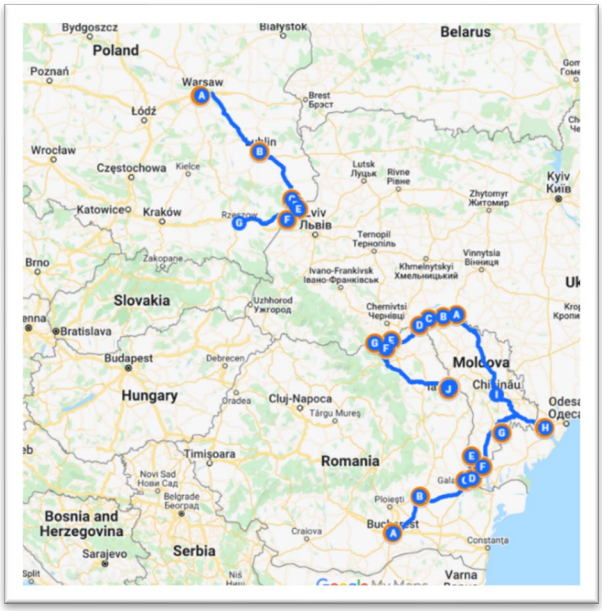

# UKRAINE CRISIS

## ASSESSMENT REPORT
April 2022

## Executive Summary

Since February of 2022, the needs of people of Ukraine have drastically increased. As Russian military action in Ukraine has escalated from a *special operation* to a prolonged military incursion, the ensuing chaos has created a humanitarian crisis. As a result, communities have been destroyed, more than 5 million people displaced mostly women and children, and the world has witnessed the largest mobilization of forces in Europe since the Cold War.

From March 17 to 27, NetHope conducted an assessment across 56 sites in Romania, Moldova, and Poland. The assessment examined the digital resources needed by NetHope Members and other responders to deliver critical services and meet communication needs of refugees and other vulnerable populations travelling into these countries. This assessment report provides an overview of the needs identified during the assessment, as well as recommendations to humanitarian organizations, donors, and the technology sector on how digital technologies can ensure a safer journey for women, children, and other vulnerable populations fleeing the conflict.




*NetHope assessment mission route in Romania, Moldova, and Poland.*

The humanitarian crisis due to the conflict in Ukraine is complex and unlike any other crisis NetHope has responded to in the past. In an unprecedented action, the European Union granted Ukrainians temporary protection for three years. The Temporary Protection Directive includes a resident permit, access to the labor market and housing, medical assistance, and access to education for children, enabling Ukrainians to settle in any EU country. As seen during NetHope's assessment mission in March, reception centers and temporary shelters that were built to accommodate hundreds of people along the border remained well under capacity. Information needs of displaced people centered on choosing the optimal EU country to settle in, arranging onward transportation and lodging, and avoiding situations and actors that compromise safety.

The decentralized and dynamic nature of this displacement crisis requires that humanitarian organizations re-imagine their response, such as mobile methods of service delivery, and remain agile in the planning and delivery of their services. Towards the end of the assessment, NetHope noticed an increase in the presence of NetHope Members and other international NGOs in the border areas, whereas the responders whom the assessment team met at the start of the assessment were predominantly grassroots organizations and local government. Requests for secured, commercial grade network equipment from NetHope Members rose from 11 sites just before the assessment mission to 35 sites at the conclusion of the assessment. This more than 300% increase in demand may indicate a shift in humanitarian response from addressing urgent needs to establishing longer-term programming.

**From reliable connectivity and power to trustworthy information, there are significant needs to ensure the safety and health of those fleeing the conflict as they journey across Europe, especially for women and children. Together with our members and partners, we can ensure the most vulnerable have access to the resources they need to build their resilience as they navigate the longer-term impacts of this crisis.**

## Key Findings of NetHope's Assessment Mission

The needs of the 5 million people forced to leave Ukraine are tremendous. Humanitarian organizations quickly mobilized to meet these needs, shifting resources and adapting plans to respond to the dynamic nature of this crisis. The following are the top needs observed by the team during the assessment mission:

### Humanitarian Needs

- Designated **family safe spaces** are important to promote safety, wellbeing, and mental health of children and youth while simultaneously assisting caregivers (predominantly women) to get rest, connect with loved ones, and find necessary information for the next steps in their journey.
- The humanitarian community must address **COVID-19 health and safety precautions**, such as social distancing, mask wearing, and/or sanitizing.
- Finding temporary homes for displaced people is complex and enormous. To meet **housing** needs, it is important to match hosts and refugees quickly and safely.
- **Volunteer data collection and management** are necessary mechanisms to mitigate human trafficking, gender-based violence, and other tertiary safety concerns.
- One of the most significant humanitarian needs within this crisis is **safe, effective, and accessible transportation** to and from conflict areas as well as safe zones which facilitate the movement of people. Supplementary to this need is the provision of **accurate and trustworthy information** about travel routes, local community geographies and resources, as well as the safety of areas back in Ukraine.

