



This programme is financed by
the European Union and the Republic of Türkiye

İmalat
Sanayinde
Kadınların
Güçlenmesine
Yönelik Model
Geliştirme Projesi

Developing
Women Empowerment Models
in Manufacturing Industry Project

EMPO *WE* RED

TO *Change*: Women Breaking Barriers
in Manufacturing Industry

Needs Analysis Study | Key Findings



İmalat
Sanayinde
Kadınların
Güçlenmesine
Yönelik Model
Geliştirme Projesi

.....
Developing
Women Empowerment Models
in Manufacturing Industry Project



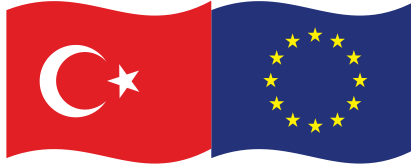


This programme is financed by
the European Union and the Republic of Türkiye

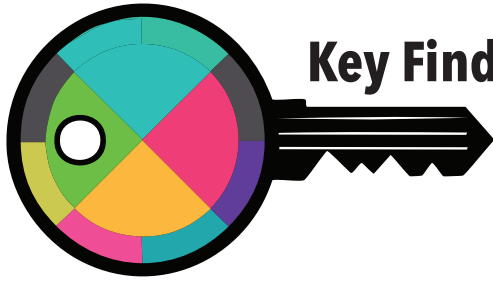
The “Developing Women Empowerment Models in Manufacturing Industry Project” is implemented by the Turkish Confederation of Employer Associations (TİSK) and the United Nations Development Programme (UNDP), in cooperation with the Ministry of Industry and Technology of the Republic of Türkiye, and is fully funded by the European Union.

This document has been prepared to summarize the key findings of the needs assessment report developed within the scope of the Developing Women Empowerment Models in Manufacturing Industry Project.

The needs analysis study examined in detail the factors influencing the participation of women in the workforce and education, the barriers to their participation in the manufacturing industry, as well as the current state of the manufacturing industry sectors. A mixed-method approach was adopted for the analysis, making use of primary and secondary data from various sources and different methodologies to provide a comprehensive understanding of the underlying issues.



This programme is financed by
the European Union and the Republic of Türkiye



Key Findings



1. Key Indicators and Current Status of the Labour Market in Türkiye



Urbanization, Industrialization,
and Labor Force Participation



Increase in Women's Participation
in Manufacturing



Increase in Women's
Unemployment



2. Challenges and Main Issues of Women's Empowerment in Manufacturing



Women's share in education,
employment, high-level
positions and manufacturing



Women's share in occupational
high schools and universities



This programme is financed by
the European Union and the Republic of Türkiye



3. Attitudes and Performances of Firms towards Women's Empowerment Practices



Digital Transition



Green Transition



Women's Empowerment (WE)



4. Policy recommendations for women's empowerment (WE) model



REPUBLIC OF TÜRKİYE
MINISTRY OF INDUSTRY
AND TECHNOLOGY





This programme is financed by the European Union and the Republic of Türkiye

1. Key Indicators and Current Status of the Labour Market in Türkiye

Urbanization, Industrialization, and Labor Force Participation



In 1960, the women labor force participation rate in Türkiye was **65%**, as the country's economy was primarily agriculture-based. From 1960s to the 2000s, due to rapid industrialization, urbanization and internal migration process, this rate declined, hitting a low of **24%** in 2004.



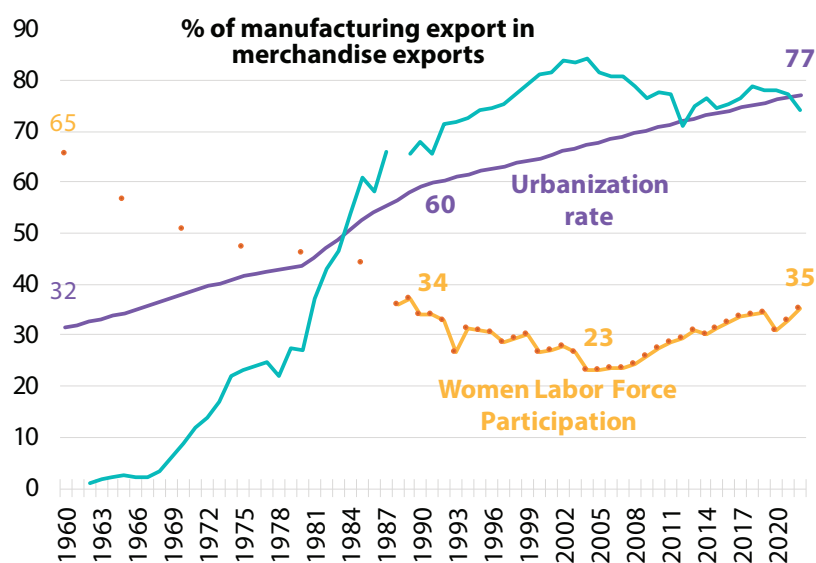
Since 2010, the trend has reversed, with the help of expanded education opportunities and the growth of the service sector, reaching **35%** in 2022 and **37%** in 2024.



