


2022 ANNUAL REPORT

Digital Transformation in the East Asia and Pacific Region



**Information and
Communication
Technology
Division**

East Asia
and Pacific
Regional Office



Many of the challenges we face to protect children's rights are extremely difficult to overcome. Bridging the digital divide should not be one of them. Not when we have the technology and the ability to close that gap. We need to find the will.

This is a collective challenge – and it yields a collective benefit. We will all benefit from a world where children's privacy is respected online and offline, where children are protected from harm wherever they are, and where every child can develop the digital skills they need to make the most of their lives in a digital future.

– UNICEF Executive Director Catherine Russell



Table of Contents

1	Executive Summary	2
2	Introduction	5
	<i>Background</i>	6
	<i>Importance of Digital Transformation</i>	6
	<i>Scope</i>	7
3	DX Landscape in EAP Region	8
	<i>Digital Initiatives Supported by UNICEF in EAPR</i>	9
	<i>Megatrends</i>	10
4	UNICEF's Digital Transformation in the EAP Region	12
	<i>The Role of the EAPRO ICT and Digital Innovation Team</i>	13
	<i>UNICEF's Digital Transformation Strategy in the EAP Region</i>	13
	<i>Partnerships</i>	16
5	Becoming Digital by Design	17
	<i>DX for Management Efficiency and Effectiveness</i>	18
	<i>Digital Programme Delivery</i>	19
	<i>Digital Health</i>	20
	<i>Digital Child Protection</i>	23
	<i>Digital Education</i>	25
	<i>Digital Empowerment</i>	27
	<i>Digital Social Protection</i>	29
	<i>Digital Emergency Response and Preparedness</i>	30
6	Conclusion	32
	<i>Annexes</i>	34
	<i>Acronyms</i>	34
	<i>List of EAP Regional Office ICT and Digital Innovations Partners</i>	36
	<i>Contact</i>	36



1.

Executive Summary



UNICEF has been working in the East Asia and Pacific region for several decades to promote the rights and well-being of children. Increasingly, this involves adding digital solutions to deliver better, faster and safer results for children and accelerate the achievement of the Sustainable Development Goals. The UNICEF Strategic Plan recognizes Digital Transformation as a key change strategy. This *2022 Annual Report – Digital Transformation in East Asia and Pacific Region* gives an overview of how digital solutions transform the way UNICEF delivers impact for children in the East Asia and Pacific region, preparing for the future challenges and opportunities technology will bring.

Closing the digital divide will be a key priority for UNICEF and its partners if we are to give every child an equitable chance in the future. During 2022, UNICEF in EAPR has recognised key challenges and opportunities that digital solutions bring to our programming, such as accessible connectivity for all, cyber security and online safeguarding, artificial intelligence and virtual reality.

In 2022 UNICEF EAPRO's ICT and Digital Innovation team supported the development of digital solutions in 13 Country Offices and one Multi-Country Office, spanning 28 countries and territories. Over 450 individual digital solutions were reported to be in use throughout the region, including Digital Public Goods, like Primero and RapidPro. The team adheres to the principles of digital development, the UN Secretary General's Roadmap for Digital Cooperation and relevant UNICEF policies when supporting country offices with their digital initiatives.

Partnerships were key in advancing child rights in a digital world. UNICEF partnered with ASEAN on the ASEAN ICT Forum on Child Online Protection. Working with Thinking Machines, we worked to promote open source, open data, and open science across the region. A partnership with the Government of

Japan provided substantial funding to advance immunisation information systems across six countries in the region.

Digital transformation enabled UNICEF to increasingly enable, deliver and mainstream digital programming, services, and innovations by augmenting new staff functions and capacities, integrating software/hardware (e.g., software as a service and cloud computing), enabling automation and increasing agility, while transforming national programmes. More efficient internal ICT business processes, additional human resource capacity, a modern digitally enabled supporter engagement strategy and improved internal governance structures meant country offices were enabled to maximise their operational capacity to deliver results for children.

UNICEF recognizes that the digitisation of society does not have a universal effect on all children. Our digitally supported programmes considered the need to address the digital divide. Digital health technologies were used throughout the region to enhance the reach and quality of care for children and their caregivers. In Thailand, the Early Moments Matter mobile platform improved literacy in maternal and child health for children. UNICEF supported training for government partners on health system strengthening, electronic immunisation registries and immunisation information systems with the aim to improve delivery of routine and emergency immunisations.

The use of digital solutions to improve child protection continued in 2022. Digital case management solutions are now at various stages of development in ten EAPR countries, facilitating case management, incident monitoring and family tracing and reunification. The launch of ParentText, a chatbot powered by RapidPro, in Malaysia and the Philippines saw parents positively responding to the tool and reporting that their relationships with their children has improved.



© UNICEF/JUN1304647/Ma

Education is facing a triple crisis - a crisis of equity and inclusion, a crisis of quality, and a crisis of relevance. Digital education can help address these challenges, but only if students and teachers have access to and know how to use these solutions. In Lao PDR the government has committed to enhancing digital education to transform education to ensure children are ready for what the future holds. In Malaysia the re-launch of the digital educational learning initiative (DELIMa) democratised learning while building digital skills for students and teachers alike.

The use of frontier data technology is key in preparing for and responding when a humanitarian situation arises. The RO put in place a Frontier Data Technology Node and InForm supporting the country offices with critical data collection tools. Solutions such as the Digital Platforms Assessment and Response Tool (DPART), ProjectConnect and Geowrangler enable country offices to quickly and accurately collect and access data for decision-making at crucial times. Data technology also allows UNICEF and partners to make the right decisions at the right time in

development contexts. Frontier data technology supports social policy initiatives as it provides additional data sets for monitoring poverty in countries. Real time monitoring, supported by InForm, enabled data collection for vaccination campaigns.

Across the region digital solutions have been used to empower children and young people. U-Report, powered by RapidPro, gives a voice to young people in 12 countries in EAPR on issues that matter to them, from anti-bullying to policy feedback. Oky, a period tracker app designed for and by girls, provides girls in Mongolia, Indonesia, PNG and Philippines with crucial information about menstrual health. In Thailand the LoveCareStation is an online platform that provides over one million young people with access to information about sexual reproductive and mental health counselling.

2023 will see UNICEF EAPR continue its work on digital transformation. We will continue to work with our partners to close the digital divide and ensure every child has safe and equitable access to digital solutions.



2. Introduction

Background¹

Few regions in the world are as diverse as East Asia and Pacific region (EAPR). The region stretches from Mongolia in the north to Tonga in the south, and from Western China to the Cook Islands. This dynamic region also boasts significant diversity – in peoples, cultures, environments, economies, political systems, access to technology and potential for growth. It includes some of the fastest-growing economies in the world as well as ten of the least-developed countries.

UNICEF has been working in the region for several decades to promote the rights and well-being of children. Increasingly, this involves

adding digital solutions to deliver better, faster, and safer results for children and accelerate the achievement of the [Sustainable Development Goals](#) (SDGs).

Importance of Digital Transformation

Children are facing unprecedented challenges that require UNICEF to implement innovative and creative approaches to deliver greater impact. Accelerated by the COVID-19 pandemic, the world is becoming **digital by default** and technology is now present in nearly all aspects of a child's life.



¹ <https://www.unicef.org/eap/>



Digital solutions, such as applications, websites, social media, games, etc., are fast becoming the primary way for children to access education, interact socially, find entertainment, and participate in society. In response, governments are increasingly looking to employing a digital by default approach by harnessing the latest technologies and tools to respond to the multiple challenges children face effectively and efficiently. UNICEF recognizes that Digital Transformation (DX) is required to tackle these challenges head-on with empowered, digitally dexterous staff, enabling programmes that are digital by design and are sensitive to children's needs and aspirations, while supporting partners on their own digital journey.