### Digital Needs

- Sources of **connectivity** have been made accessible for both responding organizations and displaced persons on-the-move. However, existing internet infrastructure could be supplemented through commercial grade networking equipment, cross-organizational network management, and equitable programs for at-risk clients, such as women and children, to access information-based resources more safely.
- For a population with a smartphone ownership rate of 66%, the lack of suitable **electrical infrastructure** in family-safe spaces and transportation hubs is a major impediment in the ability of displaced people to self-organize, stay informed, and make decisions.
- Expanded access to **ICT hardware and internet-enabled platforms** are important for displaced persons to connect with loved ones, maintain communications, and absorb relevant information.
- Collaborations and solutions that enhance connectivity and promote access to effective sources of **emergency entertainment** for youth and children will provide a critical break for caregivers and address psychosocial needs of children and youth.
- Given widespread reports of human trafficking and gender-based violence incidents, there remains a concerted effort to use **digital resources to protect** displaced persons from being targets of gender violence.
- Information-based needs include provision of affordable, accessible, and resilient **digital language translation services**, and establishment of **safe information ecosystems** that facilitate movement of people.
- Concerns around data collection, storage, and use are present but largely invisible on the field and program level. Services provided to refugees were designed to be quick and accessible (e.g. food, water) rather than more rigorous programs, which require personal data collection. Capability to address concerns is high in global headquarters, but low within direct responders. As the crisis continues, NetHope anticipates that **data protection** will increase in importance as more long-term oriented programming is implemented.

## NetHope's Response

The needs of displaced people and humanitarian responders are quickly evolving as the conflict continues. NetHope has already observed a shift in the prioritization of needs from the most urgent (e.g., food, water, temporary shelter) towards restoration of livelihoods and resiliency (e.g., education, job placement). Technology can play a transformative role in this crisis. While connectivity alone may be insufficient, when combined with capacity building for humanitarian organizations and tailored solutions for the displaced population, it has the power to enhance the efficiency and effectiveness of critical service delivery.

NetHope seeks to raise US$1,000,000 to respond to the needs of humanitarian organizations and people fleeing the conflict in Ukraine. With secured funding, NetHope will prioritize the following areas of intervention:

- **Providing safe connectivity to NetHope Members and other humanitarian organizations** that are delivering critical services to displaced people. NetHope Members are establishing field offices in 35 locations throughout Romania, Moldova, and Poland and have requested secured, commercial grade network equipment.
- **Building NGO capacity in digital protection for humanitarian operations and Ukrainian children**. NetHope will provide training to responders on risk management to mitigate the dangers that go hand in hand with the digital era – both in how they safeguard their ability to continue operating when under threat and how to proactively protect the vulnerable people they serve in digital spaces.
    - As observed in the assessment mission, there is a concerted effort to use digital resources to protect Ukrainian children and youth from exploitation and abuse. To do so effectively, the humanitarian community must be able to exchange data and trusted information with each other and local governments. Based on our expertise, NetHope can create an open data model that aligns with sector standards and initiatives and serves as a common language for the NGO sector, technology partners, law enforcement, local government, and other key stakeholders. This model can then be included in other public models, such as the Common Data Model.
- **Developing a pathway to effective solutions for transportation and housing**, in collaboration with NetHope Members and technology partners using the IDEA Journey methodology. This may include the development of guidelines and standards for new applications that safely match those in need of housing to hosts for temporary stays.
- **Creating a replicable model for a *safe journey kit* that provides secure and reliable connectivity and access to accurate information**. Each kit will include a handheld device, power bank, one-year remote technical support, and preloaded with a portal for support services translated into Ukrainian. Support services may include links to transportation booking platforms, entertainment and educational content for children, secured messaging applications, and information on legal rights in the EU, protection from human trafficking, and cybersecurity.

While the future of the conflict in Ukraine is unknown, massive efforts to rebuild critical infrastructure and basic services inside the country are expected when the conflict ends. Communications and digital resources will play a crucial role to ensure all efforts are coordinated. NetHope, in close collaboration with its Members, expects to play a central role in mobilizing and coordinating the support of the international technology sector in the rebuilding and recovery efforts.

# Crisis Overview

## Reported Impact

Reports on the number of impacted persons vary but are nonetheless significant regardless of the reporting agency. The United Nations estimates that 12 million people inside Ukraine need humanitarian relief and protection, while more than 4 million Ukrainian refugees are in need across neighboring countries. More granular data collection by the International Organization for Migration (IOM) has estimated the number of internally displaced to be roughly 6.48 million, and similar data sets from the UN High Commissioner for Refugees (UNHCR) indicate roughly 5 million people have fled Ukraine for neighboring countries. The most significant flows of displaced people have travelled to Poland (2.8 million), Romania (1.1 million), and Moldova (427,000). The UN has collected an estimated 4,000 civilian casualties.

## Current Status

Humanitarian needs remain dire in eastern Ukraine, specifically in the Luhansk and Donetsk regions. Increased fighting has led to damages to civilian infrastructure, including health facilities, residential areas, heat and water, gas, electricity, bridges, and railways. There have also been cyberattacks and events leading to momentary disruptions in connectivity and electricity. As an example of the infrastructure damage occurring across Ukraine, the UN Children's Fund (UNICEF) estimates that 4.6 million Ukrainians lack access to safe drinking water. This is expected to worsen, President Zelensky noted, as Russian forces have renewed military action through a concerted campaign in the east of the country. The focus of the campaign is to seize the Donbas region, along the contact lines of Kharkiviska, Donetska, and Luhanska. As military action escalates, humanitarian needs will only heighten. Thus far, according to the Emergency Response Coordination Centre (ERCC), evacuation corridors in the east of the country have not been successfully established or maintained. As a result, there are at risk populations isolated from the international community deep within Russian occupied territory, such as Mariupol and Berdiansk.

