Transforming Technical and Vocational Education and Training for successful and just transitions

UNESCO strategy 2022-2029
The Global Education 2030 Agenda

UNESCO, as the United Nations’ specialized agency for education, is entrusted to lead and coordinate the Education 2030 Agenda, which is part of a global movement to eradicate poverty through 17 Sustainable Development Goals by 2030. Education, essential to achieve all of these goals, has its own dedicated Goal 4, which aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.” The Education 2030 Framework for Action provides guidance for the implementation of this ambitious goal and commitments.
Unlocking the potential of youth and adults

Technical and Vocational Education and Training (TVET) connects education and the world of work, unlocking the potential of young people and adults for a brighter future. Yet, it is estimated that 267 million young people are not in employment, education or training.

This strategy presents UNESCO's vision to transform TVET for successful and just transition during the period 2022 to 2029, by promoting skills development for empowerment, productive employment and decent work, and facilitate the transition to more digital, green and inclusive economies and societies.

UNESCO will support Member States to respond to current and future challenges in TVET, proposing three main priorities:

1. Develop skills for all individuals to learn, work and live;
2. Develop skills for inclusive and sustainable economies and;
3. Develop skills for inclusive and peaceful societies.

UNESCO will work alongside bilateral and multilateral partners, institutions, governments, the private sector, and educators from all over the world to put TVET at the top of the education agenda.

“Since wars begin in the minds of men and women it is in the minds of men and women that the defences of peace must be constructed”
Transforming Technical and Vocational Education and Training for successful and just transitions

UNESCO strategy 2022-2029
Foreword

Recovery, transition and transformation guide this new strategy for technical and vocational education and training spanning the 2022 to 2029 period.

The COVID-19 pandemic disrupted education and labour markets, increasing youth unemployment and the skills mismatch. It accelerated the digital revolution. It highlighted the urgency of transforming our education systems to make them fit for a fast-changing and uncertain future.

The Transforming Education Summit, convened by the UN Secretary-General in September 2022, secured commitments from governments to build more inclusive, resilient and relevant lifelong learning systems that address evolving skills demands and the transition towards green and digital economies.

Such transformation requires a lifelong learning approach, with flexible pathways to allow for skilling, reskilling and upskilling. It calls for identifying and anticipating the skills required for the transition to digital and green economies. It relies on strengthened social dialogue, the participation of employers and civil society, including youth.

This Strategy, fully aligned with SDG4, encompasses these dimensions. It repositions TVET to be a pathway for individuals to learn, work and live; a catalyst towards digital and green transformation and sustainable economies, and a vector of social cohesion and justice. It takes into account the impact of climate change, the weight of the informal economy, the demographic transition and the widespread use of artificial intelligence.
As such it sets a transformative agenda to support countries in equipping youth and adults with the skills in demand and offer lifelong learning opportunities to all. It will work to enhance the relevance of TVET systems within a lifelong learning perspective, together with the UNEVOC-Network and the Inter-agency group on TVET.

The Strategy also includes a range of flagships such as the Global Skills Academy, under the umbrella of the Global Education Coalition, which will mobilize businesses and international organizations including ILO and OECD to equip ten million youth with digital skills. It encompasses actions to train TVET teachers and trainers and set-up a global skills tracker to monitor skills demand and supply and renew and recognize qualifications within and across-borders.

Now more than ever, we must step up our collective efforts to equip youth and adults in acquiring new skills for new jobs, helping them unlock their potential to successfully navigate the social, economic, and environmental changes which the world is undergoing. This is part of forging a new social contract for education to reimagine more sustainable futures together.

Stefania Giannini
UNESCO Assistant Director-General for Education
GLOBAL SITUATION: 31 per cent of young women and 14 per cent of young men worldwide were not in employment, education or training in 2019, and the number of young people in employment fell by 34 million in 2020. 12 per cent of young people in employment live in extreme poverty.

ECONOMIC RECOVERY*
3.3% economic contraction in 2020
Economic growth projection of 6% in 2021 and 4.9% in 2022

The 2020 recession will have long-term impacts on learning and training, jobs and economies. Recovery will be uneven between countries and categories of workers, and may be threatened by new COVID-19 variants.

INFORMALITY*
61% of all employment is informal.

Informal employment is pervasive, and formal employment is further challenged by the emergence of the 'gig economy'.

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DEMOGRAPHIC TRANSITION
Fertility: 2.4 children per woman
Median world population age: 30.9
Projected life expectancy 2020-2025: 73.2 years

High proportions of youth in some countries and older people in others, coupled with higher life expectancy, have implications for lifelong skills development needs.

TECHNOLOGICAL CHANGE
US$ 16.7 billion was spent on business process automation in 2020.

Processes such as digitization and automation will both destroy and create jobs on a massive scale, in ways that are particularly difficult to predict, but will certainly require skilling, reskilling and upskilling.

GREEN AND SUSTAINABLE ECONOMIC TRANSITION*
CO2 atmospheric concentration is 150% of pre-industrial rates.
38.5% of electricity produced by coal.
An international imperative towards zero emissions must be aggressively pursued. The green transition will have an impact.

SOCIETAL AND POLITICAL ISSUES
Large-scale migration, authoritarianism, and challenges to multilateralism.

Demands for the reduction of poverty and inequality are pervasive. Political instability, conflict and climate change among other factors are leading to large-scale migrations within and between countries.


Develop skills for all individuals to learn, work and live
Supporting the development of policies and strategies for skilling, upskilling, and reskilling in particular those most in need
• Build flexible lifelong learning pathways
• Develop targeted measures for inclusion and gender equality

Develop skills for inclusive and sustainable economies
Supporting job growth, private sector participation and effective skills anticipation and development
• Identify skills for the transition to digital and green economies
• Address youth unemployment and meet demands for digital and green transitions
• Enhance STEM, entrepreneurial and 21st century skills
• Support TVET teachers and institutions to foster quality, innovation and excellence
• Reinforce governance and unlock investment

Develop skills for inclusive and peaceful societies
Teach youth and adults their rights and the rule of law, equip them with a strong ethical compass and empower them to become champions for justice in their workplaces and communities.
• Integrate rights-based education for global and participatory citizenship
• Promote TVET institutions as places for social integration, cohesion and green citizenship

Cross-cutting interventions
1. National, regional and global policy learning
2. Data collection, research and analysis
3. Normative instruments
4. Networks and partnerships
Context

1. The global education community, including the Technical and Vocational Education and Training (TVET) sector, has been impacted by the COVID-19 pandemic. Young people in particular often lack the skills needed to find decent and meaningful employment, with unemployment rates globally being disproportionately high for young people. These inequalities have been exacerbated by the effects of the COVID-19 pandemic, which disrupted learning of many low-skilled youth and adults, as well as their mental, social and financial well-being. There has been a significant impact on learning losses and learners' well-being due to education and training institutions closures, hindering students' future life realization potential.

