

# New Ideas on Regional Economic Development and Industrial Transformation Under "Jinjiang Experience"

A New Logistics Model Based on the Establishment of Three-port Linkage\*

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**Abstract**—In 2002, Xi Jinping, the secretary of the Fujian Provincial Party Committee, investigated the Jinjiang River seven times and summed up the "Jinjiang Experience" that reflected the laws governing the economic development of Jinjiang. As the top ten of China's top 100 counties and cities, Jinjiang's development in real economy has become a model for learning everywhere. The logistics industry is the artery of economic development, promotes the deep integration of Jinjiang logistics industry, and explores the new mode of combining multiple nodes of Jinjiang logistics to help the rapid development of Jinjiang's real economy and the transformation and upgrading of the industry. It is the goal of this research activity to conduct field research to explore the problems existing in Jinjiang logistics industry and propose practical suggestions for building a "three-port linkage" logistics model. The new model of "three-port linkage" is based on Jinjiang's rich logistics resources and strong logistics needs, and is based on local logistics information construction. This model is based on multimodal transport and the highway port and land port are extended as nodes of the coastal port in the inland to realize the organic combination of various functions and transportation modes.

**Keywords**—*Jinjiang experience; three-port linkage; Jinjiang*

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*regional research*

## I. INTRODUCTION

Jinjiang is located on the southeastern coast of Fujian, southeast of Quanzhou, the south bank of the lower reaches of Chin River. Jinjiang has a coastline of 121 km long, land area of 649 square kilometers and sea area of 6345 square kilometers. Jinjiang's location advantage is obvious, and it is also a North-south transport hub. Jinjiang is an integration of Minnan Golden Triangle Economic open area and the national famous hometown of overseas Chinese. Since the reform and opening up, Jinjiang's economy maintains in sustainable development, 2017 Jinjiang's production value reaches 198.15 billion yuan and the annual growth rate is at 8.2%, ranked top in counties all over China. The third industry is developing rapidly, with annual growth rate exceeding 11%, and self-owned exports reaching 48.043 billion yuan and annual growth rate reaching 2.9%. As the brand capital, Jinjiang private entity economy developed in recent years has been the development of anta, septwolves, 361sport, k-boxing and other well-known domestic and foreign footwear business, product trade active inside and outside, logistics resources and Rich. In addition to the perfect road and rail transport network, Jinjiang has a harbor — two ports, six berths for the 100,000-ton freighter, and the construction of Logistics park including highway and land port, Prologis Logistics Park At the same time Jinjiang to promote the Internet + Logistics Platform construction, and

actively develop the fourth party logistics enterprise development, including the Dragon easy to match the provincial non-vehicle carrier Enterprise pilot Unit Two. At the same time, there are many problems in the development of Jinjiang Logistics industry, including: many logistics channels but not strong; the airport cargo throughput capacity cannot meet the growing demand for Logistics.

The purpose of this research activity is to explore the possibility of constructing a new model of "three ports linkage". The research activities are targeted at Jinjiang trade bureau, traffic bureau, Fujian Land port and Jinjiang Road port, as well as many private logistics enterprises and entities in Jinjiang. The reasons for selecting the above research objects are as follows: first, in strict accordance with Xi Jinping's "Jinjiang experience" in the "always adhere to the development of social productivity as the fundamental direction of reform and development," the study of Jinjiang logistics industry development of some problems and propose solutions for the Jinjiang economic development and industrial transformation and upgrade to provide a new growth momentum; in principle of "always adhere to the market-oriented development of economy", in full understanding of the Jinjiang shoe industry and other entities of private economy developed under the circumstances of the study how to reduce the social logistics costs, for the development of market economy and Jinjiang real economy to the domestic and international escort; third, follow the "Always adhere to strengthen the government's guidance and service to the market economy" and "to deal with the development of market economy and the construction of a new type of service-oriented government" principle, select the government departments and logistics industry development closely related to the Trade and Transport Bureau to carry out research, for the government departments to better serve the economic development of the suggestions; to deal with the development of small and medium-sized enterprises and the relationship between the "principle, targeted selection of Jinjiang Land Port Group and Jinjiang Road port, Dragon Yi and seven wolves, and other enterprises, for Jinjiang to cultivate industry leading enterprises to provide practical advice.

