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A STEM Education Strategic Plan: skills for competitiveness and innovation

1. Introduction

To unlock its full potential, the EU must **strategically leverage its most important asset: its human capital.** The Competitiveness Compass clearly identifies the EU's gaps in productivity and innovation capacity and provides a clear path for the EU to become 'the place where tomorrow's technologies, services and clean products are invented, manufactured and marketed'[1]. It calls for a stronger focus on key technology sectors to tackle emerging challenges. These sectors require urgent attention and depend on skilled workers, including in **STEM (science, technology, engineering and mathematics)**[2], where demand is increasing in view of technology disruption and changing skills needs, and the number of workers is declining due to a shrinking working age population.

While education and training systems have already taken steps to raise awareness and support actions to improve STEM skills, including through cooperation in the context of the European Education Area, stronger **focus on STEM education and training** is essential to sustain competitiveness, preparedness and technological leadership.

The latest PISA (Programme for International Student Assessment) results show a **marked decline in some STEM skills as well as in the share of high achievers** across the EU. In 2022, approximately 30% of students did not meet basic proficiency in mathematics, up from around 23% in 2018, while 24% of students were below the basic proficiency threshold in science, a deterioration from 22% in 2018.

There is a **shortage of certain qualified STEM graduates** from vocational education and training (VET) and tertiary education, particularly in crafts occupations, the creative and cultural industries, clean tech, and in fields such as information and communication technology (ICT) where demand is projected to increase considerably[3]. The number of enrolments in tertiary STEM fields is increasing, though not fast enough to keep up with job market needs for some STEM fields.

Critically, the EU also faces a **persisting gender gap** among its STEM students and professionals, and it increasingly struggles to **attract and retain STEM talent globally**. Together, these trends weaken **the EU's ability to compete in the global race for technology and maintain its strategic autonomy in key industrial sectors**.

Acting to boost STEM skills requires new ambition and action by the EU and by the Member States. The Draghi and Letta reports provide clear recommendations as to where the EU should put its priorities. Broadening the range of the skills available is one of them: besides basic numeracy and literacy skills, the Draghi report identifies digital skills, green skills and STEM skills as crucial to mastering the use of new technologies and advancing their development[4]**.** Another

[1] COM(2025) 30 final

[2] The scope of this plan broadly covers the fields of education 'Natural sciences, mathematics and statistics (05)'; 'Information and Communication Technologies (06)' and 'Engineering, manufacturing and construction' (07)' of the International Standard Classification of Education (ISCED), as well as related interdisciplinary fields and studies.

[3] Employment and Social Developments in Europe 2023 - Addressing labour shortages and skills gaps in the EU.

[4] Draghi Report 'The future of European competitiveness – In-depth analysis and recommendations', page 258

priority is a better alignment between education and training with labour market needs, especially in STEM disciplines[5].

In addition to being key to competitiveness, STEM education can be a powerful **driver of equality and upward social mobility**. It equips individuals with critical technical and problem-solving skills, helps develop resilience to labour market shifts and opens doors to greater employability and high-quality jobs for citizens of all generations[6]. It also facilitates digital and financial literacy by endowing students with the skills needed to understand how the digital and financial systems work.

Securing the EU's capacity to innovate requires a stronger pipeline from STEM talent to start-ups and scale-ups. The EU needs to develop top STEM talent also by nurturing entrepreneurs and helping them turn their ideas into profitable businesses. It is crucial to encourage innovators to manage their intellectual property and to advance cross-fertilisation of products and services in AI, semiconductors, cybersecurity, life sciences, blockchain, clean tech, biotechnology or advanced manufacturing. Transdisciplinary education and training, together with stronger ties between education and training institutions, research organisations and industry can accelerate the transition from creative ideas to market products and services.

This **STEM Education Strategic Plan** sets out EU measures for **advancing STEM education and training to increase talent across the EU.** It is a key initiative of the Union of Skills and complements the action plan on basic skills, which aims to improve basic skills in primary and secondary education, in VET and in adult education and training. Its goal is to spur and guide action at EU and Member State level. It will thus also contribute to the objectives of the Digital Decade Policy Programme and its target on basic digital skills and ICT specialists employed in the EU[7].

