B20 BRASIL 2024

INCLUSIVE GROWTH FOR A SUSTAINABLE FUTURE

EMPLOYMENT & EDUCATION

POLICY PAPER

CNI Brazilian National Confederation of Industry

B20 BRAZIL SECRETARIAT

EMPLOYMENT & EDUCATION

POLICY PAPER

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G20 BRASIL 2024

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POLICY PAPER

Secretariado B20 Brasil
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FOREWORD BY THE TASK FORCE CHAIR

It has been my honour to chair the B20 Task Force on Employment & Education during this crucial year for Brazil's G20 presidency. Our Task Force has focused on preparing a resilient and productive workforce, ensuring diversity and inclusivity, and fostering innovation for sustainable growth. These priorities remain critical as the global landscape undergoes significant changes. Our recommendations result from extensive collaboration among global leaders, policymakers, and industry experts.

The nature of work is changing rapidly. Technological advancements, such as artificial intelligence, automation, and digitalization, are reshaping industries. While these technologies create new opportunities, they also risk making many jobs and skills obsolete. It is essential to equip our workforce with the skills needed to thrive. Enhancing education quality, promoting reskilling, and upskilling, and fostering lifelong learning are important steps.

The urgency of addressing the climate crisis and rising inequalities cannot be overstated. Climate change is impacting economies and societies worldwide, requiring a concerted effort to transition to a greener, more sustainable future. Persistent inequalities in education and employment, particularly across gender, ethnicity, and socioeconomic status, highlight the need for policies promoting inclusivity and conducive opportunities.

Promoting diversity and inclusivity in the workforce is key to unlocking economic growth and ensuring a progressive and just society. Our recommendations emphasize creating inclusive work environments, supporting the transition to the formal economy, and recognizing alternate forms of work.

Innovation and sustainable growth are also central to our agenda. By accelerating research and development, supporting MSMEs, and promoting entrepreneurship, we aim to drive technological advancements and sustainable practices that benefit businesses and societies alike. Our commitment to fostering innovation also aligns with the global push towards a greener economy.

The challenges we face are significant, but so are the opportunities. The global community's resilience and determination to tackle these issues head-on give me confidence in our ability to create a better future. I extend my deepest gratitude to the members of the B20 Task Force, whose dedication and expertise have been invaluable. I also thank all stakeholders for their insights, ideas, and support. Together, we have developed a robust policy framework that aims to inspire collective action and drive meaningful change. This policy document serves as a call to action for leaders, businesses, and policymakers worldwide. The time to act is now. Let us embrace these recommendations to shape a future of work that is inclusive, resilient, and empowers individuals to thrive.

Sincerely,

Walter Schalka
Chair of the B20 Brasil Task Force on Employment & Education
CEO, Suzano

FOREWORDS BY THE TASK FORCE CO-CHAIRS

CO-CHAIRS	FOREWORDS
 **Bettina Schaller** President, World Employment Confederation	*On behalf of the private employment services industry, I am honoured once again to be appointed Co-Chair of this Task Force to help shape better labour outcomes for all. With our solutions ranging from agency work to direct recruitment, career management and training, we cater for the human resource needs of workers, businesses, and societies alike. With our cross-industry lens, we are collaborative by nature, which paired with our readiness to embrace the digital and green revolutions contribute to our ability to act as Social Innovators. In today's ever-evolving world, we are strong advocates for well-regulated, compliant, and efficient labour markets that offer access of work opportunities to all. Through our engagement with the B20 Task Force on Employment and Education we are ready to further build frameworks that allow for diverse forms of work and contract, recognizing the value of safe and secure flexibility.*
 **BVR Mohan Reddy** Founder Chairman and Board Member, Cyient	*As Co-Chair of this Task Force on employment and education, I am delighted to represent the Confederation of Indian Industry (CII) and work together on shaping policies that enhance inclusive and sustainable labour outcomes across participating economies. Our strategic focus is on advancing equality in the workforce, with a specific focus on advocating for the rights and well-being of all employees, including those in the fast-changing gig economy. Additionally, we are dedicated to cultivating a culture of entrepreneurship, acknowledging it as a key driver for job creation and economic growth in B20 countries. By encouraging and supporting entrepreneurial activities, we aim to create new opportunities and boost the resilience of labour markets globally. In alignment with the digital transformation affecting industries worldwide, our task force prioritizes fostering digital skills development. We understand the vital role of digital competencies in enabling future job growth and economic prosperity. Therefore, upskilling, and reskilling initiatives are core to our agenda, ensuring that individuals have the necessary tools to succeed in the digital era.*

CO-CHAIRS

FOREWORDS

Daniel Funes de Rioja
President, Unión Industrial Argentina

In today's rapidly evolving world, prioritizing teacher training, industry collaboration, dual education systems, and financial incentives for skills development can address current challenges regarding skill gaps and enhance employability. Supporting businesses, especially MSMEs, is essential for sustainable growth and innovation. These recommendations should be considered to develop strong, adaptable policies that will boost productivity and build a resilient, inclusive workforce.

Francisco J. Rios
Latam Chief Operations Officer, SEA Group

As Co-Chairs of the B20 Task Force on Employment and Education we are given the opportunity to envision a transformative and harmonious collaboration between government, private industry, and academia; It is only at this intersection that we can make significant strides to revolutionize the way we think about education.

As a company, our mission is to better the lives of consumers and small businesses with technology. We do so by offering tools that empower the individual to ideate, innovate, implement, and generate new sources of revenue that deeply impact their communities and become a vital catalyst for job creation.

Our recommendations embrace diversity, foster adaptation, and promote sustainable entrepreneurship while helping identify KPIs that will allow us to track progress. Our aim was to keep it simple yet impactful, and a tool for G20 governments to consider. It has been an honour contributing to this taskforce.

Gabriel Silveira Bello Barros
Networking Academy Lead, Cisco

As the co-chair representing Cisco Networking Academy for the B20 Employment and Education Taskforce, I am honoured to contribute to defining actionable policies for a future-ready workforce. Our taskforce is dedicated to preparing a resilient, diverse, and innovative global workforce. Our key recommendations are crucial for G20 nations to address the challenges and capitalize the opportunities of the future of work.

CO-CHAIRS

FOREWORDS

Jacqueline Mugo
Executive Director and CEO of the Federation of Kenya Employers

I highly commend this set of concrete and actionable recommendations by the B20 Task Force. These recommendations offer a promising trajectory for the G20 and beyond, particularly as the global landscape navigates profound shifts prompted by advances in AI, climate change, demographic changes, and the demand for skilled individuals to tackle ongoing and emerging challenges. Actions aimed at contributing to economic growth and striving to meet the UN Sustainable Development Goals (SDGs) reflect the shared vision of business to contribute to a more inclusive and prosperous society. Join us as we navigate through these challenges together to reach a mutually beneficial outcome for all.

Lama Al-Sulaiman
Board Member at Kingdom Holdings and of the International Chamber of Commerce (ICC)

At the B20, we emphasize on the importance of Global Economic Growth to be able to ensure a sustainable fair future for all. At the ICC, we leverage the private sector expertise to deliver practical solutions to many interconnected global challenges.

Today, we witness that despite a somewhat stable global unemployment rate there is a persistent rise in inequalities, lack of opportunities, protectionism, cross-border barriers, and others. These challenges, mostly instigated by Geopolitical tensions, Extreme weather, and Technology disruptions, require a serious commitment from all to view situations through not only new lenses but from diverse perspectives to ensure the benefit of all people (students, teachers, workers, and businesses). The Employment and Education task force highlighted some urgent, actionable global policy recommendations that can be achieved by governments reviewing and reforming regulatory, financial and tax policies to allow the healthy growth of the businesses and the creation of more decent jobs.

Renate Hornung-Draus
Vice-President, International Organisation of Employers

As IOE Vice-President and Co-Chair of this taskforce, it is with enthusiasm and honour that I advance these essential policy recommendations forward, as they have the power to drive tangible change in the real economy and usher in a new era of prosperity and economic growth for G20 nations and beyond. Therefore, I call on G20 leaders to carefully consider and implement these recommendations in collaboration with employers, paving the way for innovation, productivity and business opportunities that foster a robust and resilient economic landscape. These provide an enabling environment for sustainable enterprises to grow and thrive – paramount to job creation, public-private cooperation, and economic growth.

RECOMMENDATIONS: EXECUTIVE SUMMARY

Executive Summary

Recommendation 1: Prepare a Resilient & Productive Workforce for the Future of Work

Policy Action 1.1: Enhance relevance and quality of basic / K12 education and VET for the future workforce to develop employable and entrepreneurship core skills by updating teachers' development, digital literacy, and sustainability skills, and by engaging business in mapping competency gaps and designing new curricula.

Addressed Challenges	Potential Suggestions for G20
• Quality of basic / K12 and VET education for employability: mismatch of curriculum with the demands of the future of work, and lack of inclusive and personalized learning; technology infrastructure gap. • The education gap of basic / K12 education and VET with the evolving job market and industry needs.	• Update national guidelines for teacher's development and standards of teaching to include digital literacy and sustainability skills and invest in training, technological infrastructure, and tools to develop a larger pool of well-prepared basic / K12 and VET educators. • Engage businesses in mapping competency gaps and designing new K12/ VET curricula, focusing on traditional core skills (e.g.: STREAM, digital, financial literacy); life skills (e.g.: critical thinking); mental health awareness (e.g.: empathy); emerging skills (e.g.: sustainability, AI, cybersecurity); and entrepreneurship skills.

Policy Action 1.2: Foster reskilling and upskilling to close the talent scarcity gap and reduce skills mismatch, especially in digital and green proficiency, by developing financial incentives to promote programs and setting guidelines and frameworks to roll-out work-integrated learning solutions and to facilitate the recognition of skills.

Addressed Challenges	Potential Suggestions for G20
• Persistent talent shortage aggravated by evolving workforce skill demands for digital and skills for green-driven jobs. • Mismatch between current learning opportunities and labour market requirements.	• Develop financial incentives (e.g.: loan schemes, tax credit, grants and scholarships, public private partnerships) for individuals and businesses, to promote reskilling, upskilling, and work-integrated learning programs, especially those focusing on digital and green skills. • Set guidelines and policy frameworks, in close collaboration with businesses, to roll-out high-quality work-integrated learning solutions (e.g.: dual-learning systems, apprenticeships, mentorships), and to facilitate the recognition of skills certifications, non-traditional education programs and micro-credentials.

Recommendation 2: **Ensure a Diverse, Inclusive, and Adaptable Workforce.**

Policy Action 2.1: Promote diverse and inclusive work environments by implementing reward regulation for companies to promote access to work and career progression opportunities for underrepresented groups, and by strengthening financial incentives to support care provisions.

Addressed Challenges	Potential Suggestions for G20
• The unemployment rate is accentuated in gender, age (e.g., youth and elderly), and minorities (rural vs urban, lower, and higher incomes quintile, disability status, indigenous peoples, and more). • Legal and policy frameworks to promote diverse and inclusive work environments are not a reality for all countries in the G20. • Underrepresented groups struggle in the career progression.	• Implement reward regulation for business to comply with voluntary goals/ targets to promote access to work and career progression opportunities for underrepresented groups (according to country and sector-specific groups, such as women, youth, refugees, migrants). • Strengthen financial incentives for business to support care provisions in childcare and parental leaves, in consultation with employers, to limit the disproportionate impact on MSMEs.

Policy Action 2.2: Support the transition of workers into the formal economy by adapting regulatory frameworks to recognize alternate and future forms of work and the impact of technology in jobs; and facilitate job mobility by establishing international tax frameworks, labour information systems, and standards for safe and regular migration.

Addressed Challenges	Potential Suggestions for G20
• Regulatory burdens and other impediments, especially over MSMEs, hinder the extension of formal work. • Barriers to cross-border mobility, including governmental policies and frameworks.	• Adapt regulatory labour frameworks and policies to recognize alternate and future forms of work (e.g. remote, hybrid, part-time, temporary) and the impact of technological changes in traditional jobs. • Establish international tax frameworks, collaborative labour information systems, and standards for safe and regular migration to facilitate sustainable cross border job mobility, respecting cultural sensitivities and countries' specificities.

Recommendation 3: Foster Innovation and Sustainable Growth

Policy Action 3.1: Accelerate innovation in strategic areas and foster scientific and technological development by creating shared research and digital infrastructure, engaging higher-education and VET institutions with businesses, and increasing and facilitating access to government funding.

Addressed Challenges	Potential Suggestions for G20
• Lack of integration between higher education institutions and the private sector. High quality jobs could be created through innovation. • Insufficient Research & Development investment, infrastructure, and incentives for innovation, especially regarding sustainable practices (e.g.: biodiversity, energy transition, circular economy). • Reduce the negative impact of automation and digital transformation on jobs displacement. Lack of inclusive policy dialogue on regulation for AI and green driven transition.	• Create shared research and digital infrastructure, engaging researchers from higher-education and VET institutions with businesses, including MSMEs, enabling collaboration to accelerate innovation in strategic areas. • Increase and facilitate access to nonrefundable government basic funding for strategic applied innovation, fostering scientifical and technological development.

Policy Action 3.2: Actively support entrepreneurship and MSMEs to drive sustainable growth and job creation by developing regulatory measures to improve access to funding and competitive credit, and by providing support to foster R&D solutions that drive innovative economic growth.

Addressed Challenges	Potential Suggestions for G20
• Financial constraints for MSMEs to drive growth. • Ease of doing business, as bureaucratic barriers slow MSMEs growth. • Lack of technical knowledge and funding for MSMEs to adapt to automation, digital transformation, and green driven transition.	• Develop regulatory measures to support entrepreneurial systems and MSMEs access to funding and competitive credit to foster sustainable business growth and enabling environments for entrepreneurs to thrive, facilitating jobs maintenance and growth. • Provide support (i.e.: tax policies, regulatory benefits, SAFE - simple agreements for future equity) for anchor firms to contract R&D solutions from MSMEs, start-ups, and spin-offs that will drive innovative economic growth and job creation.

INTRODUCTION

Introduction

Global trends are transforming the future of work and education.

In recent years, the world has faced a range of unpredictable challenges, including escalating geopolitical tensions, rising public and corporate debt[1], restructuring of global and domestic supply chains, and technological advancements like Generative AI. Additionally, pre-existing labour market inequalities are becoming more pronounced in a society that increasingly demands equality. Meanwhile, the growing impact of climate change is complicating decision-making processes and deepening the complexity of public policy discussions.

Each of these trends poses the potential to significantly disrupt employment and education. Together they underscore the necessity for targeted policy actions by both governments and the private sector to address the current and future needs of the workforce, businesses, and employers. B20 Brasil is committed to formulating a limited but impactful and actionable number of policies that are not only relevant but also vital to: 1) Prepare a Resilient & Productive Workforce for the Future of Work; 2) Ensure a Diverse, Inclusive, and Adaptable Workforce; 3) Foster Innovation and Sustainable Growth.

Economic and geopolitical uncertainties impact growth and the world of work landscape.

The economic and geopolitical outlooks have been marked by recent unpredicted events, such as the Covid-19 pandemic, the supply-chain crisis, and geopolitical tensions, such as conflicts in the Middle East and Europe. Recent higher inflation rates unfolded into higher interest rates and increased debts. Affected by economic uncertainties posed by these events, businesses investments are diminishing across both developed and developing economies. As evidence of this, foreign direct investment has shown a 3% average annual slowdown from 2017 to 2023.[2] Reduced hiring and limited expansion are expected to persist and ascend in many economies. Rising geopolitical tensions could lead to a major reversal of global economic integration. Increased protectionist actions by countries on the back of major initiatives like reshoring and nearshoring are expected to disrupt global and domestic value chains and change globalization as we know it. The phenomenon of severe labour shortages, driven among others by demographic change (e.g. population ageing) and immigration (e.g. in Europe), is expected to persist and intensify.

Technology advancements demand adaptative job roles and educational models.

Advancements such as digitalisation, automation, and Artificial Intelligence are being adopted faster than before, reshaping businesses, and demanding new skills. This rapid technological advancement is accelerating the obsolescence of existing skills and challenging workforce employability. Consequently, educational and training models must continuously adapt to keep pace with evolving technologies. This technological shift will result in varying net job growth or decline across different roles, underscoring the urgent need for prioritizing upskilling and reskilling among both the current and future workforce.

1 IMF – INTERNATIONAL MONETARY FUND. Global Debt Is Returning to its Rising Trend. 2023. Available: https://www.imf.org/en/Blogs/Articles/2023/09/13/global-debt-is-returning-to-its-rising-trend.

2 UNCTAD. World Investment Report. 2023. Available: https://unctad.org/system/files/official-document/wir2023_en.pdf.

Existing labour market inequalities persist and may worsen.

In recent years, global challenges such as macroeconomic shifts and geopolitical tensions have exacerbated inequalities, surpassing the consistently high levels observed in recent decades. Persistent labour market disparities impact various underrepresented groups: women continue to be marginalized in the workforce; young people face significant obstacles in securing employment; and individuals from low-income backgrounds have limited access to education and subsequent job opportunities.

Climate change affects the labour market and emerging skills demand.

Severe weather conditions, like rising temperatures and increased rainfall, floods, and blizzards, are directly impacting business productivity and reducing economic activity. In 2023, the global mean near-surface temperature reached 1.40°C above the 1850-1900 average[3], making it the warmest year on record. Recent studies highlight three effects of extreme high temperatures on the workforce: reduced productivity, labour market participation, and safety. As the economy transitions to greener practices, there is a growing need for skills for green driven transition across various job roles. Efforts are required to equip the future workforce with these skills to ensure industries and educational institutions lead in environmental stewardship and support climate goals.

3 ILOSTAT; HADGEM2-ES; GFDL-ESM2M. ILOSTAT and the HadGEM2-ES and GFDL-ESM2M climate model.

RECOMMENDATION 1

Recommendation 1

Recommendation is partially aligned with previous B20 editions

Prepare a Resilient & Productive Workforce for the Future of Work

Policy Actions

Policy Action 1.1: Enhance relevance and quality of basic / K12 education and VET for the future workforce to develop employable and entrepreneurship core skills by updating teachers' development, digital literacy, and sustainability skills, and by engaging business in mapping competency gaps and designing new curricula.

Policy Action 1.2: Foster reskilling and upskilling to close the talent scarcity gap and reduce skills mismatch, especially in digital and green proficiency, by developing financial incentives to promote programs and setting guidelines and frameworks to roll-out work-integrated learning solutions and to facilitate the recognition of skills.

Key Performance Indicators	Baseline	Target	Classification
PISA Rankings Simple average of Math, Science, and Reading scores of available countries. *Source: OECD*	**483.7** (2022)	**503.7** (2028)	New indicator
Proportion of teachers with the minimum required qualifications Average of 4 education levels (pre-primary, primary, lower-sec. & Upper sec.). *Source: UN-SDG4*	**78.6%** (2022)	**84.7%** (2028)	New indicator
Proportion of youth and adults with ICT skills* Selected reference: proportion of youth and adults who have used basic arithmetic formulae in a spreadsheet. *Source: UN-SDG4*	**31.8%** (2021)	**38.4%** (2028)	Aligned with previous B20s editions

* In the future, the soon to be released PISA VET could be an indicator to track the completion rates of reskilling and upskilling programs.
Current KPIs are available for only a few countries and are not tracked consistently every year. Improving the measurement, quality, and coverage of KPIs is essential for effectively tracking and evaluating public policies. Accurate and comprehensive KPIs enable better assessment of policy impacts, promote transparency, and ensure accountability. Expanding KPI coverage across more G20 countries also allows for more inclusive and equitable policy analysis, particularly in underrepresented regions, thus supporting informed and effective decision-making global.

SDGs

Recommendation 1 contributes to the achievement of the following UN SDGs:

SDG 4: Quality Education – by enhancing educators development and designing new curricular for basic and VET education, and fostering reskilling and upskilling of the workforce; **SDG 8: Decent work and economic growth –** by promoting employable skills development to bridge skills gaps in several sectors and increase labour productivity; **SDG 9: Industry, Innovation, and Infrastructure –** by preparing the workforce for the future of work through quality basic education and reskilling, upskilling, and work-integrated learning programs to develop employable skills, increasing industry's share of employment and GDP; **SDG 17: Partnerships for the Goals –** by engaging businesses into revitalizing the global partnership for sustainable development, focusing on skills development in sectors like manufacturing, construction, electronics, and tourism to promote sustainable growth.

Relevant B20 Brasil Guiding Claims

Recommendation 1 has the strongest impact on two B20 Brasil Guiding Claims:

"Accelerate a fair net zero transition" by enhancing skills development in several industry sectors to face the green driven transition and fostering innovation in green technologies to accelerate a fair net zero transition;

"Enhance human capital" by promoting the relevance and quality of basic, VET, and professional education, fostering the development of educators and reskilling and upskilling programs.

Relevant G20 Brasil Priorities

Recommendation 1 contributes to the following priorities of the G20 Brasil:

G20's Education Working Group priorities.

i. Valuing and building capacity of education professionals: what can we collectively do?
ii. Connecting managers of digital resource platforms: the sharing of education material on Education for Sustainable Development

G20's Employment Working Group priorities.

i. The creation of quality jobs and the promotion of decent work, to ensure social inclusion and eliminate poverty.
ii. The imperative of a just transition in the face of digital and energy transformations.
iii. The use of technologies as a means of improving everyone's quality of life.
iv. Gender equity and the promotion of diversity in the world of work.

Recommendation 1 addresses the **G20's Brasil Education Working Group** priorities: **i. Valuing and building capacity of education professionals: what can we collectively do?** by emphasizing the importance of reskilling and upskilling and investing in the development of education professionals; **ii. Connecting managers of digital resource platforms: the sharing of education material on Education for Sustainable Development** by highlighting the need for collaboration among stakeholders to disseminate educational materials.

Recommendation 1 contributes to two of **G20's Brasil Employment Working Group** priorities: **i. Creation of Quality Jobs and Promotion of Decent Work** by focusing on skills development, ensuring individuals have the necessary skills for quality jobs, promoting social inclusion and eliminating poverty; **ii. Imperative of a Just Transition in the Face of Digital and Energy Transformations** by preparing the workforce for digital transformation, upskilling employees, and adapting it to technological changes, ensuring a just transition within evolving work environments.