## Humanitarian Response

In response to the needs of displaced persons across eastern Europe, EU member states, humanitarian organizations, and intergovernmental agencies have coordinated a massive international response. At the governmental level, the ERCC has reported that the focus has been on the donation of in-kind goods and services. EU member states and two participating non-members have offered more than 173 million items, including shelter items (e.g. beds, tents, blankets), firefighting equipment, personal protective equipment, vehicles, medicines, and other medical supplies. Three EU Civil Protection Mechanism (UCPM) logistics hubs are operating in Poland, Romania, and Slovakia to facilitate the delivery of assistance to Ukraine. Other EU states, such as Poland, Slovakia, Moldova, and the Czech Republic, have also activated the UCPM in order to manage the influx of refugees. Furthermore, through these logistics hubs, the Solidarity Platform, and coordination with Frontex, the EU has been coordinating return flights from Ukraine to non-EU countries such that foreign nationals fleeing the conflict in Ukraine are able to reach their home countries. Humanitarian organizations have also mustered a significant response to the crisis in Ukraine. The UN is coordinating humanitarian action and refugee services through the deployment of its Blue Dot Sites strategically placed across popular border and transit routes. Particular attention is being diverted to unaccompanied children to ensure their safety on their journeys to safe havens. Humanitarian organizations are often present at these locations working in cooperation. However, humanitarian action and interventions extend beyond these sites. This includes programmatic mobilizations or adjustments from over 29 NetHope Members, 13 of which were already in country. Other organizations, mostly crisis and emergency response organizations, are also beginning deployments for the first time in Ukraine. NetHope is closely following the development of Member activities to ensure that

our community is working as effectively as possible for displaced persons fleeing conflict in Ukraine.

## Assessment Overview

### Assessment Plan

NetHope's assessment team deployed to the region on March 17, starting in Romania then proceeding to Moldova and Poland. The focus of the assessment was to identify and assess information and communications technology (ICT) needs of NetHope Members, UN agencies, as well as other humanitarian organizations delivering critical services and meeting the communication needs of refugees and other vulnerable populations in each country. Assessment objectives include:

- Understanding connectivity, device, power, and other fundamental technology needs required for humanitarian response operations;
- Identifying obstacles for using digital technologies for programming, such as education or financial enablement;
- Assessing the level of awareness and current practices in digital protection of NetHope Members and other response organizations delivering services in the field; and
- Verifying global reports on humanitarian needs as well as gaining awareness around local threats on data and digital protection.

Although the team did not cross into Ukraine (due to safety reasons), they identified 126 sites and visited over 50 sites during the assessment. Sites visited can all be broadly divided into categories, such as member field operations, border crossing points, transportation hubs, and refugee centers for processing and support.

### Romania

*March 17 – 19 and March 22 – 24*

Landing in Bucharest, Romania, the assessment team coordinated initial movements from the city's North Railway Station. A train station constructed in the Soviet era, made mostly of concrete, provided a large staging area for humanitarian organizations and incoming displaced persons.

*North Railway Station in Bucharest, Romania, a major transport hub for people fleeing the conflict in Ukraine.*

However, the aged architecture and surrounding infrastructure was problematic in multiple capacities, including inaccessible electricity and significant connectivity blockages or interference. Responders on the ground wore neon vests denoting their ability to assist incoming displaced persons – yellow for basic volunteers and orange for volunteers fluent in Ukrainian language. Furthermore, it was at this location that NetHope was able to meet with representatives from a child focused NetHope Member. This organization was operating a women's and children's room designed to provide momentary rests, snacks, information, and entertainment for incoming displaced persons. A Red Cross agency was also operating at this location. Both organizations had setup an array of tents to serve as shelters and provide critical services, but the influx of displaced persons was extremely decentralized leading to minimal use of such facilities. Both organizations were providing support services more strongly for incoming mothers and children from Ukraine at transit centers. Services provided at such locations include basic food goods, sleeping areas, entertainment for children, and information kiosks for refugees on their journey through Europe. However, in the case of child and youth entertainment, the responding organizations did not have digitally curated or protected environments and were forced to use content pre-loaded into USB flash drives.

*A refugee camp in Iasi with a capacity to accommodate up to 1,000 displaced people.*

Additionally, responding organizations and their staff had resorted to bringing charging and extension cords from their homes such that incoming displaced persons could properly charge their devices. This was also echoed by efforts amongst responding volunteers to use their personal devices to provide Wi-Fi hotspots as well as for messaging loved ones on WhatsApp and for buying tickets.

The assessment team then moved North to Buzau, where another regional transit and railway hub is located. Unlike in Bucharest, this station saw very little traffic from the crisis in Ukraine aside from information kiosks and directions. Accordingly, the team moved East to Galați, where the team encountered UNHCR and another Red Cross organization operating at several refugee transit areas. Neither needed assistance in connectivity or in digital resourcing. The team then moved onto the Romanian / Moldovan border. On the Romanian side, there was very little activity at the refugee reception center which was housed in a firehouse station. From this point, the team moved into Moldova for the next phase of the assessment.

After completing the stops in Moldova, the assessment team would return to Romania and make a series of stops along the Ukrainian border in the North. It was in the towns of Siret and Rădăuți that significant humanitarian operations and several traditional refugee camps were present along border areas. Organizations present included several NetHope Members and numerous national societies of the Red Cross and Red Crescent which were providing a series of essential emergency services, such as healthcare, food, nutrition, and information. While there was connectivity available, it was not well coordinated leading to a proliferation of public networks that interfered with one another. Additionally, several stakeholders in the area inquired about how NetHope could assist their operations through the provision of connectivity and ICT resources.

