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Regional Mapping: STEM and Digital Skills for Girls

UNICEF Europe and Central Asia Regional Office (ECARO)
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Cover photo: Hasmik Baghdasaryan, 16, performs an experiment in the chemistry lab at Ayb High School in Yerevan, Armenia.

Photo (p.12): 20 girls aged 14 to 35 years from different regions of Kazakhstan participated in the UniSat educational programme and launched one cutting-edge nanosatellite using a helium balloon to the stratosphere.

Background: STEM and Digital Skills for Girls

Gender norms, negative stereotypes, barriers, and the *gender digital divide*[1] continue to hold girls back from realizing their potential. Limited opportunities and expectations of girls' skills[2] and performance in science, technology, engineering, and math (STEM) and digital literacy, and a lack of role models become critical barriers for girls to develop the skills they need. Gender socialization and norms lead to girls' decreased perceptions of their own skills and self-efficacy resulting in a large proportion of adolescent girls dropping out of training and education every year, and not obtaining skills such as innovative and critical thinking, problem solving and entrepreneurship, critical to succeed in 21st century jobs.[3]

The Europe and Central Asia Region (ECAR) is large and diverse with a mix of lower-middle- and upper-middle income countries. Countries are experiencing transformation in the labour force toward a STEM-focused and digitalized job market, and many governments have a long tradition of national investments, through their Ministry of Education[4], in TVET, skills and STEM for children and youth, through school systems and out-of-school platforms. With the rise of tech events, incubators, and accelerators, the start-up scene is flourishing, and the private sector is emerging as a key player in the field of providing skills, on-the-job training and employment to youth in many countries. Yet, girls and women remain underrepresented and with limited digital skills and opportunities. Across the region, girls are more likely to be Not in Education, Employment or Training (NEET) than boys (Female 16%, Male 12%). The youth unemployment rate is also higher for girls than boys (Female 23%, Male 19%) making girls socially and economically excluded, perpetuating the cycle of poverty. Women account for only 32% in STEM at the university level which makes the female pipeline to careers in STEM narrow. [5]

The Covid-19 pandemic has further exacerbated the challenges that girls face in education and training. Evidence from UNDP in ECA region points to increases in early marriage, sexual violence and girls´ household burden while boys are likely to be prioritized in using IT and computer equipment at home for home schooling during school closures.[6] With long-term confinement, girls from marginalized communities such as the Roma population, those on the move, with disabilities, and in rural areas are especially at risk and high dropout rates in these groups of girls remains a critical concern.[7]

In 2020, UNICEF globally launched the *Skills4Girls* initiative, a portfolio of 19 country programmes for girls´ STEM, digital skills and social entrepreneurship. The programmes are funded by the private sector, evolve around an advocacy strategy and a Learning Agenda on girl-centered approaches in skills programmes. In ECAR, Skills4Girls has already had a strong footprint; programmes in countries such as Tajikistan and Kyrgyzstan provide adolescent girls with skills they need for the future, and the momentum for girls´ STEM and digital skills are still growing in the region.

[1] EQUALS & UNU 2019: Taking Stock: Data and evidence on gender equality in digital skills, access and leadership
[2] Refers to a broad range of skills critical for adolescents´ development including technical, vocational and transferable skills, also known as life skills, 21st century skills, soft skills, or socio-emotional skills. UNICEF 2019: Global Framework on Transferable Skills
[3] UNICEF 2020: A New Era for Girls: Taking Stock of 25 Years of Progress p. 15
[4] Often in collaboration with other Ministries (Labour, Social Affairs, Women´s Affairs), guided by sector plans and financed by revenue and ODA.
[5] UNICEF 2021: Gender Equality Strategy in Europe and Central Asia 2021-2025, p. 11
[6] UNDP 2021: Gender Equality in STEM in Europe and Central Asia, p. 2 – *forthcoming*
[7] Ibid.

Regional Mapping:
A Rapid Review of Programmes, Initiatives and Key Partners

UNICEF articulates girls' secondary education and skills as a specific priority for adolescent girls as one of the five targeted priorities for girls' empowerment in the Gender Action Plan, aligned to UNICEF 2018-2021 Strategic Plan and beyond into 2022-25. The Regional Gender Strategy for ECAR (2021-25) also puts forward the key priority of working with girls of all backgrounds as partners to build their agency and their knowledge, confidence, skills and access in all areas of their lives, including in skills-building training.[8]

To achieve the programmatic goals and expand this portfolio of programming to reach more girls with relevant interventions, a Regional mapping was conducted by the Regional Office Gender Section. The key objectives with the mapping were to:

- Define UNICEF´s role in the landscape of skills for girls, and understand how UNICEF can best support this area towards efficient, systematic, and sustainable solutions for girls´ skills, including STEM and ICT, and girls´ transition to employment.
- Support a Regional Knowledge Platform with a series of webinars that will link country initiatives, promote sharing of promising practices between countries, strengthen future innovation, enhance technical support, resource mobilization and UN and private sector collaborations.

Methodology and Scope

The mapping reviews adolescent skills building initiatives with a focus on STEM, digital skills, and ICT, within and external to UNICEF. Programmes that work deliberately with and for adolescent girls to enhance their skills, and confidence as well as those that have potential to break gender barriers in STEM and ICT are especially noted. Although the mapping focuses on cutting-edge interventions with transformative potential for girls it also reviews government-led initiatives for efficiency and scale.

The following methods were used for data collection:

- Desk review of regional studies, policy papers, invent innovation platform, ICON.
- Country Office Questionnaire administered across the ECA region.
- Key informant interviews with key colleagues in UNICEF sectors.
- Analysis and recommendations.

Desk Review: Research Questions & Criteria

The desk review was conducted by reviewing multiple sources (policy, literature, websites, proposals) to extract examples of active programmes in the region. The process was guided by a set of key questions:

1. What are the current programmes on adolescent skills, including STEM and ICT, and innovation?
2. What do programmes in this area look like for adolescent girls?
3. Are existing programmes girl-centered and if yes, what are the components?
4. Who are the key stakeholders and how do they engage in this area of work?
5. What are the gaps and opportunities in skills for girls in ECA?

[8] UNICEF 2021: Gender Equality Strategy in Europe and Central Asia 2021-2025, p. 9

To frame the research and keep it within the scope, a set of criteria was formulated to ensure that programmes mapped were aligned with the research questions and objective of the exercise. The criteria were the following:

The programme/initiative:

- Targets adolescents and/or adolescent girls.
- Provides, supports and/or curates skills in STEM, ICT, innovation, and social entrepreneurship.
- Supports adolescents with new skills in school or on out-of-school platforms.
- Aims to build skills for empowerment and employability.
- Includes components that are girl-centered or girl-specific (if applicable).

In the desk review, different combinations of search words were used: "STEM for girls", "digital skills for girls", "innovation programme for girls", "skills for girls", "girls´ empowerment", "gender equality", "girls in ICT" and others, to capture and distill relevant information from various websites and platforms.

Data collection methods

- ***Country Office Questionnaire***
  A semi-structured written survey was organized and disseminated to the 22 countries in the region. The questionnaire had 19 questions formulated to identify existing initiatives and explore characteristics of skills for girls´ programmes ongoing or in the pipeline. At the finalization of this mapping, completed questionnaires were received from 7 countries: Armenia, Uzbekistan, Kazakhstan, Serbia, Kosovo[9], Tajikistan and Turkey (Annex 5)

- ***Key informant interviews***
  Discussions were organized with Education and ADAP sections with the objective to include points of reflection and input to the mapping process and ensure that key perspectives were considered.

- ***Analysis and recommendations***
  Findings were mapped in Annex 1-4 and observations were noted as responses to the research questions. Further, gaps in the review were identified and a set of recommendations formulated.

[9] All references to Kosovo shall be understood to be in the context of Security Council resolution 1244 (1999)

Overview of Findings

The mapping includes 57 country programmes including 5 multi-country programmes in UNICEF and beyond, in 25 countries across Europe and Central Asia. Although UNICEF operates in 22 countries in the region, programmes in a total of 25 countries were reviewed.[10] 17 of the 57 programmes were led, co-led, or supported by UNICEF. Additionally, 16 project proposals submitted in the invent portal for the UNICEF Innovation Fund were also noted.