## II. RESEARCH BACKGROUND

Highway port is the advanced form of logistics park. Different from ordinary logistics park, highway port plays a key role in the whole land, sea and air logistics network. It has the functions of transformation and integration of different transportation modes, unified dispatching and optimization capability, and information exchange function. Jinjiang Chuanhua Highway Port Project is located in Jinjiang City Modern Logistics Park, with a total planning of 500 mu, one phase planning 260 mu, the second phase planning 240 mu. The first phase plans to construct information trading center, intelligent car source center, three production matching center and other functional blocks. The second phase plans to construct e-commerce operations center, smart car source center, freight shuttle center, and so on. Jinjiang Highway Port Project, a comprehensive public logistics platform based on Jinjiang, Quanzhou and radiation Hercynian, relying on highway logistics, integrating various

logistics resources, including logistics information, facilities and equipment, small and medium-sized logistics enterprises, and other related social resources. In order to provide logistics service for the society and with the aid of the coordinated effect of the national network of the highway port, we are committed to creating the comprehensive logistics hub of the Hercynian economic circle, which is characterized by "gathering the most resources, the best service function and the best trading environment". In addition, Jinjiang Highway Port takes advantage of the online and offline linkage platform, through the Internet, cloud computing and other information technology, cloud vehicles, cloud logistics as the core business, member center, mobile APP Mobile payment is based on three main functions: vehicle and goods transaction, information release, credit authentication, online payment, operation management, mobile social communication and other functional modules, such as Fujian Chuanhua logistics trading platform. Jinjiang Highway Port, relying on the pilot qualification of non-vehicular carriers, has carried out the promotion of logistics information trading platforms throughout the province, basically realizing more than 80% information coverage in Quanzhou, Fuzhou and other prefectures, developing 82185 effective member vehicles, and 4998 logistics operators. The total number of transactions was 180000, the delivery time was shortened from 72 hours to an average of 6 hours, the cost of logistics was reduced by nearly 40 percent, and the turnover rate of goods was increased by 30 percent. Over nearly a year of pilot operation, Jinjiang Highway Port completed logistics transport business turnover of 120 million yuan in 2017. As of June 2018, non-car carriers had turnover of more than 14 million yuan and are expected to reach 300 million yuan in 2018. Jinjiang Highway Port was built and put into use to perfect Jinjiang city logistics network system, which laid the foundation for Jinjiang to build a new mode of "three ports linkage" with land port, highway port and harbour as the main body.

Land ports, also known as waterless ports, are not only large container logistics sites of a large scale and a hub nature and the space and specific operation of multimodal transport channel nodes, but also provide added value for international trade. Regional logistics center for logistics and supply chain services. Jinjiang Terrestrial Port is a project invested by Fujian Terrestrial Port Group in 2009. The planned area of the project is 2500 mu and the planned investment is 7 billion Yuan, which has created a model for private enterprises to build a public service platform. At present, the Jinjiang land port has rapidly developed into the second largest inland port in the country. Jinjiang inland port adopt empty box front in operation flow, dump and hang transportation, cross-border e-commerce business Cabinet and other means of innovation, greatly improve the efficiency of logistics. At the same time, there are five major functional areas for planning and construction of the Jinjiang land port, including the customs clearance supervision area, the public service area, the comprehensive bonded area, the commercial supporting area and the purchasing and trading area. The initial planning and construction area of 750 mu has realized the coastal port function. Meanwhile, supporting bonded logistics services, the first and the second phase of

the construction has an international express supervision center, cold chain logistics, cross-border e-commerce, land port purchase, cross-border transportation and other projects, mainly to improve integrated logistics services. The second phase planning area is 800 mu, construction of a comprehensive bonded zone, to meet the needs of the surrounding industries for foreign trade bonded logistics and value-added processing services. The third phase planning area is 1000 mu, relying on the advantages of combining the customs clearance function and the bonded function of Hong Kong with each other, focusing on the planning and development of the import raw materials trading market and the import fast moving consumer goods trading market, the Taiwan trade market and other projects, through the integration of port logistics, supply chain finance, Cross-border e-commerce, professional trading market as one of the four functions, to provide logistics and financial integration services, explore innovative bonded financing mode, create a logistics supply chain integrated service platform. As an important platform for the construction of "Haisi" advance area in Quanzhou, Jinjiang Terrestrial Port is actively applying for multimodal transport pilot projects. It is actively expanding the function of "virtual airport" and landing the city cargo terminal project, which can realize the airport. This project also lays the foundation and provides reference for the three ports.

