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**Preparing Future Generations of Women for New Job Demands:  
Skilling, Re-Skilling, Digitalization and Automation**

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\* The views expressed in this paper are those of the author and do not necessarily represent those of the United Nations.

## ► Introduction

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The world of work is in the midst of multiple transitions, with profound impacts on the nature and future of work. Technological innovations, demographic shifts, environmental and climate change, and globalization are transforming the world of work at a fast-changing pace. This calls for a human-centered agenda that prepares workers to keep up with demands for new skills and opportunities created. It also calls for seizing the opportunity to breakdown deeply ingrained structural barriers and discrimination in the world of work. To ensure that everyone can reap the benefits of these transformations, governments, businesses and trade unions need to work together, to ensure that new economic and emerging labour markets are more inclusive.

Preparing future generations of women for new or different job demands triggered by digitalization, automation and climate change requires a transformative approach to gender equality, non-discrimination and inclusion. This includes anticipating the changing demand for skills and equipping women with the right skills to help them to leverage the benefits of such transformations. However, even when gender gaps in education, including technical and vocational education and training (TVET) are closed, systemic and structural barriers to access, remain and advance in the world of work are still present, notably due to discrimination, fragmented and segregated labour markets, the unequal distribution of unpaid care work and care responsibilities between men and women and families and the State, gender-based violence and harassment, prevailing gender stereotypes and socio-cultural norms, as well as limited voice and representation of women in collective decision-making processes. Multiple and intersecting forms of discrimination based on grounds including disability, race and ethnicity, social origin, migration status, SOGIESC, age, HIV status can further exacerbate gender inequalities. It is therefore critical that gender-transformative measures are in place to address these barriers and tackle deepening structural gender-based discrimination.

The [ILO Centenary Declaration for the Future of Work \(2019\)](#) recognizes the need to ensure equal opportunities, equal participation and equal treatment for all women. In addition, the [ILO Global Call to Action for a Human-Centred Recovery from the COVID-19 Crisis That Is Inclusive, Sustainable and Resilient \(2021\)](#) calls for the opportunities provided by just digital and environmental transitions to be leveraged to advance decent work for all and aims at eliminating violence and harassment in the world of work. The [ILO/UN Global Accelerator on Jobs and Social Protection for Just Transitions \(2021\)](#) recognizes, in particular, the key roles of the green and care economies in creating jobs and in promoting gender equality and greater resilience. These efforts are in line with the SDGs, notably Goal 4 (“Quality education”), Goal 5 (“Gender equality”), Goal 8 (“Decent work and economic growth”), Goal 9 (“Industry, innovation and infrastructure”), Goal 10 (“Reduced inequalities”) and Goal 13 (“Climate action”).<sup>1</sup>

In this context, the 67th session of the UN Commission on the Status of Women provides a unique opportunity to enhance cooperation and advance the discussion on “Innovation and technological change, and education in the digital age for achieving gender equality and the empowerment of all women and girls”. This paper, drawing on existing ILO publications, policy frameworks and body of international labour standards, sheds light on the state of play and current gaps in addressing the needs of future generations of girls and women. It analyses both opportunities and challenges for women and girls in terms of job destruction and creation, and the use of digital technology to improve labour market programmes and access to education. In addition, the paper also puts forward policy recommendations that can help pave the way in advancing gender equality and inclusiveness in a more digital and greener future of work, going beyond the focus on skilling and reskilling and rethinking the world of work to be more responsive to the different needs of diverse women and men.

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<sup>1</sup> See more on the progress on gender equality across the SDGs [Progress-on-the-sustainable-development-goals-the-gender-snapshot-2022-en\\_0.pdf \(unwomen.org\)](#)

## Challenges and Opportunities for advancing gender equality in a digitalized world of work

Despite the progress made towards gender equality in the past decades, inequalities between men and women continue to persist and women still face exclusion, discrimination, and exposure to socio-economic vulnerabilities. These inequalities are further heightened when discrimination based on gender intersects with other forms of discrimination such as that based on age, disability, race and ethnicity, HIV status, SOGIESC, socio-economic status, migrant status, and others. For example, whilst the global employment to population ratio (EPR) of persons with disabilities is 21 per cent, compared to 56 per cent for persons without disabilities, the EPR for women with disabilities is significantly lower than those of men with disabilities.<sup>2</sup> With disruptions triggered by health and climate crises, social unrest and war, gender inequality is likely to continue to worsen and undermine some of the gains that have been achieved so far, without deliberate and coordinated action to sustain and accelerate progress.