Further, 8 UNICEF programmes for girls were identified and defined as "Frontrunner solutions" as they stand out by providing example and evidence for girl-centered approaches and have potential for scale. 18 key strategic partners were identified at the regional level that are relevant to UNICEF´s activities. These partners are across UN and multi-lateral agencies, private sector, and civil society. Current partners with UNICEF who have provided technical support and digital content solutions on the ground were also identified.

Findings I: UNICEF Programmes and Emergent Initiatives for Girls´ STEM and Digital skills

Adolescence is recognized as a critical time in life and a key priority for UNICEF programming. UNICEF works to empower adolescent girls and promote their access to STEM, digital skills, skills for girls, technical, financial, vocational skills and training opportunities, as outlined in the ECAR Regional Gender Equality Strategy.[11] A global mapping on gender socialization recently showed that the specificity of gender barriers and bottlenecks for adolescent boys and girls can be further refined in programming.[12] The new UNICEF Gender Policy and Gender Action Plan for 2022-25 is also directing attention to a bold, intentional approach for girls where girls are invested in, seen as a powerful resource for social positive change and their self-efficacy, resilience and skills realized.[13]

Skills interventions for adolescent girls are often part of broader programmes and initiatives such as UPSHIFT, Generation Unlimited, and Reimagine Education, but more programmes are emerging with a specific focus on girls. In the mapping, two streams of UNICEF´s work for adolescent skills were identified.

- UNICEF programmes in ECAR with broader **adolescent empowerment and youth focused interventions** can be noted in Albania, Armenia, Belarus, Kosovo, North Macedonia, Moldova, Montenegro, Serbia, Slovakia, Ukraine. For example, UPSHIFT is currently active in 6 countries and 2 countries have submitted proposals to the UNICEF Innovation Fund.
- UNICEF programmes that provide **skills for girls with specific girl-centered components** such as mentoring, networks, safe spaces, leadership, and real-life opportunities, with potential to break gender stereotypes in STEM and ICT. These are especially found in 10 countries. These programmes are further mapped out below.

[10] The additional countries reviewed were Czech Republic, Slovenia, and Slovakia.
[11] UNICEF 2021: Gender Equality Strategy in Europe and Central Asia 2021-2025, p. 12
[12] UNICEF 2019: Global Mapping of Existing UNICEF Programming on Gender Socialization, p. 7
[13] UNICEF 2020: A Bolder Vision for and with Adolescent Girls – Advancing a Girl-Intentional Approach. Background Paper Series: Gender Policy and Action Plan, p. 4

UNICEF "Frontrunner Programmes" for Girls

Country	Programme
Armenia	Impact Accelerator #5, a programme to connect young women and girls to Armenia's IT/Tech ecosystem and helping them develop startups, new jobs, education, learn new skills and access new financing sources. Under MPTF funding and jointly with UNDP, it targets girls (7-14 years of age) and focuses on tech skills development. https://impactaim.com/accelerators/accelerator-5-acc-5
Bosnia and Herzegovina (BiH)	IT Girls Initiative is fostering girls' education in STEM fields through computer programming, digital communications, and website development programmes. It has established "IT Girls Coding Clubs" in 10 schools – designated spaces where STEM teachers strengthen girls' knowledge in computer programming. It also connects girls to ICT companies through mentoring programmes in schools. https://itgirlsbih.wordpress.com/ https://www.unicef.org/bih/en/stories/when-i-heard-it-girls-were-coming-our-school-was-it
Greece	UNICEF and Akelius provide digital learning for refugee and migrant girls during COVID-19. The programme is a digital learning course and girls access an App with exercises and learn languages and math in the UNICEF-supported ELIX learning centre. The programme helped ensure that girls could continue to study remotely and gain important digital skills during the pandemic. https://www.unicef.org/eca/stories-region/digital-learning-empowering-teenage-refugee-girls-greece
Kazakhstan	UNICEF Kazakhstan and the Science and Technology Park of the Al Farabi Kazakh National University has launched an educational project specifically for girls through the development of UniSat nanosatellites that covers the stages of creating a spacecraft, as well as skills in 3D modelling, PCB design, software and hardware development skills and Linux programming basics and teamwork, public speaking, time management and creativity. Dubai Cares is one of the donors in a partnership with UNICEF to accelerate digital skills under the Generation Unlimited initiative. https://www.unicef.org/innovation/stories/girls-satellites-soar-stars https://www.unicef.org/innovation/stories/kazakhstan-nanosatellite-program ; https://www.facebook.com/unicef.innovation/videos/759026074832890/
Kyrgyzstan	UNICEF is equipping girls for the 21st century workforce by providing STEM education, skills, and vocational training through skills training centers where girls learn computer skills, coding, and entrepreneurship curricula. https://blogs.unicef.org/blog/helping-girls-aspire-for-more/
Tajikistan	UPSHIFT Innovation labs which help adolescents acquire 21st century skills, digital skills, social entrepreneurship skills and access to jobs, including most marginalized NEET girls and those with disability. https://www.unicef.org/eca/stories/tajik-teenagers-create-wireless-early-warning-system-protect-people-avalanches

Serbia	UNICEF Serbia is implementing and piloting several projects to provide girls with skills during the education crisis and pandemic, with a specific lens on vulnerable girls from the Roma population. The initiatives include: • "Bridging Digital Divide in Serbia for the Most Vulnerable Children": Development of the online learning system, establishment of Education Digital Libraries with particular attention to Roma and vulnerable girls at risk of drop-out. • Joint UNICEF and Akelius Initiative "E-Learning Response to the COVID-19 Crisis" supports up to 300 children on the move to acquire language and digital skills with a focus on girls on the move. • UPSHIFT for social entrepreneurship and transferable skills through bootcamps and youth-led initiatives in the community with mentors and seed funding. • IT Skill Development Programme "Learning for the 21st century" through programming and robotics workshops with focus on girls and Roma adolescents. • Programme for increasing the employability of around 2,000 girls and youth by providing paid internship opportunities, mentorships, and training. • Vocational training targeting girls. "Strengthening Refugee and Migrant Children's health status in Southern and South-Eastern Europe (RM Child-Health)". • Propter Serbia: ScioXR, an XR platform[14] with immersive games and experiences to empower girls to learn by doing. On ScioXR, users can make XR content focused on STEM education. UNICEF is also linking girls to job opportunities by working with the private sector on internship placements and mentorship through UPSHIFT. https://www.unicef.org/innovation/innovation-fund-propter

Emergent UNICEF initiatives in ECA Region

Belarus	Ongoing proposal with the Ministries of Education and Labour and Social Protection on 21st century skills and entrepreneurial thinking for girls and young women, and resilience and leadership skills for girls in conflict to strengthen social rehabilitation and re-socialization.
Greece	Youth job readiness programme under the Child Guarantee grant.
Italy	Piloting the Child Guarantee Programme with innovative approaches to reduce child poverty and address systematic disadvantages for particularly vulnerable groups of children including Roma and refugee girls.
Uzbekistan	Re-imagine Education ($ 34,000 from 2020 GenU 7% funds) supported initiative to reach girls through supporting them in using the upgraded ICT-enabled education source for learning with curated content or/and specific initiatives.

[14] Extended Reality (XR)" includes the definitions of: Augmented Reality (AR), Virtual Reality (VR), Mixed Reality (MR).

In the shadow of the Covid-19 pandemic, Roma and refugee girls receive special attention from partners in the region, as girls from these groups are in higher risk of dropping out of education and training systems. However, the mapping found that programmes targeting vulnerable, remote, refugee and girls on the move are still nascent. UNICEF Serbia, Greece, and Italy all have programmes in the pipeline on digital skills for refugees and Roma girls (see Annex 4). Programmes that articulate a focus on girls with disabilities were also scarce. Only UPSHIFT programme in Tajikistan supported by UNICEF mentions specific inclusion of girls with disabilities.

Findings 2: External landscape of initiatives, programmes and projects

Outside of UNICEF, several organizations across the region are implementing innovative programmes for girls´ skills, including STEM and ICT, which include innovative hackathons, bootcamps, and accelerators. Programmes and initiatives external to UNICEF were reviewed to define the scope of work in the region and identify synergies and linkages to UNICEF´s work. Below are initial observations of the landscape and programmes reviewed.

- The landscape is characterized by multiple partners and programmes at different stages. The stakeholders represent multi-lateral and bilateral UN agencies, international development organizations, governments, private sector, civil society organizations and start-ups.

