

# Research on the innovation and development of Liaoning Industrial tourism with digital empowerment

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**Abstract:** With the improvement of social productivity and the development of digital technology, the digital economy has become a new driving force to promote the high-quality development of industrial tourism. Many industrial enterprises at home and abroad have laid out immersive industrial tourism projects, which has greatly enriched the industrial tourism experience of tourists, and is a subversion of the traditional monotonous exhibition. In the increasingly intelligent and technological future, digital industrial tourism will become an important part of industrial tourism. This paper will analyze the theoretical and practical value of industrial tourism to Liaoning and the dual guarantee of traditional infrastructure construction and digital new infrastructure in order to improve the high-quality development of industrial tourism in Liaoning.

## 1. Introduction

With the improvement of social productivity and the development of digital technology, the digital economy has become a new driving force to promote the high-quality development of industrial tourism[1]. Many industrial enterprises at home and abroad have laid out immersive industrial tourism projects, which has greatly enriched the industrial tourism experience of tourists, and is a subversion of the traditional monotonous exhibition. In the increasingly intelligent and technological future, digital industrial tourism will become an important part of industrial tourism.

With the development and deepening of people's understanding of tourism industry, a new tourism model - industrial tourism came into being. In the development process of industrial tourism abroad, it mainly includes two forms of industrial tourism: industrial heritage tourism and factory sightseeing tourism[2].

Industrial tourism originated in Europe, as early as the 1950s, the French Citroen car manufacturing company organized guests to visit the production line, causing many manufacturers to follow suit, and this visit gradually evolved into industrial tourism. By the 1980s, industrial tourist attractions in developed countries increased rapidly, from the energy industry, textile industry, food and beverage industry, to glass and ceramics industry, traditional handicraft industry, industrial tourism has also entered the peak period. From the development track of industrial tourism in European countries, it is not difficult to see that this is the protection and development of industrial heritage in post-industrial and post-modern society, which uses historical accumulation and feelings of time to re-inject vitality into some gradually declining things and endow them with cultural connotations.

China's industrial development is relatively late, but it is one of the few countries in the world with a complete industrial chain. After years of development, the number of industrial tourism bases has been quite large, and the industrial cultural landscape is also relatively rich, with promising potential and prospects[3]. The launch of 53 national industrial tourism demonstration bases will further guide and promote the development of industrial tourism, better meet the people's diversified consumer demand for industrial history, culture, science and technology, art and other aspects in the new era, and will also prompt relevant localities to promote urban renewal and integration of industry and city.

Domestic industrial tourism has been integrated into digital technology.

## **2. The theoretical and practical value of this topic to Liaoning**

As a new type of tourism project that has been widely developed in the past 20 years, industrial tourism still has great potential for development although there are many problems in its development. Studying how to use digital technology to enable industrial tourism development can promote the quality and efficiency improvement and transformation and upgrading of industrial enterprises in Liaoning, enrich the tourism product system, improve the quality and image of Liaoning cities, and help the sustainable development of industrial tourism innovation in Liaoning[4].

The traditional manufacturing, mining and other industrial heritages that have entered the period of decline will be transformed into "Renaissance assets" with both tourism value and tourism function, and the "waste" will be transformed into treasure. On the one hand, this can promote urban renewal and industrial structure transformation and upgrading, on the other hand, it can be based on the value of industrial heritage, supplemented by cultural creativity, digital technology, brand building, forming the whole industrial chain of industrial tourism, and doubling the economic benefits. For example, as China's manufacturing base, Liaoning has the country's largest shipyard, production of more than half of the country's diesel locomotive, resources involving coal, metallurgy, oil and gas, chemical industry, etc., such an old industrial base in the process of economic transformation can be through the overall planning, revitalize industrial heritage, find new economic growth points.

These high-quality industries are more suitable for using digital means to bring her to life in a young tourist experience! Interpret the "Spirit of Liaoning in the new era" and enhance the industrial image of Liaoning.

