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World Refugee Council Research Paper No. 11 – May 2019

# Opportunities and Challenges of Emerging Technologies for the Refugee System

Roya Pakzad





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Centre for International  
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The logo for the World Refugee Council, featuring a white rectangular box with the text "WORLD REFUGEE COUNCIL" inside, and a dark blue geometric shape to its right that resembles a stylized house or a folded piece of paper.

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Roya Pakzad

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## Table of Contents

vi	About the Series
vi	About the Author
1	Executive Summary
1	Introduction
1	Technology for Accountability: Promising First Steps
4	Recommendations for the Future
8	Conclusion
9	Works Cited
11	About CIGI
11	À propos du CIGI
12	About the World Refugee Council
12	À propos du Conseil mondial pour les réfugiés

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## About the Series

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## Executive Summary

Efforts are being made to use information and communications technologies (ICTs) to improve accountability in providing refugee aid. However, there remains a pressing need for increased accountability and transparency when designing and deploying humanitarian technologies. This paper outlines the challenges and opportunities of emerging technologies, such as machine learning and blockchain, in the refugee system. The paper concludes by recommending the creation of quantifiable metrics for sharing information across both public and private initiatives; the creation of the equivalent of a “Hippocratic oath” for technologists working in the humanitarian field; the development of predictive early-warning systems for human rights abuses; and greater accountability among funders and technologists to ensure the sustainability and real-world value of humanitarian apps and other digital platforms.

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## Introduction

In September 2016, all 193 member states of the United Nations adopted the New York Declaration for Refugees and Migrants (New York Declaration), affirming the need for a more comprehensive and long-term approach toward protecting refugees around the world (United Nations High Commissioner for Refugees [UNHCR] 2016). This was not the first mandate on the protection of the rights of refugees and migrants that UN members have agreed upon. In 1951, the Refugee Convention Relating to the Status of Refugees (Refugee Convention) played a foundational role in defining the rights of displaced persons and outlining the legal obligation of states in protecting them. Operating in the aftermath of World War II, the 1951 Refugee Convention limited the scope of its protections to zones within Europe and to persons displaced prior to January 1, 1951. Later, seeking to address these geographical and temporal limitations, the UN General Assembly adopted the 1967 Protocol Relating to the Status of Refugees, which extended “equal status” to all refugees (UNHCR 2010).

What makes the New York Declaration different from these older commitments? One important distinction is its emphasis on what it calls “shared responsibility.” Previous conventions and declarations were heavily focused on the role of state governments in managing refugee crises. By contrast, the New York Declaration emphasizes the role of *all actors* — from governments to citizens of host countries to the private sector — in maintaining the human rights of refugees.

This change in emphasis may seem relatively minor, but it speaks to a larger shift: the transformation in information technology over the past two decades has also radically altered the ways in which host societies interact with refugees. Building upon the concept of shared responsibilities, and addressing the transformations wrought by digital technologies in the context of the global refugee system, this paper explores the potential role of technology in fostering greater accountability. The paper commences by reflecting on the ways that technological solutions have improved the transparency, accountability and efficiency of refugee crises management. It then presents recommendations for best practices to minimize the potential downsides, and to improve the impact, of emerging technologies, such as different applications of machine learning, including facial recognition tools. The individuals who drafted the 1951 Refugee Convention could scarcely have imagined the technologies that we take for granted today. It is important, now, not only to reflect on what has changed but also to begin planning for a future of refugee tech that seems likely to bring another wave of transformation, and with it both benefits and risks.

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## Technology for Accountability: Promising First Steps

In media coverage of the Syrian refugee crisis, mobile devices often appear at the centre of the story (Gray 2016). ICTs based on widespread internet-connected mobile phone usage among displaced people now serve as vital tools for facilitating the work of humanitarian organizations

in providing aid to individuals fleeing humanitarian disasters. Refugees routinely use internet-connected devices to find the safest routes on their migration journey, keep connected with their family and friends, identify and locate non-governmental organization (NGO) services and improve their livelihoods. Massive open online courses have allowed refugees to study languages of host countries and acquire job skills. Even more significant are the hundreds of mobile and web-based applications that have been developed to teach refugees about new asylum opportunities, housing and available jobs (Pakzad 2017).