- The multilateral development banks (MDBs), the World Bank, Asian Development Bank (ADB), EIB, and EBRD have substantial investments in TVET (Technical Vocational Training) and STEM bringing funding, credits and grants as well as knowledge leadership for several decades in multi-year programmes to support reform process and investments in youth and employability together with European Union. Strategy revisions in the respective MDBs have strengthened gender commitment as part of corporate priority reflected in analyses and gender responsiveness programming. Coordination mechanisms for TVET and STEM Technical Working Group under the Local Education Group, is a critical component of the landscape where both gender targeted interventions and large-scale skills and STEM programmes share information and data.

- UNDP, ITU, and ILO are active multi-lateral agencies in the region and have ongoing initiatives and operationalized programmes on the ground.

- Several programmes articulate a focus on girls´ empowerment through STEM, ICT, and innovation, but the evidence is less strong on how the programmes address harmful gender stereotypes in learning and job environments, indicating an area that can be further explored.

- Country programmes focusing specifically on girls in STEM, digital skills and innovation include Armenia, Azerbaijan, BiH, Bulgaria, Croatia, Georgia, Greece, Italy, Kazakhstan, Kyrgyzstan, Kosovo, Moldova, North Macedonia, Romania, Serbia, Tajikistan, Turkey, and Uzbekistan.

- A few multi-country programmes for girls which have expanded in the region in recent years were Croatian Makers Programme, Girls Go Circular, Girls 4 Tech, and Odyssey Mentoring Programme.

- Programmes that were found to be promising for girls per the criteria identified: Engineer Girls (Turkey), GirlCan Campaign (Azerbaijan), Technovation Girls (Uzbekistan), Technovation Coding Caravan (Kyrgyzstan), Telegram Genderbot (Kazakhstan), Girls in Tech (Armenia), Girls in ICT (Bulgaria), @DigiGirlz (Croatia), Tag-Ed Cool STEM Girls (Georgia), and WiSci Girls STEAM[15] camp (North Macedonia).

- The majority of programmes were extra-curricular trainings and workshops on platforms out of school and, although often supported by the government, were not necessarily embedded in the formal education system.

- Evaluations are scarce in terms of what has worked from a programme perspective. Only a few programme evaluations were found, such as the evaluation of Technovation Girls from Uzbekistan.

- Few programmes combined technical skills with a life-skills approach (e.g. confidence, self-esteem, and resilience) or implemented internships, apprenticeships, and scholarships as part of the programme.

- Online platforms for skills-building, digital curricula, real-time learning events and hackathons are emerging. This allows for global online learning solutions to be replicated in the ECA context. Examples are online movements such as Girl Up, Made to Move, and Girls Go Circular.

[15] STEAM refers to Science, Technology, Engineering, Arts and Math.

Analysis and Recommendations: What works in girl-centered skills programmes?

As the number of initiatives increase in the region, it is key to identify the gaps and opportunities which can allow UNICEF and partners to collaborate, and programmes to enhance their reach, systematic approach, and impact for girls. A set of gaps and challenges were identified in the mapping and proposed solutions to "what works" in skills, STEM and ICT efforts for girls are provided below building on existing evidence.

Gap 1. Untapped potential in investing in adolescent girls´ leadership: Girls as role models, peer supporters and mentors.

Across the programmes mapped, girls can be more meaningfully engaged in development and implementation of programmes, and other girls and women can be involved to support girl participants. A key barrier for girls to transition into careers in STEM and ICT is that girls often lack peers, mentors, women, and networks they can turn to for support and who they can consider role models and aspire to.

What works for Girls?

- *Ask girls what skills they want!* Girls are the key audiences of the efforts, they can inform what skills they want to learn, deem useful and what works best for them. Research shows that programmes will be more relevant and impactful if girls are involved throughout the process, from planning and implementation to monitoring and evaluation.[16]
- Girls' voices and movements must be amplified and invested in to ensure that girls lead and act for change. Ensure that girls have mentors, peers, and networks. Girls´ closest allies are often to be found in the civil society. Investing in girl- and women led movements is an important way to engage girls and support their networks.
- Engage parents and caretakers in STEM for girls´ programmes. Norm change can happen at the household level through active engagement of and support to parents and caretakers.[17]

Gap 2. Skills are not enough. Girls lack real-life job opportunities.

Many programmes focus on technical skills only. Programmes must support the transition to jobs by creating opportunities for apprenticeships, internships, and scholarships. This is critical so that skills building activities are not created in a vacuum with no opportunity for girls to apply skills learned in the real world.

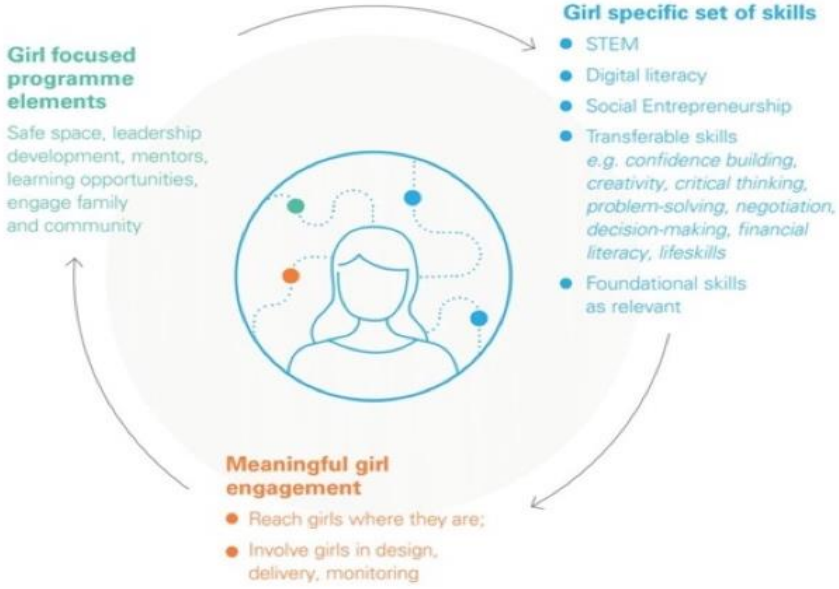
What works for Girls?

- Gender biases in school and training structures must be addressed and an enabling environment created through positive gender socialization. Working with "agents of change" at the community, institutional, and policy levels is key to creating the circumstances in which girls feel enabled.[18]

[16] FHI 360 & UNICEF 2020: Blog Post: Ask Girls what Skills They Want!
[17] The International Bank for Reconstruction and Development & The World Bank 2020: The Equality Equation: Advancing the participation of women and girls in STEM
[18] UNICEF 2019: Global Mapping of Existing UNICEF Programming on Gender Socialization, p. 6

- Countries and private sector should integrate and work with girl-centered approaches in design, implementation and monitoring while including meaningful girls´ engagement in all stages of a programme (Figure 1). Transferable skills should always be included in any program for girls and combined with mentoring, role modeling and real-life opportunities.[19]
- Promote partnerships with the private sector. The private sector can play a key role in bridging and preparing girls to transition into the world of work by providing financial support to non-profit STEM initiatives, facilitating exposure to female role models, and internship opportunities targeting, for example, secondary school girls.[20]
- Working with government and sub-national stakeholders to implement gender-responsive curricula that are equitable and inclusive can support a better learning environment for both girls and boys.
- On the job, support for girls and women can support their retention – e.g. parental care, leave options, flexible work environments, rewards, incentive systems and mentoring support.

Figure 1: Conceptual model for girl-centered approaches in skills-building programmes (UNICEF 2020)



Gap 3. Urgent need to look at girls in emergencies, in vulnerable communities and girls living with disabilities.

Vulnerable girls are especially at risk of not getting an education and training and many times, they are not included in programme efforts. New studies from organisations such as Plan International, show the risks girls face in terms of online sexual abuse, harassment, and bullying have become amplified by the COVID-19 pandemic.[21]

[19] FHI360 & UNICEF 2020: Skills4Girls. Girl-centered skills development. A Learning Agenda
[20] The International Bank for Reconstruction and Development & The World Bank 2020: The Equality Equation: Advancing the participation of women and girls in STEM
[21] Plan International 2020: Free to be online? Girls´ and young women´s experiences of online harassment

What works for Girls?

- Girls must be linked with government-supported systems and out-of-school training platforms.
- Girls with disabilities must participate on equal terms in spaces that are accessible to them and with teachers who are trained to address their needs.
- As girls increasingly transition to online education, advocacy and investment is needed for specific components to provide girls with digital skills and literacy to navigate safely on digital platforms.

