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for every child



2022 Annual Report

UNICEF
Information and
Communication
Technology
Division

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Part 1
Executive summary

connect
my school

In 2022, UNICEF’s Information and Communication Technology Division (ICTD) adapted to the demands of a post-pandemic world, while forming rapid responses to new and emerging challenges. Against a background of an ongoing global economic downturn and stalling growth, events such as humanitarian and refugee emergencies in the Middle East and parts of North, East and Central Africa, and conflicts such as Russia’s invasion of Ukraine, required urgent, effective reactions from ICTD, UNICEF and external organizations.

UNICEF’s digital transformation strategy, as highlighted in the 2022–2025 Strategic Plan, proved crucial in steering many of its responses to both new and persistent challenges. ICTD continues to lead both on digital transformation across UNICEF and in the development of innovative digital solutions to improve results for children. The drive for transformation existed both internally, within UNICEF, and externally, with UNICEF country offices in all regions reporting an increased demand from national governments for support and delivery of services to children through digitally-enabled innovations and solutions.

In 2022, ICTD worked with the UNICEF Office of Emergency Programmes (EMOPS) to support preparedness by identifying and analysing technology-enabled solutions for an efficient and effective emergency response. Some of these solutions were deployed in vital support to UNICEF’s emergency response in Ukraine, including in countries hosting refugees fleeing the war. For example, the Humanitarian cash Operations and Programme Ecosystem (HOPE) was used to deliver cash transfers to over 200,000 vulnerable households with children in Ukraine. HOPE, which is currently in use in a total of nine countries, has become a key mechanism for the delivery of both conditional and unconditional cash transfers.

Bebbo, an interactive mobile app designed and developed for parents of children aged 0–6 years, was also used to support families in Ukraine. The app, which provides comprehensive, evidence-based information and interactive tools on early childhood development, health, early learning and parental well-being, was made available in Ukrainian as part of UNICEF’s emergency response in the country.

Advancements in digital health services in 2022 included the development of U-Test, a mobile health innovation

designed to reach high-risk adolescents and youth for HIV prevention in Cameroon, Côte d’Ivoire and Nigeria. U-Test uses some of the latest technology, such as artificial intelligence, to provide young people with easy-to-understand information about HIV and AIDS while also linking them with support and care.

In a further example of digital solutions to support young people in West Africa, 2022 saw a significant increase in users of Yoma (youth agency marketplace), a UNICEF-led, blockchain-based marketplace for youth to build and transform their futures by engaging in opportunities for earning, learning, and social and environmental volunteering. This increase was largely in Nigeria, where the number of Yoma users increased following a UNICEF drive to recruit volunteers, including for a project aimed at registering the births of children without a legal identity.

In 2022, UNICEF continued to recognize the importance of understanding and addressing mental health and psychosocial support (MHPSS) needs in children and young people – needs that were heightened by the challenges of the COVID-19 pandemic. In Eastern and Southern Africa, the UNICEF Regional Office drew on its experience in emergency programming in the region to coordinate the development of an MHPSS chatbot. In Serbia, UNICEF led the development of *Sve je ok* (‘everything is ok’), a new digital platform to provide young people with safe, relevant and age-appropriate information on mental health and self-care, and to connect them with MHPSS service providers through a chatbot and free individual online consultations with mental health professionals. And in Barbados, the UNICEF Office for the Eastern Caribbean Area expanded the coverage of the MyChild helpline app to reach a total of seven countries in the region.

To improve learning outcomes for children, in 2022 UNICEF partnered with Plan Ceibal (Uruguay’s National Digital Education Plan) to launch Puentes Digitales (Digital Bridges), which is providing students with disabilities with hardware and/or software (such as large-print keyboards or screen readers) to improve their access to technology. In Jordan, UNICEF expanded the deployment of a cloud-based network to improve internet access for children and youth living in refugee camps, to enable online learning and to give young people the opportunity to connect and interact online.



In the Middle East and North Africa, the UNICEF Country Office deployed several innovative approaches to overcome operational challenges in emergencies and/or in locations with limited access to technology. These approaches, for example, included the use of Low Earth Orbit satellite services to replace obsolete technologies.

Digital public goods (open source software, open data, open artificial intelligence models, open standards and open content) are proven solutions that can improve efficiency, boost capacity and help to share expertise to assist in advancing the Sustainable Development Goals (SDGs). In 2022, ICTD continued its support for *Primero*, a digital public good and web app used by child protection and social services workers to deliver services to vulnerable children and families in more than 50 countries and territories. *Primero* allows multiple partners to work on a common and secure platform by digitizing workflows and data exchange, and enables users to refer cases confidentially to other partners and deliver integrated services to vulnerable populations. UNICEF also championed *Okya*, an open-source period tracker and menstruation education app created with and for girls in low- and middle-income countries. UNICEF grants franchise licences to selected partners to deploy *Okya* across new countries and regions, where it is adapted to local contexts.

Digital fundraising continues to drive growth in new markets for UNICEF. In 2022, ICTD played a key role in streamlining integration of digital fundraising through the implementation of digital infrastructure such as payment gateways, donation portals, reporting platforms and data migration functions.