Context

A resilient workforce is crucial amid rapidly evolving trends that impact businesses and labour markets. However, the current mismatch between education systems and the needs of the future of work, coupled with inadequate lifelong learning and upskilling opportunities, creates skills gaps and talent shortages that affects the worldwide transition to a digital and sustainable economy. This stresses the need for an educational and training systems reform.

According to HBR[4], a resilient workforce is understood as a group of employees and entrepreneurs committed to continuous learning and self-reinvention to keep pace with change, who take responsibility for their career management, and are dedicated to the company's or project's success. It requires being aware of one's own skills and having a plan for enhancing one's performance and long-term employability, as well as having the willingness and ability to respond quickly and flexibly to rapid changing business needs.

The future of work[5] involves understanding how constant disruptions like innovation and the green transition will change the nature of work, and how workforces and workplaces can prepare for it. Key trends shaping the future of work include virtual interactions (such as hybrid/remote work, e-commerce, telemedicine, online banking, and streaming), digital technologies adoption (automation, AI, and Gen AI), green energy transition and sustainability.

There is currently a significant mismatch between the education and learning systems and the evolving needs of the future of work, caused by outdated educational curriculums and exacerbated by the impacts of climate change and technological advancements.[6] This leads to a skills gap in areas like digital, sustainable, and financial literacy that results in a considerable shortage of profiles in high-demand fields such as engineering or scientific topics, hindering the transition to a digital and sustainable economy.[7] Furthermore, the inflexibility of present learning systems fails to meet diverse learner needs, stifling innovation. This is a serious issue when considering that a recent survey[8] shows a technological-disrupted job market with 83 million jobs projected to be lost and 69 million new opportunities expected to arise within the next five years, with most occupations estimated to change. This scenario poses a threat to global competitiveness and sustainability, thus indicating a

4 HARVARD BUSINESS REVIEW. Toward a Career-Resilient Workforce. 1994. Available at: https://hbr.org/1994/07/toward-a-career-resilient-workforce.

5 MCKINSEY. What is the future of work**?** 2023. Available at: https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-the-future-of-work.

6 WORLD ECONOMIC FORUM. 3 ways the climate crisis is impacting jobs and workers. 2023. Available at: https://www.weforum.org/agenda/2023/10/climate-crisis-impacting-jobs-workforce/.

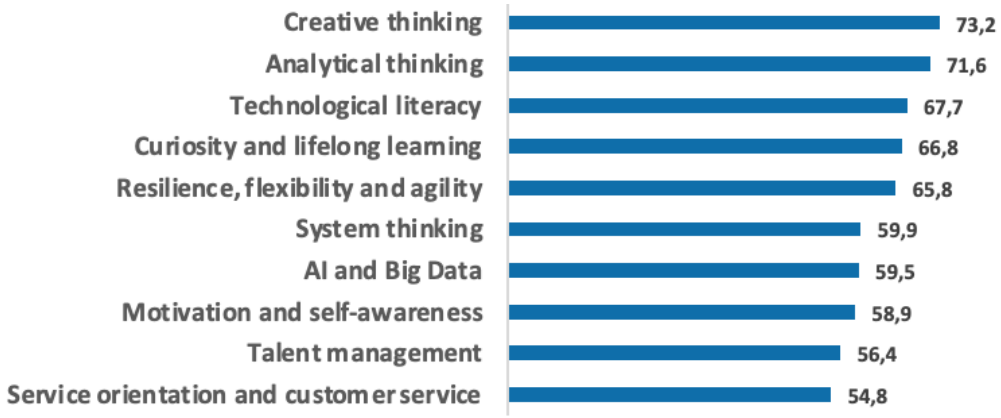
7 CAMBRIDGE UNIVERSITY PRESS. The importance of financial literacy and its impact on financial wellbeing. 2023. Available at: https://www.cambridge.org/core/journals/journal-of-financial-literacy-and-wellbeing/article/importance-of-financial-literacy-and-its-impact-on-financial-wellbeing/A5DBBF9D6F0696E5FD3733241EE28E66.

8 WORLD ECONOMIC FORUM. The Future of Jobs Report 2023. 2023. Available at: https://www.weforum.org/reports/the-future-of-jobs-report-2023.

pressing need to reform educational systems and training programs to adapt and prepare for the future skill demands.

A concerted learning effort is crucial not only for the future workforce but also for current employees since today's lifelong learning and upskilling opportunities fall short of meeting the needs of the workforce. These opportunities are often misaligned with labour market demands, such as critical thinking and soft skills[9], leading to talent scarcity across sectors.[10] On the other hand, the just transition to a greener economy[11] poses a focus on sustainable jobs that require new skills that the current workforce lack, generating a troublesome talent scarcity that can be impeditive for a sustainable economy growth. Skilling for green driven transition is needed in different sectors regarding climate change, sustainability, green and renewable energy, and environmental awareness.

Exhibit 1 – Top 10 upskilling and reskilling priorities by organizations.



Source: ILO Occupation Employment statistics.

9 ILO. World Employment and Social Outlook: trends 2023. 2023. Available at: https://www.ilo.org/media/366516/download.

10 GUIDANT GLOBAL. US Talent Shortages 2023: a talent scarcity report. 2023. Available at: https://www.guidantglobal.com/news/us-talent-shortages-2023-a-talent-scarcity-report/.

11 WORLD ECONOMIC FORUM. How to ensure a just transition to a green economy. 2023. Available at: https://www.weforum.org/agenda/2023/09/just-transition-climate-change/.

Policy Action 1.1

Enhance relevance and quality of basic / K12 education and VET for the future workforce to develop employable and entrepreneurship core skills by updating teachers' development, digital literacy, and sustainability skills, and by engaging business in mapping competency gaps and designing new curricula.

Executive Summary

Focused on providing people, especially young and underrepresented individuals, with the necessary tools to thrive academically and professionally through a high-quality basic/K12 and VET education that increases employability. This education should focus not only on teaching them traditional basic skills, such as STREAM (Science, Technology, Reading, Engineering, Arts, Math), but also digital and financial literacy, soft skills (i.e.: critical thinking, creativity, and complex reasoning), mental health awareness, emerging skills (i.e.: sustainability, AI, cybersecurity) and entrepreneurship skills. To do so, it is necessary to update teacher's education and teaching standards, equip them with suitable technological infrastructure and means, and foster business direct involvement in curriculums design.

Background and Context

Quality of basic / K12 and VET education for employability: mismatch of curriculum with the demands of the future of work, and lack of inclusive and personalized learning; technology infrastructure gap.

Teachers' development gap: digital literacy and sustainable skills.

Many teachers currently lack essential skills in digital literacy and sustainability, impacting their ability to employ modern teaching methods and prepare students for a technologically advanced and environmentally conscious world. An OECD study found that 58% of jobs require at least a basic level of digital proficiency.[12] Yet, a report by UNESCO revealed that 63% of teachers in low-income countries were ill-skilled to employ digital tools for teaching.[13] According to a survey by ISTE, only 34% felt "very prepared" to integrate digital tools into their teaching.[14]

Similarly, a lack of sustainability literacy among teachers impedes student preparation for climate-related challenges, with a WEF study noting that 80% of future jobs will demand environmental skills.[15]

12 OECD. The Future of Work: skills for a resilient workforce. 2023. Available at: https://www.oecd.org/future-of-work/skills-for-a-resilient-workforce.pdf.

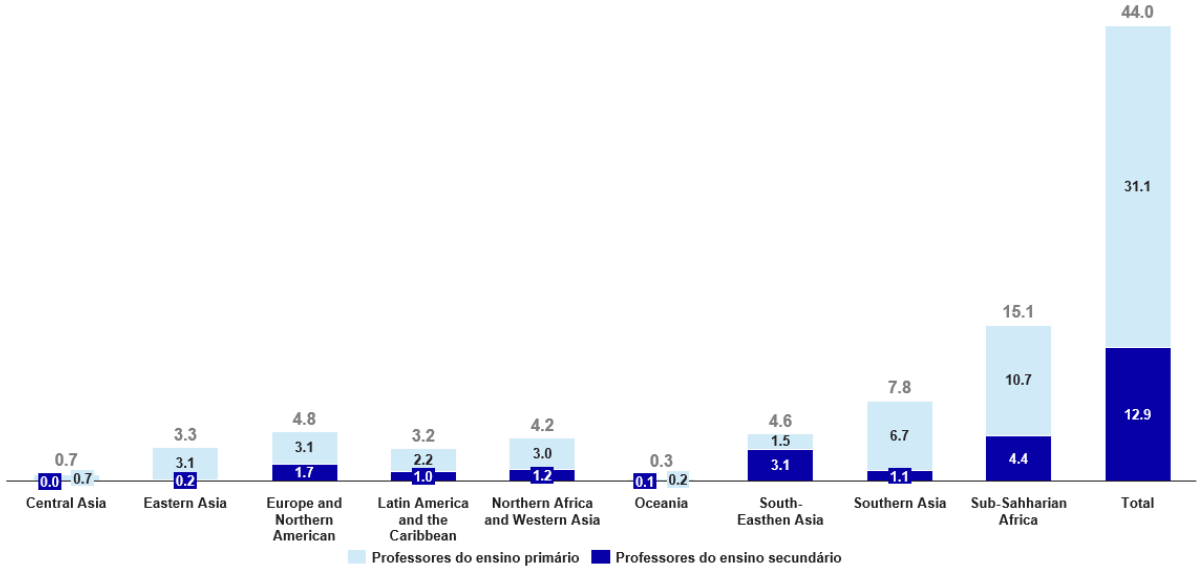
13 UNESCO. Global Education Monitoring Report 2022: non-state actors in education. 2022. Available at: https://en.unesco.org/gem-report/report/2022/non-state-actors.

14 ISTE – INTERNATIONAL SOCIETY FOR TECHNOLOGY IN EDUCATION. ISTE Standards for Educators Survey. 2022. Available at: https://www.iste.org/standards/iste-standards-for-educators.

15 WORLD ECONOMIC FORUM. The Future of Jobs Report 2023. 2023. Available at: https://www.weforum.org/reports/the-future-of-jobs-report-2023.

Teacher shortages exacerbate these issues. UNESCO projects that 44 million additional teachers[16] will be needed by 2030 to meet the global education goals set by the SDG and the Education 2030 agendas, particularly in secondary education. This situation contributes to overwhelmed educators, larger class sizes, educational disparities, and increased financial strain on institutions, leading to high attrition rates and the employment of underqualified teachers.

Exhibit 2 – Total teacher recruitment needs by region for 2030, by level (in Millions).



Source: Based on data from the UNESCO Global Report on Teachers (2024)

Outdated teaching standards.

There is a growing need to modernize teaching methods for better preparing students for the future of work, and to keep pace with technological advancements and a dynamic job market. The learning process has evolved, demanding structural changes in teaching approaches such as:

- Individualization of Learning: tailoring education to accommodate diverse student needs, learning styles, and paces. This shift aims to foster a more inclusive and effective learning environment.
- Critical Thinking and Creativity: moving away from traditional teaching methods with an overemphasis on memorization, which stifles critical thinking and creativity. A WEF report emphasizes that critical thinking and creativity are among the top skills required for future employment.[17]
- Integration of Technology: increasing the use of technology to engage students with content in interactive and innovative ways.

Modernizing these standards is essential for equipping students with the skills they need to thrive in a rapidly changing world. By updating teaching methods to reflect contemporary needs, educators can better prepare students for future challenges and opportunities.

16 UNESCO. Global Report on Teachers 2024. 2024. Available at: https://teachertaskforce.org/sites/default/files/2024-02/2024_TTF-UNESCO-Global-Report-on-Teachers_EN.pdf.

17 WORLD ECONOMIC FORUM. Future of Jobs Report 2023. 2023. Available at: https://www.weforum.org/publications/the-future-of-jobs-report-2023/.

Infrastructure and resource limitations.

Schools, particularly in underserved areas, frequently lack the technological infrastructure and tools for supporting digital and sustainability education, thus hindering teaching and learning processes. An ISTE study highlighted that inadequate technological resources in schools contribute to a significant digital skills gap among teachers, affecting their ability to integrate digital tools into instruction.[18] Moreover, a research by the DQ Institute emphasized the disparities in digital skills and infrastructure between low and high-income countries, underscoring the challenges faced by schools in underserved regions.[19] Additionally, a WB and IFC's report on digital skills in Sub-Saharan Africa revealed the pressing need for improved digital literacy and infrastructure to bridge the digital divide and enhance educational outcomes in developing regions.[20]

The education gap of basic/K12 education and VET with the evolving job market and industry needs.

Evolving job market demands and alignment to industry needs.

The job market is rapidly changing, requiring a broad array of complex skills that current educational curricula fail to provide. A report on learning trends underscores a disconnection between skills taught at schools and those required in the workplace. According to it, 74% of learning and development professionals worldwide believe there is a major skills gap affecting their industry that current educational curricula fail to address effectively.[21] Similarly, the WEF states that there is a significant need for skills like analytical thinking, innovation, and active learning, predicting that 50% of all employees will require substantial reskilling by 2025 to improve graduates' capacity for entering the workforce.[22]

Accordingly, educational institutions must therefore update their curricula, aligning education with industry requirements. Research from the International Labour Organization (ILO) supports this, urging a focus on foundational skills such as self-leadership and interpersonal abilities, as well as skills that combine creative, entrepreneurial, and technical capabilities. Related issues like traditional classroom's rigidity or insufficient adaptation of teaching methods to modern technologies should also be addresses. Fostering business direct involvement in curriculums design can contribute to better alignment to meet industries' needs also. Altogether, these actions can enhance students' employability, maintain curriculum relevance, and facilitate critical thinking in a swiftly evolving job landscape.

Incorporation of Human Skills and Mental Health Awareness.

Integrating human skills training and mental health education into the teaching curricula is essential. Following the OECD, skills like emotional intelligence, resilience and adaptability are predicted to be among the most highly sought by employers by 2025.[23] Moreover, a report by the WHO highlights the necessity of mental health education, stating that approximately 20% of adolescents worldwide suffer from mental health conditions.[24] Therefore, educational systems need to evolve to include these aspects more comprehensively, preparing students to thrive academically and professionally.

18 ISTE – INTERNATIONAL SOCIETY FOR TECHNOLOGY IN EDUCATION. ISTE Standards for Educators Survey. 2022. Available at: https://www.iste.org/standards/iste-standards-for-educators.

19 DQ INSTITUTE. Digital skills in the Global South: gaps, needs, and progress. 2023. Available at: https://iap.unido.org/articles/digital-skills-global-south-gaps-needs-and-progress.

20 WORLD BANK; IFC. Demand for Digital Skills in Sub-Saharan Africa**.** 2021. Available at: https://documents1.worldbank.org/curated/en/099614312152318607/pdf/IDU0b36e9e030767f0417e0afb806e2ffdf1e8bf.pdf.

21 LINKEDIN LEARNING. Workplace Learning Report. 2022. Available at: https://learning.linkedin.com/resources/workplace-learning-report.

22 WORLD ECONOMIC FORUM. **The Future of Jobs Report 2023**. 2023. Available at: https://www.weforum.org/reports/the-future-of-jobs-report-2023.

23 OECD. Employment Outlook 2022. 2022. Available at: https://www.oecd.org/employment-outlook/.

24 WHO – WORLD HEALTH ORGANIZATION. Mental Health in Adolescents. 2022. Available at: https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health.

Exploration of actions areas

Digital and sustainability literacy enhancement for educators.

In order to address the evolving educational needs, it is necessary to develop comprehensive training programs that equip basic education and VET teachers with the required skills and knowledge to effectively integrate digital literacy and sustainability into their teaching practices. These programs should cover a range of topics, including:

- Investment in comprehensive training programs: allocate funding for training programs that equip educators with the necessary skills and knowledge in digital technologies and sustainability. Ensure digital literacy is embedded in all subjects and grade levels, including understanding and using technology effectively and safely.
- Infrastructure enhancement: allocate funding to upgrade and expand technological infrastructure in schools and training centres to ensure access to digital resources for educators. Secure high-speed internet provision, followed by tools such as interactive whiteboards, educational software, and devices for professional development.
- Industry and academia collaboration: establish partnerships between the government, businesses, technology experts/providers, and educational institutions to design and deliver these training programs, ensuring they are aligned with the latest industry trends and research. Develop a competency framework for digital literacy, outlining specific skills educators need, such as coding, data analysis, and digital communication.
- Continuous support and resources: ensure educators have continuous access to professional development opportunities, digital tools, educational materials, and subject-matter experts to support constant learning and effective implementation.
- Incentives: consider offering incentives, such as professional development credits or salary increases, to encourage widespread participation in training programs.
- Monitoring and evaluation: implement a robust monitoring and evaluation framework to track the impact of training programs on teacher's confidence, classroom integration, and student outcomes, allowing for continuous improvement and adaptation. Introduce standardized assessments to certify educators' proficiency in digital and sustainability literacy. Assess the impact of the technological infrastructure investments on educators' digital and sustainability literacy skills. Regularly collect feedback from educators, students, and stakeholders to identify areas for improvement and ensure the effectiveness of the implemented policies.

Governments and businesses need to work together to implement these trainings particularly in under-resourced areas[25], while also providing regular updates as technology and digital tools evolve continuously, which can be resource intensive.

Case studies of successful initiatives.

- European Union's Digital Education Action Plan: launched in 2021, it aims to support member states in developing digital skills and competencies among educators. Early evaluations have shown promising results, with several countries reporting increased teacher confidence and improved student outcomes.[26]
- USA's Digital Literacy Primer: launched in 2022, it aims to raise awareness about the importance of digital literacy in achieving global development goals.[27]

25 UNESCO. Global **education monitoring report 2023**. 2023. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000385723.

26 EUROPEAN COMMISSION. Digital **education action plan** (2021-2027). 2021. Available at: https://education.ec.europa.eu/focus-topics/digital-education/action-plan.

27 U.S. AGENCY FOR INTERNATION DEVELOPMENT. Digital Literacy Primer. 2022. Available at: https://www.usaid.gov/digital-development/digital-literacy-primer.

- Australia's Sustainability in Schools program: created in 2022, it provides funding and resources for professional development in sustainability education for teachers. This initiative has been widely praised for its positive impact on environmental awareness and action in schools.[28]
- Kenya's Digital Literacy Programme: a public-private initiative which aims to equip all primary school teachers with digital skills and provide digital devices to schools across the country.[29]

Redesigning K12 and VET curricula through business engagement.

Access to high-quality education is crucial for promoting equal opportunities, especially for underrepresented groups, reducing disparities in educational goals and creating a more inclusive and diverse workforce. Moreover, the OECD has found that only 40% of employers are satisfied with recent graduates' skills, highlighting the disconnection between education and industry needs.[30] A 2022 survey by the Brookings Institution revealed that 60% of business leaders believe that the current education system is not adequately preparing students for the workforce.[31] To address the need for curriculum alignment and better prepare students for the evolving job market, the following actions are required:

- Establish industry advisory boards: create industry advisory boards for K12 and VET institutions, comprising representatives from various sectors, to advise on the development and regular review of curricula.
- Strengthen career guidance for the youth: expand businesses and education institutions partnerships to provide initial career guidance for children and young people, to reduce future labour shortages in priority sectors of the economy.
- Conduct skills gap analyses: encourage businesses and educational institutions collaboration for conducting regular skills gap analyses to identify underdeveloped high-demanded skills, including traditional basics (STREAM), emerging skills, and human skills.
- Integrate emerging skills: incorporate skills such as sustainability, AI, cybersecurity, digital and financial literacy, and entrepreneurship into the K12 and VET curricula, ensuring students are equipped with the knowledge and abilities to thrive in the rapidly changing job market. Additionally, foster mental health awareness through carefully designed wellness programs and support systems.
- Promote work-integrated learning: encourage and facilitate work-integrated learning opportunities, such as internships, apprenticeships, and project-based learning, to provide students with practical experience and exposure to real-world business challenges.
- Incentivize collaboration: offer financial incentives, tax credits, or other forms of support to businesses that actively engage in curriculum development, skills training, and work-integrated learning initiatives.
- Monitoring and evaluation: implement a robust monitoring and evaluation framework to track the impact of the curriculum redesign on student's outcomes, employment rates, and employer's satisfaction, allowing for continuous improvement and adaptation.

28 AUSTRALIAN GOVERNMENT DEPARTMENT OF EDUCATION. Sustainability in Schools Program. 2022. Available at: https://www.education.gov.au/sustainability-schools-program.

29 VODACOM; SAFARICOM. Connected Education. 2022. Available at: https://www.vodacom.com/pdf/what-we-do/africa-connected/connected-education.pdf.

30 OECD. Education at a Glance 2023. 2023. Available at: https://www.oecd.org/education/education-at-a-glance/.

31 BROOKINGS INSTITUTION. The **skills gap**: bridging the divide between education and workforce needs. 2022. Available at: https://www.brookings.edu/research/the-skills-gap-bridging-the-divide-between-education-and-workforce-needs/.

Case studies of successful initiatives.

- Germany's Dual Education System: effectively combines in-company apprenticeships with VET education at a vocational school in one course. This model has successfully addressed skill gaps by directly involving businesses in both training and curriculum development, ensuring that students gain relevant, employable skills.[32]
- South Korea's SMART Initiative: program aimed at reforming the K12 curricula, focusing on STREAM education. It involved collaboration between the government, universities, and major tech companies, who provided insights into future skill requirements, helping to tailor educational content to meet evolving technological needs.
- Australia's VET Reform Roadmap: includes initiatives to strengthen industry engagement in the design and delivery of VET programs.[33]

The G20 should therefore:

- Update national guidelines for teacher's development and standards of teaching to include digital literacy and sustainability skills and invest in training, technological infrastructure, and tools to develop a larger pool of well-prepared basic/K12 and VET educators.
- Engage businesses in mapping competency gaps and designing new K12/VET curricula, focusing on traditional core skills (e.g.: STREAM, digital, financial literacy); life skills (e.g.: critical thinking); mental health awareness (e.g.: empathy); emerging skills (e.g.: sustainability, AI, cybersecurity); and entrepreneurship skills.

32 FEDERAL MINISTRY OF EDUCATION AND RESEARCH. **The German vocational training system**. 2024. Available at: https://www.bmbf.de/bmbf/en/education/the-german-vocational-training-system/the-german-vocational-training-system_node.html.

