

## PREDICAMENT AND DEVELOPMENT STRATEGY OF LIAONING MECHANICAL AND ELECTRICAL PRODUCTS EXPORT

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**ABSTRACT.** *The export of electromechanical products in Liaoning Province has continued to expand in recent years, which is one of the main driving forces for the development of China's electromechanical industry. With the progress of China's reform and opening up and the rapid development of the world economy, the export value of mechanical and electrical products in Liaoning Province has increased year by year, but the growth rate has gradually become smaller in recent years, and there are still many defects and problems in export competitiveness. This article analyzes the status quo of Liaoning's electromechanical products export and the difficulties it faces, and formulates strategies such as export transformation and upgrading strategies and promotion of export processing zones. The aim is to increase the competitiveness of Liaoning's electromechanical products exports and thus boost the economic growth of Liaoning Province.*

**Keywords:** Electromechanical industry trade, Electromechanical industry, Liaoning Province, Export competition, Trade barriers

**1. Introduction.** The electromechanical industry is an important export-oriented industry in Liaoning Province. However, facing the severe international economic situation, Liaoning's export of electromechanical products has encountered a series of problems. Liaoning is an area of development of electromechanical products in China, although the export of mechanical and electrical products has always been in the forefront of the country. It is of great significance to analyze the status quo and problems of the export of electromechanical products in Liaoning and enhance the export capability of the entire electromechanical products in China.

China's research on the export of electromechanical products and the competitiveness of the international market is becoming more and more widespread. It basically concentrates on the strategic choices, shortages, causes, analysis of examples, and solutions to the international market competitiveness of mechanical and electrical products, and has achieved certain theoretical results. Liu believed that in order to create competitiveness in the international market, the electromechanical industry must conduct research on five aspects: subject, object, goal, organization, motivation, and strength to form a strategic combination, which can further highlight the core competition of the electromechanical industry [1]. Bai believed that research was conducted on how to improve the competitiveness of regional electromechanical industries in the international market. Based on an analysis of the shortcomings in the regional competition of regional electromechanical industry in China, it was proposed that innovation should start from the perspective of vision to build the international competitiveness of the industry, in particular to speed up the process of reform and innovation, and actively promote the transformation and

upgrading of China's unique industries, and at the same time pay close attention to international brand marketing strategies [2]. This study analyzes the current situation of Liaoning's machinery and electronic products, analyzes the difficulties faced by Liaoning's machinery and electronic products exports from both internal and external challenges, and finally proposes a strategy to promote the export of mechanical and electrical products in Liaoning Province in response to the problems faced by the export of mechanical and electrical products in Liaoning.

**2. Current Situation.** Liaoning Province, China's important manufacturing base, especially in the past for a long time, has played an important role in manufacturing. Since the beginning of the new century, Liaoning Province has attached importance to the export of electromechanical products. With the rapid development of science and technology in Liaoning Province and the continuous deepening of the reform of state-owned enterprises, the export of electromechanical products has undergone profound changes. Despite certain achievements, there are also many inadequacies [3].

**2.1. Mechanical and electrical products continue to optimize the export structure.** From the point of view of the export methods of mechanical and electrical products in Liaoning, the main methods are the border trade, processing trade, and general trade. With the accelerating reform and opening up of the Liaoning area and the construction of infrastructure, the continuous optimization of the export methods of electromechanical products has been promoted, showing the characteristics of diversification and sustainability, and it also has many advantages and characteristics. This has greatly promoted the rapid development of export of mechanical and electrical products in Liaoning. Exports of electromechanical products in Liaoning have changed from labor-intensive industries to "diversified" commodity structures such as labor-intensive, resource-intensive, and technology-intensive, and visible light communication, intelligent robots, new energy vehicles, 3D printing, and hardware molds. It has become an important support for the export of electromechanical products in Liaoning Province. In particular, it has shown a trend of rapid development. The export scale of these products is continuously expanding (Figure 1).

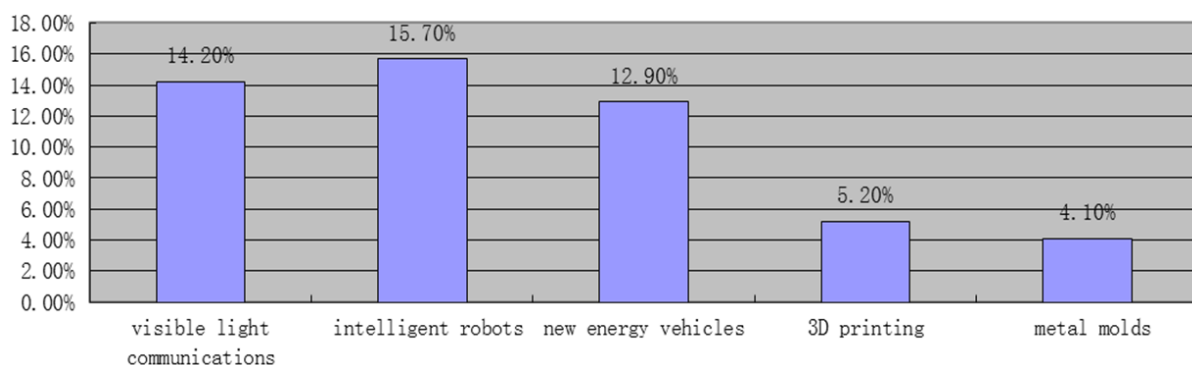


FIGURE 1. Liaoning's export of major electromechanical products in 2016 (Data source: according to Liaoning Mechanical and Electrical Industry Association)