Finally, ICTD continued its work to scale up the digital maturity of UNICEF and convene the organization towards digital transformation ambitions, accelerating progress towards the SDGs and improving overall operational efficiency and effectiveness. An important step in this was the completion of the reorganization and relocation of ICTD to three locations (Valencia, Nairobi and New York).

The success of ICTD's work throughout the year was reflected in an overall strategic shift towards digital pathways to boost the effectiveness of programmes and the efficiency of internal operations throughout 2022. Efforts through 2022 by ICTD and the wider organization have allowed UNICEF to harness digital tools and solutions to improve programme implementation and outreach, and to explore innovative ways to raise funds to improve results for children.

Part 2
Context and trends

In 2022, UNICEF began to adapt to a post-pandemic world. Alongside United Nations Member States and organizations ranging in scope from global to local, UNICEF began to move and plan beyond its response to the immediate challenges of the coronavirus disease (COVID-19) pandemic, while the demands – and opportunities – of the ‘new normal’ came into sharper focus, both throughout the humanitarian ecosystem and more broadly.

However, while most countries were still adjusting to the impacts of the pandemic, new, urgent challenges emerged. Developing conflicts, notably Russia’s invasion of Ukraine, spurred emergency responses in UNICEF and elsewhere, within the countries affected, across the region and globally. A global economic downturn continued through 2022, precipitated by the pandemic and fuelled by conflict and other ongoing issues. Post-COVID-19, stalling growth is likely leading to worsening poverty in many parts of the world, including Latin America and the Caribbean, where just 24 per cent of child-related Sustainable Development Goal (SDG) metrics are on track to be achieved in the region by 2030.

2022 saw numerous emergencies arising from natural disasters linked to climate change. In July 2022, UNICEF launched a regional call to action to address the drought crisis in the Horn of Africa; just a few months later, UNICEF launched an Emergency Appeal in response to catastrophic floods in Pakistan, where severe monsoon weather critically affected 6.4 million people. There were many other examples of such crises.

Some regions, particularly the Middle East and parts of North, East and Central Africa, continued to be severely affected by humanitarian, refugee and migrant emergencies. In the Middle East and North Africa region alone, an estimated 50 million children were in need of humanitarian assistance in 2022. The Central Sahel continues to witness one of the fastest-growing humanitarian crises globally, which began to spread to coastal regions in 2022, and is compounded by vulnerability to the impacts of climate change.

Against this background, UNICEF’s Information and Communication Technology Division (ICTD) has continued

its efforts to become more efficient, flexible and responsive. Digital transformation, which was identified in UNICEF’s 2022–2025 Strategic Plan as a key strategy to achieve results for children and accelerate progress towards the SDGs during the period, is a core part of these efforts.

Across UNICEF, 2022 saw a growing recognition of the importance of digital transformation, reflected in a strategic shift towards digital routes to boost the effectiveness of programmes, in line with UNICEF’s mission to harness the power of digital technology and innovation to realize children’s rights around the world. The ongoing focus on digital transformation also aligned with increasing external recognition of its benefits, as some national governments, including several in the East Asia and Pacific region and in Africa, made decisive moves to leverage digital transformation, catalysed by the drive to move services online during the pandemic. However, in some regions, such as West and Central Africa and parts of East Asia and Pacific, preparing for digital transformation came with challenges including a lack of access to connectivity and the ‘digital divide’ – the uneven distribution in the access to and use of digital opportunities and technologies based on age, skills, or economic, geographical, geopolitical or social factors. In these regions, the digital divide was evident between urban areas and hard-to-reach settlements. UNICEF country offices began to address these challenges when designing and deploying digital transformation solutions, to ensure equitable access for potential users.

Increased demand for digital innovations was reported by UNICEF country offices in all regions. Governments and donors turned their focus towards funding digital initiatives and showed a willingness to invest in and support the development of digital public goods, such as *Primero* – an open-source software platform for use by humanitarian protection and social welfare workers assisting vulnerable children and families. Post-pandemic, interest in digital platforms, infrastructure and support services also increased, as many services, businesses and organizations adapted to operating online. At the country level, interest in foundational digital public infrastructures, such as payments, identity, Civil Registration and Vital Statistics (CRVS) and data exchange systems (like UNICEF’s *U-Report* and *Primero*), continued to grow.

Part 3
**Major contributions
and drivers of results**



Fostering a digital transformation in UNICEF programming

CTD continues to orchestrate digital transformation across UNICEF. As one of the nine ‘change strategies’ identified by the UNICEF Strategic Plan 2022–2025, digital transformation includes: harnessing digital technologies to improve UNICEF programme implementation, streamline operations and processes; enhancing outreach, including through digital influence, beneficiary and stakeholder engagement; and, crucially, fundraising. In 2022, ICTD was key to the development of innovative digital solutions to improve results for children.

In some regions, UNICEF faced challenges in implementing digital transformation and digital services in its programming. For example, access to connectivity is a barrier in some parts of West and Central Africa. Last-mile connectivity and the digital divide (which, wherever it occurs, can perpetuate the effects of poverty, gender inequality and marginalization) between towns and cities, and hard-to-reach areas, are important considerations in planning and deploying digital solutions. Digital transformation faces similar challenges in emergency responses and complex humanitarian situations, including refugee camps. In these locations, UNICEF works with other organizations to identify alternative ways to access digital UNICEF services.