33 AUSTRALIAN GOVERNMENT DEPARTMENT OF EDUCATION. VET Reform Roadmap. 2022. Available at: https://www.dese.gov.au/vet-reform-roadmap.

Policy Action 1.2

Foster reskilling and upskilling to close the talent scarcity gap and reduce skills mismatch, especially in digital and green proficiency, by developing financial incentives to promote programs and setting guidelines and frameworks to roll-out work-integrated learning solutions and to facilitate the recognition of skills.

Executive Summary

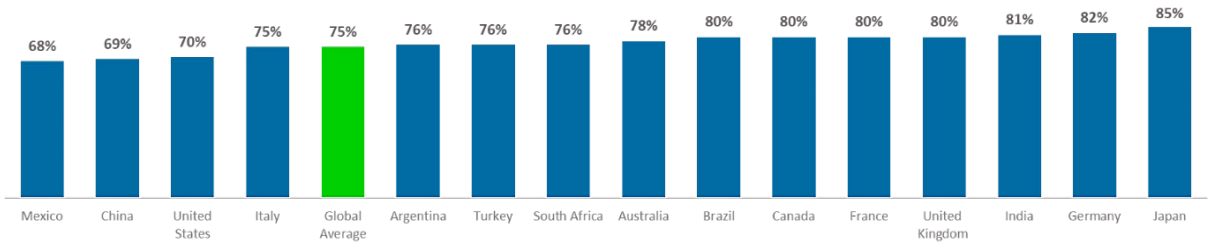
Focused on encouraging and supporting training programs that help individuals, at all career levels, gain new skills or improve existing ones, specifically targeting areas with insufficient skilled professionals. Policies should focus on two key areas: digital skills and skills for green driven jobs. To close the talent scarcity gap and reduce skills mismatch, policies can help by developing financial incentives to promote reskilling and upskilling programs, setting guidelines and frameworks to roll-out high-quality work-integrated learning solutions, and facilitating the recognition of skills certifications.

Background and Context

Persistent talent shortage aggravated by evolving workforce skill demands for digital skills and green-driven jobs.

The global context is experiencing significant talent scarcity in various areas. In 2024, 75% of employers worldwide report difficulties in finding the talent they need.[34] This situation is likely to worsen due to the expected job expansion resulting from the transition to more localized supply chains[35], mainly in manufacturing roles that demand Industry 4.0 skills.

Exhibit 3 – Talent scarcity around the World, selected countries (2024).



Percentage (%) of employers reporting difficulties in filling roles.
Source: ManpowerGroup – 2024 Global Talent Shortage Report

34 MANPOWERGROUP. The Global Talent Shortage. 2024. Available at: https://go.manpowergroup.com/talent-shortage.

35 WORLD ECONOMIC FORUM. Future of Jobs Report 2023: Up to a Quarter of Jobs Expected to Change in Next Five Years. 2023. Available at: https://www.weforum.org/press/2023/04/future-of-jobs-report-2023-up-to-a-quarter-of-jobs-expected-to-change-in-next-five-years/.

Companies are struggling to align their training programs with the rapid advancements in technology. By 2027, businesses predict that almost half of workers' core skills will be disrupted[36], particularly by AI and the green transition. Regarding the latter a study highlighted that, even though the proportion of sustainable talent has increased by a median of 12.3%, only one in eight workers possess one or more skills for the green-driven transition.[37] In this sense, fostering reskilling and upskilling programs focused on digital and green proficiency is strategic not only for closing the talent scarcity gap but also for contributing to sustainable development and the transition to a greener economy.

Mismatch between current learning opportunities and labour market requirements.

Educational institutions often lag in aligning their curricula with the rapidly changing job market, resulting in ill-prepared graduates that lack the skills that employers need, underemployment and skill shortages in key industries.

Lack of practical experience.

Theoretical knowledge forms the backbone of educational curricula. However, practical hands-on experience is crucial in helping students apply it to real-world scenarios, thereby enhancing their employability. According to a survey, 78% of employers look for resumes that include relevant internships or co-op experiences. This indicates a strong preference for candidates with practical experience over purely academic achievements.[38] The WEF highlights that experiential learning through apprenticeships or dual-learning systems not only helps bridging the skill gap but also equips students with abilities that are highly valued in the market, such as problem-solving and teamwork.[39] These findings suggest that integrating practical experience into educational programs is essential for preparing students to effectively meet the demands of today's job market. Such integration enhances employability and also ensures that students are better equipped to handle the practical challenges of their future professional lives.

Non-traditional learning paths.

The traditional education system often struggles to recognize and validate new learning trends and programs, including online courses, micro-credentials, and industry-specific certifications. This is critical since different studies show that these tools frequently show better alignment with present job market requirements. According to the Brookings Institution, approximately 60% of employers consider micro-credentials as equally or more valuable than traditional degrees.[40] Similarly, the Global Education Council states that learners who engage in online courses or earn industry-specific certifications show higher employment rates and improved job performance.[41] These findings underscore the necessity of integrating and legitimizing a broader array of educational options within the official educational frameworks. By doing so, educational systems can better serve a wider range of learners and prepare them more effectively for the challenges and opportunities of the modern workplace.

36 WORLD ECONOMIC FORUM. Six work and workplace trends to watch in 2024. 2024. Available at: https://www.weforum.org/agenda/2024/02/work-and-workplace-trends-to-watch-2024/.

37 LINKEDIN. Global Green Skills Report 2023. 2023. Available at: https://economicgraph.linkedin.com/content/dam/me/economicgraph/en-us/global-green-skills-report/green-skills-report-2023.pdf.

38 NACE – NATIONAL ASSOCIATION OF COLLEGES AND EMPLOYERS. Job Outlook 2022 Survey. 2022. Available at: https://www.naceweb.org/job-market/internships/the-importance-of-internships-co-op-experiences-in-job-search-2022/.

39 WORLD ECONOMIC FORUM. **The Future of Jobs Report 2023**. 2023. Available at: https://www.weforum.org/reports/the-future-of-jobs-report-2023.

40 BROOKINGS INSTITUTION. **Brookings** Report on Micro-Credentials and Employment. 2022. Available at: https://www.brookings.edu/research/the-promise-and-peril-of-microcredentials/.

41 GLOBAL EDUCATION COUNCIL. Global Education Council Report (2022**)**. Available at: https://www.globaleducationcouncil.org/2022-study-on-education-and-employment.

Continuous skill development in careers.

Rapid technological advancements and changes in fields of expertise creates a demand for lifelong skill development throughout an individual's career This underscores the need for creating integrated learning systems within the workplace. Reports highlight that 64% of professionals view the chance to acquire new skills as a critical factor in their career choices.[42] At the same time, the WEF states that 40% of workers requires reskilling of six months or less to adapt to new technological and business demands.[43] These findings emphasize the willingness and necessity to create educational structures that support continuous skill development and embed this learning within the workflow. This approach ensures that, even as the job landscape shifts, workers are equipped to adapt and thrive. Integrating continuous learning tools into the workplace helps maintain the workforce's relevance and competitive advantage in a rapidly evolving global market.

Exploration of actions areas

Developing low-interest loan programs for education in digital and green skills.

To address the growing demand for digital and green skills crucial for the modern workforce, creating low-interest loan programs tailored specifically to these educational needs is essential. These programs would provide accessible financial support to individuals seeking to enhance their qualifications in areas that are increasingly vital due to technological advancements and the global push towards sustainability. The WEF identifies these skills as pivotal in the transition to a greener economy and the Industry 4.0. It notes that jobs requiring digital skills are set to increase by 11% by 2025, while green skills roles are expected to see substantial growth due to global sustainability targets.[44]

The main characteristics of this loan programs strategy include:

- Target audience identification: identify the demographic groups with the strongest needs for upskilling or reskilling in digital and green areas, such as workers in transitioning industries or regions with high unemployment rates.
- Partnership development: collaborate with financial institutions and educational providers to ensure that the loan terms are favourable, and that the educational offerings are high-quality and aligned with labour market demands.
- Interest rate subsidies: governments could subsidize interest rates to increase loans' affordability. This subsidy could be adjusted based on the applicant's financial situation or the strategic importance of the skill being developed.
- Flexible repayment options: design repayment schemes that are contingent on the borrower's post-training income, thus reducing the financial risk and burden on the participants.

The implementation of this loan programs is expected to increase accessibility to necessary training, especially for underrepresented and low-income groups. Moreover, it would also enhance the employability of participants, directly aligning their skills with emerging market needs, and contribute to the economic transition towards more sustainable practices and digital integration.

42 LINKEDIN LEARNING. Workplace Learning Report. 2022. Available at: https://learning.linkedin.com/resources/workplace-learning-report.

43 WORLD ECONOMIC FORUM. **The Future of Jobs Report 2023**. 2023. Available at: https://www.weforum.org/reports/the-future-of-jobs-report-2023.

44 WORLD ECONOMIC FORUM. **The Future of Jobs Report 2023**. 2023. Available at: https://www.weforum.org/reports/the-future-of-jobs-report-2023.

Case studies of successful initiatives.

- Finland's Lifelong Learning Foundation (KVS): provides grants and scholarships for the adult population to pursue continuous education, with a focus on digital and green skills. The approach has successfully maintained one of the highest rates of adult education participation in Europe, demonstrating the effectiveness of direct financial support in lifelong learning.[45]
- Brazil's SENAI Vocational, Education and Training Schools: part of a broader network that includes partnerships among the government, industry, and educational providers to offer training in sectors like renewable energy and advanced manufacturing. By leveraging public and private funds, SENAI has established a model for effectively delivering industry-relevant training that supports Brazil's digital and green transition.[46]

United Arab Emirate's National Program for Coders: provides interest-free loans and funding to individuals and companies looking to upskill in future-focused digital and sustainability competencies. The program aims to train 100,000 coders by 2026.[47]

Implementing grant and scholarship programs for emerging technologies and sustainable practices.

Targeted grant and scholarship programs are powerful tools to meet the urgent demand for skills in emerging technologies and sustainable practices. These programs should be designed to support training in critical areas such as renewable energy, artificial intelligence, cybersecurity, and sustainable agriculture, aligning educational opportunities with future economic needs. This is crucial for fostering a workforce capable of driving innovation and addressing environmental challenges. An IRENA report highlights the need for skilled professionals in renewable energy sectors, projecting millions of new jobs worldwide by 2030 as countries ramp up efforts to meet climate goals.[48]

Implementation strategy includes:

- Identify high-impact areas: conduct market research and consultations with industry leaders to prioritize the areas for skill development within emerging technologies and sustainability.
- Develop accessible programs: design grant and scholarship programs that are accessible to a diverse applicant pool, including underrepresented groups and individuals from various socioeconomic backgrounds.
- Partnerships with educational institutions: collaborate with universities, vocational schools, and online education platforms to deliver specialized training programs that are up-to-date and industry relevant.
- Monitoring and evaluation: establish clear metrics to evaluate the effectiveness of the programs in meeting industry needs and enhancing employability, ensuring continuous improvement and adaptation.

The implementation of grant and scholarship programs targeted at training in emerging technologies and sustainable practices not only prepares the workforce for future challenges but also aligns educational outcomes with global economic and environmental trends. These initiatives help create a more dynamic, skilled, and responsive workforce equipped to thrive in an increasingly complex global landscape.

45 KVS. The Lifelong Learning Foundation. 2022. Available at: https://kansanvalistusseura.fi/en/home-page/.

46 SENAI/RS. The SENAI Innovation and Technology Institutes. 2024. Available at: https://www.senairs.org.br/institutos/senai-innovation-and-technology-institutes.

47 ARTIFICIAL INTELLIGENCE OFFICE; UAE. National Program for Coders. 2022. Available at: https://ai.gov.ae/np4c/.

48 IRENA. IRENA Renewable Energy and Jobs Annual Review 2022. 2022. Available at: https://www.irena.org/publications/2022/Jun/Renewable-Energy-and-Jobs-Annual-Review-2022.

Case studies of successful initiatives.

- Denmark's Green Transition Scholarship Program: funded by the Danish government, this program offers scholarships specifically for students in higher education pursuing degrees in areas related to the green transition, effectively supporting the country's ambitious environmental targets.
- India's Skill India Mission: this initiative includes a focus on training in solar technology, biotechnology, and other sustainable fields, supported by government grants and scholarships to promote participation and completion.[49]

Developing comprehensive guidelines for dual-learning systems, apprenticeships, and mentorships.

To strengthen the integration of work-based learning models such as dual-learning systems, apprenticeships, and mentorships into national education systems, it is essential to create comprehensive guidelines that outline clear standards and processes. These guidelines should serve as a blueprint to ensure the consistency, quality, and effectiveness of these programs across various sectors and regions. Structured and standardized work-based learning programs are proven to significantly enhance employability and skills acquisition. According to the OECD, countries with robust apprenticeship programs see higher employment rates among young adults, suggesting that these structured learning pathways are effective bridges between education and work.[50] These programmes are not only a valuable pathway to employment, but also a mechanism for social integration. Furthermore, such programs are pivotal in addressing skill shortages, particularly in industries undergoing rapid technological change.

Creating comprehensive guidelines for implementing dual-learning systems, apprenticeships, and mentorships is crucial for aligning educational programs with labour market needs. By setting clear standards and processes, and allowing for regional adaptation, these guidelines can help maximize the impact of work-integrated learning programs. The involvement of all relevant stakeholders in the development and continuous improvement of these guidelines ensures that the programs remain relevant, effective, and beneficial for students, employers, and the broader economy.

Implementation strategy includes:

- Stakeholder engagement: involve educational institutions, industry leaders, and policymakers in the development of guidelines to ensure they address the needs and expectations of all stakeholders.
- Standardization of training quality: define uniform standards for training delivery, assessment, and certification to ensure that all participants receive high-quality and relevant experiences regardless of their location or sector.
- Flexibility and regional adaptation: while maintaining certain core standards, allow for flexibility in how programs are implemented regionally to cater to local economic conditions and industry demands.
- Monitoring and evaluation: establish mechanisms for ongoing monitoring and evaluation to continually improve program quality based on feedback and outcomes.

Case studies of successful initiatives.

- Brazil's S System (SENAI, SENAC, etc.): offers various vocational training programs that include apprenticeships, heavily integrated with Brazilian industries, enhancing employability and skill levels.[51]

49 SKILL INDIA. Skill India. Available at: https://www.skillindia.gov.in.

50 OECD. OECD Employment Outlook 2022. 2022. Available at: https://www.oecd.org/employment/outlook/.

51 SENAI. Excellence in technical education and technological development. 2023. Available at: http://www.portaldaindustria.com.br/senai/en.

- Australia's Microcredentials Marketplace: a platform that allows for the recognition and portability of micro-credentials across sectors, enhancing their value in the job market.[52]
- In Morocco, post-COVID apprenticeship programs have been implemented to support employment recovery, particularly in the manufacturing sector. These programs are designed in partnership with established firms and involve contracts that combine training and employment. Key objectives include: correcting skill mismatches and addressing information asymmetry in the labour market, encouraging firms to invest in training by providing government co-financing and regulatory incentives, and enhancing certification processes to ensure that apprenticeships lead to recognized qualifications.[53]
- In Canada, each province tailors its apprenticeship programs to local industry needs, which enhances the relevance and effectiveness of training.[54]

Facilitating partnerships for co-funding and co-designing training initiatives.

To effectively address the skills gap in today's rapidly changing job market, it is crucial to facilitate partnerships between government, businesses, and educational institutions. These collaborations should aim to co-fund and co-design training initiatives that are directly aligned with industry needs, ensuring that students and workers acquire relevant, up-to-date skills. Research shows that partnerships involving multiple stakeholders can lead to more robust and relevant training programs that better prepare individuals for the workforce. According to the WEF, such collaborative efforts are essential for developing the agile and skilled workforce needed to thrive in the Fourth Industrial Revolution.[55] These partnerships allow for shared expertise, resources, and financial responsibilities, making the development and implementation of training programs more viable and effective.

Facilitating partnerships between government, businesses, and educational institutions to co-fund and co-design training initiatives is a strategic approach for enhancing the relevance and effectiveness of educational programs. These collaborations not only distribute the financial burden but also incorporate diverse expertise into the training process. This significantly improves the alignment of educational outcomes with labour market demands. Through structured partnerships and shared responsibilities, stakeholders can develop training initiatives that are practical, innovative, and responsive to the dynamic needs of today's economy.

Implementation strategy includes:

- Establish formal partnership agreements: define clear roles, responsibilities, and contributions for each party to ensure transparency and accountability.
- Joint funding mechanisms: develop shared funding models where costs are distributed among government, private sector partners, and educational institutions, leveraging each sector's financial resources.
- Co-design of curricula: engage industry experts in curriculum development to ensure that courses meet current and future job market requirements.
- Monitoring and evaluation: implement robust monitoring and evaluation systems to assess the effectiveness of the training programs and allow for continuous improvement based on feedback from all stakeholders.

52 AUSTRALIAN GOVERNMENT. Department of Education. National Micro-credentials Framework. 2023. Available at: https://www.dese.gov.au/quality-assured-microcredentials.

53 UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION. Apprenticeship schemes to support post-COVID employment recovery in Africa's manufacturing sector. 2022. Available at: https://www.unido.org/stories/apprenticeship-schemes-support-post-covid-employment-recovery-africas-manufacturing-sector.

54 CANADIA APPRENTICESHIP FORUM. Canadian Apprenticeship Forum. 2024. Available at: https://caf-fca.org/.

55 WORLD ECONOMIC FORUM. Public Private Cooperation for the Jobs of Tomorrow. 2022. Available at: https://www.weforum.org/agenda/2022/01/public-private-cooperation-for-the-jobs-of-tomorrow/.

Encouraging and facilitating partnerships between government, educational institutions, and industry is a strategic approach to workforce development. These collaborations not only enhance the relevance and effectiveness of training programs but also contribute to a more adaptable and skilled workforce, poised to meet the challenges of the modern economy.

Case studies of successful initiatives.

- Germany's Dual Education System: this renowned system integrates apprenticeships with vocational education, heavily involving industry partners in both funding and curriculum design, ensuring that students acquire relevant, job-ready skills.[56]
- USA's TechSF (San Francisco): a local government initiative that partners with tech companies and educational institutions to provide training in tech skills. This program has been successful in upgrading the skills of the existing workforce and ensuring alignment with the needs of the booming tech industry in the region.[57]

Establishing a legal framework for micro-credentials and non-traditional education paths.

To meet the evolving demands of the global workforce, there is a pressing need to create a robust legal framework that recognizes and validates micro-credentials and non-traditional education paths. This framework should ensure that these forms of education are seen as legitimate and valuable routes for career advancement and higher education. The labour market increasingly values diverse skill sets and specialized knowledge that traditional degrees may not always offer. According to ILO, micro-credentials have emerged as crucial tools for rapid upskilling and reskilling, particularly in response to technological changes and economic shifts.[58] By creating a legal framework that recognizes these credentials, governments can enhance workforce agility and meet employer demands more effectively.

Implementation strategy includes:

- Define standards and quality assurance: establish clear standards for the issuance and assessment of micro-credentials to ensure their quality and relevance.
- Integrate with existing educational and professional frameworks: align micro-credentials with existing degrees, certifications, and professional development pathways to enhance their credibility and utility.
- Stakeholder collaboration: collaborate with educational institutions, industry leaders, and accreditation bodies to develop consensus on the value and recognition of micro-credentials.
- Public awareness and advocacy: implement public awareness campaigns to educate stakeholders about the benefits and opportunities associated with micro-credentials and non-traditional education paths.

Case studies of successful initiatives.

- New Zealand has implemented policies that formally recognize micro-credentials, providing a framework that ensures their quality through rigorous approval and monitoring processes.[59]
- European Union's Europass platform: created in 2004 it provides a comprehensive approach to recording all learning achievements, including non-traditional pathways, making them transparent and comparable across Europe.[60]

56 FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING. Available at: https://www.bibb.de/govet/en/37711.php.

57 TECHSF. Available at: https://oewd.org/techsf.

58 ILO – INTERNATIONAL LABOUR ORGANIZATION. Micro-credentials: Powerful new learning tool, or just pouring old wine into new bottles?. 2024. Available at: https://www.ilo.org/resource/news/addressing-major-labour-market-challenges-world-work-what-are-implications-0.

59 NEW ZEALAND QUALIFICATIONS AUTHORITY. Micro-credentials. 2024. Available at: https://www.nzqa.govt.nz/qualifications-standards/micro-credentials/.

60 EUROPEAN UNION (2023). Europass : passez à la vitesse supérieure. 2023. Available at: https://europa.eu/europass/fr.

The G20 should therefore:

- Develop financial incentives (e.g.: loan schemes, tax credit, grants and scholarships, public private partnerships) for individuals and businesses, to promote reskilling, upskilling, and work-integrated learning programs, especially those focusing on digital and green skills.
- Set guidelines and policy frameworks, in close collaboration with businesses, to roll-out high-quality work-integrated learning solutions (e.g.: dual-learning systems, apprenticeships, mentorships), and to facilitate the recognition of skills certifications, non-traditional education programs and micro-credentials.

RECOMMENDATION 2

Recommendation 2

Recommendation is partially aligned with previous B20 editions

Ensure a Diverse, Inclusive, and Adaptable Workforce

Policy Actions

Policy Action 2.1: Promote diverse and inclusive work environments by implementing reward regulation for companies to promote access to work and career progression opportunities for underrepresented groups, and by strengthening financial incentives to support care provisions.

Policy Action 2.2: Support the transition of workers into the formal economy by adapting regulatory frameworks to recognize alternate and future forms of work and the impact of technology in jobs; and facilitate job mobility by establishing international tax frameworks, labour information systems, and standards for safe and regular migration.

Key Performance Indicators	Baseline	Target	Classification
Proportion of women in leadership positions Female proportion in leadership *Source: WEF*	**33.5%** (2022)	**35.9%** (2028)	New indicator
Women's workforce representation Female proportion in the workforce *Source: WEF*	**46.6%** (2023)	**46.9%** (2028)	Aligned with previous B20s editions
Proportion of informal employment in total employment Percentage of informal main jobs in relation to total employment *Source: OECD*	**30.3%** (2022)	**27.7%** (2028)	New indicator

Current KPIs are available for only a few countries and are not tracked consistently every year. Improving the measurement, quality, and coverage of KPIs is essential for effectively tracking and evaluating public policies. Accurate and comprehensive KPIs enable better assessment of policy impacts, promote transparency, and ensure accountability. Expanding KPI coverage across more G20 countries also allows for more inclusive and equitable policy analysis, particularly in underrepresented regions, thus supporting informed and effective decision-making global.

