Climate Change Mitigation and Adaptation

Thirty percent of global emissions stem from food waste. The presenters explained how AI can optimize food banks through intelligent sorting, demand forecasting, and carbon footprint calculations—while also incorporating gender perspectives, as women are disproportionately affected by food insecurity.

Tools like Microsoft Sustainability Manager help track emissions and reduce losses, while chatbots with a FRAME (Flexible, Multichannel) approach support decision-making. However, gaps persist: only 40% of food banks in Latin America have the infrastructure to implement AI. The presenters emphasized the importance of tailoring solutions to local capacities and prioritizing technical training.

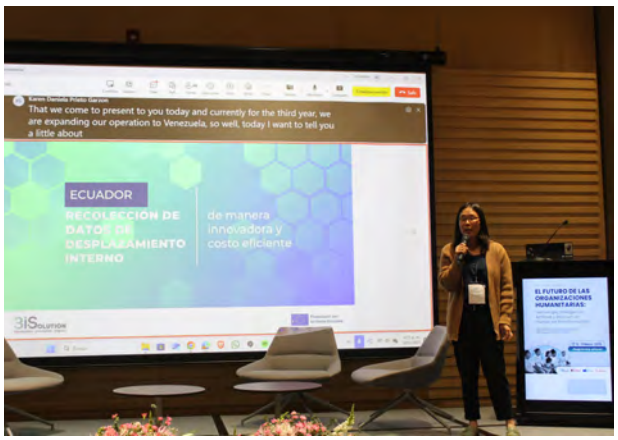
AI is a strategic ally for combining climate and humanitarian action, but its success depends on investments in training and public-private partnerships.

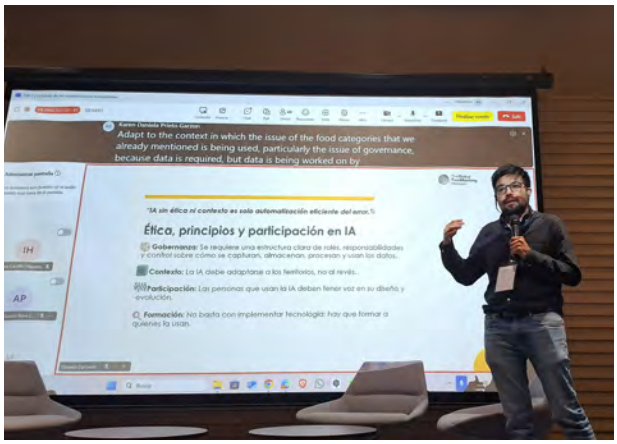
Key Points

- AI and innovative tools improve humanitarian efficiency, but require ethical principles and inclusive governance.
- Financial inclusion is central to resilience, demanding cross-sector cooperation.
- Adapting technologies like chatbots and interactive maps is key to responding in real time in dynamic contexts.

Recommendations

- Adopt ethical frameworks for AI (e.g., transparency, red teaming).
- Invest in digital training and financial literacy.
- Prioritize technologies tailored to local contexts, with rigorous impact evaluations.





Final Conclusions

The event *The Future of Humanitarian Organizations* closed with a call to action: technology must be an ally, not an end in itself. The reflections shared emphasized that, in the face of crises such as climate change, forced displacement, and financial exclusion, **responsible innovation** is an ethical imperative. Advances in AI and data syndication offer opportunities to optimize resources, but success will depend on how organizations integrate local voices, overcome resistance to change, and prioritize transparency.

A **critical paradox** became clear: while society is adopting advanced digital tools, many organizations still rely on outdated systems. Bridging this gap will require not just funding, but also an organizational culture open to learning and experimentation. Cases such as Save the Children and the Balcony platform demonstrated that effective solutions emerge when technology is combined with **contextual evidence and community participation.**

In closing, we reaffirm the commitment of 3iS and its partners to promoting 21st-century humanitarianism—one that leverages data and innovation without losing sight of its core mission. The path is not easy, but the dialogue sparked by this event is a vital first step toward a future in which technology, guided by ethical principles and collaboration, becomes a bridge to a more just and resilient world.