It calls for improving skills intelligence, by leveraging the European Skills Intelligence Observatory under development, to anticipate future skills needs in critical or strategic sectors, and to ensure a better alignment of STEM education and training to labour market demand. It will contribute to promote excellence in STEM education by fostering partnerships between business and education and bolstering industry-specific and sector-specific approaches.

The success of this strategic plan depends on the collective engagement of EU institutions, Member States, regional and local authorities, the private sector, social partners, civil society organisations and education and training institutions, and on their commitment to expanding and aligning national STEM education strategies based on shared EU strategic objectives.

2. Addressing challenges and harnessing opportunities in the development of STEM skills

The EU leads globally in key industrial sectors such as the aerospace and automotive domains. However, as competitive pressures and global risks mount, the EU needs to respond in a strategic and resolute manner. Boosting STEM education is crucial to the supply of critical skills

[5] Draghi Report 'The future of European competitiveness – In-depth analysis and recommendations', page 272

[6] Demographic change in Europe: a toolbox for action, page 13

[7] https://digital-strategy.ec.europa.eu/en/library/report-state-digital-decade-2024

for **all major technology and industrial sectors**. The EU needs to act on two fronts: first, by ensuring STEM education is high quality and widely available; and second, by equipping pupils and learners with the necessary skills and competences to pursue and excel in these fields. Without the right preparation, students may perceive STEM disciplines as too challenging and be discouraged from engaging with them.

In school STEM education, the Member States need to raise the level of quality, as it falls behind on foundational STEM skills, as measured by the PISA reports. Recent results show Asian countries dominating the top of the rankings. In contrast, the EU has experienced an increase in the level of underachievers in mathematics and science *and* a decrease in the level of top performers in mathematics[8]. In the EU, 43% of secondary students in the eighth grade lack basic digital skills[9], while the comparable figure for South Korea is 27%[10]. Contributing to this low performance is the fact that most EU countries face significant **shortages of qualified STEM teachers**[11]; parental involvement is low; and less developed regions, cross-border, rural and remote areas, including the Outermost Regions, continue to face challenges in education provision.

Addressing the challenges in school STEM education requires improving curricula, making them more engaging to spark interest in STEM subjects, and promoting innovative teaching methods. This includes project-based learning, which encourage students to apply theoretical knowledge to real-world-scenarios and transdisciplinary education and training, that promotes creativity and increases student engagement. However, teachers face insufficient professional development support, especially for addressing low achievement, while unclear assessment frameworks for STEM competences make it difficult to track student progress—both factors worsening the overall situation. Lack of access to high-quality STEM education particularly impacts students from disadvantaged socio-economic or migration background.

VET graduates represent almost half of all STEM graduates. Between 2015 and 2022, combined figures for upper secondary and post-secondary non-tertiary education levels showed an increase in the percentage of VET students enrolled in STEM fields going from 34 to 36.2%. VET graduates in engineering, manufacturing and construction are the most sought after, with an employment rate of 83.3% showing the importance of this type of education, for example, in the context of the deployment of clean tech needed for the green transition, and for security and preparedness purposes. Other widespread shortages include those related to construction occupations: 21 Member States have shortages of welders, 20 Member States report shortages of plumbers, and 17 Member States report shortages of metal and machine setters[12].

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[8] According to the PISA 2022, at EU level, the underachievement rate in 2022 was 29.5% in mathematics, and 24.2% in science (vs 22.4% and 21.6%, respectively in 2018). The rate largely increased between 2018 and 2022: +6.6 percentage points in mathematics, and +2.0 in science. At the same time, the share of top performers in mathematics decreased by 3.1 percentage points, from 11% in 2018 to 7.9% in 2022.

[9] The 2018 Council Recommendation on key competences for lifelong learning provides a broad definition as 'confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society'.

[10] European Commission: Directorate-General for Education, Youth, Sport and Culture, International Computer and Information Literacy Study (ICILS) in Europe, 2023 – Main findings and educational policy implications, Publications Office of the European Union, 2024, https://data.europa.eu/doi/10.2766/5221263.

[11] Most EU education systems report shortages of permanent or temporary STEM teachers, with only a few exceptions (Greece, Italy, Cyprus, Hungary, Portugal and Romania). See the 2022 Eurydice report on mathematics and science learning in schools (referring to the 2020-21 school year) and the 2023 Education and Training Monitor.

