



WOMEN & GIRLS IN STEM FORUM 2023

Policy Brief



Coordinated by



Executive Summary

In the midst of the ongoing shifts towards the digital and green transition, it is crucial for Europe to fortify its position as a pioneering force in innovation. Strengthening the talent pool is a key action to navigate such changes successfully. Central to this endeavour is cultivating greater inclusivity, particularly by increasing the participation of girls and women in Science, Technology, Engineering, Mathematics (STEM), and Information and Communication Technology (ICT) studies and careers. Diversity sparks innovation, boosts creativity, improves efficiency, and brings new and much-needed solutions to pressing socioeconomic challenges. Europe's thriving future hinges upon the equitable engagement of all innovators within the realms of science and technology.

As highlighted by the [New European Innovation Agenda](#), cutting-edge deep technologies are poised to take a pivotal role in addressing intricate societal challenges, spanning from tackling climate change and enhancing healthcare to transforming industries. Taking action now to equip the workforce with the necessary skills for future jobs is crucial. Without this proactive approach, the potential growth of such industries might be hindered. Deep technologies demand specific skills and competencies, making it essential for Europe to invest in training the younger generation. Empowering the youth with these essential skills not only prepares them for the labour market but also positions them to actively contribute to shaping a better and more sustainable future.

Data reveals a concerning gender disparity in the STEM and ICT fields – women make up only 19% of ICT specialists and one in three STEM graduates in Europe ([The Digital Economy and Society Index, 2022](#)). Besides, women account for only 10% of patent applicants, and less than 15% of European start-ups are founded or co-founded by women. This disparity directly correlates with limited capital being invested in women-led companies ([European Innovation Council and SMEs Execu-](#)

tive Agency, 2022). Such numbers underscore the importance of addressing gender inequality across STEM and ICT industries by creating opportunities dedicated to girls and women.

In light of such pressing concerns, *Girls Go Circular*, under the coordination of EIT RawMaterials, hosts the annual *Women and Girls in STEM Forum* in partnership with the European Commission, Directorate-General for Education, Youth, Sport, and Culture (DG EAC), and the European Institute of Innovation and Technology (EIT). This flagship event brings together prominent voices in STEM and ICT, including Girls Go Circular students and educators, policymakers, researchers, and industry experts to identify key actions to bridge the gender gap, dismantle gender stereotypes, and empower girls to pursue studies and careers in science and technology. Below is a collection of impactful key findings from the third edition of the Women and Girls in STEM Forum, where high-level speakers emphasised the urgency of closing the gender gap and nurturing an environment where girls and women can thrive in STEM and ICT.

Girls and young women are the budding scientists, researchers, and inventors who will forge the technologies and ideas shaping our future. – Opening words by Iliana Ivanova, European Commissioner for Innovation, Research, Culture, Education and Youth at the Women and Girls in STEM Forum 2023



Concerted Efforts to Bridge the Gender Gap in STEM and ICT

The latest edition of the Gender Equality Index suggests that while gender equality progress is achievable, its stability depends on comprehensive actions across all aspects of life and throughout all European Union Member States ([European Institute for Gender Equality, 2023](#)). Therefore, addressing the gender gap in STEM and ICT in Europe and adapting to the emerging wave of deep technologies requires an intersectional perspective and collective action involving individuals, educational institutions, regional and national authorities, and the private sector.

Key Actions for Girls and Young Women

→ Develop Your Entrepreneurial and Leadership Skills

Mastering the art of leading, advocating for ideas, and forming a team is crucial in any profession. Take on leadership roles and demonstrate your abilities in school or through extracurricular activities, such as the [Junior Achievement](#) programmes. While STEM and ICT skills are crucial, nurturing an entrepreneurial and leadership mindset holds equal importance. This entails not only possessing technical expertise but also cultivating the ability to showcase your talents and actively participate in leadership and decision-making processes.

→ Seize Opportunities and Actively Engage With Different Networks

Building a network starts by identifying those who resonate with your mindset. Connecting with like-minded individuals who share similar objectives can lead to valuable experiences that contribute to both personal and professional development. Inspiring environments – such as mentoring programmes, student challenges, or science clubs, not only cultivate leadership skills but also nurture a supportive community that empowers all participants.

Key Actions for Educational Institutions

→ Introduce Gamification Approaches, Challenges, and Competitions

Novel approaches can increase the curiosity of young girls in STEM and ICT. It is imperative for the young minds to immerse themselves in hands-on technological experiences, allowing them to grasp the vast potential of cutting-edge innovations such as artificial intelligence. Through active exploration of technology, and comprehensive understanding of its diverse applications and limits, young girls can culti-

vate a solid interest for science and technology. Immersive experiences not only serve as a pathway for learning but also as a catalyst, inspiring students to innovate and develop their own unique solutions.

→ Induce Mindset Changes Through International Experiences

Various exchange programmes provide meaningful educational encounters. For example, the [Erasmus+ programme](#) facilitates valuable international exchange experiences for schools and teachers. Make the most of these opportunities to collaborate on technology-driven educational solutions and encourage girls in science and technology. Explore the potential eligibility of your school for [European Union funding](#), which can further contribute to establishing partnerships with other educational institutions and organisations, enriching students' educational experience within the STEM and ICT fields.