As a global phenomenon, the shift from an agrarian economy to an industrial structure initially reduces women's labor force participation by pushing women into domestic roles. Over time, growth in the service sector, education, and family planning facilitate their return to the workforce. While this transition is complete in developed economies, Türkiye is still undergoing this shift.



Urbanization rate, Manufacturing share in export, and Women's Labour Force Participation rate, %, Türkiye, 1960-2022





This programme is financed by the European Union and the Republic of Türkiye

Increase in Women's Participation in Manufacturing



Between 1990 and 2022, the overall women's employment rate grew moderately, rising from **30%** to **32%** (from 5,6 million to 9.9 million).



The share of women in the manufacturing workforce increased more significantly, rising from **18%** to **27%** (from 490 thousand to 1.7 million).



While this figure remains below the **equal participation** and the **32%** overall employment rate for women, there has been a progress over time.



Among the top 15 countries with the highest industrial production, Türkiye ranks 13th in terms of women's share in the manufacturing sector.

Women's employment and its share in total

	1990	2022	1990	2022
Total	30%	32%	5.6 million	9.9 million
Manufacturing	18%	27%	490 thous.	1.7 million

Share of women in manufacturing industry, Top15 manufacturing countries:

1. Indonesia: 43%	6. France: 32%	11. Rep. of Korea: 29%
2. Mexico: 38%	7. India: 31%	12. Spain: 28%
3. China: 37%	8. Japan: 30%	13. Türkiye: 27%
4. Brazil: 35%	9. United States: 29%	14. Germany: 26%
5. Ireland: 34%	10. Canada: 29%	15. UK: 26%



This programme is financed by the European Union and the Republic of Türkiye

Increase in Women's Unemployment



Despite the overall employment growth, the women's unemployment rate has consistently remained higher than the male unemployment rate since 2009. In 2022, women's unemployment stood at **13%**, compared to **9%** for men, highlighting systemic barriers to job creation for women.

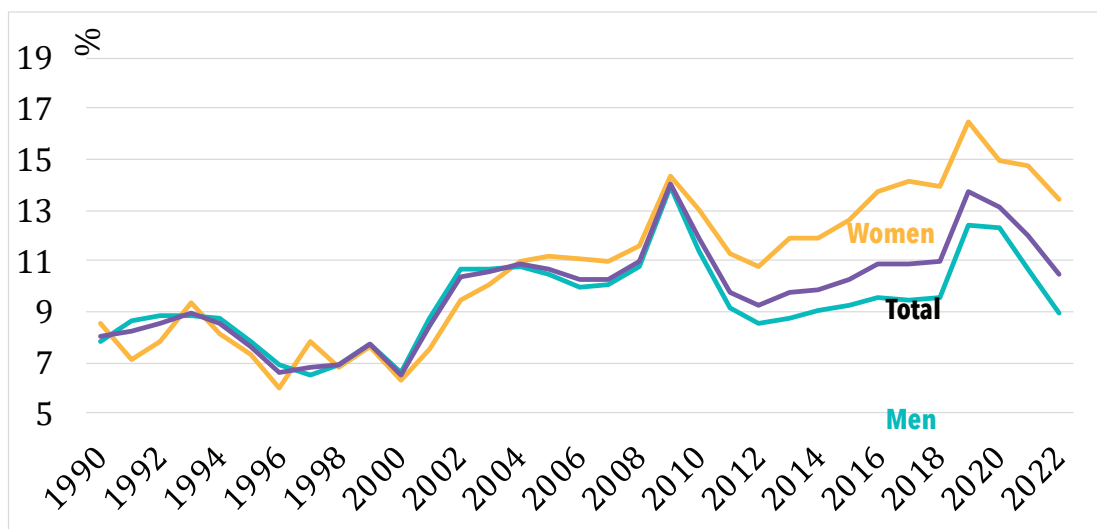


A key factor contributing to the higher women's unemployment rate is women's limited access to new job opportunities, particularly in the manufacturing sector. Between 2010 and 2020, women accounted for **43%** of total employment growth. In the manufacturing sector, just **36%** of the newly created jobs were filled by women, compared to **61%** in the services sector.



