

# A new perspective of building industrialization to promote rapid development of China's construction

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**Abstract:** In recent years, with the rapid development of China's social economy, the development of building industrialization is progressing and become the most important trend in construction industry. However, the current China's construction industry is facing a lot of problem. These problems had seriously affected the further development of the construction industry. Therefore, the relevant departments must study in-depth on the building industrialization-related issues in order to promote a new perspective and rapid development of China's construction in all level.

**Keywords:** Construction; Problem; Development

Due to rapid development in China's economic, the development of construction technology had accelerated the development of construction industry. As traditional buildings does not have an advantage in meeting the concept of the green, energy-saving construction, it has indirectly make building industrialization as the mainstream of future construction development.

Compared with the degree of development in foreign construction industry, China are still facing lots of problems in their construction industry, which obstruct the construction industry and the whole construction development of the country. Therefore, it is crucial to analyze and solve the existing problems in the construction industry to promote rapid development of China. This article will focus on the building industrialization in all aspects of analysis; make specific recommendations to promote the good development of the construction industry.

## 1. Overview of Building Industrialization

The building industrialization is the use of modern industrial production methods to transform traditional building technology. It reforms the construction design, supporting production, operation and management work in the construction process, in order to achieve intensive and integrated, as well as promote the overall efficiency and transformation of production methods in construction industry.

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is properly cited.

Currently, building industrialization is the main development trend in many countries of the world's construction industry. The United Nations had put forwards 6 standards on the relevant issues respectively; continuity of production, standardization of production parts, integration of production process, engineering organization of a highly informative, mechanization of production assembly and integration in production organization. Thus, building industrialization is a very complicated work, and highly anticipated by the world. This is mainly due to the development of the construction industry that will enhance energy conservation, improve labor productivity and shorten the construction period and etc. A lot of developed countries in Europe and the United States had reached certain height degree in the building industrialization construction. Since the 50's, they had begun to reform on the traditional construction. Till date, they had achieved certain scale in building industrialization. In contrast, China's construction industry is still in the early stage of development. During the construction process, their main construction method is still apply on-site construction. High energy is being consumed during the process. The progress of science technology does not promoting the building industrialization. Currently in China, we can say that their construction industry is still facing a lot of development problems. The following are the issues in-depth study. Specific recommendations are made for the further development of the construction industry.

## **2. The Advantage of Building Industrialization**

After the previous analysis, we learned that building industrialization has become the mainstream of the future development of the construction industry. Thus, the development of the building industrialization has many advantages and the following are the analysis of its advantages.

Firstly, the building industrialization can effectively promote energy conservation and emission reduction. Traditional cast-in-place construction process often uses a lot of material resources. However, in the construction of the building industrialization, most of the components are produce in the factory and then being transported to the construction site. This can effectively solve the noise and environmental pollution problems on site and significantly reduce the energy consumption during construction.

In addition, the development of the construction industry is also conducive to solving the problem of human resources in the traditional construction process, the construction site always need a lot of staff, due to the increasing labor costs in recent years, construction Of the total cost of labor costs accounted for a large part of the construction process if part of the scene transferred to the factory to complete, you can effectively reduce the number of people at the construction site to reduce the labor intensity of workers, so to a certain extent Reduce labor costs, while improving the efficiency of workers' labor. To improve the quality of building products is also one of the building industry has a strong advantage in the traditional construction site, due to the workload is too large, in the construction of construction products will inevitably be some error, the product quality is not Protection, but the construction industry to solve this problem, the components and other important building products into the factory for uniform production, it will make it easier to meet the requirements of construction.

## **3. The Existing Problems in Industrialized Building System Development**

### **3.1 The Management Constraints**

Base on the current development of our construction industry, the management system is one of the major constraints in the Industrialized Building System Development. The current construction management system is divided into many

aspects which including project approval, quality supervision, safety supervision, the establishment of construction management institutions etc. The said system is established base on the traditional way of construction industry. If these systems applied to the Industrialized Building System, it will create a lot of problems. Firstly is in the design review, some of the existing construction design drawings cannot fulfill the Industrialized Building System construction and production. At the same time it will also difficult to obtain the audit approval. It will give negative impact on the promotion of Industrialized Building System Development. Secondly, in terms of quality supervision, there is a large gap in the construction of structural parts and resulted the Industrialized Building System cannot be implemented smoothly. All these management systems are very unfavorable to the development of the Industrialized Building System and must be resolved.

### 3.2 Incomplete of Industrial Policy

In the process of Industrialized Building System of the construction industry, the imperfection of the Industrialized Building System policy mainly refers to the lack of benefit policies and control measures which can enhance all related parties to implementation Industrialized Building System in the construction industry. The specific performance is as follows:-

Firstly, in the tax collection, the lack of tax standards is a more serious problem whereby the tax is different between traditional construction industries as compare to Industrialized Building System. These products in the end should be in accordance with the Industrial or construction industry tax standards are in grey area, which led to the slow development of Industrialized Building System. In addition, there are uncertainties in the development of Industrialized Building System including incentives and special funds.