Digital systems to support humanitarian responses

In 2022, ICTD provided continual support to UNICEF’s Office of Emergency Programmes (EMOPS) in the form of identification and analysis of technology-enabled solutions for an efficient and effective emergency response. Crucially, this included vital support to UNICEF’s emergency response in Ukraine, including to countries hosting refugees fleeing the war. This support included new office set-ups, support to core ICT systems and the provision of emergency telecoms.

The Humanitarian cash Operations and Programme Ecosystem (HOPE) was released on a pilot basis in 2021 and by the end of 2022 had been deployed in 13 countries. In 2022, HOPE registered 3 million individuals and supported the delivery of US\$300 million. In Ukraine, HOPE delivered cash transfers to over 262,000 families, comprising almost 600,000 children, totalling US\$293 million in 2022. Managed by an interdisciplinary UNICEF team, HOPE has become a key mechanism for the delivery of cash transfer programmes for both conditional and unconditional cash transfers. The tool ensures that the programmes are of high quality and comply with UNICEF guidance, and guarantees accountability and traceability, as well as ensuring that beneficiaries’ data are secure.



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ICTD stories: HOPE in Ukraine

Humanitarian cash transfers are one of the most efficient ways for UNICEF to support children and their families in humanitarian situations. However, these programmes require the collection of sensitive personal data from highly vulnerable people who may live in fragile and complex contexts. UNICEF developed HOPE to ensure that these data are safely stored and protected, as well as to provide a reliable route for secure cash transfer. Since 2021, HOPE has been used to store and manage the personal data of over 1 million people, with over US\$300 million directly delivered to crisis-affected families in 13 countries.

In 2022, UNICEF used HOPE to deliver cash transfers to vulnerable families in Ukraine. Families used the cash to buy everyday essentials and the transfers helped to create a sense of security at a time when many families were at their most vulnerable.

Khrystyna’s family home in Mariupol was destroyed by shelling in February 2022, in the first days of Russia’s invasion of Ukraine. “We were in the basement because our house had come under fire,” said four-year-old Danylo. “I heard the shells ruining all the houses.” “When there was an aerial bombardment, my younger son covered his ears, hid under a blanket, and asked: ‘Mom, when is this all going to end?’,” said Khrystyna.

Khrystyna, her husband and their two young sons lived in the basement of their ruined house for a month, with no electricity, heating or water supply, and very little food. The family then decided to flee to Kyiv, taking their cat and dog with them but leaving most of their belongings behind, including all of the boys’ toys. “I miss my teddy bear, my grandma gave it to me,” said eight-year-old Kyrlo.

Khrystyna and her family lost almost everything, including their savings, in the war. Cash transfers from UNICEF, with generous support from the European Union and other partners, have helped them to survive and begin to rebuild their lives. Most importantly, the grant helped them to afford treatment for Kyrlo, who has mobility problems that have worsened since the family lost their home.

“We received cash assistance and it was an invaluable help in our dire situation. It helped us to pay a partial sum towards our rent in Kyiv. We bought fruits, clothes, and books. We are also going to pay for swimming classes, which are essential for Kyrlo’s health. This assistance is so much needed!” – Khrystyna



In 2022, ICTD’s Business Relationship Management team continued to develop the Real-Time Data initiative to support humanitarian responses. This initiative, which was launched in July 2021 and will continue until the end of 2024, aims to transform UNICEF into an organization driven by real-time data, by providing integrated, rapid, risk-informed responses to complex humanitarian situations.

It also supports the delivery of solutions that enable effective strategy, planning and resource allocation and mobilization decisions, and supports the availability of spatially detailed, timely data in rapidly evolving contexts. Finally, the initiative will also help UNICEF to generate more value from our data.

Meet the global ICT family: Freddy Delgadillo, UNICEF Nicaragua, Senior UNICEF ICT Associate

Since joining UNICEF Nicaragua in 2015, I have worked on several new projects, including RapidPro for real-time monitoring and cloud server technologies. Like in the rest of the world, the COVID-19 pandemic accelerated the demand for support for digital transformation in Nicaragua. In the same period, I supported UNICEF’s response to two hurricanes, which occurred within the space of 10 days – the largest emergency response coordinated by UNICEF in Nicaragua in the last 20 years. This involved rolling out digital solutions to support disaster recovery and web solutions to measure the progress of the response, which required working with 10 different organizations. As a result, we now have dashboards in place and we are better prepared for the next emergency. This experience has prepared me well for a secondment to the UNICEF East Asia Pacific Regional Office in early 2023, where I will focus on supporting document compliance and helping country offices with their Business Continuity and Disaster Recovery plans. This should help the Regional Director and Technology Officers to track the progress of documentation efficiently and automatically, even when disaster strikes.



Advancing digital health services

In Europe and Central Asia, ICTD provided support at regional and country level for UNICEF-implemented digital systems for immunization programmes and supply chains, and used telemedicine to enhance the quality and efficiency of medical care. The development of U-Support, a platform created to provide youth and adolescents with discreet, personalized and rapid access to psychological care, began in 2022, in preparation for pilot schemes in Bulgaria, Kazakhstan and Poland from 2023. The

platform will link young people with counsellors and/or psychologists and relevant resources to address common mental health issues and support overall well-being. U-Support is jointly led by the UNICEF ECARO Adolescent Development and Participation and T4D teams.