[12] https://www.ela.europa.eu/sites/default/files/2024-05/EURES-Shortages_Report-V8.pdf

Looking at the initial vocational education and training system, the specific challenges affecting STEM are: i) performance: in most countries, the average performance of VET pupils in mathematics at age 15 is substantially lower than that of pupils in general secondary education [see action plan for basic skills]. This is then reflected in the level of adult skills as measured by the 'PIAAC' survey, which highlights that one in four adults struggles with basic numeracy (mathematics). Over the past ten years, the gap between the lowest and the top performing adults has widened. Yet, in particular for the crafts occupations (manufacturing, construction), a solid basis in STEM subjects is key; ii) VET teachers shortages, as reported in several countries, coupled with, on average, an older teacher population, posing the additional challenge of replacements; iii) attractiveness: in some countries, VET, including in STEM, is not always seen as attractive, particularly where it offers only few opportunities to access to higher education, or where it is insufficiently linked to businesses or work-based learning.

At tertiary level, the number of STEM graduates does not meet the demand in some STEM fields. Despite the 14.4% increase in the number of STEM tertiary graduates (ISCED 5-8) between 2015 and 2022[13], this is not enough to keep up with current and future labour market needs in some fields. This is particularly the case in ICT, which, together with the engineering sector, is essential for digitalisation and electrification. In 2022, there were about 9.8 million ICT specialists in the EU, reaching a projected 12 million by 2030, which is well below the Digital Decade target of 20 million.

There is room for further **increasing the number of student enrolments in STEM programmes at tertiary level**. A more accessible, inclusive and gender-unbiased STEM education could draw more girls and women, as well as new talents from students with special needs. The current STEM skills supply faces challenges linked to inadequate skills intelligence, as well as outdated STEM curricula that fail to adapt to emerging technological trends. Recognition and adoption of micro-credentials remains limited and the lack of practical training in innovation and entrepreneurship further widens the skills gap.

At doctoral level, data show a decrease in the EU STEM research talent in the past few years[14]. Between 2015 and 2022 there was an overall decline (- 7%) in doctoral graduates in STEM fields, with numbers falling for natural sciences, mathematics and statistics (- 13.1%) and for ICT (- 25.5%); and only increasing in engineering, manufacturing and construction (+ 9.4%)[15]. In comparison, STEM doctoral graduates in the US have grown by 16.3% (2015-2022)[16] and latest data available on China and India (2020) show much higher numbers compared to the rest of the world[17]. There are several challenges affecting research careers in the EU, such as: precarious working conditions (including the strong dependency on short-term project-based contracts), rigid academic hierarchies, lack of permanent positions and comparatively low salaries (i.e. compared with the US or Japan) and a competitive industry.

[13] Eurostat educ_uoe_grad02
[14] The total number of doctoral graduates decreased as well, by 6.1% between 2015 and 2022.
[15] Eurostat educ_uoe_grad02
[16] https://ncses.nsf.gov/pubs/nsf24300/figure/5.
[17] Center for Security and Emerging Technology (2023): The Global Distribution of STEM Graduates: Which Countries Lead the Way?

Furthermore, there is a persistent gender gap in STEM fields. Despite comprising 53.7% of tertiary students enrolled in 2022, women accounted for only 30.9% in STEM tertiary fields. In VET, the gap is even bigger, with women representing only 16.1% of enrolment in medium-level VET STEM fields. In 2023 in the EU, female scientists and engineers accounted for 41% of total employment in science and engineering[18]. In these fields the gender gap not only limits individual opportunities but deprives the EU of crucial talent and diverse perspectives that are needed for technological advancement. The root causes are linked to persisting gender-related societal expectations and stereotypes, which influence girls' career aspirations and choices early on, affecting attitude, motivation and performance in STEM subjects.

Raising interest, awareness and enthusiasm for STEM subjects, particularly among young girls, is essential to attract them into STEM careers later on, but it is not enough. Teaching methods and classroom settings may impact boys and girls in distinct ways, emphasising the importance of adopting gender-sensitive teaching strategies and materials. Member States that have implemented comprehensive strategies to engage women and girls in STEM have seen measurable improvements in participation rates and educational outcomes, but progress is too slow. For instance, the number of women in energy increased from 19% in 2010 to 24% in 2022; in ICT, over the past decade, the share of women grew by 2.9%, reaching 19.3% in 2023. Still these sectors remain among the most male-dominated sectors in the EU economy[19].

