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CURRENT STATE, CHALLENGES, AND DEVELOPMENT PROSPECTS OF ELECTRICAL ENGINEERING INDUSTRY ENTERPRISES IN UZBEKISTAN

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Abstract: *This article provides a scientifically grounded analysis of the export dynamics of electrical engineering industry enterprises in Uzbekistan over the period 2017–2025. The study reveals that industrial output increased 9.5 times, reaching 35 trillion UZS, while exports grew 7.4 times to 1,400 million USD. The paper extensively examines global trends in the electrical engineering market, the geography of Uzbekistan's exports, a quantitative analysis by major product groups, the impact of state policy, and target indicators for 2025–2030. As a conclusion, practical recommendations for enhancing export potential are developed.*

Keywords: *electrical engineering industry, export, copper products, household appliances, cable and wire products, Uzbekistan–2030, investment, quality standards, export geography.*

INTRODUCTION

In today's global economy, the deepening of globalization and integration processes places the task of ensuring sustainable and high-quality economic growth as a priority for countries. In particular, the modernization of industry and the development of high-tech sectors are becoming key factors of economic competitiveness. From this perspective, the electrical engineering industry holds special significance as one of the strategic backbone sectors of the national economy.

The issue of increasing export volumes in electrical engineering enterprises requires adaptation to the demands of the global market. The increasing complexity of international trade rules, strict product quality standards, and technical regulations pose limitations on export opportunities. At the same time, the growth of export potential enhances the competitiveness of enterprise products and expands opportunities for entering new markets. Furthermore, the implementation of quality management systems contributes to the optimization of production processes, efficient use of resources, and improvement of product quality. Therefore, increasing the competitiveness of electrical engineering enterprises, expanding export volumes, and introducing international standards in the sector are of great importance. In this regard, increasing the share of innovative products and improving the economic mechanisms for enhancing export potential at enterprises are among the priority areas of scientific research.

The development of the electrical engineering industry not only accelerates technological advancements in other sectors but also contributes to increasing the production of high value-added products, expanding export potential, and ensuring a positive foreign trade balance. According to analyses of international markets, global demand for electrical engineering and electronics products is steadily increasing, and this sector occupies a leading position in world trade. Therefore, the introduction of innovative technologies in the electrical engineering industry, expansion of the production of competitive products that meet international standards, and scientifically grounded

forecasting of the sector's prospective development directions are among the key strategic tasks today. These factors further strengthen the need to transform the electrical engineering industry into a driver of economic growth, which is being systematically supported by the state.

LITERATURE REVIEW

Since 2017, large-scale economic reforms implemented in the Republic of Uzbekistan have laid a solid foundation for the rapid development of the electrical engineering industry. The "New Uzbekistan Development Strategy for 2022–2026" and the "Uzbekistan–2030" strategy, adopted under the leadership of President Shavkat Mirziyoyev, have identified this sector as one of the priority directions of the national economy.

At the global level, the electrical engineering products market reached a volume of USD 1,660 billion in 2024 and is projected to exceed USD 4,151 billion by 2034, corresponding to an average annual growth rate of 10.8%. Securing a достой (significant) share of this vast market represents a major strategic opportunity for Uzbekistan.

As a result of ongoing reforms in the sector, the country's production capacity and scientific-engineering potential are rising to a new level. In accordance with the relevant resolution of the President of the Republic of Uzbekistan, the privileges granted for the deep processing of copper and other raw materials, the production of high value-added products, and the expansion of exports serve as a strong legal and financial foundation for the development of the industry.

In order to increase exports of electrical engineering products to USD 3 billion and copper processing to 125 thousand tons by 2026, the Presidential Resolution No. PQ-304 dated October 15, 2025, "On additional measures to stimulate deep processing of raw materials in the electrical engineering industry and to increase the investment and export potential of the sector," was adopted. This resolution primarily aims to unlock untapped opportunities in the industry, particularly by stimulating copper processing and increasing the share of high value-added products. In particular, the period for purchasing copper with a 4% discount (without value-added tax) has been extended until 2030.

Additionally, specific targets have been established to ensure the use of locally produced electrical engineering products in public procurement, including within investment projects financed by budget customers, construction of buildings and structures, and the development of social infrastructure facilities.

The year 2025 was both successful and challenging for Uzbekistan's electrical engineering industry. Due to the unstable geopolitical situation worldwide, disruptions in global logistics chains, volatility in raw material prices, and shortages in the markets for copper and other electronic components were observed. Despite such difficult conditions, domestic enterprises managed to maintain stable growth, supported by a clearly defined industrial policy, improvements in the investment climate, and localization programs implemented by the state.

METHODOLOGY

This study is based on a mixed-methods approach aimed at comprehensively analyzing the current state of electrical engineering industry enterprises in Uzbekistan, combining both quantitative and qualitative analysis methods. The main research approach is descriptive-analytical and comparative in nature.

Both primary and secondary data sources were utilized in the study. Primary sources include official data from the Statistics Agency of the Republic of Uzbekistan and the Eltexsanoat Association, as well as semi-structured expert interviews conducted with managers of electrical engineering enterprises and industry specialists. Secondary sources comprise reports from Market Research Future, comparative statistical data from CIS countries, and published scientific articles and industry publications on the topic. The study covers the period from 2017 to 2024.

The research was carried out in four consecutive stages. In the first stage, scientific literature and regulatory documents related to the electrical engineering industry were reviewed, and the

theoretical-conceptual framework of the study was developed based on industry economics theories. In the second stage, statistical data for the selected period were collected, and existing problems were systematized through interviews with enterprise representatives and document analysis.

