

Girls' STEM and Digital Skills

UNICEF Europe and Central Asia

Thematic Results Report

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Cover photo: The filming of the "Girls in Science" TV programme at Kyrgyzstan's largest National TV Channel with Aizat, 14 years, from Bishkek as one of the anchors. © UNICEF/Kyrgyzstan/2021/Jumanaly uulu Dastan

Background

In Europe and Central Asia, girls are increasingly connected and skilled in areas critical for the next generation labour force. Yet, girls and women still fall behind in STEM and digital skills and miss out on education and career opportunities due to harmful gender norms and stereotypes. In the region, only 1/3 of STEM graduates from tertiary education are young women, girls and young women have higher NEET and unemployment rates than boys and men, and girls are at serious risk of online discrimination, sexual harassment and bullying when they navigate in digital spaces and pursue new knowledge.¹

To respond to these challenges, and in alignment with [UNICEF's Gender Action Plans 2018-2021](#) and [2022-2025](#), and the [Regional Gender Strategy \(2021-25\)](#), UNICEF Europe and Central Asia reaches girls with skills and learning opportunities that empower them in the transition to adulthood and equip them for the 21st Century workforce. UNICEF works to promote girls' leadership, voice and agency for their inclusion and participation across all sectors and contexts, and supports innovative and safe platforms, both offline and online, to build girls' skills and capacities to lead and influence change.

Key achievements 2021

Girls' STEM and Digital Skills is becoming an increasingly important priority in UNICEF as a critical pathway to advance gender transformative results. This is also an area of work where the region sees significant potential to engage the private sector to enhance an enabling environment and career pathways for girls and young women. Enabled by global and regional initiatives on adolescents and girls' skills, including Skills4Girls², Generation

Unlimited, Reimagine Education, UNICEF Europe and Central Asia is supporting a growing portfolio leveraging investments, programme excellence, and advocacy, and witnessing emerging initiatives in many countries across the region.

By the end of 2021, programmes on girls' STEM and digital skills are ongoing in more than 12 countries including Armenia, Bosnia and Herzegovina, Bulgaria, Croatia, Kazakhstan, Kosovo³, Kyrgyzstan, Moldova, Serbia, Tajikistan, Ukraine, Uzbekistan. These programmes are envisioned to be strengthened and scaled in coming years with new investments building on learning and evidence.

In 2021, key products have been finalized to accelerate the Girls' STEM and Digital Skills including a virtual learning series and learning paper, a partnership on STEM4ALL with UNDP, a regional mapping, donor facing brochure and multiple communications assets including videos, case studies and social media. Further, UNICEF has been part of several regional events and convenings that have positioned UNICEF as a strategic partner including in the Asian Development Bank (ADB) Regional Gender Forum, Third Eurasian Women's Forum, and Generation Equality Forum. Funding from Otis International through UNICEF USA and key resources from UNICEF's Gender Thematic Fund has in particular helped to advance the regional efforts with a dedicated focus.

Skills4Girls is a UNICEF global partnership aiming to develop and bolster girls' skills in STEM, digital technologies, social entrepreneurship; engaging, empowering, and equipping them to break down gender barriers, and succeed as leaders and decision makers in their lives and in the world.

¹ UNICEF 2021: [Gender Equality Strategy in Europe and Central Asia 2021-2025](#); [Plan International 2020](#)

² [Skills4Girls Portfolio Girl-Centered, Generational Impact Brief](#) (UNICEF 2020)

³ All references to Kosovo are in the context of Security Council resolution 1244 (1999)

Regional highlights

UNDP-UNICEF partnership

UNICEF and UNDP in Europe and Central Asia have worked towards a shared agenda promoting girls and women's education and careers in STEM and more broadly to advance gender equality in STEM fields. In 2021, UNICEF and UNDP finalized an agreement to collaborate on STEM4ALL, creating a joint platform as a virtual space for advocacy, research, and news to promote gender equality and inclusion in STEM across the region and beyond. The platform targets a broad audience including girls and women, policy makers, educators and the private sector and aims to amplify awareness and interest for girls' and women's STEM and digital skills organizing joint events, sharing success stories and best practices. This partnership is a milestone on interagency collaboration, and STEM4ALL will function as a key tool for UNICEF to engage with partners in 2022 and beyond.

