



## Women in Industry and Innovation

*Can Industry 4.0 foster women's economic inclusion in the MENA region?*

**11-12 October 2023 (Tunis, Tunisia)**

### 1. Background

The **Fourth Industrial Revolution** (or “**Industry 4.0**”) is unleashing a new era of economic disruption in the labour market. This latest wave of industrial transformation is being driven by the convergence of physical technologies on the factory floor and digital technologies such as artificial intelligence (AI), the Internet of things (IoT), and 3D printing. Notably, these Industry 4.0 technologies also bear the potential of further enabling the transition towards a circular economy (CE)<sup>1</sup>. For instance, intelligent waste management systems rely on big data analytics and cloud computing.<sup>2</sup> In this context, insufficient digital access and skills, as well as lack of access to finance are hurdles for women entrepreneurs and women-led SMEs, who struggle between adapting to this transformative trend and risking disruption.

The MENA region possesses the largest entrepreneurial disparity between men and women (female led businesses representing ca. 5%, while the global average lies between 23% and 26%) and women-led businesses operate mostly in the service sector. Manufacturing that has the capacity of creating high added values and jobs remains highly male-dominated. In addition according to the Global Entrepreneurship Monitor ([GEM](#)) [2021/22 Women's Entrepreneurship Report](#), women in the MENA region are less likely than men to start businesses. Almost one in three women in the region reported startup intentions, but only one in 10 managed to start the activity; just one in 20 women had an early-stage business and 3.2% of women reported having an established business.<sup>3</sup> Factors such as complicated access to finance and access to technology, gender bias, lack of education, and legal barriers hinder female entrepreneurship in the region.

In this new productive model, in which digital technologies provide opportunities to reboot industrial development in low-income countries, the tech industry can offer increased opportunities to women as both workers and entrepreneurs.

Within this context, a field which is constantly growing and will have a strong impact on the jobs of the future, is Artificial Intelligence (AI). According to the World Economic Forum, women make up an

<sup>1</sup> [https://www.unido.org/sites/default/files/2017-01/Unido\\_industry-4\\_NEW\\_0.pdf](https://www.unido.org/sites/default/files/2017-01/Unido_industry-4_NEW_0.pdf)

<sup>2</sup> <https://www.chathamhouse.org/2020/09/circular-economy-latin-america-and-caribbean/01-introduction>

<sup>3</sup> [GEM 2021/22 Women's Entrepreneurship Report](#) file:///C:/Users/giulia.ferraresi/Downloads/open.pdf



estimated 26% of workers in AI roles worldwide. The under-representation of women in data science and AI, alongside algorithmic and data, is not only a fundamental ethical issue of social and

economic justice and inclusion, but also a matter of efficient functioning of the AI systems<sup>4</sup>. The fact that women do not contribute to the AI business and workforce as much as men, causes feedback loops whereby gender bias is built into AI systems and machines. Thus, as AI becomes ubiquitous in everyday life, the drive for inclusion in technology is of increasing concern for many.<sup>5</sup>

Moreover, benefits can be significantly enhanced by integrating environmental goals and new technology in industry and innovation, with a gender lens approach. Indeed, an essential topic that will be further developed during this year's edition of the Women Business Forum, is Circular Economy. Even within this field women are under-represented due to discriminatory legal frameworks, gender biases, and unfavorable hiring practices. Women represent only 32% of the renewable energy workforce and make only 23% of managers in water utilities worldwide. A recent World Bank assessment called "Toward More and Better Jobs for Women in Energy" shows that in many MENA countries, women represent an average of 5% in management within this field. Yet, it is recognized that companies with a more gender-diverse leadership perform better on risk management, innovation, and within the circular economy field in general. As mentioned by the European Bank for Reconstruction and Development (EBRD) at COP27, at companies' level 1% increase of women in the share of companies' leadership board can lead to 0,5% reduction in CO<sub>2</sub> emissions.

Upskilling and reskilling for women in this sense seems like a solution which would envisage a win-win situation: women can gain a stronger entrepreneurship power within the manufacturing sector, which would have positive benefits on the eradication of gender stereotypes and on the society as a whole; emissions can be reduced and a stronger focus on circular and green economy can be put in place within the labour and entrepreneurial field and within the society as a whole. To realize these achievements as well legal barriers to female entrepreneurship within the sustainable and innovative field must be eliminated.<sup>6</sup>

While the Industry 4.0 revolution is creating opportunities for new and greener productive models, women entrepreneurs in the MENA region seem to be little aware of those offering new technologies. According to a UNIDO survey conducted among 1418 women entrepreneurs in the manufacturing