Among those entering the labor force, **94%** of men found employment, compared to **86%** of women. The data highlights that while more women are willing and able to work, they face greater challenges in securing jobs, underscoring the need for targeted efforts to reduce gender disparities in employment opportunities.

Unemployment rate for men, women and total, 1990-2022



Source: TurkSTAT, ILOStat, World Bank, PAL Calculations



This programme is financed by
the European Union and the Republic of Türkiye

Increase in total and women's employment, and women's share within it, sector, 2010-2020

	Women's share in total increase	Increase in employment (2010-2020), thousand
Total	43%	8.158
Public and Social Services and Activities	61%	3.021
Trade, Transportation, Accommodation and Food Business	47%	3.373
Manufacturing	36%	1.942
Construction	8%	414
Mining and Quarrying	12%	225
	Women's share in total increase	Increase in total LF (2010-2020), thousand
Increase in Active Labor Force	47%	8.693

Source: ILOStat, PAL Calculations



This programme is financed by
the European Union and the Republic of Türkiye

2. Challenges and Main Issues of Women's Empowerment in Manufacturing



Women face significant hurdles in manufacturing and the broader workforce, creating a striking “inverted pyramid” effect. This effect illustrates how women, despite comprising half the population, face layered disadvantages in public and private life that hinder their representation and participation. Key challenges include educational attainment gaps, care burdens, the pay gap, stereotypes, occupational segregation, and lower representation in entrepreneurship and leadership roles.



Educational participation shows near parity between men and women, but occupational segregation begins in tertiary education. Women make up half of the primary and university graduates in Türkiye, as well as the STEM graduates. However, women share drops to **33%** in engineering and ICT fields. Looking at engineering and ICT graduates with a magnifying glass, vertical occupational segregation by sex clearly appears. While women make up over **60%** of graduates in certain STEM fields like health sciences, mathematics, and biology, their presence account for only **28%** of computer and information sciences graduates and just **24%** of engineering graduates. This indicates a segregation in professional education, forming the first threshold in the inverted pyramid.



Workforce participation marks the second threshold, where inequality between men and women widens. Women make up half of the population as well as the educated population but constitute only one third of the workforce and 31% of those employed. This disparity highlights systemic barriers to women entering and remaining in the workforce.



Manufacturing and STEM-related fields form the third threshold, with even lower women's representation. Women hold only **27%** of manufacturing jobs and just **22%** of STEM-related positions within the sector. Occupational segregation and exclusion from leadership roles further limit women's participation and advancement in these areas.