Gap 4. Roles and responsibilities need to be articulated among stakeholders and regional collaboration through coordination and joint advocacy and fundraising.

In a complex landscape, regional coordination among organizations becomes increasingly important and UNICEF´s role can be further articulated. This may start with an internal analysis on UNICEF´s comparative advantage in girls´ STEM, ICT skills and innovation.

What works for Girls?

- Well-organized joint advocacy campaigns can help to avoid duplication, foster inter-agency collaboration, and enhance resources technical support.[22]
- Task teams can be organized as a coordination mechanism across agencies to focus the efforts.[23] These technical working groups can be structured under the local education group or cross-sector coordination.
- UNDP proposes an *eco-system approach* where businesses, policymakers, academic institutions, and civil society organizations are brought together, understand their roles, and make the collective impact needed to meet the labor market's growing demand for STEM skills.[24]

[22] UN Women 2016: Regional evaluation of UN Women's contribution to UN system coordination on gender equality and the empowerment of women in Europe and Central Asia, p. 71-72
[23] Ibid.
[24] UNDP 2021: Gender Equality in STEM in Europe and Central Asia – *forthcoming*

Annex 1: UNICEF-led and supported initiatives with potential for STEM and Digital Skills for Girls

a) UNICEF-led initiatives

Child Guarantee Pilot Programme	The governments of Bulgaria, Croatia, Germany, Greece, Italy, Lithuania and Spain, in collaboration with UNICEF and the European Commission, are testing innovative approaches and developments of potential national action plans to reduce child poverty and address systematic disadvantages for particularly vulnerable groups of children. These include children from the Roma community, children in institutional care, children living with disabilities, and refugee and migrant children. The pilot programme will help to strengthen the capacities of those Member States to regularly collect, analyze, and present data on indicators related to both child poverty and social exclusion.
Generation Unlimited	Generation Unlimited is a UNICEF-initiated global multi-sector partnership to meet the urgent need for expanded education, training, and employment opportunities for young people, aged 10 to 24. Since its launch in September 2018, and in collaboration with over 200 partners, GenU has reached to date more than 100 million young people through innovations and programmes in more than 40 countries across six continents. Kosovo is a key GenU country and has been implementing UPSHIFT and the Youth Challenge, combined with a mentorship scheme.
Learning Passport	As part of Generation Unlimited, UNICEF and Microsoft has rolled out Learning Passport, that provides content to schoolchildren including online books, videos and additional support for parents of children with learning disabilities. Ukraine and Kosovo (with Microsoft, Cambridge University, and the Ministry of Education) are among the first countries who have rolled out online curriculum through the Learning Passport platform. The UNICEF-Akelius foundation partnership and the Learning Passport has worked to gather evidence on delivering world class digital learning solutions to marginalized children. Currently research is being undertaken with digital learning in BiH, Greece, and Serbia.
Reimagine Education Initiative	The Reimagine Education Initiative led by UNICEF aims to address the learning crisis and transform education by giving children and young people equal access to quality digital learning. A key to achieving this is universal internet connectivity.
Skills4Girls Portfolio	UNICEF is implementing programmes on girls´ skills, STEM, and employability in 18 countries including Kyrgyzstan, Tajikistan, and Serbia through shared value partnerships with the private sector. The ongoing four partnerships under the Skills4Girls umbrella are: Cle de Peau Beaute, Dove (Unilever), Chloe and Pandora.
UPSHIFT	UPSHIFT is a UNICEF-developed global innovations programme, which covers over 20 countries worldwide. UPSHIFT is one of the solutions supported by Generation Unlimited. It evolves around social entrepreneurship which combines business activities and solutions to social issues.

b) UNICEF-supported initiatives

Digital Public Goods Alliance	Digital Public Goods Alliance is a multi-stakeholder initiative with a mission to facilitate the discovery, development, use of, and investment in digital public goods. They promote "open source software, open data, open AI models, open standards and open content that adhere to privacy and other applicable laws and best practices, do no harm, and help attain the SDGs." Partners are UNICEF, Norad, Government of Sierra Leone and iSPIRT.
Education, Training and Skills for a Brighter Future (UNICEF/European Training Foundation)	UNICEF Regional Office for Europe and Central Asia (ECARO) and the European Training Foundation (ETF) have launched a new partnership to promote education, skills and training for young people in the Region. This regional partnership aims to help countries develop the systemic and policy changes required to make their education, training and skills development systems fit for the future. https://www.unicef.org/eca/stories/education-training-and-skills-brighter-future
EQUALS	UNICEF partners with UN Women, UNESCO, ITU, governments and academia in the EQUALS partnership which focuses on connectivity and digital skills for the most marginalized girls. The Skills Coalition implements the following projects: ○ **EQUALS Digital Skills Fund 2.0** Digital skills training for up to 10,000 women and girls. Supports female role models and internet users to lead the next generation of women and girls in technology. ○ **Tech4Girls** https://www.equals.org/tech4girls Hands-on workshops for elementary and high school girls to inspire careers in STEM studies. ○ **eSkills4policymakers** Teaches gender-responsive policymaking to integrate gender perspectives in legislation, public policies, programmes and projects. ○ **EQUALS Badges** https://www.youtube.com/watch?v=bRgf43MeoNU Pilot project in 5 countries to help women attain future-focused skills in the digital field and earn a recognized official record of the knowledge. ○ **EQUALS Digital Skills Hub** https://equalspartnership.wixsite.com/digitalskillshub Resource hub for projects, resources and good practices to resource hub where stakeholders can find information and success stories on efforts from around the world to bridge the gender digital skills gap. ○ **Talking Tech:** Women and Girls in ICT is a series is by the ITU and UNICC, and supported by the GSMA and the EQUALS global partnership.
GIGA	UNICEF and ITU has launched GIGA, a global initiative to connect every school and its surrounding community to the Internet. Working with governments, GIGA has mapped over 800,000 schools in 30 countries and is engaging with 11 countries to connect over 86,000 schools and more than 25.8M students and teachers. In ECAR, GIGA has signed agreements with governments in Kyrgyzstan, Uzbekistan and Kazakhstan. The partnership will build the connectivity infrastructure needed to deploy digital learning solutions and other services with a *pro-equity approach*. The initiative is collaborating under the Reimagine Education initiative and in coordination with Generation Unlimited.
G20 #eSkills4Girls initiative	#eSkills4Girls initiative is initiated by the G20 members together with UNESCO, UN Women, ITU and OECD to collect and disseminate information and knowledge as well as policy recommendations, good practices and flagship projects on gender digital equality.

Annex 2: Multilateral Institutions, Unions & UN agencies advancing the agenda of STEM and Digital Skills for Girls

a) Development Banks and Unions

Organization	Role/Activities
Asian Development Bank (ADB)	• In the region, ADB's investments to education amounts to an estimated 313,4 million USD (2016-2021). The majority of these investments are allocated to skills development and vocational training.[25] It is channeled to large scale projects, (grants and loans) and preparatory technical support to the large-scale projects (TAs). The majority of the active ADB education projects are directed to Tajikistan (USD 113,6 million), Uzbekistan (USD 94,9 million), Georgia (USD 71,2 million) and Kyrgyzstan (USD 30 million) and Armenia is (USD 2,7 million). • In 2003, ADB launched the $12 million multi-donor Gender and Development Cooperation Fund (GDCF), dedicated to piloting innovations, providing grants for gender-inclusive design of ADB loan projects, building the gender capacity of government clients, and forging partnerships with gender-sensitive development agencies and organizations. It is supported by Governments of Australia, Canada, Denmark, Norway, and Ireland. Through its Youth For Asia program, ADB emphasizes civil society participation in the region, notably with youth-focused and youth-led organizations, also to help achieve SDG 5. ADB is also supporting the programme DigiGirlz by Microsoft. ADB further has a very active Gender & Development Blog which shares evidence and advocacy messages on girls in STEM.[26]
European Commission (EU)	• The Gender Equality Strategy 2020-2025 focuses on equal pay, work-life balance, and improving the quality of day care services for women to enhance their labour market participation. It also addresses gender stereotypes as a key focus area by launching an EU-wide awareness raising campaign, focusing on youth. In the new Digital Education Action Plan 2021-2027, the European Commission prioritizes advancing "advanced digital skills" for girls and women and puts in place actions that can benefit girls to pursue careers in digital and STEM. The actions proposed are scaling up traineeships, launching a Connectivity4Schools initiative and encouraging Member States uptake of EU support for broadband, internet access and digital tools like SELFIE for Teachers with gender-responsive curriculum. The EU also leads or convenes the following initiatives: ○ **EU4Digital Initiative:** The EU4Digital Initiative aims to extend EU support to countries such as Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine, to develop the potential of the digital economy and society. The projects range from developing reform and infrastructure on ICT to harmonizing digital framework programmes across society in areas ranging from electronic logistics to health, cyber security, and digital skills. ○ **EU Digital Skills and Jobs Coalition:** A multi-stakeholder partnership that aims to facilitate collaboration among business and education providers, as well as public and private actors to tackle the lack of digital skills in Europe. It is a multi-stakeholder partnership focused on tackling the digital skills shortage and on upskilling all citizenz to take advantage of the digital economy and society. Currently, 23 national coalitions in the EU and two in ECAR (Armenia and Ukraine) have already been established.