The list of new technologies is too long to fully reproduce here. Rather than attempt an exhaustive survey of the existing options available to refugees, this section will focus on the ways that the rise of ICTs has altered the responsibility and ability of humanitarian actors to perform their work with both transparency and accountability.

It is argued that “accountability is lacking at every point in the refugee cycle — from upstream, where refugee flows are triggered violently and with impunity by criminal regimes and non-state actors, to downstream, where governments shirk their treaty commitments and moral obligations for political gain” (World Refugee Council 2018, 1). In the past few years, there have been a number of efforts to bring transparency and accountability to the refugee cycle, from helping governments to predict the flow of migrants to adding more oversight to resettlement programs in host countries. Below are a few examples of how technology is being used to better monitor and document different stages of displacement. Approaches include enabling “early-warning systems”; transparent humanitarian service management; improved identification; and novel approaches to resettlement programs in host countries.

## Monitoring, Prevention and Investigation of Human Rights Violations

On August 21, 2013, two chemical attacks killed hundreds of civilians in Eastern and Western Ghouta, Syria. Immediately after, the Syrian government blamed opposition groups for the attack. However, the evidence gathered by UN agencies and Human Rights Watch strongly suggests that the attack was carried out by the

Syrian government. In their investigation, Human Rights Watch scraped<sup>1</sup> and reviewed publicly available YouTube videos from the scene (Human Rights Watch 2013). By analyzing global positioning system data and satellite imagery, interviewing witnesses through Skype video-chatting and scrutinizing high-resolution images from local activists, the Human Rights Watch team concluded that the attack was most likely delivered by Bashar al-Assad’s regime. Syria is not a member of the 1993 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons. However, the country is party to the 1925 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare. This multi-pronged investigation, bringing together all available technologies, as well as witness interviews, demonstrated that Syria had broken international humanitarian law.

This example makes clear the increasingly important role that digital platforms, from Skype to online maps, can play in aiding in the monitoring of human rights violations. Analyses and tools that were once largely restricted to state actors are now accessible to relatively small NGOs and even independent analysts. There has been a democratization of who can take action in documenting human rights abuses relating to refugees, one that in many ways parallels the recent transformations of citizen journalism.

Building on this technological shift, a number of civil society and academic groups have begun to use different methods to scrape, analyze and categorize publicly available social media content in order to document potential war crimes and human rights violations. A partnership between Amnesty International and the Human Rights Investigation Lab at University of California, Berkeley demonstrates how open-source methods can be harnessed to investigate war crimes in Syria, Iraq, Myanmar and elsewhere. According to a report published by the investigation lab, students learn data mining and other techniques to use open-source investigations to provide legal accountability (Human Rights Center Berkeley 2018).

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<sup>1</sup> Web scraping is a term used to describe the collection of data across the internet. It often refers to the use of software that searches through different internet content (including web pages, videos, images and social media content) to find and collect specific information.

In addition to investigating human rights violations, similar techniques are now being used in monitoring conflict zones and enabling early-warning systems. These techniques have potential to be used by governments, UN agencies and humanitarian organizations to better detect, analyze and react to potential factors leading to conflict and displacement. Microsoft has partnered with the UN Human Rights Office of the High Commissioner (OHCHR) to use big data in order to track and analyze human rights violations in conflict zones. The product of this partnership — an information dashboard called Rights View — enables OHCHR officers to gather and analyze information from other UN agencies, public data and social media content, in order to alert governments and UN agencies about human rights risks and to galvanize timely intervention to avoid human casualties and displacement (Microsoft, n.d.).

## Technology for Identification, Financial Inclusion and Humanitarian Service Management

Ineffective bureaucracy, corruption and a lack of transparency are among the most pressing issues state and non-state humanitarian agencies grapple with. Early-stage technologies, diverse in their implementation and aims, are being applied to address these problems, working toward streamlining and adding transparency to bureaucratic processes relating to refugees.