Quanzhou Port is called "Cutong Port" in ancient times, which is the starting point of the ancient China Sea Silk Road and is known as "the largest port in the East". Quanzhou Port is located in the southeast of Quanzhou City, the lower reaches of the Jinjiang River, north to Quanzhou Meizhou Bay Neiao, south to Quanzhou Weitou Bay Tongan District, Lianhe River, the port resources are superior, the total length of the coastline is 541 kilometers, the size of the island 208, It is one of the three major ports in Fujian Province, with 113.7 km of natural shore lines, including 57.2 km of deepwater shoreline. Quanzhou Port was famous in the history of 16 ports in Siwan, and has also developed Shao Cuo Deepwater Port in Meizhou Bay. Quanzhou has four coves, five ports and sixteen ports Each operation area, namely: Xiaocuo Port area in the West Bank of Meizhou Bay and Dou Wei Port in the South Bank; Chongwu Port in the northeast of Quanzhou Bay and Xiutu Port in Quanzhou Bay Port area, Chaojiang Port, Shihu Port, Inner Port, Houzhu Port, Hua Jin Port; Xiangzhi Port in Shenghu Bay Port; Yongning Port, Shenghu Port; Weitou Port, Waterhead Port, Jinjing Port, Dongshi Port, an Harbour, Shijing Port, etc. By the end of 2015, Quanzhou Port had 92 berths for productive wharves, of which 25 were deep-water berths above 10,000 tons (including 300,000 tons, 2 tons, 4 tons, 50, 000 tons, 8, 10, 000 tons, 11), and the port capacity reached 1.1986 million tons, including container passing capacity of 1.23 million TEU. More than 130 shipping routes and 76 container routes have been opened in Hong Kong with 30 countries and regions in the world.

At present, there are 115 registered transport enterprises in Jinjiang, with a total tonnage of 103531.21 tons and a total of 22299 cargo vehicles. The transportation infrastructure is gradually improved, the industrial scale is growing rapidly,

and the level of logistics has improved significantly. However, the logistics industry of Jinjiang still has the following main problems: the logistics channels are diverse but not strong, the throughput of Jinjiang airport is saturated, every eight minutes take off and land, which cannot fully meet the demand of cargo transportation; The logistics enterprise starts early but the scale is small; the logistics enterprise information and modernization level is low; the logistics circulation link is not smooth, the logistics cost is high, the efficiency is low; the logistics park cannot reach The expected effect is that Jinjiang's internal and external trade mostly adopts the way of bulk goods, the scattered freight is less, and the mode of highway port operation does not accord with the present situation of Jinjiang and so on.

Jinjiang traditional transportation industry is transforming to modern logistics industry, accelerating the development of logistics information. The intelligent information dispatching system such as Lu whale, barter and so on, and the information platform of Minyunxing logistics company "long Yi match", providing the information platform choice for Jinjiang logistics enterprises. Among them, the carrier without vehicles in the highway port relies on the information platforms such as land whale, barter and so on. At present, more than 80% of the information departments in Quanzhou, Fuzhou, Longyan and other prefectures have been covered by the information department. The number of effective vehicle members is 82185, and the number of logistics operators is 4998. Total transaction rate of 180000 times, refreshing 30% turnover rate of goods. These information platforms can provide reliable technical support for the "three ports linkage".

### III. RESEARCH STATUS

In recent years, the economic problems of port and hinterland have become the hot spot of scholars at home and abroad, and some experts and scholars have also studied the problem of cooperation and linkage between ports or the mode of land port. For example, in 2017, Li Daqing et al studied the relationship between port logistics and urban coordinated development in Liaoning Province under the environment of "The Belt & Road" by investigating the data of total import and export of commodities and port cargo throughput of major port cities in Liaoning Province in 2017. Yang Liuxing [2] takes Lianyungang port as an object to study the impact of seaports on hinterland based on the VAR model; Zhu Yong [3] on Taizhou City 1995 from the angle of co-integration analysis and Granger causality The regional gross domestic product (GDP) and port cargo throughput have been studied in recent years; Shi Danlu [4] and others have studied the development problems and countermeasures of Fujian's land ports; Liu Qiong [5] and others have preliminarily explored the mode of linkage development between waterless ports and coastal ports; Liu Ranxin [6] carries on the research to the inland waterless port and the coastal port linkage development and proposes the policy, the function, the information linkage pattern; Zhong Ming [7] used the coordination theory to construct the coordination degree model between port and city economy, and based on the model to evaluate the degree of Dalian port logistics and city economy coordinated development. Wang Xing made an

analysis on the interaction between Humen Port and the Economic Development of Dongguan City by using SPSS Software. Most scholars pay more attention to the study of port problem or the interaction between port and regional economy, and seldom study the interaction between port and urban logistics node in hinterland. Therefore, this paper puts forward the cooperative mode of linking port and urban logistics node in hinterland by combining the field investigation of Jinjiang to provide theoretical reference for reducing logistics cost and promoting port logistics to become a new driving force for economic development in hinterland. In order to speed up the circulation speed of Jinjiang enterprises, improve the logistics efficiency and reduce the logistics cost, the cooperative logistics model is constructed in combination with the field investigation in Jinjiang.