[25] UNICEF 2020: ECAR Education Section Background paper on ADB
[26] Read more: https://blogs.adb.org/blog/it-s-time-stem-tide-women-s-under-employment; https://blogs.adb.org/blog/lean-stem-get-girls-involved

	○ **Gender 4 STEM Initiative:** Gender 4 STEM is co-funded by the Erasmus+ Programme of the EU and aims to create an e-learning platform where educational and awareness-raising materials are available for use by secondary-level teachers. The digital platform includes a self-assessment tool so that teachers can take stock of their own gendered education practices. Depending on each teacher's profile, the tool recommends learning content to help them better manage gender diversity in their classrooms. Gender4STEM brings together stakeholders from Romania, Netherlands, Luxembourg, Italy, and Croatia with expertise in gender issues, e-learning and teaching, and technology Research & Development.
European Bank for Reconstruction and Development (EBRD)	• The EBRD is a catalyst for the engagement of the private sector with policy makers and help shape reforms across key gender policy areas. In Serbia, the EBRD and Ministry of Education, Science and Technological Development (MoESTD) are addressing the skills mismatches – when workers have either fewer or more or simply different skills than jobs require – are costly for employers, workers and society at large, limit productivity and innovation, and driving unemployment and the brain drain. EBRD and the Ministry of Education will engage private companies in developing educational policies and standards of qualifications to ensure that young people acquire the skills required by employers as well as support dual-education programmes that combine apprenticeships at private firms with training at vocational schools.[27] • In Kazakhstan, the EBRD supports business partners in the power and energy sector to attract more young women into high-quality technical and vocational training programmes. In addition to the Bank's equal opportunities and skills development programmes, the Women in Business Programmes, is linking employers to education authorities to enhance access to STEM and vocational training for young women in manufacturing, property and tourism and other sectors.
EIB	• The EIB investments to education are substantial although the bulk of the loans 90% are channeled to EU member states. In 2021, the investments channeled to the ECA region amounted to 92 million euro and channeled to three multiyear investments. [A TVET investment in Ukraine is publicly available and indicates that approval of decision will be taken in 2021. The investment is relevant to adolescents and skills development and building on an existing EU programme, Better Skills for Modern Ukraine.][28]
World Bank	• The World Bank is a key actor on advocacy and evidence for girls´ and women´s access to finance. It has initiated the Human Capital Project (HCP), a global effort to accelerate more and better investments in people for greater equity and economic growth. The World Bank is the largest IFI in provision to education in the region. Of the active education projects skills development (16 %), secondary education (11 %) and Innovation (5 %). Interesting to take note of is the investment on gender and skills in Albania, (10 million), Azerbajan (100 million), Kazakstan (100 million) North Macedonia, (24 million) and Kosovo, (2 million).[29] • It advocates for girls in STEM through a vibrant Blog and also has established a Gender Data Portal which includes data on girls in science and technology. In an ECA context, it has carried out studies on the gender bias in SME lending in Turkey and the gender wage gap in Georgia. The World Bank has also led research and publications on women´s barriers in infrastructure sectors.

[27] UNICEF-ECAR-Education Section Background paper on EBRD, 2020.
[28] UNICEF-ECAR EIB Background, 2020
[29] UNICEF-ECAR-Education Internal Background Paper on World Bank, and Annex list of projects.

b) UN Agencies

Organization	Role/Activities
ILO	• ILO leads the Decent Work and Decent Jobs for Youth Agenda with gender equality as a fundamental principle and promotes support to women in management development and entrepreneurship. UNICEF and ILO have carried out joint advocacy on girls training in STEM and ITC including a policy brochure on a skilled #GirlForce. • In ECAR, it has primarily promoted initiatives for women in business and management, and youth employment more broadly. The technical cooperation project, "Partnership for Youth Employment in the Commonwealth of Independent States", is financially supported by the PJSC LUKOIL, implemented by the ILO, and seeks to improve the effectiveness of youth employment policies and programmes in Azerbaijan, Kazakhstan, the Russian Federation, and Uzbekistan to establish a framework for regional cooperation and knowledge sharing on youth employment. • In other regions, the ILO has led several initiatives on women and STEM, especially in Asia, such as the Women at Work Initiative, the #WOMENCANDOIT Scholarship for women in TVET, studying web development, game development and animation, the Women in Science, Technology, Engineering and Mathematics (STEM) Programme which aims to empower, connect and support career development of women in three countries in Asia.
ITU	• Globally, launched by partners of the Global Initiative on Decent Jobs for Youth, and led by ITU and ILO, the Digital Skills Campaign addresses the skills gap by encouraging partners to make commitments to invest in digital skills development for young people. Further, ITU has an online academy with which it is providing an online gateway to ITU's capacity development activities on ICT Training courses, workshops, and curricula development. • Talking Tech: Girls and Women in ICT, an intergenerational interview project in support of Girls in ICT Day and EQUALS, organized by ITU together with UN ICC and UN Secretary-General's Envoy on Youth.
UNDP	UNDP is a key player in this area of work and has rolled out several programmes targeting girls, in partnership with academia and the private sector. UNDP has launched the STEM4all platform to promote an ecosystem required to address gender stereotypes and build inclusive businesses in key STEM sectors. A number of programmes have been in partnership with or received funding from UNICEF. For example, the UNDP Economic Governance for Growth Project in Bosnia and Herzegovina, and the Accelerator #5 in Armenia.
UNESCO	UNESCO is an ally in the development of gender-responsive curriculum and vocational training in collaboration with governments. The programme STEM and Gender Advancement (SAGA), with the support of SIDA, aims to promote gender equality in STEM by offering tools and technical assistance to countries to attract and retain girls and young women in STEM fields in a number of countries. **Ark of Inquiry:** The EU and UNESCO partnership, Ark of Inquiry, in 12 countries including Greece, Turkey, and Hungary promotes different pedagogical scenarios aiming to empower girls in the science classroom. A checklist for teachers has also been developed on how to engage and empower girls in science.
UN Women	UN Women is a key convening partner working to breaking gender stereotypes for girls and women, and advance women in STEM careers through advocacy, policy, and evidence. Historically, it has been active around International Day of Women and Girls in Science and is also supporting partners programmatically at the country level to close gender digital gaps. For example, in Moldova, GirlsGoIT teaches girls digital, IT and entrepreneurial skills and specifically promotes positive role models through videos.
UNOOSA	Space4Women is a project of the United Nations Office for Outer Space Affairs (UNOOSA), established to facilitate access to space, STEM education, and careers for women and girls around the world. At the same time, the project aims to ensure that women can take equal advantage of the benefits of space exploration, science, and technology.