**2.2. Mechanical and electrical products export market is increasingly diverse.** With the rapid development of electromechanical products in Liaoning, the support for electromechanical products in Shenyang and other cities has continued to increase. All localities are actively expanding the export market of electromechanical products, strengthening the "going out" and "bringing in" and making electromechanical products in Liaoning regions [5]. The export market structure has been continuously optimized. At present,

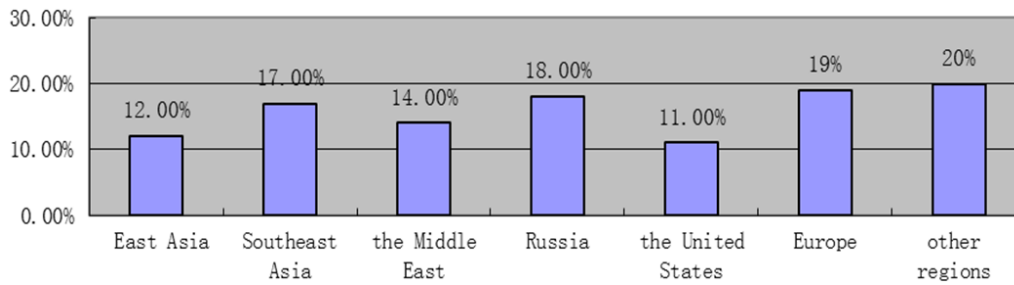


FIGURE 2. Liaoning's share of major electromechanical products export regions and countries in 2016 (Data source: according to Liaoning Mechanical and Electrical Industry Association)

Liaoning and major countries in the world have export trade of electromechanical products. In particular, East Asia, Southeast Asia, the Middle East, Russia, the United States, and Europe have become major countries and regions in the export of electromechanical products in Liaoning. Mechanical and electrical products exports accounted for more than 80% [6] (Figure 2).

### 3. Export Difficulties.

#### 3.1. Liaoning machinery and electrical products exports internal disadvantage.

3.1.1. *Large-scale export but not strong.* As the end of December 2016, there were more than 3,000 electromechanical enterprises in all regions in Liaoning, more than 1,000 electromechanical products supporting companies, and more than 380,000 employees, forming a better development system for mechanical and electrical product production, research and development, and services. Overall, the number of electromechanical enterprises in Liaoning Province and the scale of export products are the largest in the country, and the scale is relatively large. However, among the more than 3,000 mechanical and electrical enterprises in Liaoning Province and more than 1,000 supporting enterprises of mechanical and electrical products, there are less than 100 companies in the scale. At home, the Liaoning region also publicly admitted that "owing to lack of historical reasons such as development experience, the electromechanical products in Liaoning Province have taken a resource-consuming and extensive development approach", resulting in weaker overall electromechanical product export strength in Liaoning and lack of international competition ability. Since China's approval of the 12 electromechanical product trade processing zones established in Liaoning Province in 2005, after years of operation, there were only 108 processing trade enterprises by 2015; at the end of 2016, the processing trade of mechanical and electrical products decreased by 3.86 percentage points. Compared with 2015, the proportion of the processing trade of mechanical and electrical products is different from the global average of 34.8%, which has greatly affected the overall level of processing trade of mechanical and electrical products.

3.1.2. *More export brands but less autonomy.* From the perspective of Liaoning's export of machinery and electronic products, although all localities attach great importance to the construction of export brands and speed up the construction of a national information industry base in Liaoning, overall, the investment in research and development in Liaoning is relatively small, and the foreign machinery and electronic product R&D expenses are invested. They all account for about 5% of GDP, but they are generally less than 1.5% in Liaoning. This directly leads to a problem, although there are more export brands of electromechanical products in Liaoning, there are fewer self-owned brands. The current rate of additive production of electromechanical products in Liaoning is only 5.8%.

This shows that Liaoning's electromechanical products belong to the industrial chain in the global international division of labor. The "end" of the "remaining" is more about processing and OEM. This has become the biggest issue that restricts the export of mechanical and electrical products in Liaoning Province. It has a profound understanding of this area in Liaoning Province, in particular, it must attach great importance to the ability of independent innovation.

*3.1.3. Sales but marketing innovation is not enough.* For export of electromechanical products, in order to improve their competitiveness in the international market, in addition to having their own brand image and brand products, the most important thing is to enhance their marketing capabilities, especially in terms of marketing innovation effort. From the perspective of the export of electromechanical products in Liaoning Province, despite the significant achievements in the international sales of electromechanical products in Liaoning Province, its marketing innovation is seriously insufficient. Due to the late start of the international operation of the mechanical and electrical products in Guangliao area, the electromechanical companies in Liaoning lacked effective experience in international operations, especially due to the relatively low level of management and the lack of experience and management of international operations. It has become an important restrictive factor that restricts the effective implementation of the international marketing strategy of the electromechanical products in the Liaoning region, and must be seriously resolved. For example, from the perspective of the international marketing management model, many electromechanical companies in Liaoning have not yet established an international marketing management system. Technical personnel, management personnel, service personnel, and e-commerce systems are still not perfect. This directly leads to electromechanical products in Liaoning. International marketing is greatly limited.