During the past few years, for instance, blockchain technology has begun to demonstrate some promise for addressing the issue of identity verification for refugees, financial inclusion and even “smart contracts” (digital protocols that facilitate the execution of a contract).

Blockchain has significant potential for administering humanitarian aid with greater public transparency. For example, in the Dadaab refugee camp in Kenya, a blockchain platform called BanQu has been designed to help Somali refugees establish a permanent and verifiable digital identity, which, further down the line, creates an opportunity for them to become economically independent. In order to create such an economic identity, BanQu uses refugees’ selfie photos, physical characteristics, biometrics and information about

family members, and uploads this data to a secure ledger (Lemieux 2017). Having this identity helps refugees to create credit histories for themselves and gain the ability to transfer money remotely.

In a similar vein, an alliance called ID2020 has emerged as the result of a partnership between non-profit organizations and private companies such as Microsoft and Accenture. The organization works to achieve the UN Sustainable Development Goal, target 16.9, of providing legal identities to 1.1 billion people who lack any official record of existence (Juskalian 2018).

Thus, despite the technology being in an early stage, several humanitarian organizations and start-up groups already count on blockchain as a tool for increasing transparency, accountability and shared responsibilities to humanitarian aid efforts.

However, relying on collecting refugees’ biometric data in order to ensure blockchain-based identification and financial inclusion comes with new risks as well. Zara Rahman, a researcher at the Engine Room, a non-profit organization that helps social change actors make the most of data and technology to increase their impact, has noted that “the bulk collection of identifying information and biometrics has historically been a disaster for people on the run. Think of the Holocaust, or the more recent ethnic cleansing of Rohingya in Myanmar” (ibid., para. 23). Likewise, researchers at Imperial College London raised “serious concerns about security, immutability and when to use a private or public blockchain” in the context of humanitarian aid (Mulligan et al. 2018, 4). Although the *decentralized* nature of blockchain minimizes the risk of data breaches, the UNHCR manages refugees’ biometric information in a *centralized* database system called the Biometric Identity Management System that is not immune from security breaches. Tying not only refugees’ identities but also their financial power to biometric data could have irreversible consequences in the event of data breach and identity theft (Indrajit 2017).

A lack of privacy protection measures and attention to informed consent are significant concerns with respect to collecting massive amounts of refugees’ biometric data. Data control, data retention and the importance of informed consent are often deprioritized in matters of urgency and for the sake of more convenient service delivery. However, it is worth remembering that the individuals who most stand to benefit from such technological efforts

are also among those who are most vulnerable to violations of digital privacy and the circulation of false information or financial fraud online. Before starting work on new digital projects aimed at refugees, it is also important to reflect on what concepts such as “informed consent” will mean in practice, and on how to assess their impacts: how do the refugees themselves understand the risks and benefits of digital identities? And how permanent should the digital footprint of a refugee be, given that “refugee” is a term that reflects a specific space and time in an individual’s life, rather than that person’s permanent identity?

## Harnessing Big Data for Refugee Resettlement in Host Countries

Increased availability of data and high-power computational hardware has also resulted in highly improved machine-learning techniques. Several applications of algorithmic decision making relevant to refugees are the result of these advancements. Particularly over the past five years, researchers and technologists have begun working to apply machine-learning models to improve responsiveness to refugee crises.

Successful resettlement programs continue to number among the tasks that host countries find most challenging and expensive. Assuming that the final goal of governments is to achieve successful integration between refugees and host communities, improved decision making regarding asylum adjudication and refugee resettlement is essential and an arena where machine-learning techniques might play a role.

To assist government agencies in addressing resettlement complications, researchers at Stanford University have developed a pilot project to develop machine-learning algorithms for a better resettlement program. To train their algorithm, the Immigration Policy Lab at Stanford University and ETH Zurich (the Swiss Federal Institute of Technology in Zurich) gathered data from refugee resettlement agencies in the United States and Switzerland. The model is optimized, based on refugees’ background and skill sets, to match them to a host city in which the individual has a higher chance of finding employment (Bansak et al. 2018). The project’s success also has potential to jump-start related work by creating new opportunities for such collaborations. “Our hope is to generate a policy conversation about the processes governing the resettlement of refugees,”

said Jeremy Weinstein, a co-author of the study, “not just on the national level in the United States but internationally as well” (Shashkevich 2018).

