

# Building a Modern Industrial System to Promote High-quality Economic Development in Zhanjiang

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**Abstract:** The modern industrial system is the material foundation and strategic focus of the socialist market economy system, and is an inherent requirement for achieving high-quality economic development. Studying and exploring how to build a modern industrial system is of great practical significance for accelerating the construction of a new development pattern and promoting high-quality economic development. This article takes Zhanjiang City, Guangdong Province as an example to summarize and extract the prominent contradictions faced by the Zhanjiang industrial system, clarify the development ideas of the modern industrial system, and propose the need to use systematic thinking to integrate new development concepts into the construction process of the modern industrial system. From expanding the economic volume, accelerating the pace of digital economy development, building a marine financial center, improving the level of opening up to the outside world, building a strong city with innovative talents, and improving regional cooperation mechanisms. Propose implementation paths for building a modern industrial system from seven aspects, including granting greater financial rights, to provide support for high-quality economic development in Zhanjiang.

**Keywords:** Modernization of the industrial system, High-quality economic development, Zhanjiang.

## 1. Introduction

The report of the 20th National Congress of the Communist Party of China proposed that "high-quality development is the primary task of comprehensively building a socialist modernized country" and "without a solid material and technological foundation, it is impossible to fully build a socialist modernized strong country". The modern industrial system is the foundation of the new development pattern, as well as the material foundation and strategic focus of the socialist market economy system. It is necessary to build a modern industrial system led by innovation and coordinated development, achieve the coordinated development of the real economy, scientific and technological innovation, modern finance, and human resources, and form a strong driving force for promoting high-quality economic development. Zhanjiang has a superior geographical location, connecting the east to the west and connecting the north and south, and holds a very important strategic position in the overall development of the entire province and the regional economic map. The CPC Guangdong Provincial Committee and the People's Government of Guangdong Province issued the Opinions on Supporting Zhanjiang to Accelerate the Construction of a Provincial Sub central City and Create an Important Development Pole of a Modern Coastal Economic Belt, proposing that Zhanjiang should firmly seize the major opportunities such as the construction of the Guangdong Hong Kong Macao Bay Area, the "two zones" of the Shenzhen Advanced Demonstration Zone of Socialism with Chinese Characteristics, the "the Belt and Road" construction, and the construction of Hainan Free Trade Port, And give Zhanjiang the "four positioning" and some provincial-level management authority to support Zhanjiang in promoting reform and opening up from a higher starting point and starting again. The economic development of Zhanjiang is currently in an important period of strategic opportunities,

while also facing many risks and challenges. How to build a modern industrial system to promote high-quality economic development has become a focus of academic attention. Therefore, this article briefly analyzes the prominent contradictions faced by the industrial system in Zhanjiang, clarifies the development ideas of the modern industrial system, and proposes the implementation path to accelerate the construction of the modern industrial system, providing support for the high-quality development of Zhanjiang's economy.

## 2. Outstanding Contradictions Faced by the Modern Industrial System in Zhanjiang

### 2.1. Small Economic Scale and Insufficient Innovation Driver

In 2022, the gross domestic product of Zhanjiang region was approximately 371.2 billion yuan, ranking second among the three cities in western Guangdong, 19.2 billion yuan less than Maoming. The economic scale gap between Zhanjiang and Maoming is increasing year by year, from 8 billion yuan in 2019 to 19.2 billion yuan in 2022. The small economic scale and weak growth have led to the unclear status of a sub central city in Zhanjiang Province, and the weak effects of economic radiation and factor resource aggregation. The fiscal revenue of Zhanjiang does not match the demand for urban development, and there is a serious shortage of investment in research and experimental development (R&D), science and technology and other fields. The material foundation for innovation is weak, and the ability to innovate independently is not strong. The support role of scientific and technological innovation in the real economy is insufficient. In 2022, the investment in research and experimental development in Zhanjiang was approximately 1.63 billion

yuan, accounting for only 0.42% of GDP. However, the investment in research and experimental development in Guangdong Province exceeded 347.99 billion yuan, accounting for 3.13% of the regional GDP. The main reasons for this are, on the one hand, a shortage of local financial funds, excessive debt, and insufficient investment in the field of science and technology; On the other hand, enterprises do not attach enough importance to basic and applied research. The number of industrial enterprises above designated size is relatively small, and the proportion of industrial enterprises with research and development activities is less than 20%. Most enterprises have not yet fully unleashed their innovation vitality. In addition, Zhanjiang is not attractive enough for high-level talents, and the local employment rate of college students trained by local scientific research institutions is relatively low. Especially under the continuous siphon effect of the Pearl River Delta region, a large number of innovative talents and capital continue to outflow, which further restricts the sustainable development of Zhanjiang's economy and society [1].