The team then moved South to Iași, where they visited several more transportation hubs and refugee camps. At a refugee camp in the East of the city, there was space to accommodate close to 1,000 displaced people. However, at the time of the assessment, there were no occupants at the location. Further, representatives at the location stated that they did not need assistance in the provisioning of connectivity or ICT resources. At the city railway station, there was a humanitarian presence that sought to distribute information to displaced people as well as provide training to volunteers and basic food stuffs to those in need. A local homeless shelter group coordinated the provision of these services. Since then, the group has taken on more responsibility for housing displaced people from the crisis in Ukraine. There was also a small waiting room – enough for 40 people – to take a break and rest. This area surrounded by concrete walls did not have access to effective connectivity or electricity to charge devices. Furthermore, in the South of Iași, there was a notable site operated by a Romanian social services umbrella organization Federația Organizațiilor Neguvernamentale pentru Servicii Sociale (FONSS). At this site, FONSS noted interest in collaborating with NetHope and its nonprofit partners to develop a program intervention to track the journeys of displaced people as they move from location to location across Romania and into other EU countries. Specifically, FONSS was interested in the facilitation of movement for displaced persons through safe transportation as well as registration and tracking to ensure that people safely arrive where intended. The assessment team was unable

to acquire access to the developing system that FONSS was working on. Collaboration with these stakeholders requires further investigation. After finishing the assessment in Iași, the team flew out of Romania and proceeded to the next leg of the assignment, which was to Poland.

## Moldova

*March 20 – 22*

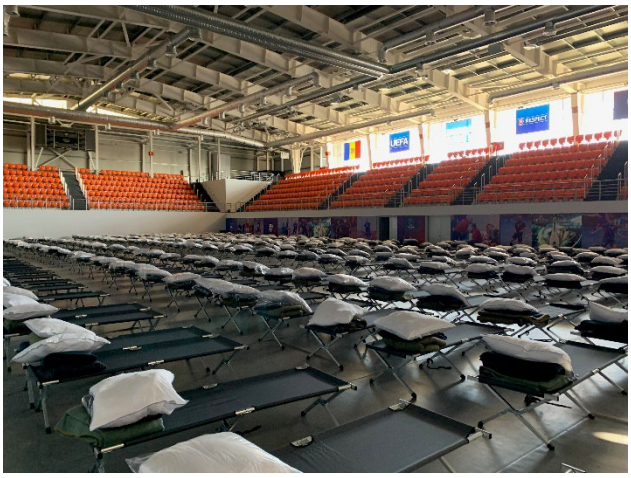
Once inside the country, the assessment team continued to move east toward the Ukrainian border. At this point, the assessment team was at the most southern part of Moldova, where the Romanian, Moldovan, and Ukrainian borders all intersected near Giurgiulesti, Moldova. Highlighting the decentralized and dynamic nature of this displacement crisis, on the day that the assessment team visited this site, border crossing point guards noted that there were more people going back to Ukraine from Moldova than the other way around. Local contacts reported that, during the early stages of the conflict, there were intermittent surges of displaced persons, but that influx was not sustained in the southern areas of Ukraine. Instead, because of the relative distance from conflict at the time of the assessment, this area was well-managed and relatively placid. This is supported by evidence from a UNHCR refugee camp near the border which housed just 3 occupants of the 500 that the facility could support. It is these narratives collected at the Giurgiulesti site that highlight the fluid nature of this crisis as well as the coming displacement from global crises like climate change and future conflicts. Even though there were not regular concentrations of displaced people staying at these sites, there is still a need for improved connectivity to deliver more efficiently the services for the populations of displaced people. Local contacts at both the UNCHR and the border crossing point were using improvised Wi-Fi hotspots provided by personal smartphone devices to provide connectivity to refugees.

The assessment team then followed local advice on site locations and moved North to rural area located at Valeni and Vulcănești but both locations were very quiet and not well trafficked by displaced persons. In consideration of these factors, the assessment team moved onto Basarabeasca, where a regional railway station was located. While there was not a significant flow of displaced people at this location, there was infrastructure in place just in case the crisis were to escalate in Ukraine. Additionally located at this site was a railway conductor school, which was converted into a refugee housing center. It was at this location that the assessment team discovered another childcare center that was providing entertainment for children and opportunity to rest for their caregivers. However, due to limitations in connectivity and content availability the program operators were using USB sticks with pre-loaded content to entertain the children in an effective but controlled / curated manner.

Palanca was the next stop for the assessment team. Located on the most eastern point of Moldova, near Odessa, there was a significant international presence at this set of sites, including various UN agencies, humanitarian nonprofits, YouTube Influencers, as well as celebrity personalities, such as Orlando Bloom. However, during the assessment mission, the team did not observe a significant presence of displaced persons. This observation illustrates that the crisis is not a concentrated or consistent overwhelming flow of displaced persons but rather a distributed diaspora from Ukraine into Europe. There was, however, a UNCHR refugee camp located at this site that NetHope was unable to access due to restrictions imposed by security at the location. Additionally, a transit hub located

*Border crossing point in Palanca with significant international presence but less significant presence of displaced persons.*

nearby, which housed several NetHope Members, was being constructed. The area will be used as a transit and logistics center both for humanitarian organizations and the people they serve. For the displaced, this hub will be a critical staging ground for transportation in western Europe. For the humanitarian organizations, it will serve as a joint coordination space, where supplies and services could be planned and implemented. As the conflict continues and Russia attempts to take more ground in the southern Ukraine, this could change, and more displaced people could use Odessa as an escape route, thereby increasing the importance of this border area.



