

Office of  
Innovation

unicef  
for every child

# Impact Brief

2023



# Table of Contents

---

03	—	Foreword
04	—	Highlights
06	—	Co-Creators
07	—	Discover, Co-Create, and Scale
08	—	Shaping Future Trends
09	—	Venture Fund
10	—	Adapting Blockchain Technology
11	—	Digital Public Goods
12	—	UPSHIFT
13	—	Project Highlights
14	—	Giga
15	—	School Connectivity
16	—	Catalyzing Innovation For Every Child, Everywhere
18	—	Bridging the Skills Gap with and for Adolescent Girls
19	—	Young Innovators Tackling Climate Change
20	—	Architects of our Global Digital Future

# Foreword

## For Every Child, *Optimism & Innovation*

Globally, last year saw remarkable advances in [innovation across a wide range of technologies](#). From artificial intelligence (AI) and blockchain, to robotics and quantum computing, there is heightened awareness of the threats and potential of technology. UNICEF is committed to harnessing the potential of tech and other innovations to co-create to discover, iterate, and scale solutions that deliver impact for some of the most challenging issues affecting children's lives.

According to the [Global Innovation Index 2022](#), largely due to COVID-19's short-term influence, the socio-economic impact of innovation seems to be waning. All proxies for innovation impact are experiencing a significant slowdown. Referred to as the period of Great Stagnation, this phenomenon questions the ability of innovation to create future growth. However, expert consideration has been given to optimistic predictions of a new economic and social era, where a new innovation spurt fosters a productivity uplift.

"Innovation is the currency of trading problems and challenges for opportunities to invest in truly impactful solutions."

**Thomas Davin**  
Director,  
UNICEF Office of Innovation

Innovation is a key enabler for driving transformational change for children. From climate change to protracted conflicts and wars, this and coming generations deserve solutions that are equal to the era they live in – be they innovative systems design driving cultural and social change, or the adoption of tech solutions in ingenious ways.

In 2021, the establishment of the UNICEF Office of Innovation's dynamic partnership architecture sparked a co-creation movement with like-minded supporters and collaborators, planting seeds of transformational change with the potential to yield significant returns. **Two years on, Impact Brief 2023 showcases - in both narrative and numbers - how UNICEF is unlocking the potential of innovation for every child, everywhere.** To read the full UNICEF 2022 Annual Report, [click here](#).

# Highlights of A Year of Collaborations



OOI Innovative Finance Hub Web3 Workshop, Helsinki



UN Deputy Secretary-General Amina J. Mohammed joined an intimate dialogue to unlock synergies for an open, inclusive, and secure digital future, Stockholm



Innovation Ambassador of Finland Riitta Swan at the New Frontiers in Skills4Girls, CSW67, New York



UNICEF Executive Director Russell and Swedish Minister Ernrans with young scientists, Stockholm



**In the laboratory, solutions for complex environmental challenges can be designed**

The first Biohacking Lab in Skopje, an effort by the winners of the UNICEF-UNDP Green Shark Challenge



Young participants of FunDoo, a new digital skills development tool

# Highlights of A Year of Collaborations

Catalytic investments and support from the Governments of Denmark, Finland, Spain, Sweden, and Switzerland, as well as private sector and civil society partners, are fundamental to UNICEF's mission as a public sector innovation leader, to deliver results for children. Collective action is a lifeline to keeping the optimism of innovation alive and achievable.



We embark on an exciting journey with [Karolinska Institutet](#) - a five-year collaboration, connecting UNICEF and Karolinska Institutet researchers across a range of shared projects for innovations in health and wellbeing for women and children, particularly in low- and middle-income countries.

The [three-year collaboration](#) between the OOI Learning Innovation Hub with EDUF's Finnish Centre of Expertise in Education and Development (FinCEED) will accelerate creative learning solutions that promote inclusive, quality education for all children, leveraging the technical expertise of Finnish education experts.



