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Jordan, 2020/05 © Marcel Crozet / ILO

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The International Labour Organization (ILO) is implementing the programme entitled “Mainstreaming Employment into Trade and Investment” (METI) in the Southern Mediterranean, funded by the European Union.

The overall objective of the [METI programme](#) is to enable policymakers in the Southern Mediterranean region to incorporate employment matters into trade and investment policies, and to design and implement interventions that ultimately optimize the quantity and quality of employment created in the region.

The **value chain assessment** carried out under the METI programme aims to identify bottlenecks and opportunities for expanding markets and exports in order to create more and better jobs. These will inform the support needed from governments and workers’ and employers’ organizations to enhance the sector’s competitiveness and exports, and to equip workers with the required skill sets. The value chain assessment combines desk research, firm data collection and interviews with key informants. It aims to develop an implementation roadmap to support the sector in improving the capacity and competencies needed to boost the sector’s competitiveness and realize its export potential. The assessment follows the ILO’s [Trade and Value Chains in Employment-Rich Activities](#) (TRAVERA) and [Skills for Trade and Economic Diversification](#) (STED) methodologies and draws on core elements of the ILO’s [Market Systems Approach](#) to decent work.

This summary provides an overview of the main findings of the combined approach.

Sector selection process

In 2022, the METI programme established a policy working group in Jordan to guide the project at the national level and to provide a space for social dialogue and cooperation. The working group is chaired by the Economic and Social Council of Jordan and comprises representatives from the following institutions:

- Business and Professional Women Association- Amman
- General Federation of Jordanian Trade Unions
- Jordan Chamber of Industry
- Jordan Enterprise Development Corporation
- Jordan Exports
- Jordanian National Commission for Women
- Ministry of Industry, Trade and Supply
- Ministry of Investment
- Ministry of Labour
- Ministry of Planning and International Cooperation
- Ministry of Public Works and Housing
- Ministry of Youth
- Phenix Center for Economics & Informatics Studies

One of the first tasks of the working group was to identify a priority export sector with the potential to create more and better jobs, in particular for women and youth, and in small and medium-sized enterprises (SMEs). Along with national priorities, the following selection criteria were defined:

- Potential for upgrading in the value chain
- Product complexity
- Potential for diversification of export markets
- Environmental sustainability
- Working conditions
- Probability of automation
- Covid-19 recovery
- Crisis resilience

The METI team provided targeted analytical input alongside the identified selection criteria. Following several rounds of consultations, the working group decided by consensus to focus on the engineering products and services sectors.

Overview of the sector

The engineering sector in Jordan is a vital component of the national economy, encompassing a wide range of industries including manufacturing, construction, and specialized services. It contributes significantly to both gross domestic product (GDP) and employment, and benefits from a highly skilled workforce and access to regional and international markets through various free trade agreements. Despite its growth, the sector faces challenges, including gender disparities in the workforce and underrepresentation of women and youth in key roles.

In 2021, the **engineering products subsector**, which includes heating, ventilation and air-conditioning (HVAC) systems, electric products and construction materials, contributed 5 per cent to the manufacturing sector's GDP. The subsector had an export value of 0.2 billion Jordanian dinar, accounting for 14.1 per cent of manufacturing exports, and employed approximately 10,000 workers (USAID, A/E Business Council and Jordan Exports, n.d.). According to the surveys conducted for the purpose of this report, the sector benefits from a skilled workforce and access to regional and international markets through free trade agreements, with a growing number of emerging companies supplying components to assembly firms.

The **engineering services subsector**, which includes architectural and environmental services, as well as project management and air-conditioning support, contributes between 8 and 10 per cent to Jordan's GDP. In 2022, the export value of construction services declined to US\$68 million from US\$81 million in 2021, with the Gulf Cooperation Council countries and Iraq as key export markets. In 2018, the sector employed over 11,500 individuals, with growth of 8 per cent in registered companies between 2018 and 2022 (USAID, A/E Business Council and Jordan Exports, n.d.).

**Engineering
Products
Subsector**

► **~10,000**
Employed workers (2021)

**Engineering
Services
Subsector**

► **8-10%**
of Jordan's GDP (2021)

Opportunities

Key findings of the value chain analysis: Opportunities in Jordan's engineering sectors



Export potential

Jordan is strategically located in the heart of the Middle East, offering significant opportunities to expand its global exports, especially in industrial and mechanical equipment. Under HS code 8415, which covers industrial fans, ventilators, air-units and other climate control devices, Jordan possesses considerable export potential. The rising global demand for energy-efficient and advanced climate control solutions provides a strong opportunity for Jordan to enter international markets. By leveraging competitive production costs and improving technological capabilities, Jordan can diversify its export portfolio and target markets that have increasing infrastructure needs and a growing demand for sustainable energy solutions.



Competitiveness and market opportunities

Jordan's engineering products and services demonstrate clear comparative advantages across national, regional and international markets. Nationally, these advantages are characterized by flexibility in production, quick adaptation to new technologies, a high level of engineering expertise, competitive pricing, and the ability to tailor products to specific customer needs. In the regional market, Jordanian engineering products are recognized for their solid reputation, competitive pricing, and swift adoption of advanced technologies, supported by the country's favourable geographic position for trade. Internationally, Jordan leverages its strategic location and free trade agreements, which facilitate global market access and investment.