→ Encourage Students To Venture Into the Real World of Work

Businesses are able to provide mentorship programmes, internships, and real-world exposure to increase girls' interest in STEM and ICT fields. Facilitating girls' access to various industries can significantly boost their confidence by connecting them with tangible career options. A highly effective approach to support girls in science and technology is to provide opportunities for them to spend time in companies, shadowing professionals for a day, for example. This firsthand experience allows them to witness the actual process of product development, testing, and functioning within a work environment. Additionally, introducing young girls to industry experts and entrepreneurs in the classroom can also serve as an excellent means to inspire and motivate them to pursue STEM and ICT studies and careers.



Key Actions for Regional and National Authorities

➔ Allow a Certain Degree of Flexibility in the School Curriculum

Provide educators with the flexibility in the school curriculum to integrate innovative teaching methods and introduce the latest skills and knowledge needed on the labour market. Highlight and demonstrate the benefits of incorporating alternative programmes into the classroom to ignite girls' interest in STEM and ICT studies, such as the [DroneMasters Academy](#) or [Girls Go Circular](#). Moreover, increased flexibility enables businesses to collaborate with schools, offering students exposure to cutting-edge technologies such as robotics, drones, blockchain, or biotechnology, just to name a few.

→ Facilitate Training and Upskilling of Educators

Explore training and upskilling opportunities and programmes for STEM and ICT educators to ensure that they are well equipped to support girls in these subjects. Upskilling programmes should emphasise gender-inclusive teaching approaches, as educators need to be aware of potential biases, and adopt suitable strategies to create an inclusive learning environment that encourages girls' participation. Educators can play a vital role in building confidence and challenging stereotypes in STEM and ICT subjects. Additionally, upskilling should include training on using modern educational technologies and latest industry trends. Teachers can learn to incorporate digital tools – such as [SELFIE](#), simulations or interactive platforms to enhance students' learning experience.

Key Actions for the Private Sector

→ Set Measurable Targets to Improve Gender Balance

Diversity in the workplace and in leadership teams is a critical success factor linked to enhanced organisational performance and innovation, leading to a broader range of perspectives for effective decision making and problem solving. Explore and implement tangible frameworks to address existing gender imbalances and ensure a more equitable representation of women in expert and leadership roles, fostering a more inclusive workplace culture. This is particularly crucial in traditionally under-represented fields like STEM and ICT. Setting specific goals signals a serious intent to address disparities, creating a sense of urgency and commitment to achieving gender diversity. Without measurable targets, meaningful change is unlikely.

➔ Support and Encourage Female Investors

Encourage and actively support diversifying of the pool of investment decision-makers. This can be achieved by promoting equal opportunities for women to enter leadership roles within investment firms and venture capital organisations. Investors are the ones who make decisions about which companies should receive funding. If these decision-makers are predominantly male, there might be a tendency to support leaders who resemble them. Currently, only 15% of start-ups are actually founded and led by women ([European Innovation Council, 2021](#)). This highlights the importance of supporting networks of female investors and providing training for women who aspire to become investors themselves.

Some of the biggest global challenges we face today can be solved by bridging the gender gap in the workforce through education and innovation. – Remarks by Martin Kern, Director of the European Institute of Innovation and Technology (EIT) at the Women and Girls in STEM Forum 2023



Closing Remarks

In a world increasingly driven by technology, it is imperative to foster inclusivity in STEM and ICT fields. This policy brief envisions a future where STEM and ICT education and careers are truly inclusive, empowering girls and young women to contribute meaningfully to technological advancements and innovation. By considering similar actions as the ones mentioned above, individuals, educators, policymakers, industry leaders, and the broader community can work together to create an environment that empowers and supports girls and young women in science and technology. Through collaborative action spanning various levels and sectors, we can pave the way for a more diverse and innovative landscape, ensuring a brighter future for all.

This is not only a matter of social justice, but also a necessity. We require the unique perspectives of girls and women to drive innovation, foster diversity, and facilitate a smoother transition into a better future. – Closing statement by Antoaneta Angelova-Krasteva, DG EAC Director for Innovation and International Cooperation at the Women and Girls in STEM Forum 2023



About Us

Girls Go Circular is an **EIT Community** initiative coordinated by **EIT RawMaterials** with the support of the Directorate-General for Education, Youth, Sport, and Culture (DG EAC). It was launched in 2020 to support Action 13 – Encourage women’s participation in STEM of the European Commission’s **Digital Education Action Plan** and contribute to reducing the gender gap in STEM and ICT. Since then, the initiative trained nearly 40,000 schoolgirls aged 14-19 across Europe with digital and entrepreneurial skills. Besides, Girls Go Circular closely supports the **New European Innovation Agenda** through the **Deep Tech Talent Initiative**, introducing deep tech topics into school curricula across Europe. The **Women and Girls in STEM Forum** celebrates each year the participation of thousands of European schoolgirls in Girl Go Circular’s learning programme, and connects them with mentors, researchers, policymakers, and industry leaders to advance the European agenda on gender equality in STEM and ICT education and careers.



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