Socio-economic disadvantage is an increasingly strong predictor of student performance. Underachievement is much more frequent among disadvantaged students than among their advantaged peers. For instance, half of disadvantaged students (48%) in the EU underachieve in mathematics (PISA 2022). Students with a migrant background are at higher risk of underachievement.

The demand for STEM skills will continue to rise notably in the fastest-growing fields which are the technology-related ones: Big Data Specialists, Fintech Engineers, AI and Machine Learning Specialists and Software and Application Developers. Key industries like semiconductors and biotechnology depend on STEM talent for technological leadership. Meeting green transition goals requires a 50% increase in STEM-skilled energy workers by 2030. Indeed, green and energy transition roles, including Autonomous and Electric Vehicle Specialists, Environmental Engineers, and Renewable Energy Engineers, also feature within the top fastest-growing roles. The shortage of STEM skills extends beyond traditional technical fields to creative and cultural industries, where limited technical expertise hinders their ability to leverage AI and emerging technologies, undermining their competitiveness and growth potential. Advanced STEM skills are crucial for defence and aerospace capabilities, including climate forecasting and skills for circular economy to reduce reliance on non-EU suppliers. Healthcare professionals require enhanced cybersecurity training and awareness. Current demographic trends represent an additional challenge in this regard. The healthcare sector illustrates these challenges starkly: facing a shortage of 1.2 million medical professionals in 2022, declining student interest since 2018, and growing pressure from

[18] Eurostat, hrst_st_nsecsex2.

an aging population[20]. However, the EU's STEM workforce growth lags behind demand, especially in ICT and engineering sectors crucial for green and digital transitions, as well as for security and preparedness, notably in key sectors such as cybersecurity, defence and aerospace.

By developing a long-term STEM education strategy which covers the entire education chain and considers the demographic shifts and territorial disparities, the EU can simultaneously address critical workforce shortages, create sustainable and accessible employment pathways and support upward social mobility. This will imply, for instance, reinforcing targeted specialisations in the fastest-growing fields, promoting work-integrated learning programmes, upskilling and reskilling the workforce, and ensuring the closer cooperation of education and training institutions as well as the public and private sectors.

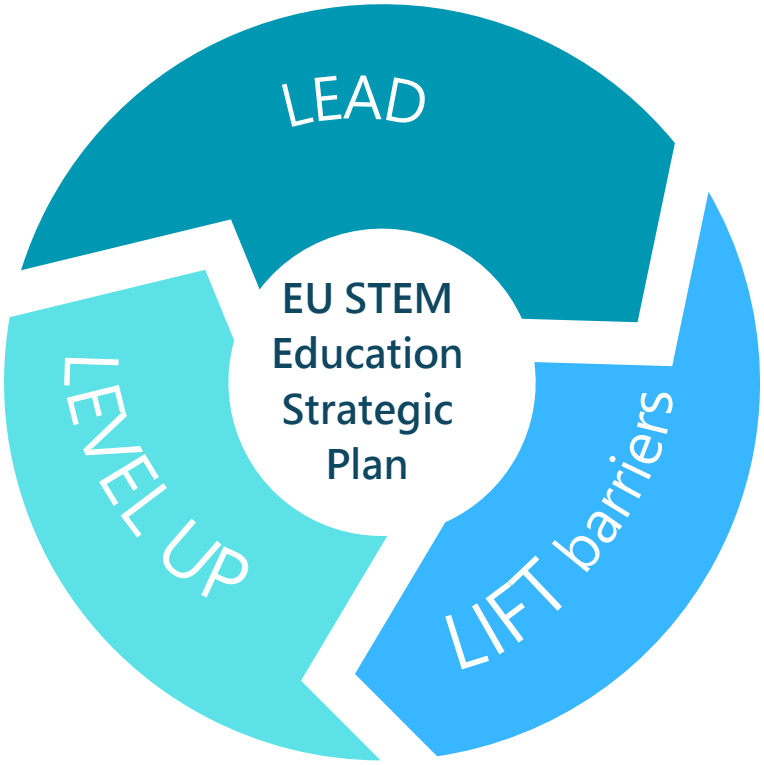
Several EU initiatives already address existing skills shortages in STEM, but their implementation including with a sectoral approach, needs to be bolstered and streamlined. The Union of Skills will build on earlier EU upskilling initiatives. This includes: i) the roll-out of European individual learning accounts; ii) the uptake of micro-credentials as flexible learning solutions for upskilling and reskilling adults; and iii) the Pact for Skills, where members have pledged to upskill 25 million workers by 2030 through large-scale partnerships covering all 14 EU industrial ecosystems. Similarly, the EU skills academies, including the net-zero industry academies, the Interoperable Europe Academy, the Advanced Materials Academy and the Digital Skills Academies, will facilitate reskilling and upskilling that responds to STEM needs. These academies will leverage the collaboration between industry, higher education, and vocational training institutions to skill, upskill and reskill students and professionals in various technological domains.