2. The economic and labour market consequences are also dramatic. While stronger economies have been relatively more resilient to the effects of the pandemic, transitioning faster to new digital modes of working, providing support to companies affected by the crisis, and supporting upskilling and reskilling of workers, less developed economies have been affected by deeper recession, more poverty, and higher unemployment rates, including among youth and women. The COVID-19 pandemic has amplified structural problems in economies and labour markets, making it more difficult for vulnerable groups of people to find decent job opportunities.

3. The crisis is also an opportunity to change course and take action. This new Strategy for TVET for the period 2022–2029 has been developed in part by taking into consideration the path to recovery, resilience building and reimagining of education and training that will be required internationally and nationally, and the critical role that TVET will play in this journey. The new strategy aims to transform TVET for successful and just transitions. It signals UNESCO’s perspective regarding the important contribution that TVET is expected to make to recovery and to sustainable development over the next eight years.

4. While this new Strategy for TVET 2022–2029 is responsive to the current global context, it also provides a strong impetus for the continuation of existing internationally agreed goals, specifically the 2030 Agenda for Sustainable Development. The goals outlined in the 2030 Agenda constitute the foundation of the Strategy for TVET for 2022–2029. Key among these goals are the calls for an integrated approach to development, objectives which recognize the need to: eradicate poverty in all its forms and dimensions; combat inequality within and among countries; preserve the planet; create inclusive and sustainable economic growth; achieve full and productive employment and decent work for all women and men; and ensure full gender equality and social inclusion.

5. Education and training are central to the achievement of the 2030 Agenda. The 'Incheon Declaration and Framework for
Action Towards inclusive and equitable quality education and lifelong learning for all\(^3\) adopted in 2015, devotes considerable attention to technical and vocational skills development, specifically regarding: access to affordable, quality TVET; the acquisition of technical and vocational skills for employment, decent work, and entrepreneurship; the elimination of gender disparity; and ensuring access for the vulnerable. In this context, TVET is expected to address multiple demands of an economic, social, and environmental nature by helping youth and adults develop the skills they need for employment, fulfilling work, and entrepreneurship, promoting equitable, inclusive and sustainable economic growth, and supporting transitions to digital and green economies for environmental sustainability.

6. In 2015, UNESCO adopted a Strategy for TVET 2016–2021\(^4\) aiming to ‘support the efforts of Member States to enhance the relevance of their TVET systems and to equip all youth and adults with the skills required for employment, decent work, entrepreneurship and lifelong learning, and to contribute to the implementation of the 2030 Agenda for Sustainable Development as a whole’. The Strategy identified three priority areas: fostering youth employment and entrepreneurship, promoting equity and gender equality, and facilitating the transition to green economies and sustainable societies. UNESCO committed to supporting its Member States in designing and implementing cross-cutting interventions, including the identification of skills requirements to inform TVET policies, strategies and programmes, the recognition of qualifications across countries, and the collection and analysis of data on progress towards Sustainable Development Goal (SDG) 4 and related technical and vocational skills targets.

7. A final evaluation of the Strategy for TVET 2016-2021 was conducted in 2021 and determined that the Strategy responded to the relevant needs of Member States and the changing demands of TVET. UNESCO activities over the period resulted in changes to Member States policies and capacity development for TVET institutions, teachers and other TVET stakeholders. The evaluation noted the contributions of coordination efforts both within UNESCO and between UNESCO and external partners, in particular the International Centre for Technical and Vocational Training (UNEVOC) Network and the Inter-Agency Group on TVET (IAG-TVET). Looking forward, the evaluation recommended that UNESCO continue to increase efforts in the areas of lifelong learning, qualifications, and credentials, including micro-credentials, the quality of the teaching workforce, and long-term trends such as digitization and the transition towards sustainable development through normative work, capacity development, policy advice, knowledge development, partnership and network development, and the provision of technical assistance.

8. Bearing in mind the evaluation of the ending Strategy, the new Strategy for TVET (2022–2029) is also directly aligned with, and in support of the call from UNESCO in 2021 for a new social contract to repair injustices while transforming the future of education.\(^5\) The need for such a contract

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\(^4\) https://en.unesco.org/sites/default/files/tvet.pdf

\(^5\) https://en.unesco.org/futuresofeducation/
is presented in the recent UNESCO report ‘Reimagining our futures together’. The report provides the global education community with optimism and a reason for hope, emphasizing the resilience of humanity, and importantly the fact that we now have access to knowledge and tools that were not available to previous generations. It also proposes that educational opportunities should take place throughout life and in different cultural and social spaces. Moreover, the report stresses the role of education in shaping the future of the world beyond 2050 through a recognition of connection to a shared planet, and the imperative to collaborate through partnerships such as the Global Education Coalition. The new social contract proposed is based on two principles: assuring the right to quality education throughout life and strengthening education as a public endeavour and a common good. Importantly for TVET, the report acknowledges the over-emphasis on supply-side reforms that have affected TVET, and which on their own, will not create jobs or employment growth. Positively, the advances in TVET to bridge the divide between theory and practice through new forms of apprenticeships, meaningful courses and effective training are also acknowledged.

The new Strategy for TVET (2022-2029) is also inspired by the International Labour Organization (ILO) ‘Global Commission on the Future of Work’ report, including an emphasis on new forms of work, the institutional ramifications of the changing nature of work, lifelong learning, greater inclusivity and gender equality, the measurement of work and human well-being, human-centred agenda, and the role of universal social protection in a stable and just future of work.