Skilled workforce

Jordan's skilled workforce, supported by a robust education system, plays a key role in enhancing the country's competitiveness in both engineering products and services. Its strong talent pool, combined with relatively low labour costs, allows Jordan to offer high-quality, cost-effective solutions that position it competitively in regional and international markets. The country's workforce is well-equipped with technical expertise that meets the demands of various industries, and its adaptability to emerging technologies contributes to Jordan's reputation as a hub for engineering excellence.

Challenges

Key findings of the value chain analysis: Challenges in Jordan's engineering sectors



Skills shortages and workforce development

Despite the highly skilled Jordanian workforce, the retention of skilled workers remains a challenge for many firms, especially SMEs. While Jordan's labour market is cost-competitive, offering attractive compensation packages is difficult for many companies, leading to high turnover rates. Moreover, skills shortages in key roles, such as maintenance engineers and product development engineers, highlight the need for more targeted training and development. Although Jordan produces a technically proficient workforce, ongoing training in advanced manufacturing and digital skills is essential for sustaining growth in the sector.



Financial and operational challenges

The subsectors face significant financial constraints, particularly for SMEs. Insufficient government support, high energy costs, and challenges regarding access to financing are recurring obstacles for manufacturers, raw material suppliers and assemblers. Furthermore, in the assessment conducted for the purpose of this study, SMEs reported operational challenges related to human capital, efficiency and operational costs.



Technological and logistical gaps

The ability of the sectors to maintain competitiveness is hindered by the slow adoption of advanced technologies such as 3D printing and automation among SMEs. Logistical inefficiencies, regulatory compliance challenges and high local production costs further limit growth, especially in comparison to technologically advanced markets such as China.



Industrial relations and management practices

The analysis highlights critical gaps in the engineering products subsector, starting with a lack of trust and structured collaboration among industry stakeholders. The absence of a dialogue-based industrial relations culture hinders effective cooperation. Additionally, adherence to health and safety standards remains insufficient, affecting both sustainability and worker well-being.



Market concentration

In the engineering products subsector, large enterprises dominate air-conditioning production. This concentration can lead to challenges for smaller firms, including raw material suppliers who are burdened by high energy costs. Aggregators also struggle with accessing necessary technologies and meeting market requirements. Furthermore, manufacturers face significant financial and operational constraints, particularly related to securing financing and ensuring regulatory compliance.

Recommendations

Recommendations for strengthening Jordan's engineering sector

1. Align education and training with industry needs



Skills upgrading to formalise jobs. Jordan. 2018/09 © Abdel Hameed Al Nasier/ILO

- **Foster industry-academia partnerships:** Encourage collaboration between businesses and educational institutions to create internship programmes and hands-on training opportunities.
- **Update curricula:** Modernize university and technical school programmes to include emerging technologies such as artificial intelligence, digital tools and advanced manufacturing techniques.
- **Promote science, technology, engineering and mathematics education:** Start promoting science, technology, engineering and mathematics education early to build a strong foundation for future engineers.

2. Address recruitment challenges

- **Improve working conditions:** Offer competitive salaries, benefits and flexible working hours to reduce turnover and attract skilled professionals.
- **Diversify the workforce:** Implement diversity and inclusion initiatives to attract underrepresented groups such as women and youth into the engineering sector.
- **Enhance employer branding:** Invest in employer branding to position engineering firms as attractive workplaces for top talent.



Occupational Health and Safety inspection. Jordan. 2013/12 © Guillaume Megevand/ILO

3. Ensure continuous skills development and upskilling



Job fair provides training services. Jordan. 2018/11 © Abdel Hameed Al Nasier/ILO

- **Specialized training centres:** Establish centres for key areas such as HVAC, renewable energy and advanced manufacturing to meet specific industry needs.
- **Develop certification programmes:** Offer certification in new and emerging technologies to ensure that employees stay competitive.
- **Integrate training in SMEs:** Encourage SMEs to incorporate continuous professional development for their employees.

4. Strengthen technological competence

- **Subsidize technological upgrades:** Provide financial incentives such as grants or low-interest loans to support the adoption of advanced technologies such as 3D printing, robotics and automation.
- **Promote innovation:** Support research and development (R&D) initiatives through tax incentives and collaboration with academic institutions.



Activities to help formalise jobs. Jordan. 2018/09 © Abdel Hameed Al Nasier/ILO

5. Expand market access



Female engineer at construction site. Jordan. 2012/12 © Jared J. Kohler/ILO

- **Leverage free trade agreements:** Expand trade agreements with key markets such as the Gulf Cooperation Council countries, the United States and Europe to boost exports.
- **International compliance standards:** Help businesses comply with global standards such as ISO (International Organization for Standardization) and CE¹ to increase market penetration.
- **Organize trade missions:** Facilitate business-to-business matchmaking and trade missions to explore regional and international markets.

¹ CE marking is a certification mark that indicates conformity with health, safety and environmental protection standards for products sold within the European Economic Area (EEA). The CE mark is also found on products sold outside the EEA that have been manufactured to EEA standards. It is mandatory

6. Foster sustainability and innovation

- **Sustainability practices:** Encourage firms to adopt green technologies and implement environmental standards by providing grants and training.
- **Promote a culture of innovation:** Establish innovation hubs and incubators to support start-ups and foster new technologies in the sector.



Construction worker. Jordan. 2014/12 © Nadia Bseiso/ILO

7. Streamline regulatory processes



ILO-supported Employment Service Centre. Jordan. 2012/12 © Abdel Hameed Al Nasier/ILO

- **Reduce bureaucratic barriers:** Simplify regulatory compliance processes to ease the operational burden on engineering firms and support growth.
- **Improve supply chain integration:** Address logistical inefficiencies by using digital tools to strengthen supply chain management.

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