In the field of land port research, most experts and scholars take Fujian land port as the main object of study, including Wang Ying [9] and others, who study the countermeasures for the development of Fujian land port based on the strategic perspective of promoting "The Belt & Road". To provide decision support for Fujian Province in constructing the "Maritime Silk Road" hub area, she provided new ideas for the development of land ports from the aspects of strengthening cooperation among the four continents of Fujian Province and increasing government policy support. At the same time, she constructed factor analysis model to evaluate the competitiveness of Sanming Terrestrial Port, and put forward corresponding countermeasures and suggestions for the development of Sanming Terrestrial Port. Chen Qian [10] et al, through the Construction of Internet of things based on the information linkage model of waterless port and coastal port, the problem of resource and information sharing between waterless port and coastal port is studied systematically, and the technology of Internet of things is introduced in the field of land port research. Cai Yufeng [11] has mainly analyzed the present situation and existing problems of the development of waterless ports in China and analyzed the feasibility of the linkage development between waterless ports and coastal ports. Hong Wenzhe [12] makes a concrete analysis of the development mode and present situation of Jinjiang Terrestrial Port in Quanzhou on the basis of practice and puts forward some suggestions for the development of such projects as "making good plans ahead of time and developing cold chain logistics".

The problems studied in this study aim at how to reduce the cost of logistics and transportation in Jinjiang, and realize a new mode of linkage between three ports by strengthening the information sharing and interaction among coastal ports, land ports and highway ports. The advantages of the new model lie in the combination of internal and external trade, the combination of multiple modes of transport and the combination of multiple logistics nodes, and to expand the coverage of the port.

#### IV. RESEARCH PROBLEM ANALYSIS

In this research activity, the team visited Jinjiang commerce and trade bureau, transportation bureau, land port,

highway port and other related departments and enterprises. According to different natures, the research objects are divided into three main bodies: government departments, ports and enterprises. The development difficulties faced by all the subjects in the research process are respectively expounded.

##### *A. Difficulties Faced by Government Departments*

At present, the government is transforming its functions, streamlining administration and delegating power to let the market play a role in the development of the industry. Research in Jinjiang city business bureau and transportation bureau and other government departments, which is closely related to the logistics industry, we conclude that some current problems faced by Jinjiang municipal government departments in the development of Jinjiang logistics industry mainly include the following aspects: firstly, there have many small and medium-sized logistics enterprises but less large leading enterprises, loosely organized, and a variety of ways combined transport is difficult and exchange information sharing is difficult; secondly, the logistics industry lacks cohesiveness and there is no guidance from logistics associations; thirdly, while government departments change their functions to guide the development of the market, there is a lack of effective non-governmental organizations to assist the government in promoting the healthy and orderly development of the logistics industry. fourthly, in the aspect of cold chain logistics, the small freezer that does not meet the standard is too crowded to occupy the market, the market is not mature, and the government's policy guidance is not obvious; fifthly, low level of logistics standardization; sixthly, in terms of the taxation problem of the logistics industry, most logistics enterprises mainly focus on special line transportation and cross-regional logistics. The unclear definition of the scope of taxation results in the difficulty of the government in the taxation of the logistics industry and the existence of corporate tax evasion. Based on the investigation of Jinjiang commerce and trade bureau and transportation bureau, it can be seen that government departments have made efforts to transform their functions and guide the orderly development of the logistics market in the development process of the logistics industry, but the results are not significant.

##### *B. Difficulties Faced by the Port*

In the main port, it mainly includes Jinjiang land port, Jinjiang highway port and coastal port (mainly Quanzhou port and Xiamen port). Due to its geographical location and advantages in industrial development, nearly 40% of goods in Xiamen port come from Jinjiang River. Therefore, coastal ports not only include Quanzhou port but also include Xiamen port.

In the process of investigating Jinjiang land port, we can find that: Firstly, the continuous loss of cold chain logistics project, slow standardization construction of cold storage project of land port; Secondly with the rapid development of air ports, the development pressure of seaports and land ports is increasing. Thirdly, the railway connecting with the land port is less, which hinders the further development of the land port. In the process of investigating the transference



highway port of Jinjiang, we can find that the information platform of transference highway port is perfect, but it also becomes the obstacle of expanding the supply of the transference highway port of Jinjiang. At the same time, the information construction of highway port needs more logistics talents. The shortage of logistics network inhibits the effectiveness of information platform. At present, the main problem facing ports is that competition between ports is intensified due to the similarity of port functions and the cooperation degree between ports and regional economy is not high.

