

**Expert Group Meeting on:**

*Innovation and technological change, and education in the digital age  
for achieving gender equality and the empowerment of all women and  
girls*

**Convened by UN-Women to inform the substantive preparations for the sixty-  
seventh session of the Commission on the Status of Women (CSW67)**

**10-13 October 2022**

**CONCEPT NOTE**

September 2022

## I. Background and objectives

UN Women is the United Nations entity dedicated to gender equality and the empowerment of women. UN Women supports UN Member States as they set global standards for achieving gender equality and works with governments and civil society to design laws, policies, programmes and services needed to ensure that the standards are effectively implemented and truly benefit women and girls worldwide. It works globally to make the vision of the Sustainable Development Goals a reality for women and girls and stands behind women's equal participation in all aspects of life.

**The Commission on the Status of Women (CSW) is the principal global intergovernmental body exclusively dedicated to the promotion of gender equality and the empowerment of women.** The Commission applies a thematic approach to its work and considers one priority theme each year. In accordance with its multi-year programme of work (2021-2024), the 67<sup>th</sup> session of the Commission on the Status of Women (CSW67), to be held March 6-17 2023, will consider as its priority theme **"Innovation and technological change, and education in the digital age for achieving gender equality and the empowerment of all women and girls."**

To support consideration of the priority theme, UN-Women prepares the report of the Secretary-General on the priority theme, including conclusions and recommendations for further action that serve to inform the draft agreed conclusions of the Commission, as the main outcome document negotiated and adopted by Member States.

In line with its mandate, UN Women will support the substantive preparations for CSW67, including convening an Expert Group Meeting (EGM) on the priority theme, to be held virtually from 10-13 October 2022. The objectives of the EGM will be to:

- Convene the leading experts and organisations carrying out research and analysis on aspects related to the priority theme to gather the best expertise and knowledge globally
- Provide an opportunity to take stock of the latest research globally on the priority theme, including key trends, data availability and needs, best practices, and gaps in policy responses
- Develop informed, practical and action-oriented recommendations to inform the drafting of the report of the Secretary-General on the priority theme and to influence and expand the global normative frameworks on gender equality and technology and innovation

## II. Innovation, technological change and education in the digital age: critical issues for discussion

Emerging technologies have the potential to help achieve a large number of the Sustainable Development Goals, and may contribute greatly to improvements in the well-being, education, health and livelihoods of women and girls. Innovation and digital tools provide opportunities for greater access to information, education and skills and opens possibilities for increased employment and business opportunities. They allow for services that improve access to health, legal and financial services, and allow traders to access global markets for their products. Digital access also helps raise women and girls' awareness of their rights, increase their civic engagement and expression of ideas and opinions, their participation in creative and cultural practices, leisure and in connecting with peers.

However, while the digital revolution brings immense potential to improve social and economic outcomes for women, it also poses the risk of perpetuating existing patterns of gender inequality. A significant digital gender gap remains, limiting the equitable realization of the benefits of digital transformation across high-, low- and

middle-income countries. The CSW67 priority theme brings a unique opportunity to revisit the gendered impacts of innovation and technology and to identify recommendations that will allow for a more inclusive and equitable digital evolution. In order to do so, the Expert Group Meeting will examine the following aspects of the theme:

- **The gender gap in digital access and skills:**

Access to digital technologies and skills for women and girls is restricted due to a variety of reasons, including lack of physical access, affordability, lack of education and skills, and social norms, for example, preventing unmarried women and girls to have access to mobile phones or the internet or driving girls to quit science or choosing stereotypical career path.

Growing inequalities may be seen in terms of both access to technologies and in terms of digital skills, leaving both individuals and small businesses, which include most women-led businesses, left behind. The most marginalized countries, companies and individuals are becoming increasingly so in the digital economy.

62 per cent of men are using the Internet compared with 57 per cent of women<sup>1</sup>. While that gender digital divide has been narrowing across all regions, women remain digitally marginalized in many of the world's poorest countries, where online access could potentially have its most powerful effect<sup>2</sup>. The divide remains wide in the LDCs, where only 19 per cent of women are using the Internet (12 percentage points lower than men), the landlocked developing countries (LLDCs) (27 percent of women versus 38 per cent of men), Africa (24 per cent versus 35 per cent) and the Arab States (56 per cent versus 68 per cent)<sup>3</sup>. The gap exists irrespective of a country's overall ICT access levels, economic performance, income levels or geographic location, and widens as technologies become more sophisticated and expensive<sup>4</sup>.