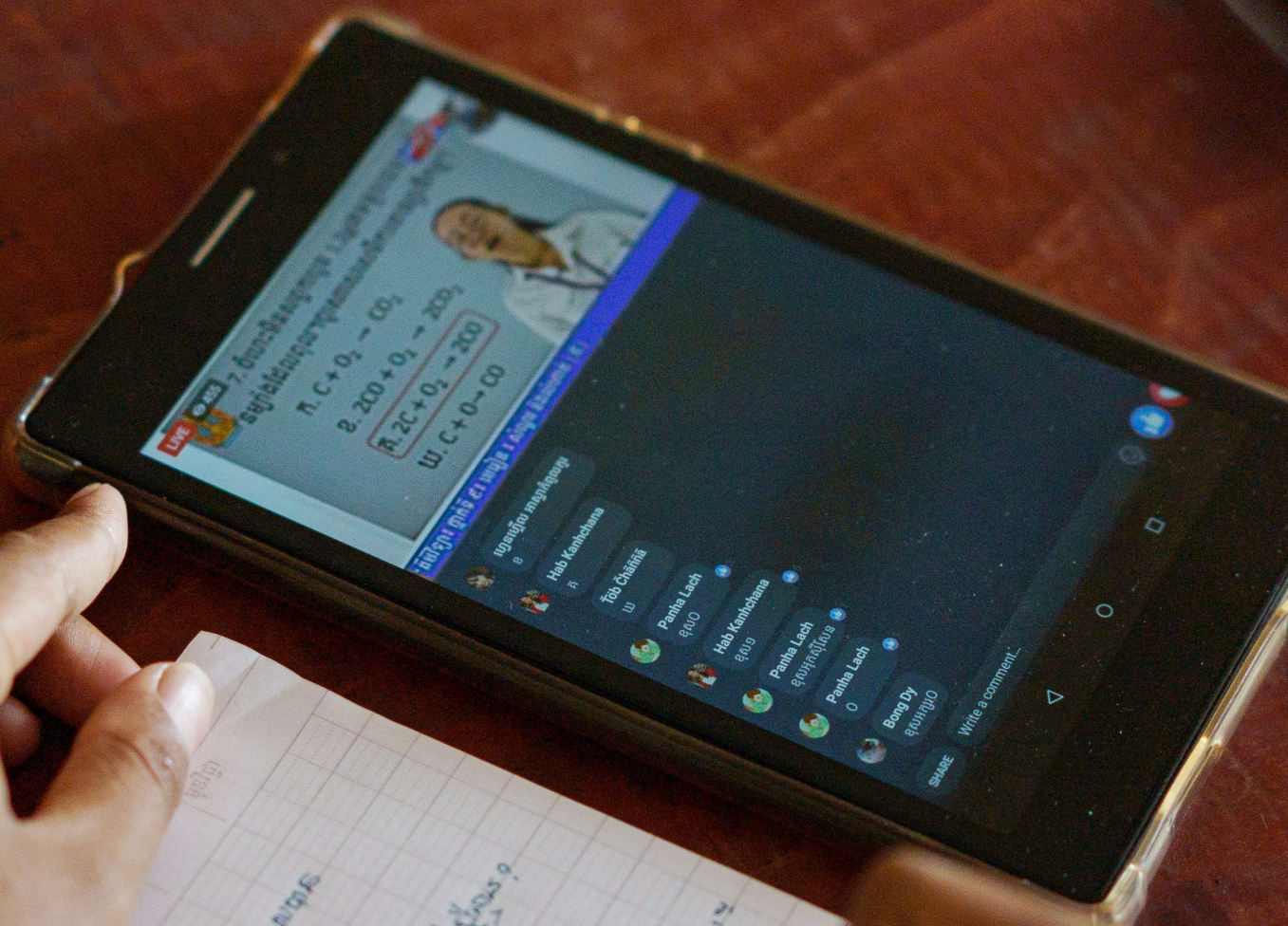
The United Nations Economic and Social Commission for Asia and the Pacific ([ESCAP](#)) defines the **digital divide** as ***“the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities.”***² The digital divide can exacerbate existing inequalities and have long-term consequences for children's education, health, and prospects. Addressing the digital divide is critical to ensure that all children have equitable access to the opportunities and resources they need to thrive.

UNICEF is a champion for children online and offline. The organization has identified DX as one of nine key change strategies to achieve its goals across all its programmes, operations, policies and partnership activities in the [2022-2025 Strategic Plan](#). **DX at UNICEF is defined as harnessing digital tools to improve UNICEF programme implementation, streamline operations and processes, and enhance outreach, including through digital influence, beneficiary and stakeholder engagement, and fundraising.** DX in society goes beyond increasing access to digital solutions; it is a process through which technologies transform and disrupt the social fabric with the creation, management, use and distribution of resources.

Scope

This *2022 Annual Report – Digital Transformation in East Asia and Pacific Region* focuses on the work supported by the UNICEF East Asia and Pacific Regional Office and Digital Innovations Team and highlights the key achievements in the areas of ICT, Technology for Development (T4D), Digital Innovations and Data Technology in EAPRO and the COs it supports. It offers an insight into the impact DX has on how UNICEF delivers results for children and is becoming digital by design.

² <https://www.unescap.org/resources/measuring-digital-divide-asia-pacific-region-united-nations-economic-and-social-commission>

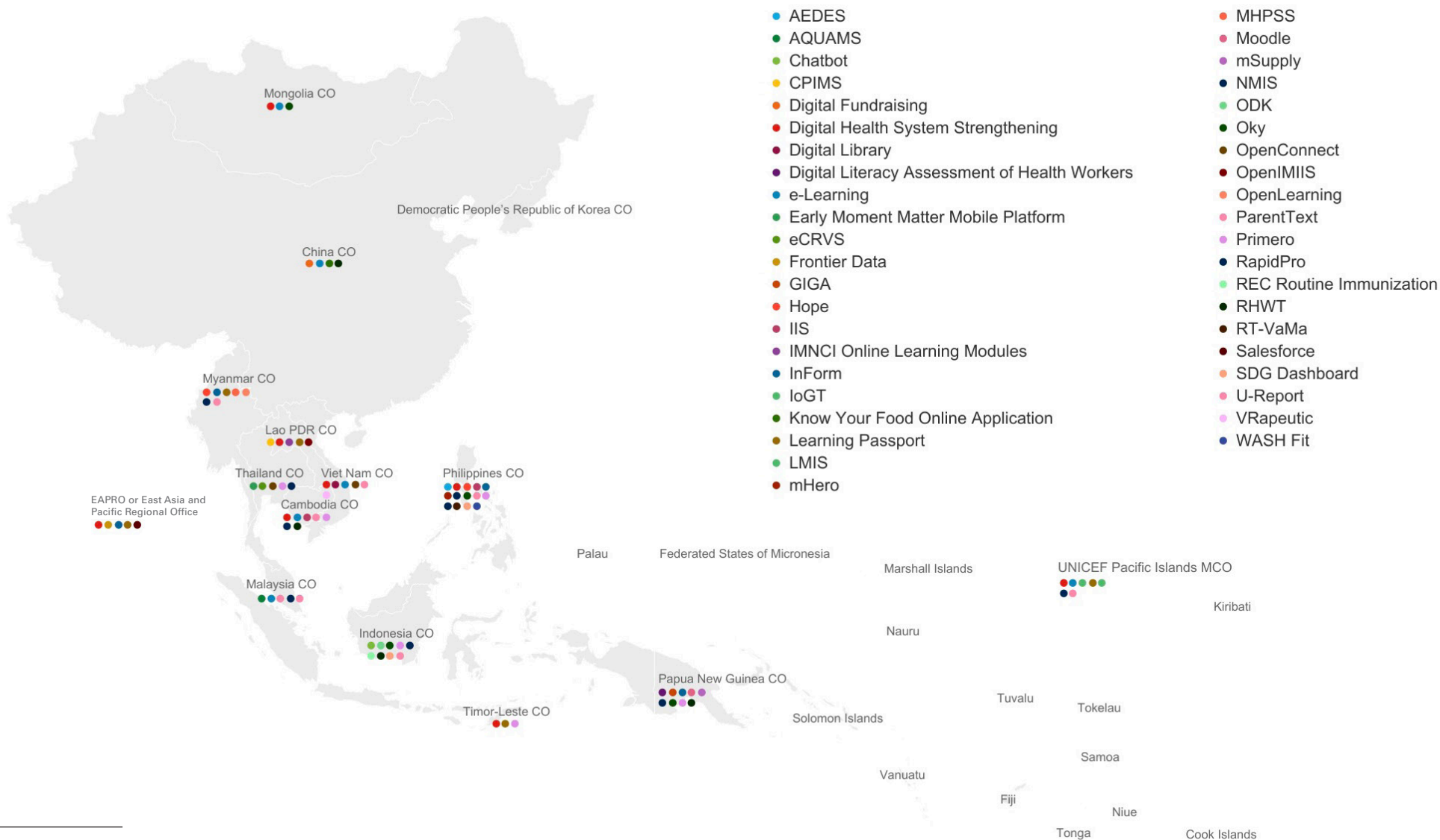


3.