## **2.2. Unreasonable Industrial Structure and Lagging Transformation and Upgrading**

The proportion of added value in the service industry in Zhanjiang is relatively small, only 43.41% in 2022, far lower than the average level of 55.60% in Guangdong Province. The foundation of modern service industries centered on software and information technology services, finance, leasing and commercial services, scientific research and technological services is weak, especially due to insufficient modern financial services for the real economy, which has not formed an effective industrial agglomeration effect. Although Zhanjiang has gradually cultivated an industrial system centered on modern port industries, the supporting upstream and downstream enterprises and affiliated auxiliary enterprises are underdeveloped, and the phenomenon of "leading enterprises without industries" is very prominent; The number of industrial enterprises above designated size is less than 1000, and the total industrial output value is relatively small. There is a lack of national level specialized and innovative "small giant" enterprises, and the industrial development momentum is insufficient, which has a weak driving capacity for the city's economy. The proportion of total agricultural output value is relatively large, but the overall quality, efficiency, and competitiveness are particularly prominent. The agricultural and sideline food deep processing industry chain is relatively short, and there is a problem of "large but not strong". The agricultural production and operation mode urgently needs to be transformed. The industrial structure of Zhanjiang is not entirely reasonable, and the transformation and upgrading between the three industries or within each industry are significantly lagging behind. The pace of intelligent, digital, and high-end transformation and upgrading needs to be improved.

## **2.3. Low Dependence on Foreign Trade and Low Level of Opening Up to the Outside World**

In 2022, the total import and export volume of Zhanjiang's foreign trade was about 62.5 billion yuan, accounting for only 16.83% of GDP. There is still a significant gap compared to the average level of 66.48% in Guangdong Province, and it is also lower than that of Maoming and Shantou during the same

period. The role of foreign trade in driving the local economy is not strong. Export products are concentrated in the low-end links of the industrial chain, mainly traditional commodities such as aquatic products, furniture, household appliances, clothing, and clothing accessories. The overall added value is low, facing the dilemma of "low-end locking" in the industrial chain, which is not conducive to the transformation and upgrading of local industrial structure and the climb of the global value chain. In recent years, although Zhanjiang has achieved significant improvements in indicators such as the scale of foreign investment utilization and the number of newly established foreign-invested enterprises, the correlation between foreign-invested enterprises and local industries is not strong, especially the insufficient development of upstream and downstream configuration enterprises and related auxiliary enterprises, making it difficult for foreign investment to leverage the effects of technology spillover and industrial linkage development [2].

## **2.4. Regional Homogenization Competition and Lack of Coordination System**

Zhanjiang is gradually building a modern industrial system with green steel, green petrochemical, green paper, and green energy as its core. However, there is a clear structural convergence between the leading industries and the Maoming Petrochemical Industry Cluster and the Yangjiang Steel Industry Cluster, and the three cities in western Guangdong face the risk of industrial homogenization competition. At present, a high-level and institutionalized regional collaborative leadership working group has not been established in the western region of Guangdong, making it difficult to reasonably layout industries such as steel and petrochemical, effectively coordinate conflicts of interest between governments, and achieve coordinated development of industries in different cities. Although Zhanjiang has always played an important role in national and provincial planning, it is an important component of regional coordinated development. However, in terms of economic scale and quality, urban functions and public services, and the sharing of reform and development achievements, the actual development level of Zhanjiang lags behind the planned goals and has not yet been able to play the role of a regional central city. Lack of concrete and differentiated institutional mechanisms to ensure policy dividends and location advantages, making it difficult for development strategic planning to leverage policy dividends.