SDGs

Recommendation 2 contributes to the achievement of the following UN SDGS

SDG 1: No Poverty – by fostering equal access to work and career progression opportunities to underrepresented groups, and flexible forms of work and job mobility to support the transition of workers into the formal economy, helping them reach economic stability; **SDG 2: No Hunger** – by enhancing employment opportunities and backing the transition to formal work, especially for underrepresented groups; **SDG 5: Gender Equality** – by committing to reduce gender opportunity, wage, and representation gaps through reward regulation for companies and by strengthening financial incentives to support care provisions; **SDG 8: Decent Work and Economic Growth –** by supporting the transition of workers into the formal economy, recognizing alternate and future forms of work, and facilitating job mobility, leading to sustainable economic growth; **SDG 10: Reduced Inequalities** – by promoting equal access to work and career progression opportunities to underrepresented groups.

Relevant B20 Brasil Guiding Claims

Recommendation 2 has the strongest impact on 2 B20 Brasil Guiding Claims:

"Promote inclusive growth and combat hunger, poverty, and inequalities" by supporting social-economic inclusion and reducing inequalities by creating opportunities for individuals from various backgrounds to participate in economic activities, reducing disparities and empowering underrepresented groups;

"Enhance human capital" by promoting work opportunities for underrepresented groups, leading to professional development and career progression, and by recognizing flexible forms of work and the impact of technology in jobs, adapting and enhancing available human capital.

Relevant G20 Brasil Priorities

Recommendation 2 contributes to the following priorities of the G20 Brasil:

G20's Education Working Group priorities.

i. Valuing and building capacity of education professionals: what can we collectively do?
ii. Connecting managers of digital resource platforms: the sharing of education material on Education for Sustainable Development.

G20's Employment Working Group priorities.

i. The creation of quality jobs and the promotion of decent work, to ensure social inclusion and eliminate poverty.
ii. The imperative of a just transition in the face of digital and energy transformations.
iii. The use of technologies as a means of improving everyone's quality of life.
iv. Gender equity and the promotion of diversity in the world of work.

Recommendation 2 contributes to addressing **G20's Brasil Education Working Group** priorities by recognizing and emphasizing the impact of technology in jobs, and fostering inclusive environments, valuing the development of education professionals with digital and sustainability skills.

Recommendation 2 contributes to **G20' Brasil Employment Working Group** priorities by promoting equal access to work opportunities for underrepresented groups, recognizing alternate forms of work; by fostering diverse and inclusive work environments, providing opportunities for underrepresent groups to adapt to transformations; by adapting regulatory frameworks to recognize alternate and future forms of work and the impact of technology in jobs; and by implementing reward regulation for companies to promote access to work and career progression opportunities to women and strengthening financial incentives to support care provisions.

Context

Improving the working conditions for underrepresented groups (based on their gender, age, minority status, and others), informal and migrant workers require addressing a set of hurdles. These include socioeconomic factors, traditional gender roles and outdated frameworks, misaligned with current forms of work and technological trends. To tackle these issues and ensure a diverse, inclusive, and adaptable workforce it is necessary to advance on the adaptation of regulatory framework and policies that foster equality in the workplace, address informality and facilitate sustainable job migration.

Workforce disparities.

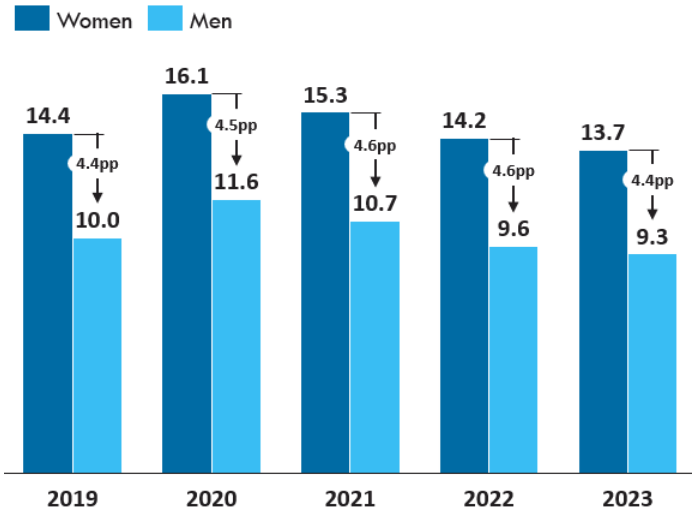
Systemic discrimination based on gender, ethnicity, age, and handicap in the education and employment sectors hinders efforts towards greater inclusion and the establishment of robust workplace safeguards.[61] Women, in particular, bear the brunt of unemployment, a trend driven by a complex interplay of socioeconomic factors, including traditional gender roles such as societal expectations for women to assume caretaker roles.[62] Despite societal advancements, these factors have remained largely unchanged over the years. The disparity in work opportunities, referred to as the 'Jobs Gap,' is more pronounced among women. Women's Jobs Gap surpasses that of men by 4 percentage points.[63] This gender disparity is most evident in least-developed countries, underscoring the need for targeted interventions in these regions.

61 UNESCO. Ending Discrimination in Education: a key instrument to protect the right to education. 2023. Available at: https://www.unesco.org/en/articles/ending-discrimination-education-key-instrument-protect-right-education.

62 UN WOMEN. Facts and figures: Economic empowerment. 2024. Available at: https://www.unwomen.org/en/what-we-do/economic-empowerment/facts-and-figures.

63 WORLD ECONOMIC FORUM. Global Gender Gap Report 2023. 2023. Available at: https://www.weforum.org/publications/global-gender-gap-report-2023/.

Exhibit 4 – Evolution of Jobs Gap rate by gender, 2019-2023, %



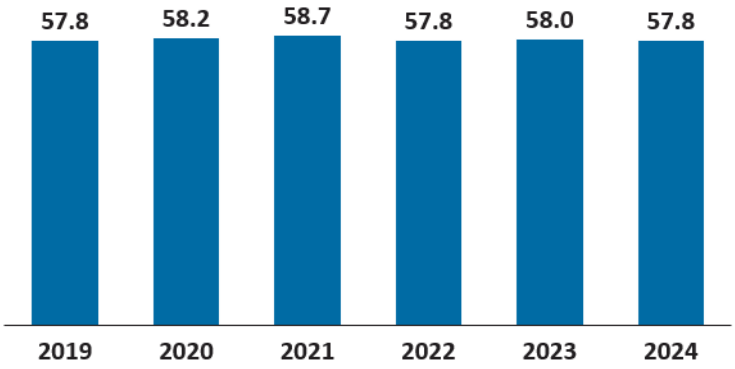
Source: ILOSTAT, ILO modelled estimates, November 2023

The gender gap mostly stems from disparities in accessibility to initial education and/or on the lack of incentives to pursue certain fields of study and bias in navigating education options. In many societies, we observe a relatively low proportion of girls enrolling in mathematics, computer science and science classes, which in turn impacts the gender disparity observed in fields such as engineering or digital economy.

Work informality.

Prolonged and challenging economic conditions have perpetuated high levels of informality in recent years. Approximately 58% of the world's employed population is projected to be part of the informal economy from 2019 to 2024. This sector plays a significant role in income generation and work creation, particularly in emerging and developing economies.[64]

Exhibit 5 – Informality rate, 2019 – 2024, %



Source: Statista

64 WORLD BANK. The Long Shadow of Informality: Challenges and Policies. 2022. Available at: https://www.worldbank.org/en/research/publication/informal-economy.

Policy Action 2.1

Promote diverse and inclusive work environments by implementing reward regulation for companies to promote access to work and career progression opportunities for underrepresented groups, and by strengthening financial incentives to support care provisions.

Executive Summary

Persistent and growing inequalities in education and employment, particularly across gender, ethnicity, and age, along with discrimination in the workplace and the prevalence of informal work, undermine efforts to create more equitable and inclusive economies. These issues limit access to opportunities for underrepresented groups and impact the realization of their full potential. This calls for comprehensive policies to combat discrimination, implementing reward regulation for companies to promote access to work and career progression for these groups, and by strengthening financial incentives to support care provisions.

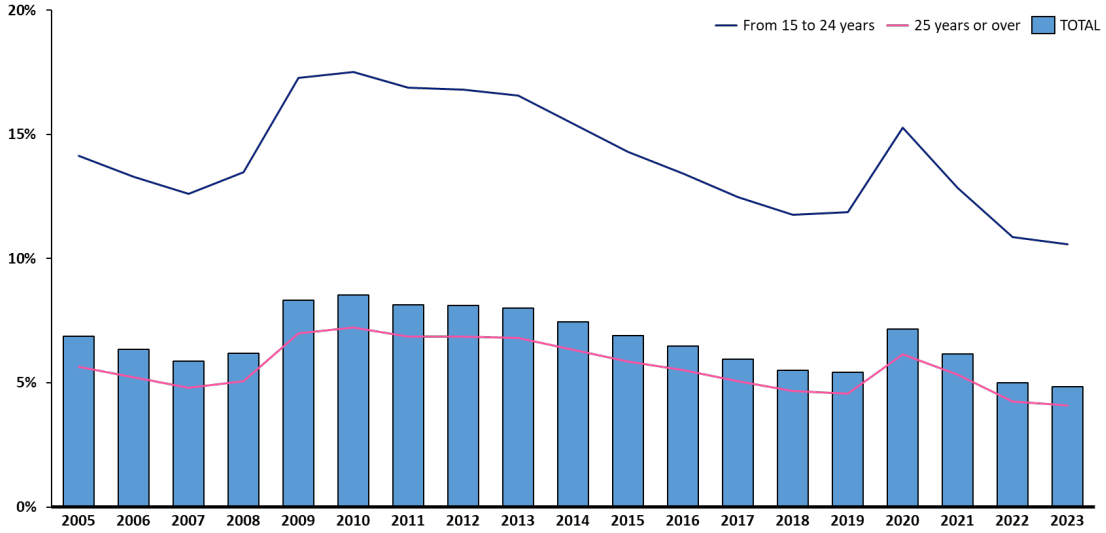
Background and Context

The unemployment rate is accentuated in gender, age (e.g., youth and elderly), and minorities (rural vs urban, lower, and higher incomes quintile, disability status, indigenous peoples, and more).

In January 2024, the unemployment rate in the OECD remained steady at 4.8%, continuing its trend of staying below 5.0% since July 2022. The decline in the number of unemployed individuals in the OECD to 33.5 million was primarily attributed to a decrease in unemployment among younger workers aged 15-24.[65] Despite that, unemployment rate is still higher among the 15 to 24 age group, with a larger gap observed in the post-COVID-19 era. Geopolitical tensions and macroeconomic challenges led the world to a moment of instability and uncertainty. Young people typically find it harder to find work after economic recessions and crises, facing more competition for fewer opportunities.

65 OECD. Unemployment rate. 2024. Available at: https://www.oecd.org/sdd/labour-stats/unemployment-rates-oecd-03-2024.pdf.

Exhibit 6 – Unemployment rate as % of labour force (OECD Countries) by age group, 2005-2023, %.



Source: OECD Data – Unemployment rate by age group, % of labour force 2005-2023

Current educational gaps and unemployment have more impact among the younger generations, resulting in youth not in employment, education, or training (NEET). NEETs are at the risk of becoming socially excluded – individuals with income below the poverty-line and lacking the skills to improve their economic situation. This trend needs to be addressed to ensure a sustainable economy alongside the workforce of the future, with different targeted policies regarding both reskilling and employment actions.

Despite significant progress in gender equality and women's empowerment, disparities in employment opportunities continue to exist. Beyond being a persistent challenge, the pandemic seems to have increased the gender unemployment gap.

Legal and policy frameworks to promote diverse and inclusive work environments are not a reality for all countries in the G20.

According to the UN Women[66], "many parts of the world have yet to develop legal frameworks. Based on available data for 120 countries and areas, 28 still do not have laws granting women equal rights to enter marriage and initiate divorce, 67 countries lack laws that prohibit direct and indirect discrimination against women, and in 53 countries, the law does not mandate equal remuneration for work of equal value." It is important to support access to employment for individuals who are furthest from the job market, including those with disabilities. To achieve this, it is necessary to foster partnerships between the private sector and relevant associations to enhance their employability. For instance, France Assureurs[67] has signed an agreement with the National Association for the Professional Integration of Disabled People to promote the employment of disabled individuals into the insurance industry.

Moreover, 32 of the 37 OECD countries impose more restrictions on collective dismissals than on individual dismissals, mostly because of stricter consultation requirements before notice can be given. These higher restrictions reflect the greater challenge for the economy of dealing with a collective dismissal. Nevertheless, pooling several individual layoffs in one collective dismissal can, in some cases, reduce the administrative burden of the firm.[68]

66 UN Women. Progress on the sustainable development goals: The Gender Snapshot 2023. 2024. Available at: https://www.unwomen.org/sites/default/files/2023-09/progress-on-the-sustainable-development-goals-the-gender-snapshot-2023-en.pdf.

67 FRANCE ASSUREURS. France Assureurs signe la Charte #activateurdeprogrès de l'Agefiph pour l'emploi des personnes en situation de handicap dans le secteur de l'assurance. 2023. Available at: https://www.franceassureurs.fr/espace-presse/signature-charte-activateurdeprogres-emploi-personnes-situation-handicap/.

68 OECD. Recent trends in employment protection legislation. 2020. Available at: https://www.oecd-ilibrary.org/sites/af9c7d85-en/index.html?itemId=/content/component/af9c7d85-en.

Cultural norms and bias.

Between 2011 and 2021, the employment rates of recent arrivals have risen in over two-thirds of countries. The better labour market performance of recent migrants is partly attributable to their higher educational attainment compared with previous cohorts: nearly half were educated to tertiary level in 2020 in the OECD, against less than one-third 10 years earlier. Cultural norms and bias (e.g., bias in hiring) related to gender and different minorities continue to slow the progress to equality in the workplace. A survey developed by the Pew Research Centre showed that in 16 out of the 23 countries in their sample, the share of people who agreed with the statement "when jobs are scarce, men should have more right to a job than women" was above 40%. No threshold for this statistic would be acceptable, but having such a disparity in the sample reinforces the role of institutions to implement actions that can make structural changes.

Underrepresented groups struggle in career progression.

Beyond the barriers to accessing formal work, on a closer look, gender disparities are also a burning platform when it comes to leadership positions. Women are underrepresented in boardrooms across all industries, facing stiff competition from men when disputing promotions since mid-seniority positions. According to LinkedIn data, the representation of women in senior leadership positions, such as Directors, Vice-Presidents, and C-suite executives, was at 32.2% in 2023. This is nearly 10 percentage points lower than the overall workforce representation of women, which stands at 41.9%. Women continue to be outnumbered by men in senior leadership roles across all industries, particularly in fields like Manufacturing (24.6% women), Agriculture (23.3%), Supply Chain and Transportation (23.0%), Oil, Gas and Mining (18.6%), and Infrastructure (16.1%).[69]

Socio-economic disparities hinder access to education and training. At the same time, there is a lack of comprehensive policy frameworks to support education and labour market integration, with limited partnerships between educational institutions and the private sector. This constrained access to quality education, digital divides and financial insecurity exacerbates inequalities and restrain opportunities for underrepresented groups in the labour market.

Exploration of actions areas

Implement reward regulation to promote career progression opportunities.

As organizations transform and labour markets evolve, businesses are expected to take a leading role in aiding vulnerable and disrupted talent groups, while promoting Diversity, Equity, and Inclusion (DEI). Despite only a fraction (less than one-fifth) of organizations planning to implement DEI programmes to enhance talent availability, a substantial majority (over two-thirds) of the surveyed organizations already have a DEI program in place. This prevalence is even more pronounced in larger organizations, with 92% of companies employing over 50,000 people reporting the existence of such initiatives.[70]

Businesses perceive government funding for skills training as the most potent intervention for bridging the gap between talent and employment. The provision of funds for reskilling and upskilling is considered the top public policy that can enhance talent availability across all sizes of companies, regions, and industries. Research has consistently shown that higher tenure workers tend to experience greater adjustment costs following job displacement than lower tenure workers do, including because of the higher cost of reskilling. As older workers have on average longer tenure on the job than younger workers, higher adjustment costs of reallocation are therefore expected for those older workers who

69 WORLD ECONOMIC FORUM. Global Gender Gap Report 2023. 2023. Available at: https://www.weforum.org/publications/global-gender-gap-report-2023/.

70 FLUCHTMANN, J., M. KEESE and W. ADEMA. Gender equality and economic growth: Past progress and future potential. OECD Social, Employment and Migration Working Papers, Paris, n. 304, 2024. Available at: https://doi.org/10.1787/fb0a0a93-en.

are currently employed in carbon intensive industries. Furthermore, existing evidence shows that when older workers are displaced, they are likely to be out of work longer. In addition, if they find a new job, they replace less of their former wages than their younger counterparts.[71]

Care provisions in childcare and parental leaves.

Given that the gender wage gap is predominantly found within companies, it's essential to direct policy interventions towards enhancing employment and pay practices within these entities. Antidiscrimination and equal pay laws are established across OECD nations and indeed globally. These laws are vital for securing workers' rights. However, they place the responsibility on individual employees to ensure employers' compliance, thereby doing little to narrow the gender pay gap on a larger scale. Nevertheless, there are specific policy measures aimed at companies to help reduce gender pay gaps, including quotas and voluntary targets to elevate women to senior positions in businesses, gender pay gap reporting, equal pay audits, and other pay transparency policies that foster gender equality in the workplace. These measures offer current data on a company's gender pay gap, motivate employers to provide equal pay for work of equal value, and equip individual workers and their representatives with key insights to advocate for pay equity.[72]

Case studies of successful initiatives.

- Brazil's Programa Empresa Cidadã: maintained by the Brazilian Federal Revenue agency, the program aims to provide tax benefits to companies that offer extended maternity and paternity leave to their employees. Initially, it focused solely on maternity leave, but later included the extension of the benefit to paternity leave. The primary objective of the program is to promote longer periods of exclusive breastfeeding and reduce infant mortality rates in the country. Through the deduction of the extended leave costs from taxes, the government encourages companies to prioritize the welfare of their employees and contribute to the overall improvement of public health in the country.[73]
- Brazil's Employment and Income Generation Program of the FAT (PROGER): a set of financing lines created to enhance public policy for tackling unemployment. It focuses on providing financing for small-scale enterprises in various sectors of the economy, with emphasis on tourism, exports, and technological innovation. These actions have proven to be effective instruments of public policy for job creation, income generation, social inclusion, and improvement of workers' quality of life.[74]
- UAE's Federal Decree on Parental Leave: in 2020, the UAE introduced a federal decree mandating five paid working days of parental leave for private sector employees, applicable to both mothers and fathers. This policy aims to support working parents and promote gender equality by allowing both parents to participate in early childcare responsibilities.[75]
- Countries are focusing on facilitating legal migration to fill labour gaps, with measures such as more flexible admission conditions, increased quotas, and streamlined immigration procedures.[76]
- Spain has reformed its General Immigration Law to address labour shortages and attract legal labour migrants into needed occupations. The core changes revolved around facilitating work permits and streamlining processes for migrants, including students and seasonal workers.

71 OECD. Labour and social policies for the green transition: A conceptual framework. 2023. Available at: https://www.oecd-ilibrary.org/deliver/028ffbeb-en.pdf?itemId=%2Fcontent%2Fpaper%2F028ffbeb-en&mimeType=pdf.

72 OECD (2024). Gender equality and economic growth: Past progress and future potential. https://www.oecd-ilibrary.org/deliver/fb0a0a93-en.pdf?itemId=%2Fcontent%2Fpaper%2Ffb0a0a93-en&mimeType=pdf

73 BRAZIL (2023). Receita Federal. Programa Empresa Cidadã. Available at: https://www.gov.br/receitafederal/pt-br/assuntos/orientacao-tributaria/beneficios-fiscais/programa-empresa-cidada/orientacoes.

74 BRAZIL (2023). Receita Federal. Available at: https://www.gov.br/trabalho-e-emprego/pt-br/assuntos/inclusao-produtiva.

75 DLA Piper (2020). Decree introduces parental leave to the UAE private sector and extends equal pay provision to work of equal value. Available at: https://www.dlapiper.com/en-ae/insights/publications/2020/09/decree-introduces-parental-leave-and-extends-equal-pay.

76 OECD (2023). International Migration Outlook 2023. Available at: https://doi.org/10.1787/b0f40584-en.

- The German Government passed a reform of the German Immigration Act for Skilled Workers in July 2023. This broadened the EU Blue Card eligibility, eased skilled worker immigration requirements, and allowed temporary low-skilled labour migration. In addition, a new points-based job-search visa is being planned.
- The Australian Government is reviewing its immigration system to rebalance temporary and permanent programs, aiming to create more permanent residency pathways for skilled migrants. Other changes also include addressing occupational shortages and streamlining intra-company transfers.

The G20 should therefore:

- Implement reward regulation for business to comply with voluntary goals/targets to promote access to work and career progression opportunities for underrepresented groups (according to country and sector-specific groups, such as women, youth, refugees, migrants).
- Strengthen financial incentives for business to support care provisions in childcare and parental leaves, in consultation with employers, to limit the disproportionate impact on MSMEs.

Policy Action 2.2

Support the transition of workers into the formal economy by adapting regulatory frameworks to recognize alternate and future forms of work and the impact of technology in jobs; and facilitate job mobility by establishing international tax frameworks, labour information systems, and standards for safe and regular migration.

Executive Summary

Focused on helping workers move from informal to formal work by making job markets more adaptable, leveraging alternate and future forms of work and enabling employees to blend on-site and remote work effectively. Thus, these policies aim to promote work-life balance, increase productivity across various sectors, and facilitate job mobility by establishing international tax frameworks, collaborative labour information systems, and standards for safe and regular migration.

Background and Context

Informality remains a high portion of current jobs.