In other instances, machine-learning techniques are being applied to asylum-seeking adjudication cases. Researchers have found that judicial decisions are sometimes unfairly affected by factors ranging from the court’s caseload that day and the trends of the presiding judge’s decisions, to the local weather or even the time of day of the case. They proposed using machine learning to improve impartiality and minimize sometimes seemingly unjustified decisions (Chen and Eagle 2017).

Machine learning has great potential in this regard, but it is very important to note that the same mechanisms that might allow for more efficient and equitable resettlement procedures could also potentially result in racial and gender discrimination as a result of training on incomplete data sets and flaws in models and learning algorithms. For instance, using refugees’ biometric data to train different machine-learning models for facial recognition could have a short-term benefit (faster verification of refugees’ identities) but a long-term harm by enabling improved racial profiling and surveillance (Rahman, Verhaert and Nyst 2018). Scraping other behavioural data (such as social media activities) to train models to make recommendations on granting asylum is, likewise, controversial, and its problems have not yet been fully addressed by scholars.

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## Recommendations for the Future

The examples given thus far demonstrate how technology has begun to help governments and humanitarian organizations fulfill their responsibilities in protecting refugees and displaced persons around the world. This paper has also highlighted how these technologies could cause unintended negative consequences or be used by adversaries to harm refugees. Building on this discussion, the following sections provide recommendations for actors in this ecosystem, including policy makers, technologists and tech companies, government legislators, funders and humanitarian organizations.

## Documentation and Sharing Lessons Learned

To date, numerous digital initiatives and applications have been developed and launched with the intention of being used by and for refugees. False starts are unavoidable. After all, it might be appropriate for a crisis response to attempt many different solutions to a problem and to allow multiple points of view and methodologies to converge on the problem of maximizing the impact of refugee aid initiatives. It is to be expected that many of these approaches will be failed efforts. However, the lessons learned from efforts to map, document and measure the impacts of such initiatives are not always clear or accessible.

Where technology and innovation are deployed as tools for addressing the challenges present in the global refugee system, it is critically important to develop an open-source and verifiable method for mapping the progress of current initiatives, sharing failures from past initiatives in a responsible manner, and agreeing on common principles and successful models for future work. Actors in the humanitarian ecosystem (including government agencies, the UNHCR, humanitarian organizations and researchers) need to work in tandem to develop quantifiable metrics for evaluating the positive and the negative outcomes of not only humanitarian digital projects but also projects that have been developed for refugees' integration in host countries, their livelihoods and the peace-building process.

Whether a project is deemed a success or a failure is, of course, dependent on how success and failure are defined; different organizations, states and individuals will use different metrics and indicators, if they use them at all. This is largely to be expected — after all, not all workers in this field have precisely aligned goals and assessment capabilities. Nonetheless, it is important to create standard and open channels of communication and assessment. Without these channels, actors with shared goals risk wasting resources by duplicating work and may miss out on opportunities to collaborate.

## Future Regulations and Guidelines for Public-Private Partnerships

The growing global profile of the major tech companies (such as Facebook and Google) as largely autonomous arbiters of policy and public

opinion has made public-private partnerships increasingly important over the past decade. It used to be that the major actors responsible for crisis management were governments, along with international and local humanitarian organizations. Today, for-profit platforms such as Facebook, WhatsApp and YouTube have emerged as the front lines for both the defence — and the attack — on the human rights of refugees (Dekker et al. 2018).

Going forward, it is important for organizations operating in the refugee system to work more closely with digital policy groups to help companies and technologists design, develop, pilot and deploy services that create positive impacts in the refugee system and avoid unintended harms.