Objective and main lines of action

10. The Strategy for TVET 2022–2029 considers the need to accelerate progress towards the 2030 Agenda for Sustainable Development and it pays attention to UNESCO’s global priority areas for Africa and gender equality, as well as the enhanced focus on youth and small island developing States (SIDS), as articulated in draft document 41 C/5. In particular, the Strategy acknowledges the need to respond with an inclusive and proactive approach to six key dimensions towards the SDGs:

a. Economic recovery: The 2020 recession will have long-term impacts on learning and training, jobs, and economies. After contracting by 3.3 per cent in 2020, the global economy was projected in July 2021 to grow by 6 per cent in 2021 and 4.9 per cent in 2022. However, the recovery from COVID-19 will be uneven across countries and activity sectors and may manifest differently in different categories of workers. Key areas negatively impacted include varied access to education for children living with disabilities, increased levels of exclusion of girls in low-income countries, and the further marginalization of access to mother tongue instruction for young learners. Economic recovery prospects for 2021 and 2022 are highly uncertain, and the COVID-19 pandemic crisis has accelerated certain transitions in the world of work, adding layers of uncertainty regarding the skills and competencies that will be in demand after the pandemic.

b. Technological change: Digitalization, automation, the advent of the fifth generation of mobile communication technology (5G) and rapid progress in artificial intelligence are leading to a fourth industrial revolution, captured by the concept of Industry 4.0. This will both
destroy and create jobs on a massive scale, in ways that are particularly difficult to predict. The use of technology to support human rights will be necessary, with an explicit focus on inclusivity, avoiding encoding biases, and using technology for the common public good.

c. **Informality:** Informal employment remains pervasive internationally and can no longer be considered a feature that will be replaced as economic development unfolds. Informal employment represents 61% of total worldwide employment, 68% in Asia and the Pacific and in the Arab States, and up to 86% in sub-Saharan Africa. Technological change is also challenging formal employment and its associated worker benefits, as in the ‘gig economy’. Innovative approaches are emerging that can help extend social protection to informal workers and protect them from working poverty.

d. **Demographic transition:** At the global level, the demographic transition from high to low birth and mortality rates is well under way. Yet continents and countries are at different stages of that transition. Contexts with a high percentage of youth require a continued, rapid expansion of education and training systems and job creation on a massive scale. Conversely, countries with shrinking cohorts of working-age citizens, growing elderly populations and higher life expectancy require skills development for senior workers.

e. **Societal and political issues:** Political instability, conflict and climate change, among other factors, are leading to large-scale migrations within and between countries. TVET is part of the social contract which should guarantee the right to education and decent employment, as well as promote intergenerational solidarity. Demands for more democratic, inclusive, and tolerant systems should be reflected in TVET and corporate governance. TVET systems also have a part to play in facilitating the integration of internally displaced people, refugees and migrants.

f. **Green and sustainable economic transition:** More effort is necessary to mitigate climate change, stop the loss of biodiversity, restore ecosystems and reduce pollution. According to the Intergovernmental Panel on Climate Change (IPCC), limiting global temperature increase to 1.5°C as expected by the Paris Agreement will require CO₂ emissions to decline by about 45 per cent from 2010 levels by 2030 and to reach net zero by 2050. This will require a rapid and radical transformation of the global economy. A transition to zero-emission economies will have an impact on technologies, production, goods and services, and result in an increased demand for workers with sustainability skill sets.

11. This Strategy sets out key policy areas and main lines of action for the period 2022 to 2029 that contribute to UNESCO’s strategic objectives, the implementation of the Organization standard setting instruments, and the Strategy for Youth and Adult Literacy (2020–2025)⁷.

12. The Strategy is formulated and executed within the parameters of the UNESCO Programme and Budget for 2022–2025 (41 C/5) that has been drawn up in the context of a global health emergency with multiple long-term consequences, and a strong emphasis on the Organization’s fields of competence with a view to providing innovative and appropriate responses to contemporary challenges. Within these budget parameters, UNESCO will continue to promote skills development for empowerment and employability with attention to inclusion and gender equality, as well as to facilitate the transition to digital and green economies and sustainable societies by developing

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⁷. [https://en.unesco.org/themes/literacy/strategy](https://en.unesco.org/themes/literacy/strategy)
appropriate tools and guidelines and by providing capacity development support in line with the 2015 Recommendation concerning TVET. The areas of governance, financing, teachers and teaching, skills anticipation and recognition, digital skills development and employer engagement in education will be further strengthened through the Strategy for TVET for the period 2022 to 2029.

13. The Strategy is premised on the notion that TVET systems should be proactive and attractive in the way they adapt their training to the benefit of individuals, economies, and societies in a future characterized by rapid change. The knowledge, skills and competences that young people and adults need to thrive in the world of work will evolve rapidly; these changes will affect, job-specific skills, foundation skills, transversal/soft skills, and more broadly the capacity to handle change and to engage in both local and global communities.

14. Within this context and in full alignment with SDG 4 to ‘Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all’, the Strategy’s aim is ‘to support the efforts of Member States to enhance the relevance of their TVET systems and to equip all youth and adults with the skills required for employment, decent work, entrepreneurship, and lifelong learning, and to contribute to the implementation of the 2030 Agenda for Sustainable Development as a whole’.

15. The expected results are formulated around three main lines of actions:

a. **Main line of action 1: Develop skills for all individuals to learn, work and live.** To respond to the shifting demands of society and the labour market, individuals will need to be lifelong learners and keep their skills up to date. TVET must offer lifelong learning opportunities for both women and men, with individualized and adaptative pedagogies, flexible learning modalities, pathways across types of education and training and across activity sectors, recognition, validation, and accreditation (RVA) of non-formal and informal learning, career guidance and counselling.

b. **Main line of action 2: Develop skills for inclusive and sustainable economies.** TVET systems must supply the skills needed for inclusive and sustainable growth, in the context of the twin transitions to digital and green economies. This requires engagement with social partners, firms, and workers, as well as the timely collection and use of data on skills needs, based on a range of data sources including administrative data, surveys, and big data.