*A football stadium in Moldova transformed into temporary shelter for displaced people.*

After visiting the border areas near Odessa, the team moved to Chișinău which is the capital city of Moldova. The team met with representatives from UNHCR at a hotel venue that they had rented out. It was at one of these locations that the assessment team was introduced to the Blue Dot program implemented by the UNHCR. Essentially unbranded UN facilities, represented by a large blue logo, these are safe spaces for women and children along border crossing areas. Purposefully located along border sites, these areas are designed to identify and register children travelling on their own and connect them to protection services, and offer referral services to women, including for gender-based violence. Furthermore, the locations are designed to coordinate the provision of services across responding agencies thereby promoting the effectiveness of humanitarian action. One location that was set aside as a Blue Dot location was an exhibition center. The large space and its various stalls were setup for family living spaces as well as registration and distribution points for different goods and services, such as transportation, food, healthcare, as well as information about safety and travel through Europe. Local contacts indicated that internet and Wi-Fi provisioning had just begun. UNHCR was already providing these services and no additional support was needed from NetHope. To the north of Chișinău was another refugee facility that was in a converted soccer stadium. A local MP had encouraged the community to act and had taken leadership to setup this space for incoming displaced persons. While there were no occupants present at the time of assessment, peak occupancy was reported to be 120, and tended to fluctuate week by week. While the power and communications infrastructure were satisfactory, there was a lack of power outlet and charging devices and insufficient connectivity for the entirety of the site.

From this location the team moved North where Moldova borders Ukraine. Many of these border crossings were quiet. The team did not see significant populations of displaced people at the time of the visit. One exception to this was the border crossing point of Otaci. Here there was a very busy crossing point that saw incoming displaced people as well as some medical operations. Additionally, NetHope identified one Blue Dot site that had been provided connectivity by a Ericsson Emergency Response team through a Cisco Meraki Network.

## Poland

*March 23 – 27*

Landing in Warsaw, the assessment team quickly moved East to Lublin, where they met with representatives from a NetHope Member. NetHope had a contact on the ground that provided some situational awareness as well as an update on the

*Przemyśl railway station in Poland.*

Member's operations, which were still in the planning phases. It was from this location that the assessment team continued east toward the Ukrainian border, where they assessed numerous sites beginning near Tomaszów Lubelsk and ending in locations around Przemyśl. In one site, the team discovered a primary school being used as a registration point for displaced persons entering the country. It was at this location that the team met a group of Americans from South Carolina, who were using private vehicles and grassroots activism to transport people from Lviv to Poland. Highlighting the decentralized flow of displaced persons, this is a great example of how people have moved across borders during this crisis. In transit and railway stations located in Rzeszow, facilities were well built out and established for incoming refugees. There was a significant presence of displaced people waiting for transit at this location to western Europe. Connectivity was established and well-managed in the area, which included a Ukrainian language splash page that provided safe and accurate sources of information for displaced people seeking refuge outside of Ukraine.

From this site, the assessment team moved to Prezemysl, which is an extremely well trafficked area by incoming refugees. The team visited a converted shopping center used as a coordinating center for humanitarian organizations providing services across the Polish border. There were around 400 humanitarian staff operating out of this location and there was space for 1,800 beds. At peak demand, local contacts stated that 3,000 refugees had been housed there. Several NetHope Members were present at the site helping coordinate humanitarian action. One NetHope Member was working on a data collection process for displaced people, volunteers, and drivers participating in the movement of people from border crossing areas into Europe. This system was implemented through a cloud-based spreadsheet and deemed insufficient to effectively scale the required data collection. The assessment team was unable to acquire access to this ad-hoc system due to sensitivities around personal identifying information. However, systems which quickly register, match, and track the movements of people are not readily available for humanitarian organizations in this crisis.

## Humanitarian Needs

### *Children, Youth, and Women*

Given the fact that men over the age of 18 are required to stay in Ukraine to fight in the war, the majority of displaced persons are women and children. The assessment team saw several locations that had designated family safe spaces setup to serve such populations and NetHope believes that such offerings should be increasingly made available to displaced populations. Moreover, in the areas that were provided for women and children, there were limited accommodations and options for beneficiaries. In one example, responders were using pre-loaded content on USB flash drives to entertain children. Local contacts pointed out that, while there are services for young children, there are even less offerings for older youth such as teenagers. Contacts maintained that youth wanted access to their own devices rather than shared community resources. Accordingly, **child and youth care are a major humanitarian need that has not been fully addressed in the context of Ukraine.** Any developments are important as promoting safety, wellbeing, and mental health of children simultaneously assisting the caregiver (predominantly women) to get rest, connect with loved ones, and find necessary information for the next steps in their journey.

## *COVID-19*

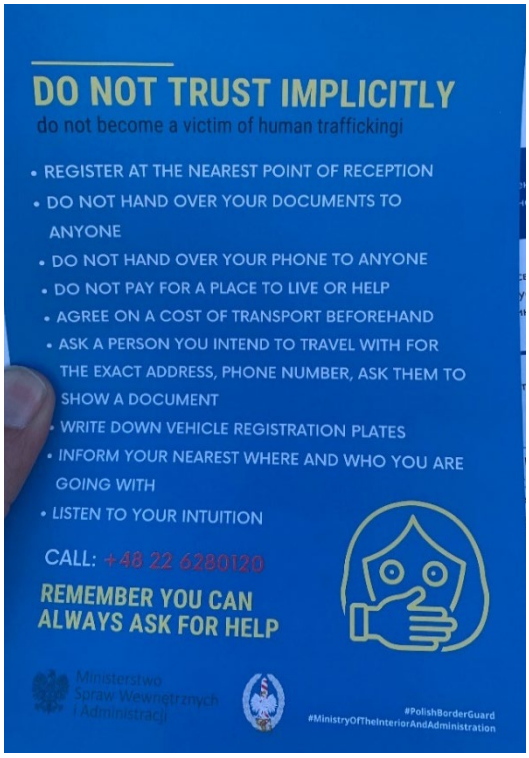
One area of humanitarian needs that was largely unaddressed in the context of Ukraine were COVID-19 health and safety precautions. According to the World Health Organization (WHO), the global community is still in a state of pandemic from the COVID-19 Virus. At close to 1 million cases per day, and with China reinstituting shutdowns across its population centers, the virus has not showed any sign of slowing down. Yet, throughout the assessment team's movements in region, there was very little presence or visibility of COVID-19 precautions, such as social distancing, mask wearing, or sanitizing. Additionally, there was very little information being advertised or marketed to ensure that precautions were followed. This is a significant problem within humanitarian operations as they serve large mobile populations moving between Europe and Ukraine. **The humanitarian community must consider the ongoing pandemic in the context of the crisis in Ukraine.**