### *C. Difficulties Faced by Enterprises*

In the process of investigating logistics enterprises such as minyunxing and so on, there are mainly the following problems: firstly, a single logistics enterprise has limited goods information resources and low efficiency in different logistics links; secondly, the logistics cost is too high, and the logistics enterprise profit is less; thirdly, Jinjiang logistics starts early and develops slowly, most logistics enterprises are small and loosely organized, and the industry lacks leading enterprises.

## V. FEASIBILITY ANALYSIS OF LINKAGE MODE

It can be seen from the difficulties in the development of different logistics bodies mentioned above that Jinjiang logistics has huge development space and also faces numerous development difficulties. In the face of the problem of how to reduce the cost of logistics in Jinjiang and protect the economy of Jinjiang, the realization of "three ports linkage", that is to strengthen the linkage cooperation between Jinjiang road port, Jinjiang land port and coastal port, is a way to solve the current problems of Jinjiang logistics. In Jinjiang city logistics new mode, the "three joint" includes the government, the port and logistics companies and three kinds of main body, the relationship between them through online and offline interactions, online interaction is mainly through the port and enterprise, and information exchange between the ports of the implementation, and build information platform offline interaction including logistics resources sharing, network, service and so on. In the new mode of "linkage between three ports and three ports", the linkage among the main bodies includes functional linkage, information operation linkage, planning linkage and supervision linkage. The following will elaborate the feasibility of realizing the "three port linkage" mode of Jinjiang logistics.

### *A. Policy Support*

With the rapid development of domestic economy, reducing logistics cost becomes a bottleneck of economic development. The government has gradually realized the importance of developing the logistics industry, and has issued a number of documents to promote the development of the logistics industry. In 2017, the general office of the state council have issued "about further advance logistics efficiency of authors opinion to promote the development of the real economy" and " a new generation of artificial intelligence development planning" and other multiple file policy, put forward the development of intelligent logistics, promote the industrial automation, create a good

development of logistics industry in the environment, enhance the level of logistics industry development, promote the development of the real economy. In November 2017, the country's postal service and ten departments jointly issued the "on the green packaging. We express industry work guidance", clearly express industry during the "much starker choices-and graver consequences-in green packaging work to achieve three main goals: green and recycled, recyclable achieved significant effect, the level of scientific and technological innovation and application has been greatly improved, and the governance system has been improved day by day. In addition, the Fujian province in recent years also have issued the "maritime silk route in the 21st century core construction plan of Fujian province", "Fujian province to promote the coordinated development of e-commerce and express logistics implementation plan", "speed up the logistics park development in Fujian province to promote the logistics industry supply side structural reform guidance", and a series of policy documents, and strive to promote the transformation and upgrading of logistics industry in Fujian, mass transfer efficiency, for the economic development of Fujian province and the construction core "maritime silk road" to provide policy support. In addition, Quanzhou promulgated the "development plan for Quanzhou to build the maritime silk road" and Jinjiang city issued the "action plan for Jinjiang city to promote the development of logistics industry", "the Jinjiang city people's government notice about four measures to promote the development of logistics industry" reflected at all levels of government attention to the development of logistics industry, This series of documents and policies also provide policy support for promoting the development of Jinjiang logistics industry and building the "three-port linkage" logistics mode.

### *B. Technical Basis*

To explore the feasibility of the new logistics mode of "three port linkage", we must base on the existing technology level. With the improvement of logistics informationization level, the feasibility of the new logistics model must depend on the existing technology level. With the improvement of the level of logistics informatization, Jinjiang logistics enterprises successively set up their own logistics information platforms, including longyi distribution information platform developed by Fujian yunxing logistics co., ltd. and Lugang communication information platform developed by Jinjiang land port. Carrie city distribution platform for the construction of logistics companies such as wal-mart chain retail enterprises, provide quick delivery service, etc. In addition, based on the information platforms such as land whale and barter di, the vehicle-free carrier service of Jinjiang communication highway port can basically cover more than 80% of the information departments in Quanzhou, Fuzhou and Longyan, etc. The number of effective vehicle members is 82185, and the number of logistics business is 4998. The total number of transactions is 180,000 times, and the cargo turnover rate is increased by 30%. Different logistics information platforms independently developed by various companies provide a solid information technology foundation for realizing the "three-port linkage" mode, but the independence of each

other has also become a major problem to realize information exchange and sharing.

### *C. Cooperation Requirements*

The advantages and difficulties of the main bodies in the "three ports linkage" mode are concluded according to the practical investigation and research. The realization of "three ports linkage" logistics mode can effectively solve these difficulties.