Women, young workers and migrant workers, have been impacted particularly severely by the Covid-19 pandemic, either losing jobs or dropping out of the labour market, leaving them in precarious positions.<sup>3</sup> In 2021, 27.1 per cent of young women globally were estimated to be in employment, versus 39.6 per cent of young men. This means that young men are almost 1.5 times more likely than young women to be employed.<sup>4</sup> While some progress has been made in reducing the employment gender gap in high-income countries, women globally now spend 18.9 hours weekly in employment, or 57 per cent of average hours worked by men (33.4 hours). The reasons for this include the unequal distribution of care responsibilities, which increased during the crisis, but also the strong presence of women in some deeply affected sectors.<sup>5</sup>

Worldwide, one-fifth of young people currently have NEET status (not in employment, education or training), which means they are neither gaining experience in the labour market, nor receiving an income from work, nor enhancing their education and skills. Clearly, their full potential is not being realized, though many may be contributing to the economy through unpaid work, which is particularly true of young women. Although more girls and young women are in education than ever, gender gaps persist. Globally, young women are twice as likely as young men to have NEET status. The gender gap is even more pronounced in regions such as Southern Asia and the Arab States, where social and cultural norms may prevent women and girls from pursuing education or women from working outside the house.<sup>6</sup> For young women with disabilities, the picture is especially bleak. ILO statistics show that youth with disabilities are almost twice as likely to have NEET status compared to youth without disabilities (close to 50 per cent of youth with disabilities compared to 25 per cent of youth without disabilities). Globally, women with disabilities have higher NEET rates than men with disabilities.<sup>7</sup> Investing in education, including technical and vocational education and training (TVET) for young people across the globe and tackling gender disparities using an intersectional approach are critical to ensuring their inclusion in opportunities offered by digitalization and technological advances.

In a rapidly changing world of work, the digital, green and blue economies have the potential to create millions of decent jobs. The ILO indicates that the circular economy and renewable energy sector could create a net total of 18 million new jobs by 2030. Yet, between 1 and 2 million workers will lose their jobs and require reskilling into other occupations.<sup>8</sup> Moreover, the stubborn occupational segregation that pervades labour markets along lines of gender, race and class, needs to be addressed so that women can benefit from these jobs equally. Women currently account for less than 30 per cent of science, technology, engineering

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<sup>2</sup> ILO. [Disability Labour Market Indicators \(DLMI\) - ILOSTAT](#)

<sup>3</sup> ILO, 2022. World Employment and Social Outlook: Trends 2022

<sup>4</sup> ILO, 2022. Global Employment Trends for Youth 2022: Investing in transforming futures for young people.

Note: Young people are defined as those aged 15–24 years.

<sup>5</sup> ILO, 2022. ILO Monitor on the world of work. Ninth edition.

<sup>6</sup> ILO, 2022. Global Employment Trends for Youth 2022: Investing in transforming futures for young people

<sup>7</sup> ILO. [Disability Labour Market Indicators \(DLMI\) - ILOSTAT](#)

<sup>8</sup> ILO, 2018. World Employment and Social Outlook. Greening with jobs.

and mathematics (STEM) professionals while making up 45 per cent of administrative professionals. The share of women in renewable energy is nevertheless significantly higher than in the overall energy sector (by 10 percentage points), suggesting that, if managed well through [a Just Transition framework](#), the transition to renewable energy could also advance equality of opportunity in employment and more equitable labour market outcomes.<sup>9</sup>

Digitalization can enhance productivity, income and social well-being, but like other disruptive technological transformations throughout history, it entails risks as well as opportunities.<sup>10</sup> New technologies and digitalization can help boost productivity and promote more sustainable production practices. They can create jobs in new markets and increase women's employment including through offering more flexible working arrangements, while also reducing certain occupational hazards. For the large number of women working in agriculture (about 41 per cent of the world's agricultural labour force), for example, green technological advances, if made affordable and accessible, have the potential to increase yield and productivity, augment their earnings and reduce physical toll, whilst increasing environmental sustainability.<sup>11</sup>