DX Landscape in EAP Region



Digital Initiatives Supported by UNICEF in EAPR³



3 Over 450 digital initiatives were supported by COs during 2022 in EAPR. This map aims to show a selection of key digital initiatives, it is not an exhaustive list of all.



Megatrends

In 2022, UNICEF responded to several digital megatrends, setting the tone for what is to come. One of the key challenges to closing the digital divide is ensuring **accessible connectivity**. Fast progress is being made to increase connectivity, but not all children benefit in an equitable manner. The level of internet use in South-East Asian countries ranges from only 26 per cent in the Laos People's Democratic Republic to 95 per cent in Brunei Darussalam.⁴

Multiple factors contribute to disproportionate access to the internet, with the two most significant barriers being affordability (internet data as well as costs related to accessing digital learning content and applications) and lack of infrastructure, including devices for students.

The UNICEF EAPRO Frontier Data Technology Node (FDTN) has tested the potential of Geographic Information Systems (GIS) data to power [OpenConnect](#) in Viet Nam. This project mapped the connectivity of schools and health facilities and subsequently guided programme teams on where to focus reopening efforts and where to emphasize support for online curriculums and improved connectivity.

Cyber security and online safeguarding remain a challenge. UNICEF's Child Protection team works to address the increasing risks children face online, such as grooming, cyberbullying, online harassment, and the infringement of children's privacy online. UNICEF Cambodia and EAPRO supported ASEAN and the Royal Government of Cambodia to hold the first ever ASEAN ICT Forum on Child Online Protection, held in Phnom Penh in November 2022. The forum aimed to promote meaningful and coordinated action against Online Child Sexual

Exploitation and Abuse attracting 420 participants from government, the private sector, civil society, children and young people.

Children are already interacting with **Artificial Intelligence (AI)** and **machine learning technologies**. However, little attention is paid to how these might impact children. UNICEF is working on a global level to address this. In 2021, UNICEF initiated a global [AI for children project](#) that offers policy guidance. The Mongolia CO has adapted and piloted AI solutions to assist with pneumonia diagnosis. The [UNICEF Data Manifesto](#) articulates a clear vision for a better approach to children's data, one that can guide the development of AI data governance frameworks. In EAPR, UNICEF is already using AI-powered chatbots to support interaction with our beneficiaries across multiple countries.

Country Spotlight: Mongolia – Using AI to detect pneumonia

In Mongolia, where pneumonia is one of the leading causes of morbidity and mortality among children under five, the need for timely and reliable diagnosis is high. Considering the vast geographical spread of citizens in Mongolia, the quality of diagnosis and treatment can be compromised at times. The Mongolia CO has worked with an application of AI, *Inspectra*, for pneumonia diagnosis to improve the accuracy of diagnosis and consequently the quality of treatment across the nation regardless of remoteness or the availability of a doctor. It will be piloted in Umnogobi province in 2023 for further analysis of the application's relevance to minimize risk of errors, the improvement of reference database of x-ray imaging, verification of system operations, and an increase in public awareness and understanding in 2023. This initiative can reach up to 80 percent accuracy in diagnosis even beyond pneumonia, bringing further opportunities of low-cost diagnostics, and ensuring broader accessibility and universality eventually nationwide.

⁴ UNICEF/UNESCO, Rapid Situation Analysis of Responses to and Effects of COVID-19 on the Education System, East Asia sub-regional report, 2021



The ongoing **digitalisation of health care** is set to accelerate. While this enables a distributed and hybrid model of care and improves universal access, it is crucial that the DX of healthcare respects key stakeholders and their privacy and integrity. UNICEF supports the development of in-country digital health strategies and builds the capacity of health workers to use these digital tools. In 2021, UNICEF EAPRO and the [Digital Health Centre of Excellence](#) (DICE) supported the [mapping of digital health tools](#) in the region, enabling DICE to identify areas for digital expansion in health in 2022. UNICEF partnered with the [Government of Japan](#) to strengthen

digital health initiatives in Cambodia, Lao PDR, Mongolia, the Philippines, Timor-Leste, and Viet Nam, supporting over 1,400 health facilities and an estimated 13.5 million people, including 4,300 health workers. EAPRO shared its experiences on mapping digital health technologies as part of its COVID-19 response at the [Global Digital Development Forum 2022](#).

Children are engaging with **virtual reality** through many videogames. The rise of meta-verses offers unique opportunities to accelerate child rights, but also inherent risks that need to be addressed to keep children safe in these virtual worlds. In Viet Nam, a [Digital Public Goods Pathfinding country](#), UNICEF partnered with [VRapeutic](#), a [UNICEF Venture Fund](#) portfolio company, to provide virtual therapy for children with attention deficit hyperactivity disorder (ADHD).

As the size and number of available data sets continues to grow exponentially, **Big Data** and the technology to analyse it through websites, mobile, internet of things (IoT), or aerial devices and satellites are increasingly important to ensure UNICEF delivers where it matters most. The use of predictive analytics, user behavior analytics, or other methods that extract value from big data sets is extremely important to understand how we can best support children in development and when responding to crisis. For example, the FDTN team worked to analyse [the strengths and limitations of relative wealth indices derived from big data](#) in Indonesia, to advance knowledge about the use of Big Data for planning and decision making on social policy programs. For example, in the Philippines, a DPGA Pathfinder country, [Project AEDES](#) uses satellite data to predict dengue hotspots and allow for rapid response to prevent dengue outbreaks.



4.

UNICEF's Digital Transformation in the EAP Region



The Role of the EAPRO ICT and Digital Innovation Team

The [EAPRO ICT and Digital Innovation team](#) strengthened capabilities for digital initiatives in design, analysis, planning, budgeting, implementation, and training in support of UNICEF Country Office (CO) programmes in the region. The team focused on providing strategic guidance to COs on digital initiatives, brokering knowledge around best practices and unpacking corporate guidelines linked to the use of technology. In 2022 the regional office ICT and Digital Innovations team supported the development or scale up of 24 [digital public goods](#) (DPGs) across the 27 countries covered by EAPRO.

Within UNICEF the EAPRO ICT and Digital Innovations team provided continued support to organisation's global DX. It linked the CO T4D work with [Headquarters](#) (HQ), other [Regional Offices](#) (RO) and other internal digital partners, including the Digital Centre of Excellence (DCOE), the [Digital Health Centre of Excellence](#) (DICE) and the [Office of Innovation](#) (OoI). Support focused on data technologies brought the team in close partnership with the Planning, Monitoring and Evaluation (PME) team and Data and Programme Management team (DAPM).

As a thought leader on DX, the team continued to promote the work done around technology for programming through participation in the [Global Digital Health Summit](#) held in New Delhi in October 2022 and the [Transforming Education Summit](#) held in New York in September 2022. [Gavi](#) and UNICEF piloted a training for real time monitoring during immunisation campaigns in the Philippines, strengthening the capacity of

the participating technology for development and immunisation experts.