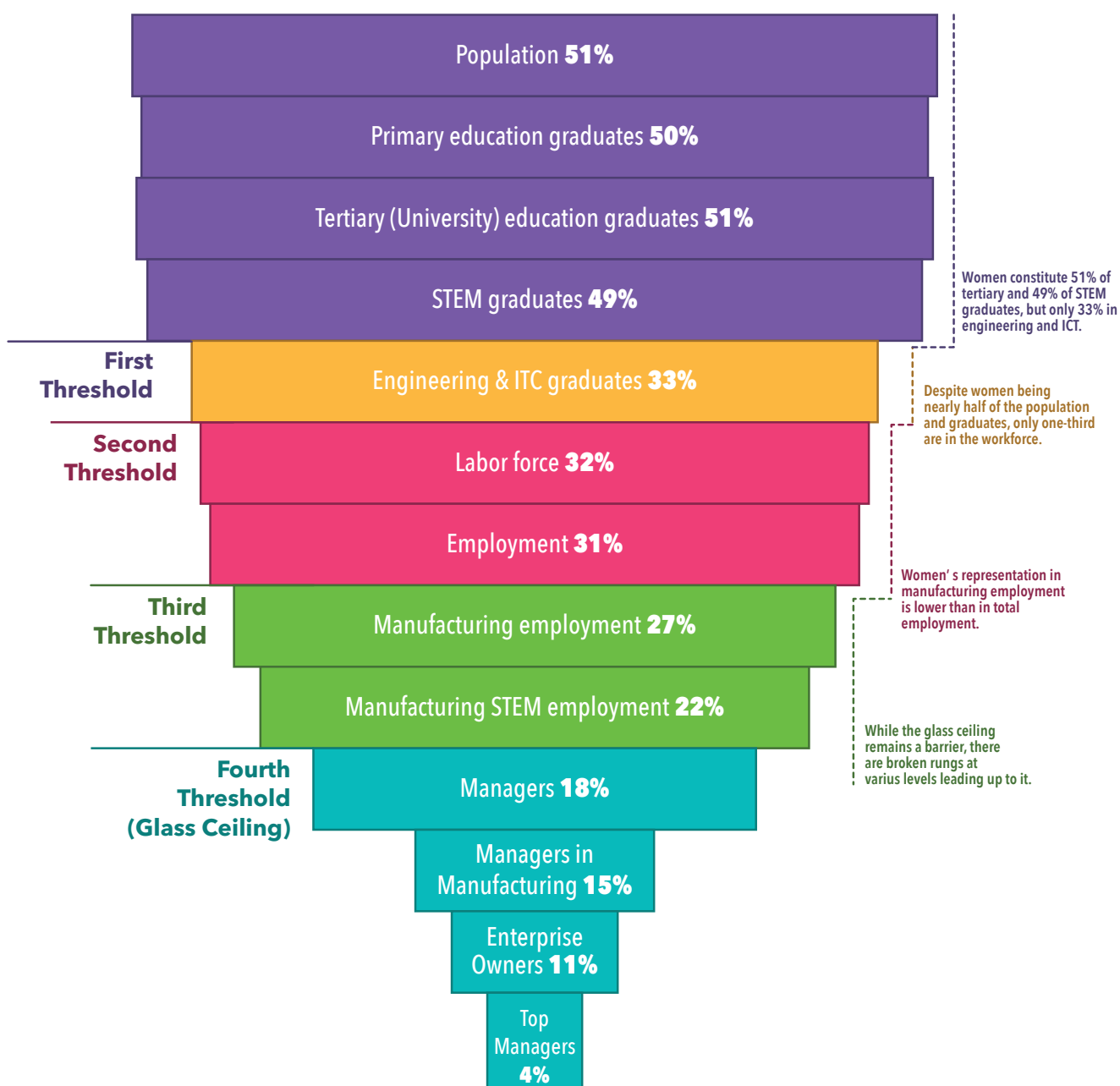


The fourth threshold is the “glass ceiling,” seen in women's underrepresentation in managerial roles. Women hold just **18%** of managerial positions across all sectors and just **15%** in industrial sectors. This vertical occupational segregation reflects the compounded barriers women face throughout their professional lives, from early education to leadership.



This programme is financed by the European Union and the Republic of Türkiye

Women's Share in Various Social and Sectoral Segments in Türkiye, 2012-2022



Source: ILOStat, OECD, TurkStat, YÖK, PAL Calculations



This programme is financed by
the European Union and the Republic of Türkiye

Some Key Findings and Takeaways



The Vocational Workforce Gap

Women represent **44%** of vocational high school graduates. Yet, **28%** of those who enter the labor force are women. Despite steady enrollment, employment barriers remain strong.



The STEM Drop-Off

Women make up **49%** of STEM graduates. But their representation drops to **33%** in engineering & ICT. Only **22%** of Engineering & ICT graduates in the labor force are women. Significant barriers persist from education to employment.



Perception & Employer Bias in Manufacturing

73% of young women perceive the manufacturing jobs as being seen as "men's work". **59%** of young women believe employers **hesitate to hire women** due to care and family responsibilities.



The Manufacturing Career Gap

57% of firms say women **avoid** career planning in manufacturing. **90%** of young women in STEM fields **want to work** in manufacturing.



A Shared Vision

94% of women & men believe: Women can do **every job** in the manufacturing industry. Women's & men's skills are **equally** important and complementary.



Youth Supports Equality!

94% of women & **93%** of men agree: Family responsibilities are **not just women's duty**.



Projections using the compound annual growth rate (CAGR) and based on current trends indicate that parity between women and men in manufacturing and in overall employment across Türkiye is not expected to be achieved before 2052 and 2058, respectively.



Even under the hypothetical scenario, in which all newly created jobs were to be filled by women, parity in the manufacturing sector and the overall Turkish labour market would be reached no earlier than 2036.