The COVID 19-pandemic revealed some of the opportunities and benefits presented by digitalization, from teleworking, to education, to new entrepreneurship opportunities. Information and Communication Technologies, and specifically smartphones, have provided access to work and information among women in the informal economy. E-formality, an emerging trend, aims to use digital technologies to support the transition to the formal economy, with the ultimate goal of increasing economic capacity (productivity), improving norms and regulations, designing and implementing incentives, and improving enforcement systems and measures. Research evidence exemplifies the positive impact of e-governance on reducing the size of the informal economy. Mobile-based applications are developing into platforms through which rural populations can access financial services, skills development and job search engines, as well as e-retailing and e-hospitality services.<sup>12</sup> In addition to the potential for economic inclusion, technological advances have created new spaces for collective organizing amongst women, strengthening their participation and voice.

However, digital divides (by age, gender, location) persist and therefore promoting digital literacy and rural connectivity remains vital. Only when economies have the infrastructure, internet access and digital literacy can they support the transition to digital facilities.<sup>13</sup> While women have increased significantly their participation in online learning enrolment, acquiring digital skills, many women, particularly women with disabilities and in rural areas, encounter barriers to access the internet and benefit from digital opportunities. Women with disabilities, have among the lowest rates of mobile and smartphone ownership and are the least likely to use mobile internet.<sup>14</sup>

Technology can also entail the risk of job displacement, lower labour and social protection and reinforcing discrimination through the bias of artificial intelligence (AI). Women may be at greater risk of job displacement as automation and digital technologies may take over routine tasks or occupations such as clerical support or service work in which women are overrepresented. These occupations are estimated to account for 52 percent of potential female job displacements.<sup>15</sup>

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<sup>9</sup> IRENA, 2019. Renewable Energy, a Gender Perspective. and ILO and IRENA, 2021. Renewable Energy and Jobs.

<sup>10</sup> MGI, 2017. Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation.

<sup>11</sup> ILO, 2022. Third recurrent discussion on the strategic objective of employment.

<sup>12</sup> ILO, 2018. New technologies and the transition to formality: The trend towards e-formality.

<sup>13</sup> World Wide Web Foundation, 2020. The gender gap in internet access: using a women-centred method.

<sup>14</sup> GSMA, 2020. The Digital Exclusion of Women with Disabilities. A Study of Seven Low- and Middle-Income Countries.

<sup>15</sup> McKinsey, 2019. The future of women at work: Transitions in the age of automation.

The tech workforce continues to be dominated by men, with women making up only 22% of AI professionals globally and the majority of technical and leadership roles held by men.<sup>16</sup> There are still invisible barriers, including gender stereotypes, sticky floors and glass ceilings which discourage women from pursuing education in STEM fields and hinder equal participation between men and women in this industry. Women are promoted at a slower rate than men, only 52 women being promoted to manager for every 100 men. A shocking 22% of women in tech are considering leaving the workforce altogether given the prevailing masculine working culture reflected in impediments to advancing and other barriers including exposure to violence and harassment and lower wages. Digitalization also transforms tasks within occupations. Even if women remain in their current jobs, they are likely to be more prone to partial automation, which can have major implications for skills requirements and the working conditions faced by workers in some sectors.<sup>17</sup> Automation is also likely to contribute to growing polarization in the global jobs market, with women in richer countries having a comparative advantage over women in poorer countries because of their higher levels of education and digital literacy.<sup>18</sup>