With thanks to the Government of Switzerland, the [Giga UNICEF-ITU initiative secretariat](#) is based in Geneva. Catalytic support from the Government of Spain, the Catalonia Regional Government, and the City of Barcelona led to the establishment of the Giga Technology Centre in Barcelona.

# Co-Creators

From climate change to the learning crisis to mental well-being, a vibrant generation of young people is engaged with OOI, as problem solvers and advocates worldwide.

A commitment to co-creation comes with incalculable assets, including access to a diverse pool of world-class expertise, enabling networks of influence and critical insights, all of which are crucial for doing more, better, and faster to accelerate results for children.

## Our Shared Purpose

"More than ever, we need innovative solutions to address the consequences of climate change affecting children around the globe. The new Sustainable WASH Innovation Hub in Copenhagen will deliver urgently needed solutions by bringing together experts and market leaders. Denmark is proud to contribute to secure sustainable access to clean water, sanitation and hygiene to the benefit of all children,"



**Dan Jørgensen**, *Minister for Development Cooperation and Global Climate Policy, Denmark*

"We believe that this partnership allows collective leverage to promote expertise in the field of education sector development cooperation in order to accelerate innovative solutions in learning that promote inclusive quality education for all."



**Samu Seitsalo**, *Director, Finnish National Agency for Education*

"Our hope is that local innovations that strengthen health systems are unleashed and bring transformative impact on the health and lives of marginalized communities at a global scale"



**Takako Ohyabu**, *Chief Global Corporate Affairs & Sustainability Officer, Takeda Pharmaceutical Company Limited*

"The new generations deserve access to quality, digital education for one and all... now more than ever, we must not leave anyone behind."



**Ángeles Moreno Bau**, *State Secretary for Foreign and Global Affairs, Spain*

"I appreciate the innovative ways through which UNICEF uses digital messaging to increase vaccine uptake, and I encourage that type of proactive work."



**Diana Janse**, *State Secretary to Minister for International Development Cooperation and Foreign Trade, Sweden*

# Discover, Co-Create, and Scale

UNICEF's Office of Innovation helps **discover, co-create, and scale** bold solutions and technologies to deliver for children today and set a new pace of social impact for coming generations.

We do this in a collective movement with innovative minds globally, across industries and generations, and our UNICEF innovators in over **190 countries**.

## Our Approach



### Discover

We explore, prototype, and assess frontier technologies and thousands of innovation projects, collaborating with technical experts and problem-solvers from all contexts: academia, think tanks, private sector, public sector, UN and non-UN partners, young people, entrepreneurs, and more.



### Co-Create

Through thought leadership, resources matching, and field engagement, we build capacity for collaborators to become innovation champions for children and gather evidence of projects' potential for multi-country scale-up.



### Scale

Our problem-driven, programme-led [innovation portfolios](#) identify and support the innovation projects with potential to accelerate results for children toward multi-country scale-up.

# Discover, Iterate, and Scale

## Shaping Future Trends

With UNICEF's [Global Innovation Strategy](#) set to identify gaps and opportunities and uncover unproven approaches and technologies, OOI's [Innovation Nodes](#) operate as transdisciplinary collaborations, to probe and reflect on new and unknown areas of potential innovation for children.

To date, a total of five Nodes have been set up, with a range of academic and other partners, to explore biotechnology, renewable energy, personalized healthcare, additive manufacturing, and next-generation materials.

### Biosensor Diagnostics for Vulnerable Women

#### THE CHALLENGE

**2.8 million** mothers and children die at childbirth due to preventable pregnancy complications every year.

**95%** of these deaths occur in low- and lower-middle income countries.

#### THE INSIGHT

**Affordable and accurate biosensor pregnancy diagnostics can help reduce preventable maternal mortality.**



[Fast Company magazine's](#) 2023 World Changing Ideas Awards recognized UNICEF OOI's work with the Rhodes University Biotechnology Innovation Centre on biosensors in the [Developing World Technology](#) and the [Enduring Impact](#) category.