During the design and development process, developers should be cognizant that (while retaining users' data can allow algorithms and technologists to learn from users' experiences and improve services) saving the personal data of refugees makes the platform a potential target for government surveillance, hackers and third-party advertising companies. Developers should seek to preserve the smallest possible amount of data — in particular, the data of vulnerable, marginalized or persecuted populations, including refugees and internally displaced persons (IDPs). Developers whose apps are used by refugees and other at-risk groups need to work *with* refugees and forcibly displaced populations to better understand their concerns. Developers also need to embed privacy considerations and mechanisms into apps by default, and to make sure that these apps are updated to avoid security breaches.

The work of organizations such as Techfugees can serve as a model to provide clear guiding principles for developers in this regard. In addition, online resources such as “The Humanitarian Innovation Guide”<sup>2</sup> represent a promising initiative to further additional impactful innovations. The guide provides practical steps for individuals — and organizations — to not only innovate based on ethical considerations but also to avoid redundancy and make long-lasting solutions.

In nurturing such ethical considerations by technologists, academic institutions play a significant role. Recently, there has been substantial improvement in efforts to educate computer

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<sup>2</sup> See <https://higuide.elrha.org/>.

science students about the ethical challenges of technological innovations and their responsibilities in addressing those challenges.<sup>3</sup> The notion of a Hippocratic oath for technologists has been building steam. Such a pledge to “do no harm” when designing technology products should keep in mind the special needs of refugees and other vulnerable populations. To this end, the code of ethics developed by the Association for Computing Machinery (ACM) is a promising step toward fostering ethical design by computer scientists and engineers (ACM Council 2018).<sup>4</sup> Ethical and human rights considerations should be “baked in” to the engineering process from the very earliest stages of design and development, not left for public policy and legal experts to deal with in the aftermath of, or in response to potential, adverse consequences.

As for technology companies, the principal tool available to hold companies accountable (in order to conduct human rights due diligence and provide remedies in the case of human rights violation) is the OHCHR’s *Guiding Principles on Business and Human Rights* (2011). The guiding principles state that companies should work with stakeholders to assess the potential adverse impacts of their services. In this regard, multi-stakeholder groups such as the Global Network Initiative,<sup>5</sup> and even legal tools such as the European Union’s General Data Protection Regulation, could be used and repurposed to address the challenges arising at all stages of a displaced person’s journey, from concerns around informed consent and data control, to the right to explanation with respect to automated decision making, such as asylum adjudication.<sup>6</sup>

However, these regulations and guidelines should be reassessed in order to determine the extent to which they are applicable and implementable in the context of the humanitarian sector and refugee system. Humanitarian researchers and lawyers play a significant role here. Initiatives such as “The Signal Code: A Human Rights Approach to

Information During Crisis” (Greenwood et al. 2017) concretely and clearly frame access to information during disaster as a human rights issue and argue it should be addressed under domestic and international human rights law frameworks.

Providing clear guidance for technology companies, and avoiding abstract or impractical language, is important for developing guiding principles that can directly impact the practical coding and design work of engineers and technologists. The current wave of advocacy for accountability in technology is overly reliant on abstract principles and generalizations and a lack of specific, practical examples. The Toronto Declaration, a collaborative work by Amnesty International and Access Now (2018), could provide technology companies and technologists with important practical guidelines on applying machine-learning tools to better serve refugees and other forcibly displaced populations. The Toronto Declaration guidelines highlight the role of private sector companies to conduct human rights due diligence in order to foresee machine-learning applications’ discriminatory outcomes. In addition, according to the guideline, private companies are required to ensure that “access to meaningful, effective remedy” is available to those whose rights are violated (ibid., 15). Focusing on “the right to effective remedy” is a first promising step to hold companies to account with regard to their services. The World Humanitarian Summit and the Grand Bargain have also been important contributions in this space, particularly in terms of focusing on the importance of establishing open and transparent lines of communication across national boundaries and the private and public sectors (Metcalf-Hough et al. 2018).