<sup>4</sup> World Economic Forum, *Global Gender Gap Report 2020*

<https://www.weforum.org/reports/gender-gap-2020-report-100-years-pay-equality/>

<sup>5</sup> Heinrich Böll Stiftung, *The Gender Gap in AI*, 2021 <https://il.boell.org/en/2021/12/24/gender-gap-ai>

<sup>6</sup> World Bank, *Green jobs for women can combat the climate crisis and boost equality*

<https://blogs.worldbank.org/climatechange/green-jobs-women-can-combat-climate-crisis-and-boost-equality>



sector in Algeria, Egypt, Jordan, Lebanon, Morocco, State of Palestine, and Tunisia<sup>7</sup> in 2019-2020 the respondents possessed a very limited knowledge of Industry 4.0 (62% indicating little or no familiarity). The same survey indicated that only one quarter of surveyed women entrepreneurs utilize digital technologies at some stage in the product design, manufacturing and selling processes of their businesses. Yet, access to technology tends to foster entrepreneurship.

Education is critical as well for fostering female entrepreneurship. Although the region's women are better educated than ever, educational achievements did not yet translate into an increase in employment levels. Among young women in Arab countries the unemployment rate amounts to 42.5%, nearly double that of young men (21.4%) and almost three times the global average (14.5%).<sup>8</sup>

Today, successful entrepreneurship requires digital skills along with the drive for innovation and sustainability. According to the UNIDO survey, while 65% of surveyed women entrepreneurs were willing and prepared to receive training on ICT devices and software, only 25% of them managed to receive it. More needs to be done to create mentoring and training- programmes meant to enhance women's digital and technological skills and to create a fertile environment for female entrepreneurs to develop their potential.

**In line with the nomination of 2023 as the Year of Skills by the European Commission<sup>9</sup>** - in order to strengthen competitiveness, better focus the investments, cooperate with companies and match these needs with people's aspirations - this year's edition of the Women Business Forum aims at gathering good practices, lessons learned and recommendations to provide new opportunities for female entrepreneurs **in the field of innovation and industry, including on Artificial Intelligence and Circular Economy.**

## 2. What is the UfM Women Business Forum?

Based on 7 years' experience of dialogue with women entrepreneurs, national women business organisations, international leading organisations and business support schemes from the Euro-Mediterranean region, the **UfM Women Business Forum** is a regional platform taking place every year that offers female entrepreneurs and women-led businesses a unique opportunity to grow their business to the next level by learning from successful and innovative business models, and by building business connections with diverse and high-level international business leaders, policy makers and experts from the world's leading companies. business models. It includes high-level panels with

<sup>7</sup> UNIDO, Women Entrepreneurs access to use of ICT and digital technologies in the manufacturing sector in Algeria, Egypt, Jordan, Lebanon, Morocco, State of Palestine and Tunisia, working document, 2020

<sup>8</sup> Arab News, *Middle East's women have so much to offer the world of work*, 2022 <https://www.arabnews.com/node/2173801>

<sup>9</sup> European Commission, *Commission kick-starts work on the European Year of Skills*, 2021 <https://ec.europa.eu/social/main.jsp?langId=en&catId=89&furtherNews=yes&newsId=10431#navItem-6>



international business and industry experts, and site visits to leading companies in the targeted sectors.

In these last editions, the UfM Women Business Forum has benefited from the successful cooperation with UNIDO, leading to the joint organization of the 2022 edition under the theme “Gender-Smart Financing to Unlock Women’s Entrepreneurial Potential in the MENA region” and this year’s edition on “Women in Industry and Innovation”.

### 3. Objectives of the 2023 Edition

In this year’s edition, the **Women Business Forum (WBF)** co-organised by **UfM** and **UNIDO**, will provide the opportunity to explore the thematic of empowering “Women in Industry and Innovation”, by specifically addressing the following points:

- ➔ analyse the negative and positive impacts of Industry 4.0 on female workers and entrepreneurs within the manufacturing sector alongside the value-chains related to agribusiness (incl. creative and textile industries)
- ➔ explore how women economic empowerment, entrepreneurship, and leadership can thrive in the era of Industry 4.0 by harnessing the right skills
- ➔ discuss which models and good practices should be disseminated to ensure women are empowered to achieve a strong leadership role in innovation sectors, such as Artificial Intelligence, Energy and Circular Economy, ICT, and Digitalization
- ➔ foster a change of behavior and attitude towards women entrepreneurs in the STEM (science, technology, engineering, and mathematics) field
- ➔ encourage girls and women to pursue careers and entrepreneurial endeavours in fields considered to be male dominated, particularly in industry

This year the **UfM-UNIDO Women Business Forum** will include

- ✓ One multi-stakeholder (policymakers, women business associations, entrepreneurs) working group to exchange ideas and develop an innovative solution to a common challenge
- ✓ Inspiring Talks from female entrepreneurs under the motto “No career path is a straight line”
- ✓ Two round tables with the participation of women entrepreneurs and executives, women’s empowerment stakeholders, high-level international decision makers and experts from the public and private sector
- ✓ A Pitching Contest and Awards Ceremony for promising young aspiring women entrepreneurs within Industry and Innovation fields. The winners being honored with Ideation, Sustainability, and Social Innovation Awards





- ✓ A Connecting the Dots session with policymakers and national institutions where female entrepreneurship representatives within the MENA region will present their innovative approaches and solutions
- ✓ Networking opportunities, including B2B sessions extended over the 2 days of the event.