c. **Main line of action 3: Develop skills for inclusive and peaceful societies.** Societies will be increasingly challenged by the multiple transitions affecting the world of work, which have major implications for the distribution of income and wealth, solidarity between social groups and between generations, and political organization. TVET systems must respond through transparent and inclusive governance, high efficiency, strong accountability, and the inclusion of education for sustainable development and global citizenship education. TVET must equip learners with the knowledge, values, skills and attitudes they need to understand their rights and empower them to engage and promote a just world of work and just societies.
16. UNESCO will set a transformative TVET agenda to support countries to leave no one behind. It will focus on supporting countries in developing appropriate policies and strategies for skilling, upskilling, and reskilling in particular those most in need. The expected output will be achieved through policy support to countries in building lifelong learning pathways and developing targeted measures for inclusion and gender equality.

a. **Build flexible lifelong learning pathways**

i. Building flexible learning pathways will focus on supporting the design and implementation of flexible and permeable education and training systems to make TVET attractive and enable learners to move within and across education, training, and employment. UNESCO will also support Member States in establishing lifelong learning entitlements, in particular for youth, workers and senior citizens. As well, it will support actions facilitating the mobility of learners, within and cross-country recognition of learning experiences and outcomes. UNESCO, including through the UNESCO Institute for Lifelong Learning (UIL), will further participate in, lead and support the continuation of collaborative initiatives focusing on new forms of certification, qualifications and competencies including reforms of qualification systems and adoption of new credentialing ecosystems with micro-credentials and digital credentials at the centre. To achieve this output, UNESCO’s actions will include: the update and further development of the work on lifelong learning entitlements conducted in cooperation with ILO; the implementation of the Bridging Innovation and Learning in TVET (BILT) project\(^8\) implemented by the UNESCO-UNEVOC International Centre; the operationalization of the World Reference Levels of learning outcomes; the continuation of the inter-agency collaboration with the European Center for the Development of Vocational Training (CEDEFOP) and the European Training Foundation (ETF) to produce the global inventory to map the global landscape of qualifications frameworks and recognition of qualifications within and across countries; and development of global quality guidelines for micro-credentials, including common definitions and principles, in partnership with organizations such as CEDEFOP, the Organization for Economic Co-operation and Development (OECD) and the Groningen Declaration Network (GND).

ii. Micro-credentials, digital credentials and other alternative credential forms are increasingly offered by TVET providers, as well as industry and third sector partners. UNESCO will prepare an international quality framework for micro-credentials, including an internationally agreed definition, standards for quality assurance, and principals for stacking and interoperability.

iii. Previous UNESCO initiatives have been developed to support the mobility of workers and particularly migrants, including the cooperation with the ILO and the International Organization for Migration (IOM) and UIL’s ongoing work in the field of RVA for refugees and migrants, aimed at enhancing systems in countries for the recognition of non-formal and informal learning of migrants and refugees. In particular, the UNESCO Qualifications Passport for refugees and vulnerable migrants\(^9\) plays a role in enabling migrants to access education and training as well as work opportunities, and the World

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\(^8\) For 2022–2025, BILT is designed to promote networking, partnerships, and dialogue in three regions, Europe, Africa and Asia-Pacific, to foster an exchange of knowledge and innovative practice.

\(^9\) For 2022–2025, the UNESCO Qualifications Passport for refugees and vulnerable migrants is designed to support the mobility of workers and particularly migrants, including the cooperation with the ILO and the International Organization for Migration (IOM) and UIL’s ongoing work in the field of RVA for refugees and migrants, aimed at enhancing systems in countries for the recognition of non-formal and informal learning of migrants and refugees. In particular, the UNESCO Qualifications Passport for refugees and vulnerable migrants plays a role in enabling migrants to access education and training as well as work opportunities, and the World
Reference Levels tool supports authorities, institutions, employers and individuals to understand, compare and recognize skills, qualifications, credentials and learning achievements across borders. The new Strategy will support these initiatives to expand their reach and impact through technical assistance, advocacy, sharing of practices and capacity development.

b. Develop targeted measures for inclusion and gender equality

i. Under the previous Strategy for TVET 2016–2021, UNESCO supported the development of guidelines and the sharing of promising policy measures and solutions to support countries that are facing difficulties integrating disadvantaged groups in their TVET systems. UNESCO will support further policy development and will provide policy advice and capacity development to national TVET systems to offer equitable access to skills development for jobs, apprenticeship, entrepreneurship and economic opportunities. UNESCO will assist Member States in developing policies that are inclusive of populations that historically have had limited access to skills, for example women and girls, people belonging to disadvantaged social groups, people living in remote rural areas or urban slums, people living with disabilities, refugees or internally displaced people.

ii. To promote gender equality in and through TVET, UNESCO will support Member States in mainstreaming gender equality when reviewing and developing TVET policies, strategies and programmes, so that gender equality considerations positively influence policy priorities and spending patterns. This will be guided by the UNESCO Strategy for gender equality in and through education 2019-2025 and the ‘Her education, our future’ initiative, with a view to strengthening education and TVET systems to be gender-transformative and promote gender equality, and empowering girls and women through education.

iii. UNESCO will strengthen its targeted measures, provide policy advice and organize awareness-raising campaigns for inclusion and gender equality, and the impact these have on women and girls in TVET. This will include: the provision of technical advice and knowledge exchange opportunities with a view to mitigating the impact of climate change on gender inequality on TVET among the most poor and marginalized, including those dependent on subsistence agriculture; reducing the perpetuation of occupational segregation between men and women; enhancing the participation of women in digitalization and STEM-related fields; and ensure an explicit consideration of gender equality in TVET curricula and gender sensitivity of teachers to remove gender stereotypes. These activities will be implemented in part by building on the recent achievements such as the ‘Beijing +25 generation equality begins with adolescent girls’ education’ report, which called for strengthened commitments to adolescent girls’ education, and the ‘I’d Blush if I could’ report, which sparked global interest in gender bias in artificial intelligence.

9 https://en.unesco.org/themes/education-emergencies/qualifications-passport
Main line of action 2: Develop skills for inclusive and sustainable economies

17. The development of skills within a lifelong learning perspective is crucial for inclusive and sustainable growth, productivity and innovation. Transitions to digital transformations and greening are driving deep changes. Economies can only grasp emerging opportunities if learners develop the right skills and competencies.

