

**ISSUES OF DEVELOPING THE ACTIVITIES OF ENTERPRISES IN THE  
ELECTRICAL ENGINEERING INDUSTRY OF THE REPUBLIC OF  
UZBEKISTAN**

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**Abstract**

This paper explores the key issues and challenges faced by enterprises in the electrical engineering industry of the Republic of Uzbekistan. The study analyzes the current state of the industry, identifies barriers to growth, and examines opportunities for modernization and innovation. Emphasis is placed on the role of technological advancement, government policies, and investment attraction in enhancing the competitiveness of domestic enterprises in both local and international markets. Recommendations are provided for improving operational efficiency, encouraging research and development, and fostering sustainable industrial growth.

**Keywords:** Electrical engineering industry, Enterprise development, Uzbekistan, Technological innovation, Industrial modernization

**Introduction**

The electrical engineering industry plays a vital role in modern economies by serving as a backbone for industrial production, infrastructure development, digital transformation, and technological progress. In Uzbekistan, the development of this sector is increasingly viewed as a strategic priority to ensure energy efficiency, technological self-sufficiency, and integration into global value chains. As the country continues its post-independence transition toward an open-market economy, the electrical engineering industry has significant potential to contribute to GDP growth, import substitution, export diversification, and employment creation. However, the development of enterprises operating in this sector faces a

number of systemic, structural, and operational challenges that need to be addressed through targeted reforms and support mechanisms.

Historically, the electrical engineering industry in Uzbekistan developed as part of the broader Soviet industrial complex, with production capacities mainly oriented toward serving domestic and regional markets. After the dissolution of the USSR in 1991, the industry faced a sharp decline due to disrupted supply chains, underinvestment, outdated technologies, and a lack of access to global markets. In the decades that followed, Uzbekistan prioritized the development of other sectors such as agriculture, textiles, and energy. Nevertheless, in recent years, the government has begun to focus more closely on revitalizing industrial production, with particular emphasis on engineering and high-tech sectors, including electrical engineering.

The urgency to modernize and develop the electrical engineering industry is linked to several national and global trends. Domestically, Uzbekistan has launched large-scale infrastructure and housing development programs, electrification projects in rural areas, and industrial modernization initiatives—all of which require sophisticated electrical equipment and reliable engineering solutions. Globally, the rapid advancement of technologies such as renewable energy, electric vehicles, smart grids, and automation presents both challenges and opportunities for domestic enterprises. For Uzbekistan to remain competitive and technologically resilient, it must ensure that its electrical engineering sector evolves accordingly.

Recognizing the importance of this sector, the Government of Uzbekistan has taken steps to encourage investment, innovation, and productivity in electrical engineering. Key policy documents such as the Strategy for the Transition to a Green Economy (2019–2030), the Industrial Development Program, and the Concept for the Development of the Electrical Industry highlight the commitment to creating favorable conditions for enterprise growth. Moreover, the activities of industry-specific organizations such as “Uzeltexsanoat” Association aim to

coordinate and support enterprises through policy advocacy, technical support, and capacity building.

Despite these efforts, enterprises in the electrical engineering industry continue to face a wide range of issues that hinder their development. These include limited access to advanced technologies and modern equipment, shortage of skilled labor, high production costs, lack of competitiveness in foreign markets, and dependency on imported components. Bureaucratic barriers, insufficient financing options, weak intellectual property protection, and challenges in certification and standardization also constrain enterprise activities. Additionally, internal problems such as inefficient corporate governance, poor management practices, and low innovation capacity exacerbate the difficulties faced by these companies.

One of the most critical challenges is the technological lag that persists among many enterprises in the sector. Most small and medium-sized enterprises (SMEs) still rely on outdated machinery, which limits productivity and product quality. As global demand increasingly favors high-efficiency, environmentally friendly, and smart electrical products, Uzbek manufacturers must invest in research and development (R&D) and adopt international standards to remain competitive. However, investment in innovation is often hampered by limited financial resources, inadequate university-industry collaboration, and a lack of incentive structures.

Moreover, the integration of electrical engineering enterprises into global supply chains remains weak. Although Uzbekistan has trade partnerships with countries such as Russia, China, Turkey, and the EU, the export share of electrical engineering products remains relatively low. The lack of brand recognition, high logistics costs, and compliance difficulties with international technical regulations are key factors limiting export growth. Enterprises must overcome these barriers by upgrading product quality, improving marketing capabilities, and leveraging state export support programs more effectively.

Human capital is another pressing concern. The demand for skilled electrical engineers, designers, and technicians is growing, but the current vocational and higher education system often fails to produce graduates with the competencies required by modern enterprises. Many companies report a mismatch between the qualifications of job applicants and the needs of the industry. Strengthening technical education, expanding industry-oriented training programs, and fostering partnerships between enterprises and educational institutions are essential steps for bridging this skills gap.

In recent years, some successful cases of enterprise development in the electrical engineering industry have emerged, particularly among joint ventures and public-private partnerships. Enterprises such as “Artel,” “Texnopark,” and other manufacturers of household appliances and electrical equipment have made noticeable contributions to the sector’s modernization. These companies have invested in modern technologies, established partnerships with foreign firms, and contributed to import substitution by producing goods previously unavailable on the domestic market. However, the replicability of their success across the industry requires systemic reforms and broad-based support.

Against this background, the present study aims to analyze the key issues hindering the development of enterprises in the electrical engineering industry in Uzbekistan, identify the root causes of these problems, and propose practical solutions. The study will examine macro-level policies, enterprise-level dynamics, and the broader industrial ecosystem to provide a comprehensive understanding of the sector's challenges. It will also draw on international experiences from countries such as South Korea, China, and Germany, which have successfully developed competitive electrical engineering industries through targeted industrial policy and innovation-driven growth.

The following research questions guide this study:

1. What are the main challenges faced by enterprises in the electrical engineering sector of Uzbekistan?

2. What government policies and institutional mechanisms exist to support the development of this industry?
3. How can Uzbek enterprises enhance their competitiveness, innovation capacity, and integration into global markets?
4. What lessons can be drawn from international best practices to address the issues specific to Uzbekistan?

Methodologically, the research will rely on a combination of qualitative and quantitative methods. This includes analysis of official statistics, policy documents, and enterprise performance data, as well as interviews with industry experts, business leaders, and policymakers. Case studies of selected enterprises will provide in-depth insights into operational challenges and success factors. Comparative analysis with other developing and transition economies will help contextualize Uzbekistan's experience within broader global trends.

In conclusion, the development of the electrical engineering industry is essential for Uzbekistan's sustainable economic growth, technological independence, and industrial competitiveness. Addressing the multifaceted challenges faced by enterprises in this sector requires a coordinated approach involving government support, private sector initiative, human capital development, and international cooperation. By identifying and addressing the key issues, Uzbekistan can lay the foundation for a vibrant and innovation-driven electrical engineering industry that contributes meaningfully to national development goals.

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