In low-income countries, the informal sector accounts for an even higher participation in total jobs and has implications for the overall unemployment rate and work quality in the global workforce. Informal employment represents 89.0% of total employment in low-income countries, 81.6% in lower-middle-income countries, 49.7% in upper-middle-income countries and 15.9% in high-income countries.[77] Global economic integration can drive growth and efficiency, but its impact on formal job creation in developing countries is unclear. It has reduced informal employment in upper-middle and high-income countries, but not in lower-income ones. The growth of global value chains (GVCs) presents complex challenges, with informality within GVCs depending on various factors, including types of linkages, production organization, governance modes, and sectors. GVCs in agriculture and garment manufacturing have significant informal employment.

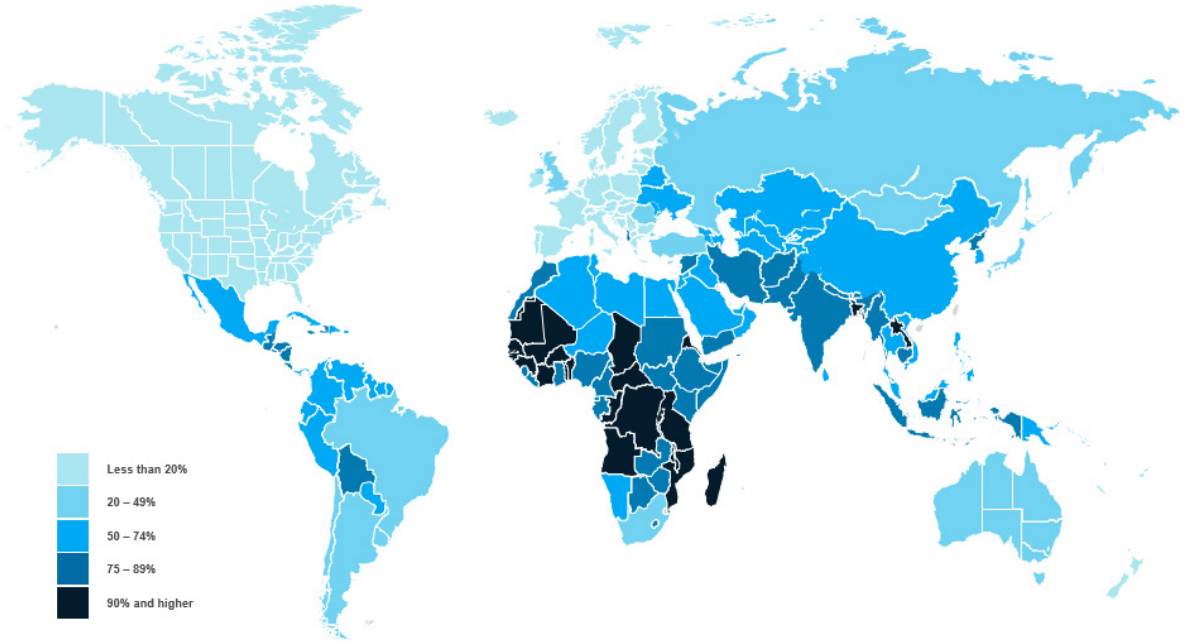
Despite the potential for formalization offered by digital labour platforms through improved traceability and accountability, new forms of employment, driven by technological changes, pose additional challenges to social contracts.[78] Globally, there is significant variation in the level of informal employment across different age groups, with youth and older workers being disproportionately affected. More than three-quarters of youth and older workers are engaged in informal employment, compared to 55% of workers aged 25-64 years. Migrant workers, in contrast to native-born populations, are more likely to be employed in informal jobs. The average incidence of informal employment is three percentage points higher for foreign-born individuals compared to native-born individuals. Additionally, the informality rate is seven percentage points higher for non-citizens compared to citizens of the country they reside in.[79]

77 OECD (2023). Informality and Globalisation: In Search of a New Social Contract. Available at: https://doi.org/10.1787/c945c24f-en.

78 OECD (2023). International Migration Outlook 2023. Available at: https://doi.org/10.1787/b0f40584-en.

79 OECD (2023). Informality and Globalisation: In Search of a New Social Contract. Available at: https://doi.org/10.1787/c945c24f-en.

Exhibit 7 – Share of informal employment in total employment, 2022.



Source: ILO; Map of Informal Employment (2022), Statista.

Agencies can have an important role in the transition from informal to formal work: since 2012, the Indian Staffing Federation[80] has petitioned for the implementation of National License for the staffing industry. After years of advocacy at various levels, including collaborations with international organizations such as the ILO, raising awareness about ethical behaviour, gathering data to enable fact-based decision-making, and engaging with stakeholder, the Indian Ministry of Labor and Employment accepted the ISF's recommendations. Consequently, the National/State License became a reality in September 2020. Thanks to this new legal framework, the Indian staffing sector will be able to fully play its role and offer more opportunities of formal employment for Indian workers.

Flexible forms of work as means to increase inclusion and workplace environment.

Even before COVID-19, the need to enhance workforce mobility and job flexibility has been a relevant topic. The unbalanced supply and demand for alternate work is high across different geographies. According to research performed by Manpower Group evaluating candidate's preference for companies in 12 countries, India was the only one where supply of alternate workers surpassed its demand (47% to 37%, respectively). Corporate leaders state that there has been a permanent shift in expectations from employees and prospective employees. 83% say that following the pandemic, employees place as much value on having workplace and working hours flexibility as they do on other factors such as compensation. Organizations must also extend improved working conditions beyond full time employees. 83% say that with job roles set to shift more than ever before, legislative barriers which can deter workers from choosing short-term contracts must be simplified. In addition, 78% worry that their organization is not able to offer rewarding roles to short-term or agency workers.

Moreover, 92% of leaders say they will need a more flexible workforce in the next two years. Half of organizations claim to want to source workers from underemployed groups to expand their talent pool, leveraging hybrid work to drive greater diversity and inclusion in the workplace. Meanwhile, employers turn to a wide range of strategies to build the needed flexibility. These include taking a skill-based approach for hiring, increasing employment of agency workers and offering more part-time

80 World Employment Confederation (2020). ABU, ISF & NRF win WEC Awards 2020!. Available at: https://www.weceurope.org/news-post/abu-isf-nrf-win-wec-awards-2020/.https://www.weceurope.org/news-post/abu-isf-nrf-win-wec-awards-2020/

roles, among others. According to Wehlack and Spang (2017)[81] and Morganti and De Giovanni (2022)[82], offshoring production offers potential benefits such as lower labour costs. However, it also implies new challenges including lack of qualified personnel, language and culture barriers, sustainability concerns, and weak protection of intellectual property rights.

Exploration of actions areas

Adapt regulatory labour frameworks to recognize alternate and future forms of work.

In the past year, several OECD countries have made significant changes to their migration policy frameworks. Some countries, such as Sweden, Finland and Germany, have even declared a "paradigm shift" in their approach to migration. However, the purpose and intended impact on net migration differ among these countries. While many nations are aiming to attract immigrants to address labour and skills shortages, others have committed to reducing overall migration levels.

Case studies of successful initiatives.

Important lessons can be drawn from country experiences in extending social protection to self-employed informal workers, as shown for the following countries:

- Brazil's Previdência Rural (Rural Pension) scheme and Simples Nacional monotax regime: the expansion of the rural pension system in Brazil has brought affordable and accessible social insurance to many rural workers. Additionally, the implementation of the Simples Nacional monotax regime has simplified tax calculations, declarations, and collection, making social insurance more accessible and affordable. In 2017, around 4.9 million micro and small enterprises (MSEs) applied for the Simples Nacional regime, and the percentage of registered individual micro-entrepreneurs increased from 33.0% to 41.7% between 2009 and 2015.
- Cabo Verde's Compulsory Social Insurance under Instituto Nacional de Previdencia Social (INPS) and proactive outreach activities: in Cabo Verde, more than half of the economically active population aged 15 and above are contributing to social insurance. The coverage of social security has significantly increased from 39.8% to 55.3% between 2016 and 2020. Alongside compulsory social insurance, there are affordable options available for low-income workers. The provision of attractive benefits has incentivized formalization and the adoption of social insurance, while the reduction of administrative barriers has improved access. Efforts to expand coverage have been supported by advocacy and association measures, as well as broad awareness-raising approaches.
- Tunisia's Ahmini ("Protect Me") scheme: Tunisia stands out as a rare example of incorporating gender-responsive elements into the extension of social insurance by making social security contributions accessible to informal and self-employed women workers. The Ahmini scheme showcases innovative use of mobile technology to include informal workers with limited literacy rates. Ambassadors and volunteers have been instrumental in reducing administrative barriers and raising awareness about the scheme. The Ahmini scheme serves as an instructive model for addressing the needs of marginalized workers and promoting gender equality in social insurance coverage.

81 Wehlack, M. and K. Spang (2017). Motivations for and barriers to offshoring development projects to China: A case study of the automotive industry. 2017 3rd International Conference on Information Management (ICIM) Available at: https://doi.org/10.1109/infoman.2017.7950369.

82 Morganti, D. and P. De Giovanni (2022). Offshoring motivations driven by sustainability factors. Research in Transportation Economics, Vol. 95, p. 101222, Available at: https://doi.org/10.1016/j.retrec.2022.101222.

- UK's Government Campus and Curriculum programme: this strategy serves as a modernization and reform initiative that support the long-term professionalization of public servants by consolidating all central teams responsible for training, learning, and development into a unified framework. It leverages e-learning, data, and evidence into the strategy and L&D offerings with a primary focus on creating a clearly defined curriculum that encompasses knowledge, skills, behaviours, networks, capabilities, and qualities, catering to the needs of the entire civil service. The program is structured around five key areas, placing greater emphasis on management and leadership, establishing standards, and setting clear expectations for all civil servants.[83]

Establish collaborative labour information systems and standards for safe and regular migration to facilitate sustainable cross border job mobility.

In 2023, the OECD/G20 Inclusive Framework on BEPS released technical guidance to assist governments with the implementation of the global minimum tax. This ensures multinational enterprises (MNEs) will be subject to a 15% effective minimum tax rate. The guidance includes details on the recognition of the United States' minimum tax (known as the Global Intangible Low-Taxed Income or "GILTI") under the GloBE Rules and on the design of Qualified Domestic Minimum Top-up Taxes.[84]

In OECD countries, approximately two-thirds of immigrants have obtained their diplomas from foreign institutions. However, immigrants with foreign qualifications often encounter significant barriers in the labour market, particularly in finding stable and high-quality jobs that align with their skills. Despite their educational achievements, immigrants with tertiary degrees are less likely to be employed compared to native-born individuals. At the same time, the opposite is true for those with lower levels of education. Additionally, highly skilled immigrants in OECD countries are more likely to be employed in jobs that do not fully utilize their educational qualifications, with over one-third of them being overqualified for their occupations.[85]

Several OECD countries, including Portugal, Germany, and Austria, have signed bilateral agreements and advanced migration and mobility partnerships with selected origin countries, such as India. These agreements aim to actively recruit immigrant workers. For the first time, Germany has signed such a bilateral agreement, which is intended to serve as a model for potential future similar agreements. Moreover, the country has also placed agreements with Jordan and Brazil for care workers and extended an earlier placement agreement with Mexico to include hotel and restaurant workers. Workers recruited under these agreements can initiate the procedure for the recognition of their qualifications at the same time as they take up employment in Germany. In a similar manner, Spain has signed a circular migration agreement with Guatemala to attract seasonal agricultural workers and launched a new edition of its wider bilateral programme with origin countries.[86]

Case studies of successful initiatives.

- Spain's General Immigration Law reform: passed in 2022, it addresses ongoing labour shortages and aims to promote legal migration. In the case of foreign students, it involved new measures for facilitating employment, such as expanding work permits. Additionally, income requirements for foreign nationals sponsoring minors have been lowered, and the certification process for occupations facing chronic labour shortages has been streamlined. Temporary work-related residence permits have been extended from two to four years, with more flexible renewal options. The reform also offers new opportunities for irregular migrants to regularize their stay, including work and residence permits based on six months of formal employment or a 12-month training permit based on two years of residency. The eligibility criteria and

83 OECD (2023). Public Employment and Management Available at: https://www.oecd-ilibrary.org/sites/5b378e11-en/1/3/5/index.html?itemId=/content/publication/5b378e11-en&_csp_=0d6d5d9169e7048cce1ed3f24ac30c21&itemIGO=oecd&itemContentType=book#section-d1e6073-bf9c6691c5.

84 OECD (2023). International tax reform: OECD releases technical guidance for implementation of the global minimum tax. Available at: https://www.oecd.org/tax/beps/international-tax-reform-oecd-releases-technical-guidance-for-implementation-of-the-global-minimum-tax.htm.

85 OECD (2023). International Migration Outlook 2023, OECD Publishing, Paris. Available at: https://doi.org/10.1787/b0f40584-en.

86 OECD (2023). International Migration Outlook 2023, OECD Publishing, Paris. Available at: https://doi.org/10.1787/b0f40584-en.

geographic scope for self-employment have been relaxed as well. To ensure consistent and efficient application of immigration regulations, a new immigration agency called the Unit for the Processing of Aliens Record (UTEX) has been established.[87]

- Australia's Pacific Australia Labour Mobility Scheme (PALM): the country is expanding the program through the consolidation of two provisions under one streamlined scheme, with the aim to increase the number of PALM scheme workers to around 350,000 by June 2023.
- EU's Talent Partnerships: launched in the context of the New Pact on Migration and Asylum, they aim to address skills shortages in the EU, strengthen mutually beneficial migration partnerships with third countries, and combat irregular migration. The talent partnerships will be open to all skill levels, various types of mobility (temporary, long-term, or circular), and economic sectors. In a first phase, the EU intends to conclude agreements with Egypt, Morocco, and Tunisia. These changes aim to improve the experience for foreigners in these countries, making them more attractive destinations for immigration.

The G20 should therefore:

- Adapt regulatory labour frameworks and policies to recognize alternate and future forms of work (e.g. remote, hybrid, part-time, temporary) and the impact of technological changes in traditional jobs.
- Establish international tax frameworks, collaborative labour information systems, and standards for safe and regular migration to facilitate sustainable cross border job mobility, respecting cultural sensitivities and countries' specificities.

87 OECD (2023). International Migration Outlook 2023, OECD Publishing, Paris. Available at: https://doi.org/10.1787/b0f40584-en.

RECOMMENDATION 3

Recommendation 3

Recommendation is partially aligned with previous B20 editions

Foster Innovation and Sustainable Growth

Policy Actions

Policy Action 3.1: Accelerate innovation in strategic areas and foster scientific and technological development by creating shared research and digital infrastructure, engaging higher-education and VET institutions with businesses, and increasing and facilitating access to government funding.

Policy Action 3.2: Actively support entrepreneurship and MSMEs to drive sustainable growth and job creation by developing regulatory measures to improve access to funding and competitive credit, and by providing support to foster R&D solutions that drive innovative economic growth.

Key Performance Indicators	Baseline	Target	Classification
Percentage of Investment in R&D Gross Domestic Expenditure on Research and Development (GERD) as % of GDP *Source: OECD*	**1.8%** (2022)	**2.5%** (2028)	New indicator
Percentage of Patents and Intellectual Property (IP) Registrations The sum of all patents granted in countries, territories, and offices. *Source: WIPO*	**1.55 Million** (2022)	**2.12 Million** (2028)	New indicator
Number of SMEs by country Number of SMEs opened per year according to Structural Statistics on Industry and Services (SSIS) database. *Source: OECD*	**30.49 million** (2020)	**38.69 million** (2028)	New indicator

Current KPIs are available for only a few countries and are not tracked consistently every year. Improving the measurement, quality, and coverage of KPIs is essential for effectively tracking and evaluating public policies. Accurate and comprehensive KPIs enable better assessment of policy impacts, promote transparency, and ensure accountability. Expanding KPI coverage across more G20 countries also allows for more inclusive and equitable policy analysis, particularly in underrepresented regions, thus supporting informed and effective decision-making global.

SDGs

Recommendation 3 contributes to the achievement of the following UN SDGs:

SDG 1: No Poverty, **SDG 8: Decent work and Economic Growth –** by developing regulatory measures to support entrepreneurial systems and MSMEs access to funding and competitive credit, to foster sustainable business growth, facilitating jobs maintenance and growth; **SDG 9: Industry, Innovation, and Infrastructure –** by creating shared research and digital infrastructure to engage researchers with businesses to accelerate innovation in strategic areas, increasing access to government funding for strategic applied innovation, fostering scientifical and technological development; **SDG 17: Partnerships for the Goals –** by engaging higher-education and VET with businesses to enable innovation, and providing support for anchor firms to contract R&D solutions from MSMEs, start-ups, and spin-offs.

Relevant B20 Brasil Guiding Claims

Recommendation 3 has the strongest impact on two B20 Brasil Guiding Claims: **"**

"Increase productivity through innovation" by creating shared research infrastructure to engage researchers from academia and private sector to accelerate innovation in strategic areas, increasing and facilitating access to funding for applied innovation, and providing support for anchor firms to contract R&D solutions from MSMEs, start-ups, and spin-offs that will drive innovative economic growth;

"Foster the resilience of global value chains" by developing regulatory measures to support entrepreneurial systems and MSMEs access to funding and competitive credit to foster the resilience of global value chains through sustainable growth and enabling environments for them to thrive, facilitating jobs maintenance and creation.

Relevant G20 Brasil Priorities

Recommendation 3 contributes to the following priorities of the G20 Brasil

G20's Education Working Group priorities.

i. Valuing and building capacity of education professionals: what can we collectively do?
ii. Connecting managers of digital resource platforms: the sharing of education material on Education for Sustainable Development

G20's Employment Working Group priorities.

i. The creation of quality jobs and the promotion of decent work, to ensure social inclusion and eliminate poverty.
ii. The imperative of a just transition in the face of digital and energy transformations.
iii. The use of technologies as a means of improving everyone's quality of life.
iv. Gender equity and the promotion of diversity in the world of work.

Recommendation 3 contributes to **G20's Brasil Education Working Group** priorities: **i. Valuing and building capacity of education professionals: what can we collectively do?** by engaging researchers from academia and VET institutions with business, enabling and accelerating innovation with shared research infrastructure, which enhances the development and capacity of educators; **ii. Connecting managers of digital resource platforms: the sharing of education material on Education for Sustainable Development** by providing means to share education materials by creating shared research and digital infrastructure.

Recommendation 3 contributes to **G20' Brasil Employment Working Group** priorities: **i. Creation of Quality Jobs and Promotion of Decent Work** by supporting MSMEs access funding and credit to foster sustainable business growth, facilitating quality job growth; **ii. Imperative of a Just Transition in the Face of Digital and Energy Transformations** by engaging different sectors to foster innovation and supporting measures that will lead to job maintenance and creation, encompassing digital and energy transformations; **iii. The use of technologies as a means of improving everyone's quality of life** by increasing access to funding for applied innovation, fostering scientifical and technological development that help improve people's quality of life.

Context

Innovation is a major driving force for growth, competitiveness, and long-term sustainability. However, as a holistic concept, it faces potential barriers on multiple fronts. This includes coordination mismatches between the business and the science and technology sectors, inadequate funding and means for conducting innovative activities, and insufficient attention to actors' specificities like SMEs. Effectively addressing these challenges is crucial for tackling the most pressing global challenges like climate change.

Innovation as a cooperative endeavour.

Innovation is a major driving force for growth, competitiveness, and long-term sustainability. According to the Oslo Manual[88], innovation is defined as a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process). It permits businesses to differentiate, adapt to market changes and become resilient, allowing for scalability and the creation of new revenue streams.[89]

Innovation thrives through the articulated work between businesses and higher education institutions, combining academic research capabilities and theoretical knowledge with the practical market-oriented approach of industry. Higher education institutions excel in basic research, providing the foundation for groundbreaking innovations. When paired with the applied research capabilities of the private sector, these collaborations can accelerate technological development. Moreover, the coordination of these actors fosters optimization through resource sharing, allowing companies

88 OECD/Eurostat (2018). Oslo Manual 2018. Available at: https://www.oecd.org/en/publications/oslo-manual-2018_9789264304604-en.html.
89 Harvard Business Review (2022). Innovation in business: what it is & why it's important. Available at: https://online.hbs.edu/blog/post/importance-of-innovation-in-business.

(specially MSMEs) to access specialized infrastructure that could be expensive for individual companies to develop and maintain.

However, according to the OECD approximately only 1 in 10 innovation-active firms conduct innovation in cooperation with universities or other higher education institutions. At the same time, this cooperation rate is on average 3 times higher for large business when compared with SMEs, pointing at the latter insufficiently developed technological links.[90]

Exhibit 8 – Firms co-operating on innovation activities with universities or other higher education institutions, as a percentage of innovation-active firms. 2018-2020.

Source: OECD (2023). "Business innovation statistics and indicators"

Barriers to SMEs' potential.

Since 2022, SMEs have been greatly impacted by persistent inflationary pressures, tightened monetary policy and growing geopolitical tensions. Consequently, hardened lending conditions and sluggish credit growth has resulted in a record-high increase of SME financing cost. This has also disproportionally affected its weakest links (women-led and minority-led businesses).[91] In addition, bureaucratic hurdles can aggravate the scenario. For instance, sustainable funding is expanding, and sustainability considerations are becoming more prominent in financing criteria. However, this places an additional burden on SMEs, requiring them to provide green performance data or formulate net zero plans—capabilities they often lack. As a result, SMEs face difficulties accessing sustainable funding for innovation and must develop stronger business cases and seek external support.[92] [93] This issue is particularly critical given that SMEs account for approximately 50% of global GHG emissions.[94]

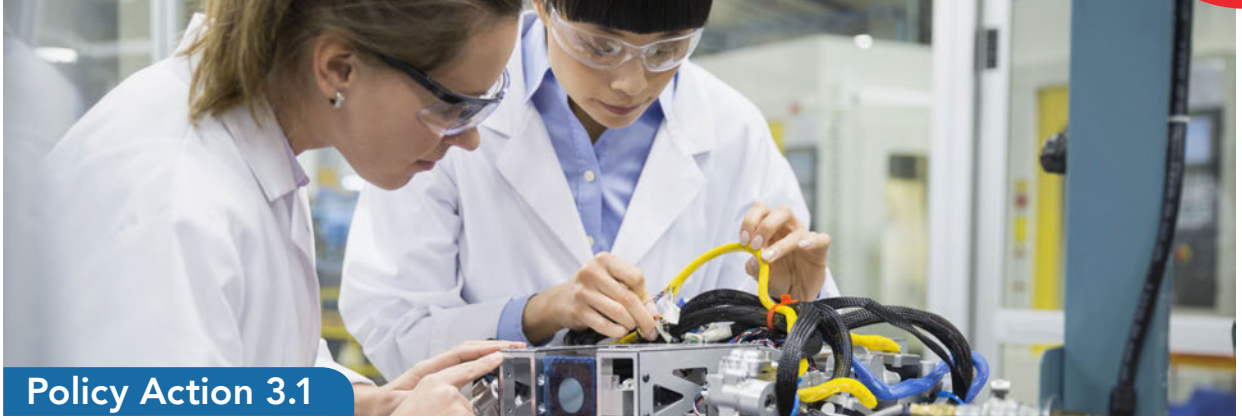
90 OECD (2023). Business innovation statistics and indicators Available at: https://www.oecd.org/en/data/datasets/business-innovation-statistics-and-indicators.html.