### 3.3 The Imperfection in the Mechanism

Our country current situation is unable to meet the industrialized market and resulted the Industrialized Building System development has been limited. the main problems are divided into the following aspects.

Firstly, according to the actual situation, the demand over Industrialized Building System product is not high and result the difficulty of Industrialized Building System production. Thus the Industrialized Building System is on the lack of further development of the driving force and enthusiasm which is the obstacle of Industrialized Building System. Secondly, in terms of the price of the product, it can be concluded that there is no good market scale in our country at present. As a result, the Industrialized Building System chain is still in a decentralized Situation. As such it is difficult to adjust the market price of Industrialized Building System product and affecting the standardization of product prices. In terms of transaction pricing, the Industrialized Building System companies increase the price in sudden is a norm due to the low number of producers. The existence situation result a very unfavorable to the demand side. To a certain extent, it will increase the raw cost of purchaser, which indirectly affects the Industrialized Building System development.

## 4. Industrialized Building System Development Countermeasures

### 4.1 Clear Regulatory Responsibility

In the previous analysis, the lack of regulatory responsibility is one of the important reasons that hinder the Industrialized Building System development. Therefore, if we want to promote the continuous improvement of the Industrialized Building System development in order to upgrade the construction and development of our country, clear regulatory responsibility is a very important part. In the process of the regulatory responsibility, the need of Industrialized Building System production management, appropriate development planning, supervision to strengthen the work is required. In addition, the relevant departments need to develop, plan and reform and other departments to conduct a good management to ensure that each department really share their responsibility. The government should clarify its own main responsibility in the process of the Industrialized Building System development, create detailed

development plans for the construction of the area, and continue to promote the implementation of the planning and promote the further Industrialized Building System development.

#### 4.2 Clear Regulatory Procedures

The development process of the construction industry, the regulatory process is also an indispensable part of the link, it can be said that supervision throughout the entire construction process. In the planning and design of the link, the standardization of the design and modular design needs to pay more attention to the industrialization of the design and design of the regulatory system to conduct a good convergence. In the land of the transfer, the relevant departments of the responsibility of the industrial land to ensure the implementation of the initiative to do a good job coordination. In the tender and its links, the winning units will conduct a rigorous screening, under the same conditions, to give priority to the use of assembly technology units. In the production of parts factory parts, we must continue to promote the information management of components, the quality of the components of production strict checks, quality control departments to the component factory supervision procedures for in-depth study. Finally, in the cost of regulatory links, we must set cost standard in order to develop and industrial buildings supporting the budget quota and bill of quantities.

#### 4.3 Improve the Industrialized Building System Package

In this part, the construction companies shall initiate the planning, development and reform, finance the Industrialized Building System policy in order to support and help to improve the implementation of the construction department of the industrialization base for a reasonable layout in the construction industry. The development of the process is to encourage the relevant departments of the new technology applications. The traditional way of building production to be boldly abandoned which can continue to promote the continuous improvement of the level of Industrialized Building System. At the same time also continue to encourage the construction, structural parts and other enterprises involved in the development direction of the transformation and actively promote the formation of new industrial chain, which continuously improve the level of building integration and create a first-class building industry base.

#### 4.4 Strengthen the Training of Personnel

In the process of the Industrialized Building System development, a large number of specialized high-quality talent personnel are the necessary basis for its development. However, according to the current situation in China, the lack of high-quality talents in related industries is the footsteps of the development of the Industrialized Building System. As such, the relevant departments need to invest in personnel training work more energy for the development of the Industrialized Building System to provide forward momentum. In the personnel training, variety of forms shall be created to cultivate excellent talent and establishment of an effective personnel training mechanism to attract more high-quality talent to participate. In addition, the establishment of appropriate human resources policy, the Industrialized Building System practitioners on a regular professional training to optimize the structure, to promote the staff to the direction of the development of technical personnel.

It can be concluded that in China's economy and the continuous development of science and technology under the premise of the Industrialized Building System has become A most important direction. However, the rise of Industrialized Building System in China is still in the beginning. There are still many problems in the development process, which also caused serious obstacles to its further development. Therefore, the relevant departments should study the exiting problems in the construction industry and take effective measures to resolve them. At the same time, it shall and promote the development of the Industrialized Building System indirectly promote the rapid development of China's overall construction.

## Reference

1. To the new industrial building system to promote the modernization of the construction industry [J]. Liu Dongwei. Housing Industry. 2015 (05)
2. National building industry standard design for the first publicizing training will be held [J]. Reporter. Housing Industry. 2015 (06)
3. To promote the modernization of China's construction industry and healthy development [J]. Wang Ning. Housing Industry. 2015 (06)
4. Steel structure boosts residential industry transformation and upgrading [J]. Qiming. Housing Industry. 2015 (08)
5. Shenzhen housing industry development and outlook [J]. Housing Industry. 2015 (08)
6. China's construction industry [J]. Li Xuefeng, Li Lin. Guangxi urban construction. 2015 (05)
7. Construction of the industrialization of the implementation of imminent [J]. Guangxi town construction. 2015 (05)