Growing gender inequalities exist in terms of access to connectivity, digital education and skills, as well as access to the actual technologies, meaning that individual women are increasingly at a disadvantage in terms of access to information, digital services, and employment in high-growth sectors such as IT, biotech and engineering. The gap is also increasing, with the number of men joining the Internet in developing countries growing faster than that of women<sup>5</sup>.

The Expert Group Meeting will therefore examine:

- How to ensure meaningful connectivity for women and girls, beyond access, analyzing the range of barriers to meaningful access and use of digital technologies, and also access to STEM education, and how to address them, including barriers such as affordability, and social norms.
- How meaningful connectivity is, and should be, defined and measured for women and girls.
- The importance of promoting quality education in the digital age for girls and also for women, covering both formal and informal and adult education and re-skilling, as well as digital tools and learning environments.

- **Inclusive Innovation ecosystems and digital transformation:**

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<sup>1</sup> ITU (2021) Measuring Digital Development: Facts and Figures 2021.

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

<sup>4</sup> EQUALS Global Partnership, Taking Stock: Data and Evidence on Gender Equality in Digital Access, Skills and Leadership (2019), United Nations University Institute on Computing and Society/International telecommunications Union.

<sup>5</sup> UNCTAD (2020), Fifteen years since the World Summit on the Information Society.

Beyond attracting women and girls to STEM education, retaining and promoting women in STEM careers is also a priority, where there are fewer women than men at every career step. While more women than men completed tertiary education in 2015, only 24% of graduates in engineering, manufacturing, and construction were women, and only 25% of graduates in ICT<sup>6</sup>. Female workers make up an estimated 26% of workers in Data and Artificial Intelligence roles, 15 per cent of workers in Engineering roles and 12% of workers in Cloud Computing roles<sup>7</sup>. At the current pace, it will be 2080 until women are involved in half of all patented inventions within the five largest Intellectual property offices<sup>8</sup>. When women do enter STEM careers, retention is low, partly due to harassment and bias in the workplace, and lack of opportunities to progress in their careers and work/life balance.

The gap in digital skills can also exacerbate inequalities in the world of work more broadly. The future of work and trade in goods and services will be increasingly digitalized, marginalizing those who do not have the necessary skills or access to the most recent technologies and digital platforms. Conversely, narrowing the gender gap in digital skills could contribute to narrowing the gender wage gap by providing access for women to higher-skilled ICT-related roles. The World Economic Forum predicts that if we double the pace at which women become frequent users of digital technologies, the workplace could reach gender equality by 2040 in developed nations and 2060 in developing nations. Women are also highly under-represented in emerging technological sectors, such as green jobs, where a large number of employment opportunities are being created.

E-commerce provides opportunities for entrepreneurs and SMEs to gain access to new markets and greater profits, especially in the developing world. In a context of increasing globalization, lack of access or insufficient skills to enter the digital marketplace is a growing hurdle for women entrepreneurs and women-led SMEs, as well as lack of access to finance.

The increased digitalization of products and services can also perpetuate inequalities. In addition to impacting opportunities for education and employment, the digitalization of social services such as pensions and benefits, although potentially increasing accessibility for some along with improving efficiency and transparency, can exclude those without access to the internet or digital skills.

The Expert Group Meeting will examine how to foster inclusive innovation ecosystems and digital transformation, including:

- How to create a gender-transformative innovation ecosystem, including not only attracting, but also retaining and promoting women in STEM careers.
- How to ensure that we leave no-one behind from digital transformation, looking at the future of work in the digital economy and the under-representation of women in key emerging technological sectors.
- Recommendations on how to better mainstream gender in digital policies and investments – both public and private, and increase women's participation in digital cooperation, as well as how to promote women and girls as innovators.