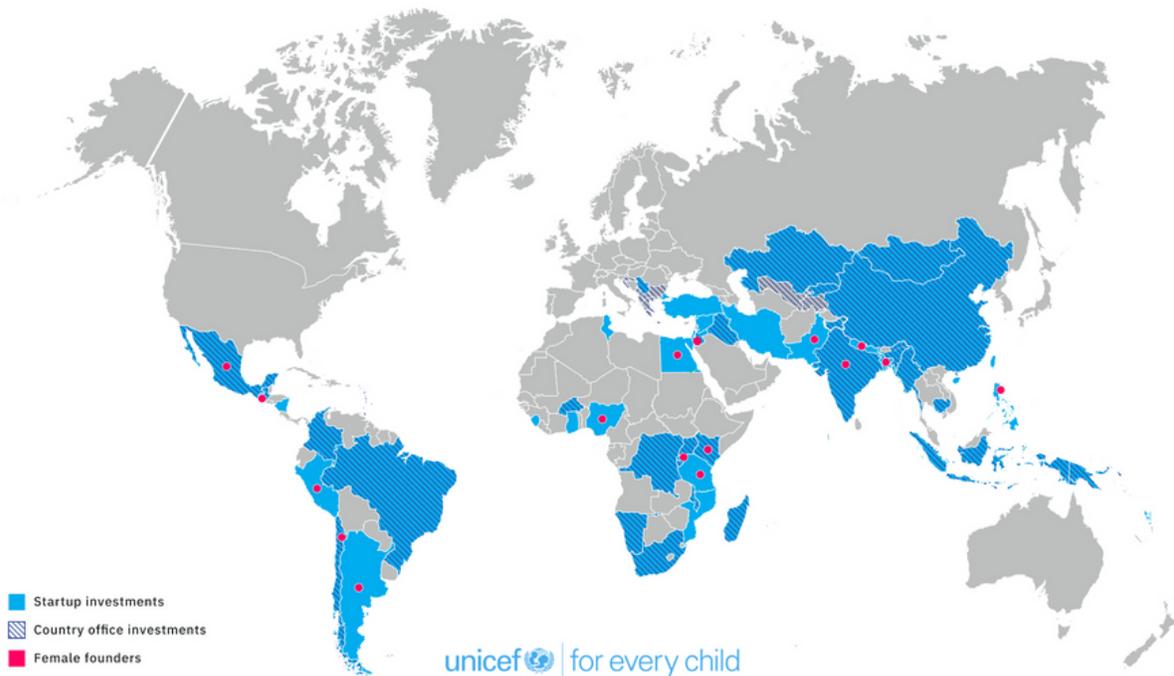
This work has generated a novel, next-generation diagnostic technology called aptamers and their application to smarter pregnancy tests.

## Discover and Iterate

# VENTURE FUND

Building a unique market advantage with the start-up tech industry by focusing on emerging and developing economies, UNICEF's Venture Fund makes early- and growth-stage investments in country office projects and external tech startups with the potential to become open-source digital solutions and platforms.

The Venture Fund has made 73 investments in startups and 60 investments in UNICEF country offices, reaching a total of 74 countries worldwide.



Last year, the Fund [onboarded eight new startups](#) developing open-source, blockchain-based solutions for greater financial inclusion. As a cohort of true pioneers, these companies expanded the Fund's geographical portfolio with investments to the Islamic Republic of Iran and Rwanda; they received seed funding in both US\$ and cryptocurrency; and over 50 per cent of them were either founded or led by women.

## Illustrative Impact

# Adapting Blockchain Technology

Rumsan, one of the eight startups in the 2022 UNICEF Venture Fund blockchain cohort, developed [Rahat](#), a digital cash and voucher assistance (CVA) management system. The mobile-based system uses blockchain tokens to manage and monitor aid transactions for emergency response and recovery programmes.

In Nepal, UNICEF ran [a pilot of the CVA solution](#) in the municipality of Jaleswor Palika, a flood-prone area that was both economically and socially affected by the COVID-19 pandemic. The UNICEF Country Office tested the programme as part of efforts to increase financial inclusion, accountability and transparency in the cash transfer process, and to allow for more efficient distribution and monitoring of aid.