### **3.2. External challenges of Liaoning mechanical and electrical products export.**

The external challenges faced by Liaoning's export of electromechanical products mainly come from two aspects. First, global electromechanical products are gradually expanding, and China's regional electromechanical products are also constantly innovating. According to statistics from the China Electromechanical Industry Association, at the end of the 2015, China has a total of 24,562 electromechanical enterprises and 7,454 electromechanical export enterprises. This has exerted great pressure on the export competitiveness of electromechanical products in Liaoning. In particular, foreign countries are also vigorously developing the electromechanical products industry. "Industry 4.0" and Japan and South Korea also attach great importance to the development of electromechanical products, and have introduced many guiding policies, which will also cause great challenges to the export of electromechanical products in Liaoning. Second, with the rapid development of the global green, low-carbon, environmental protection and economy, developed countries have set up many "green trade barriers" [4]. Currently, electromechanical products in Liaoning have not yet had a high "green standard", causing electromechanical products exported to developed countries such as the United States to face a series of "Green trade barriers", if Liaoning does not pay attention to mechanical and electrical product innovation, it will inevitably reduce export competitiveness.

## **4. Strategies.**

**4.1. Formulating an export development strategy for transformation and upgrading.** The export of mechanical and electrical products in Liaoning is mainly low-end labor-intensive products with low cost and relatively low added value and profit due to backward technology and insufficient introduction of advanced technology. In order to actively change the structure of export commodities, we should make greater efforts to increase the added value and science and technology content of exported products, the

most important thing to do to speed up the balanced development of labor-intensive and technology-intensive commodities now lies in the fields of visible light communications, intelligent robots, new energy vehicles, 3D printing, metal molds and other mechanical and electrical products export structure optimization to enhance the overall competitiveness, but also with China's "Industry 2025" to promote the product structure of mechanical and electrical products more suited to the needs of China's strategic development.

**4.2. Promoting the development of export processing zones by leaps and bounds.** The export of electromechanical products in Liaoning Province should fully utilize the policy advantages of the "export processing zone", and vigorously promote the industrial transformation and basic services of the export processing zone of electromechanical products in Liaoning. As a "frontier position" for the export, we must vigorously guide social capital to invest in the infrastructure construction of electromechanical products export processing zones in Liaoning. We must make efforts to improve public services, establish an incubation base, build a technology platform, and strengthen social services. We must start from the advantages of exporting mechanical and electrical products in Liaoning and take the geopolitical characteristics as a foundation, stick to the path of "characteristics" and take advantage of resources. The geographical advantages have been brought into full play, and more efforts have been made to attract foreign investment and promote the leap-forward development of export and processing zones for electromechanical products in Liaoning.

**4.3. Supporting export enterprises to carry out technological innovation.** The most fundamental aspect of improving the export competitiveness of electromechanical products in Liaoning is to strengthen the technological innovation capability of export enterprises of electromechanical products, we must vigorously carry out the "Enterprise Technology Innovation Award", which will help stimulate export companies of mechanical and electrical products to carry out technological innovation. Establish a platform for "Internet + mechanical and electrical product export", build a technology platform, establish an incubation base, and strengthen the construction of an import and export trade service system. We must attach great importance to the "characterized" development of foreign trade, and export enterprises of mechanical and electrical products must actively acquire advanced foreign technology and vigorously promote technology-intensive and capital-intensive industries, such as efforts in new technologies, new energy, and new materials. To increase product content, build brand advantage, and ultimately win the favor of the international market [7].

**5. Conclusions.** Liaoning is a relatively concentrated and developed area of mechanical and electrical products in China. The export status of mechanical and electrical products in Liaoning presents a large scale export of mechanical and electrical products, continuous optimization of the export structure of mechanical and electrical products, and an increasingly diversified export market for mechanical and electrical products. Liaoning's electromechanical products export faced with external challenges such as larger export scale but weaker strength, more export brands but less autonomy, relatively large sales but insufficient internal marketing innovation, as well as increased pressure from external competition and increased green trade barriers. Aiming at the above problems, it has proposed to do a good job in formulating the export transformation and upgrading development strategy, promote the leap-forward development of export processing zones, support export enterprises to carry out technological innovation, and guide enterprises to implement export combination strategies to promote the development strategy of export of electromechanical products in Liaoning. However, this article is based on qualitative analysis of reference literature in order to promote the development strategy of mechanical and electrical products in Liaoning. After that, it should further analyze the difficulties of

export of mechanical and electrical products in Liaoning Province through data and specific methods and then propose a strategy. Promote the economy of Liaoning Province by improving the export competitiveness of mechanical and electrical products in Liaoning Province.

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