- **Gender transformative technology and innovation:**

Technologies are the product of design. Where design teams are not diverse this can limit the usefulness of the technology to various segments of society or create risks and barriers for some categories of users. Technologies can also reflect the belief systems of their designers or have unintended consequences in their deployment,

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<sup>6</sup> OECD (2018), Bridging the Digital Gender Divide: Include, Upskill, Innovate.

<sup>7</sup> McKinsey Global Institute, 'The future of women at work: Transitions in the age of automation', MGI, Washington DC, June 2019.

<sup>8</sup> OECD (2018), Bridging the Digital Gender Divide: Include, Upskill, Innovate.

including in terms of gendered impacts, when their broader impacts on society are not adequately analyzed. For example, Artificial Intelligence (AI) and machine learning have been found to perpetuate gender biases in some cases, replicating gender profiling based on assumptions drawn from the data they were trained on. This has included screening out women from applications for jobs and universities, as well as access to finance. AI can also replicate stereotypes, such as translation software that translate women in male-dominated professions as men, image-labeling software labelling men as women if they are in traditionally female roles or failing to correctly classify the faces of darker-skinned women. The design of technology can also perpetuate stereotypes of women, for example virtual assistants with female persona and voices can portray the stereotype of women in subservient positions.

Further, technology developed in male-dominated sectors with little input from women can result in services or products that do not serve women or do not address needs that are specific to women, especially in least developed countries. For example, voice recognition technology designed and tested by men was less effective in recognizing female voices, “comprehensive” health apps have been released that were capable of tracking the copper intake or insulin levels of the user, but entirely omitted menstruation and fertility and AgriTech solutions that does take into account women’s sociological and economic circumstances

The EGM will therefore examine:

- The need to ensure that technology and innovation actually responds to the needs of women and girls and are inclusive, accessible, including in sectors that are relevant to the SDGs – for example digital technologies to support financial inclusion for women, digital technologies for health, innovation in the context of agriculture, climate change, innovations to improve inclusion for women with disabilities, among many others.
- The gendered risks of emerging technologies and the need for safeguards to ensure that emerging technologies protect the rights of the women and girls they aim to serve and support, for example, around the gendered impacts of AI and frontier technologies.
- **Addressing online and ICT-facilitated gender-based violence and discrimination and protecting the rights of women and girls online:**

When women and girls do have access to the internet, they face online violence more often than men. During the COVID-19 pandemic, gender-based violence increased exponentially, including online and ICT-facilitated violence. Many women and girl users of the internet and other ICTs have increasingly experienced physical threats, sex trolling, unwelcome sexual remarks and other forms of sexual harassment, cyberstalking, identity theft, the publishing of personal information or photos, and hate campaigns. Pornographic traffic also spiked dramatically during lockdown periods worldwide, increasing the risk of sextortion.

In the United States and Canada, one in five young women report having been sexually harassed online. In Pakistan, a study revealed that 40% of women had faced various forms of harassment on the internet, and in the European Union, 1 in 10 women report having experienced cyber-harassment. Moreover, some groups of women, including human rights defenders, women in politics, journalists, bloggers, women belonging to ethnic minorities, indigenous women, lesbian, bisexual and transgender women, and women with disabilities are particularly targeted.

Similar to other forms of VAWG, women are disproportionately targeted and suffer serious consequences as a result of online and ICT facilitated violence, including high levels of anxiety, stress disorders, depression, trauma, panic attacks, loss of self-esteem, suicide, etc. The aggression faced by women and girls online can also restrict

their access to online services and tools, lead them to fear for their safety offline, affect their work and learning opportunities, and deter their engagement in important online spaces and dialogues. Women's voices, agency and participation as active digital citizens may thus be censored. So just as women's enjoyment of other spaces is curtailed by threats of violence, so too is their enjoyment of digital spaces.

With increased storage of data online, including personal data, there are concerns over the protection of privacy, data ownership and management. There are risks related to data misuse, inaccuracy and errors, identity theft, and security. There are also concerns over the collection and use of biometric data. This remains largely unregulated, with data ownership in the hands of large corporations.

AI technologies used for surveillance, such as facial recognition, also raise safety issues. For example, there are apprehensions that these technologies could be used to curb the right to peaceful assembly and freedom of expression and used against those who partake in peaceful protests, including human rights defenders.