From the perspective of objective environment, Jinjiang city is dominated by export-oriented economy, and the logistics transportation of bulk goods is different from the current road port of Jinjiang river and many logistics enterprises, which are mainly scattered goods transportation. Jinjiang land port is dominated by international logistics, while Jinjiang road port is dominated by domestic logistics. There is no direct competition between the two, which provides objective conditions for the construction of "three ports linkage" and the realization of port linkage cooperation. In addition, the Jinjiang transshipment highway port and Jinjiang land port are all operated by private enterprises, which respectively use independent logistics information platforms, and have the possibility of realizing information exchange and information sharing cooperation with each other.

From the perspective of the government, Jinjiang city, as one of the top 100 counties in China, had a GDP of 19.815 billion yuan in 2017, and the private real economy developed rapidly. A large number of brand shoe and clothing enterprises, mainly in the import and export trade of bulk goods, generate a large number of logistics services. At the same time, Jinjiang city is located at the junction of various transportation modes, and has rich logistics resources including Jinjiang airport, Jinjiang land port, coastal port, Ploss logistics park and Chuanhua road port. However, at present, the logistics development of Jinjiang city is short of overall planning, various departments are not coordinated in the implementation process, and the problems of tax collection in the logistics industry, logistics organization and layout are not reasonable, and the problems are not solved from the root. Most logistics cluster areas are self-built and self-used logistics parks by enterprises. The parks are relatively isolated from each other and lack of connectivity. The clustering effect of the parks is weak and it is difficult to put in place the guidance of the government. In addition, the problems of "many, small, scattered and weak" of Jinjiang logistics enterprises are prominent. Most of the logistics enterprises are difficult to play the leading role of radiation, which also makes it difficult for the government to guide and supervise the development of the logistics market. A new mode of "three ports linkage" can help reduce logistics cost, strengthen the synergistic linkage effect between Jinjiang logistics park, connect many small and medium-sized logistics enterprises, and improve the utilization rate of Jinjiang logistics resources.

From coastal port level, Fuzhou port, port of Quanzhou and Xiamen are domestic large cargo throughput port, the port infrastructure construction is relatively perfect, between

each other because of the geographical position close to compete and hinterland sourcing co., LTD., through the construction of "three joint" logistics mode can increase some goods source, enlarge the scope of supply of port, improve the efficiency of port operation, for the construction of Fujian province to contribute to the "core" maritime silk road.

From the perspective of Jinjiang land port, Jinjiang land port has now developed into the second largest land port in China, undertaking nearly 40% of the cargo clearance tasks of Xiamen port and becoming a model for private enterprises to build public service platform. However, the radiation range of land port is within 150km. By establishing the "three ports linked" logistics mode, network resources and information resources of road port and other logistics enterprises can be utilized to expand the radiation range of land port.

From the perspective of Jinjiang transmission-highway port, the information platform of transmission-highway port is perfect, but it is mostly carried with a few cargoes. For Jinjiang city, the multi-bulk cargo transportation integrates the information resources and vehicle resources of the transmission highway port with the transportation resources of the land port, and realizes the common development of the highway port, land port and seaport while reducing the transportation cost of the enterprise.

Based on the above analysis of the advantages and disadvantages of each subject in the "three ports linkage" mode, it can be seen that the construction of the three ports linkage can realize government regulation, resource integration and advantage complementation of port, land port, highway port and logistics enterprise operation, and provide new ideas for solving their development problems.

## VI. MODEL STRUCTURE

Constructing Jinjiang "three ports linkage" Logistics New mode is "double-pass, multi-body, multi-node, four linkage" as the main structure. Among them, "multi-subject" refers to the mode of participation in the construction of many subjects, including government departments, Jinjiang land port, Jinjiang Road port, Coastal ports and logistics Enterprises. Different subjects have their own advantages and functions, and they complement each other through pattern Construction. "double-pass" means to realize the effective integration of the online and offline resources in constructing the new mode of "three ports linkage", realizes the exchange and sharing of information resources among the subjects, and realizes the reduction of logistics cost through the integration of network resources and transportation Resources. "multi-node" mainly refers to the coastal port as a first-level node, the land port as a level two node, the highway port as a three-level node, coupled with the Joint Logistics Enterprise network transport resources together to form a multi-node coverage gradually increased linkage mode. "Four linkages" refers to the main realization in this mode of four aspects of the linkage effect, that is, functional linkage, information and operation linkage, Planning linkage and supervision linkage.