Annex 3: Other partners: Civil society, NGOs, private sector advancing STEM, Digital and Skills for Girls across the Europe and Central Region (beyond UNICEF Programming countries)

a) Civil society & NGOs

Organization	Role/Activities
Aflatoun	In Hungary, Slovakia, and Serbia, Aflatoun implements Aflateen+ which is part of the "GirlAct-Empowering Girls to Be Socially and Financially Strong Actors" project that will be implemented in collaboration with partners in Serbia, Albania, and Belgium. It is co-funded by the Erasmus+ Programme of the European Union.
Girl Up	**Girl Up** is a global online initiative using STEM skills to promote gender equality and social good. The movement has held events in 125 countries so far.
Made to Move Communities	Made To Move Communities is a global program by the global cooperation Otis´ initiative "Made To Move You," focused on providing real-world STEM-based lessons and advancing inclusive mobility. This will take shape in an annual student challenge that will connect Otis mentors with students from around the world to inspire creative, technology-based solutions for eliminating the physical, geographic, and financial barriers to mobility that often afflict our communities. The programme is being piloted in 14 cities around the world.
Plan International	**Plan International** is working closely with UNICEF to ensure girls enjoy their full and equal rights. Plan International is engaged in a range of programmes for girls´ STEM, including the programme Girls Can Do IT! in partnership with the ASML Foundation. Plan International has been especially engaged in digital safety for girls. With the technology collective Feminist Internet, Plan has developed 'Maru', an anti-harassment chatbot.
Raspberry Pi Foundation	Raspberry Pi Foundation is a UK-based charity providing online training and free resources for young people to learn computing and digital skills through clubs and events, and through partnerships with youth organisations. Raspberry Pi works in schools to offer computing and computer science curriculum and makes digital making accessible for all by providing low-cost, high-performance single-board computers and free software.

b) Private sector

Organization	Role/Activities
IBM	**IBM** organizes IBM "EXITE" camps (Exploring Interests in Technology & Engineering) for middle-school girls from socioeconomically challenged schools online and globally.
L'Oréal-UNESCO For Women in Science Young Talents Programmes	This programme aims to promote and encourage young women researchers who represent the future of science, in countries such as Czech Republic and Turkey, by helping them to pursue their research in institutions at home or abroad.
Mastercard Foundation	Girls4Tech Programme with a curriculum translated and rolled out in 14 countries including Bulgaria and Hungary. The programme has reached more than one million girls between 8-16 years and events have been hosted in more than 30 countries.
Microsoft	Microsoft partners with countries to challenge the notion of the IT sector as a geeky, "boys only" sector with the initiatives Skool in Hungary and @DigiGirlz in Croatia. Microsoft has also been a frontrunner in the private sector, carrying out research about the lack of girls in STEM and has different online initiatives such as the MakeCode programme. On their website, they also curate digital skills resources from digital literacy courses to computer science tutorials and more. They have also led online campaigns for girls in STEM since 2016, such as the #MakeWhatsNext campaigns https://www.youtube.com/watch?v=k0XBOpjxMpc.

c) Partners for digital learning solutions

Type	UNICEF Partners – global	Key Countries
Digital content	Aflatoun, Coursera, Akelius, Pearson, Microsoft, Khan Academy, National level content providers, Online: Coursera, Pearson, Khan Academy	Albania, Hungary, Slovakia, Serbia (Aflatoun), Greece (Akelius),
Curation	Digital Public Good Alliance, #EdTech, Global Book Alliance, UNESCO, World Bank	Serbia (#EdTech), Hungary, Greece, Turkey (UNESCO)
Access platforms	Age of Learning, B.O.T., iDreamCareer.com, International Youth Foundation, Learning Passport, LinkedIn, Mindspark, Pruebat	North Macedonia (Age of Learning), Kyrgyzstan, Kazakhstan (IYF), Kosovo, Ukraine (Learning Passport)

Source: Reimagine Education 2021

Annex 4: Across the ECA Region: Current initiatives advancing STEM, Digital and Skills for Girls across the Europe and Central Region (beyond UNICEF Programming countries)

a) Existing programmes/initiatives

Country	Programme
Albania	• Innovation Against Corruption UNDP programme builds a citizen centric service delivery which promotes engagement of girls and women in the solutions. • Aflateen+ Skills programme for the 14+ provides soft and digital skills for social and financial inclusion, focusing on vulnerable youth such as Roma girls and boys. The programme has expanded to Croatia, North Macedonia, Romania, Serbia, and Tajikistan. • Skills for Jobs (S4J) launched a pilot project in April 2018 offering remote internships to ICT students at Kolin Gjoka school in Lezha and Pavarësia industrial school in Vlora. They use the online platform Papion. A training in 3D printing was also rolled out at the Pavarësia school with 22 VET teachers and students.
Armenia	• Girls in Tech Armenia is an initiative which funds, mentors, and supports female entrepreneurs. It organizes start up competitions called AMPLIFY and hackathons as well as coding, design, and startup Bootcamps. It has supported more than 4,000 entrepreneurs to date. • TUMO Center for Creative Technologies is a 2-3 year programme aiming to stimulate the interests of young people in ICT careers through free animation, game developing, film making, and web design of educational programs for adolescents aged 12–18.
Azerbaijan	• UNDP Women and Girls in STEM mentorships programme, (STEM Ushaqlar!) launched in 2021, to help equip girls, young female professionals and students working or studying in the field of STEM with tools and advice needed to address challenges they face, through the platform Mentornity. See video. • Femmes Digitales is bringing stakeholders together from the business sector, government, academia, and NGOs to support girls´ and women´s participation in the sphere of ICT. The initiative is negotiating with the Ministry of Education of Azerbaijan to organize sessions for girls in secondary school for them to pursue higher education and build their future career in ICT. • The #GirlsCan campaign aims to promote gender equality and inspire more girls to join careers viewed as traditionally male. • Rainenergy is a success story in the country. Reyhan Jamalova, 16, is the CEO and Founder of a company that harvests energy from rainwater. She grew Rainenergy from a concept proposed at the 2017 ClimateLaunchpad pre-accelerator program to a Forbes 30 under 30 startup in 2018.
Belarus	• STEMBridge School Minsk was launched in Belarus by the Torino Process, together with the European Training Foundation, as an assessment that will gather data and evidence on the reform of the lifelong learning system in the country. One experimental school located in Minsk is implementing an innovative model of education from the lifelong learning perspective.
Bosnia Herzegovina	• The UNDP Economic Governance for Growth Project, financed by the Government of Norway and UNICEF, is establishing STEM academies through piloted entrepreneurship curricula and fabrication labs in selected primary and secondary schools, thus supporting entrepreneurship development.

Bulgaria	• Edutechflag.eu trains girls in design and content development in web 2.0 platform through the programme Girls in ICT organized by the European Commission and ITU. Edutechflag has also organized the Super Digital Homework workshop and was Lead Local Facilitator of International Girls in ICT Day 2018. • The Bulgarian Centre for Women in Technology (BCWT) initiates networking and cooperates with IT businesses, business incubators and NGOs in the implementation of regional innovative projects to support women's leadership and increase women's professional participation in the digital industry, science, and entrepreneurship. • Electronic Platform for Science Education in Secondary Schools is based on the open-source Moodle learning platform for both teachers and students. • Equality Pays Off supports large companies in diversifying the pool of (potential) employees by gaining better access to the female labour force.
Croatia	• Croatian Makers seeks to fuel a STEM revolution in Croatia's schools with the help of micro bit technology. Croatian Makers aims to introduce an integrated Science, Technology, Engineering, and Mathematics (STEM subjects) curriculum into the national school system, based upon real-world applications. • @DigiGirlz is a Microsoft programme aiming to invest in STEM education for young women and generate a crop of future employees who are ready for the challenges of the global economy. They organize a one-day event designed to improve understanding among high-school girls of what a career in technology entails. The programme has also been introduced in other countries.
Czech Republic	• Czechitas teaches girls to code in various programming languages, test their software, or analyze complex data. They organize workshops and courses at different levels of expertise in technology, as well as summer IT camps, and requalification and evening courses. • Odyssey Mentoring Programme, launched by Vodafone, has matched 250 young female leaders with more than 50 CEOs, owners, and board members of businesses in the Czech Republic. The programme has expanded to Slovakia, Hungary, and Bulgaria.
Georgia	• Tag-Ed & Cool STEM Girls aims to engage and impact middle and high school girls through technology and soft skills training. The initiative includes a professional development series and coding camp.
Greece	• Digital learning empowering refugee girls, through UNICEF and Akelius Foundation, provides digital learning for refugee and migrant girls during COVID-19. • Code Girls Programme funded by the US Embassy in Athens partnered with Greek NGO Mataroa to sponsor an innovative coding program for a total of 100 Greek girls aged 10-16. • Greenlight for Girls (g4g) and the Herakleidon Museum partnered on a STEM for girls programme that aims to encourage more girls, aged 11 to 15, to follow a STEM direction through interactive, hands-on science events.
Hungary	• Skool the coding journey was launched by Microsoft and is an innovative and inspirational technology training for young girls with a broad range of partners including Facebook and Google. • Pomoć deci is an EU supported Aflateen+ project to create and adapt a curriculum for the development of social and financial competences of young people ages 15-18.
Italy	• The EU initiative Gender4Stem has supported several projects in Italy including Django Girls Python IT coding training, #TIMGirlsHackathon, Ragazze Digitali Summer Camp and Nuvola Rosa (Pink Cloud), which is a partnership between Microsoft Italy, Fondazione