In this respect, the Expert Group Meeting will explore:

- The rise in instances of online and technology-facilitated gender-based violence, and gaps and limitations in legal frameworks and law enforcement to address online violence, including on issues such as non-consensual distribution of intimate images and information, and the use of deepfake technologies to generate pornographic images.
- Linkages to democracy and human rights such as freedom of expression, and the right to privacy and issues related to data protection and use, as well as specific groups of women that are often targeted online, including WHRDs, women politicians, journalists and other women in the public eye.
- The broad range of impacts of online violence, including in terms of restricting or dissuading women's participation and agency in digital spaces as well as protecting children, and issues related to online culture and social norms and their mental health and other impacts.
- **The need for improved metrics and disaggregated data on the gendered dimensions of innovation, technological change and education in the digital age.**

In order to better understand the underlying issues related to emerging digital technologies, we need more gender disaggregated data. For example, under the SDGs, access to ICTs is only measured through the proportion of individuals that own a mobile phone (Indicator 5.b.1), which does not provide information on actual access and use and barriers to access. There is a lack of sex-disaggregated data on issues such as access to and use of internet and emerging technologies.

Indicators on internet access may demonstrate high levels of access due to the actual availability of infrastructure, but may not take into account prohibitive costs for women, or social norms preventing women from actually using this infrastructure. There is also a lack of understanding of the intersectionality of access: location, age, gender, disability, race, education level, and income. Indicators on access must therefore be carefully crafted in order to gain a better understanding of actual use and barriers to use to frame policies to tackle the digital divide. A study analyzing metrics used to measure and monitor digital inclusion demonstrated that while over 300 indicators on digital access were being tracked globally, only 50 assessed actual use and the skills to enable use rather than theoretical access through the availability of infrastructure, and only 7 examined disaggregated data for specific user groups<sup>9</sup>. Only one indicator specifically tracked use per gender.

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<sup>9</sup> Measuring the margins: A global framework for digital inclusion (2019), Digital Future Society.

Data gaps can be found throughout the priority theme, as there is also a lack of disaggregated data on women and girl's participation in STEM education and different STEM career stages as well as on participation in innovation and entrepreneurship. There are no global measures and indicators of technology-facilitated gender-based violence and lack of transparency reporting from the private sector. There is limited availability of sex-disaggregated data and other gender-sensitive indicators for IP rights to better understand the breadth and depth of women's participation in inventions.

- The EGM will therefore also examine data gaps and needs under each sub-theme and aim to make recommendations in this respect.

## V. Profile of participants

The EGM will be attended by approximately 30 experts, representing a broad range of organizations, including academia and research consortia, think tanks, networks and associations, practitioners, and civil society organizations leading research on issues of relevance to the priority theme on innovation and technological change and education in the digital age. Efforts have been made to select experts on a broad spectrum of issues of relevance to the theme, to ensure that the gender dimensions of innovation, technological change, and education in the digital age are examined in a holistic manner.

In selecting the experts, the criteria of geographical balance and diversity of representation has also been taken into account in order to ensure that a broad range of realities and perspectives are reflected. Experts will present and discuss their work at the meeting, with a focus on the formulation of policy recommendations for the Commission and its members.

Organizations representing the United Nations System and other inter-governmental organizations with relevant mandates and expertise are also invited to participate in the EGM as observers. They have been invited to prepare information notes to inform the process and present these during the meeting. They may also contribute to the discussions to complement the discussions held among the experts (although priority for the floor will be awarded to the experts).

- *The list of participants and biographies may be found at the following [link](#).*

## VI. Documentation

The documentation for the meeting will include a series of papers commissioned by UN Women especially for the EGM and to inform the substantive preparations of the Commission on the Status of Women:

- **Background Papers:** The background papers provide a broad overview of the topic and its various facets, in a holistic manner, highlighting the key gendered dimensions, and providing broad recommendations for policy-makers and other actors.
- **Expert Papers:** The Expert Papers are brief think pieces presenting the state of play, key issues and recommendations in relation to a specific aspect of the theme. They allow the Expert group to delve deeper into specific facets of the priority theme and to examine more specific and concrete policy recommendations.