18. The COVID-19 pandemic has had a profound impact on economies and millions of people have lost their jobs or experienced significant income loss. Many will need to upskill to keep their jobs, while others will move to new jobs in a different sector of the economy. All will navigate new job markets. However, dysfunctions in the labour market predated the COVID crisis, including high youth unemployment, skills mismatch and informalities in some contexts, and these phenomena will continue to affect economies. The expected outputs in this Main Line of Action will be achieved through support to Member States in identifying skills required for the transition to digital and green economies, delivering TVET to address unemployment in particular youth unemployment, and reducing the gender skills gap by enhancing Science, Technology, Engineering and Mathematics (STEM) skills, green skills and competencies for sustainable development, entrepreneurial and 21st century skills, supporting the teaching workforce and TVET institutions to foster quality, promoting innovation, and reinforcing governance and unlocking investments in skills.

a. Identify the skills required for transition to digital and green economies

i. UNESCO will support its Member States to analyse their changing economies and to develop the capacity to identify and anticipate skills requirements to inform TVET policies, strategies and programmes. UNESCO will support Member States to align their skills agendas with economic transitions and labour market needs, and to exploit opportunities in the private sector to express skills needs, invest in skills, offer work-based learning, and recognize, certify and value the skills acquired through education and training.

ii. UNESCO will support Member States to meet demands for skills from different economic sectors: advanced, ‘gig’, local and global value chains, informal economies, and rural livelihoods.

iii. The above will be achieved through support to Member States in the development of labour market-oriented skills intelligence, including at regional and sectoral levels, building upon UNESCO’s work on skills forecasting and anticipation, data analytics and sectoral skills analysis. The combination of information, counselling, and career guidance to learners with skills intelligence facilities will be supported.

iv. Together with partners, a ‘global skills tracker’ will be developed for documenting skilling, reskilling and upskilling programmes, and the training and work trajectories of young people that received such skilling opportunities until 2029, with a particular focus on gender equality. The tracker will be piloted internationally, including in sub-Saharan Africa, where large numbers of young people are entering the labour market.
v. Together with partners in the private sector and civil society, and building on UNESCO-UNEVOC’s work on greening TVET, UNESCO will develop a global skills taxonomy and guidance framework for the development, assessment, validation and recognition of green skills in TVET in line with the framework for implementation of the education for sustainable development and the Berlin Declaration.10

vi. Green skilling is recognized as important to align the capacities of individuals with systems change towards sustainability. UNESCO will, specifically through UNESCO-UNEVOC International Centre, promote and support initiatives that support the development of flexible lifelong learning pathways for formal and informal occupations and jobs related to green skills.

b. Deliver TVET to address youth unemployment and meet demands for inclusive digital and green transitions at the workplace, online and other learning settings

i. UNESCO will reinforce its programmes to address youth unemployment by supporting Member States in engaging youth as change makers, promoting entrepreneurship ecosystems, TVET at tertiary level, work-based learning in particular apprenticeships, focusing among others on foundation and transversal skills acquisition.

ii. UNESCO will also support continuing training and professional development within a lifelong learning perspective. These will cover the initiatives supported by the Global Skills Academy for upskilling and reskilling workers and new initiatives to enable companies to become learning organizations that contribute to education and training of young generations and promote lifelong learning for their employees. UNESCO will also build on the International Conferences on Adult Education (CONFINTEA) VII recommendations.

iii. UNESCO will continue to support countries in digitizing and greening TVET, leveraging the work and tools already available, and develop new tools and frameworks. UNESCO will support countries in digital transformations of TVET and the development of skills for digital economies and digitally supported delivery, including hybrid and online TVET learning, developing learning and information management systems and TVET education resources. In particular, the Pan-African Initiative for Digital Transformation of TVET and Skills Development Systems in Africa will be taken to scale in Africa and in other regions.

iv. UNESCO will build, expand and develop further its work on education for sustainable development and greening TVET to support Member States’ reforms of their TVET policies and programmes, and to build basis for green transition of economies within their ecological boundaries. In particular, UNESCO-UNEVOC tools will be used for: greening the curricula and training; greening qualifications and related credentials; green campuses; teacher training; and engagement with labour market and communities to promote knowledge, skills, values and attitudes for sustainable development. Through UNESCO-UNEVOC International Centre, an online greening learning programme will be launched and a platform will be provided to share approaches to help embed green skills in curricula and training regulations.

c. Enhance STEM skills and foster entrepreneurial and 21st century skills

i. In response to the important and growing role of STEM in social and economic life, UNESCO will support Member States to identify new skills required in the labour market, including in the area of advanced digital skills and nurturing

of entrepreneurial skills and mindsets, and integrating them into the skills development and TVET systems. Having STEM competencies is an enabler for the acquisition of critical thinking, problem solving, and innovation skills which are demanded by employers and industries. UNESCO will mobilize expertise on STEM to map out STEM competencies and qualifications from key industry sectors, such as Information, Communication, and Technology (ICT), agriculture, construction, automotive, and metals and engineering, with a view to integrating STEM-oriented training into the skills and TVET systems. Relevant tools, such as a STEM-related skills taxonomy, technology-based teaching methodologies and learning design frameworks, will be developed to facilitate the integration of STEM-related subjects into skills and TVET systems by the Member States. UNESCO will also support Member States in the sharing of good practices in updating and implementing STEM-related qualifications and curricula on TVET.

d. Support the teaching workforce and TVET institutions to foster quality, innovation and excellence

i. TVET teaching should be further professionalized in particular as a collaborative endeavour and TVET teacher training institutions should plan, organize, deliver and evaluate pre-service and in-service teacher training and professional development within a lifelong learning perspective.

ii. UNESCO will support capacity development of decision makers and leaders of institutions responsible for the training of teaching staff and managers, for example through UNESCO-UNEVOC’s TVET Leadership Programme, to support TVET systems to adjust to new training modalities, including through digital technologies, which offer personalized, adaptive and flexible learning. UNESCO will leverage the Global Teacher Campus to organize TVET teacher training with focus on digital and hybrid learning skills.

iii. UNESCO will support Member States, in particular through the UNEVOC Network, to transform TVET institutions to become agile to the current and future disruptions, drive innovation and become resilient. This will consist of direct support to UNEVOC Network members through capacity-building, peer learning and knowledge-sharing.