91 OECD (2024). Financing SMEs and Entrepreneurs 2024: An OECD Scoreboard.

92 SME Climate Hub (2023). SME Climate Hub Survey 2023 Available at: https://smeclimatehub.org/wp-content/uploads/2023/02/SME-Climate-Hub-Survey-2023.pdf.

93 OECD (2024). Financing SMEs and Entrepreneurs 2024: An OECD Scoreboard

94 ITC (2021). SME Competitiveness Outlook 2021: Empowering the Green Recovery



Policy Action 3.1

Accelerate innovation in strategic areas and foster scientific and technological development by creating shared research and digital infrastructure, engaging higher-education and VET institutions with businesses, and increasing and facilitating access to government funding.

Executive Summary

Focused on addressing the factors that hinder scientific and technological development. These include the absence of collaborative spaces between higher education and VET institutions with businesses (particularly MSMEs), insufficient means for conducting R&D efforts, and the need to mitigate the undesired outcomes of innovation. Policies should strengthen innovation ecosystems by fostering the practical application of scientific knowledge through the creation of shared Research and Development Infrastructure and facilitating access to suitable government funding to encourage technological scaling and applied innovation in strategic areas.

Background and Context

Lack of integration between higher education institutions and the private sector. High quality jobs could be created through innovation.

Insufficient integration between higher education institutions and the private sector deters innovation. Defective articulation reduces the relevance and potential impact of basic research conducted in education institutions, unable to secure its application towards the solution of practical problems. From the perspective of businesses, a slowdown in the commercialization of research and a lack of access to relevant infrastructure and equipment impact technology adoption, competitivity and economic growth. According to the WEF, the articulation between higher education institutions and the private sector worldwide is on average (median) only half of its full potential, with noticeable disparities among countries according to their development level.

Exhibit 9 – University-industry collaboration in R&D, 1-7 (best). Selected countries.

COUNTRY	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
United States	5.64	5.85	5.9	5.79	5.71	5.63	5.74	5.85	5.85	5.57	5.71
Israel	5.16	4.81	4.65	5.08	5.4	5.39	5.4	5.5	5.5	5.6	5.68
United Kingdom	5.01	5.14	5.41	5.59	5.75	5.75	5.58	5.67	5.67	5.47	5.39
Germany	5.31	5.37	5.25	5.24	5.16	5.25	5.39	5.34	5.34	5.35	5.37
Austria	4.77	5.03	4.87	4.92	4.99	4.89	4.79	4.68	4.68	4.81	4.81
Japan	4.88	4.61	4.65	4.86	5.06	5.03	4.96	5.00	5.00	4.75	4.74

COUNTRY	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Canada	4.87	4.98	5.25	5.4	5.2	5.09	4.93	4.90	4.90	4.58	4.6
United Arab Emirates	3.21	3.35	3.93	4.05	4.21	4.64	4.79	4.72	4.72	4.51	4.47
India	3.51	3.6	3.8	3.74	3.82	3.85	4	3.87	3.87	4.54	4.43
Korea, Rep.	5.37	5.07	4.56	4.68	4.66	4.7	4.68	4.62	4.62	4.36	4.42
China	4.13	4.51	4.57	4.59	4.53	4.37	4.41	4.4	4.4	4.32	4.39
South Africa	4.2	4.16	4.48	4.6	4.62	4.51	4.54	4.49	4.49	4.44	4.38
Australia	4.38	4.79	4.94	5.13	5.15	5.1	5.06	4.84	4.84	4.27	4.29
France	3.87	3.93	3.91	4.04	4.24	4.44	4.46	4.58	4.58	4.29	4.22
Russian Federation	3.17	3.56	3.76	3.67	3.49	3.42	3.64	3.63	3.63	3.68	3.85
Italy	3	3.06	3.35	3.48	3.48	3.63	3.71	3.73	3.73	3.68	3.79
Mexico	3.19	3.02	3.48	3.72	4.04	4.13	4.08	3.97	3.97	3.62	3.61
World (median)	3.11	3.21	3.42	3.48	3.52	3.50	3.5	3.52	3.59	3.44	3.43
Brazil	3.41	3.55	4.06	4.29	4.2	4.1	3.98	3.8	3.8	3.25	3.42
Argentina	2.88	3.08	3.48	3.82	3.88	3.76	3.7	3.64	3.64	3.43	3.29

Source: World Bank based on World Economic Forum (2023). "Global Competitiveness Index"

A slower rate of technology adoption in businesses also impacts job creation. Innovation shifts the skills demanded by the private sector. This favours soft skills and cognitive tasks over routine tasks, creating more fulfilling and productive jobs, typically associated with higher salaries. Consequently, a defective integration between business and educational institutions hinders the development of higher-quality jobs. According to a WEF report[95], this potential is most clearly seen in fields like big-data analytics, green technologies (including climate-change mitigation and environmental management), and the encryption and cybersecurity fields.

Insufficient Research & Development investment, infrastructure, and incentives for innovation, especially regarding sustainable practices (e.g.: biodiversity, energy transition, circular economy).

R&D comprises one of the main activities that businesses can undertake in pursuit of innovation. It consists of the creative and systematic work undertaken to increase the stock of knowledge and to devise new applications of available knowledge.[96] Adequate infrastructure is fundamental for it. Research and Development Infrastructure (RDI) comprises the set of facilities or systems necessary to conduct R&D or foster innovation. This includes experimental and observational infrastructure (research platforms, facilities and instruments), knowledge infrastructure (shared scientific data assets and resources, algorithms and platforms critical to transform data), and research cyberinfrastructure (computing resources, data and software infrastructure and services, and high-speed research and education networks).[97]

Interconnectedness allows for the expansion of RDI capabilities. Reliable and fast internet is essential for modern R&D activities, enabling data sharing, remote collaboration, and access to information, along with remote access and use of different kinds of RDI. Thus, securing broad and stable access to internet is currently a backbone of RDI and, by extension, for R&D efforts. However, according to the ITU[98], as of 2023 only 27% of households in Low-income countries and 55% in Lower-middle-income

95 WORLD ECONOMIC FORUM. The Future of Jobs Report 2023. 2023. Available at: https://www.weforum.org/reports/the-future-of-jobs-report-2023.

96 OECD/Eurostat (2018). Oslo Manual 2018. Available at: https://www.oecd.org/en/publications/oslo-manual-2018_9789264304604-en.html.

97 National Science and Technological Council (2021). National strategic overview for research and development infrastructure. Available at: https://www.whitehouse.gov/wp-content/uploads/2021/10/NSTC-NSO-RDI-_REV_FINAL-10-2021.pdf.

98 International Telecommunication Union (2023). Measuring digital development Facts and Figures 2023. Available at: https://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx.

countries have access to the internet, compared to 93% in High-income ones, with disparities reflexed by regions (i.e. 37% of households in Africa compared to 66% in Asia-Pacific and 91% in Europe).

On the other hand, incentives for innovation are determinant for overcoming the barriers that affect it. There are different types of instruments to support R&D, including tax incentives, government grants, public procurement for innovation, direct or indirect provision of relevant infrastructure or services for innovation, and other financial tools.[99] Among them, one of the most widespread instruments is tax subsidies. In 2023, 33 out of 38 OECD countries offered this incentive for R&D expenditures. Nevertheless, tax subsidy rates for R&D offered to firms fell in 2023 accumulating 2 years of decline in a row, independent of businesses' sizes or financial outcome.[100]

The combination of these factors hampers innovation, particularly in critical areas like sustainability. It has been argued that businesses in OECD countries suffer from insufficient support for 'green innovation'—the development and implementation of new products, processes, technologies, or practices aimed at reducing environmental impact. This includes inadequate funding for R&D of green technologies, limited incentives for businesses to adopt sustainable practices, and a lack of regulatory frameworks that promote the use of sustainable technologies. As a result, global efforts towards the transition to a more sustainable economy are affected.[101] In this sense, it should be noticed that businesses play a critical role in achieving the goal of limiting global warming to 1.5°C. But according to research conducted by Accenture[102] only 37% of the G2000 companies have adopted plans to achieve net zero emissions and only 18% are on track to reach it by 2050.

Reduce the negative impact of automation and digital transformation on jobs displacement. Lack of inclusive policy dialogue on regulation for AI and green driven transition.

Technology, digitalization, and sustainability can be sources of jobs creation. But depending on specific roles and sectors, they can also lead to job displacements. Both effects can coexist given that innovation requires most jobs to be performed in a new way, automating some tasks, augmenting others, and creating new ones that require a new set of skills. This is relevant when considering that automation of all business-related tasks is estimated to rise from present 34% to 42% in 2027[103], and to further accelerate as AI and Gen AI techniques continue to mature and develop new applications across sectors.

To address these challenges, different countries are placing efforts towards devising appropriate regulations, guidelines and frameworks. According to the OECD[104], 69 countries have developed various policy initiatives related to AI, including the European Union's Artificial Intelligence Act, the United States' AI Bill of Rights, India's Digital India Act or Brazil's AI Bill. These measures aim to ensure responsible AI use, protect privacy, and mitigate risks associated with biased algorithms and incorrect outcomes.

However, concerns have been raised regarding the limited inclusiveness of these initiatives, directly impacting their effectiveness and sustainability.[105] This lack of inclusiveness can lead to regulations that overlook the needs, concerns, and values of different groups, resulting in biased or incomplete outcomes. This issue is particularly troubling given the diverse range of potential stakeholders, such as SMEs, NGOs, civil society, and representatives from various geographic regions. Failing to consider this diversity risks neglecting the potential societal impacts of AI regulations, including issues of fairness, accountability, and transparency. By not including key stakeholders, valuable insights may be overlooked, and bias issues may arise, with direct effects on businesses. According to a study

99 OECD (2015). Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development. Available at: https://www.oecd.org/sti/frascati-manual-2015-9789264239012-en.htm.

100 OECD (2024). OECD R&D tax incentives database: Highlights from the April 2024 update. Available at: https://www.oecd.org/innovation/tax-incentives-rd-innovation/rdtax-incentives-highlights-april-2024.pdf.

101 Wang et al (2023). Green innovation and low carbon emission in OECD economies: Sustainable energy technology role in carbon neutrality target.

102 Accenture (2023). Destination Net Zero. Available at: https://www.accenture.com/us-en/insights/sustainability/reaching-net-zero-by-2050.

103 WORLD ECONOMIC FORUM. The Future of Jobs Report 2023. 2023. Available at: https://www.weforum.org/reports/the-future-of-jobs-report-2023.

104 OECD (2024). The OECD Artificial Intelligence Policy Observatory. Available at: https://oecd.ai.

105 International Telecommunication Union (2023). A call to action for inclusive, safe and responsible AI Available at: https://www.itu.int/hub/2023/07/a-call-to-action-for-inclusive-safe-and-responsible-ai/.

conducted by DataRobot[106], 36% of a sample of U.S. and U.K.-based technology leaders reported that their organizations have suffered due to an occurrence of AI bias. Of those organizations, 62% had experienced revenue loss, 61% customer loss and 43% employee loss.

Exploration of actions areas

Enhanced Research and Development Infrastructure (RDI).

Strengthening innovation can yield significant externalities in terms of economic growth, job creation, and the creation of necessary capabilities for addressing pressing global demands like the green transition. A possible path to achieve this is through the creation or expansion of existing RDI. This is particularly necessary in cases where the scale, complexity, or funding requirements for certain facilities or equipment in specific R&D domains exceed the capabilities of any single institution, company, or even country to manage independently.[107]

Actions conducive to the achieving of these objectives include:

- Establish qualitative criteria to prioritize RDI projects, considering the substantial time and resources required for their development. This includes the identification of complementary RDI and their capabilities, their potential to simultaneously address common necessities of multiple economic sectors and disciplines, and their alignment with national strategic economic and development objectives.
- Secure investments and deployment of the necessary cyberinfrastructure to keep pace with the knowledge growth rate, to ensure the efficiency and trustworthiness of scientific pathways and pipelines.
- Foster the access and convergence of RDI and the private sector through partnerships and research information exchange.
- Enhance RDI accessibility for businesses by overcoming geographical barriers through the development of the necessary means to support remote access to RDI capabilities, tools, and platforms, where appropriate.
- Conduct periodic reviews and documentation of RDI needs and capabilities to develop planning processes that sustain updated infrastructure and facilitate the repurposing, reusing, or decommissioning of low-priority RDI projects.

The creation or expansion of existing RDI simultaneously serves as a catalyst for fostering collaboration between higher education institutions and businesses. This encourages the exploration of practical applications for knowledge generated by researchers and stimulates the private sector to leverage research results for R&D endeavours. Fostering that collaboration is particularly crucial for MSMEs, whose technological linkages with the scientific and technological sectors are often limited due to their scale and relatively short-term operational priorities.

Specific attention must be dedicated to the widespread geographical creation of centres of innovation and competitiveness, to avoid their concentration solely in metropolitan areas and capitals. Such concentration negatively affects the dynamism of a country's economy and its job market. Local regions must be given the means and resources to attract and welcome businesses which provide a high concentration of qualified jobs (skilled employment). Indeed, qualified employment is currently the main driver of social mobility and serves as a crucial factor in promoting professional diversity and inclusion.

106 DataRobot (2022). State of AI Bias Available at: https://www.datarobot.com/resources/state-of-ai-bias-report/.

107 National Science and Technological Council (2021). National strategic overview for research and development infrastructure. Available at: https://www.whitehouse.gov/wp-content/uploads/2021/10/NSTC-NSO-RDI-_REV_FINAL-10-2021.pdf.

Case studies of successful initiatives.

- Norway's National Financing Initiative for Research Infrastructure (INFRASTRUKTUR): provides funding for the development of RDI intended for the advancement of a wide range of research groups and the private sector in a variety of fields. It aims at contributing to national innovation in key areas such as environment-friendly energy, technology for future industrial products, and improved health. The program addresses the promotion of access to top-calibre research infrastructure, advanced scientific equipment (from small-scale equipment components to large-scale laboratory facilities), cyberinfrastructure for high-performance computing and the storage of vast amounts of data. It also engages in international cooperation for the coordination of collaborative efforts and the complementation of capabilities.[108]
- Argentina's Build Science and Equip Science federal programs: aimed at financing the construction of RDI and the acquisition of technological equipment to support R&D and innovation activities. They specifically address the objective of fostering technological linkage and knowledge transfer practices to strengthen business productive capabilities, while simultaneously prioritizing funding for projects in the country's least developed regions.[109]

Expansion of public resource allocation for innovation.

Applied innovation drives productivity and economic growth, constituting an incentive for the development of science and technology performed by higher education institutions. However, due to its intrinsic high risk and the uncertainty of returns, companies may struggle to secure the necessary funding for it. MSMEs face greater limitations due to the fact that their dependence on external assistance for innovation is higher. This results from the absence of resources for self-financing, the lack of specific funding evaluation criteria tailored to their needs and their limited organizational resources and capabilities for stablishing relationships and coordinating innovative endeavours with the Science and Technology (S&T) sector.[110]

To address this issue, it is necessary to create the appropriate tools to bridge the gap and facilitate the transfer of scientific knowledge to the productive sector. Thus, it is essential that governments provide financial support through the design of specific programs that guarantee the allocation of public resources to guide the stock of scientific and technological capabilities towards productive development and the resolution of practical problems.

For the purpose of achieving these objectives and securing the necessary funding for applied innovation, the actions involved include:

- Increase the availability of nonrefundable basic funding for applied innovation aimed at reducing financial risk, encouraging more enterprises to invest in R&D, specifically targeting MSMEs.
- Define and secure financial support for applied innovation in strategic and transversal areas (digital transformation and new technologies, sustainable practices, process efficiency and quality control, etc.).
- Expand the scope of strategic innovation projects eligible for funding to include initiatives that involve technological improvements, whether through incremental advancements or innovative leaps. This approach allows for both disruptive innovation and technological catch-up, tailored to the specific needs of each business actor and sector.
- Simplify administrative requirements and procedures to reduce the bureaucratic barriers for accessing nonrefundable funding, especially for MSMEs.

108 The Research Council of Norway (2024). National Financing Initiative for Research Infrastructure Available at: https://www.forskningsradet.no/en/apply-for-funding/funding-from-the-research-council/infrastruktur/.

109 MinCyT (2022). Nuevos Programas Federales 'Construir Ciencia' y 'Equipar Ciencia' Available at: https://www.argentina.gob.ar/noticias/nuevos-programas-federales-construir-ciencia-y-equipar-ciencia#:~:text=Programa%20Federal%20%E2%80%9CConstruir%20Ciencia%E2%80%9D,o%20adecuaci%C3%B3n%20de%20sus%20infraestructuras..

110 Iglesias-Sánchez et al (2017). Innovation in SMEs: Barriers and facilitators

- Implement diverse criteria for the quality assessment of project results to account for the uncertain and risky nature of innovation. This approach prevents the over-penalization of potentially unsuccessful initiatives for strictly technical reasons, thereby encouraging continued innovation.
- Encourage the creation of innovation consortia between the science and technology and the private sectors. Guarantee the establishment of adequate incentives for higher education institutions and other S&T actors to foster collaborative work towards applied innovation, technological synergies, and knowledge transfer to the productive sector.
- Actively assist the private sector, especially MSMEs, to engage in innovation partnerships. Provide assistance for locating potential S&T associates with suitable capabilities and expertise according to the specific needs of each applied innovation project. Design instruments that contribute to sorting and navigating the supply of S&T sector's capabilities for simplifying the detection of potential partners.

Case studies of successful initiatives.

- Brazil's São Paulo State Research Support Foundation (FAPESP): a public foundation that provides grants, funds and programs to support research, education and innovation of private and public institutions and companies. More than half of its resources are destined to financing basic and applied research programs for enterprises including MSMEs and start-ups. This includes the Innovative Research in Small Business Program (PIPE) or PIPE for Knowledge Transfer (PIPE-KT), that focus on the transformation of academic research results into new products, processes, and services.[111]
- Australia's Cooperative Research Centres (CRC) Program: a public initiative that provides grants for medium to long-term industry-led collaborative research projects between at least one Australian industry organization and one Australian research organization to solve industry identified problems. The program focuses on increasing R&D capacity in SMEs and encourage industry take up of research.[112]

The G20 should therefore:

- Create shared research and digital infrastructure, engaging researchers from higher-education and VET institutions with businesses, including MSMEs, enabling collaboration to accelerate innovation in strategic areas.
- Increase and facilitate access to nonrefundable government basic funding for strategic applied innovation, fostering scientifical and technological development.

111 The São Paulo Research Foundation. Available at: https://fapesp.br/en.

112 Cooperative Research Australia. Available at: https://www.cooperativeresearch.org.au/.

Policy Action 3.2

Actively support entrepreneurship and MSMEs to drive sustainable growth and job creation by developing regulatory measures to improve access to funding and competitive credit, and by providing support to foster R&D solutions that drive innovative economic growth.

Executive Summary

Empower micro, small, and medium-sized enterprises (MSMEs) and entrepreneurs by developing regulatory measures to enhance access to funding and competitive credit, fostering sustainable business growth and creating thriving business environments. Focus on actions that facilitate job maintenance and growth by supporting and engaging governments and businesses in promoting research and development solutions offered by MSMEs, start-ups, and spin-offs. These efforts will drive sustainable and innovative economic growth and job creation.

Background and Context

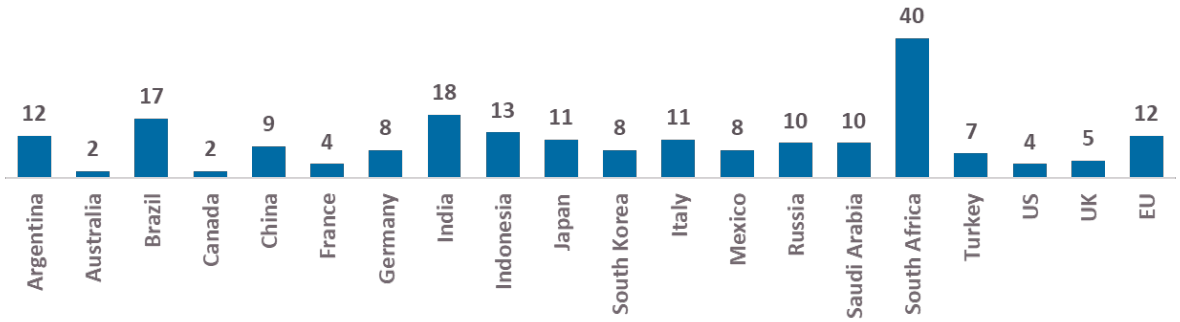
SMEs and entrepreneurship panorama.

In OECD countries, Micro, Small and Medium-sized Enterprises (MSMEs) are significant contributors to the economy, providing 60-70% of jobs and representing 99% of all businesses.[113] In emerging economies, formal MSMEs contribute up to 40% of the Gross Domestic Product (GDP).[114] However, a large portion of these enterprises operate informally, providing livelihoods for approximately four billion people. Start-ups and young firms have emerged as key drivers of economic growth and job creation. On average, these firms account for about 20% of total employment and create almost half of all new jobs across OECD countries.[115] A significant part of MSMEs is directly tied with innovation, driving growth in strategic areas for the G20, such as new technologies, clean energy, green finance, and healthcare.