## **3. Thoughts on Building a Modern Industrial System in Zhanjiang**

Concept is the precursor of action, and the construction of a modern industrial system should be guided by the new development concept [3]. The new development concept should be integrated into the process of building a modern industrial system, where innovation is the core driving force, coordination is the endogenous characteristic, green is the universal form, openness is the necessary path, and shared benefits are the fundamental goals. The modern industrial system guided by the new development concept has the following characteristics: the focus of industrial development is shifting towards the information industry, intelligent industry, and knowledge industry; Industrial intelligence and digitization have become new trends in industrial development; Industrial clustering and integration have

become new features of industrial development. Therefore, in order to build a modern industrial system in Zhanjiang, the following two basic ideas need to be followed: firstly, to adhere to specific analysis of specific problems and propose targeted measures based on the prominent contradictions in the Zhanjiang industrial system; Secondly, it is necessary to implement the new development concept, integrate industrial intelligence and digitization into the construction of modern industrial systems, actively integrate into the international industrial division of labor system, and continuously improve the quality and efficiency of modern industrial systems [4].

## **4. The Implementation Path of Accelerating the Construction of a Modern Industrial System in Zhanjiang**

### **4.1. Relying on Important Resources of Major Projects to Expand the Economic Volume**

Focusing on accelerating the construction of major industrial projects such as BASF (Guangdong) integration, China Science and Technology Refining and Chemical Integration, Baosteel Zhanjiang Iron and Steel, and Lianjiang Clean Energy. We should create a world-class green petrochemical industry cluster, special steel industry base, and clean energy development base, leverage the gathering function of major projects, and cultivate supporting upstream and downstream enterprises and affiliated auxiliary enterprises. One is to seize the opportunity for major projects to settle down, build the entire industrial chain, and create a port industry cluster. Relying on the advantages of the refining and chemical industry, we will form a complete oil industry chain in South China, with a focus on building a complete oil industry chain that integrates crude oil trade, storage and transportation, oil processing, sales, and bonded fuel oil. Build an international trading center for energy commodities primarily focused on oil, and plan to establish a national strategic platform for oil futures delivery. Relying on the integrated projects of China Science and Technology Refining and BASF (Guangdong), we aim to create a highland for fine chemical industry; Relying on Baosteel Zhanjiang Steel's national strategic platform for planning iron ore futures delivery, we will drive the development of steel trade, steel finance, and logistics industries. The second is to rely on the resources of deep water ports, connect with the Guangdong Hong Kong Macao Greater Bay Area and the Hainan Free Trade Port, and drive the formation of a large port and logistics pattern. Enhance the throughput capacity of Zhanjiang Port and actively introduce various bulk cargo transfer projects at the port; Developing port related industries and accelerating the construction of modern logistics industry centered around ports and warehousing; Deeply participate in the construction of the new land sea channel in the western region, and achieve the channel's logistics, economic and trade, and industry development. Third, relying on the unique advantages of Hainan Free Trade Port expansion and comprehensive bonded zone, seize the development opportunity of RCEP, actively integrate into the "the Belt and Road" strategy, target the emerging economies of ASEAN, and develop intelligent manufacturing and cross-border e-commerce industries. Fourthly, relying on the unique advantages of coastal tourism resources and seafood resources, we will promote the high-quality development of

the tourism industry and enhance the brand reputation of coastal tourism destinations in southern China.

### **4.2. Accelerate the Development of the Digital Economy and Promote the Intelligent Transformation of Industries**

Utilize the new generation of modern information technology to comprehensively, comprehensively, and comprehensively transform various industries, promoting the integration of informatization and industrialization; Encourage data-driven enterprises such as the Internet and artificial intelligence to accelerate their penetration into traditional industries and promote the digital and intelligent transformation of industries. One is to accelerate the construction of new infrastructure, comprehensively strengthen digital empowerment, and cultivate new industries, formats, and models. Accelerate the construction process of the "Guangdong Western Digital Valley" big data industrial park and create a new highland for the big data industry in western Guangdong. Using the "Guangdong Western Digital Valley" as an important carrier, it carries data services in the northern Gulf region of Zhanjiang, Maoming, Yangjiang, Hainan, and other regions. It aims to create data centers and computing power carriers such as 5G networks, industrial internet, cloud computing, and artificial intelligence, and gradually transform the "Guangdong Western Digital Valley" into a big data information industrial park that integrates "government industry, academia, and research". Plan to layout the entry of upstream, midstream, and downstream enterprises in the big data industry chain, cultivate and develop new generation communication technology information services, software development, telecommunications value-added services, and other software and information technology service industries, create a digital industry innovation and development cluster highland, and form a big data information industry cluster area oriented towards western Guangdong, Hainan Free Trade Port, Beibu Gulf urban agglomeration, and other regions. The second is to accelerate the integration and development of internet, big data, artificial intelligence technology and traditional advantageous industries. Introduce emerging digital technologies to digitize the production process, management mode, and business model of traditional advantageous industries in Zhanjiang, such as agricultural and sideline food processing industry, traditional household appliances, and light industry and textile industry. Thirdly, we will vigorously develop strategic emerging industries. Relying on the existing manufacturing foundation in Zhanjiang, we aim to cultivate the biopharmaceutical, advanced equipment manufacturing, and new generation electronic information industries. Taking advantage of the opportunity of comprehensive docking and deep cooperation between Guangzhou and Zhanjiang, we actively undertake the electronic information manufacturing industry in Guangzhou, improve the upstream and downstream industrial chain, and improve the local supporting level of components. Encourage local enterprises to develop upstream and downstream supporting equipment, logistics, and cold chain equipment for traditional industries. Key development areas include port machinery, marine monitoring and detection equipment, offshore energy equipment, offshore aquaculture and processing equipment, as well as upstream and downstream supporting equipment for steel, chemical, and oil and gas processing. Building an offshore wind power equipment R&D and manufacturing