3. Turning ambition into action

To act upon these challenges and leverage opportunities, the EU STEM Education Strategic Plan will be guided by three key objectives:

- anchor STEM as a strategic pillar in the EU's education and skills policy (LEAD).
- build a stronger and more inclusive EU STEM talent pipeline (LEVEL up).
- advance women in STEM and inspire future innovators (LIFT barriers).

[20] OECD/European Commission (2024), Health at a Glance: Europe 2024: State of Health in the EU Cycle, OECD Publishing, Paris, https://www.oecd.org/en/publications/health-at-a-glance-europe-2024_b3704e14-en.html. p36



3.1 Anchor STEM as a strategic pillar in the EU's education and skills policy

The EU has a highly educated population and can build on a strong tradition of STEM. **Further prioritising STEM education and training requires improved data, governance and cooperation mechanisms between the EU and its Member States.** To increase the overall supply of STEM skills, Member States should follow through on their commitment to reduce underachievement in basic skills (among which mathematics and science) among 15-year-olds to less than 15% by 2030. More agile cooperation with industry and social partners to better address their needs is key to responding to STEM skills shortages more quickly. More comprehensive STEM skills intelligence, with comparable data across the EU, can anticipate sector-specific STEM skills needs in a more effective and timely manner. Aligning Member States' policy reform measures and EU support, based on evidence, and shared good practices through EU-wide cooperation, will help promote excellence in STEM education. To this end, the Commission sets out the following measures:

LEAD

A. *Propose new **2030 EU-level STEM targets**. By 2030:*
   - i) *the share of students enrolled in STEM fields in initial medium-level VET should be at least 45%[21]; at least 1 out of every 4 students should be female[22].*
   - ii) *the share of students enrolled in STEM fields at tertiary level should be at least 32%[23], with at least 2 out of every 5 students female.*
   - iii) *the share of students enrolled in ICT PhD programmes should be at least 5%[24], with at least 1 out of every 3 students female.*

   Member States are invited to engage with the Commission in setting these EU level targets and, on this basis, develop own national targets, to guide national or regional STEM strategies.

B. *In 2025, set up a **European STEM Executive Panel** at top business/political/administrative level to advise on strategic issues including curriculum modernisation, industry feedback on skills needs across industrial sectors, innovative teaching and content, and embedding academic-business cooperation in STEM education. The STEM Panel would provide actionable recommendations to foster close cooperation between business and STEM education to the **European Skills High Level Board** and make the results of its work publicly available to any other interested party.*

C. *Improve overall **STEM skills intelligence** based on international indicators and benchmarks, by measuring graduate outcomes in VET and tertiary education through the Eurograduate survey, and by better anticipating sector-specific skills needs as part of the future European Skills Intelligence Observatory and by leveraging the common European Data Space for Skills.*

3.2 Build a stronger and more inclusive EU STEM talent pipeline

Developing a larger and more inclusive STEM talent pipeline **requires more profound reforms and a comprehensive approach to STEM education and training by the Member States.** Beyond **modernising curricula and upgrading teaching methods**, keeping in close consideration their accessibility and inclusiveness features, industry partnerships need to be **strengthened** to give all students practical exposure to STEM careers. Education providers should be enabled to more directly incorporate industry feedback and workplace requirements into STEM education offers. Creating sector-tailored learning pathways that offer accessible opportunities for students and for adults can increase attractiveness. In addition, the rising demand for STEM professionals requires a comprehensive and flexible approach to education that extends beyond