## **3. Improve the high-quality development of industrial tourism in Liaoning**

### **3.1 The concept of large industry, innovation-oriented**

The report to the 20th National Congress of the Communist Party of China pointed out that we should promote the in-depth integration of culture and tourism and strive to promote high-quality development. The effective supply of policies of the central government in the field of cultural tourism industry has generated huge political potential energy, and provided direction for the high-quality development of industrial tourism in Liaoning[5]. At the same time, with the opening of the epidemic, tourism consumption has shown a rapid rebound trend, and people's demand for cultural products and services, as well as a strong willingness to consume tourism, provide forward momentum for the high-quality development of industrial tourism.

At present, conventional industrial tourism is basically limited to factory tourism, and the landscape innovation is not enough and the connotation is not deep. In order to make "joy at first sight" become "never tired of seeing for a long time", we can not only stay at the tourism level, but also enrich the product content, innovate the industrial model, and constantly expand the extension and connotation of industrial tourism. For example, in addition to the early factory area, industrial buildings, production lines, machinery and equipment can be transformed into tourism products through creative design, the corporate culture, management system, character stories, and production process knowledge accumulated by traditional industrial enterprises over the years are also rare intangible cultural heritages, which can enhance tourists' immersive experience through education and entertainment in tourism. To maximize the economic and social benefits of industrial tourism.

We will strengthen the innovation and development of industrial and cultural industries, and carry out projects to improve industrial design capabilities, inherit and develop arts and crafts, and cultivate and expand industrial tourism.

### **3.2 Promoting "Digital Liaoning and Smart Province"**

We will accelerate the development of smart tourism, which is characterized by digitalization, networking and intelligence. The National Development and Reform Commission jointly issued the

"Smart Tourism Scenario Application Guide (Trial)" to guide and promote the sustainable and healthy development of smart tourism scenario application; 10 smart tourism aging demonstration cases were released to promote local governments to solve the "digital divide" problem of elderly travel; Released 10 of the first batch of smart tourism "on the cloud with data wisdom" needs such as tourism big data analysis applications, and collected more than 200 solutions for the society to promote the docking of supply and demand.

There are still development weaknesses in digital cultural resource management, big data resource library construction, immersive cloud tourism platform and other new infrastructure. To support the digital transformation of industrial heritage museums.

Relying on the resources of Liaoning Industrial culture and museum, using the latest information technology, through digitalization, visualization, interaction and intelligent transformation, to improve the digital level of a number of Liaoning industrial museums, and build a number of digital industrial museums that are loved by the public. On the tour, holographic projection + digital exhibition hall is used to experience in the form of AR technology + tour.

Create an industrial Internet tourism experience area. Visitors as long as the mobile phone scan code, input exclusive text, you can see the whole process of automatic production of coasters. As the country's first industrial Internet tourism experience area integrating tourism, experience, display and training, the core functions of the experience area are industrial Internet science education and cloud manufacturing control center. Create "Industrial Internet + advanced manufacturing" application scene experience and demonstration production line to bring intuitive and immersive experience to visitors.

Creating digital restaurants, such as Teamlab's psychedelic table feast, is a combination of light and shadow and dining to create digital immersive eating. For food industry tourism and food related industrial tourism to bring a good experience.

Different from the scenery of lakes and mountains in traditional tourist areas, the content of industrial tourism is relatively professional, which elevates the modern industrial production process of machinery into a fun tourism experience process, so that tourists can feel the industrial charm in what they see.

Realize rational utilization and effective development of industrial heritage. To realize rational utilization and effective development of industrial heritage through the construction of industrial parks; Taking the construction of digital Baoding as the big scene, building a new show of harmonious integration of "industry, city, people and culture"; Adhere to market leadership and government guidance, take idle sites and factories of old industrial sites as the physical bearing ground, and accelerate the construction of modern services, characteristic cultural tourism, living facilities and other related industries.

Promote the integrated development of industrial tourism lines online and offline. Promote the digital, green and intelligent transformation of tourism services at industrial tourist attractions, rely on the Internet and VR/AR technologies, innovate and launch industrial tourism products such as "cloud visit", "cloud exhibition" and "cloud shopping", and create a number of interactive experience scenes on industrial tourism lines.