## Technology for Monitoring, Early Warning and Creating Feedback Channels

Technologists, human rights advocates and humanitarian organizations use different tools to track countries’ commitments to refugees and their responsibilities, as outlined in the 1951 Refugee Convention. The Rouhani Meter is a tool created by members of an Iranian diaspora group in Canada to monitor and track the Iranian government’s campaign promises.<sup>7</sup> The same monitoring technology can be used to keep track of governments’ commitments to refugee policies

3 At Stanford University, Jeremy Weinstein, Hilary Cohen and Mehran Sahami are currently (at time of writing) designing a course on ethics in machine learning.

4 “The Code is designed to inspire and guide the ethical conduct of all computing professionals, including current and aspiring practitioners, instructors, students, influencers, and anyone who uses computing technology in an impactful way” (ACM Council 2018, 3).

5 See <https://globalnetworkinitiative.org/>.

6 See article 22 of the General Data Protection Regulation, “Automated individual decision-making, including profiling.”

7 See the Rouhani Meter at <https://rouhanimeter.com/en>.

and conventions. Keeping track is an important step to take, because it allows for comparisons between the progress of different governments and for accountability about the extent to which governments meet stated objectives. Humanitarian organizations and refugee advocacy groups could benefit from such precise tracking and documentation to hold governments to account. In addition, chatbots have the potential to create an accessible communication channel between refugees and government agencies. Enhancing communication with stakeholders is integral for governments and organizations seeking to provide effective service provisions and programs. These technological tools have the potential to improve refugee engagement and ensure that there is greater accountability to refugees and IDPs.

Finally, predictive tools such as early-warning systems can assist governments and international organizations in monitoring and predicting political, economic and social dissatisfaction. History has proven that such dissatisfaction may eventually trigger civil wars and displacement.<sup>8</sup> One example of such technologies is the Online Hate Index, a project developed by the Anti-Defamation League's Center for Technology and Society and University of California, Berkeley's D-Lab, to scope and discover the spread of online hate speech.<sup>9</sup>

Projects such as the Online Hate Index have helped social and political scientists identify patterns between people's online and offline social and political behaviour. They have the potential to assist governments and intergovernmental agencies to predict civil unrest and find better policies and solution to address its root causes from the very early stages. It is therefore recommended that governments and non-governmental humanitarian organizations work more closely with researchers to refine these methodologies and apply them to potential crisis situations. It is also vitally important that technologists and

other actors involved in this work keep in mind that these same tools can be used to suppress dissent and other forms of free expression and must therefore be used with caution.

## Recommendation to Funders

Finally, there is also a systemic funding problem emerging from the ways that technological solutions have been leveraged to aid refugees. Funding mechanisms currently in place tend toward a grant-based model, where a lump sum of cash is distributed to an organization on a one-time basis; the organization may then produce an app or other tech platform with a specific goal. Regardless of the short-term success of such projects, the nature of their funding means that they suffer from a lack of continued *sustained* funding that can be used to iteratively refine a project. This point might seem obvious — and one that applies to all non-profit endeavours — but it is particularly problematic in the case of technological solutions for refugee problems, because of the exceptionally fast-moving nature of refugee issues. Political agreements and initiatives can radically change in a short period due to shifts in public mood or government priorities. It is vitally important that refugee tech is designed with sustainable practices built in, to allow for rapid modification after launch. Yet, most funding structures prevent this.

Digital technologies have all too often been framed as “magic bullets” for solving issues that are deeply complex and, in some cases, fundamentally unsolvable. Likewise, the outpouring of support and international media attention directed toward Syrian and Afghan refugees has, in some cases, resulted in initiatives, programs and technologies that are ill-informed, ineffective or fundamentally flawed. Problems with organization and collaboration then follow, sometimes resulting in poor use of funds, needless duplication of work and the creation of well-meaning apps and programs that fail to find an actual audience among refugees.