The **2023 WBF** is aligned with the priority theme of the sixty-seventh session of the Commission on the Status of Women (6-17 March 2023): [“Innovation and technological change, and education in the digital age for achieving gender equality and the empowerment of all women and girls”](#).

In the months leading to the **2023 WBF**, **UNIDO** launched a social media campaign aligned with the forum’s theme (“**Women in Industry and Innovation Communication Campaign**”) through its **UfM**-labelled project on “**Promoting Women’s Empowerment (PWE) for Industrial and Sustainable Industrial Development in the MENA region**”. In a series of podcast and video interviews several MENA women entrepreneurs shared their valuable insights on succeeding in fields considered to be male dominated. The campaign’s key outcomes are going to be presented at the forum.

The Forum will also provide an opportunity for Business-to-Business (B2B) meeting sessions facilitated via the [Business Country Desk Platform \(BCD\)](#), an online B2B matchmaking platform powered by BUSINESSMED that combines a vibrant marketplace with a dedicated space for networking and brokerage between business operators (companies, SMEs/ start-ups, etc.) and institutional structures. The business networking sessions will be extended over the days of the event, in parallel with the plenary panels and presentation sessions.

Moreover, in the margins of the **2023 WBF**, a side event will be held on the 10<sup>th</sup> and the morning of the 11<sup>th</sup> October 2023: an Institutional Capacity Building Workshop on Gender Equality and Empowerment of Women in Industry will be jointly organized and led by **UNIDO**’s Gender Equality and Empowerment of Women Unit, **UfM**’s Social and Civil Affairs Division, and the **PWE** project. Primarily targeted at representatives from the Ministries of Industry and Gender, as well as Women Business Associations, its objectives are two-fold:

- ➔ train participants in analysing and measuring the links between gender inequalities and industrial development
- ➔ train participants in understanding how to design policies and programmes to promote women’s economic empowerment



## 4. Programme 11–12 October 2023

The **UfM-UNIDO Women Business Forum 2023** will take place on 11-12 October in Tunis, Tunisia.

The first afternoon will be open to a limited number of participants who will be engaged in a workshop activity, whereas the second full day conference will host experts and stakeholders within the framework of Inspiring Talks' panels, technical panels, a Pitching Contest and Awards Ceremony, and a discussion with policymakers.

<b>11<sup>th</sup> October 2023 – Morning brainstorming and afternoon field company visit</b>	
08:30 - 09:00	<b>Registration of participants</b>
09:00-09:30	<b>Opening remarks</b>
09:30-12:30	<b>Interactive Brainstorming Activity on needs and solutions for more women in Industry 4.0 and Tech</b>
12:30-14:00	<b>Lunch break</b>
14:00 – 18:00	<b>Field visit: Visit to Actifs Précieux, a women-led companies in Zriba's Industrial Zone</b>
18:00 – 20:00	<b>Networking dinner</b>
<b>12<sup>th</sup> October 2023 - Full-day Conference</b>	
08:30-09:30	<b>Registration of participants</b>
9:30-10:00	<b>Keynote addresses</b>
10:00-11:30	<b>Round Table 1: Digitalization skills AI and innovative solutions for inclusive sustainable growth</b>
11:30 – 12:00	<b>Coffee break</b>
12:00-13:30	<b>Round Table 2: Breaking the glass ceiling 4.0: women entrepreneurs in the digital age.</b>
13:30-14:30	<b>Networking Lunch</b>
14:30-15:00	<b>Inspiring Talks "No career path is a straight line" with</b>



15:00-16:00	<b>Connecting the Dots</b>  <i>Participation of policymakers, national institutions, private sectors, and women-led business.</i>
16:00-16:30	<b>Coffee break</b>
16:30-18:00	<b>Women in Industry and Innovation Pitching Contest and Awards Ceremony</b>  <b>A jury coordinated by UNIDO will select the winners in each of the three categories.</b>  <b>Awards:</b> <ul style="list-style-type: none"> <li>• Ideation Award</li> <li>• Sustainability Award</li> <li>• Social Innovation Award</li> </ul>
18:00-20:00	<b>Networking Cocktail</b>