Women make up just one in three “crowd-workers” on digital platforms. The preference or need to work from home or for **job flexibility** is particularly important for women in developing and developed economies alike. A higher proportion of women (35 per cent) than men (25 per cent) on online web-based platforms are motivated by the preference or need to work from home or for job flexibility, and about 23 per cent of women who perform online work have children under the age of six years.<sup>19</sup> As women with young children tend to face a “motherhood employment penalty” and globally account for the lowest employment rates, the spread of online work, which often comes with a certain degree of flexibility, may be considered by many women and men as an opportunity to better balance work with family responsibilities. However, this may also come with risks of reinforcing gender roles and making online work a highly feminized alternative to office-based work, coupled with gender-based assignment of tasks on digital platforms.<sup>20</sup> A European Union survey indicates that men dominate in software development and transport services, whereas women work more frequently in certain on-site services, such as personal or household services, and in translation.<sup>21</sup> Women may also experience the risk of becoming deskilled due to the simplicity of the tasks in the online work and their generally high level of education.<sup>22</sup> Online work can be isolating and may limit women’s opportunities to interact with other people and be more visible in terms of career opportunities and advancement. In addition, online work can expose women to higher risks of exhaustion, higher levels of stress, and violence and harassment, including that enabled by ICT.<sup>23</sup>

**Gender-based occupational segregation** patterns are repeated in learning profiles. While both men and women invest in valuable skills of the future, men are more likely to invest in Digital and Innovation skills and women in Working with People and Self-Management skills. Research indicates that the impact of new technologies on occupations requiring core work skills, such as teamwork, creativity, and critical thinking, will be lower than the impact on occupations based on performing repetitive tasks. Combining Digital and Innovation skills with the Working with People and Self-Management which women already tend to favour, could boost women’s employment and labour market attachment, whilst helping to break gendered patterns of occupational segregation.<sup>24</sup>

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<sup>16</sup> WEF, 2022. Global Gender Gap Report.

<sup>17</sup> WEF, 2018. Towards a Reskilling Revolution. A Future of Jobs for All.

<sup>18</sup> ILO and OECD, 2018. Global Skills Trends, Training Needs and Lifelong Learning Strategies for the Future of Work.

<sup>19</sup> ILO, 2018. Digital Labour Platforms and the Future of Work: Towards Decent Work in the Online World.

<sup>20</sup> EIGE, 2021. Gender equality and the socio-economic impact of the COVID-19 pandemic.

<sup>21</sup> Joint Research Centre, 2018. Platform Workers in Europe. Evidence from the COLLEEM Survey

<sup>22</sup> ILO, 2021. Changing demand for skills in digital economies and societies: Literature review and case studies from low- and middle-income countries.

<sup>23</sup> Eurofound and ILO, 2017. Working anytime, anywhere: The effects on the world of work.

<sup>24</sup> WEF, 2022. Global Gender Gap Report.

The **gender pay gap** remains significant, even in the virtual world. Analysis of an ILO survey of online crowd workers shows clear gender disparities in earnings, with young women's wage rates around 20 per cent lower than those of young men.<sup>25</sup> A gender pay gap has also been identified amongst Uber drivers<sup>26</sup> and other platforms offering services.<sup>27</sup> An Australian survey pointed out that the gender pay gap and the concentration of women in lower-paid digital occupations persisted in digital platforms.<sup>28</sup> This highlights the trade-offs of digital opportunities for young female crowd workers. On the one hand, it provides job opportunities for young women facing constraints such as care responsibilities, lack of opportunities in the local offline labour market or prevailing gender norms. On the other hand, the high supply of young women for digital employment pushes down the average wages that they earn on digital platforms.

Moreover, women engaged in the platform economy are also exposed to the **risk of sexism, discrimination, violence and harassment**. The sense of anonymity given to clients of on-demand platforms has been seen as a factor exacerbating the risk of violence and harassment. Many types of employment in the digital economy entail a high degree of job instability and uncertainty as regards future earnings. Lack of social protection coverage, child and long-term care services, and care leave policies on digital labour platforms, leave many women unprotected or excluded from accessing these digital spaces. Finally, algorithms trained with biased data can perpetuate existing discriminatory practices and stereotypes and reinforce gender biases. This requires a conscious effort to overcome gender biases and address gender equality and non-discrimination at its core.

## Just transitions through gender-responsive policies for empowering future generations of women and girls.

The transition towards digital and green economies opens up numerous opportunities for the engagement of future generations of women. The [ILO Centenary Declaration for the Future of Work \(2019\)](#) and [Global Call to Action for a human-centred recovery from the COVID-19 crisis that is inclusive, sustainable and resilient](#) call for achieving gender equality at work through a transformative agenda. As countries respond to these appeals, they need to invest in longer-term transformative approaches and overhaul their economic structures to make them more inclusive, sustainable and resilient. The ILO's [Guidelines for a just transition towards environmentally sustainable economies and societies for all](#) provide useful guidance in this respect. Enhanced international cooperation is equally important to address the fiscal and financial constraints faced by developing countries, in which the majority of future generations of women live.