**Rakhi's story:** At the height of the pandemic, Rakhi Mandal, a 27-year-old mother of three, and her family experienced severe financial difficulties. As part of the pandemic aid response, funds transferred to the Jaleswor Palika municipality office were passed on to recipients in the community – including Rakhi and her family. Transfers were made in the form of tokens that were sent through mobile phones, QR codes or bank accounts.

"I received the message... on my mobile device directing me to the relief location... Despite anticipating a verification process that would take an entire day, I was pleasantly surprised to be able to withdraw my cash within just half an hour."



# Co-Create and Iterate

## DIGITAL PUBLIC GOODS

In 2019, UNICEF, together with the Governments of Norway and Sierra Leone, and the India-based think tank, iSPIRT, established the [Digital Public Goods Alliance](#). The multi-stakeholder initiative accelerates the achievement of the Sustainable Development Goals in low- and middle-income countries, by facilitating the discovery, development, use, and investment in digital public goods (DPGs). The [State of the Digital Public Goods Ecosystem 2022](#) report highlights the diversity of the DPG industry and notes countries are increasingly recognizing and implementing DPGs as part of their digital transformation.

DPG Pathfinders are UNICEF Country Offices leading in developing, scaling and investing in DPGs with a commitment to showcase and share learnings and development with other countries.

VIET NAM



To strengthen Vietnam's efforts to digitalize education inclusively and sustainably, [UNICEF Viet Nam](#) is piloting the adaptation and localization of the Global Digital Library (free early reading resources) and VRapeutic (virtual therapy for children with ADHD).

NIGER



[UNICEF Niger](#) is collaborating with the government to strengthen and scale locally-developed DPGs to empower young people and improve outcomes across health, climate, and future-forward learning programs, such as the African Drone and Data Academy.

KAZAKHSTAN



Collaborating with Astana Hub, [UNICEF Kazakhstan](#) developed Accessible Kazakhstan, an app which provides information on accessibility of public facilities for people with limited mobility, which was recognized as the first DPG in Central Asia.

OECS



In the [Eastern Caribbean](#), UNICEF has identified the necessity of building awareness of Open Education Resources and DPGs in the region to unlock opportunities and pathways to improve learning outcomes.

# Co-Creating to Scale UPSHIFT

In 2022, UPSHIFT, UNICEF's social innovator accelerator for young people, was operational in **45 countries**, including Bangladesh, Bhutan, Maldives and Turkey. Delivering human-centred design skills and social innovation entrepreneurial experiences, the accelerator programme has reached **3.1 million young people** with over **65 million learning hours**.

In 2023, the innovation mindset is shifting to the education sector as the UPSHIFT delivery platform, accelerating our potential for scalable reach to untapped demand. The initiative is on track to impact **15 million young people** by 2026. This underscores UPSHIFT's ambitious vision - to be embedded in education systems across the world, ensuring an increasingly inclusive curriculum for adolescents and youth everywhere.

## Illustration of Impact



BHUTAN

With its agile design, UPSHIFT delivers inclusive and accessible social innovation and entrepreneurial skills to children and young people, from primary through to tertiary school age. In [Bhutan](#), 5,000 children and adolescents in 64 schools and 10 youth centres are engaged with the programme.

## UPSHIFT for Education Systems



INDIA

In India, UPSHIFT powered by UNISOLVE - a digital platform for delivering the initiative - has been adopted in 4 states with plans for national roll-out underway.



BENIN

Equipped with social innovation skills for gender equality, young women and girls in Benin's UPSHIFT programme have produced three episodes of a 10-part [TV series](#) on sexual and reproductive health - a subject traditionally considered taboo in their communities.



MALDIVES

And in [the Maldives](#), the Ministry of Education piloted a national roll-out of UPSHIFT, enrolling students in grades 7 and 8 (aged 11-12) from 48 schools.

# Co-Create to Scale

## Project Highlights

---



### MORE WATER MORE LIFE

An affordable [groundwater mapping solution](#) to increase access to climate resilient clean water, combining remote sensing, GIS, hydrogeological mapping, and geophysical surveying.