In Kyrgyzstan, UNICEF Digital Health Centre of Excellence (DICE) and regional T4D teams launched a remote medical care (telemedicine) solution to improve primary health-care services in remote parts of the country. The solution also supports professional communication between specialists

in remote regions and doctors from the country’s leading medical centres specializing in the treatment of severe diseases. Since the implementation of the telemedicine project, more than 750 e-consultations have been completed and around 550 e-prescriptions issued.

In West and Central Africa, 2022 saw the development of U-Test, a mobile health innovation designed to reach high-risk adolescents and youth for HIV prevention in Cameroon, Côte d’Ivoire and Nigeria. U-Test offers a new approach to HIV prevention and youth empowerment by using the latest technology, including artificial intelligence (AI), to provide young people with easy-to-understand information about HIV and AIDS while also linking them with support and care. U-Test takes a digital-first approach set within a precision-prevention framework; that is, it uses AI-based modelling to improve precision in targeting at-risk groups and engaging them with novel routes to access preventative care. UNICEF piloted U-Test in Côte d’Ivoire in 2020, with the innovation reaching nearly half a million

users in that year. In 2022, thanks to additional investment, UNICEF also made U-Test available in Cameroon and Nigeria. By the end of the year, U-Test was expected to reach around 1.5 million users across the three countries, with a predicted increase to 2 million in 2023. In just the first six months of 2022, U-Test information centres were consulted more than 1.9 million times.

In 2022, the UNICEF East Asia and Pacific Regional Office received US\$9 million from the Government of Japan to support digital immunization tools in Cambodia, the Lao People’s Democratic Republic, Mongolia, the Philippines, Timor-Leste and Viet Nam. The donation will be used to strengthen health systems in the six countries with Immunization Information Systems and digital health efforts that allow for the monitoring of vaccination coverage and individuals receiving immunization. An estimated 13.5 million people will indirectly be reached through these interventions, including by support for over 1,400 health facilities and 4,300 health workers.

Meet the global ICT family: I Made Suwancita, UNICEF Indonesia, Technology for Development Officer

I focus on building strong partnerships with UNICEF programmes and government partners to ensure that the digital solutions UNICEF Indonesia proposes match the needs of our partners and promote child rights. Government ownership of digital solutions is key for scale. To achieve this, I analyse the needs of all stakeholders, government partners, children, parents, teachers, etc. I ensure the solution matches those needs and I build technical capacity so that they can use the solution independently. In 2022, this coming together of UNICEF programmes, technical capability and partners was exemplified by the Aplikasi Sehat Indonesiaku (‘My Healthy Indonesia Application’) project. Our team developed an application that allows our government partners to coordinate, advise on and support routine immunization based on individual records. Through this application we can help close the vaccination gap.





Digital innovations to support youth, children and families

In 2022, UNICEF continued to expand the use of *Bebbo*, an interactive mobile app designed and developed for parents of children aged 0–6 years. *Bebbo* is intended to support parents to give their children “a good start for a lifetime” with comprehensive, evidence-based information and interactive tools and by answering questions on early childhood development, health, early learning and parental well-being. *Bebbo* was launched in 12 countries in 2022 and was set to expand to a further two countries in the first quarter of 2023. The app is currently available in 19 languages and can be used either online or offline, with pre-downloaded content, when no internet connection is available, making it accessible to even the most vulnerable families. *Bebbo* can potentially replace the need for some families to visit health-care professionals (opening up resources for families with more complex needs) and can be used by early childhood development workers in resource-constrained contexts, enabling them to provide accurate advice. UNICEF can also quickly adapt the app for new contexts if needed: in 2022, it was translated and made available in Ukrainian in just 40 days as part of UNICEF’s emergency response. Since its launch in

December 2021, *Bebbo* has reached over 370,000 users, including 44,000 users of the Ukrainian version of the app.

In West Africa, *Yoma* (youth agency marketplace) is currently led by UNICEF in partnership with GenU, R Labs, Goodwall and GIZ. *Yoma* is a blockchain-based marketplace for youth to build and transform their futures by actively engaging in opportunities for earning, learning, and social and environmental volunteering. *Yoma* links young people with opportunities offered by partners including private enterprises and educational institutions. Benin, Côte d’Ivoire and Nigeria are early adopter countries of *Yoma*. In Nigeria, the number of *Yoma* users significantly increased in 2022 as a result of a UNICEF volunteer recruitment drive, with over 145,000 new sign-ups in the country over the course of the year (of a total of 165,000 new sign-ups); Nigeria is now home to 88 per cent of *Yoma* users. This boost leaves Nigeria well-positioned to contribute to key programmatic outcomes and results for children. *Yoma* is also progressing well in Benin and Côte d’Ivoire, with significant steps made in identifying new opportunity partners and youth engagement activations through youth challenges and ‘hackathons’ (a social coding event where programmers work together to improve or build a new software programme).

ICTD stories: Yoma in Nigeria

In Nigeria, UNICEF used Yoma to recruit over 300,000 volunteers to support its integrated campaigns. About 13,000 of the selected and trained volunteers assisted in registering the births of 3 million children across 20 Nigerian states in November and December 2022.