UNICEF's Digital Transformation Strategy in the EAP Region

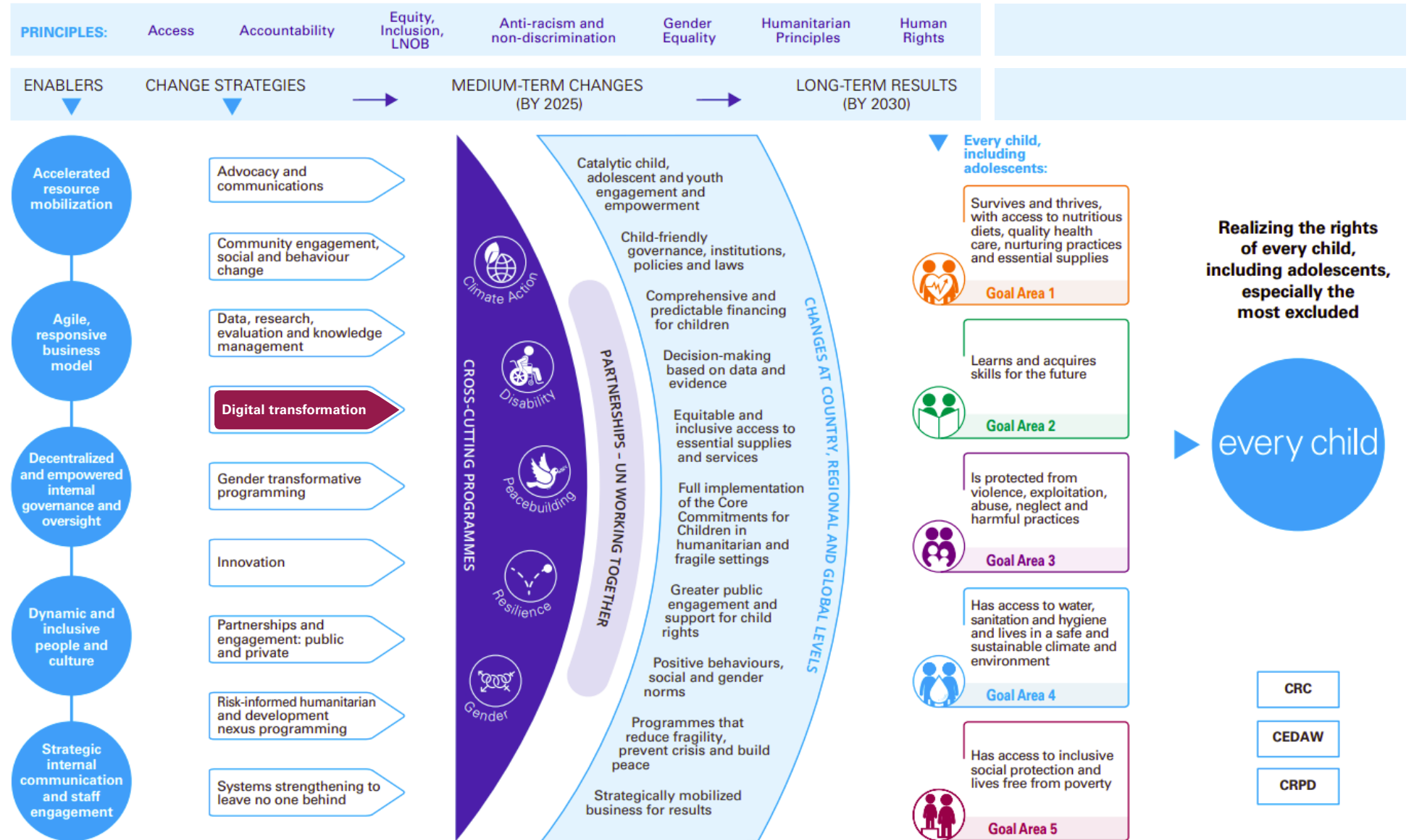
[UNICEF's Strategic Plan](#) recognizes DX as one of nine key change strategies to deliver results for children across all its programmes, operations, policies and partnerships. The work done by UNICEF EAPRO is aligned with global digital priorities.

The strategy of UNICEF EAPRO's ICT and Digital Innovations team focuses on ensuring that COs in EAPR have sufficient digital operational capacity and a resource model in place to fulfill the five key business needs. Country offices need digital solutions to:

1. help **enable programme delivery**. Digital tools can help country offices understand the country landscape and support the delivery of services to children.
2. **empower partnerships** as technology can increase the organisation's ability to work across organizational boundaries.
3. **leverage data insights** to deliver results and advocate for children. The use of traditional and frontier data technology to gather and analyse data enables this.
4. **support operational excellence** as ICT tools allow UNICEF staff to work efficiently, both in their day-to-day work, and when disasters or emergencies happen.
5. **respond to new and emerging technologies**, to harness its potential for children, and safeguard children from the risks.

UNICEF Strategic Plan 2022–2025: Renewed ambition towards 2030

This infographic visualizes the high-level Theory of Change that underpins the Strategic Plan



The EAPRO ICT and Digital Innovations team has also created guidance for COs on governance for digital solutions, with the aim to ensure that all digital initiatives consider the rights and safety of children. This guidance is designed to be the reference and standard to support all stages, from inception to hand-over to partners, of digital programme development. The guidance positions UNICEF as a digitally capable and focused organization and incorporates UNICEF’s commitment to the [Principles for Digital Development](#).

In June 2020, the release of the [UN Secretary General’s Roadmap for Digital Cooperation](#) called for the adoption of digital public goods (DPGs) including “open-source software, open data, open AI models, open standards and open content.” These DPGs should “adhere to privacy and other applicable laws and best practices, do no harm, and help attain the SDGs.” In line with this roadmap, UNICEF promotes and supports the use of DPGs, digital software tools that can be adapted to different countries and contexts and used to address key development and humanitarian challenges. In EAPR DPGs, like [RapidPro](#) or [Primerio](#), have been deployed across multiple countries, with the exception of DRPK and China, over an extended period at scale and have demonstrated effectiveness and impact across all UNICEF programmes.

Partnerships

The RO advocates for national investments in children and child-centered policies within the region. It liaises with major intergovernmental bodies, such as other United Nations (UN)

agencies, civil society organizations, bilateral and multilateral institutions, including [ASEAN](#), [ADB](#), and donors. Part of our current mission is to build and strengthen regional partnerships for achieving the SDGs, the World Fit for Children, goals and the realization of the Convention on the Rights of the Child. The key to accelerating the achievement of these goals is our work with partners on DX.

Working with ASEAN and the UNICEF EAPRO Child Protection team, the ICT and Digital Innovations team helped identify private and government invitees for a panel discussion during the [ASEAN ICT Forum on Child Online Protection](#) resulting in the formation of 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. The goal is a strong and demonstrable record of success amongst private sector companies in ASEAN in delivering safe, empowering and engaging digital experiences to children.

The EAPRO ICT and Digital Innovations team supported external partnerships with the private sector, such as with [Thinking Machines](#). The [AI4D](#) Research Bank was developed to promote open source, open data, and open science. The programme produced machine learning models for air quality and poverty mapping for different countries in the Southeast Asia region. These models were compiled in a research bank, a platform for data transformation pipelines on common useful datasets like the Demographic Health Surveys, code repositories for geospatial feature engineering, and technical documentation, so data scientists can build their own models.



The [partnership with the Government of Japan](#) to support digital immunisation tools in Cambodia, Lao PDR, Mongolia, the Philippines, Timor-Leste, and Viet Nam launched in 2022. This cooperation will serve to strengthen health systems in the six countries with Immunisation Information Systems and digital health efforts that allow for the monitoring of vaccination coverage and individuals receiving immunisation. An estimated 13.5 million people were reached through these interventions, including over 1,400 health facilities and 4,300 health workers.

UNICEF’s Programme Group with the support of the Information Communication Technology

Division (ICTD), DCOE, WHO, DICE, and the Gavi, worked with multiple stakeholders to develop several guidance and knowledge management products around the use of real time monitoring (RTM) approaches and digital technologies for Immunisation campaigns. This work aimed to improve the effectiveness and quality of Vaccine Preventable Disease Campaigns through RTM using digital technologies and digital programming approaches. The modular 1.5-day training was piloted in Manila with government partners and health experts from the Philippines and Cambodia. Following its positive reception, it will be further rolled out to other countries in EAPR.



5.

Becoming Digital by Design



At UNICEF, an organisation-wide DX approach to enable a future fit for children is in progress. DX enables UNICEF to increasingly enable, deliver and mainstream digital programming, services and innovations by augmenting new staff functions and capacities, integrating software/hardware (e.g., software as a service and cloud computing), enabling automation and increasing agility, while transforming national programmes.⁵ This transformation ensures that UNICEF EAPRO can continue to deliver on its mandate as an advocate for the protection of children’s rights, to help meet their basic needs and to expand their opportunities to reach their full potential online and offline.