Borehole drilling success rate increased from 50% to **92%**

Access to clean water for **4.5 million people** across **4 countries**

### POP4ACTION

Empowering health planners to know where to provide support, reaching the most vulnerable families in need of health services using routine health and population distribution data with geodata.

Workshop with **43 participants** across **12 countries** in Sub-Saharan countries



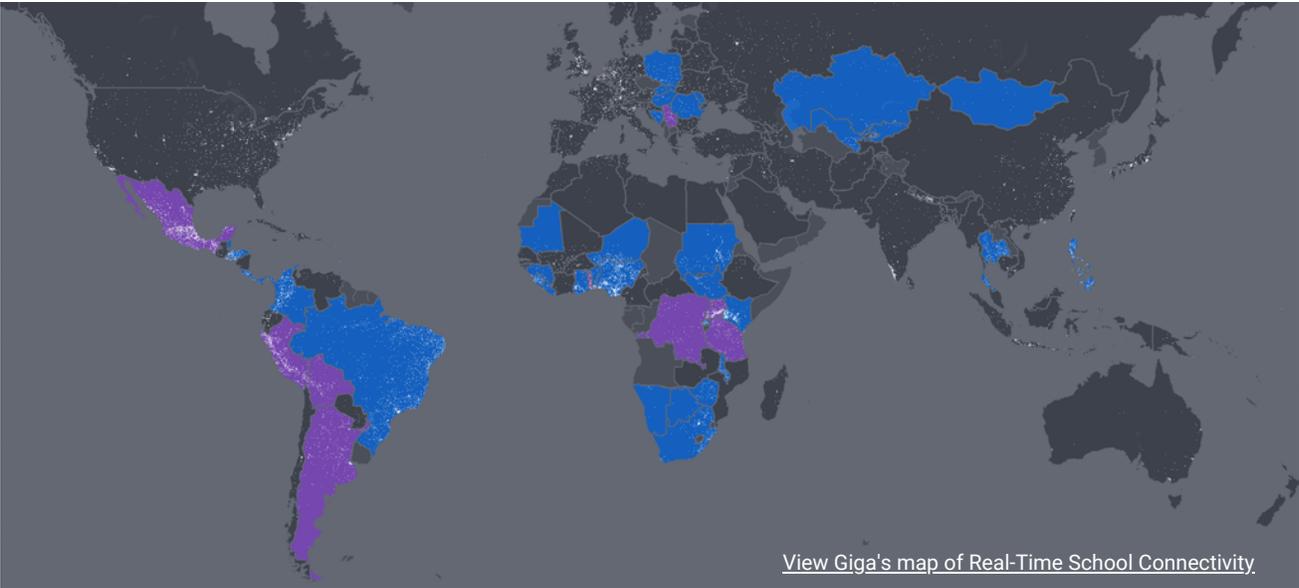
### FOR EVERY CHILD, VACCINATION

67 million children [missed out](#) on vaccinations between 2019 and 2021, with vaccination coverage down in 112 countries. OOI, UNICEF Innocenti and the Regional Office for Europe and Central Asia are collaborating on the innovative use of behavioural insights (BI) to identify, understand and tackle vaccine hesitancy and immunization uptake for a range of preventable diseases

# Co-Create to Scale

## GIGA

[Giga](#) is a joint UNICEF and International Telecommunication Union (ITU) initiative to connect every school to the internet and every young person to information, opportunity, and choice. Working with 14 corporate and non-profit partners, the initiative has **mapped 2.1 million schools** across **136 countries** and **connected 2.12 million students** to the internet. To date, it has raised over US \$ 27 million, plus valuable non-financial assets, to develop technologies and business solutions to connect schools and their surrounding communities affordably and sustainably.