Policymakers need to continue promoting women's equitable participation through gender transformative education and employment policies. This implies fostering a better understanding of the obstacles that prevent girls and young women from accessing education and embarking on a career and improve their career prospects, fully considering intersecting barriers and identities such as race, ethnicity, indigenous identity, age, disability, HIV-AIDS status, migration, educational attainment and socio-economic status. For instance, the adjustments to climate change go hand in hand with an increase in demand for green skills. Around the world, education and training institutions are slowly adjusting to this new demand. In 2019, two thirds of the 183 United Nations Member States recognized in their nationally determined contributions the importance of capacity development and climate change literacy, but less than 40 per cent of all nationally determined contributions included any plans for skills training to support the implementation of climate-related goals and more than 20 per cent did not plan any human capital-related activities at all in that area.<sup>29</sup> Actions to recognize and develop indigenous women's traditional knowledge and skills, are vital for climate

<sup>25</sup> O'Higgins, Niall, and Luis Pinedo Caro, 2022. "Crowdwork for Young People: Risks and Opportunities", ILO Working Paper No. 50.

<sup>26</sup> Cook, C. et al., 2018. The Gender Earnings Gap in the Gig Economy: Evidence from Over a Million Rideshare Drivers, Working Paper No. 24732.

<sup>27</sup> Barzilay, A.R.; Ben-David, A., 2017. "Platform Inequality: Gender in the Gig-Economy"; Litman, L. et al., 2020. "The Persistence of Pay Inequality: The Gender Pay Gap in an Anonymous Online Labor Market".

<sup>28</sup> McDonald, P. et al., 2020. Digital Platform Work in Australia: Prevalence, Nature and Impact.

<sup>29</sup> ILO, 2019. Skills for a Greener Future: Key Findings.

mitigation and adaptation.<sup>30</sup> Mainstreaming initiatives on digital skills, such as online learning platforms and accessible training, must be inclusive of people with disabilities.<sup>31</sup>

**Gender responsive active labour market policies** play a key role in facilitating successful and equitable labour market transitions and contribute to reducing skills mismatches, including skills gaps and shortages. Active support includes wage and hiring subsidies, job search support and public employment programmes. Identifying and anticipating the relevant skills, appropriately shaping technical and vocational education and training, and effectively adapting active labour market programmes should be integral to the design of such policies and programmes. More gender-responsive labour market information, career guidance and appropriate mentorship can broaden women and girls' choices in terms of career paths. Targeted measures can also be applied to encourage women's uptake and participation and provide greater opportunities for women to pursue education and training in STEM. Mentorship programmes can help considerably in the retention and career advancement of women who engage in technology and AI.

**Gender-focused skills development policies** are essential in closing the digital gender divide. Such policies and programmes should identify gender skills gaps and anticipate skill demands, shape TVET that is inclusive of women and particularly marginalized groups of women, and effectively adapt apprenticeship programmes.<sup>32</sup> The future of work requires skills that are threefold: foundational, transferable and job-specific.<sup>33</sup> While core skills such as digital literacy are essential, youth and workers may also require additional transferable skills such as analytical thinking, innovation, empathy and strategic leadership skills to adapt to the fast-changing environment. In addition, most new occupations in green, digital and care economy are likely to be calling for technical and scientific knowledge and skills to keep up with the opportunities in these sectors. This demonstrates, again, the need to provide greater opportunities for women to pursue education and training in STEM.