## *Housing and Shelter*

For the women and children, who are displaced from the Ukraine conflict, finding a place to live in Europe is critical to their wellbeing. Everywhere, volunteers are opening their homes and providing haven for the displaced. **The challenge is in matching those needing a place to stay with those who have spaces and doing this safely.** On multiple occasions, the assessment team witnessed responding organizations struggling to verify and match displaced persons with the proper volunteer or in-kind service. This is a challenge faced by most refugee-focused humanitarian organizations. In response to this humanitarian need, Airbnb pledged 100,000 accommodations to help meet housing demands across Europe. However, even if they made available all their estimated 1.7 million European properties, it would still fail to meet the demand of the 5.2 million refugees. The task of finding a temporary home for displaced people is complex and enormous. This is why NetHope and Avanade are collaborating with the Membership to create an app that speeds up the matching of hosts and refugees, safely.

## *Safety*

A consistent concern of responding agencies is the physical safety of displaced persons. Obviously, this comes from the perspective of injuries sustained during violence from conflict, but it also extended into post-crisis elements of the refugee journey. From this perspective, additional concerns of safety extend into areas of human trafficking, gender-based violence, and other tertiary safety concerns. These concerns are especially present in the context of transportation as displaced persons, predominately women and children, accept ad-hoc implemented transportation from grassroots organizations and individuals out of conflict areas in Ukraine and into Europe. **Local contacts established by the assessment team validated the occurrence of human trafficking and highlighted the necessity of volunteer data management as well as collection mechanisms that were intended to address the problem going forward.** However, the assessment team was unable to acquire access to technical documentation or full data schemas due to concerns around protecting the private personal information of displaced persons.




*Information distributed by the Polish government to raise awareness and prevent incidents of human trafficking.*

### *Transportation*

As the crisis in Ukraine has developed, the proportion of displaced people both inside and outside of Ukraine has only increased. However, unlike previous crisis such as Syria and Libya, there have not been sustained concentrations of refugees entering border countries at one time. Rather, the distributed diaspora that is occurring is taking place slowly over time through a wide swathe of EU border areas via train, coach busses, and private vehicles. As a result, one of the most significant humanitarian needs within this crisis is safe, effective, and accessible transportation to and from conflict areas as well as safe zones which facilitate the movement of people. This is especially true for at-risk populations from low socioeconomic status and underrepresented ethnic or racial minorities. Supplementary to this need is the provision of accurate and trustworthy information about travel routes, local community geographies and resources, as well as the safety of areas back in Ukraine. Thus far, efforts to establish safe information ecosystems and effective travel mechanisms have been relatively ad-hoc and effective but at an unknown cost or potential for sustainability. Further, humanitarian corridors, which provide established routes of evacuation, have not been well maintained leading to lethal conditions for displaced people seeking refuge. **The humanitarian community welcomes any solutions or resources which could help facilitate the safe arrival of displaced persons to and from safe havens across Europe.**

## Digital Needs

### Empowerment and Solutions

### *Connectivity*

Prior to the assessment mission, seven NetHope Members requested commercial networking equipment for 11 sites but only three of those organizations required installation support. Since then, however, NetHope has received additional requests for commercial networking equipment, totaling 35 sites as of the writing of this report, signaling the adjustments responders are taking to adapt to the dynamic nature of this displacement crisis. In these cases, NetHope will leverage its traditional expertise to ensure that our nonprofit Members acquire effective and affordable internet connectivity.

Network analysis performed by the assessment team on the WIFI 2.4 GHz frequency band revealed several takeaways that highlight the need for a nuanced approach in the context of wireless internet connectivity in the crisis. For example, responding organizations, such as Vodafone, Orange, and other mobile network operators (MNOs), have provided free and reliable Wi-Fi internet, with strong signals (e.g. as high as -55 decibel milliwatts (dBm)), that are enough to support streaming as well as basic communications (Figure A). Such providers have located themselves across vital border crossings to support incoming displaced persons. Furthermore, networks, which exist with very-strong signal (i.e., 60 to -70 dBm level) are well distributed with few exceptions of networks that should be better distributed across Wi-Fi channels to promote network effectiveness (Figure B). The assessment team noted a similar observation among less powerful networks which were well distributed across frequency channels, with some exceptions of network traffic that should be shifted to lessen interference (Figure C). Furthermore, the assessment team noted, to supplement access to connectivity, there was an observed proliferation of ad-hoc personal hotspots that have been uncoordinated, which may result in network interference. Depending on the exact site and the team's proximity, the personal hotspots being used to supplement existing networks were not always strong enough to support streaming digital services occurring at that location. The assessment team noted that sources of entertainment, such as video or audio streams, were not readily available for displaced mothers and children at designated family safe spaces, although the team reported they were in demand. Additionally, some Wi-Fi access points are using wider channel-bonded wireless services to achieve greater throughput, thereby crowding already limited frequencies (Figure A). In these particular cases, a multi-agency coordinating body should be

created to manage Wi-Fi channels and related interferences around major transit areas. Thus, **connectivity is readily available at most assessment sites but in some areas could be expanded or optimized for quality.**