### Spotlight: School Connectivity

#### BRAZIL

Established live reporting of internet service quality from over **45,000** schools

#### BOTSWANA

Helped connect **393,142** students to the internet

#### HONDURAS

Helped connect over **60,000** students to the internet

#### KENYA

Helped connect over **115,000** students to the internet

#### KYRGYZSTAN

Mapped locations of all the country's **2,080** schools

#### RWANDA

Helped Government secure connectivity services improving speed by **400%**

# Illustrative Impact

## School Connectivity

[Connecting an isolated village in Southern Kyrgyzstan to the Internet](#)



“The internet benefits us. It helps with studying subjects that we do not know, such as computer science.”

**Balgybek Pernegul**

Student, Bolashak School, Kazakhstan

“The use of the internet had a very positive impact on our students. It enhanced their participation and interaction in the classroom and increased their involvement in lessons.”

**Areej Owaisat**

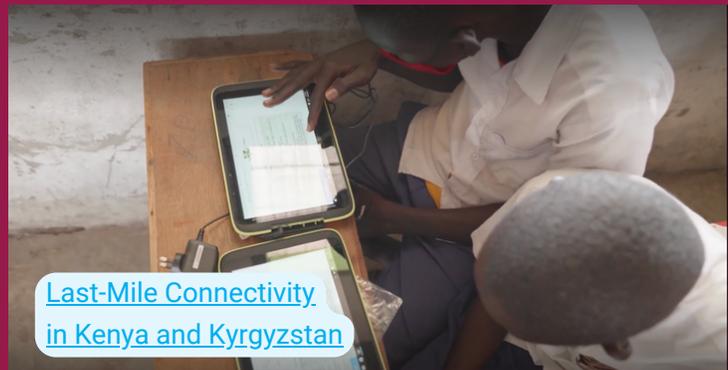
School teacher, State of Palestine

“Thanks to the internet, I was able to learn many more things. I can find out what’s happening now in Kenya and look at maps and videos. I’ve been able to learn more on topics like engineering and wildlife. When I grow up, I would like to become an engineer because there are very few in this county.”

**James Lokeny**

Student, Namoruputh Primary School, Kenya

[Last-Mile Connectivity in Kenya and Kyrgyzstan](#)



Giga has developed AI models that can use satellite images to accurately determine the precise geographical locations of schools. Tailored to local contexts, the models have been developed for nine countries. These include the Sudan, where it was used to map over 20,000 schools nationwide, with a 90 per cent accuracy rate.

Alongside partners including Dell Technologies and Omdena, plans are underway to optimize AI capabilities to scale school mapping to another 40 countries.

## Looking Ahead

# Catalyzing Innovation For Every Child, Everywhere Learning Innovation Hub

The UNICEF Learning Innovation Hub, a Helsinki-based team of the UNICEF Office of Innovation, embedded in the Finnish ecosystem of education expertise and innovators, will be a home for the architects of the future of learning. It will bring together the global community to develop, co-create and scale digital learning solutions that can radically transform education around the world, making learning a wonderful adventure for every child.

Some exciting initiatives in the Hub's pipeline are:

- Establishing **five Learning Pioneer Countries** as early adopters of EdTech, building an innovation portfolio and learning insights.
- Releasing a **Digital Learning Framework**, a rigorous set of criteria (e.g. efficacy, ethical, sustainability) for evaluating edtech solutions.
- With support from Arm, launching a **Learning Cabinet**, a publicly accessible source of edtech solutions screened using the Digital Learning Framework.



*The Learning Innovation Hub gathered colleagues from UNICEF Europe and Central Asia to explore and align on edtech in reimagining education*



*To expand engagement with global stakeholders, the Learning Innovation Hub presented its mission and initiatives to the European Commission Education team, the Asian Development Bank - European Office, and at the Eurocities Economic Development Forum.*



*The mission and work of the Learning Innovation Hub was presented to thousands of education professionals at the 2023 Educa Fair.*



*The Learning Innovation Hub joined discussions at the EdTech World Forum 2023, integrating its mission and workplan with insights on trends, opportunities, and limitations of edtech.*