DX for Management Efficiency and Effectiveness

In 2022, the EAPRO ICT and Digital Innovation team continued to work with COs to ensure that internal business processes were in place to support the DX of the organisation. EAPRO conducted formal ICT compliance review processes in Indonesia, Papua New Guinea (PNG), Philippines COs and the Pacific Islands Multi Country Office (MCO), providing actionable advice on how these offices can maximise their operational capacity for digital programme delivery based on the ICT and Digital Innovation Operational Model (IDIOM), which was developed in 2021.

As the demand and implementation of technology and digital initiatives continues to increase across UNICEF, the need for internal governance of these initiatives becomes even more of a priority. Governance ensures that technology enabled initiatives meet the needs of the organisational priorities, are well-planned and funded, and have a clear line of responsibility. It is crucial to have the right governance mechanisms in place to ensure that technological solutions meet the expectations of stakeholders, and no harm is done to children and their caregivers. As a result of EAPRO developing the Technology Playbook in 2021, five COs; Cambodia, Myanmar, PNG, Viet Nam and Philippines, have created governance frameworks for technology initiatives.

UNICEF is currently transforming how we engage with partners in the region. UNICEF has set the goal to reach two million donors in EAPR, including India, by 2025. To support this growth and to give supporters a more meaningful journey, UNICEF has developed the Supporter Engagement Strategy (SES). This strategy modernises how UNICEF reaches, listens to, and inspires individuals by putting supporters at the heart of how UNICEF delivers results for children. By integrating Salesforce, a cloud-based customer relationship tool, UNICEF positions itself as an organization which ensures supporter information is managed and secured according to industry best practices. The EAPRO ICT team supported Thailand CO and India CO to start using Salesforce in 2022, with plans for UNICEF Indonesia, Philippines, and Malaysia to go live in 2023.

⁵ Digital UNICEF – Harnessing the power of technology and digital innovation for children <https://www.unicef.org/media/100211/file/DIGITAL%20UNICEF.pdf>



Digital Programme Delivery

The digitisation of society does not have a universal effect on all children. Even with equal levels of internet access, digital literacy and content, children from different places and backgrounds can still have unequal experiences and outcomes. A child's individual environment influences the extent to which they can seize digital opportunities and avoid digital risks. Unaddressed injustices and inequities

based on sexism, racism, classism, and other forms of discrimination, contribute to this disparity, as advances in technology reflect and amplify existing social, cultural, and economic inequalities.

To ensure that no child is left behind, UNICEF is moving towards an approach to working in which programmes will be digital by design. DX supports the acceleration of progress in the achievement of UNICEF's goal areas, with a focus on equity, and the achievement of the SDGs. This work is field-driven and context-specific.



© UNICEF/U.S. CDC/JUN0723275/Martin San Diego

Digital Health

UNICEF in EAPR, and its partners, leverage digital health technologies to strengthen health systems and enhance the reach and quality of care for children and their caregivers. This includes strengthening digital health systems, real-time monitoring of vaccinations, providing nutrition support, and supporting maternal and child health services. Technology, when available, enables

improved access to health information and services for patients. It also helps health workers collect and process health data more efficiently to improve the quality and reach of care.

In 2022, UNICEF supported the digitalisation of health systems in the region. As countries operationalised their COVID-19 pandemic response plans, UNICEF saw an opportunity to identify areas where digital health interventions could amplify these efforts, while improving service delivery, producing actionable data, and



strengthening health systems more broadly. The aim was to expand digital solutions, many of which were mature and already integrated into national systems, to provide substantial support using a health system strengthening lens; from planning distribution of commodities and vaccines, tracking supplies, surveillance and case detection, monitoring coverage of services, and communicating to generate demand and reduce misinformation. These solutions were designed in a way to allow future expansion to other use cases, such as routine immunisation.

In the context of the continuing response to and recover from COVID-19 in the region, EAPRO

facilitated training and capacity building of health workers in COs, including Indonesia, PNG and Cambodia, on COVID-19 vaccination, digital literacy, safeguarding, and misinformation. A webinar series on digital immunisation systems was organised, with presentations and demos from leading Electronic Immunisation Registries (EIR) and Immunisation Information Systems (IIS), along with guidance on their selection, procurement, and implementation. Additional support was provided to the Pacific MCOs through a digital immunisation systems assessment in Fiji, Kiribati and Solomon Islands, with the aim to help front-line health workers radically improve delivery and quality of immunisation programs.

Country spotlight: Thailand – Early Moments Matter mobile platform successfully trialed to improve maternal and child health literacy for new parents

The Early Moments Matter Platform is a mobile based online counselling platform that provides easy access to breastfeeding and nutrition information for new parents. Through parenting messages, the service aims to improve literacy in maternal and child health for parents of children

aged 0-6 years old. In 2022, the service reached 122,559 parents and caregivers and 4,230 health workers, including 33,043 new subscribers in 2022. New subscribers were predominantly female (95%) and mostly from the southern border provinces, a geographic area with poor child health indicators.

Country Spotlight: Philippines – Real Time Vaccination Monitoring and Analysis (RT-VaMA)

After the COVID-19 Pandemic, the Philippines ranked fifth in the world for the number of children lacking routine immunisation. Following past success in using real-time data to monitor vaccination campaigns, in 2022 UNICEF Philippines introduced the use of RT-VaMA to the Philippines Department of Health. RT-VaMA is a digital monitoring tool that is based on Open Data Kit

(ODK) and contains checklists and dashboards that helps governments quickly deploy real-time monitoring during immunisation campaigns, enabling quick, responsive, and predictive decision-making. Over 1,500 health workers across all 17 regions of the country were trained to use their phones to capture data, even without an Internet connection.

Country Spotlight: Cambodia – Building a roadmap for digital health and immunisation investments

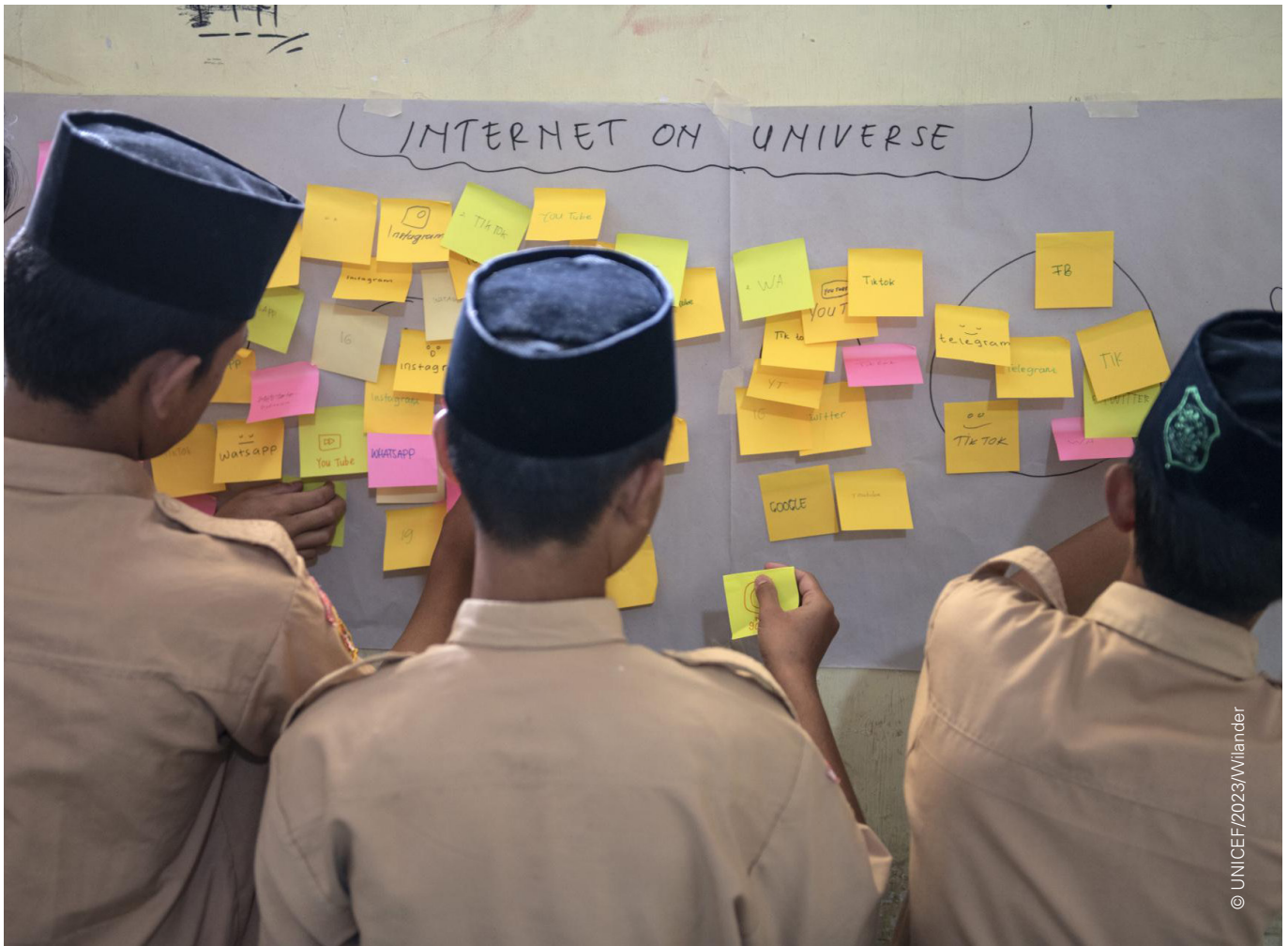
UNICEF partnered with Gavi and Health Enabled to develop the Cambodia Digital Health Information (DHI) for Immunisation Roadmap 2022-2027 in support of Gavi’s five-year strategy (“Gavi 5.0”) with a mission to save lives and protect people’s health by making healthcare more accessible and equitable. In 2022, DICE visited UNICEF Cambodia to provide support to the office in developing a rapid country assessment with the goal of outlining and describing the current state of digital health for immunisation in Cambodia, as well as developing a costed roadmap.