As a result, the digital needs around internet connectivity are more nuanced than in previous disasters or crises. In several assessment locations, particularly at transit and railway stations, infrastructure prevented widespread and accessible connectivity due to interference from architectural designs and the relative unavailability of electrical outlets. In these cases, the provision of sources of power and network extenders would be enough to expand access to already existing internet infrastructure. Additionally, connectivity in each location may not meet broadband speeds (25 Mbps download / 3 Mbps upload) but did suffice for mobile populations using them to gain the just in time information needed to advance on their journeys and receive latest news. This was observed across several sites, where the signal was not suitable for streaming entertainment but was strong enough to use search engines and low-bandwidth applications, such as email and instant messaging. In these cases, there is an opportunity for NetHope and the larger community to collaborate to establish broadband speed internet connectivity. This is especially true in sites that house family safe locations. Stronger connectivity in such locations would enable more offerings to displaced persons seeking a momentary rest, especially women and children. Finally, in urban areas, the assessment team observed a proliferation of internet networks in concentrated areas to an extent that they potentially saturate the wireless spectrum, thereby potentially degrading connectivity at site locations. This particular concern could be addressed by a coordinating agency intervening and beginning true spectrum

**Figure A**

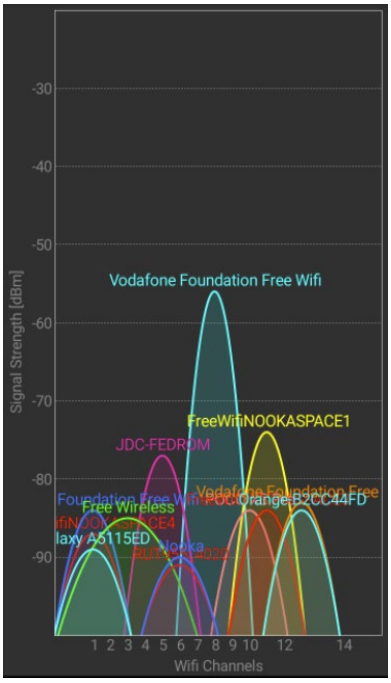



**Figure B**

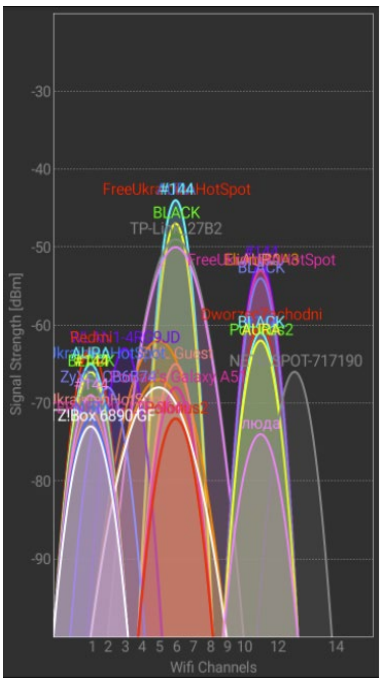
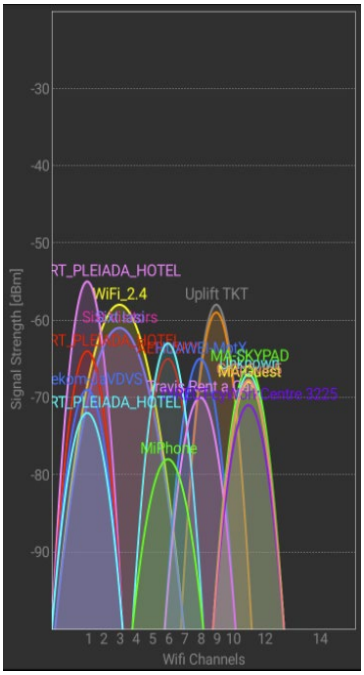



**Figure C**



allocation of the network offerings and configurations in specific geographic locations. The result would be more optimized sources of connectivity to provide vital services to incoming displaced persons on their journey across Europe.

## *Mobile Connectivity*

Mobile network connectivity has been strong and well maintained throughout the crisis in Ukraine. However, there are specific nuances to the crisis that complicate traditionally effective network operations. Most notably is the fact that, as displaced persons move from one country to the next, their phones may continue working and accessing 2g, 3g, and 4g networks but may do so on roaming resulting in exuberant costs for the user. As of early April, a MNO agreement on fixed or reduced roaming charges between Europe and Ukraine mobile operators had not been reached. This coupled with the overwhelming humanitarian need have prompted individual MNOs to act in solidarity with displaced persons fleeing the conflict in Ukraine to provide them free, prepaid SIM cards for European networks. These include companies, such as Orange, Deutsche Telekom, and Vodafone, who are all in some capacity providing free sim prepaid cards to refugees in the crisis, some already loaded with telecommunication credits and distributed through their retail chains. The assessment team also noted the presence of several of these mobile operators at transit locations in designated tents distributing free sim cards. However, there are problems with the sustainability of such donation programs in that the reloading or subscription-based sim cards may require banking information and resources that displaced persons may not have. **The humanitarian community welcomes solutions that promote the sustainability of programs that provide ICT and information access to displaced people on-the-move.**

## *ICT Devices*

Accompanying needs around more effective solutions for internet and mobile networks are ICT resourcing needs. Specifically, the assessment team noted the need for expanded access to devices, such as tablets, laptops, and other mobile networking devices. Such access promotes the use of communications and social media platforms amongst displaced persons, which are critical to connecting with loved ones, maintaining community, and absorbing relevant information in the context of the crisis. Additionally, NetHope backlogged requests from the Members' global headquarters and facilitated the distribution of ICT hardware to interested parties. Much of this equipment is headed to operations in border countries around Ukraine as supply chain restrictions make it more difficult to acquire relevant ICT hardware. **The humanitarian community welcomes solutions that provide for more equitable access to ICT hardware and the internet enabled platforms which they provide access to.**