base based on the "Development of Offshore Floating Wind Power Equipment" project. Introduce high-end marine engineering equipment production enterprises, promote the transformation and upgrading of the marine oil and gas production equipment manufacturing industry, and create a marine engineering equipment industry with Zhanjiang characteristics.

### **4.3. Actively Integrating into International Division of Labor and Improving the Level of Opening Up to the Outside World**

In the new round of opening up, Zhanjiang should take the initiative to become an important platform in the new pattern of Guangdong's comprehensive opening up, make preparations for inclusion in the new area of Guangdong's free trade, become a new highland of opening up that leads the surrounding areas, integrates into the Guangdong Hong Kong Macao Greater Bay Area, docks with the Hainan Free Trade Port, and integrates into the "the Belt and Road", and become an important platform and new highlight of Guangdong's overall opening up pattern. Firstly, accelerate the construction of Zhanjiang Comprehensive Bonded Zone. Fully leverage the unique policy advantages of the Comprehensive Bonded Zone, further innovate customs clearance modes, improve customs clearance efficiency, and build the Zhanjiang Comprehensive Bonded Zone into a processing and manufacturing center, research and development design center, logistics distribution center, testing and maintenance center, and sales service center with regional influence. Secondly, taking advantage of the favorable opportunity of Zhanjiang's accession to the Guangdong Pilot Free Trade Zone, we will improve the allocation of upstream and downstream enterprises and related auxiliary enterprises, fully leverage the technology spillover and industrial linkage effects of foreign investment introduction in the pilot free trade zone on the high-quality development of Zhanjiang's industries, further form a joint force in the construction of the pilot free trade zone, and promote the high-quality development of Zhanjiang's three industries. For example, Xiashan District focuses on developing container transportation, aquatic product processing, and port logistics industries, as well as high-tech industries, and utilizes special customs supervision areas to develop bonded logistics, bonded processing, and bonded service businesses.

### **4.4. Build a Marine Financial Center and Strengthen Regional Radiation Power**

Fully utilize the advantages of Zhanjiang's marine economy and location, strive for policy support at all levels, actively build a regional marine financial center, improve the ability of modern finance to serve the real economy, and strengthen regional radiation. First, strive to establish a regional financial headquarters of the Asian Infrastructure Investment Bank, the the Silk Road Fund, and the China ASEAN Special Infrastructure Loan in Zhanjiang, build an international financial hub, develop characteristic financial industries, promote financial market connectivity, and provide financing services for countries along the "the Belt and Road". The second is to strive for policy oriented marine financial institutions to settle in Zhanjiang, specifically responsible for relevant marine financial businesses, develop professional marine financial execution plans, and provide financial support for the development of marine finance in countries along the Maritime Silk Road. Thirdly, we will

vigorously build a marine financial ecosystem and leverage the agglomeration effect of marine finance. Actively strive for policy support from superiors, attract marine financial institutions to settle in Zhanjiang through fiscal subsidies and tax incentives, and enable financial institutions such as banks, securities, trusts, and insurance to gather with marine enterprises. At the same time, use preferential policies to attract professional talents and build a diversified marine financial ecosystem. The fourth is to build a financial cooperation platform, promote communication and cooperation between Zhanjiang and the Guangdong Hong Kong Macao Greater Bay Area, actively participate in the construction of regional marine financial centers, relax the admission conditions for financial institutions from Guangdong, Hong Kong and Macao to settle in Zhanjiang, encourage Guangdong, Hong Kong and Macao to establish joint ventures in Zhanjiang, and actively undertake the transfer of funds and technology in the marine industry from Guangdong, Hong Kong and Macao.