e. Reinforce governance and unlock investment

i. UNESCO will support Member States in creating national, regional and sectoral stakeholder platforms to facilitate private sector participation and communication between the world of education and the world of work. At the global level, UNESCO will regularly organize a UNESCO Businesses Forum to advance dialogue and advocacy with the private sector for inclusive skills development and financing, building on the partnership with the private sector through the Global Skills Academy under the Global Education Coalition.

ii. Building on the Paris Declaration of the 2021 Global Education Meeting to support and advocate for efficient and equitable investment in TVET and skills development, UNESCO will research international experience in setting-up and governing training funds and examine how fiscal frameworks can contribute to supporting education and training including financing lifelong learning entitlements. UNESCO will also assess innovative financing mechanisms that can trigger additional investments in skills, including new forms of public-private partnerships and outcomes-based contracting. The results will be shared with Member States through policy reviews, peer learning and capacity-building.
Main line of action 3: Develop skills for inclusive and peaceful societies

19. UNESCO will support its Member States in introducing skills development programmes that teach youth and adults about their rights and the rule of law, equip them with a strong ethical compass and empower them to become champions for justice in their workplaces and communities. The expected outputs will be achieved through support to Member States in integrating rights-based education and lifelong learning for global and participatory citizenship, and promoting TVET institutions as places for social integration and cohesion.

a. Integrate rights-based education for global and participatory citizenship

i. UNESCO will support the renewal of curricula and training content, skills and pedagogies, including problem-based education, collaboration and civic competencies, scientific and digital and information literacy, skills in the arts and creativity, knowledge of labour law, social and emotional well-being and sense of global solidarity. UNESCO will support the integration of global citizenship education as well as education for sustainable development into TVET policies and programmes.

ii. TVET and skills development can play a part in alleviating concerns such as political disengagement, social unrest, prejudice, and discrimination. UNESCO will foster youth engagement in the co-creation of policies and programmes and support the development of more participatory governance within institutions and programmes (associating students/trainees, their families, and young people's organizations, etc.), building on the practices and lessons learned from the relevant extrabudgetary projects such as Youth Employment in the Mediterranean (YEM) and Better Education for Africa's Rise (BEAR). At the global level, UNESCO will promote dialogue with young people through the Global Youth Forum.

b. Promote TVET institutions as places for social integration, cohesion and green citizenship

i. TVET institutions should be promoted as places that bring diverse groups of people together and expose them to challenges and possibilities not available elsewhere. TVET institutions' architectures, spaces, timetables and student groupings should be redesigned to encourage and enable individuals to work together, and to become exemplars of social integration and cohesion, sustainability and carbon neutrality. UNESCO will map, document and share promising practices in leveraging TVET and TVET institutions for social integration of disengaged and marginalized youth in particular youth Not in Education, Training and Employment (NEETs). Through UNESCO-UNEVOC International Centre, knowledge exchange platforms for climate change advocacy and mutual learning will be created and training on the development of greening TVET institutional action plans will be organized by targeting key TVET institutions. Moreover, practices of TVET institutions catering for the skills development of migrants and disadvantaged youth will be collected, analysed and shared with a wide range of TVET stakeholders.
UNESCO strategy for TVET 2022–2029

**Cross-cutting interventions**

20. UNESCO will adopt a range of modalities of cross-cutting interventions including policy learning, data-collection research and analysis, international normative instruments and networking.

a. **National, regional and global policy learning**

i. UNESCO will support situational analyses of TVET policy, including TVET policy reviews and policy development, within a lifelong learning perspective. The organization will champion systemic TVET policy development at the country level through its TVET Policy Review and Development Guide, and its operationalization through new guides, modules and tools. The approach will be based on demand from Member States and will leverage other United Nations organizations active in the field, in particular the ILO, as well as other multilateral and bilateral development partners. Priority areas will include learning pathways (including pathways among informal, non-formal and formal education), the recognition and certification of skills, governance and funding. Policies should not only organize TVET provision for young people but offer lifelong learning opportunities for adults and the elderly.

ii. UNESCO will support the emergence of regional TVET agendas including cross-country recognition of skills and qualification frameworks, peer learning and knowledge-sharing. This will be conducted in partnership with regional economic communities.

iii. UNESCO will build on the TVET country profiles prepared by UNESCO-UNEVOC International Centre to create a repository of TVET policies and strategies, to be hosted by UNESCO-UNEVOC; UNESCO will also support the monitoring and evaluation of these policies and strategies.

iv. UNESCO will seek to cooperate on and expand regional policy dialogue platforms such as the European Union’s Refernet platform, as well as UNESCO-IIEP’s Planipolis platform to inform decision-making, conduct benchmarking, bring synergies, facilitate advocacy and promote accountability. UNESCO will continue to accelerate the implementation of regional initiatives such as the Pan-African Initiative for Digital transformation of TVET in Africa.

v. The Global Teacher Campus (GTC) launched by UNESCO in the context of the Global Education Coalition will contribute to Member States’ efforts to equip teachers with digital skills and pedagogies and will reinforce the role of the UNEVOC Network to promote reforms of TVET teacher training policies and systems.

vi. Several extrabudgetary projects will be continued and expanded, including the Capacity Development for Education Programme (CapED), the Better Education for Africa’s Rise (BEAR) project, the Bridging Innovation and Learning in TVET (BILT) project and UNESCO-China Funds-in-Trust (CFIT) project. Through the CapED programme, active since 2003, UNESCO provides targeted assistance and reinforces national capacities to undertake evidence-based national education reforms. In particular, CapED’s thematic focus area ‘Fostering Skills for Life and Work’ contributes to the implementation of UNESCO’s TVET Strategy. TVET-related policy and institutional capacity development support is currently being provided to Benin, Liberia, Madagascar, South Sudan, Sudan, Togo and Afghanistan. In 2022, the BEAR project will continue to promote TVET in Eastern Africa – Ethiopia, Kenya, Madagascar, United Republic of Tanzania and Uganda — by improving the relevance, quality and perception of national TVET systems. Furthermore, jointly with the Republic of Korea, UNESCO will consider the possibilities for expanding the BEAR initiative to support and strengthen
the TVET systems across countries in Western Africa. The CFIT-funded project on Higher Technical Education in Africa for a Technical and Innovative Workforce will enhance the capacity of higher education institutions in Africa in the field of technical education in addressing skills mismatch between higher education and industry by strengthening linkages between HEIs and industry and enhancing labour market-oriented teaching and competency-based learning. The BILT project, supported by the German Federal Institute for Vocational Education and Training (BIBB) and sponsored by the German Federal Ministry of Education and Research (BMBF), support TVET stakeholders to address current challenges in TVET systems, appearing due to technological, social, environmental and workplace changes. BILT leverages UNESCO-UNEVOC Network to offer opportunities for collaboration and peer learning between Europe, Africa and Asia and the Pacific. UNESCO will also continue to accelerate the implementation of the TVET project for rural development funded by the European Commission in Uzbekistan.