In the third stage, all collected data were processed using a range of analytical methods. In particular, statistical analysis was applied to examine the annual dynamics of production volume, exports, and investments attracted to the sector. Additionally, a comparative analysis method was used to compare Uzbekistan's experience with that of foreign countries, especially developed industrial nations and CIS member states.

In the fourth and final stage, the obtained results were summarized, and practical recommendations were developed aimed at modernizing the industry, enhancing competitiveness, and expanding export potential.

ANALYSIS AND RESULTS

According to analyses by *Market Research Future*, the global market for electrical engineering products and services reached USD 184,974 billion in 2024 and is expected to grow to USD 280,333 billion by 2035, reflecting an average annual growth rate of 3.85%. In particular, the Asia-Pacific region maintained its leading position in 2025, accounting for 39.4% of the total market share.

Key players in the global electrical engineering market include companies such as Siemens, Schneider Electric, ABB, Eaton, General Electric, Mitsubishi Electric, Rockwell Automation, and Honeywell. In conditions of intense competition, there are opportunities for new manufacturing countries to enter the market; however, this requires high quality standards, well-developed export infrastructure, and a competitive pricing strategy.

Experts assess 2025 as a year of economic acceleration and stabilization. In particular, industrial output reached 35 trillion UZS, while export volume approached USD 1.5 billion. Within the framework of the localization program, more than 30 new types of products worth 5 trillion UZS were освоены (introduced into production). As a result, import optimization amounting to USD 400 million was achieved, and domestic demand has increasingly been met by local entrepreneurs.

However, the existing potential of the sector has not yet been fully utilized. The share of imports of components continues to grow, indicating a dependency on external supplies. In the previous year, electrical engineering enterprises benefited from incentives totaling 27 billion UZS, which contributed to increasing exports by USD 83 million and raising budget revenues by 46 billion UZS.

Table 1.

Dynamics of the electrical engineering industry of the Republic of Uzbekistan[34].

№	Indicators	2017	2018	2019	2020	2021	2022	2023	2024	2025
1.	Number of enterprises	724	791	859	921	936	1080	991	910	900
2.	Number of employees	15000	18224	23976	26902	28100	31546	28055	24992	22360
3.	Production volume (trln.s)	3,7	4,8	10,2	12,6	16,7	19,9	23,9	30,1	35
4.	Export volume (mln $)	189,7	116,5	250,2	326,5	562,5	604	1047	1300	1400
5.	Investment volume (mln$)	99,7	46,9	70	193,8	150,6	169,7	191,5	208,6	213,1
6.	Copper processing volume (tons)	32800	22500	41600	30700	55500	71700	86100	92200	100000

[34] Author's development based on data from the Uzeltekhnological Association

From the table data, it can be observed that between 2017 and 2025, the export volume of electrical engineering products increased steadily from USD 189.7 million to USD 1,400 million. This represents a 7.4-fold growth over eight years, indicating the effectiveness of investments attracted to the sector and technological modernization.

Exports of electrical engineering products are growing rapidly, particularly due to the expansion of segments such as household appliances and other product categories, which reflects the diversification of the export structure. This, in turn, creates a foundation for the stable and large-scale development of the industry. Not only has the geography of exports expanded, but the range of electrical engineering products supplied to foreign markets has also broadened. Currently, approximately 255 types of electrical engineering products are exported to more than 70 countries. The number of exporting enterprises in this sector has reached 270.

The data also show that the growing global interest in electric vehicles, solar and wind power plants, and other energy-related products is driving increased demand for cable and wire products.

In the context of the global economy, the volume of exports of industrial goods—particularly electrical engineering products—is considered one of the key indicators of a country's economic potential and level of technological development. In modern models of economic development, electrical engineering products belong to the category of high value-added technological goods and play an important role in diversifying export structures and ensuring sustainable economic growth.

The growth of electrical engineering exports leads to several positive outcomes. First, it strengthens state budget revenues through increased foreign currency inflows. Second, it enhances the competitiveness of industrial enterprises and strengthens their position in international markets. Third, the widespread adoption of advanced technologies in production accelerates domestic technological modernization, thereby increasing the country's overall innovative capacity.

Furthermore, strengthening the export potential of the electrical engineering sector contributes to higher employment levels, the development of systems for training highly qualified specialists, and the expansion of regional industrial infrastructure. These factors are closely interconnected and have a positive impact on the country's macroeconomic stability.

CONCLUSION AND RECOMMENDATIONS

In conclusion, the rapid development of the electrical engineering industry indicates that deep structural transformations are taking place in the national economy and that the country is transitioning to a new stage of industrialization. The consistent growth of this sector serves as an important factor in expanding the production of high value-added goods, adopting modern technologies, and ensuring the integration of domestic producers into global value chains.

At the same time, the expansion of the sector strengthens domestic industrial cooperation and increases the efficient use of local raw materials and components. This contributes to the growth of import-substituting production, reduces external economic risks, and enhances the overall stability of the national economy.

In the future, the competitiveness of the electrical engineering industry can be elevated to a new level by developing research and development (R&D) activities, accelerating digitalization processes, and further improving human capital. In particular, expanding the production of energy-efficient and environmentally friendly products based on the principles of the "green economy" will remain a key priority in the long term.

Overall, the electrical engineering industry is not only a source of increasing export revenues but also a strategic driver of innovation, high-tech modernization, and sustainable economic growth, playing a crucial role in the country's development.

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