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# Investing in Girls' STEM

## and Digital Skills



UNICEF Europe and Central Asia

In Armenia, Hasmik Baghdasaryan 16, tests out a virtual reality headset with her co-founders from VR Labs, a virtual lab that simulates science experiments with virtual reality headsets. © UNICEF/UNI363728/Babajanyan/VII Photo



Today, with increasing connectivity, vibrant technological solutions, and more digital work opportunities than ever, adolescent girls in Europe and Central Asia could be their generation's leading engineers, data scientists and IT architects. Yet, the gender digital divide, limited skills opportunities and career prospects, and harmful stereotypes and gender norms continue to hold girls back. The jobs of the future consist of science, technology, engineering, and maths (STEM)<sup>1</sup>, but girls miss critical opportunities to flourish and remain underrepresented in STEM disciplines across the region. In turn, more girls than boys are Not in Education, Employment or Training (NEET) (girls 16% vs. boys 12%) and only one third of STEM graduates from the universities in the region are young women.<sup>2</sup>

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**I want to become an IT specialist or programmer. Especially in the current situation, these kinds of skills are in need. Therefore, I want to learn it first myself and then teach my friends.**

*Albina, 14, Girls in Science Programme, Osh, Kyrgyzstan*

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The Covid-19 pandemic presented new and daunting challenges for girls and women, and up to 20 million more adolescent girls globally could be out of school forever.<sup>3</sup> The pandemic also impacted future labour markets, with automation of many female-held jobs, and girls and women remain excluded from digital markets, not equally accessing digital learning and education, and not always safe when they navigate online spaces to gain the experience and knowledge they need to obtain 21<sup>st</sup> century skills.<sup>4</sup>

## Investing in girls as leaders in STEM and ICT

To nurture girls' skills and talents, UNICEF presents a growing portfolio of programmes reaching girls with skills and empowerment programmes on STEM, ICT and 21st century skills globally with a strong footprint in the Europe and Central Asia Region. With the right resources and support, girls can be changemakers and leaders in STEM and ICT, pioneering transformative shifts in gender equality. Now is the time to reimagine education for girls, to harness technology and innovation and promote girls' own solutions so they can equally access ICT and technology opportunities and grow their skills.

### Skills4Girls: A global portfolio for girl-centered, generational impact

Skills4Girls is a UNICEF global partnership that aims to develop and bolster girls' skills in STEM, digital technologies, social entrepreneurship and more; 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. 90% of jobs in the future are projected to include digital skills. [World Economic Forum 2020: Jobs will be very different in 10 years](#)
2. UNICEF 2021: Gender Equality Strategy in Europe and Central Asia 2021-2025
3. [Malala Fund 2020: Girls Education and Covid-19](#)
4. [Plan International 2020: Free to be online? Girls and young women's experiences of online harassment](#)

# Addressing negative gender stereotypes and empowering girls through STEM and ICT

UNICEF works across 22 countries in the Europe and Central Asia region to promote the participation of girls and women in STEM and ICT, to address negative gender stereotypes and empower girls through skills and leadership programmes, and to ensure that solutions are designed in partnership with girls for sustainability and impact. For example, UNICEF implements girl-centered skills curricula, works with girls in safe spaces, connect them to mentors and internships, and removes gender stereotypes from learning materials. UNICEF also trains teachers on gender equality and on the barriers girls face, and support girls, including those in humanitarian contexts and with disabilities, to access learning opportunities offline and online to prepare them for life and the world of work.

## UNICEF's Girl-Centered Approach in Skills Programmes

### Girl-centered engagement

Putting girls at the center of design, implementation, monitoring and learning.

### Focusing on all girls, everywhere, in all their diversity

Sharing learning and insights and fostering new partnership models to expand global dialogue and collective impact.



### Girl-specific skills

Focusing on competencies that position girls to participate equally and transition to employment.

### Girl-focused approaches

Tailoring strategies to girls' needs, including safe spaces, mentorship, internships, access to technology, and leadership development.

[Skills4Girls: Girl-Centered Skills Development: A Learning Agenda \(UNICEF 2020\)](#)

## Examples of frontrunner programmes for girls' STEM and digital skills in Europe and Central Asia

### Armenia



UNICEF and UNDP run an Impact Accelerator #5, a programme to connect young women and girls to Armenia's IT-Tech ecosystem and help them develop startups, new jobs, learn new skills and access new financing sources.

### Kyrgyzstan, Tajikistan and Serbia



UNICEF provides STEM education, skills and vocational training in training centers where girls learn computer skills, coding and entrepreneurship curricula to connect with local job markets.

### Kosovo (UN SC Resolution 1244)



The project Building Bridges 4 Girls equips girls and boys (with 80 per cent girl participants) with coding skills through an intense training and connects them with internship placement in private sector ICT entities, contributing to narrowing the gender digital divide and girls' empowerment for jobs of the future.