More than 17 million Nigerian children under 5 years of age remain 'invisible': unregistered, uncounted and without a legal identity. These children are often excluded from accessing education, health care and other vital services and are left vulnerable to exploitation and abuse.

As a teacher, Bilkisu Nuhu Bello has encountered several cases of children being denied enrolment in school because they did not have a birth certificate. Bello, who teaches Basic Sciences in a government junior secondary school in Kano state, had previously been aware that some children lacked a legal identity but was shocked to learn the extent of the problem in her community and across Kano state. When she heard about the call for volunteers through Yoma for the integrated birth registration initiative, Bello was keen to play a key role in providing legal documentation to thousands of children who were invisible to the government.

As a volunteer with relevant experience, Bello was able to apply to become a team leader for the project in her local area, coordinating and supporting 96 other volunteers, sharing information and helping to overcome challenges including poor internet connectivity and technical issues. She also received training in data collection and reporting software. By the end of the project, Bello's team had registered over 17,000 children.

"This opportunity allowed me to interact with many people in my community and be able to provide them with a legal identity through birth registration. I gained a lot of soft skills like teamwork, managing others' communication, and leadership skills. The certificate of participation I received from this volunteering exercise will be added to my Yoma digital certificate and increase my employability." – Bilkisu Nuhu Bello, teacher



Digital support for better mental health in young people

In Eastern and Southern Africa, as in other parts of the world, the emergence of the COVID-19 pandemic highlighted the importance of understanding and addressing mental health and psychosocial support (MHPSS) needs in children and young people. Through its Innovation Programme, the UNICEF Regional Office drew on its experience in emergency programming in the region to coordinate the development of an MHPSS chatbot. The chatbot offers a new way for UNICEF to communicate with children and adolescents in distress in the region, to reach them with supportive messages and educational resources, and to enable them to access quality support services that can improve their mental health and psychosocial well-being.

According to data collected by U-Report, UNICEF's flagship digital platform to engage young people, support participation, and collect and share information, around one third of young people in Serbia do not know where to go for psychological help and believe that stigma associated with seeking help for mental health problems should be reduced. To address this, UNICEF led the development of *Sve je ok* ('everything is ok'), a new digital platform with two key goals: to provide young people with safe, relevant

and age-appropriate information on mental health and self-care, and to connect them with MHPSS service providers from the National Children's Line through a chat box and free individual online consultations with mental health professionals. *Sve je ok* was created in close collaboration with young people and the platform developer. The chats and consultations are free to access and young people can access the services as often as needed. As of December 2022, the platform had been visited by 61,000 young people, with an average of 700 chat sessions per month.

The MyChild Helpline app, launched in 2020 in partnership with ChildLine Trinidad and Tobago, provides children and young people with direct access to MHPSS via an array of child-friendly resources, including live chat and telecounselling, a search facility for child-related services, toll-free helpline numbers and the opportunity to create a mood tracker and a password-protected diary. In 2022 the app, which is available in English, French and Spanish, was expanded to cover a total of 7 of 12 of the countries covered by the UNICEF Office for the Eastern Caribbean Area, in Barbados. UNICEF plans to further expand the availability of the MyChild Helpline to cover all 12 countries. By expanding across countries, the app addresses gaps identified in countries with fewer resources while maximizing those systems already in place in countries with greater capacity.

Meet the global ICT family: Anupma Sud, UNICEF EAPRO T4D Business Analyst



I provide support to country offices for the implementation of their digital initiatives. In 2022 I supported UNICEF Philippines and UNICEF Papua New Guinea in formulating their technology governance mechanisms. For me, good governance of UNICEF digital solutions is a priority: successful digital inclusion of children means ensuring that UNICEF carries out its digital initiatives to the highest standards, and that is what governance enables. I also advised four countries on the creation of their own T4D strategies, making sure they are geared up to respond to the needs of children in an increasingly digital world. I also focus on strengthening partnerships for the

advancement of child rights online. In 2022, I worked closely with the Regional Child Protection section to facilitate connections with private sector tech companies to encourage their participation in the 2022 ASEAN ICT Forum for Child Online Protection and in the Industry Technical Working group. As a result, companies formed an industry working group to build on and accelerate the private sector's awareness, capacity and commitment to developing and offering digital products and services that align with child rights principles.



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Improving learning outcomes for children

In 2021, UNICEF supported an initiative to deploy assistive technology for inclusive education in Uruguay. During the COVID-19 pandemic, the Government of Uruguay’s public education system provided all students and teachers with access to a tablet or laptop to facilitate online learning. However, the success of the initiative was limited by a lack of access to assistive technology, or ‘digital ramps’, for students with disabilities, particularly outside the capital city of Montevideo. To overcome this challenge, in 2022 UNICEF partnered with Plan Ceibal (Uruguay’s National Digital Education Plan) to launch Puentes Digitales (Digital Bridges), which is providing students with disabilities with hardware and/or software to improve their access to technology. This can include, for example, large-print keyboards, screen readers, push buttons, eye tracking devices and software that allows users to change the size or colour of the cursor. For children and young people with disabilities, having access to appropriate technological equipment can make the difference between being connected and being isolated, between participating and being left out, and between accessing information and

not accessing it. UNICEF also hopes that the experience gained under the initiative will allow the model to be shared and scaled in other countries.