b. Data collection, research and analysis

i. UNESCO will conduct research and support Member States in collecting and analysing data on TVET programmes and their outcomes, exploiting digital information, including big and open data, as well as in supporting the development of systematic data-collection and management systems on TVET.

ii. A framework of key indicators will be developed by the UNESCO Institute for Statistics (UIS) and other expert institutions and organizations, including the members of IAG-TVET, to improve the ability of Member States to monitor progress towards relevant SDGs and related targets on skills development.

iii. UNESCO will conduct research and support Member States to develop policies and practices for the ethical and effective use of data in the governance, management and delivery of education and skilling initiatives. UNESCO will reinforce initiatives such as the Global Education Coalition’s pledge for the protection of learners’ personal information, privacy and security and the RewirEd Declaration on Connectivity for Education. The education sector has traditionally been mindful of the rights of young learners, but less so of the vulnerability of lifelong learners, including TVET learners, in particular in increasingly digitized education and training directly associated with their personal data. New privacy laws have gained traction across the globe and their application and interpretation within education settings requires more attention. UNESCO will provide technical support and advice to the Member States to facilitate the implementation of these processes, with a strong emphasis on the development of ‘privacy by design’ education management information systems, learning platforms and resources.

c. Normative instruments

i. UNESCO has two TVET-specific normative instruments: The Convention on Technical and Vocational Education (1989) and the Recommendation Concerning TVET (2015). Several other normative instruments include provisions concerning TVET, including the 1960 Convention against Discrimination in Education, the 1966 Recommendation concerning the Status of Teachers, the 1997 Recommendation concerning the Status of Higher-Education Teaching Personnel, the 2015 Recommendation on Adult Learning and Education and the 2019 Global Convention on the Recognition of Qualifications Concerning Higher Education. UNESCO will work with Member States to reflect on the use and the status of available TVET normative instruments and their possible revision.

ii. The COVID-19 pandemic has accelerated the need to transform teaching and teacher education so that teachers can be better prepared to respond to education crises. This new visibility brought to teachers and teachers’ issues because of the COVID-19 pandemic could be leveraged by the joint ILO-UNESCO Committee of Experts on
the Application of the Recommendations Concerning Teaching Personnel (CEART) to enhance efforts towards improving the training and qualifications of teachers, the attractiveness of a career in the teaching profession, and importantly, to advocate for increased financing for improving teacher education and learning environments.

iii. UNESCO will actively promote the applications to TVET of other normative instruments, in particular the 2019 Recommendation on Open Educational Resources (OER), the 2021 Ethics in Artificial Intelligence Recommendation and create frameworks and tools for the support of the integration of these normative instruments into TVET governance, management and delivery. UNESCO will further consider promotion of initiatives such as those undertaken by the OER Dynamic Coalition within TVET.

iv. UNESCO will actively support existing and new normative instruments that promote more consistent and comparable data-collection across Member States. The implementation and modernization of the International Standard Classification of Education (ISCED) — including its application to education programmes (ISCED-P), educational attainment (ISCED-A), fields of education (ISCED-F) and teacher training programmes (ISCED-T) - with an emphasis on data related to vocational education and TVET practitioners, will be prioritized.

d. Networks and partnerships
i. The COVID-19 pandemic ushered in a new development and the establishment of partnerships between UNESCO and the private sector through the launch of the Global Education Coalition and the establishment of the Global Skills Academy (GSA). The new Strategy will strengthen these partnerships, including through an Annual UNESCO-Businesses Forum. The current involvement of the private sector in the GSA will be expanded.

ii. The UNEVOC Network brings together a large number and range of TVET institutions. The Network has the potential to set the agenda for quality TVET institutions at the global level and to become a leading voice in education and skilling. This Strategy includes activities to expand the reach and impact of the Network and develop its capacities, including that of TVET institutions, Ministries, National TVET Agencies and TVET providers, to meet the emerging demand for skills. The Strategy will aim to strengthen cross-national partnerships and support TVET institutions belonging to the Network to jointly promote the transformation and attractiveness of TVET worldwide. Moreover, the feasibility of creating a network of vocational education institutions will be examined in order to reinforce the UNEVOC network with a view to exchanging best practices and to promoting the quality and prestige of vocational education worldwide.

iii. UNESCO established an Inter-Agency Group on TVET (IAG-TVET) in 2008 to promote the exchange of views and the sharing of knowledge, and ensure the coordination of activities of its members involved in policy advice, programme implementation and research. The new Strategy will reinforce and widen the IAG-TVET, further operationalize its working groups (including skills mismatches in the digitized labour market; work-based learning; career guidance; and future of TVET) and enhance its contribution to the newly adopted Global Cooperation Mechanism.

iv. The International Teacher Task Force for Education 2030 (TTF), whose Secretariat is hosted by UNESCO, is a critical platform that aims to mobilize governments, teacher organizations and other stakeholders for the advancement of teachers and quality teaching, and act as a catalyst of global, regional and national efforts through advocacy, knowledge creation and sharing, and country support and engagement. The Strategy will reinforce the attention to TVET in the TTF, including by creating a specific area of work on the TVET teaching workforce.
Setting ambitious targets

21. In order to deliver results and bearing in mind the achievements of the previous strategy and the momentum imposed by the recovery and accelerating transitions, UNESCO proposes to set quantitative objectives that will be refined in its programmes and monitored regularly aligning with ‘Output 1. ED4 Learners are equipped with relevant skills to meet individual, labour market and societal demands through literacy, TVET, STEM and higher education’ of the Programme and Budget for 2022-2025 (41 C/5) under the Medium-Term Strategy for 2022–2029 (41 C/4) for the education sector: For the period of 2022–2029 (Activities will be implemented in line with the biennium workplans), in total:

a. 80 countries (including 36 countries in Africa and 8 countries in small island development states (SIDS)) will be supported to develop or implement policies and strategies on skills development for work and life within lifelong learning policies, plans and pathways and to widen access to equitable, gender-responsive and quality assured TVET.

b. 80 countries (including 36 countries in Africa and 8 countries in SIDS) will be supported to scale up STEM education, with particular focus on girls and women.

c. 4,800,000 young people (2,400,000 male and 2,400,000 female) will be equipped with TVET and digital and other relevant skills on TVET through the Global Skills Academy and other initiatives including extrabudgetary programmes.