The roadmap aims to make healthcare more accessible and equitable by scaling current and planned digital interventions to address challenges related to digital literacy, duplication and fragmentation of current and future digital health investments, accurate population estimation and distribution, and national / sub-national data utilisation for planning. Through this process, the National Immunisation Program (NIP) identified 10 priority DHI interventions that can build on foundational efforts started during the COVID-19 vaccination campaign, as well as other health areas such as malaria and nutrition. This approach takes a more holistic and integrated approach that strengthens and aligns with the Primary Health Care (PHC) and Universal Health Coverage (UHC) ambitions of the country. The DHI roadmap will support the Government of Cambodia in allocating and mobilising resources for the full implementation of these interventions over the coming years. Lastly, the roadmap provides a comprehensive view of the government’s commitment and leadership, as well as the involvement of development partners, in the DX of immunisation in Cambodia, with a strong focus on zero-dose, immunisation completion, and equity.

Cambodia’s Ministry of Health shared how further investments could be used to scale both the use and functionality of digital interventions in addressing existing challenges around data collection, use and management for immunisation programs. Taking the learnings from digital solutions deployed during the COVID-19 response - particularly KhmerVacc (Cambodia’s mobile app for COVID-19 vaccination registration) - the country is interested in digitising manual reporting systems and introducing data systems for UNICEF’s Expanded Programme on Immunisation and Primary Health Care. The National Immunisation Programme led the consultation with partners and identified 10 digital solutions for the Immunisation Roadmap. This roadmap will help the Government of Cambodia to allocate and raise the funds for the full implementation going forward.



© UNICEF/JUN0587/19/BH



© UNICEF/2023/Wilander

Digital Child Protection

UNICEF works to prevent and respond to violence, abuse, and exploitation of children in EAPR. This includes supporting digital child protection systems, promoting birth registration, and addressing the dangers children face online. UNICEF builds capacity on the risks linked to using digital solutions for children, so they can benefit from the opportunities offered.

In 2022, demand for digital solutions to support child protection continued to increase among EAPR COs and their partner host governments. The solutions in high-demand included [Child Protection Information Management System](#)

(CPIMS+) and [Primero](#), a DPG that helps social services, humanitarian and development workers manage protection-related data, with tools that facilitate case management, incident monitoring and family tracing and reunification.

The RO T4D team worked closely with the regional and country office Child Protection specialists to support the scale-up of Primero. Cambodia launched Primero in 2020 and pioneered its interoperability with OSCaR and the Child Protection Information Management System (CPIMS). Primero Cambodia was upgraded to version 2 (V2) in August 2022. PNG launched Primero in 2021 and upgraded to V2 in April 2022. Thailand, Mongolia, Timor Leste, Malaysia, Philippines, Cook Islands and started implementing their own digital child protection



information systems. In Myanmar, an investment was made fast-track the CPIMS+/Primerio pilot, as a result Primerio went live in July 2022.

UNICEF advocates for child rights online and offline. [Disrupting Harm](#) is an unprecedented multi-country research project generating evidence on the nature and scope of online child sexual exploitation and abuse (OCSEA) and the national response systems in place to combat this threat. The study is a collaboration between UNICEF, [ECPAT](#) and [INTERPOL](#), and includes 13 countries across Eastern and Southern Africa and Southeast Asia, including [Malaysia](#) and [Thailand](#). The reports highlight key steps for policy makers, law enforcement, private sector, civil society, the public, and others to further mitigate the prevalence of OCSEA.

The key to preventing violence against children is to give parents the capability to positively

solve conflict with their children based on typical challenges they face in different situations, and information parents provide about their own circumstance. UNICEF Malaysia piloted [ParentText](#) in 2022, and worked to scale the service in 2022. ParentText is a chatbot and is powered by [RapidPro](#). To drive scaling forward, a parenting consortium consisting of [LPPKN](#), Parenting for Lifelong Health, the University of Oxford, [UPM](#), UNICEF and the Malaysian Association of Social Workers has been established and will focus on identifying entry points to bring parenting programming sustainably to scale. In the Philippines UNICEF partnered with Parenting for Lifelong Health and the Ateneo de Manila University to pilot ParentText with 90 families. The benefits that participants mentioned after using the tool were the strengthening of the parent-child relationship, access to information about child online safety, access to peer support groups, and reduction of stress.

Country Spotlight: Thailand – Coalition to increase protection of children from online exploitation and abuse.

Responding to an alarming rate of OCSEA in Thailand, the Royal Thai Government, development sector, leading technology companies, internet service providers, and civil society jointly reaffirmed their commitment to create a safer digital world for children in Thailand. According to the report, nine per cent of children aged 12-17 in Thailand, or about 400,000 children, were victims of online sexual exploitation and abuse in 2021. These incidents include sharing sexual images of children and blackmailing or coercing children to engage in sexual activities through promises of money or gifts.

At a two-day national conference on “Children in the Digital Age: Together for Safer Internet for

Children in Thailand” more than 300 senior officials and experts from various sectors, including child protection, health, education, law enforcement, and information technology, come together to discuss ways to tackle online child sexual exploitation and abuse in Thailand. Organized by UNICEF in partnership with the Ministry of Social Development and Human Security (MSDHS), Ministry of Digital Economy and Society (MDES), the International Telecommunication Union (ITU), and ECPAT International, the conference fostered dialogue and knowledge sharing around safer internet for children and young people. Promoting a collective response among key actors to combat the increasing online risks that children in Thailand face.