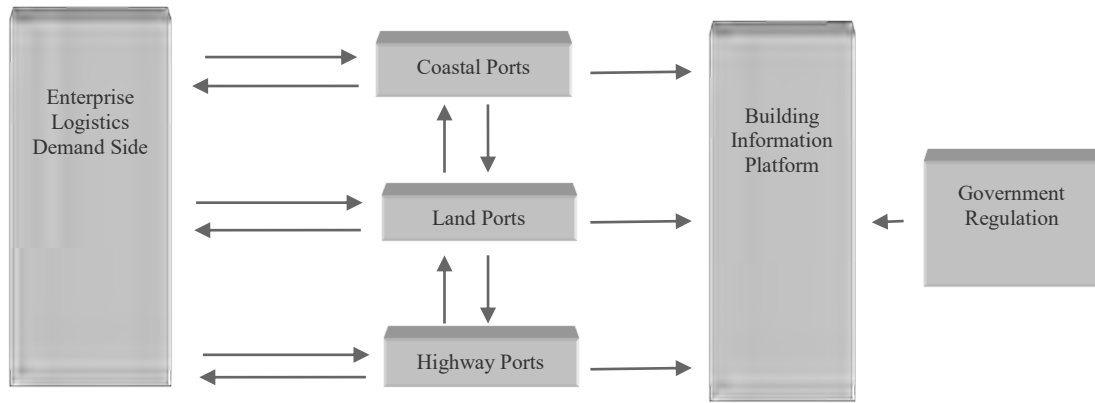


Fig. 1. Three-port linkage model line and offline schematic.

As shown in "Fig. 1", unlike in the past, the logistics needs of enterprises in accordance with the distance between the goods to choose the logistics model of the road port or the coastal port separately, by joining the land port and the road port for information interaction can reduce the enterprise logistics needs to choose the Carrier's time cost, from the road port and the land port as the common carrier role, To help the logistics demand side of the goods according to the size of the transport distance flexible

selection of a reasonable transport plan, while the land port and the road port and the coastal port through the building information platform to maintain information exchange, will be combined land and sea, the overall consideration of the best transport solutions, reduce logistics costs, Through the information transmission and sharing part of the three-port linkage model, the Government strengthens the regulation of the industry and helps to solve the problem of tax collection in the logistics Industry.

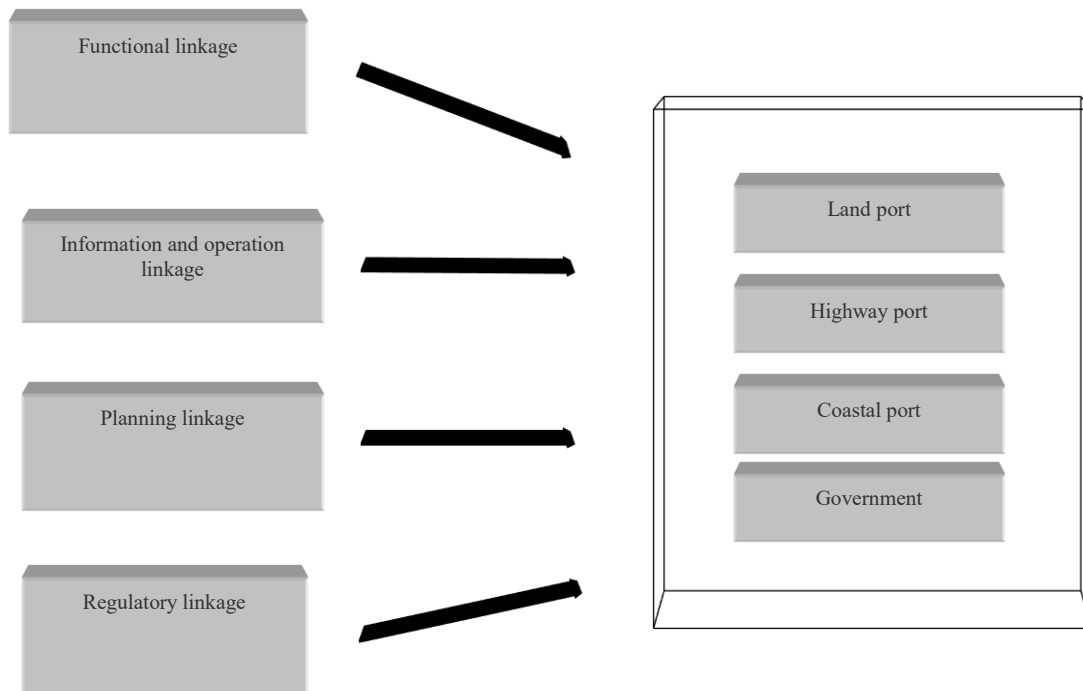


Fig. 2. Three-port linkage model schematic diagram.