### **4.5. Implement Talent Development Strategy and Build a Strong City with Innovative Talents**

Focusing on the talent needs of Zhanjiang City, leveraging the advantages of talent resources in Zhanjiang universities, comprehensively implementing the talent priority development strategy, and building a strong city with innovative talents. One is to vigorously introduce and cultivate innovative talents. Strengthen the prediction and planning of scarce and high-level talents, and regularly compile and publish professional catalogs for talent introduction. Focusing on the strategic pillar industries of advanced materials, green petrochemicals, biopharmaceuticals and health, modern agriculture and food industry, we will focus on introducing innovative and entrepreneurial teams with technology and projects, attracting and gathering a group of high-level talents with high professional literacy and rich work experience, and mastering advanced science and technology. Deeply implement the talent introduction method of "enterprise demand+talent support provided by universities and institutions+government support", relying on national key talent projects and projects such as the "Guangdong Special Support Plan", "Sailing Plan", and "Navigation Plan", and explore innovative talent "flexible employment" methods. The second is to improve the level of innovative talent service management. Improve the public service system for government talents and build a "one-stop" service platform for high-level talents; Implement preferential policies such as housing purchase subsidies, rental subsidies, or renting talent apartments for high-level talents, and properly solve the housing problem of high-level talents for innovation and entrepreneurship. The third is to improve the talent evaluation and incentive mechanism. Establish a multi-level talent reward system guided by government rewards, with unit rewards as the main body, and supplemented by social rewards; Improve the talent classification and evaluation system, establish a sound government guided and market led innovation and entrepreneurship talent evaluation system, improve talent evaluation methods, and actively explore third-party professional institutions to evaluate talent mechanisms.

#### **4.6. Strengthen Regional Cooperation and Innovate Collaborative Development Mechanisms**

High quality economic development requires strengthening regional cooperation, breaking the situation of fragmented and low-level redundant construction, and forming a regional industrial spatial layout with reasonable industrial structure and balanced factor allocation based on reasonable division of labor. One is to improve the regional industry coordination mechanism and strengthen dialogue and communication. The three cities in western Guangdong are both cities in the Guangdong coastal economic zone, and have comparative advantages in port industries, coastal tourism, and other aspects. To avoid homogeneous competition in regional industrial structure, the three cities in western Guangdong should improve the regional coordination and dialogue mechanism. For example, establish a leading group for the development of the western Guangdong coastal economic belt, consisting of party and government leaders from the three cities in western Guangdong and leaders from provincial competent departments. The group regularly exchanges opinions, strengthens the top-level design of regional industrial layout, focuses on the division of labor within the port industry area, and leads the industry chain in a long and detailed manner. The second is to strengthen cooperation in infrastructure construction between Zhanjiang and Maoyang, with a focus on using Zhanjiang Port and Wuchuan Airport as hubs, strengthening the coordinated development of the western Guangdong port group, and building a national comprehensive three-dimensional transportation hub with interconnectivity of railways, highways, waterways, and seaports.

#### **4.7. Granting Greater Financial Power to Enhance Development Momentum**

Actively strive for greater financial rights from the province and enhance development momentum. We can refer to the practice of constructing provincial sub central cities in Jiangsu and Zhejiang, adopt differentiated tax retention ratios based on different tax projects, development periods, or investment projects, improve relevant institutional mechanisms, and strive for more urban construction funds.

For example, dividing the provincial share tax into parts and retaining them in Zhanjiang; Retain the tax revenue rights of resident central enterprises and large state-owned enterprises in Zhanjiang; Provide the power of "one matter, one discussion" for local taxation of major projects; Grant tax management authority to the territory of Zhanjiang, manage, collect, and share taxes on railway transportation, national postal services, state-owned banks, and offshore oil and gas enterprises, and increase Zhanjiang's fiscal revenue. In addition, seizing the opportunity for coordinated regional development in Guangdong Province, actively seeking special funds and financial transfer payment funds from the province, and assisting the high-quality development of Zhanjiang.

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