**Gender-inclusive lifelong learning programmes** can be also instrumental in enabling women and girls to acquire skills, to reskill and to upskill and preparing them for the future world of work within inclusive learning environments. In Senegal, for example, the Ministry of Vocational Training, Apprenticeship and Insertion is offering modular online training for women on their platform "E-jang" in digital skills, including digital entrepreneurship, using a self-paced learning approach that allows balancing training with care responsibilities. Apprenticeships can also play a vital part in equipping workers with skills adapted to the future demands of labour markets and should form an integral part of lifelong learning programmes. However, tackling gender inequities in access to apprenticeships, including in choice of apprenticeships, is key. Women are significantly underrepresented in apprenticeships programmes, counting, for instance, for 14 per cent of apprentices in Canada (2014) and 20 per cent in New Zealand (2014). Even when there appears to be a gender balance in apprenticeships overall, men and women train in markedly different sectors, reflecting and emphasizing occupational segregation in the workforce generally. Women are significantly underrepresented in high-pay sectors such as engineering (less than 4 per cent), while men are underrepresented in low-pay sectors such as the children's and young people's workforce (6.9 per cent).<sup>34</sup> Closing the digital gender divide should also be a focus of gender-responsive lifelong learning initiatives.<sup>35</sup>

**Gender sensitive labour market data** that is disaggregated not only by sex and age, but includes other facets such as disability, race and ethnicity, is essential to designing appropriate labour market policies, assessing their implications and impacts for women and informing changing labour market demands. Technology, and more specifically AI, based on biased data can drive and perpetuate gender bias and

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<sup>30</sup> Ahern et al., 2019. Indigenous Peoples and Climate Change: Emerging Research on Traditional Knowledge and Livelihoods.

<sup>31</sup> ILO Global Business and Disability Network and Fundación ONCE, 2021. An inclusive digital economy for people with disabilities.

<sup>32</sup> ILO, 2019. Work for a Brighter Future – Global Commission on the Future of Work. ILO, 2019. Skills for a Greener Future: A Global View. ILO, 2020. The gender divide in skills development: Progress, challenges and policy options for empowering women. ILO, 2022. Third recurrent discussion on the strategic objective of employment.

<sup>33</sup> ILO and UNICEF, 2018. GirlForce: Skills, Education and Training for Girls Now.

<sup>34</sup> ILO, 2021. A framework for quality apprenticeships.

<sup>35</sup> ILO, 2019. A Quantum Leap for Gender Equality: For a Better Future of Work for All.

discriminatory practices. The poor representation of women in technology risks that the future of work is entrenched in a male-dominated world view which exacerbates existing gender divides, rather than being inclusive of women. Fostering opportunities for women in technology-intensive skills and occupations and diversifying the workforce, is critical to tackle bias in AI and the resulting discrimination.<sup>36</sup>

**Employers and workers organizations** can play a key role in assessing current and foreseen skills gaps according to business and workers' needs. Similarly, employers and workers will almost certainly need to step up their efforts to provide training, as it is unlikely that a sufficient number of ready-skilled young workers will be available in the labour market. For instance, in response to the COVID-19 pandemic, 58 per cent of surveyed employers in nine African countries provided training to their existing employees, with a focus on the use of digital technologies for communication (44 per cent of all training) and on the use of digital technologies for internet connection (28 per cent of training).<sup>37</sup> When designing and providing such training programmes, employers and workers organizations should ensure that the general training is accessible to everyone and, in particular, to young people and women with disabilities and from marginalized communities. This should be part of a lifelong learning process that prepares and adapts to the ever-changing working environment.

**Social dialogue** is an invaluable tool to ensure women's participation and representation. Collective bargaining ensures improved pay and working conditions and provides essential support in just transition policies for reskilling and redeployment. Collective agreements and workplace measures can also be important vehicles for addressing violence and harassment in the world of work and other forms of discrimination. Technological advances provide new opportunities to organize women workers across issues, sectors and borders. The effective participation of women in these processes is important to represent the diversity of the workforce, ensure the legitimacy and inclusiveness of the decision-making process and put forward women's interests and needs in the world of work. To harness the power of women as agents of change, ensuring women's rights and collective action are essential.

**Social protection and care policies** can facilitate skills development for the transition to new jobs and ensure social protection in the new jobs created while covering workers displaced by technological change or those affected by natural disasters many of whom are women, and thereby reduce inequality while supporting gender equity. This would include a combination of leave, benefits income security rights and services to enable the right to care and be cared for and to promote gender equality and decent work.<sup>38</sup> Furthermore, adequate care policies and services in the context of gender-transformative social protection make it possible for more women to participate in the formal economy and to engage in decent work, as they help promote employment and increase women's bargaining power.