Virtual learning series

From March to October 2021, UNICEF ECARO Gender and Education sections organized a [Girls' STEM & Digital Skills Regional Learning Series](#) with six thematic sessions covering girl-centered approaches, the enabling environment, leveraging flagship initiatives such as Generation Unlimited for girls' skills, partnerships and collaboration, and reaching the most vulnerable girls with meaningful skills sets. The sessions were co-created with 12 country offices from 5 regions (ESAR, WCAR, EAPR, LACR, ECAR) with participation from country office specialists and leadership, regional office senior management, Generation Unlimited global secretariat, and featuring external stakeholders such as Nommi CEO & Founder Alyona Tkachenko from Kazakhstan and Shnet App Founder Eurisa Rukovci from Kosovo. This learning initiative will continue in 2022 expanding focus on transformative interventions that are working to take results to scale, as well as engagement with external experts and partners also engaging with the collaboration on STEM4ALL with UNDP.



Publications

A Regional Mapping on STEM and Digital Skills for Girls in Europe and Central Asia

A [regional mapping](#) was conducted to explore the current landscape and existing STEM and Digital Skills programmes for girls. The mapping covered more than 40 programmes and uncovered the investments needed to accelerate skills and teacher training policies, joint high-level advocacy, partnerships including with the private sector, and girl-centered programme design and implementation.

Impact Brochure "Investing in Girls' STEM and Digital Skills"

An [impact brochure](#) has been developed as a tool to engage with private sector partners around funding and partnership opportunities and showcase UNICEF's achievements for girls' STEM in the region. The brochure highlights how partners can work with UNICEF to scale up Girls' STEM & Digital skills, the strengths of private sector partnerships, and why UNICEF is a preferred partner with its comparative and collaborative advantage, capacity for reach, scale, and influence on child rights and gender equality results.



Key Advocacy Moments

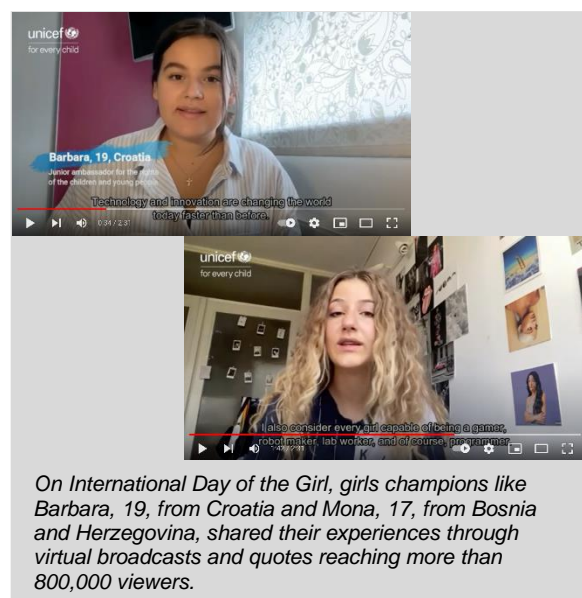
Generation Equality: Highlighting our regional Tech Trailblazers – Adolescent girls who break barriers everyday

The [Generation Equality Forum](#) in Paris was held from 30 June – 2 July 2021 convening more than 50,000 people virtually from Governments, international organizations, civil society, youth, the private sector, and activists globally to accelerate gender equality. The USD 40 billion invested at the Forum represent a major step-change in resourcing for women's and girls' rights. UNICEF co-leads the Action Coalition on Tech and Innovation, that calls for women and girls in all their diversity to have equal opportunities to safely and meaningfully access, use, lead, and design technology and innovation with freedom of expression, joy, and boundless potential. The Forum was a critical moment to share advocacy messages on girls and young women who are everyday leading in STEM and helping to break the gender digital divide. Up to and during the forum, UNICEF ECARO led a social media campaign across channels with posts from the Regional Director Afshan Khan and UNICEF's regional accounts reaching around 825,000 people with [stories of inspiring teenage girls in ECA region](#) who are breaking gender stereotypes by taking a lead in STEM fields.

International Day of the Girl 2021: Q&A with Girl STEM Innovators – A UNICEF virtual broadcast featuring Girls' Voices as Digital Changemakers and STEM Entrepreneurs

International Day of the Girl is a key annual event to highlight girls' leadership and achievements around the world. In the context of the COVID-19, bringing attention to issues of connectivity and online safety is more important than ever. In 2021, under the theme "Digital generation. Our generation", UNICEF ECARO launched the [virtual broadcast](#) "Q&A with Girl STEM Innovators – A UNICEF virtual broadcast featuring Girls' Voices as Digital Changemakers messages, quotes and stories of inspiring girl STEM champions and female mentors who pave the way for girls and lead their digital futures.

The IDG social media campaign reached 881,000 people with a total of 25,000 engagements and 315,000 video views. Together with girls, mentors, teachers, and peers, the moment continues throughout the year to highlight and support girls' leadership in their digital generation.