It is important not to allow good intentions to blind us to the missteps and missed opportunities that can result from “solutions” that, rather than alleviating the challenges in the global refugee system, potentially exacerbate them. Funders should stop funding refugee aid projects that duplicate existing work or are unlikely to have transformative, positive impacts on refugees' lives. Funders should focus on the *sustainability* and *real-world use* of the product rather than on

8 In her working paper published by the UNHCR in 2002, Christina Boswell named political repression and social and economic dissatisfaction as among the root causes in many forced migration examples. “In the scenario of a repressive state, individual dissidents or members of particular ethnic groups may flee the regime — as in the case of Tamils in Sri Lanka, Iraqi Kurds, or opposition groups in Zimbabwe,” she writes. “In the second case, refugees will be fleeing civil conflict, which is likely to be fought along ethno-political lines (e.g. Bosnia, Croatia and Rwanda). Refugees may also be fleeing generalised violence caused by inter-state war or external military intervention (e.g. Kosovo, Afghanistan)” (Boswell 2002, 6).

9 See [www.adl.org/resources/reports/the-online-hate-index](http://www.adl.org/resources/reports/the-online-hate-index).

the imagined output. Short-term project funding without clear, quantifiable metrics and evaluation mechanisms, in the longer term, will encourage humanitarian organizations and civic technologists to rush into projects with lacklustre outcomes that fail to truly transform existing systems.

Funding agencies should allocate resources to monitoring and aggregating lessons learned from local actors, conducting more vigorous need assessments, and developing indicators and metrics tailored for specific innovative projects. A potential alternative option for funding agencies concerned with sustainability might be to set specific milestones that, if reached, automatically trigger another round of funding for early-stage humanitarian projects, which would allow them to scale to address more ambitious challenges.

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## Conclusion

This paper has focused on the potential role of technology in facilitating greater accountability and “shared responsibility” for refugees, as described in the United Nations’ 2016 New York Declaration for Refugees and Migrants. Shared responsibility means, above all, public accountability. At their best, the technologies surveyed here can be used to hold different actors in the refugee system to account and to coordinate and refine their work. The use of early-warning systems, technology for facilitating identifications, enhanced transparency in service management, and big data for facilitating resettlement and integration all have enormous potential to improve both the accountability and the effectiveness of existing programs.

However, new technological solutions also introduce new concerns surrounding privacy, security and equality of refugees. Therefore, technologists and technology companies need to be held publicly accountable and to commit to quantifiable metrics and open channels of communication. Applying frameworks such as the OHCHR’s *Guiding Principles on Business and Human Rights*, the Signal Code, the Humanitarian Innovation Guide, the ACM Code of Ethics and Professional Conduct, and the European Union’s General Data Protection Regulation can help to ensure that technological innovations will not have unintended harms for refugees and IDPs.

In the future, it will be very important for funders, companies and government agencies to conduct due diligence about a wide spectrum of issues impacting the rights of refugees and IDPs before supporting and deploying technology-centred innovative projects. It is vital that, beyond simply producing guidelines, humanitarian and other relevant actors develop comprehensive metrics and indicators to measure the real-world impacts of technological solutions, and to ensure that the brave new world of humanitarian technology brings with it more benefits than harms.

## Acknowledgement

This publication was made possible in part by a grant from Carnegie Corporation of New York. The statements made and views expressed are solely the responsibility of the author.

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## About CIGI

We are the Centre for International Governance Innovation: an independent, non-partisan think tank with an objective and uniquely global perspective. Our research, opinions and public voice make a difference in today's world by bringing clarity and innovative thinking to global policy making. By working across disciplines and in partnership with the best peers and experts, we are the benchmark for influential research and trusted analysis.

Our research programs focus on governance of the global economy, global security and politics, and international law in collaboration with a range of strategic partners and support from the Government of Canada, the Government of Ontario, as well as founder Jim Balsillie.

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## À propos du CIGI

Au Centre pour l'innovation dans la gouvernance internationale (CIGI), nous formons un groupe de réflexion indépendant et non partisan doté d'un point de vue objectif et unique de portée mondiale. Nos recherches, nos avis et nos interventions publiques ont des effets réels sur le monde d'aujourd'hui car ils apportent de la clarté et une réflexion novatrice pour l'élaboration des politiques à l'échelle internationale. En raison des travaux accomplis en collaboration et en partenariat avec des pairs et des spécialistes interdisciplinaires des plus compétents, nous sommes devenus une référence grâce à l'influence de nos recherches et à la fiabilité de nos analyses.