[21] up from 36.2% in 2022
[22] up from 16.1% in 2022
[23] up from 27.1% in 2022
[24] up from 3.7% in 2022

traditional classroom settings. Attracting STEM talents from population groups whose potential is still untapped, including from rural areas, is crucial to amplify the magnitude of the effort and to reap results. The integration of advanced digital skills such as data science, algorithmic literacy, computational thinking, encryption or cybersecurity in STEM curricula and in micro-credentials can improve the learning experience and prepare a dynamic workforce. Professional development for STEM teachers and trainers is pivotal and requires sustained investment. To this end, the Commission sets out the following measures:

LEVEL UP

A. ***Promote future-oriented STEM curricula in schools, VET and tertiary education by:***

   i) ***Developing by 2026 a STEM competence framework*** *for all learners at all stages of education and* ***a taxonomy of STEM skills within the ESCO classification****. This* ***will inspire and promote curriculum design,*** *and assessment frameworks for STEM skills.*

   ii) ***Working towards a European degree for engineers****, by building on the European Universities alliances and ongoing Erasmus+ pilots, considering the needs of employers.*

B. ***Pilot STEM education centres for school education, including VET schools, across the EU*** *with the goal of improving how STEM is delivered and experienced in primary and secondary education. Supported by Erasmus+, these centres will create dynamic learning* ***ecosystems*** *that drive innovation in STEM teaching and learning in schools, by stepping up cooperation with businesses, science museums, STEM organisations, libraries, cultural associations, creative industries, universities and research institutions.*

C. ***Attract more students from diverse backgrounds to STEM studies in secondary education, VET and tertiary education by launching:***

   i) ***the STEM Tech Talent Induction****. Induction activities designed to attract young people to STEM careers and involving role models and entrepreneurs will be implemented by the European Institute of Innovation and Technology (EIT).*

   ii) *the* ***European Advanced Digital Skills Competitions*** *to engage young European people in cutting edge digital technologies by providing societal, technological or industry challenges, drawing on existing competitions such as the International and the European Cybersecurity Challenges.*

D. ***Address employers' needs in VET and tertiary education*** *by means of the following actions:*

i) *Develop **joint transnational programmes and short courses leading to micro-credentials in strategic STEM sectors, as identified in the Competitiveness Compass,** through the Centres of Vocational Excellence and European Universities alliances. In close cooperation with their respective innovation ecosystems and with EU skills academies: i) boost the available range of joint programmes and micro-credentials in STEM, including with a STEAM (science, technology, engineering, arts, and mathematics) educational approach, ii) encourage the centres and alliances to coordinate their STEM offer and to pool and share their investments in STEM infrastructure, equipment and educational technologies; iii) encourage the centres and alliances to leverage private investment for the development of micro-credentials tailored to upskilling and reskilling the European workforce in strategic STEM sectors; iv) support and monitor the take-up by employers recruiting talent with micro-credentials issued with EU support.*

ii) *Support the development **of joint education programmes** (Bachelors, Masters, and Doctoral levels) and specialist training for strategic STEM sectors, leveraging the skills academies and the European Universities Alliances. This includes joint degrees and future European degrees **in digital technologies** (e.g., AI, quantum, cybersecurity) and interdisciplinary degrees applying these technologies to sectors like health and biotech, as well as training for Destination Earth[25] technologies (e.g., climate modelling, circular engineering).*

iii) *Promote **upskilling and reskilling** through bootcamps, short courses delivered by formal VET and higher education institutions leading to micro-credentials, and platforms for **digital immersive learning** and training to create innovative lifelong learning opportunities.*

iv) *Provide dedicated training on **innovation, entrepreneurship and IP management** to 200 000 STEM higher education students, academics and staff by 2028, building on the EIT Higher Education Institutions Initiative in synergy with the European Universities alliances and the EIT knowledge and innovation communities.*

E. *Pilot in 2026 the development of **STEM skills foundries** in strategic sectors by involving companies **to mentor young student entrepreneurs**, in cooperation with vocational education and training providers and with higher education institutions, providing them access to their laboratories, technical infrastructures and equipment, development of intellectual property (IP), as well as facilitating access to venture capital. This should also bring together VET and higher education providers, talented VET and higher education students and the world of finance, particularly venture capital.*

F. *Propose '**Capacity Building for STEM**' for education institutions in enlargement countries and other EU priority partner countries such as beneficiaries of EU Talent Partnerships and propose 'International Partnerships on STEM' to foster **STEM***