In Jordan, UNICEF deployed digital solutions to improve internet access for children and youth living in refugee camps, to enable online learning and to give young people the opportunity to connect and interact online. Syrian children and their families living in the Za’atari and Azraq refugee camps in Jordan lacked reliable internet access due to issues including cost, low connection speed, a lack of 3G/4G infrastructure and internet restrictions imposed in the camps. UNICEF addressed these barriers by expanding the deployment of a cloud-based network that was previously used in 25 UNICEF Makani (‘My Space’) centres to 3 youth centres. Both the Makani centres and the youth centres support young people’s development and physical, social and emotional well-being. Expanding internet access to the youth centres enabled young people aged 16–24 years to access online learning services and improve their digital literacy. In 2022, the youth centres reached around 800 young people.

ICTD stories: Facilitating internet access in refugee camps in Jordan

Accessing the internet is a necessity for today’s young people – for learning and developing skills, for connecting with their peers and engaging in conversation, and for expanding their perspective and understanding. This need was only heightened by the COVID-19 pandemic and its aftermath, with many vital services moving online.

Many refugees do not have access to the internet, leaving them excluded and disconnected. Lack of internet access can also result in digital illiteracy, with refugees denied access to fundamental online learning tools and opportunities to link to local, national and international communities.

To help young people living in refugee camps to overcome these challenges, UNICEF leveraged existing infrastructure to enable internet connectivity in three Afaq youth centres in refugee camps in Jordan. The response from young people was positive:

“[The] Afaq centre has given us the opportunity to use the internet and easily access our classes, [thanks to] the high internet quality and the accompanying positive atmosphere at the centre. We feel grateful since we face a lot of hardships, and the centre offers services that are not provided elsewhere.”

“We thank Afaq centre for providing us with internet access and a positive atmosphere, which helped us in educational attainment, in addition to giving us an opportunity to play alongside learning. It also enabled us to access many training courses that are available on the internet, [which we could not previously access] considering the low-quality internet service in Za’atari camp.”

Hamad, 18, Jordan



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Supporting the development of digital public goods

Primero is a web app used by child protection and social services workers to deliver services in more than 50 countries and territories. Primero is an open-source software platform and a certified digital public good, with tools to facilitate case management, incident monitoring and family tracing and reunification. While no single organization can provide all the services needed by vulnerable children, including survivors of violence and gender-based violence, Primero allows multiple partners to work on a common and secure platform by digitizing workflows and data exchange, and by freeing users from managing their own data system. Through the app, users can refer cases confidentially to other partners and deliver integrated services to vulnerable populations. Primero currently has almost 10,000 users and more than 1 million active cases, and is increasingly being adopted by governments and civil society partners.

UNICEF continues to use Primero to deliver results for children. In March 2022, Guatemala became the first country in Latin America to implement Primero, registering more than 13,000 cases, mostly relating to children in the migratory context, in just the first few months of use. In Romania, Primero was launched by the National Authority for the Protection of Child Rights and Adoption in partnership with UNICEF and Sera România in July 2022 to register children fleeing the war in Ukraine.

A second approved digital public good championed by UNICEF in 2022 is Oky, a period tracker and menstruation education app created with and for girls in low- and middle-income countries. A digital girl-centred innovation, Oky is a first-of-its kind, open-source mobile app that demonstrates innovation design to tackle both pervasive gender discrimination, such as the taboo around menstruation and harmful practices, and the gender digital divide. By involving girls in the design of the app, Oky is able to meet their digital realities – such as access to connectivity and devices, and online safety – and help them to increase their digital literacy while accessing valuable information about their body. Oky is also a business model innovation, as it utilizes open-source and social franchising: UNICEF grants franchise licences to selected partners to deploy Oky across new countries and regions, where it is adapted to local contexts and supplemented with relevant (low-tech) multiplatform products by partners and girls themselves. While franchising is common in the private sector, it has so far been under-explored for use in development and humanitarian work, or for digital solutions for social impact. The franchising model allows Oky to harness collaboration, creativity and diversity, and to scale outside UNICEF, while adhering to Oky principles and remaining affiliated with UNICEF as the founding partner.

ICTD stories: Primero – supporting children fleeing the war in Ukraine

In Romania, more than 14,000 children fleeing the war in Ukraine were successfully registered on Primero in 2022. This represents more than 38 per cent of the total of 37,000 Ukrainian children estimated to be in Romania. Implementation of Primero in the country centres on one main component (Cases) and one key module (Child Protection), with tailored forms and a custom-made configuration. Primero in Romania currently has 317 registered users, including social workers, psychologists and licenced NGO representatives.

In Ilfov, close to the capital city of Bucharest, around 300 Ukrainian children are registered with Primero. Olena and her four children – Viktoriia (14), Anastasiia (10), Mykola (8) and Veronika (5) –live with two other families in a rented house on the outskirts of Ilfov. The family travelled through the Republic of Moldova and hold a temporary protection status in Romania. All four children were registered in Primero in August 2022. Ramona, the social worker assigned to the children’s case, was able to use Primero’s Initial Evaluation function to verify the children and, for Mykola, to identify several health issues that were limiting the child’s access to education. This helped Ramona to identify the need for further visits to the household to further understand Mykola’s health issues, and to refer the case to the General Directorate of Social Assistance and Child Protection for appropriate service provision.



