

Research on the Countermeasures of Sichuan Science and Technology Innovation Deeply Integrating into "The Belt and Road"

Wang Bing

Southwest Jiaotong University School of Transportation and Logistics, Chengdu, 611756, China

Keywords: Sichuan; Scientific and technological innovation; "The Belt and Road"

Abstract: Sichuan is located at the intersection of the onshore Silk Road and the maritime Silk Road, and is an important cocoon and silk production and processing and export base in China. It is very important to actively integrate into the national strategy of "The Belt and Road" and promote the scientific and technological innovation of Sichuan Province to deeply integrate into "The Belt and Road". Sichuan has a special geographical advantage and is located at the intersection of "The Belt and Road". The implementation of the national "The Belt and Road" strategy will inevitably bring excellent development opportunities to Sichuan. Therefore, Sichuan should seize the new opportunities brought by the implementation of the "The Belt and Road" strategy, correctly understand the advantages and challenges of Sichuan's scientific and technological innovation deeply integrated into the "The Belt and Road" strategy, and take corresponding countermeasures to promote Sichuan's scientific and technological innovation deeply integrated into the "The Belt and Road" strategy, promote the rapid development of Sichuan's economy and enhance its economic strength.

1. Introduction

As an institutional innovation in China, "The Belt and Road" is extremely open and inclusive. Xi Jinping pointed out that it is a "road to peace, prosperity, openness, innovation and civilization" [1]. A correct understanding of the advantages of Sichuan's deep integration of scientific and technological innovation into the construction of "The Belt and Road", such as long history, profound culture, prominent location advantages, strong radiation driving ability, etc., as well as the challenges of lagging construction of external passages, unbalanced regional economic development, prominent industrial structural contradictions, insufficient preparation for going abroad, fierce competition among provinces and other factors. This paper analyzes the strategic measures of Sichuan's deep integration of scientific and technological innovation into "The Belt and Road", and puts forward countermeasures and suggestions.

2. Sichuan development from the perspective of "The Belt and Road"

Sichuan's development is in good agreement with the national strategy of "The Belt and Road". Chengdu is the most important central city on "The Belt and Road". Chengdu is also the eastern starting point of the "Plateau Silk Road" and the "Himalayan Cultural Belt", which crosses the Qinghai-Tibet Plateau from east to west and connects Central Asia and South Asia [2]. Historically, it was the western hub of "The Belt and Road". Sichuan is not only a world-class producer of goods, but also a way for foreign products, technology and ideas to enter China. Sichuan can become the leader of the new Silk Road.

Sichuan should take the "The Belt and Road" strategy as an opportunity to promote the food, culture, tourism, history and multi-ethnic cultural features of Bashu region to the world and show its charm on the international stage. In the past two thousand years, Sichuan's geographical advantages as a land of abundance have not changed substantially [3]. Sichuan should take advantage of the "The Belt and Road", carry forward the craftsmanship and fine agriculture and irrigation skills of Sichuan people, make Sichuan's aerospace industry, high-end machine manufacturing industry and IT industry bigger and stronger, and promote the upgrading of industries in South Asia, Central

Asia, Eastern Europe and even Europe as a whole.

3. Sichuan's scientific and technological innovation is deeply integrated into the new opportunity of "The Belt and Road" strategic construction

As a grand strategy of China's opening to the outside world and China's diplomacy in the new period, the strategy of "The Belt and Road" will not only bring great opportunities and impacts to countries and regions along the route, but also provide rare opportunities and impetus for foreign communication in different provinces and regions in China. The strategy of "The Belt and Road" shows the ambition and high confidence of China's diplomacy with the rise of China. The strategic construction of "The Belt and Road" for Sichuan's economic integration needs to determine the strategic positioning of Sichuan's economic development, pay attention to the strategic construction of economic development, and seize the new opportunities brought by the national "The Belt and Road" strategic construction for Sichuan's economic development. The new opportunities for Sichuan's scientific and technological innovation to be deeply integrated into the strategic construction of "The Belt and Road" are shown in Figure 1 below.