*Charging station and information kiosk along the Medyka Border Crossing, Poland.*

## *Device Charging and Power*

Also identified across the family safe spaces – as well as most of the transportation hubs across the region – was a lack of electrical infrastructure that was suitable for populations on the move. Notably, there were not enough charging stations, electrical

outlets, or vendors present to provide mobile alternatives, such as USB cords or portable batteries. This is important to consider because Ukraine has a smartphone ownership rate of 66% meaning that most of its populace owns a smartphone. As a result, one of the most common questions asked by displaced persons from Ukraine is where and how they can charge a smartphone. In Ukraine, digital is a lifeline and it lives through handheld devices connected to the internet. Such dependencies must be considered when constructing future humanitarian interventions which serve populations on-the-move, such as those fleeing the conflict in Ukraine. **The humanitarian community welcomes opportunities to empower displaced people with a reliably charged battery on their device of choice.**

### *Digital GBV Prevention*

Highlighting efforts to protection women and girls from violence – through designated safe spaces – there remains a concerted effort to use digital resources to protect displaced persons from being targets of gender-based violence (GBV). Though many of the solutions were not fully developed, the assessment team witnessed several systems designed to track and confirm the arrival of families and unaccompanied persons from one location to the next. Such developments were considered necessary as reports of human trafficking and sexual exploitation spread across organizations and news agencies. **The humanitarian community welcomes collaboration on any solution that promotes the safeguarding of women and young girls in the context of the crisis in Ukraine.**

### *Youth Programming*

As noted in the above section on humanitarian needs, a major need throughout the crisis in Ukraine is safe spaces for families, especially women and children, fleeing the conflict. The team visited several locations in which such spaces were already built and in use. However, in each case, the assessment team also identified several areas of improvement that would expand the effectiveness of such spaces, and thus promote the digital empowerment of women, youth, and children as well. One being the role of enhanced offerings to provide momentary relief to displaced persons on the move. At each family site was an attempt to preoccupy children and youth with information-based resources and digital content. This included access to tablets, laptops, games, as well as access to video-based content in the form of movies and television shows. However, such ecosystems were not always serviced by effective sources of connectivity, which prevented *streamable* content from being acquired. This severely limited the ease to which field representatives can attain child-safe content. As a result, several sites resorted to using pre-loaded content on flash drives, which in turn limited the offerings available to the displaced people. While this is fine in terms of some of the content provided, it is not satisfactory when language barriers or other cultural barriers prevent the successful use of sources of emergency entertainment. **The humanitarian community welcomes collaborations and solutions that enhance connectivity and promote access to effective sources of emergency entertainment for youth and children in Ukraine.** Such solutions provide a critical break for caregivers – predominantly women in this crisis - the opportunity to rest and absorb the necessary information for the travel ahead. Additionally, such resources allow children to maintain their innocence amid a conflict destined to strip them of their childhood.

## Information

### *Language Translation*

A major need that has yet to be fully addressed within the information landscape is that of local language translation. In full transparency, according to previous NetHope research, digital resources that relay contextual language translations have not been successfully achieved. However, for simple translation needs, such as questions about locations, resources, or landmarks, digitalization through automated language translators does offer effective interventions. **The humanitarian community welcomes affordable, accessible,**

**and resilient digital services that provide language translation resources to people on-the-move.**

### *Migration and Transportation Information*

Another major information-based need being provided by humanitarian organizations to displaced people on-the-move was geographic and spatial information that facilitated the movement of people into Western Europe. Some of this infrastructure was well built across transportation hubs. However, the information ecosystem, which services mobile populations, could be made more accessible through improved connectivity, more effective through integrated ICT use in humanitarian organizations on the ground at transportation hubs, and more sustained through sources of portable device chargers. Most critically, the humanitarian community has been working diligently to ensure that the information being provided to displaced persons is accurate and trustworthy. Accordingly, **the humanitarian community welcomes any solutions that assist in the management of safe information ecosystems that facilitate the movement of people across Europe.**

### *Volunteer and Logistics Management*

Through the assessment team's observations, it was clear that there is significant grassroots support of the Ukrainian cause across Europe. This has led to a massive outpouring of in-kind donations and services. **On the field level, the assessment team witnessed responding organizations struggling to manage their volunteers as they participated in coordinated humanitarian activities.** This became especially concerning as volunteers made attempt to offer rides, food, and other essentials directly to incoming displaced persons from Ukraine.

## Data and Digital Protection

### *Displaced Person Data*

Unable to assess due to confidentiality and personal identifying information. Only one noted instance of Member data collection of refugees in

*Information kiosks in transit centers provide local language translation for printed materials; contextual language translations are needed for information in digital platforms.*

which case NetHope was denied access. Many site locations were offering essential services, such as food, clothing, and information, which did not require the registration or collection of personal information. Again, the majority of incoming refugees were mobile populations that are on journeys across Europe. In this context, due to the Temporary Protection Directive issued in March, Ukrainians were free to move across borders as they fled the conflict in the East. Additionally, between an open border policy in the EU and the relative lack of refugee density at border areas, there were not many opportunities to observe refugee data collection processes.

### *Nonprofit Data Systems*

Unable to assess due to a lack of relevance on the field representative level. Volunteer management systems were in high demand, but the systems and processes used were not successfully documented by the assessment team. Only one noted instance of Member data collection, storage, and processing in which case NetHope was denied access. In this instance, the example was an ad-hoc system implemented at the field level in cloud-based forms. In which case, data collection and protection risks are well documented.