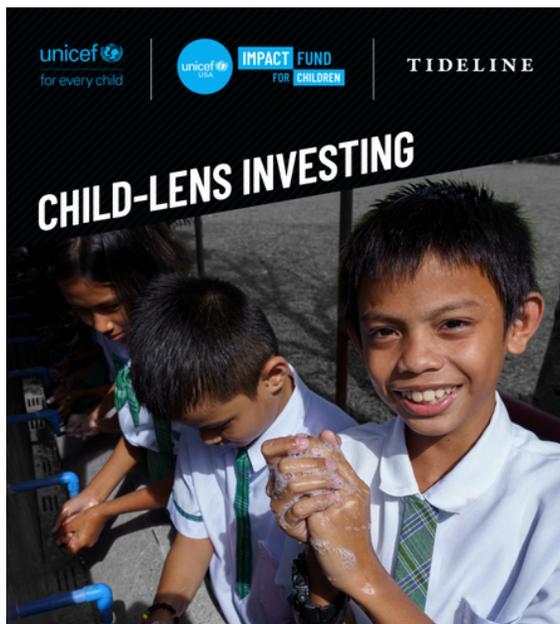
# Catalyzing Innovation For Every Child, Everywhere

## Innovative Finance Hub

The UNICEF Innovative Finance Hub, a Helsinki-based team of the UNICEF Office of Innovation, is influencing global development financial institutions with social impact mandates to focus on children's wellbeing as their investing thesis. It will also mobilize additional capital through innovative financing mechanisms and game-changing solutions.

Some exciting initiatives in the Hub's pipeline are:

- Publishing and socializing a **Child-lens Investing Framework** with impact investing stakeholders toward becoming a critical tool to influence capital markets.
- Managing an ecosystem to co-design bold fundraising solutions that leverage emerging technology - including Web3 and innovative business models.
- Co-creating and launching fund structures - including a **Health Outcomes Fund** with UNICEF Nigeria and a **Digital Literacy Equity Outcomes Fund** for West Africa with the Government of Finland and the United Nations Capital Development Fund (UNCDF).



UNICEF is leading the effort to develop a Child-lens Investing framework, publishing a discussion paper and toolkit with preliminary considerations toward operationalizing investing with a child lens.



The Innovative Finance Hub and UNICEF USA convened a roundtable discussion on the Digital Literacy Equity Outcomes Fund, CSW67 New York



Building on UNICEF's work with the UN's largest NFT collection, attendees of the Innovative Finance Hub Web3 Workshop came from over 13 countries across public and private sectors to explore opportunities presented in the Metaverse, gaming, and blockchain industries.

"Web3 tools can help organizations like UNICEF enhance engagement, transparency, and accessibility, enabling them to create a stronger community for lasting impact and change."

**Taira Ishikura**, Team Next Billion, Ethereum Foundation

## Bridging the Skills Gap With and For Adolescent Girls

Within the gaming industry, less than a quarter of the workforce are women, yet girls represent about 50 per cent of the world's gamers. Co-creating with and for girls and gaming industry design expertise can dramatically shift the needle towards a more inclusive digital environment for girls, and a more diverse global gaming industry overall.



In 2023, [UNICEF announced the Game Changers Coalition](#), a partnership call-out to the gaming industry and beyond, to equip a generation of girls with the science, technology, engineering, arts, and maths (STEAM) skills they want and need to become the coders, designers, and leaders of a safer, more inclusive, and diverse digital future.

UNICEF convened the gaming industry and other partners for an ideation session. Six brilliant adolescent girls from Armenia, Brazil, Cambodia, India, Kazakhstan, and South Africa were at the center of the creative process. Alongside industry representatives in diversity and inclusion, design, coding, and publishing the Coalition aims to build an inclusive digital future.



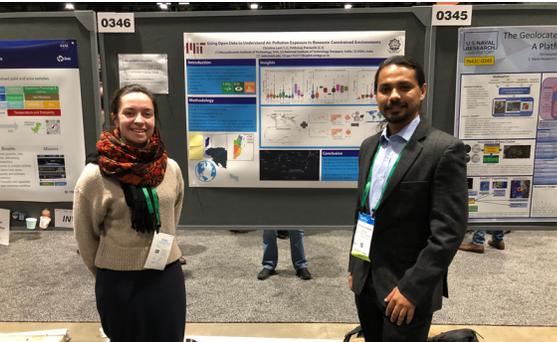
The factsheet, [For Every Girl, Opportunity](#), offers more on the gender skills gap and the need to ensure that girls and women are not excluded from the global digital economy, and are instead able to shape and benefit from it equitably.