- **Informational Papers:** Informational Papers from observer organizations, usually UN agencies, are also brief think pieces focusing on key issues of particular relevance to their mandate and expertise, and where relevant, ensuring linkages to important relevant UN processes or priorities.

➤ *The list of papers and authors may be found at the following [link](#).*

All papers should address current gaps on the topic, including in relation to any relevant normative or policy frameworks or industry guidelines or practices, and help shape concrete recommendations for policies to be implemented at the international, national, regional and local level. They should focus on a set of future-thinking policy recommendations for Member States.

All papers play a key role in informing the discussions of the Expert Group Meeting, and also in presenting key recommendations that may be reflected in the Secretary General's Report on the priority theme. The papers and ensuing discussions at the Expert Group Meeting should adopt an intersectional lens and reflect women's and girls' diverse identity categories or wider circumstances (e.g. race, gender, age, income/class, disability, migration status, extreme poverty, living in conflict zones, etc.).

All papers will be shared on the [website of the sixty-seventh session of the Commission on the Status of Women](#) for the consideration of all stakeholders.

## VII. Roles of participants

Participants will take on a variety of roles during the EGM, in order to contribute to the discussions in different ways:

- **Co-Chairs:**

Two Co-chairs will be appointed for each Group to moderate the meeting, support in facilitating the discussions, and draw out the key conclusions and recommendations of the meeting that will inform the Report of the Expert Group Meeting, the Secretary General's Report on the priority theme, as well as other substantive inputs to the CSW process.

- **Authors of the Background Papers:**

The authors of the Background Papers will briefly present their papers (in 10-15 minutes), including the main issues identified, key trends and data points or gaps, policy gaps identified, and policy recommendations, including at national, regional and international level. Their presentations will provide an overview of the key issues to be examined by the Expert Group during its deliberations.

- **Authors of the Expert Papers:**

The authors of the Expert Papers will briefly present the main elements of their papers (approx. 8 minutes), including the key issues identified, key trends and data points or gaps, policy gaps, and policy recommendations, including at national, regional and international level.

- **Discussants:**

Discussants have been identified for each thematic discussion to assist in drawing out the main issues and recommendations from the Expert Group. They will do so by responding to the presentations of the Expert Papers, as well as guiding the ensuing discussion among the participants of the Expert Group Meeting.

- **Expert Participants:**

Other experts have been invited to participate and contribute to all discussions throughout the EGM due to their cross-cutting knowledge or complementary expertise and perspectives, including for example youth representatives or experts on issues related to intersectionality.

- **Observer organizations:**

Observer organizations will briefly present the main elements of their Informational Papers (approx. 5 minutes), including the key issues identified, key trends and data points or gaps, policy gaps, and policy recommendations, including at national, regional and international level. They may also contribute to the plenary discussions, but priority will be given to the expert participants.

## **VIII. Organization**

The Expert Group Meeting will be held virtually from 10-11 and 12-13 October 2022. Connection details will be shared with participants ahead of the event. In order to accommodate participants from a range of geographic locations, the meeting will be divided into two groups, defined according to time zones, and meeting for two half-days each:

1. Group A (aimed at participants based across the Americas): **10-11 October, 13:00-17:00 EST**
2. Group B (aimed at participants based in Asia-Pacific, the Middle East, Africa, and Europe): **12-13 October, 10:00-14:00 CET**

The EGM will be conducted in English and documentation will be in English. Key conclusions and recommendations from the meeting will be translated into the official languages of the United Nations for dissemination.

➤ *The Expert Group Meeting Programme of Work may be found at this [link](#).*

Powerpoint presentations are welcome, but in order to ensure that the timing for the presentations is adhered to, they should be kept to 3 slides (maximum) that capture the essential elements of the papers (for example, key trends, critical issues for consideration, and key policy recommendations). **They should be shared with UN Women in advance in order to facilitate their sharing online during the meeting.**

The EGM will be recorded in order to facilitate the drafting of the meeting report. The recording will not be made public or shared outside of UN Women.

## **VIII. Expected outcome**

The outcome of the EGM will be a report, reflecting the views of the experts, and containing a summary of the discussion and recommendations directed at Member States and other stakeholders. The report will be shared on the [website of the sixty-seventh session of the Commission on the Status of Women](#) for the consideration of all stakeholders.