[25] A flagship initiative of the European Commission to develop a highly accurate digital model of the Earth (a digital twin of the Earth) to model, monitor and simulate natural phenomena, hazards and the related human activities. https://destination-earth.eu/

***excellence**. The upcoming New Pact for the Mediterranean also offers particular opportunities in this regard.*

3.3 Advance women in STEM and inspire future innovators

Attracting more women to STEM education requires more efforts by the Member States to increase the appeal of STEM as a study and a career choice for girls and women: i) addressing gender stereotypes; ii) facilitating access to STEM education by targeting crucial age cohorts; and iii) promoting more institutionally supported mentorship programmes with role models. Such measures should be amplified by national and European information and awareness-raising initiatives. Nurturing the next generation of women innovators demands that STEM education be modernised through interdisciplinary programmes where technical skills are complemented by creative problem-solving and entrepreneurial skills. Increasing the number of innovators in STEM studies can also be achieved through improved pathways for international STEM talent to come to or return to Europe, as addressed in the Communication on Union of Skills. In addition, the Commission will incentivise measures, to:

LIFT barriers

A. ***Attract more girls and women to STEM by** launching, in 2025, a new '**Girls go STEM' initiative** to attract female secondary students into STEM study fields, including in VET, and female higher education students into STEM professions, and by developing their technical and entrepreneurial skills in STEM domains, including through induction periods and mentorship. The aim is to **train 1 million girls by 2028** through Erasmus+, the European Universities alliances, European Alliance for Apprenticeships, digital skills academies and the EIT.*

B. ***Launch 'STEM Futures'**, to identify and share inclusive and successful STEM education practices, including the most promising EU-supported STEM education projects, leveraging on existing communities and networks. In 2026, the focus will be on the **most successful practices for girls and women in STEM**. As part of this initiative, a **European STEM Week** will be organised, in synergies with EU-funded projects, with a focus on reaching out in accessible ways to young people, in particular girls and their families.*

C. ***Showcase and exchange good practices and foster mutual learning on attracting and supporting girls and women in STEM apprenticeships.** Engaging with companies, research institutions, research and technology organisations and other stakeholders as part of the **European Alliance for Apprenticeships**, with a focus on increasing the proportion of female apprentices.*

D. *Pilot a **'STEM Specialists Fellowship'** under the current MFF to attract top international STEM experts from diverse backgrounds to EU higher education and*

research institutions as well as EU-supported public-private partnerships working in key strategic sectors.

4. Way forward

The implementation of the STEM Education Strategic Plan, starting in 2025, will be integrated in the Union of Skills governance structures.

The main ways to implement this strategic plan will be through policy coordination of reforms and investments, based on skills intelligence. A further path for strengthening coordination among Member States is through additional focus on STEM in the follow-up to education and skills reforms in the European Semester.

The STEM Executive Panel will deliver actionable, industry-driven recommendations to support world-class STEM education policy, drawing on real-world business experience and needs. These recommendations will inform the European Skills High-Level Board.

Under the current multiannual financial framework, the implementation of the STEM Education Strategic Plan and related projects and activities will continue to draw on the Recovery and Resilience Facility, Cohesion Policy Funds and Erasmus+, alongside other funds and instruments such as Horizon Europe, the Digital Europe programme and the Technical Support Instrument (TSI). The pilots of the STEM education centres and of the STEM foundries will rely on the available funding in the current programmes.

Future EU funding will support education and training, while addressing the fragmentation of resources across multiple programmes. This includes shifting from short-term (individual) actions to longer-term investment products that leverage private contributions, draw on public-private partnerships, address societal and territorial disparities and support national and subnational reforms. The Commission's proposal to have in the future a plan for each country linking key reforms and investments could help better deliver on this objective by ensuring coherence and efficiency.

To deliver on this ambition, the EU must lead strategically, level up talent and lift the barriers that are holding back the STEM education, training and performance that the European economy needs. It must implement a coordinated approach that bridges and integrates education, industry and policy. Through this strategic plan, the EU is stepping up its commitment to inclusive education and training as a cornerstone of economic growth and societal progress, ensuring that everyone can contribute to and benefit from Europe's future and prosperity.

The Commission invites the European Parliament, the Council and social partners to endorse the STEM Education Strategic Plan and to actively support and contribute to delivering on its initiatives.