# Young Innovators Tackling Climate Change

UNICEF’s portfolio management approach to addressing climate change aims to discover, iterate, and scale solutions with the potential to reach the worst affected, disconnected and underrepresented communities with climate-informed risk reduction, humanitarian action, and resilient disaster recovery. Emphasis is placed on youth-led and localized approaches, and on the meaningful engagement of young people to develop innovative, impactful solutions and shape climate policy.

## Youth-Led, Localized Innovation

UNICEF - UNDP [Green Shark Challenge](#) winner WasteX Lab leverages the use of digital and non-digital technologies and expertise to craft and deploy solutions for improved solid waste management in Zanzibar.



Christina Last and Prithviraj Pramanik are co-founders of [AQAI](#), one of the startups in the Venture Fund’s [AI and Data Science](#) cohort.

Their team is developing a predictive machine learning model for air quality. The model uses georeferenced visualizations to show child population density in regions with air pollution concentrations above the limits recommended by the World Health Organization.

“When we co-founded AQAI, we were driven by a sense of urgency that threats to children’s respiratory health in developing nations require solutions that can scale, and by a belief in the power of data science to predict the respiratory health impact of pollution on children. AQAI has used these principles to predict pollution exposure for over 75 million children.”

**Christina Last**  
Co-Founder, AQAI

# Championing Youth as Architects of Our Global Digital Future



Meeting with young entrepreneurs at the ECOSOC Youth Forum, the United Nations Envoy on Technology echoed the call for youth engagement in the design and implementation of the GDC.

“Young people must rightfully be engaged as key partners in shaping the future of technology, not only because they are the most connected generation in history, but also because young people have routinely proven to be innovators, solutions-makers and restless advocates for a better and safer digital future.”

**Jayathma Wickramanayake**  
UN Secretary-General’s Envoy on Youth

In 2021, the United Nations Secretary-General issued [Our Common Agenda](#), including a key proposal to improve digital cooperation through a [Global Digital Compact](#) (GDC). The design process for the GDC is led and co-facilitated by the Governments of Rwanda and Sweden, with the support of the [UN Secretary-General’s Envoy on Technology](#).



*UN Deputy Secretary General Amina J. Mohamed speaking with Diane Gashumba, Ambassador of Rwanda and Carl Skau, Deputy Director General, Swedish Ministry for Foreign Affairs.*

This year, United Nations Deputy Secretary-General Amina Mohammed joined a [roundtable dialogue](#) in Stockholm, co-hosted by UNICEF and the co-facilitators with young tech innovators, senior diplomats, and executives from Ericsson and the Swedish Games Association to explore emerging priorities for the GDC.

UNICEF and the United Nations Secretary-General’s Envoy on Youth coordinated [global youth participation](#) in the GDC consultative process, through a [U-Report](#) poll.

Launched on a global platform and in nine countries, the [poll reached nearly 80,000 people](#), more than 80 per cent under the age of 34. Young people shared recommendations online safety, privacy, and inclusion which informed UNICEF’s submission to the GDC.

# Gratitude



# Our Team

Our multi-disciplinary team brings a passion and commitment to accelerate a world of equal opportunity for every child, everywhere. Our professional experiences are diverse, from public and private sector. Among our skill sets are expertise in human-centred design, artificial intelligence, machine learning and data science, portfolio management, and various social development thematic sectors.

As a team of **146** colleagues, **64%** female and hailing from over **35** countries, we look forward to collaborating and sparking innovation across UNICEF and with our growing network of dynamic partners.



## Stay in Touch



@unicefinnovate



UNICEF Innovation



[unicef.org/innovation](https://unicef.org/innovation)