Gender Forum by the Asian Development Bank (ADB): UNICEF Session “Building an Equal and Innovative STEM Girl Force for the 21st Century”

On November 22-25, 2021, the Asian Development Bank held its first ever Gender Forum under the theme “The Power to Transform Gender Equality in Asia and the Pacific” bringing together almost 2,000 stakeholders from governments, UN, NGOs, civil society and private sector. On Day 1 of the Forum with over 1,700 registered participants from 74 countries, UNICEF led a Knowledge Lab on the theme [“Building an Equal and Innovative STEM Girl Force for the 21st Century”](#). The key take-aways from this discussion included: to address gender stereotypes in STEM, to have women as role models as well as mentors, to enhance communication skills, critical thinking, creativity, and leadership for girls to gain confidence and self-efficacy in pursuing a STEM education and career, as these skills empower and transform

their vision on career pathways; and supporting the future generation of female leaders requires inspiration and support from governments, communities, local leaders, and private sector partners.

Other key events

- On Girls in ICT Day (22 April 2021) UNICEF Regional Director Afshan Khan marked the day by sharing a blog on accelerating girl-centered approaches, innovative partnerships and active workplaces: [On Girls in ICT Day, let's Reimagine Girls' Education toward STEM and girl-centered solutions](#).
- On 23rd August 2021, as part of the 9th International Skills Forum: Reimagining Education and Skills Development for a New Normal, ADB convened a session on [“Educating girls to create a green, resilient and equal world”](#). UNICEF was part of the panel dialogue discussing the education sector's role on equipping skills for the future, system-level strengthening for gender-responsive STEM and ICT education, and critical enablers to advancing girls' education in 2021 and beyond.
- For International Day of the Girl (11 October, 2021), UNICEF Turkey organized the conference [“The Time is Now! Girls' Leadership in the Digital Era”](#) in partnership with UNFPA, UN Women and Aydin Dogan Foundation. UNICEF Regional Director Afshan Khan provided keynote remarks on girls' and women's skills, leadership capacity and role as champions of gender equality in a digital future.
- In the Third Eurasian Women's Forum, UNICEF participated in a thematic session [“Self-Made: Lifelong learning”](#). UNICEF Regional Director Afshan Khan delivered key remarks on “Widening learning pathways for girls and women to succeed in the 21st Century” highlighting the need for continued training and learning through companies and educational institutions, connectivity and digital learning, and family friendly policies.

Country Snapshots

Bosnia and Herzegovina: IT Girls Initiative

IT Girls is a joint UN initiative implemented by UNDP, UNICEF and UN Women in Bosnia and Herzegovina with the aim of encouraging girls and women to pursue ICT oriented careers.⁴ The initiative is being implemented through three pillars, the first targeting the education sector, the second working directly with the ICT sector, and the third focusing on advocacy and promoting an increase in the number of girls in ICT. In 2020-2021, at least 10,000 young women benefitted from free webinars through #ITGirlsGoOnline and through crowdfunding campaigns, Arduino robot equipment were delivered to schools for girls to learn new skills in assembling electronic projects. The initiative has expanded to several regions in the country: Girls and teachers in 10 elementary schools are currently benefitting from high-digital skills training, and 5 IT companies are supported to revise their workplace standards in line with Women's Empowerment Principles. The IT Girls initiative has worked since 2015 to increase the inclusion of all girls and women of Bosnia and Herzegovina in the country's ICT sector.

Kazakhstan: UniSat girls' nanosatellite programme

UNICEF Kazakhstan and Al-Farabi Kazakh National University have developed the innovative UniSat Nanosatellite programme for girls, addressing gender stereotypes in STEM, promoting transferrable skills for decent employment opportunities, and building self-efficacy and confidence through skills development. Following the successful launch of the first nanosatellite in October 2020⁵, UNICEF Kazakhstan and partners are now scaling up the work both nationally and regionally (e.g., in Uzbekistan and Kyrgyzstan) to equip and empower more girls and young women to

transcend barriers and take on leadership roles in STEM. In January 2022, 2650 girls from Kazakhstan, Uzbekistan, and Kyrgyzstan, including from remote rural areas, will start the online UniSat Nanosatellite education course. In April 2022 at least 200 of the participants from the three countries who successfully complete the online nanosatellite course will take part in a 10 day in-person workshop in Kazakhstan to assemble a nanosatellite. In 2022, at least five nanosatellites will be built and launched into the stratosphere by girls. The programmes are supported by Al-Farabi National University, international experts from the United Nations Office for Outer Space Affairs (UNOOSA), and other space communities in Central Asia and have received key catalytic funding from Clé de Peau Beauté, Dubai Cares, and UNICEF's Education Thematic Fund.