	Mondo Digitale, and GrowITUp, focused on IT literacy, coding, robotics and digital arts courses.
Kazakhstan	• Telegram GenderBot was developed during the UNDP-supported International Girls in ICT Day. The Telegram bot offers access to the gender dictionary, calendar on gender events, and contact numbers of crisis centers all over Kazakhstan. • UNICEF Innovation Labs, hosted by International IT University, supported two girls, Dilnaz and Dana, who created the *Sequence* application, which helps to monitor a person's daily intake of medications. The teenage start-up has been ranked among the top 20 best ideas by Google Science Fair. • The Digital Kazakhstan programme aims to improve the competitiveness of the economy through the development of the digital ecosystem, including technoparks of IT start-ups where young people will be able to develop their ideas and enter the market with ready project. • Zangar Initiative is a partnership between International Youth Foundation and Chevron that supports youth learning and expands science, technology, engineering, and math (STEM) education in the country. The Power Supply programme, for example, will prepare girls to work with and maintain equipment used in the oil and gas industry.
Kyrgyzstan	• The Technovation Coding Caravan, with support from the UN Women Kyrgyzstan Country Office and the US Embassy in the Kyrgyz Republic, has helped rural girls learn programming basics.
Kosovo	• TechStitution teaches adolescents and youth ICT skills so they can develop technology tools and products for public institutions. https://www.unicef.org/kosovoprogramme/stories/my-journey-world-tech https://opendatakosovo.org/?s=techstitution • Kosovo Innovations cover UPSHIFT and the Youth Challenge, which combined with a mentorship scheme work to provide adolescents with 21st century and technical skills jointly between local CSOs, a local incubator (Innovation Center Kosovo), and the Corporate Social Responsibility Network. It works with 23 of the largest companies in Kosovo. Kosovo is also implementing the Learning Passport and is part of a group of countries working towards the digitization of UPSHIFT. • The Kosovo Generation Unlimited initiative was launched in early December with the objective of securing internships for 500 young people ages 16-24 in 53 businesses and to enhance their learning opportunities on the job. • Shkollat Learning Passport is a digital learning platform supported by UNICEF and the government to facilitate distance learning for all students. • Social Impact Programmes are empowering adolescents and youth with skills and training through UNICEF-supported platforms UPSHIFT, PONDER and PODIUM.
Moldova	• GirlsGoIT project, developed by the non-profit organization TEKEDU with support from UN Women, Swedish and Swiss government agencies, Google, and USAID, provides girls with IT learning and training opportunities, including through internships in vocational-technical institutions.
Montenegro	• UNICEF socio-emotional skills programme for adolescents
North Macedonia	• Women in Science (WiSci) Girls' STEAM Camp is a partnership between United States, Girl Up, Intel, Google and many others who want to close the gender gap in STEAM. The camp brought together 100 teen girls from Kosovo, Albania, Serbia, North Macedonia, Montenegro, and the US.

	• Team AndroMeta, one of the winning teams of the Generation Unlimited 1.0 supported by UNICEF, are developing a new app called SpeakOut to help bullied youth in North Macedonia support each other and get expert advice. • eBionics has also won the Youth Challenge under the Generation Unlimited initiative.
Romania	• Multiple non-formal education projects supported by the EU Gender4Stem initiative including digital bootcamps, innovation camps and "living library," for example the specific programme "Exceptionals" where girls from upper-secondary schools contacted 14 leading companies and institutions in Bucharest, interested in investing in youth and education.
Serbia	• Through Serbian UPSHIFT, 2,000 young people are equipped with skills, opportunities and internship placements, creating the largest young people movement to support private sector enterprises, central and local level institutions and young people; • ED Tech start up Propter to scale up a VR start up and STEM with support from UNICEF Innovation Fund. (see above under ´Frontrunner solutions´)[30] • Bilingual Female STEM Scientists supported by the Serbian Ministry of Education. The goal of the project is to empower girls to choose their future careers in a STEM field with an inter-disciplinary education to girls in bilingual and minority communities.
Slovakia	• FabLab Network is a project under the EU-initiative Eurodite to expand connectivity and enhance rural and urban digital innovation. FabLabs are platforms for learning, intergenerational integration, creativity and support to creative makers, startups, and companies.
Tajikistan	• UPSHIFT Innovation Labs are 14 Innovation Labs which help adolescents acquire 21st century skills, digital skills, social entrepreneurship skills and access to jobs. For NEET girls, a Tech4Girls curriculum will adapted and finalized to ensure that girls acquire digital skills.[31]
Turkey	• The Digital Skills and Robotics Workshop in Gazikent Youth Centre (UNICEF, MoYS, USA) is a joint initiative where young people plan, build and test their own robotics creations while learning science in a hands-on and fun way while socializing with young people from different communities. • Turkey´s Engineer Girls, in collaboration with Limak group, provide scholarship support for girl students in STEM universities, as well as mentoring support from women engineers, internships, participation in the "Leadership in Engineering" program through webinars, certified on-line English language training opportunities and, after graduation, employment in Limak and other organizations in the sector. • A UNICEF-programme on girls empowerment training and boys awareness sessions with a focus on child marriage; Skills building, participation and civic engagement activities for adolescent boys and girls; Design and Skills Lab, SAVE Program, and Skills Development in TVET Further. Additionally, UNICEF Turkey has published a report on girls´ barriers and bottlenecks to education.
Ukraine	• UPSHIFT in Ukraine was developed and initially launched in Kharkiv. In 2019, the project was extended to Donetsk and Luhansk regions. UPSHIFT Ukraine is being implemented

[30] See also: https://www.unicef.org/serbia/en/press-releases/unicefs-innovation-fund-makes-first-investment-startup-serbia; https://www.unicef.org/innovation/innovation-fund-propter

[31] Read more: https://www.unicef.org/eca/stories/tajik-teenagers-create-wireless-early-warning-system-protect-people-avalanches

	by the "Professional Development of Kharkiv" NGO with financial support from the EU and UNICEF.[32]
Uzbekistan	• Technovation Girls equips young women (ages 10-18) to become tech entrepreneurs and leaders. With the support of volunteer mentors, girls work in teams to code mobile apps that address real-world problems. With support from UNDP, it is providing IT online training sessions to mentors in Uzbekistan during the COVID-19 pandemic.
Multiple countries	• Croatian Makers Programme is the largest non-governmental educational programme in the EU, and has assisted in the digital education of over 200,000 children in Croatia andeducated over 3,000 teachers in Croatia for free so that they may pass on vital digital skills to future generations. The programme has been so successful that it has extended beyond Croatia's borders and now also educates young people and their teachers in countries like **Serbia, Bosnia and Herzegovina, and Kosovo**.[33] • WE (Women Empowerment) campaign by the EU Regional Cooperation Council and UNDPinfluences policymakers, industry, and educational institutions to pay due attention to gender equality in STEM from primary school to the workplace, by launching the Network of Women in STEM. • Girls Go Circular, funded by the EU, started in 2020, in the middle of the global pandemic. Under the coordination of EIT RawMaterials, the project developed a dedicated online platform to host a tailored learning course on digital skills and the circular economy and, in November 2020, kicked off a pilot phase to gather feedback from students and teachers. More than 1,700 students, including over 1,200 girls, took part in the pilot in six countries: **Bulgaria, Greece, Italy, Portugal, Romania, and Serbia**.[34] • Girls4Tech Mastercard Foundation programme rolled out a translated curriculum in 14 countries including **Bulgaria and Hungary**. The programme has reached more than one million girls between 8-16 years and hosted events in more than 30 countries. • Odyssey mentoring programme , launch in 2010 by Vodafone in the Czech Republic, aims to promote female business leaders in the country as well as developing talented women. During its lifespan in the Czech Republic, it has matched 250 young female leaders with more than 50 CEOs, owners, and board members of businesses. Odyssey believes that mentoring provides a platform for experience and expertise sharing, helping to build the confidence and skills of young women in business. The programme has since expanded to **Slovakia, Hungary, and Bulgaria**.