Digital Education

UNICEF is committed to improving access to quality education for children in the EAP region. It is estimated that 90 per cent of available jobs have a digital component and three in four children lack the skills necessary to enter the future workforce.⁶ Children need to benefit from the opportunities digital learning offers and they need to gain the digital literacy skills to be able to carry out the jobs of the future. According to the Special Adviser of the UN Secretary General on the Transforming Education Summit, education is facing a triple crisis: a crisis of equity and inclusion, as millions are out of school; a crisis

of quality, as many of those who are in school are not even learning the basics; and a crisis of relevance, as many educational systems are not equipping the new generations with the values, knowledge, and skills they need to thrive in today's complex world.⁷

Digital education can help address these crises. However, issues around access to devices and networks, content quality and uptake remain. The challenges around adequate internet access, in particular outside of urban areas, and the cost of internet access further hamper online learning. To learn online devices are needed, which again those that may already be at a disadvantage, such as girls, children in poverty, children with

6 <https://www.unicef.org/press-releases/around-3-4-youth-lack-skills-needed-employment-new-report-says>

7 Report on the 2022 Transforming Education Summit Convened by the UN Secretary-General, https://www.un.org/sites/un2.un.org/files/report_on_the_2022_transforming_education_summit.pdf



disabilities, etc. might have less access to. Finally, online learning requires a degree of digital skills from students, caregivers, and teachers to be successful. Online learning also poses challenges for teachers. Both with regards to their capabilities to use online resources

and digital tools, as well as with regards to monitoring the quality of their teaching.⁸ UNICEF is committed to supporting its partners in overcoming these barriers to unlock the full potential of digital solutions so every child can access quality education.

Country Spotlight: Lao PDR – Transforming Education Summit

During the 2022 Transforming Education Summit Solutions Day, UNICEF and Microsoft hosted an event focused on “A Holistic & Equitable Approach to DX.” The event brought together representatives from Ministries of Lao PDR, Mexico and Zimbabwe, UNICEF and Microsoft to discuss how the private and public sectors are coming together to ensure children and young people are ready for a digital future through UNICEF’s Learning Passport. Speakers shared

key insights and experiences from developing and implementing the Learning Passport to support diverse learner needs in formal and non-formal education settings. The Lao People’s Democratic Republic (Lao PDR) issued a National Statement of Commitment to Action Transforming Education Summit, in which its commitment to digital education to transform education and ensure its children are ready for the future are front and centre.

Country Spotlight: Malaysia – Relaunch of Digital Educational Learning Initiative Malaysia (DELIMa)

UNICEF’s work on inclusive DX and future skills development via DELIMa has been recognised as one of the SDG4 and global best/innovative practices. In 2022, the Ministry of Education (MOE) supported by UNICEF and technology partners Google, Microsoft and Apple, relaunched the [DELIMa](#) 2.0 platform as part of the country’s approach of blending face-to-face and online learning. DELIMa prioritises democratisation of learning by giving teachers/learners options in supporting and collaborating; focuses on digital learning (with accessibility features) for children, giving them future skills and competencies. It helps teachers develop a digital learning community where they can share their expertise and skills as well as help to develop themselves and others. It highlights three key areas as we look to transforming education for the future: one, the platform offers multiple applications and services; two, there are multiple technological and other strategic partners involved in the platform; and three, it offers a single experience in teaching and learning online. In 2022, 99 percent of teachers

and 85 percent of students, totaling almost five million users accessed DELIMa. UNICEF is also working with the government to expand the platform to children in institutions under the Malaysian Prison Department, focusing on 21st century skills development, micro-credentials and employability.

Strengthened partnerships have resulted in innovations for learning, including: Future Skills for All via Google Classroom and TikTok; Global Citizenship Education via Google Earth; and Teacher Digital Learning Community via Google Classroom and Telegram groups, and with Google Earth for creation of learning resources, Discord for alternative platforms, and Telegram bot for mobile learning. Learning materials included sign language interpretation (in partnership with Malaysia Federation of the Deaf), and co-creation workshops for offline learning kits were carried out with children with disabilities, indigenous children and undocumented children to ensure that the materials are accessible and inclusive.

⁸ <https://www.unicef.org/indonesia/media/9956/file/Situation%20Analysis%20on%20Digital%20Learning%20in%20Indonesia.pdf>transforming_education_summit.pdf



Digital Empowerment

Generally new technologies are often not designed with children, women, minorities, or special needs persons in mind. Digital solutions need to be inclusive in access and design to empower all young people and children. Throughout the region, girls, children with disabilities, ethnic minorities and migrant children are less likely to have access to digital devices and opportunities. According to a [UNICEF mapping](#) activity, basic interactivity and accessibility features are commonly missing in digital learning solutions: only 22 per cent of globally mapped digital learning platforms contained features for accessibility for children with disabilities.

UNICEF is committed to giving children and young people a voice and encouraging their participation in decision making that affects them and their future generations. This can be enabled by using the right digital tools. In East Asia and the Pacific, young people are among the most active and influential users of new technologies globally. However, they are rarely engaged in developing technological solutions or content for online platforms – revealing a missed opportunity.

Developing solutions for and by youth would lead to content and technologies that reflect and cater to the specific needs of young people.

Across EAPR UNICEF has used digital solutions to give young people agency over their own body. [Oky](#) is the world's first period tracker app for girls and created with girls. It provides information about menstruation in fun, creative and positive ways, straight into girls' hands through the tools they use every day – mobile phones. Oky lets girls feel in control and more confident by tracking their periods, and getting the information that all girls should know. Started by the EAPRO Gender Section, it has now become a global digital good, utilized in 10 countries globally. In EAPR Oky is active in Indonesia, Mongolia and PNG, with plans to go live in Philippines in 2023. In Thailand digital tools were leveraged to improve sexual reproductive health and mental health for young people and teens. UNICEF supported the Department of Health (DoH) to improve the functionalities of the Teen Club health platform and LoveCareStation platform. Through these two platforms, 1,103,526 young people gained access to Sexual and Reproductive Health (SRH) and mental health information, while 14,134 young people received online counselling.

Country spotlight: Fiji – DX to strengthen government youth empowerment capacity

The Fiji Ministry of Youth and Sports (MYS) encourages youth aged 15 to 35 to form a community-based youth group (called "Youth Club") and register under the MYS to gain access to training and grant opportunities. However, the registration process was paper-based, creating bottlenecks during the COVID-19 outbreak due to the limited mobility of MYS officers. UNICEF engaged with MYS to co-create digital tools to see Youth Club activities snapshot at a glance and use the data for quicker decision-making. Using a human-centered approach, UNICEF and MYS

organized a series of co-creation workshops and feedback sessions to develop process mapping, ODK-based online data collection forms, and an Akuko-based visualization dashboard. There is a high expectation from the MYS senior management to launch the tools in 2023. The Director of Youth applauded this UNICEF-led initiative as a game changer for young people. Hearing about this initiative, other Pacific Island Countries started requesting similar support. In 2023, the UNICEF Pacific MCO is planning to engage with youth ministries in Tonga and Palau.

Country Spotlight: Indonesia – U-Report and Roots Anti-Bullying Campaign

The [U-Report Indonesia](#) youth platform saw a 33% growth in 2021, from 680,000 to 902,045 followers through its [Mitra Muda](#) initiative. In 2022, the platform engaged across all UNICEF Indonesia programmes, empowering young people in creative ways. For example, U-Report enabled young activists to become positive agents of change in their schools and communities through disseminating anti-bullying messaging, key resources and tips to support their peers – as part of the Roots anti-bullying prevention programme developed by UNICEF with the Indonesian Government.

In particular, UNICEF designed a scale up strategy to end bullying in schools across Indonesia. U-report was the key tool to recruit agents of

change, empower young students and peers to learn and engage with the topic of bullying and kindness through digital platforms and measure young peoples’ perception on this topic across Indonesia. In 2022, a baseline and endline survey was launched in 6,000 schools to understand the impact of the Roots intervention: one key finding found that there was a 21% decrease in bullying amongst students who experienced bullying every day after the Roots intervention. In 2022, more than 1,400 content proposals were produced by youth and young people across Indonesia through the social media outreach program. This program was managed by the Social and Behaviour Change (SBC) Team, Child Protection Team and T4D Team in UNICEF Indonesia, in collaboration with the Ministry of Education of Indonesia.



© UNICEF/2015/Vania Santoso



Digital Social Protection

By leveraging digital technologies for social protection, UNICEF can reach more children and families in need of social protection services, monitor and evaluate programs more effectively, and improve data management. Real-time monitoring and evaluation help UNICEF identify areas for improvement and make data-driven decisions to improve outcomes for children. Finally, digitising data management systems ensured that information about children and their families is secure and easily accessible, which can help improve the accuracy of data and enable UNICEF to make more informed decisions about how best to support children and families.