MSMEs require not only financing, but also access to development support to bring them to a sustainable growth and under the formal economy. Moreover, entrepreneurship activity and MSMEs require urgent improvements in the "ease of doing business" to unleash large-scale job generation. This includes fewer costly and complex administrative, bureaucratic, and legal barriers, as well as support in building international connections, and efficient, digitalized processes and procedures (such as licensing and permitting).

113 OECD (2023). SME and Entrepreneurship Outlook 2023. Available at: https://www.oecd.org/sdd/oecd-sme-and-entrepreneurship-outlook-8d707502-en.htm.
114 World Bank (2019). Small and Medium Enterprises (SMEs) Finance. Available at: https://www.worldbank.org/en/topic/smefinance.
115 OECD (2024). DynEmp: Measuring job creation by start-ups and young firms. Available at: https://search.oecd.org/employment/dynemp.htm.

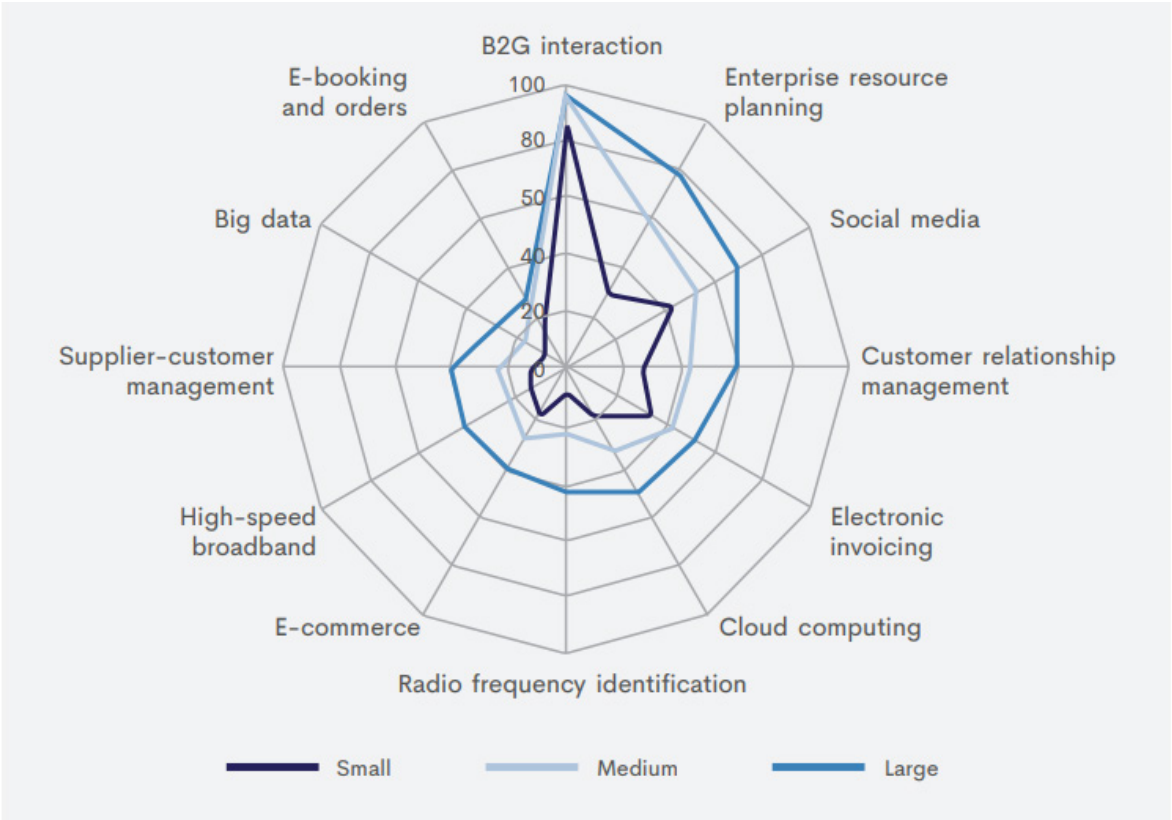
Exhibit 10 – Time required to start a business, number of days, 2019.



Source: World Bank Ease of Doing Business, 2019

On the other hand, digitalization is key for business, including MSMEs and entrepreneurs, to operate in the future of work. Considering the increasing pace in which technology is disrupting business, digital is fundamental for MSMEs to enable innovation. Cost has been the major barrier in improving digital uptake by MSMEs. Other key barriers include the skills gap, the lack of awareness of tools, integration challenges and solutions to bridge the investment gap, legal uncertainty, technological lock-ins, weak data culture and data management practices, and reputational risks in case of dispute.

Exhibit 11 – SMEs lag in digital adoption, in all technology areas.



Source: OECD, 2021. The Digital Transformation of SMEs

Regulatory burdens and other impediments.

Since 2022, SMEs have faced significant challenges due to persistent inflationary pressures and the tightening of monetary policy. Core inflation is projected to ease in most G20 economies. However, geopolitical tensions in the Middle East and disruptions in the Red Sea could contribute to a comeback in rising inflation. Consequently, Central Banks are maintaining a restrictive monetary policy to control inflation. This results in tight lending conditions and weak credit growth.[116]

In response to this environment, governments worldwide have implemented various strategies to ensure that SMEs have access to the necessary financing. Immediate measures have been taken to support SMEs in coping with increased prices of energy and raw materials. Additionally, efforts have been made to strengthen SME lending despite tight lending conditions. To mitigate the negative impact of inflation on SMEs, initiatives are focused on reducing late payments in government-to-business and business-to-business transactions. Moreover, facilitating access to a diverse range of financial instruments and sources of finance is being prioritized to sustain SME investments, particularly in the areas of green and digital transitions. There is also an increasing emphasis on promoting gender equality in access to capital.

Common practices among country presumptive tax regimes.

According to the OECD[117], presumptive tax regimes – also known as simplified tax regimes – are applied in several OECD and non-OECD countries. In this regard, it should be noticed that:

- Almost all tax regimes target unincorporated micro-businesses, with varying turnover eligibility thresholds and most regimes allow hiring employees. However, some limit the number of employees or annual personnel-related expenditures.
- Taxation methods are usually based on turnover or lump-sum, with variations depending on the target group. Some regimes use alternative indicators or business inputs to define the tax base.
- Most regimes substitute or exempt taxpayers from the standard income tax. Three of the four regimes targeting economically vulnerable own-account workers exempt registered taxpayers from the personal income tax.
- Tax payments are collected by a single institution, usually the tax administration or the Social Security Institution. The collecting body redistributes funds to other institutions for taxes covered by the regime under the standard tax system.

Presumptive tax regimes, tax compliance, and social protection coverage need to be simple, predictable, affordable, and well communicated. Still, they often lack these features in practice, leading to complex and unstable designs that undermine their effectiveness. These regimes require more attention from tax policymakers and administrations, as the lack of evaluation and monitoring often results in poor alignment with the micro-business population and a country's tax system. This misalignment can hinder the regime's potential to integrate businesses into the formal sector, provide them with social protection, and improve their development opportunities. It can also reduce the incentives for businesses to transition into the standard tax system as they grow.

116 OECD (2024). Financing SMEs and Entrepreneurs 2024: An OECD Scoreboard. OECD Publishing, Paris, Available at: https://doi.org/10.1787/fa521246-en.

117 OECD (2024). The design of presumptive tax regimes in selected countries. Available at: https://www.oecd-ilibrary.org/docserver/58b6103c-en.pdf?expires=1719860862&id=id&accname=guest&checksum=889E10727FF0D1A54C9A7A8576661C53.

Exploration of action areas

Simplifying loan access for MSMEs through regulatory reforms.

To invigorate economic growth and support the backbone of the economy, the MSMEs, it is imperative to simplify their access to loans and credit. This can be achieved by enacting regulatory reforms aimed at reducing bureaucratic barriers, thereby making it easier for MSMEs to secure the financing they need to expand and innovate.

MSMEs frequently encounter complex regulatory environments that impede their ability to access essential financial services. The International Finance Corporation (IFC) highlights that reducing bureaucratic complexities can lead to a significant increase in credit availability for small businesses, which are crucial for job creation and economic stability.[118]

By simplifying the process for MSMEs to access loans and credit through targeted regulatory reforms, governments can significantly enhance their ability to grow and contribute to the economy. Streamlined processes, reduced bureaucratic barriers, and enhanced support systems are critical components that can lead to greater financial inclusion for MSMEs, fostering a more vibrant and resilient business sector. These reforms not only aid in the survival and growth of small businesses but also stimulate broader economic growth by enabling these enterprises to hire more employees, increase productivity, and drive innovation.

Implementation steps:

- Streamline application processes: implement digital platforms for loan applications to reduce paperwork and processing times.
- Revise regulatory requirements: reduce the number of required documents and simplify the criteria for loan eligibility to make it more accessible for small business owners.
- Enhance transparency and communication: provide clear guidelines and criteria for loan eligibility and repayment terms. Ensure that MSMEs can understand and meet these requirements without extensive legal consultation.
- Establish dedicated support services: create support centres or online helpdesks dedicated to assisting MSMEs in navigating the loan application process.

Case studies of successful initiatives.

- Estonia's e-Residency program: provides a digital platform where businesses can access various government and financial services online, streamlining processes including credit applications.[119]
- In Chile, the government has implemented a web-based portal that clearly outlines all necessary steps, documents, and terms for MSMEs seeking financial assistance, enhancing transparency and ease of access.[120]

Enhancing credit guarantee schemes for MSMEs.

To bolster the resilience and growth of MSMEs, implementing or expanding credit guarantee schemes is crucial. These schemes can significantly reduce the risk to lenders by providing a safety net, thus encouraging more lending to this vital sector of the economy. MSMEs often face significant hurdles in accessing finance due to perceived high risks and lack of collateral. Credit guarantee schemes can mitigate these risks, increasing the propensity of financial institutions to extend credit. According to the World Bank, such schemes have proven effective in boosting lending to small businesses by

118 IFC – International Finance Corporation. MSME Finance. Available at: https://www.ifc.org/en/what-we-do/sector-expertise/financial-institutions/msme-finance.

119 Republic of Estonia. e-Residency Digital ID. Available at: https://www.e-resident.gov.ee/.

120 Corfo – Corporación de Fomento de la Producción. Available at: https://www.corfo.cl/sites/cpp/homecorfo.

covering a portion of the lender's losses in case of borrower default, thus playing a critical role in economic development.[121]

MSMEs are often underserved in financial markets. Thus, expanding credit guarantee schemes is a strategic approach to enhance their access to finance. By reducing the lending risks associated with this sector, such schemes not only foster greater economic resilience among small businesses but also stimulate broader economic growth by enabling these enterprises to expand, innovate, and create jobs. With careful implementation and regular oversight, credit guarantee schemes can significantly improve the lending landscape for MSMEs.

Implementation strategy:

- Assessment of needs and gaps: conduct an assessment to identify the specific barriers to credit for MSMEs in various sectors and regions.
- Structure of guaranteed coverage: design the guarantee to cover a substantial portion of the potential loss, typically between 50% and 80%, to adequately reduce risk for lenders.
- Partnership with financial institutions: partner with banks and non-banking financial companies to ensure they are equipped and willing to participate in the scheme.
- Monitoring and evaluation: implement a robust monitoring and evaluation framework to assess the effectiveness of the credit guarantee scheme and adjust as necessary.

Case studies of successful initiatives.

- In Brazil, the Brazilian Development Bank (BNDES) partners with local financial institutions to provide credit guarantees that facilitate lending to small businesses, particularly those investing in innovation and sustainability.[122]
- In Italy, the Central Guarantee Fund provides guarantees covering up to 80% of the loan amount for small and medium enterprises, significantly reducing the risk for banks.[123] Similarly, Germany's KfW Bankengruppe provides counter-guarantees that cover up to 80% of potential credit losses, also encouraging banks to lend to smaller businesses.[124]
- In Saudi Arabia, the Funding Gate Platform is designed to facilitate the connection of SMEs seeking funding to government and private financiers. Created under the Small and Medium Enterprises General Authority (Monsha'at), it constitutes a fintech solution to simplify and accelerate the delivery of funding for SMEs, centralizing the funding supply of banks and financial institutions, standardizing the request process and reducing costs and resources necessary to apply for them.[125]

Enhancing R&D investment through tax credits for anchor firms.

To bolster innovation and drive economic growth, it is crucial to offer tax credits or deductions to anchor firms that invest in R&D activities carried out by MSMEs, startups, and spin-offs. This policy action aims to incentivize larger companies to support smaller innovative entities, thereby fostering a collaborative ecosystem that benefits the broader economy. Investment in R&D is a critical driver of innovation. Yet, smaller firms often lack the necessary resources to engage in extensive R&D. By providing tax incentives to larger firms that fund R&D in smaller companies, governments can catalyse private investment in innovation.

121 World Bank (2018). Improving access to finance for SMEs. Available at: https://documents1.worldbank.org/curated/ar/316871533711048308/pdf/129283-WP-PUBLIC-improving-access-to-finance-for-SMEs.pdf.

122 BNDES. BNDES Crédito Pequenas e Médias Empresas. Available at: https://www.bndes.gov.br/wps/portal/site/home/financiamento/produto/bndes-credito-pequenas-e-medias-empresas.

123 Ministero delle Imprese e del Made in Italy. Fondo di garanzia. Available at: https://www.fondidigaranzia.it/.

124 KfW Bankengruppe. Existenzgründung - Ihr Start in eine erfolgreiche Zukunft. Available at: https://www.kfw.de/inlandsfoerderung/Privatpersonen/Gr%C3%BCnden-Erweitern/.

125 Monsha'at. Report Series 2021: Expanding Options for SME Funding. Available at: https://monshaat.gov.sa/sites/default/files/2022-01/v9.0%20English_Monsha%27at%20Report%20Series%20-%20Funding%20Report.pdf.

By offering tax credits or deductions to anchor firms that invest in R&D activities conducted by MSMEs, startups, and spin-offs, governments can significantly enhance innovation output and foster strategic collaborations across business sizes and sectors. This approach not only leverages the strengths of larger firms but also elevates the innovative capacities of smaller entities, contributing to sustained economic growth and competitiveness.

Implementation strategy:

- Structure of tax incentives: design tax credits to cover a significant percentage of the investment amount in R&D by anchor firms within MSMEs, startups, and spin-offs.
- Eligibility criteria: set clear criteria for what constitutes eligible R&D activities. Define the roles of both anchor firms and smaller entities in these activities to ensure transparency and accountability.
- Promotion and outreach: actively promote the availability of these tax credits to ensure that both anchor firms and smaller innovative companies are aware of the benefits.

Streamlining regulatory processes for joint R&D projects.

To foster innovation and accelerate economic growth, it is essential to simplify the regulatory processes for joint R&D projects between large companies and MSMEs or startups. Reducing bureaucratic hurdles can significantly enhance the efficiency and effectiveness of collaborative innovations. Regulatory complexity often acts as a barrier to effective collaboration between different-sized entities, particularly in highly innovative sectors where speed to market is crucial.

Simplifying regulatory processes for joint R&D projects is a strategic move to enhance collaboration between large companies and smaller innovative firms. By reducing regulatory complexity, both parties can focus more on the innovation process rather than compliance. As a result, this speeds up the development of new technologies and solutions. These streamlined processes not only foster a more dynamic business environment but also contribute to building a more robust and inclusive innovation ecosystem.

Implementation strategy:

- Define clear regulatory pathways: establish specific guidelines that outline the regulatory requirements for joint R&D projects, providing a clear pathway for compliance.
- Create dedicated support units: set up specialized units within regulatory agencies to support firms engaged in joint R&D, offering guidance and expedited services.
- Implement digital tools for regulatory filings: utilize digital platforms to streamline the submission and review of regulatory documentation, reducing processing times and increasing transparency.

Case studies of successful initiatives.

- Germany's Federal Ministry of Economic Affairs and Energy offers a "fast track" option for regulatory approval in joint ventures between larger firms and SMEs in high-tech sectors.[126]
- India's Atal Innovation Mission simplifies regulatory approvals for collaborations between large industries and startups, particularly in biotechnology and clean energy sectors.[127]

126 Bundesminiterium für Wirtschaft und Klimaschutz. Available at: https://www.bmwk.de/Navigation/DE/Home/home.html.

127 AIM – Atal Innovation Mission. Available at: https://aim.gov.in/.

Enhancing start-up financing.

To bolster the start-up ecosystem and encourage investment from large firms, developing legal frameworks to support the use of Simple Agreements for Future Equity (SAFE) is crucial. These allow startups to raise capital without the immediate exchange of equity, providing them with the flexibility to grow while aligning investor and founder interests over the longer term.

SAFE agreements are pivotal for startups that need to secure funding quickly but are not yet ready to establish a firm valuation. This flexibility is vital in the fast-paced tech sector, where early funding can significantly influence a startup's trajectory and market presence.

Implementation strategy:

- Standardize SAFE agreements: develop standardized SAFE agreement templates that comply with national financial regulations, ensuring legal clarity and reducing complexity in negotiations.
- Regulatory oversight and transparency: introduce regulations that govern the terms and conditions of SAFE agreements, including provisions for disclosure requirements and investor protections.
- Educational programs for startups and investors: launch educational initiatives to help both startups and investors understand the benefits and risks associated with SAFE agreements, ensuring informed decision-making.
- Facilitate international best practices and learning: encourage the adoption of international best practices through bilateral agreements and international startup forums, promoting a global standard for SAFE agreements.

Developing legal frameworks that support the use of Simple Agreements for Future Equity is essential for fostering a thriving startup ecosystem. By simplifying the early stage funding process and providing legal certainty, SAFE agreements can help startups secure the necessary capital to scale quickly while managing ownership and control effectively. This approach not only benefits startups by providing flexible funding options but also attracts more large firms to invest in innovative ventures, thereby fuelling economic growth and technological innovation.

Case studies of successful initiatives.

- In the United Kingdom, regulatory guidelines for SAFE agreements have been established by the Financial Conduct Authority to streamline funding processes for startups, especially in tech sectors.[128]
- Start-Up Chile program utilizes instruments like SAFE agreements to attract investment from larger firms into the country's startups, boosting the local entrepreneurial ecosystem.[129]

The G20 should therefore:

- Develop regulatory measures to support entrepreneurial systems and MSMEs access to funding and competitive credit to foster sustainable business growth and enabling environments for entrepreneurs to thrive, facilitating jobs maintenance and growth.
- Provide support (i.e.: tax policies, regulatory benefits, SAFE - Simple Agreements for Future Equity) for anchor firms to contract R&D solutions from MSMEs, start-ups, and spin-offs that will drive innovative economic growth and job creation.

128 FCA – Financial Conduct Authority. Available at: https://www.fca.org.uk/.

129 Start-up Chile by Corfo. Available at: https://www.startupchile.org/.

ANNEXES

Annex A – Glossary and Acronyms

AI	Artificial Intelligence.
DEI	Diversity, Equity, and Inclusion.
Emerging Skills	Technical and non-technical skills that are emerging as requirements for the future of work. Examples include sustainability, Artificial Intelligence, cybersecurity.
Entrepreneurship Skills	Technical and non-technical skills required for entrepreneurs. Examples include communication skills, finance and accounting, leadership, time management, organisation, networking.
FDI	Foreign Direct Investment.
GDP	Gross Domestic Product.
Gen. AI	Generative Artificial Intelligence.
GHG emissions	Green House Gas emissions.
HBS	Harvard Business School.
ILO	International Labour Organisation.
IOE	International Organisation of Employers.
K12 Education	Education considering elementary and secondary school grades (basic education). From kindergarten through 12th grade.
Life Skills	A group of psychosocial competencies and interpersonal skills that help people make informed decisions, solve problems, think critically and creatively, communicate effectively, build healthy relationships, empathize with others, and cope with and manage their lives in a healthy and productive manner. Examples include communication skills, language skills, critical thinking, time management and focus, teamwork.
MSMEs	Micro, Small and Medium Enterprises.
NEET	Youth Not in employment, education, or training.
R&D	Research and Development.
RDI	Research and Development Infrastructure.
SAFE	Simple Agreements for Future Equity.
S&T	Science and Technology.
SDG	United Nations' Sustainable Development Goals.
SMEs	Small and Medium Enterprises.
STEM	Science, Technology, Engineering, Math.
STREAM	Science, Technology, Reading, Engineering, Arts, Math. R can also stand for robotics or research.
Underrepresented groups	A group less represented in one work or education subset. Examples may vary according to country and sector-specific groups, and may include women, youth (or elderly), refugees, migrants, ethnicity, sexual orientation.
VET	Vocational Education and Training.
WEC	World Employment Confederation.
WEF	World Economic Forum.
WHO	World Health Organization.
Work-integrated learning	Curricular experiential education that integrates academic studies and experiences within a workplace or practice setting. Examples: dual-learning systems, apprenticeships, mentorships.

Previous B20 editions proposed policy actions relevant to overcome the challenges that this Policy Paper aims to address, such as:

Recommendation	Policy Action	Examples from past B20s *(R – Recommendation Number, P – Policy Action Number)*
R1: Prepare a Resilient & Productive Workforce for the Future of Work	1.1: Enhance relevance and quality of basic/ K12 education and VET for the future workforce to develop employable and entrepreneurship skills by updating teachers' education, digital literacy, and sustainability skills, and by engaging business in mapping competency gaps and designing new curricula.	• India R.2.P.4: Develop employable skills through education. • India R.2.P.5: Partner with private entities to enhance workforce skills. • Indonesia R.2.P.1: Upgrade the quality of education systems.
	1.2: Foster reskilling and upskilling to close the talent scarcity gap and reduce skills mismatch, especially in digital and green proficiency, by developing financial incentives to promote programs and setting guidelines and frameworks to roll-out work-integrated learning solutions and to facilitate the recognition of skills.	• India R.2.P.6: Promote continuous learning and upskilling through lifelong learning. • Indonesia R.2.P.2: Build fit-for-purpose lifelong learning systems. • Italy R.1.P.1: Forge partnerships across sectors to meet future workforce and skills needs. • Italy R.1.P.2: Build effective lifelong learning system.
R2: Ensure a Diverse, Inclusive, and Adaptable Workforce.	2.1: Promote diverse and inclusive work environments by implementing reward regulation for companies to promote access to work and career progression opportunities for underrepresented groups, and by strengthening financial incentives to support care provisions.	• India R.1.P.3: Promote inclusivity and flexibility at the workplace to foster equality. • Indonesia R.3.P.2: Empower women across the workforce. • Italy R.3.P.2: Empower women across the workforce.
	2.2: Support the transition of workers into the formal economy by adapting regulatory frameworks to recognize alternate and future forms of work and the impact of technology in jobs; and facilitate job mobility by establishing international tax frameworks, labour information systems, and standards for safe and regular migration.	• India R.1.P.6: Bridge the formal-informal workforce divide for a more inclusive economy. • India R.3.P.1: Remove policy barriers to enable cross-border mobility. • Indonesia R.1.P.3: Enable the transition of workers and businesses into the formal economy. • Italy R.2.P.2: Promote diverse forms of work to stimulate job creation and growth.
R3: Foster Innovation and Sustainable Growth	3.1: Accelerate innovation in strategic areas and foster scientific and technological development by creating shared research and digital infrastructure, engaging higher-education and VET institutions with businesses, and increasing and facilitating access to government funding.	• India R.1.P.7: Foster an enabling environment for businesses to grow, thrive, and innovate. • India R.1.P.8: Dialling up the role of public and private partnerships.
	3.2: Actively support entrepreneurship and MSMEs to drive sustainable growth and job creation by developing regulatory measures to improve access to funding and competitive credit, and by providing support to foster R&D solutions that drive innovative economic growth.	• India R.1.P.5: Empower SMEs, start-ups, and women-led enterprises to drive economic growth. • Indonesia R.1.P.1: Actively enable entrepreneurship, business growth and job creation, targeting SMEs. • Italy R.2.P.1: Support entrepreneurship to drive business recovery, growth, and employment.