This programme is financed by the European Union and the Republic of Türkiye

3. Attitudes and Performances of Firms towards Women's Empowerment Practices



Within the scope of research, 2,000 companies were surveyed to assess their performance based on three scores; Digital Transformation, the Green Transformation, and the Women's Empowerment Score.



Firms' self-assessments in Women's Empowerment do not align with their actual performance. While the scores show that firms considering themselves mature in Digital and Green Transformation indeed perform at higher levels, the same does not hold true for Women's Empowerment.



A significant lack of awareness and understanding persists among firms regarding women's empowerment. Firms that self-assess as mature in this area do not exhibit performance levels as high as expected. This discrepancy highlights a significant awareness gap and a disconnect from the actual performance.



Institutionalized firms, those with strong external connections, exporters, large-sized firm, R&D intensive firms perform better across all three transformation areas. Firm performance across Digitalization, Green Transformation, and Women's Empowerment (WE) scores was analyzed, revealing that certain firm groups consistently achieved higher scores. Key firm characteristics associated with significantly higher scores across all three areas include having foreign investors, a high concentration of white-collar employees, export orientation, being a supplier, employing women, and larger firm size.

Mainstreaming best practices from leading firms in Women's Empowerment as a core strategy for future policy development



The "triple transformation" progresses simultaneously within firms, reinforcing the rationale for integrating potential women's empowerment interventions into the twin transformation framework. On average, firms demonstrating progress in any two of these three transformation areas also show high performance in the third.

Twin digital and green transformations serve as key focal points for advancing women's empowerment, laying the foundation for the triple transformation.



This programme is financed by the European Union and the Republic of Türkiye

Transformation Scores (based on firm practices)

Digital Transformation score: 37/100	Green Transition score: 31/100	Women's Empowerment score: 33/100
- Firms considering themselves mature: 51 - Firms not considering themselves mature: 4 Score based on 7 different digital tools (ERP, IoT, CRM, Cloud Computing, AI, robotic technologies, and automation).	- Firms considering themselves mature: 53 - Firms not considering themselves mature: 21 - Score based 10 different green tools (Training, awareness act., green energy use, emission reduction and measurement, R&D, product lifespan extension, waste management, and energy efficiency solutions for green transformation)	- Women's Empowerment score: 33/100 - Firms considering themselves mature: 39 - Firms not considering themselves mature : 21, - A comprehensive score encompassing 6 policy areas and 39 intervention areas. (Policies, working conditions, women-friendly practices, career development, equality, and representation.

The firm survey was conducted via telephone with 2,000 companies from the project's pilot provinces: Istanbul, Ankara, Izmir, Kocaeli, Bursa, Manisa, Tekirdağ, Adana, and Gaziantep.



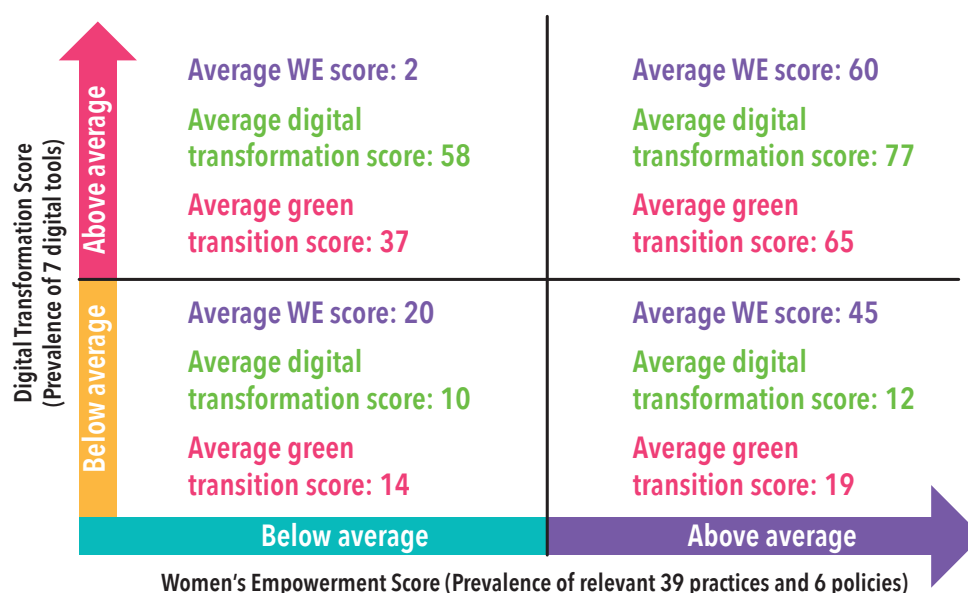
This programme is financed by the European Union and the Republic of Türkiye

Leading Firm Groups in Transformation Scores

The values in the table represent the difference obtained by subtracting the score of the firm group on the right from the score of the firm group on the left.