Meet the global ICT family: Uranchimeg Badambazar, UNICEF Mongolia, ICT Officer

I work on both operational ICT and T4D. On the operational ICT side, I support the Humanitarian Country Team in Mongolia by co-leading the Emergency Telecom Cluster. In 2022, UNICEF and partners conducted a simulation exercise, which played a fundamental role in identifying critical telecommunication and preparedness issues in the country's resilience to earthquake disasters and serves as a key source of information towards development and finalization of the National Emergency Telecommunication Plan. On the T4D side, I am particularly proud of the launch of the Oky application in Mongolia, which was part of our Adolescent project led by Bolorchimeg Dagva, Adolescent Development Specialist. Thanks to this application, Mongolian girls now have access to a period tracker that gives them safe and personalized information on menstrual health. To make this happen, I ensured that the local NGO that supports the Mongolian Oky app has the right technical support in place, by coordinating with local vendors and developers for server hosting access and rights. By the end of 2022, 2,661 adolescents in Mongolia had signed up to use the app.



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Strengthening operational efficiency and effectiveness

One of ICTD's key goals for 2022–2025 is to scale up the digital maturity within UNICEF and convene the organization towards digital transformation ambitions, accelerating progress towards the Sustainable Development Goals and improving overall operational efficiency and effectiveness. Practically, an important step towards this was reorganizing and relocating ICTD to three locations: digital core in Valencia, the Digital Centre of Excellence in Nairobi, and HQ support in New York. This process was completed in 2022. ICTD also completed its Infrastructure Transition and Transformation project, which involved migrating primary and backup data centres to Valencia and Brindisi, respectively, and decommissioning the previous data centre in New Jersey.

UNICEF revamped its ICT emergency warehouses in 2022, by updating the existing warehouse in Copenhagen and constructing a new warehouse in Valencia. These warehouses store emergency stock that allows UNICEF to react rapidly and efficiently during emergency responses in any region. In 2022, UNICEF provided emergency ICT stock with a total value of US\$150,000 to responses in Ukraine, Afghanistan and Pakistan.

Digital fundraising continues to drive growth in new markets for UNICEF. In 2022, ICTD played a key role in streamlining integration of digital fundraising through the implementation of digital infrastructure such as payment gateways, donation portals, reporting platforms and data migration functions. In public sector fundraising, ICTD

automated management reports to support decision-making and provide real-time analytics on funding projections and pipelines.

In recent years, cybersecurity, and particularly the protection of beneficiary, donor, staff and sensitive organizational information, has emerged as one of the most important challenges to corporate infrastructure. Ensuring effective cybersecurity is an even greater task in a large, globally dispersed organization like UNICEF. In 2022, UNICEF ICTD worked with cybersecurity partners to implement the Managed Detection and Response Service, which significantly improved UNICEF's ability to detect and respond to cybersecurity incidents on a 24/7 basis. The service has already proven effective in identifying and helping to neutralize sophisticated spear phishing attacks, protecting UNICEF from the potential loss of funds.

In 2018, the UNICEF Country Office in Yemen established a Complaints and Feedback Mechanism (CFM) to strengthen communication between UNICEF and vulnerable communities benefiting from the Yemen Unconditional Cash Transfer, which delivers social cash grants to over 1.41 million households in the country. In 2022, UNICEF Yemen expanded the CFM to all programmes, including health, nutrition, education, social policy and cross-cutting components such as gender-based violence. This expansion represented a key aspect of the Country Office's approach to Accountability to Affected Populations. Since the roll-out of the CFM expansion in August 2022, the Yemen Country Office has registered nearly 30,000 enquiries.

Meet the global ICT family: Prossie Nassaka, Data Centre Manager

In 2022, I joined UNICEF as a Data Centre Manager after more than 12 years in the United Nations system. My role is making sure that our data centre is taken care of and that it properly hosts all our systems. It's a great time to do this, as we complete a transformation and transition initiative that entails moving our data from New York to Valencia.

UNICEF had two data centres in New York that hosted key applications such as Vision, Insight and SharePoint. These consumed a great deal of space and resources in a high-cost location. UNICEF's Digital Core, hosted at the United Nations ICT base in Valencia, offers a more cost-efficient solution.

Overseeing the setup of a new data centre is around-the-clock work, and it's my first time moving such a critical infrastructure internationally. Luckily, my experience – in securing IT infrastructure at the United Nations mission in Liberia, at the UNGSC tech facilities in Brindisi (Italy) and as part of the rapid deployment team for the new ICT base in Valencia in 2011 – will help me to support a smooth transition of our network and infrastructure. And it's all for a good reason – we are moving to a data centre that is more reliable, safe and powered by green energy.

Valencia now feels like my second home! I now understand the language, which makes it easier to enjoy the good life: the people, the food, the city... the whole package!