Zhaniya, 16, ready to launch a nanosatellite in Kazakhstan. The UniSat nanosatellite programme is being scaled in Kazakhstan, Kyrgyzstan, and Uzbekistan.

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Kyrgyzstan: STEM4Girls

The STEM4Girls programme in Kyrgyzstan engages up to 30,000 girls ages 15-18 from remote and under-resourced areas in peer training sessions to break cycles of poverty, support girls to excel in STEM, make informed career choices and obtain relevant job opportunities.⁶ In 2021, STEM4Girls reached

⁴ "When I heard that IT Girls were coming to our school - that was it!" – UNICEF article (October 2019)

⁵ "Girls' satellites soar to the stars" – UNICEF article (October 2020)

⁶ Girls in Science – UNICEF article (2021)

more than 10,000 girls and young women with knowledge and skills, paired 1,200 girls with female mentors, and trained almost 700 girls as peer trainers to lead sessions on STEM, child rights and gender equality. 81% reported that the programme helped them identify professional choices in STEM. On September 29th, UNICEF Kyrgyzstan hosted the first virtual visit of one of UNICEF's largest private sector donor on gender equality, Clé de Peau Beauté. Over 130 employees of the company joined the virtual field visit to learn about STEM4Girls programme including the situation of girls in Kyrgyzstan. The participants had a chance to interact with a group of girls, teachers, mentors, and parents who connected from one of the schools and talked about their experiences of participating in the programme. Video messages from the STEM4Girls Ambassador and Kyrgyzstan's renowned scientist Asel Sartbaeva were also presented.



As part of STEM4Girls, Aizat and Medina, 14, created the TV series "Girls in Science" featuring 11 programmes broadcasted on Kyrgyz national television with the girls as co-anchors.

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Serbia: Building skills for better futures Youth Internship programme

UNICEF Serbia is increasing the employability of up to 2,000 young people from the most marginalized groups by providing them with paid internship opportunities and training. The focus is on youth from vulnerable communities

including NEET girls. In 2021, UNICEF developed the programme strategy and internship methodology, engaged key stakeholders, and explored the needs of young people and private sector companies. In the programme, girls learn communication and presentation skills including development of the CV and motivation letter, IT and digital competences, navigating an online job-matching platform with an automated engine for connecting interns with internship providers. The training modules for girls are available on an online platform where an algorithm has been designed for individual training programmes suitable for every participant. In 2022, with support through the Gender Thematic Fund from partners including Pandora, UNICEF will continue to engage with key stakeholders, advocacy for NEET youth and connect them with internship providers and advance a national global platform to connect all youth with job opportunities.

Tajikistan: Innovation labs and job sourcing for the 21st century workforce

In Tajikistan, UNICEF supports adolescents to acquire 21st century skills, digital skills, social entrepreneurship skills and access to jobs through 15 Innovation Labs in the country. In 2021, more than 9,000 adolescent girls and boys were reached with innovative interventions: UPSHIFT, Adolescent Kit for Innovation and Expression and Tech4Girls. In 8 out of the 15 innovation labs, the Tech4Girls curriculum are rolled out and developed based on rural girls' ICT knowledge and needs. This curriculum, in combination with transferable skills, enhances the competencies of adolescent girls and provides the opportunity for realization of their rights to learn and participate. Further, UNICEF Tajikistan has completed a Digital Literacy Framework and development of Comprehensive 3 level ICT curricula at national level for scale. With support from partners including Chloé,

UNICEF Tajikistan continues to advocate for adolescent girls as equal to boys in tech, recognized within their societies and empowered to bring positive change in their lives and communities.



Girls in Dushanbe, Tajikistan participating in a Youth Challenge organized by UNICEF and UNDP to access skills and knowledge, opportunities and competencies to succeed in life and work.
© UNICEF Tajikistan/2019/S.Sharipov

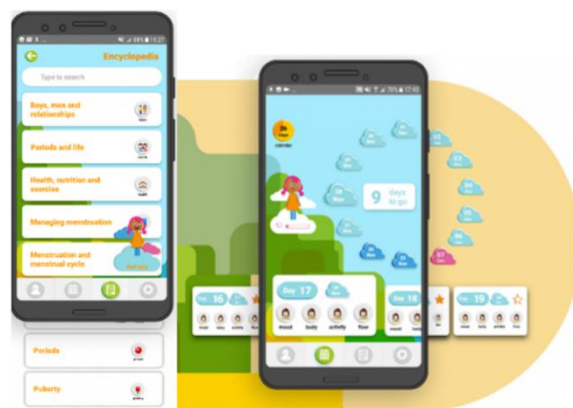
Uzbekistan: Innovation and digital skills for social change