As shown in "Fig. 2", Jinjiang land port, Highway port, coastal Port and the government and many other subjects there are functional linkage, information and operation linkage, planning linkage, regulatory linkage and other effects. function linkage refers to the realization of functional complementarity between the main bodies, the government in the linkage mode to play the role of supervision and guidance, the port and land port in the linkage mode to play customs clearance and service functions, the road port to

play the role of assembly and transit, logistics enterprises with a large number of logistics outlets to play the role of attracting sources and expanding the port coverage These major subjects, with their respective strengths, complement each other to achieve the lowest overall cost goal. In the linkage between information and operation, each subject through cooperation will be the information resources to integrate and complement each other, realize information sharing, alleviate the phenomenon of "information island", at

the same time through information sharing through all aspects of logistics and transport to achieve seamless integration of logistics and transportation, in order to reduce logistics and transportation costs. Planning linkage refers to the factors such as the coverage of other parks in the planning of the location construction of the logistics park, and the reduction of unnecessary investment to realize the planning linkage effect of the various subjects in the linkage Mode. The regulation linkage means that the government through the information sharing platform established between the ports for unified supervision, clear the scope of government tax collection, to help solve the government in the logistics industry in the tax problems.

In the above-mentioned parts linkage, the realization of information and operation linkage is the foundation and also the most critical step. The following is our combination in the Jinjiang non-vehicle Carrier Enterprise Research and practical solutions. It is unrealistic to build a common information platform through different nodes when establishing information platform between different port nodes, we believe that we can introduce professional third party and fourth party logistics enterprises such as dragon easy matching platform through contract, and use their mature advanced logistics technology to help the three ports to customize special information sharing platform. The innovation of this initiative lies in: first, changed the traditional logistics enterprise Positioning. Promote the large-scale logistics enterprises in Jinjiang to accelerate the transformation and upgrade to the role of modern logistics service providers, This shift means that logistics enterprises from the original simple to provide transport warehousing and other low-margin traditional business to provide modern intelligent information platform and solutions of modern logistics service providers; Through the contract to the Third-party logistics providers to help achieve the three major ports of real information operation Linkage. From the professional Third-party Logistics enterprises and the road port, land port and seaport signed information confidentiality agreement, Third-party Logistics enterprises and the three major port enterprises in the information department to exchange, is responsible for the construction of the three major ports of professional information sharing platform and performance platform maintenance and data update responsibility, the three major ports in addition to other main business, Only the internal information department and the Third-party Logistics enterprises to exchange data, improve their operational efficiency; thirdly, promote the informatization and standardization development of Jinjiang logistics. The platform operations should be outsourced to professional third-party or even fourth-party logistics technology enterprises.

## VII. CONCLUSION

The three-port linkage logistics model discussed in this paper is compared with the traditional logistics model: in the mode of transportation, the combination of road transport and sea transportation, the transportation time is greatly saved by the information communication between the road port and the land port, and the transportation efficiency is Improved. At the same time, Jinjiang road port, land port and

other port parks are private enterprises this special advantage is conducive to strengthen cooperation and promote the realization of information sharing.

In addition, through the construction of professional information platform to achieve the three-port linkage is also a reflection of intelligent logistics. Jinjiang min Yun Xing long yi with intelligent logistics platform helps long-distance drivers, logistics companies and shippers to achieve the three-line integration, solve the three-party information asymmetry pain point, and promote the development of the Industry. Three-port linkage of the third-party logistics enterprises also plays the same role through the establishment of information platform, integration of land, road, harbor, three-party data and resources and will be combined to reduce the logistics needs of enterprises to choose the Carrier's time cost, complementary advantages, the overall consideration of the best transport solutions, thereby reducing logistics costs; Through the RFID, sensors, mobile communications technology, such as the distribution of goods automation, information and networking, on the one hand to promote the development of local information technology, on the one hand, the flow is faster than physical flows also facilitate the Government's macro Management.

To sum up, the construction of the three-port linkage requires the concerted efforts of the government, the introduction of talent, the decentralized park with strong policies to assemble, force to a place, to jointly build a new model of high convenience, efficiency, low Cost. of course, as "the core of the maritime silk road", Fujian province ports, ports, If the Jinjiang of the three port linkage can be successfully applied to Fujian Province can provide replicable experience, such as Fuzhou Wuyi land port, Longyan Land port, Warwick Road port, Fuzhou port, Luoyuan bay, etc., can learn to emulate, promote the local economic development To contribute to the "The Belt & Road" construction.

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