Scaling digital maturity at UNICEF

In 2022, ICTD began building UNICEF's Global Accessibility Helpdesk, which is due to become operational in 2023. The Helpdesk will enable UNICEF to meet and exceed expectations set out in the United Nations Secretary General's Disability Inclusion Strategy by providing services including: providing support to employees with disabilities; establishing and updating accessibility standards, guidelines and testing methodology; proactively auditing and verifying compliance; building an accessibility knowledge base; and designing and delivering training on digital accessibility to all UNICEF staff. UNICEF hopes that the Helpdesk will enable all staff and potential recruits with disabilities to achieve their fullest potential and make UNICEF a better and more inclusive organization.

In 2022, ICTD's Nairobi-based Digital Centre of Excellence (DCOE) grew from an original 6 to 11 staff members. Launched the previous year, DCOE's mission is to create results for children by scaling the most impactful digital solutions in programming: in country, and across countries and regions. To achieve this goal, DCOE manages proven digital products such as RapidPro and Oky and creates tools and guidance to improve the quality and reach of UNICEF's digital programming. As a global function, DCOE also builds and maintains partnerships that deliver impact for children through digital technology. DCOE also works with internal and external partners in the digital development ecosystem on advancing interoperability between digital solutions to realize children's rights.

The Spectrum of Behaviours tool, developed by UNICEF in 2022, is designed to strengthen individual understanding of appropriate and inappropriate behaviours, offer guidance on appropriate responses and provide a focus for colleagues to reflect on their behaviours and how they align with UNICEF's core values. The online interactive tool allows users to search by behaviour, provides information on which core value a behaviour relates to and examples of how behaviours might be exhibited, and links to related policies, procedures and guidance. The tool has already been observed to make a positive impact on promoting UNICEF core values and helping people to put those values into action.

“ *This [Spectrum of Behaviours] tool is an excellent contribution to a shared language when we talk about our values. Sometimes we don't realise that we have slightly different definitions of the same value because of our cultures, languages and experiences.”*

– UNICEF staff comment

Part 4
Looking ahead

One year into UNICEF’s new Strategic Plan 2022–2025, with its specific mention of digital transformation as one of the nine change strategies, ICTD continues to convene digital transformation across the organization. Efforts through 2022 by ICTD and the wider organization have allowed UNICEF to harness digital tools to improve programme implementation and outreach, and to explore innovative ways to raise funds to improve results for children.

Digital transformation is about technology and processes; but also, crucially, it is about people. If digital transformation is to be successful across UNICEF, it must be supported by investment in staffing, capacity-building and the development of a culture of digital innovation. Outside the organization, expanding the reach of digital transformation means identifying new ways to overcome challenges such as last-mile connectivity and the digital divide between hard-to-reach and urban areas. Capacity-building is needed across the whole delivery ecosystem: national governments, partners and beneficiaries.

As part of digital transformation, UNICEF is investing in emerging technologies such as AI and advanced data analytics, as well as maturing technologies with established benefits (such as cloud ERP). Expanding the use of open source solutions and exploring potential partnerships and external perspectives are also priorities, and will help UNICEF to identify the applications and implications of emerging technologies, to more effectively harness these technologies in delivering results for children.

Solutions that are proven to be effective in one country, region or context have, for the most part, the potential to be equally valuable elsewhere. For this reason, UNICEF will continue to work to expand the use of digital public goods such as Primero and Oky, which are important examples of how digital public goods can and should be leveraged for social impact and achievement of the SDGs. Digital public goods are proven solutions that can bring efficiency, expertise and boost capacity and share expertise to assist in advancing the SDGs, while keeping human rights, inclusivity and sustainability at the centre of the conversation.

Establishing robust and inclusive digital public infrastructure has the potential to improve outcomes for all children, including the most vulnerable. Digital public infrastructure

refers to solutions and systems (in the public or private sector) that enable the effective provision of essential society-wide functions and services; for example, digital identification and payments. The potential of this infrastructure can be seen in the digital solutions to some of the challenges created or exacerbated by the lingering effects of the COVID-19 pandemic.

Digital solutions, embedded in digital public infrastructure, have the potential to help UNICEF tackle these challenges, progress towards achieving the SDGs by 2030 and realize children’s rights, including in the digital environment. Working with partners in UNICEF, the digital transformation strategy is working to further embed the principles from the United Nation’s Committee for the Rights of the Child General comment no. 25 on child rights in the digital environment in the 2022–2025 period. For example, digital technologies can transform CRVS systems, which are needed for birth registration: a prerequisite for children’s rights (as seen in the story from Nigeria, above), as children registered at birth are more likely to be identified for services such as routine immunization, school attendance tracking and social payments.

Digitized cash payments through systems like HOPE can be used to tackle poverty by providing rapid assistance to vulnerable families, as has been shown in Ukraine. The HOPE team will continue to update the system in response to feedback; for example, by giving HOPE users the ability to check the status of their applications. The team is also working to deploy HOPE as a preparedness measure, as experience has shown that having staff who are already familiar with a tool like HOPE can save vital time – four to six weeks – in responding to a crisis.

In education, digital infrastructure can improve access to education through supporting resources for both in-person and online learning. An important example of this is UNICEF’s Learning Passport platform.

In the post-pandemic world, where crises are increasingly complex and unpredictable, technology and digital solutions can be powerful levers to improve children’s lives. ICTD will continue to explore the potential of effective and cost-efficient digital solutions to expand children’s access to health, quality education, social protection, and social inclusion, and to make these systems more resilient in the face of crises.

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