### Moldova



Girls Go IT reaches Girls' Not in Education, Employment and Training (NEET) living in marginalized communities with education and career opportunities through mobile STEAM (Science, Technology, Engineering, Arts, and Mathematics) classrooms and capacity building workshops for girls in ICT and STEAM fields.



With the campaign "IT Girls are coming to your schools", sets of Arduino equipment are provided to ten schools to stimulate and encourage girls to take up STEM disciplines. © UNICEF/Balic

## Bosnia and Herzegovina

In Bosnia and Herzegovina, the IT Girls Initiative connects adolescent girls and young women with ICT companies through mentoring programmes in schools. **In 2021, the initiative will strengthen coding skills and empower 700 girls (13-19 years) from Bosnia and Herzegovina.** IT Girls Clubs methodology will be expanded to cover Arduino hardware and software programming, both applying gender-responsive teaching methods exclusively developed by IT Girls initiative.

## Kazakhstan

**In 2021, Kazakhstan's girls' nano-satellite programme will be scaled to Uzbekistan and Kyrgyzstan and many more girls will gain practical experience and skills in space design and innovation.** Under the partnership with the Al-Farabi Kazakh National University, in 2020, a cohort of girls and young women were trained to engineer and launch small satellites toward the stratosphere, propelling girls to the forefront of science and technology with amazing results and achievements.



A participant observes her nanosatellite being launched into the stratosphere. © UNICEF Kazakhstan

## Kyrgyzstan and Ukraine

The OKY Period Tracker App has been tested and developed with girls in Indonesia, Mongolia, and Papua New Guinea. **In 2021, the OKY App will be piloted with girls in Kyrgyzstan and Ukraine.** The App provides girls with information about their periods in a fun and creative way delivering up-to-date information directly to girls on their smartphones. With its engaging and gamified design, OKY ensures that girls receive age appropriate SRHR information and learn new digital skills at the same time!



Girls in Indonesia testing the OKY Period Tracker App. In 2021, the App will be launched in two countries in Europe and Central Asia. © Alexandra Tyers

“ At the beginning, I did encounter some prejudices like 'this is not for girls', but I wanted to come and show that we can do the same things as boys and that it makes no difference!

Ana, 8th grade student, IT Girls, Bosnia and Herzegovina ”

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[The App] GjejZâ helps women fight gender-based violence in three easy steps by identifying the problem, empowering the user, and enabling them to take action.

Rrozhani from D3c0ders, about the team's innovative solution to end gender-based violence in Albania ”

# How partners can support: Scaling up girls' STEM and digital skills in Europe and Central Asia

UNICEF Europe and Central Asia Regional Office seeks partners to support the multiple, emergent initiatives on girls' skills and STEM. Powered by catalytic investments, countries are already implementing promising initiatives to shape a new generation of girl leaders but this needs more investment to solidify and scale the various initiatives. In 2020, UNICEF reached more than 140,000 adolescent girls and boys in the region with skills and empowerment programmes. With support from partners, UNICEF can further reach scale and amplify existing initiatives, reaching more girls with impactful programmes, and document learning and best practices region wide.



It is a really big opportunity for me to show, not only my professional skills, but show me who I am and who I want to be!

*Amina Sadu, High School Student, Girls' Nano-satellite programme, Kazakhstan*

## Why partner with UNICEF?

### Reach and evidence-based impact

UNICEF has a strong track record of successful partnerships with governments, private sector and civil society working for girls' empowerment. Investments from partners create a multiplier effect, scale investments, and expand reach and impact.

### Influence and advocacy

UNICEF leads and partners on flagship initiatives for girls' skills including Re-Imagine Education, STEM4ALL, Generation Equality, Skills4Girls, Generation Unlimited, EQUALS, Giga and more. Through these partnerships, UNICEF combines the power of partners for advocacy, policy, data and evidence and programmatic impact for girls at scale.



### Expertise and partner-of-choice

UNICEF is the world's leading organization for children and the only UN agency with the mandate to promote girls' rights across multiple sectors in education, health, HIV/AIDS, nutrition, water, sanitation and hygiene, child protection and social inclusion.

### Girls' voices

Girls are at the center of UNICEF's programmes to develop solutions harnessed by technology and innovation. UNICEF uses innovative workshops and learning methodologies that place girls in the front seat as innovators, problem solvers and change makers.

UNICEF Europe and Central Asia welcomes partnerships with private and public sector partners for collaboration to invest in and advance girls' skills, STEM and empowerment.

**Join UNICEF to accelerate gender equality and to celebrate girls' leadership, talent, and potential everywhere.**



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Read more about UNICEF's work for girls' skills and STEM

- ▣ [Towards an equal future: Reimagining girls' education through STEM, UNICEF 2010](#)
- ▣ [Skills4Girls Portfolio Girl-Centered, Generational Impact, UNICEF 2020](#)
- ▣ [Skills4Girls: Girl-Centered Skills Development: A Learning Agenda, UNICEF 2020](#)

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