In 2022, UNICEF EAPRO supported the first regional deployment of [HOPE](#), UNICEF’s humanitarian cash transfer management information system, in Mindanao, Philippines, and facilitated the establishment of two-way communication channels via RapidPro for community feedback mechanisms.

The key to improved social protection is to ensure UNICEF and partners have access to the right data to understand poverty in particular country contexts. In 2022 the EAPRO Frontier Data Tech Node partnered with the Institute for Scientific Interchange Foundation ([ISI Foundation](#)) and combined the use of frontier data, computer vision, and machine learning to complement existing approaches to poverty estimating. Accurately

understanding relative wealth estimates in Low and Middle-Income Countries (LMICS) is crucial to help policymakers address socio-demographic inequalities. The research focused on Indonesia as a case study. The analysis showed that using machine learning, taking into account the complexity of each country's socioeconomic context and relying on a diverse

set of data, methodologies and approaches, complementary to traditional data collection methods, provides policy makers with a more complete understanding of poverty, and thus an opportunity for better targeted actions. An academic article was produced in partnership with ISI on [the strengths and limitations of wealth indexing](#) to achieve results for children.



© UNICEF/UN0570019/Hogsholt

Digital Emergency Response and Preparedness

UNICEF is often on the front lines of responding to emergencies and disasters in the EAP region, providing critical support to children and families

affected by natural disasters, conflicts, and other crises. UNICEF works with its partners and to ensure that the right digital tools and data technology are in place to be prepared to respond when emergencies happen.

EAPRO continued specialized support in the use of data and digital technologies to better respond to emergencies by deploying InForm, UNICEF's



data collection platform. EAPRO leads the global InForm product team and continued to support major response efforts including Ukraine, Afghanistan and several regional deployments including Myanmar and Thailand.

The Digital Platforms Assessment and Response Tool (DPART) was piloted in response to Typhoon Odette to provide insight into the country's existing digital ecosystem. The RO ICT and Digital Innovations Team developed a new curriculum that matches common humanitarian use-cases and digital products that can be deployed to aid [UNICEF's Core Commitments to Children](#).

In 2022, UNICEF's data technologies were used to provide valuable information for emergency teams. The Frontier Data Tech Node (FDTN) provided estimates on the movement and displacements of populations affected by Typhoon Odette, while [ProjectConnect](#) was used to map school and health facilities' connectivity to guide the reopening efforts and support for online

curriculums during the COVID-19 period. The [Geowrangler](#) tool was developed to simplify the processing of geospatial data, allowing geospatial analysts to gain insight during emergencies.

The Humanitarian Data for Decision Making - Automated Situational Reporting tool (SitRep) to provide emergency teams with lifesaving information within 72 hours of a disaster. The tool was developed based on user research with disaster practitioners from OCHA, UNICEF, Global Shelter Cluster and IFRC. It helps address key gaps that were identified when responding to emergencies in the critical 72-hour period. The tool helps to better understand the geographic and demographic situation the emergency occurred in. Using real time and big data is more cost-efficient and less time consuming than traditional data collection methods. SitRep helps address data scarcity issues, enabling decision makers to take appropriate action in response to an emergency. Once set up, it also improves preparedness for future emergencies.



6. Conclusion

UNICEF’s DX is underpinned by the need to address the growing digital divide and its impact of increased inequality that children in EAPR are experiencing. UN ESCAP identifies the East-Asia Pacific region as the most digitally divided region in the world in its [Asia-Pacific Digital Transformation Report 2022](#). Not just in terms of country comparisons, but also within countries themselves. ESCAP identified five digital divides: age, gender, education, disability and geographic characteristics. UNICEF is working with its partners to close the digital divide to ensure every child has safe and equitable access to digital solutions, and their care-givers are empowered to use these solutions to impact children’s well-being and future opportunities.

UNICEF advocates for children’s rights online and offline to build a more equitable world where all children can benefit from the ongoing digital

revolution. UNICEF recognizes that the use of digital tools and technology holds significant promise and opportunity for children in the region. By harnessing digital technologies, UNICEF improves its programme delivery, ensures data availability for evidence-based decision-making, makes its operations more efficient and fosters new partnerships. DX enables UNICEF to bridge access gaps and ensure equitable service delivery to those who need it most. By leveraging innovative digital solutions, such as artificial intelligence and big data analytics, UNICEF can address long-standing development challenges more effectively. When digital skills and literacy are developed individuals and communities are empowered to thrive in the digital age, enhancing their socio-economic prospects. In short, by prioritizing DX, UNICEF supports the advancement of the SDGs for children in the region.



© UNICEF/JUN0692909/Clark

Annexes

Acronyms

ADB:	Asian Development Bank
ADHD:	Attention deficit hyperactivity disorder
AI:	Artificial Intelligence
AI4D:	Artificial Intelligence for Development
AR:	Artificial Reality
ASEAN:	Association of Southeast Asian Nations
CO:	Country Office
CRVS:	Civil Registration and Vital Statistics
CPIMS:	Child Protection Information Systems
DAPM:	Data and Programme Management Team
DCOE:	Digital Centre of Excellence
DELIMa:	Digital Educational Learning Initiative Malaysia
DHI:	Digital Health Information
DHS:	Digital Health System
DHIS:	Digital Health Information System
DICE:	Digital Health Centre of Excellence
DOH:	Department of Health
DoMH:	Department of Mental Health
DPART:	Digital Platforms Assessment and Response Tool
DPG:	Digital Public Good
DPGA:	Digital Public Goods Alliance
DPI:	Digital Public Infrastructure
DX:	Digital Transformation
EAPR:	East Asia and Pacific Region
EAPRO:	East Asia and Pacific Regional Office
ECPAT:	End Child Prostitution and Trafficking
e-CRVS:	electronic Civil Registration and Vital Statistics
EIR:	Electronic Immunisation Registry
ESCAP:	United Nations Economic and Social Commission for Asia and the Pacific
HQ:	Headquarters
IDIOM:	ICT and Digital Innovation Operating Model
ICT:	Information and Communication Technology
ICTD:	ICT Division (UNICEF HQ)

IIS:	Immunisation Information System
INTERPOL:	International Criminal Police Organisation
IOT:	Internet of Things
IOGT:	Internet of Good Things
ISI:	Institute for Scientific Interchange
ITU:	International Telecommunication Union
Lao PDR:	Lao People’s Democratic Republic
LMICS:	Lower Middle-Income Countries
LMIS:	Logistics Management Information Systems
MCO:	Multi Country Office
MDS:	Ministry of Digital Economy and Society
MOE:	Ministry of Education
MHPSS:	Mental Health and Psycho Social Support
MSDHS:	Ministry of Social Development and Human Security
MYS:	Ministry of Youth and Sport
NIP:	National Immunization Program
OCSEA:	Online Child Sexual Exploitation and Abuse
ODK:	Open Data Kit
Ooi:	Office of Innovation
PME:	Planning Monitoring and Evaluation
PNG:	Papua New Guinea
RHWT:	Remote Health Worker Training
RO:	Regional Office
RT-VaMa:	Real Time Vaccination Monitoring and Analysis
RTM:	Real Time Monitoring
PHC:	Primary Health Care
SDG:	Sustainable Development Goal
SES:	Supporter Engagement Strategy
SitRep:	Automated Situational Reporting Tool
SMS:	Short Message Service
SP:	UNICEF Strategic Plan
T4D:	Technology for Development
TES:	Transforming Education Summit
UHC:	Universal Health Coverage
UNICEF:	United Nations Children’s Fund
VR:	Virtual Reality
WHO:	World Health Organisation

List of EAP Regional Office ICT and Digital Innovations Partners

DICE
Gavi
Government of Japan
Institute for Scientific Interchange
LaGrange
Ona
Thinking Machines
WHO

Contact

For more information please contact:
Karim Ghalaini, Regional Chief ICT and Digital Innovations, EAPRO
kghalaini@unicef.org
<https://www.unicef.org/eap/what-we-do/digital-transformation>



**Information and
Communication
Technology
Division**

East Asia
and Pacific
Regional Office