	WE Score	Digital Transition Score	Green Transition Score
Score differences among firm groups			
Supplier firms vs. non-supplier firms	4	38	21
Foreign capital firms vs. non-foreign capital	22	22	41
Export-intensive vs. non-exporting firms	9	29	44
Women's employment vs. no female employment	8	25	22
HR department vs. no HR department	8	36	22
High vs. low white-collar vs. employment	22	32	19
Female managers vs. no female managers	-2	24	7
With vs. without female board members	15	11	-1
R&D-intensive vs. non-R&D firms	11	30	32
OIZ firms vs. non-OIZ firms	8	17	11
Large vs. medium-sized firms	9	18	38
Medium vs. small-sized firms	3	13	3

Transformation Areas Move Forward Together



Source: WE Firm Survey, PAL Analysis



This programme is financed by
the European Union and the Republic of Türkiye

4. Policy Recommendations for Women's Empowerment (WE) Models



Capacity Building and Awareness Raising in the Private Sector

- Gender equality training programs
- Workplace policies on pregnancy and harassment prevention
- Encouraging firms to prioritize key intervention areas
- Strengthening perceptions of women's employment in manufacturing



Supporting Women's Skill Development in the Manufacturing Industry

- Expansion of technical and managerial training
- Encouraging women's participation in engineering and IT
- Integration of manufacturing firms into the education ecosystem



Strengthening Social Services

- Access to quality healthcare, childcare, and transportation
- Easier access to social services for industrial workers
- Enhancement of services based on regional needs



Prioritizing Women's Health and Well-being

- Improving workplace conditions and promoting best practices
- Providing hygiene products, clean facilities, and quality meals
- Strengthening return-to-work mechanisms for maternity leave



Enhancing Women's Financial Literacy

- Budget management and personal savings training
- Strengthening financial independence through basic education



This programme is financed by the European Union and the Republic of Türkiye



Promoting Women's Entrepreneurship in the Manufacturing Sector

- Access to resources and professional networks
- Support for trade fairs and market linkages



Establishing Complaint Mechanisms

- Safe and confidential reporting systems
- Access to legal counseling and support centers



Establishing Women's Committees in Industrial Zones

- Platforms addressing female workers' needs
- Support for diversity and inclusion
- Mentorship programs for women in education and employment



Performance Management System for Industrial Zones

- Transferring corporate best practices to SMEs
- Developing inclusive performance metrics
- Certification system and compliance monitoring
- Improving services in healthcare, childcare, and education



Public-Private Dialogue and Policy Advocacy

- Monitoring and sharing best practices
- Dialogue and advocacy platforms for public, NGOs, and academia
- Public policy priority for women's empowerment



This programme is financed by
the European Union and the Republic of Türkiye

Priority Policy Areas at the Firm Level



Leadership Commitment

- Setting clear goals
- Engaging in national and international networks



Performance Monitoring and Reporting

- Adopting universal standards for measuring and reporting performance
- Regularly reporting metrics on leadership diversity, pay equity, and career opportunities



Building an Inclusive Corporate Culture

- Implementing mentorship programs for women
- Providing professional development and leadership training for women
- Strengthening social rights such as parental leave and return-to-work support
- Improving physical workplace conditions and responding to specific needs
- Reinforcing the principle of equal pay for equal work
- Enforcing a zero-tolerance policy on harassment and discrimination
- Prioritizing women's empowerment in supplier selection
- Measuring women's labor contribution
- Preventing informal employment
- Engaging in public communication and advocacy efforts



İmalat
Sanayinde
Kadınların
Güçlenmesine
Yönelik Model
Geliştirme Projesi



.....

Developing
Women Empowerment Models
in Manufacturing Industry Project



This report was prepared with the financial support of the European Union as part of the Developing Women Empowerment Models in Manufacturing Industry Project.

The report was prepared by the Policy Analytics Lab (PAL) within the scope of the project and edited by Dr. Gökçe Bayrakçeken Tüzel. The contents of this report do not necessarily reflect the views of the European Union, UNDP, TİSK or the Ministry of Industry and Technology of the Republic of Türkiye.