UNICEF in Uzbekistan aims to equip girls with STEM, social entrepreneurship related learning and skills training, including digital literacy and safety, building transferable skills and pursuing opportunities for employment and active citizenship, and ensuring girls are in the lead of their solutions. UNICEF is piloting a targeted, multifaceted programme for girls including a preparatory skills course, scaling up the UniSat+ nanosatellite programme for girls from disadvantaged backgrounds and from the preparatory skills course, providing a specific computer literacy programme for girls with disabilities in collaboration with Organizations of Persons with Disabilities (OPDs), and engaging girls in the social innovation and social entrepreneurship programme UPSHIFT to act as agents of social change in their communities. These activities are underway and will be implemented in 2022 with generous support through the Gender Thematic Fund including from Clé de Peau Beauté.

Short news from around the region

Kyrgyzstan, Ukraine, and Bulgaria: Oky period tracker app for girls

In 2021, UNICEF's global innovation fund supported the launch of the Oky period tracker app in ECAR with pilots in Kyrgyzstan, Ukraine, and Bulgaria. Oky is the first mobile phone period tracker app for adolescent girls aged 10 to 19. Oky is available as an Android app and features include individual cycle tracking and provides predictions. There is also a calendar that functions as a diary and helps with reminders. Girls can play games and quizzes to make learning fun. Oky has been implemented in countries including Indonesia, Nepal, and Mongolia, and pilots will begin in Kyrgyzstan, Ukraine, and Bulgaria in 2022.



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Moldova: Mobile STEAM classrooms for girls

The new Mobile STEAM classrooms aim to reach girls from rural communities with leadership skills training and STEAM activities. The mobile classrooms are part of the GirlsGoIT programme and will reach 20,000 more girls with practical STEAM skills through curriculum, workshops, and educational outreach. The emphasis is on empowering girls in that they acquire important and necessary functional and practical skills across occupational skill-sectors, with an explicit focus on digital literacy.

Ukraine: Science is SHE Initiative

UNICEF Ukraine accelerates the STEM agenda for girls and women through creativity and the multi-stakeholder partnership “Science is SHE”. Under this initiative, in June 2021, an award ceremony took place in Kyiv to select the 12 winners of a STEM essay contest, with more than 1,000 submitted essays from girls, as well as a charity auction uniting 100+ stakeholders and supporters of the initiative. In 2022, Science is SHE will organize an online-offline conference supported by Ministry of Digital Transformation, launch a mentorship program with top Ukrainian tech specialists, a multimedia project #IHaveOpportunity and a hackathon and summer camp 2022 with female IT experts.



The multi-stakeholder partnership Science is SHE obtained broad public visibility in Kyiv with art and posters creating awareness on Ukrainian female scientists.

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Turkmenistan: Girls in Science

UNICEF Turkmenistan launched a social media campaign “Girls in Science” with a series of posts providing compelling facts and statistics on the engagement of women and girls in science. In celebration of International Women’s Day, UNICEF developed a Video Story in which adolescent girls shared their dreams, career plans and views on gender-related issues to inspire other girls. The story [“Mahri and Shirin on challenging gender stereotypes in ICT in Turkmenistan”](#) highlighted the success of two girls whose achievements in ICT make them stand apart and lead as role models in their communities.



The UNICEF story about Mahri and Shirin from Turkmenistan inspired many readers.

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Key priority areas for 2022

UNICEF ECARO will continue to support countries on girls' skills, STEM, and digital programming in 2022, further accelerate investment and scale in existing programmes and provide technical support to emerging projects in new countries.

The technical support from UNICEF Regional Office Europe and Central Asia covers programme assistance, resource mobilization efforts and advocacy and communication aiming to share and amplify results and achievements from country offices at regional and global levels.

UNICEF ECARO will leverage existing partnerships and seek new partners to bolster the girls' skills portfolio in the region. UNICEF ECARO will also continue to align its work with Skills4Girls on girl-centered approaches and to continue to foster new partnership models, global dialogue and collective impact.

Key priority work areas for 2022:

- ✓ Leverage resources and partnerships to expand and scale programmes.
- ✓ Build on existing learning to leverage successful programme models.
- ✓ Continue learning and knowledge exchange on Girls Skills programming including Learning Series.
- ✓ Accelerate resource mobilization and engagement with private and public sector.
- ✓ Lead joint advocacy and awareness for Girls' STEM with partners regionally and globally.

For further details, contact the UNICEF ECARO Gender Section at: ecarstemforgirls@unicef.org



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