Nos programmes de recherche ont trait à la gouvernance dans les domaines suivants : l'économie mondiale, la sécurité et les politiques mondiales, et le droit international, et nous les exécutons avec la collaboration de nombreux partenaires stratégiques et le soutien des gouvernements du Canada et de l'Ontario ainsi que du fondateur du CIGI, Jim Balsillie.

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## About the World Refugee Council

There are more than 21 million refugees worldwide. Over half are under the age of 18. As a growing number of these individuals are forced to flee their homelands in search of safety, they are faced with severe limitations on the availability and quality of asylum, leading them to spend longer in exile today than ever before.

The current refugee system is not equipped to respond to the refugee crisis in a predictable or comprehensive manner. When a crisis erupts, home countries, countries of first asylum, transit countries and destination countries unexpectedly find themselves coping with large numbers of refugees flowing within or over their borders. Support from the international community is typically ad hoc, sporadic and woefully inadequate.

### Bold Thinking for a New Refugee System

The United Nations High Commissioner for Refugees (UNHCR) led a consensus-driven effort to produce a new Global Compact on Refugees in 2018. The World Refugee Council (WRC), established in May 2017 by the Centre for International Governance Innovation, is intended to complement its efforts.

The WRC seeks to offer bold strategic thinking about how the international community can comprehensively respond to refugees based on the principles of international cooperation and responsibility sharing. The Council is comprised of thought leaders, practitioners and innovators drawn from regions around the world and is supported by a research advisory network.

The WRC explores advances in technology, innovative financing opportunities and prospects for strengthening existing international law to craft and advance a strategic vision for refugees and the associated countries.

The Council will produce a final report grounded by empirical research and informed by an extensive program of outreach to governments, intergovernmental organizations and civil society.

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## À propos du Conseil mondial pour les réfugiés

Il y a en ce moment dans le monde plus de 21 millions de réfugiés, et plus de la moitié d'entre eux ont moins de 18 ans. En outre, de plus en plus de personnes sont forcées de quitter leur pays natal et partent à la recherche d'une sécurité, et elles sont alors confrontées aux limites importantes qui existent quant aux possibilités d'accueil et à la qualité de ce dernier. À cause de cette situation, les réfugiés passent maintenant plus de temps que jamais auparavant en exil.

En ce moment, le système de protection des réfugiés ne permet pas de réagir adéquatement à la crise des réfugiés d'une façon planifiée et globale. Quand une crise éclate, les pays de premier asile, les pays de transit et les pays de destination finale se retrouvent sans l'avoir prévu à devoir composer avec un grand nombre de réfugiés qui arrivent sur leur territoire, le traversent ou en partent. Et le soutien fourni dans ce contexte par la communauté internationale est en règle générale ponctuel, irrégulier et nettement inadéquat.

### Des idées audacieuses pour un nouveau système de protection des réfugiés

Le Haut-Commissariat pour les réfugiés (HCR) des Nations Unies a dirigé des efforts découlant d'un consensus et visant à instaurer un nouveau « pacte mondial pour les réfugiés » en 2018. Mis sur pied en mai 2017 par le Centre pour l'innovation dans la gouvernance internationale (CIGI), le Conseil mondial pour les réfugiés (CMR) veut compléter ces efforts.

Le CMR vise à proposer une réflexion stratégique audacieuse sur la manière dont la communauté internationale peut réagir de façon globale aux déplacements de réfugiés, et ce, en se fondant sur les principes de la coopération internationale et du partage des responsabilités. Formé de leaders, de praticiens et d'innovateurs éclairés provenant de toutes les régions du globe, le CMR bénéficie du soutien d'un réseau consultatif de recherche.

Le CMR examine les progrès techniques, les occasions de financement novatrices ainsi que les possibilités pour ce qui est de renforcer le droit international et d'y intégrer une vision stratégique pour les réfugiés et les pays concernés.

Par ailleurs, le CMR produira un rapport final fondé sur des recherches empiriques et sur les résultats d'un vaste programme de sensibilisation ciblant les gouvernements, les organisations intergouvernementales et la société civile.



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