[32] Read more from Ukraine: https://www.unicef.org/eca/stories/unstoppable-girl-helping-shape-her-home-town
[33] https://www.total-croatia-news.com/news/45053-young-croats-have-the-best-digital-skills-in-europe
[34] Read more: https://eitrawmaterials.eu/girls-go-circular-cross-kic-project-closing-the-digital-gender-gap-in-europe/

b) Emerging opportunities submitted for the UNICEF Innovation Fund (invent portal)[35]

Country	Programme
Armenia	• Reshaping the Future of Girls: Tech skills for adolescent girls and young women: Provision of set of skills on STEM focusing on technology for adolescent girls and young women of bordering areas of Armenia. • 21st Century professional, soft, and integral tech skills through UPSHIFT for socially vulnerable young people.
Belarus	• UPSHIFT/E-UPSHIFT. To empower adolescents and youth including vulnerable groups to identify and design solutions to challenges in their communities.
Bosnia & Herzegovina	• IT GIRLS ARE COMING TO HIGH SCHOOLS! The initiative will strengthen coding skills and empower 700 girls (13-19yo) from Bosnia and Herzegovina. IT Girls Clubs methodology will be expanded to cover Arduino hardware and Software programming, both applying the Gender-responsive teaching methods exclusively developed by IT Girls initiative.
Croatia	• ZABUM Youth Innovation Clubs focused on empowering young people in Croatia via practical knowledge and peer-to-peer mentoring and support through an innovative online platform available to young people.
Georgia	• COVID19 - Risk Communication & Engagement: Educating and empowering girls using innovative digital solutions.
Italy	• Mygrants Programme provides digital skills building & job-matching for migrant & refugee girls. Mygrants is the 1st app targeting migrants & refugees with adaptive micro-learning, learn-to-earn incentives and job insertion targeting 500 migrant & refugee girls aged 15-24 with skills-building (digital/hard/soft/language) and job-matching.
Kazakhstan	• Scaling up of Nano-satellites initiatives. At least 2,000 girls will benefit from an online component of 'UniSat+' programme via an interactive educational platform with engaging content and mentoring, showcasing a girl-centered approach.
Kyrgyzstan	• Teen Girls without Limits. Empower girls with disabilities through learning programme on IT and digital literacy, so that they develop technologically creative solutions to social, economic, and other challenges in their lives, find jobs, and thereby defy stereotypes and open IT world for other girls and boys with disabilities.
Kosovo	• Building bridges for young girls in Kosovo – BB4G; Bridging the gender digital divide through coding trainings and internships. • Techstitution for girls (Tech for Good practicum). Techstitution is a technology related program of the UNICEF Kosovo ADAP programme that engages youth in learning practical software engineering skills by developing technologies to digitize institutional platforms. • UPSHIFT Social Impact Programme.
Moldova	• Empower girls through STEM mobile classrooms. • Enhance social innovation and adolescents' empowerment for eradicating violence and gender discrimination.
Serbia	• (Em)powering digital equity: Solar Wi-Fi benches for Roma girls and families to bridge a growing digital divide.
Uzbekistan	• UPSHIFT Uzbekistan: Social innovation and social entrepreneurship programme.

[35] This information is extracted from the portal invent.unicef.org with submissions for the UNICEF Innovation Fund, March 2021

Annex 5: CO Questionnaire administered for the Regional Mapping

In recent years, there has been a high potential and interest in ECAR to accelerate programmes and efforts for adolescent girls' skills building with a focus on STEM, digital skills and social entrepreneurship. This questionnaire has two objectives:

- To document Country Office current initiatives, strategic discussions, opportunities and gaps for a mapping to build a Regional Skills4Girls, STEM and Digital skills knowledge hub for resource mobilization, TA support to countries and promote learning across the region.
- To identify Country Office interests and needs to inform a webinar series which will support the advancement of the initiatives for girls' skills, STEM, social entrepreneurship in the region linking to the global initiatives.

Part 1: Ongoing Initiatives	
Q.1	In which UNICEF Country Office do you work?
Q.2	In your country context, what are current UNICEF key programmes/initiatives on adolescent skills development? Please describe activities in a few bullet points and insert relevant links.
Q.3	Do any of the programmes/initiatives currently focus on adolescent girls as a separate target group to address their needs and gender-related barriers to access skills and learning? ○ Yes, more than 1 programme/initiative focuses on girls. ○ Yes, 1 programme/initiative focuses on girls. ○ No, currently none of the programmes/initiatives focus on girls.
Q.4	If the programmes/initiatives focus on girls as key target group, which are the approaches you currently implement? *Please mark all that apply.* ○ Innovation, social entrepreneurship ○ STEM (Science, Technology, Engineering, Mathematics) ○ Digital skills/literacy/safety ○ Opportunities to apply skills to make social change ○ Adolescent girl friendly safe spaces (e.g. virtual or in-person locations that are proven physically and emotionally safe for girls, locations that consider girls´ health, well-being and mental needs) ○ Access to mentors and role models (e.g. female local leaders) ○ Real world learning opportunities (e.g. apprenticeships, internships) ○ Leadership opportunities and development for girls ○ Private sector engagement (e.g., collaboration with companies for job pathways for girls) ○ Public sector strategies and collaboration (e.g. national sector strategies, multilateral donors such as EU, IOM etc.) ○ Other, please note: _____
Q.5	How many girls do the programmes/initiatives target per year in average? ○ Less than 50 ○ 51-100 ○ 101-200 ○ 201-300 ○ More than 300
Q.6	How many girls have been reached with the programmes/initiatives in total per today? ○ Less than 50 ○ 51-100 ○ 101-200 ○ 201-300 ○ More than 300

Q.7	Which specific target groups of marginalized girls are included in the programmes/initiatives, if any? E.g. out-of-school girls, girls with disabilities, migrant and refugee girls, LGBTIQ+, others
Q.8	If applicable, how have these specific target groups of marginalized girls been identified?
Q.9	Which types of strategies (e.g. communication and outreach), if any, have been employed to reach the marginalized groups of girls?
Q.10	At this stage, to which extent are girls themselves involved in the design/planning, implementation, monitoring and evaluation of programmes? 5 = Very high degree, 1 = Very low degree.
Q.11	In your country context, which are the key partnerships around adolescent girls´ skills and employability (STEM, digital skills and social entrepreneurship)? Please list partnerships and indicate if/how UNICEF engages with them.
Q.12	What are the main funding sources for adolescent girls´ skills programmes-/initiatives in your Country Office? Please describe.
Q.13	How do new or recent opportunities with regards to adolescent girls' skills link/fit with ongoing formal and non-formal education activities in the country (especially, but not limited to those supported by UNICEF)? Please describe any recent developments and who the key stakeholders are.
Q.14	What are the key barriers and challenges to implement and/or scale skills interventions for girls specifically in your country environment? Please mark all relevant options. ○ Lack of funding/resources ○ Lack of personnel and capacity (human resources) ○ Not part of strategy (CPD, country KPIs) ○ Sensitive political environment/ lack of buy in, ownership ○ Not adequate technical gender expertise ○ Limited time (other urgent priorities) ○ Negative gender norms and stereotypes limit interventions ○ Difficult to reach girls/Additional needs required to reach girls where they are ○ Other, please note: _____
Q.15	Please provide us with any additional information related to adolescent girls' skills in your Country Office that you deem relevant for the Regional Skills4Girls knowledge hub.

Part 2: Knowledge and Learning	
Q.16	For an upcoming Webinar Series on adolescent girls' skills (STEM, digital skills, social entrepreneurship), which would be the topics most useful to you? *Please rank 1-8 what is of most interest to you. 1 = highest interest, 8 = lowest interest* ○ Girl-centered programme approaches (in design, implementation, monitoring & evaluation) ○ Girls´ STEM (Science, Technology, Engineering, Mathematics) ○ Innovation and social entrepreneurship (e.g. leadership training, solution building) ○ Life skills/transferable skills ○ Digital skills, literacy and safety for girls ○ Skills training and alternative non-formal education pathways for out-of-school girls ○ Partnership development and resource mobilization ○ Advocacy events and campaigns for girls' skills (e.g. hackathons)
Q.17	Would you like to co-create/participate in one of the webinars as a speaker? *Nb. This is not mandatory, and your answer is not binding at this stage.* ○ Yes ○ No ○ Maybe
Q.18	Which topics would you like to engage on related to adolescent girls' skills, STEM, employability? Below, you can also write any topic you would like us to focus on in the regional Webinar Series.
Q.19	If available, please share with us any relevant documents (proposal, case study, human interest story etc.) from your current girls´ skills programme/initiative. Kindly upload documents below.

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