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<sup>36</sup> UNESCO developed the Recommendation on the Ethics of Artificial Intelligence (2021), the first such global standard-setting instrument for AI that lays the groundwork for a digital transformation that promotes human rights, human dignity, gender equality and environmental sustainability.

<sup>37</sup> ILO, 2020. Guidelines on Rapid Assessment of Reskilling and Upskilling Needs in Response to the COVID-19 Crisis.

<sup>38</sup> ILO, 2022. Care at work: Investing in care leave and services for a more gender equal world of work.



## ► Conclusions

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Increasing women's representation, retention and leadership in technological innovation and change should be an urgent priority for all countries. Preparing women for the future of work while harnessing the fullest potential of opportunities stemming from technological progress and just transition requires a gender-transformative agenda which addresses the challenges while transforming the potential into actual decent work, whilst exploiting technologies as tool towards formalization of informal work. Education and training can help (young) people, and especially young women, acquire skills that are relevant to the labour market, including technical, digital and core work or soft skills such as interpersonal relations.

Equipping women with digital and technical skills is essential not only because of their intrinsic value to a specific occupation but also because they can open door to acquiring additional knowledge, skills and qualifications. Educational and vocational curricula should be updated so that they take into account labour market trends such as the growing importance of digital and soft skills. National training systems should offer upskilling targeted at young women, particularly those at risk of being replaced by machines or automated processes. Combining training with on-the-job learning, including through quality apprenticeships, has proven to be successful in both developed and developing countries. Apprenticeships, however, need to be more flexible to accommodate different needs, such as those of women and those of persons with disabilities, and to eliminate gender biases and discrimination in access to opportunities. Measures could include targeted measures to increase the proportion of in particular sectors or to increase the proportion of women in apprenticeships across the board. Closing the digital gender divide must be accompanied by skill development policies, including policies to increase access of women and girls to STEM education and training.

Active labour market policies should be prioritized, including gender responsive employment policies, skills anticipation and development, to facilitate the transition to new occupations and jobs, or to changing demands withing existing jobs. Policies should pay special attention to specific groups of women at risk of being left behind, such as women with disabilities, young women, racialized and indigenous women. Policies will also need to address digital divides between rural and urban areas and adopt appropriate sectoral approaches that will assist women to benefit from technological advances, rather than be displaced by them. International cooperation between countries on access to technology will be essential to bridging digital divides and to realizing Goals 4 (Quality Education), 9 (Industries, Innovation and Infrastructure) and 10 (Reduced Inequalities) of the 2030 Agenda for Sustainable Development (SDGs).

Adequate social protection, including care policies and services to allow the redistribution of unpaid care work between women and men and between the family and the State could reduce the current gender gap. Rights at work are also crucial to tackle discrimination in pay, safety and women's access to managerial and leadership positions. Such measures are essential to the realization of Goals 5 (Gender Equality) and 8 (Decent work and Economic Growth) of the SDGs.

Efforts to design and implement these policies require the active involvement and meaningful contribution of young women in order to reflect their needs and be inclusive of women. Social dialogue between employers and workers organization can play a crucial role in minimizing adverse impacts of digitalization and automation and maximizing the potential benefits of technological progress, including for advancing gender equality, equity and non-discrimination. Unless existing ingrained structural barriers are removed, including addressing the unequal sharing of care responsibilities within households and between the State and households, unequal pay for work of equal value, gender-based violence and harassment and out-dated social and cultural norms, old challenges will be compounded by new challenges and women, especially those already most marginalized, will continue to lose out. It is not a matter of "fitting" women into the current and future world of work but rather shaping the world of work in a manner that is gender-transformative, benefitting both women and men.

The ILO through its relevant instruments and frameworks such as the International Labour Standards, the ILO Centenary Declaration for the Future of Work (2019) and the ILO Global Call to Action for a Human-Centred Recovery from the COVID 19 Crisis That Is Inclusive, Sustainable and Resilient (2021) and the 2030 Agenda for Sustainable Development, all provide effective guidance to advance equal opportunities, equal participation and equal treatment for all women in the world of work.

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