### **3.3 With industry as a link, so that many scenic spots into a chain of beads**

Liaoning Industrial heritage list includes 13 in Shenyang, 18 in Dalian, 24 in Anshan, 35 in Fushun, 12 in Benxi, 7 in Dandong, 12 in Yingkou, 2 in Fuxin, 11 in Liaoyang, 8 in Panjin, 8 in Tieling and 12 in Huludao. By 2025, our province's industrial culture support system will be basically improved, cultivate about 10 new national industrial heritage, more than 30 provincial industrial heritage, and form a hierarchical protection and utilization system of industrial heritage. Build more than 10 high-quality brands of industrial museums with Liaoning regional and industry characteristics, do 50 industrial design centers, select 100 innovative products of industrial design and promote them, train 300 masters of arts and crafts at provincial level or above, and provide cultural support for the revitalization and development of Liaoning.

The scattered industrial tourist attractions in Liaoning are beaded into chains and connected into

pieces, making the tourist attractions gradually realize industrial clustering in the entity industry. Gradually improve the industrial tourism quality lines in Liaoning Province, such as "Liaoning Red Steel intelligent manufacturing Tour", "Liaoning mining industrial Site tour" and "Liaoning cultural and creative industry experience tour". The public can experience the scene through interactive experience, booth market and other ways to form a provincial industrial tourism fine line punch card series.

### 3.4 Promoting the integrated development of industrial culture and industry

The development of industrial tourism resources in Liaoning is insufficient, and the surrounding cultural and creative products lack theme design and creative packaging, and their profound cultural connotation and social value have not been fully demonstrated.

To carry out cultural enterprise, cultural development, industrial culture and other projects. Give full play to the main role of enterprises, guide and support enterprises to build corporate team culture through corporate culture diagnosis, refining and design, strengthening and training. We will guide enterprises to promote entrepreneurship, innovation, craftsmanship, model workers, integrity and other industrial spirits. Strengthen the education and inheritance of industrial culture, and promote the dissemination and exchange of industrial culture. Support the media to set up Liaoning industrial channels and columns to spread the voice of Liaoning industry. Promote the industrial culture of Liaoning to go abroad, integrate with other industrial cultures, and shape and spread the industrial image of Liaoning in the new era.

Create a city "three-dimensional business card" activity for brand promotion. Through the form of "digital exhibition hall + physical exhibition and sales" to create an immersive cultural tourism experience, in the form of "science and technology + art", further highlight the characteristics of Liaoning's "scientific and technological innovation + advanced manufacturing" city, show the city's cultural tourism resources and manufacturing strength. Carrying the city's historical gene, propagating local culture and industrial characteristics, three-dimensional dissemination of urban culture, and driving the development of urban industries through the new path of cultural and creative + industry. In the fields of cultural and creative industry, modern advanced manufacturing industry, commercial circulation industry, and so on, through the organic integration of cultural implantation, creative design and scientific and technological innovation, we will fully promote the integrated development of "cultural and creative + industry", and promote the two-way driving development of cultural industrialization and industrial culture.

We will continue to strengthen guidance and promote the creation of more industrial tourism products with distinctive themes and distinctive brand images. At the same time, continue to strengthen publicity and promotion, encourage more people to participate in industrial tourism, feel industrial civilization, promote industrial culture. These bases cover a wide range, involving metallurgical industry, machinery manufacturing, medicine and health care, food industry, ruins, museums, energy utilization and other types.

Enrich the advantages of industrial heritage and advanced manufacturing industry, accelerate the integrated development of cultural tourism and industrial manufacturing, build an industrial tourism system with the characteristics of Liaoning manufacturing industry, and cultivate industrial tourism into a new highlight of Liaoning's overall tourism.

Continue to excavate the century-old industrial heritage and create innovative symbols of industrial culture. With industrial culture IP as the core, the historical culture, industrial culture and red culture resources will be fully transformed into cultural and tourism industry resources, and the industrial development model of industrial heritage will be innovated to promote the shaping of urban personality.

## 4. Conclusion

Liaoning is a big industrial province, and the development of digital industrial tourism is of great significance to tourists, enterprises and even the city where it is located, which can promote the high-quality development of industrial tourism and make the industry full of cultural charm. Experience modernity through digital immersion.

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