List of additional case studies:

Recommendation and Policy Action	Case
R1.P1	**Programa de Formação Docente em Competências Digitais em Mato** Grosso (title in Portuguese, direct translation: Teacher Training Program in Digital Skills in Mato Grosso) The local government included digital literacy for educator in their policy and raised the digital proficiency levels from 25% to 53% in one year. Source: **Formação Docente em Competências Digitais em Mato Grosso**. Available at: <https://www.fundacaotelefonicavivo.org.br/acervo/formacao-docente-em-competencias-digitais-em-mato-grosso/>. Last accessed on 18 July 2024.
R1.P2	**Policies for Up-skilling Courses** The Singapore Government has provided an example of how up-skilling and re-skilling can be effectively incentivized for businesses and individuals. The government will provide subsidies of between 25 to 90 percent for employee training if it is under the defined skill programs pre-approved. The government also announced a new policy where workers from age 40 and above may receive up to US$4,000 per year to take up-skilling courses from a list of over 7,000 online and classroom courses. This is considered an essential investment in the future because of increasing productivity, worker adaptation and low unemployment.
R1.P2	**Balsa-Escola** (title in Portuguese, direct translation: Boat School) Brazil's Senac (National Commercial Apprenticeship Service), in partnership with Cisco, launched the 1st Cisco Networking Academy at Balsa-Escola from Senac Amazonas. The project aims at democratizing IT professional education, providing digital connectivity and training to people living in the Amazon region, including topics such as digital skills, cybersecurity, networks, and programming. Its infrastructure houses four laboratories with internet connection and a mini-auditorium that to serve various sectors, including tourism, IT, health, beauty, management and commerce. Since its launch, the itinerant initiative has provided services for multiple municipalities of Amazonas including more than 19 thousand trained people in cities like Barcelos, Urucará, Nhamundá, Parintins, Silves, Boa Vista do Ramos, Barreirinha, Manaus, Caapiranga, Anamã, Beruri, Borba, Maués and Humaitá. **Source: Senac e Cisco ampliam parceria para levar cursos de tecnologia e conectividade para comunidades.** Avaliable at: <https://news-blogs.cisco.com/americas/pt/2024/05/29/senac-e-cisco-ampliam-parceria-para-levar-cursos-de-tecnologia-e-conectividade-para-comunidades/>. Last accessed on 03 July 2024.
R2.P1	**Employment and Income Generation Program of the FAT (PROGER)** A set of financing lines was created to enhance the public policy of combating unemployment. It focuses on providing financing for small-scale enterprises in various sectors of the economy, with an emphasis on tourism, exports, and technological innovation. The program also allocates resources for improving the quality of life and employability of workers, as well as supporting family farming in Brazil.
R3.P2	**Single Market Trade Hub** In Togo, the banking conglomerate Ecobank Transnational Inc. launched the Single Market Trade Hub initiative to help SMEs engage in exports and new markets development, face logistical hurdles and scale operations by providing information on how to address the African Continental Free Trade Area (AfCFTA) and provide a marketplace for accessing trade finance, cash management, working capital and advisory. **Source: DALY, AM, Simon Littlewood, John Njiraini, Rob. World's Best SME Banks 2024—Regional Winners.** Available at: <https://gfmag.com/banking/worlds-best-sme-banks-2024-regional-winners/>. Accessed on: July 3, 2024.

Recommendation and Policy Action	Case
R3.P2	**Enhancing MSMEs' digital export skills** Indonesia's Centre of Entrepreneurship of the International Chamber of Commerce (ICC), in partnership with Google, is designing a curriculum and creating a network of trainers to train MSMEs aimed at fostering digital export-relevant skills. **Source: AUDREY. MSME Digital Exports in Southeast Asia – A study of MSME digital exports in 10 ASEAN markets.** Available at: <https://iccwbo.org/news-publications/policies-reports/msme-digital-exports-in-southeast-asia-a-study-of-msme-digital-exports-in-10-asean-markets/>. Accessed on: July 3, 2024.
R3.P2	**Bangladesh Women's Chamber of Commerce and Industry (BWCCI)** In Bangladesh, women entrepreneurs founded the BWCCI. The chamber started by providing training and technical assistance for developing women's business skills. Through a partnership with the Centre for International Private Enterprise (CIPE) it expanded its scope to include business development, administrative support, trade promotion and policy advocacy for tackling regulatory barriers to expand opportunities for women entrepreneurs (regarding finance tools, market entry barriers, tax regimes, among others). **Source: Empowering Women Entrepreneurs in Bangladesh - Centre for International Private Enterprise.** Available at: <https://www.cipe.org/resources/empowering-women-entrepreneurs-bangladesh/>. Accessed on: June 2, 2019.
R3.P2	**Women's Business Resource Centre ("WBRC" or "Corali")** In Guatemala, the Centre for International Private Enterprise (CIPE) partnered with the Red Nacional de Grupos Gestores (RNGG) to launch a pilot program for addressing economic gender disparities and supporting women's inclusion in their local economies. The centre provides courses, mentorships, technical advisory and daycare provision, among others, to support women entrepreneurs at each stage of their business, from incubation to consolidation of enterprises. **Source: Corali: CIPE's Women's Business Resource Centre in Guatemala**. Available at: <https://www.cipe.org/projects/corali-cipes-womens-business-resource-center-in-guatemala/>. Accessed: July 3, 2024.

Annex B – Composition and Meeting Schedule

Distribution of Members by country

Country	#
Argentina	6
Australia	2
Belgium	4
Brazil	25
Canada	5
China	7
Egypt	3
France	13
Germany	5
India	22
Indonesia	2
Italy	4
Japan	1
Republic of Korea	2
Mexico	2
Netherlands	2
Poland	1
Romania	1
Russian Federation	4
Saudi Arabia	3
Singapore	2
South Africa	2
Spain	1
Türkiye	2
United Kingdom	4
United States	13
Total	**138**

Distribution of Members by gender

Gender	#
Female	71
Male	67

Task Force Chair

Name	Organization	Position	Country
Walter Shalka	Suzano	Board Member	Brazil

Task Force Deputy Chair

Name	Organization	Position	Country
Luis Bueno	Suzano	Director of Consumer Goods and Corporate Relations	Brazil

Task Force Co-Chairs

Name	Organization	Position	Country
Bettina Shaller	World Employment Confederation (WEC)	President	Belgium
B V R Mohan Reddy	Cyient	Founder, Chairman, and Board Member	India
Daniel Funes de Rioja	Unión Industrial Argentina (UIA) and COPAL	President	Argentina
Francisco Rios	SEA Group	Director for Latin America	Brazil
Jaqueline Mugo	Federation of Kenya Employers	Executive Director and CEO	Kenya
Lama Al Sulaiman	Kingdom Holdings and International Chamber of Commerce (ICC)	Board Member	Saudi Arabia
Renate Hornung-Draus	Confederation of German Employers (BDA) and International Organization of Employers (IOE)	Managing Director for Economic and International Affairs (BDA)/ Vice-President (IOE)	Germany
Gabriel Bello Barros	Cisco Network Academy	Leader	Brazil

Task Force PMO

Name	Organization	Country
Cristina Elsner Faria	National Confederation of Industry	Brazil

Task Force Members

Name	Organization	Position	Country
Adelina Dabu	Concordia Employers Confederation	Head of Public Affairs	Romania
Aditya Ghosh	Akasa Air, Homage	Co-founder, Akasa air & Founder, Homage	India
Aditya Singh	Athena School of Management	Director	India
Adriana Carvalho Sequeira de Oliveira	FIRJAN - Federation of Industries of Rio de Janeiro	International Relations Specialist	Brazil
Adriana Roman Muniz	BASF SA	Gerente Senior de Recursos Humanos	Brazil
Ahmed Sameer El Khatib	Instituto de Auditoria Independente do Brasil (Ibracon) and Universidade Federal de São Paulo (UNIFESP)	Technical Manager and Professor	Brazil
Akustina Morni	International Organisation of Employers	Policy Director	France
Ambre Naija	Novambre Consulting Social Innovation Experts	CEO	France
Ana Laura Intihar	Cámara Argentina de Comercio y Servicios	Director	Argentina
André Carlos Alves Vicente	Adecco Recursos Humanos	CEO ADECCO BRASIL	France
Andréa Ferrari	ABICAB Brazilian Association of the Chocolate, Peanut, and Candy Industry	Foreign Affairs Manager	Brazil
Anna Kompanek	Center for International Private Enterprise (CIPE)	Director, Global Programs	United States
Anne Vauchez	MEDEF	International and European social affairs Director	France
antonio capaldo	TRENDEVICE	CEO	Italy
Arshish Dinshaw Kavarana	Colliers International	Executive Director | Head of Consulting & Digital	Canada
Asif iqbal	Indian Economic Trade Organization	President	India
Avinash Gyan	UPRD Industries and Infrastructure Forum	CEO	India
Aysha Sanober	Ammara	CEO	India
Balakrishnan Rajagopal	XOX	Head Regulatory & Government Affairs	Indonesia
Bettina Schaller	World Employment Confederation	World Employment Confederation President	Belgium
Bhavin Kothari	National Institute of Design	Professor	India
Bianca dos Santos Silva	Global Shapers	Curator	Brazil
Bruce Vivian	International De	Head of Accountancy Education	United States
Carmen Barsan	BDA (Confederation of German Employers´Associations)	Dr. iur.	Germany

Name	Organization	Position	Country
Claudio Medeiros Netto Ribeiro	Novonor	VP Relações Institucionais	Brazil
Cristiana Xavier de Brito	BASF	BASF South America Corporate Affairs and Sustainability Director and ECO+ Foundation Board of Trustees Chairwoman	Germany
Daniel Funes de Rioja	Unión Industrial Argentina	President	Argentina
David Barnes	IBM Corporation	Vice President Global Workforce Policy	United States
Deepti Sahdev	GR Infraprojects LTD (Member)	Head Corporate Communications	India
Denis Tredese	Aura Immersive	CIO	Italy
Denise Mendes Teixeira Alves Terrer	Centro de Gestão e Estudos Estratégicos	Technical Advisor	Brazil
Diana Palmerin Velasco	Canadian Chamber of Commerce	Senior Director, Future of Work	Canada
Dmitry Shakhanov	Joint Stock Company "Russian Railways" (JSCo "RZD")	Deputy CEO (Human Resources Management, Social Development and Health)	Russian Federation
Dr. Monika Puri	Roche Products (India) Pvt. Limited	Chief Country Access & Policy Officer	India
Edith Nordmann	Netherlands India Chamber of Commerce and Trade (NICCT)	Chairman/Managing Partner	Netherlands
Elizabeth D. Yu	Center of International Business Law Studies, China Foreign Affairs University	Professor of Law, Director	China
Elsayed Torky	Federation of Egyptian Industries	Senior Advsior	Egypt
Emily M. Dickens	SHRM	Chief of Staff, Head of Public Affairs & Corporate Secretary	United States
Emine Rana Birden	Kale Group of Companies	Head of Corporate Communications	Türkiye
Erol Kiresepi	Santa Farma Pharmaceuticals	CEO	Türkiye
Eugenia Ctibor	Unión industrial del Gran la Plata	Presidente	Argentina
Evelyn Mwapasa	The Pan African Federation of Accountants	Director for Effective Professional Accountancy Organisations	South Africa
Ewa Staworzynska	United States Council for International Business	Director, Corporate Responsibility and Labor Affairs	United States
Fernanda Leite Candeias Guimarães	TERNIUM	Institucional and Community Director	Mexico
Fernando Pimentel	ABIT - Associação Brasileira da Indústria Têxtil e de Confecção	CEO	Brazil
Fernando Simões Paes	99/DiDi Chuxing	Government Affairs Senior Director	China
Ferron Gray	Grae Matta Foundation	President	United Kingdom
Gabriela Bertol Domingues	Santander	Head Sustentabilidade	Spain
Gabriela Rozman	UN Global Compact - Brazil Network	Education and Empolyment Senior Manager	United States

Name	Organization	Position	Country
Geneviève Daniele Lucienne Dutrait Poulingue	SKEMA Business School	Dean/CEO & Reitora	France
Giorgiana Martínezgarnelo y Calvo	Jóvenes x México	President	Mexico
Gregoire Jean-Louis	EM Normandie Business School	Chairman of the board	France
Haifa Reda Jamalallail	Effat University	President of Effat University	Saudi Arabia
Hansong Liu	China Enterprise Confederation	Director of International Liasion Department	China
Henrique Cardoso	Adecco Recursos Humanos	International Sales Account Director LATAM	France
Hon. Mark Birrell	Australian Chamber of Commerce and Industry	President	Australia
Hongren Zhu	China Enterprise Confederation	Secretary General	China
Jason Ma	ThreeEQ	CEO and Chief Mentor	United States
John Boulton	ICAEW	Director, Policy	United Kingdom
Jose Augusto Lopes Figueiredo	World Employment Confederation	President WEC Latam (World Employment Confederation)	Brazil
Juliana Souza Pavao	Boeing	Director, Government and Institutional Relations	United States
Justyna Brunetti	COMARCH	Director I HR Operations, Policy & Compliance	Poland
Kabir Krishna	Confederation of Indian Industry (CII)	Deputy Director	India
Kara Hinesley	Canva	Global Head of Public Policy and Government Affairs	Australia
Kathrin Riedler	German Chamber of Commerce and Industry	Director EU Employment and Education Policy	Germany
Kazumi Sakashita	Keidanren (Japan Business Federation)	Deputy Director, Labor Legislation Bureau	Japan
Kennya Paiva Collares	Newe Seguros	Coordenadora de Pessoas e Cultura	Brazil
Kirsten Müller	Wirtschaftsjunioren Deutschland	HR Business Partner	Germany
Krishnaprasad Bannanje	Novigo Solutions Inc	VP	United States
Kumjoo Huh	Kyobo Life Insurance Co., Ltd	External Relations Officer	Republic of Korea
Laiz Carolina Ramos Dutra	Adecco recursos Humanos	Comercial Director	France
Lakshmi Sai Kumar D	Lakshmi LLC USA 101west Apt#15 Rolla MO 65401 US,Global Economic Impact Forum A Think Tank, Partimer Inc	Founder CEO	United States
Lakshmi Sai Kumar Dampanaboina	PartimerInc	CEO	India
Lama Abdula Aziz Al Sulaiman	1- Kingdom Holdings Investments 2- ICC	Board Member	Saudi Arabia

Name	Organization	Position	Country
Lama AlSulaiman	Rolaco holdings	Board Member Kingdom Holding and International Chambers of Commerce.	Saudi Arabia
Laura Gimenez	Union Industrial Argentina	Head of Social Policy	Argentina
Leandro Viotto Romano	International Foundation of Young Leaders	President and CEO	Argentina
Lia Carolina Ortiz de Barros Glaz	Fundação Telefônica Vivo	Diretora Presidente da Fundação Telefônica Vivo	Brazil
Lilian Saratani Schiavo	OBME - Organização Brasileira de Mulheres Empresárias	Presidente Nacional	France
Luana Genot	ID_BR - Instituto Identidades do Brasil	CEO at ID_BR	Brazil
Luciana Dall'Agnol	Brazilian Insurance Confederation	Sustainability and Consumer Relations Superintendent	Brazil
Luciana Paganato	UNILEVER	Vice President of Human Resource Americas	Brazil
Lustman Florence	France Assureurs	President	France
Marco Antonio Branquinho Junior	Cedro Textil	CEO	Brazil
Marden Cesar Da Silva	SENAI SP	Especialista em Tecnologia	Brazil
Margarida Yassuda	BPW BRASIL Business & Professional Women	Past President BPW Brasil (2020-2022)	Brazil
Maria Fernanda Novo Monteiro	Sombrero Seguros S.A.	Head Juridical	Brazil
Mariana Esmédio Pires Dileo	Mary Kay do Brasil	Sr Lawyer & Gov Relations	Brazil
Marina Moskvina	Russian Union of Industrialists and Entrepreneurs (RSPP)	Managing Director for Labour Market and Social Partnership	Russian Federation
Maxime Cerutti	BusinessEurope	Social Affairs Director	Belgium
Menno Bart	The Adecco Group	Head of Policy Advocacy	France
Michael Lee	CreBiz Factory	CEO	Republic of Korea
Milind Pimprikar	CANEUS International	Chairman	Canada
Minami Kakuda	BIAC	Policy Expert	France
Mohit Dave	International Cooperative Alliance Asia and Pacific	Head, Partnerships and Resource Mobilisation	Belgium
Mounir Marhaba	Humber-Guelph University, Humber Institute of Technology and Advanced Learning	Professor, Longo Faculty of Business	Canada
Ms Harsh Juneja	Confederation of Indian Industry	Deputy Director	India
Muhammad Kurnia Dwijayanto	Angsamerah	Director	Indonesia
Neerja Bhatia	Confederation of Indian Industry (CII)	Deputy Director General	India
Nitin Narayan	Mavenz Management and Technology Services Pvt Ltd	CEO	India
Osama Bin Noor	Youth Opportunities Ltd.	Managing Director & COO	Singapore

Name	Organization	Position	Country
Oxana Romanchuk	Indrya Impact Bureau	Managing Director	India
Pablo Dragun	Union Industrial Argentina	Director of Economic Research and International Relations	Argentina
Paul Noll	Confederation of German Employers' Associations - BDA	Deputy Director Economic and International Affairs	Germany
Paul William Bradley	Caprica International	Chairman and CEO	Singapore
Priscilla Silva Coelho	Organização das Cooperativas Brasileiras	Technical-Institutional Analyst	Brazil
Rabiya Anwer	Employers' Federation of Pakistan	Assistant Secretary General	Italy
Rafael Tobias de Freitas Alloni	Uber do Brasil	Senior Manager, Public Policy	United States
Regiane Soccol	Johnson & Johnson	Global Community Impact, Leader Latam	United States
Reymond Voutier	eNotus International Inc.	Executive Chair	United States
Roberta Raffaelli	Transition Coaching	Intercultural Career Coach and Trainer	Brazil
Samir Jamatia	Bamboo Forum of Tripura	Bamboo Technologist	India
Sandro Leal Alves	Federação. Nacional de Previdência Privada e Vida	Superintendent	Brazil
Sanjiv Kumar Goel	EaiP	Founder	India
Saurabh Shah	Universal Business & Corporate Services Centre	CEO	India
Shaimaa Bahaa El Din Hussein Meligy	Federation of Egyptian Industries	Director of International Relations	Egypt
Shaimaa Bahaa El.Din Hussein Meligy	She Powers	Founder	Egypt
Shokhin Alexander	Russian Union of Industrialists and Entrepreneurs	President	Russian Federation
Siham Saidi	MEDEF	European and International Social Affairs	France
Sihle Shabalala	National Youth Development Agency	National Pathway Manager	South Africa
Simarpreet Singh	JIS Group	Director	India
Simona Sinesi	Never Give Up	CEO	Italy
Sonja van Lieshout	randstad N.V.	global head of public affairs	Netherlands
Sougata Roy Choudhury	Confederation of Indian Industry	Executive Director, Skill Development and Livelihood, Industrial Relations, Rural Development and Affirmative Action	India
Tatiana Simoes Rabello Franzoe	Generali Brasil Seguros	Legal & Sustainability Director	Brazil
Tatiana Terentyeva	Rosatom Corporation	Deputy Director General for Human Resources	Russian Federation
Tejwant Singh Chhatwal	UK Skills Ltd	Trustee & Global Head	United Kingdom
Vaibhav Jain	Tevoxo Ventures	Managing Director and CEO (Board Member)	India

Name	Organization	Position	Country
Vaishnavi Gupta	The Employers' Federation of India	Executive	India
Vania da Paz Costa	Capemisa Seguradora de Vida e Previdência S/A	Consultora Interna de RH	Brazil
Ved Mani Tiwari	National Skill Development Corporation	Chief Executive Officer	India
Venkatkrishnan B	ITAM Forum	Sustainability Head	United Kingdom
Vera Lucia Cabral Costa	Microsoft	Director of Industry-Education	Brazil
Winston Chan	Young Leaders Circle-International Economic Forum of the Americas	Founding President	Canada
Xavier Mirel	Eurochambres	Policy Advisor for Skills	Belgium
Xianghui Shi	China Enterprise Confederation	Standing Deputy Secretary-General	China
Yu Fei	China Chamber of International Commerce	Director	China
Zhiqiang Niu	China Enterprise Confederation	Division Director	China

Task force Meetings Schedule

Data	Format
23 February 2024	Virtual
05 April 2024	Virtual
22 April 2024	Virtual
24 May 2024	Virtual
14 June 2024	Virtual
10 July 2024	Virtual

Annex C– Partners

Knowledge Partner

accenture

Network Partners

IOE OECD BUSINESSatOECD

WORLD ECONOMIC FORUM unesco