Monitoring and evaluation

22. UNESCO will apply a results-based management and monitoring approach, consistent with the Organization’s rules and procedures to support the implementation and periodic review of this Strategy.

23. UNESCO will also develop an accountability and results matrix, including specific indicators to allow the tracking of progress in the implementation of the Strategy on a continuous basis.

24. A midterm review will be conducted in 2025 to assess progress and to adapt the Strategy as required in accordance with the situation and operating context.

25. An external evaluation of the Strategy will be conducted during the last year of its implementation in 2029. The evaluation of the Strategy will take into account the findings of an independent study on the impact of the Recommendation concerning TVET (2015).

26. The logic framework and theory of change process initiated by UNESCO in 2021 will guide the internal monitoring and midterm review (2025), as well as the external evaluation (2029). The logic framework is being closely aligned to this Strategy, with the specific focus areas for TVET identified as: (1) to contribute to solving the skills deficits affecting the labour market insertion; (2) further learning and career progression for both youth people and adults; and (3) allowing societies and economies to be inclusive and able to make green and digital transitions.

27. Pending the availability of extrabudgetary resources, UNESCO will organize an International Congress on TVET to share progress and chart a new Strategy beyond 2029.
28. UNESCO’s work on TVET will proceed according to the Organization’s functions, taking into account the division of responsibilities among Headquarters, Regional Bureaux, Field Offices and Institutes. The Section of Youth, Literacy and Skills Development (YLS) at Headquarters will lead and support the implementation of this strategy; the UNESCO-UNEVOC International Centre will function as the hub of the UNESCO-UNEVOC Network and as a resource centre for research and innovation, knowledge-sharing and capacity development; the UIL will focus on adult learning; the International Institute for Education Planning (IIEP) will focus on links with education planning and systems strengthening; the UNESCO Institute for Statistics will contribute with data-collection on TVET systems; and other relevant regional, cluster and country offices and institutes will also contribute in their respective capacities.

29. The UNESCO TVET Community will be further enhanced through the reinforcement of a ‘community of practice’ and by allowing relevant UNESCO staff to participate in capacity development programmes that UNESCO, in particular the UNESCO-UNEVOC International Centre, organizes for its partners. The UNEVOC Network will be the key driver for mutual learning, capacity-building and advancing international cooperation in TVET. The UNESCO Global Network of Learning Cities, as well as UNITWIN/UNESCO Chairs Programmes, will also be mobilized for actions with local authorities.

30. As well as UNESCO and its networks, there are a wide range of development stakeholders and networks active in the field of TVET. Members of the Inter-Agency Group on TVET will continue to conduct collective initiatives and work jointly on issues such as TVET indicators and statistics, green skills and work-based learning. Given the importance of the 2030 Agenda and the scale of the challenges, UNESCO will work with the members of the Inter-Agency Group on TVET to expand and involve other United Nations agencies, development banks and bilateral organizations, with the view to advocate for TVET, mobilize other organizations and partners, and enhance and expand cooperation among development partners.

31. The regional level engagement of UNESCO will involve close collaboration with secretariats of Regional Economic Communities (RECs) and other relevant regional organizations, within their areas of focus. In particular, UNESCO will continue to support the development, implementation and monitoring and evaluation of regional strategies for TVET, through peer learning, capacity development and knowledge-sharing initiatives, with a focus on regional qualifications frameworks, indicators for monitoring and evaluation and the development of regional guidelines and tools.

32. At national level, UNESCO will also establish and/or enhance close collaboration with technical and financial stakeholders, notably through the donor coordination mechanism on TVET at the country level and the United Nations Country Team (UNCT) mechanisms, and enhance harmonization and alignment of development partners’ activities on TVET with the policies and strategies of Member States, where necessary.
33. Initiatives taken in recent years by United Nations agencies have implications for UNESCO’s work and programmes. Those include, but are not limited to, UNICEF Generation Unlimited, the ILO’s Decent Jobs for Youth, ITU and WHO skills academies and UNIDO’s Learning and Knowledge Development Facility. Other members of the IAG-TVET have also adopted new strategies and created new structures: the OECD’s Skills Strategy and Centre for Skills, the European Commission’s ‘Proposal for a Council Recommendation on vocational education and training for sustainable competitiveness, social fairness and resilience’, the World Bank’s Human Capital Project and the African Union’s Agenda 2063. These developments have three implications for UNESCO’s new TVET Strategy: a revitalized IAG-TVET to ensure coherence and synergies; an alliance between the GSA and other mission-oriented initiatives to maximize impact; and an effective and coordinated fundraising strategy to mobilize resources for the implementation of the new Strategy.

Transforming Technical and Vocational Education and Training for successful and just transitions

UNESCO strategy 2022-2029

This strategy covering 2022 to 2029 guides UNESCO to promote skills development for empowerment, productive employment and decent work, and facilitate the transition to more digital, green and inclusive economies and societies.

In alignment with the Sustainable Development Goals, the Education 2030 Agenda, and the recommendations of the Transforming Education Summit, UNESCO will support the transformation of Technical and Vocational Education and Training in all Member States and will work alongside bilateral and multilateral partners, institutions, governments, the private sector and educators from all over the world to put TVET at the top of the education agenda.

It is evident that collective efforts must be met to equip youth and adults in acquiring new skills, helping them unlock their potential to successfully navigate the social, economic, and environmental changes which the world is undergoing.