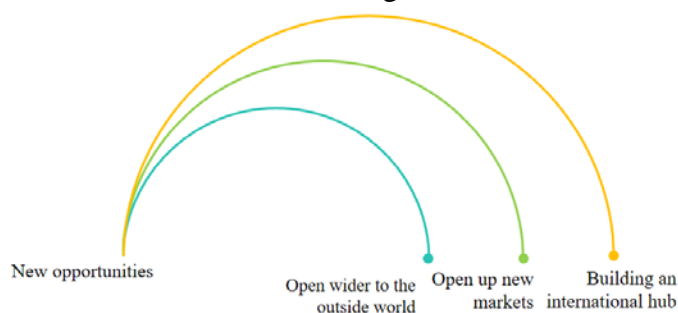


Figure 1 A new opportunity to integrate into the strategic construction of "The Belt and Road"

3.1 Building an international regional hub

Sichuan can actively connect the Yangtze River Economic Belt to the east, strengthen the construction of Sichuan-Chongqing economic circle, and make use of Chongqing's convenient inland waterway to ship the Yangtze River golden waterway, so that Sichuan and the developed areas along the eastern coast can be more closely linked and promote common development; Sichuan can actively build the industrial layout along the international economic corridor facing the south, expand economic and trade cooperation with India, Pakistan, ASEAN and other countries or regions, and actively integrate into China-ASEAN Free Trade Area and Greater Mekong Economic Belt; To the north, we should actively connect the northern provinces, connect Sichuan with the northern Silk Road, and import "Made in Sichuan" into countries along the Silk Road and even European countries.

3.2 Implement the strategy of "going out" and open up new markets

With the slight implementation of "The Belt and Road", Sichuan Province can lay a foundation for Sichuan enterprises to enter emerging markets by holding the Maritime Silk Road Brand Expo, so that more foreign enterprises can know about Sichuan enterprises' brands, expand brand awareness and realize brand effect step by step: by strengthening cooperation with the same domestic chambers of commerce along the route, we can build a brand-name alliance, help each other and open up the market under new market conditions, and finally form product advantages.

Implementing the "going out" strategy, Sichuan enterprises can cooperate with relevant enterprises in countries along the route, introduce advanced science and technology, management level and scientific research personnel, further understand the lifestyle and consumption habits of local residents, and combine their own advantages to optimize and upgrade their products, expand commodity markets and serve local residents.

3.3 Upgrade and open wider to the outside world

The superposition of the Silk Road Economic Belt and the Yangtze River Economic Belt in Sichuan means that Sichuan will become an important growth pole in the Yangtze River Economic Belt [4]. In the implementation of the opening-up strategy, Sichuan Province can make use of the advantages of the golden waterway of the Yangtze River and interconnect with the provinces along the Yangtze River, which can become a transit point for goods transportation between the east and the west. Externally, we will continue to promote the policy of "going abroad for all enterprises", and organize enterprises to enter Central Asia, South Asia, Southeast Asia and Europe to find new opportunities for investment cooperation. Sichuan will completely open its doors and upgrade and expand the pattern of Sichuan's opening to the outside world through both internal and external training.

4. Sichuan's scientific and technological innovation is deeply integrated into the challenge of "The Belt and Road"

The integration of Sichuan's economy into the strategic construction of "The Belt and Road" has many advantages, such as long history, profound culture, prominent location advantages, strong radiation driving ability, etc., but at the same time, there are challenges from financial risks, severe institutional constraints, cooperation among countries along the route, and lack of cross-regional coordination mechanism (Figure 2).

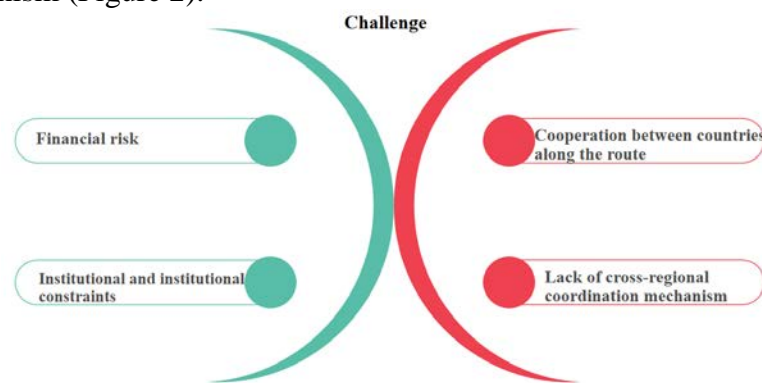


Figure 2 Into the challenge of "The Belt and Road" construction

4.1 Financial risk

Financing is one of the core links for enterprises to undertake projects. Although Chinese enterprises have formed large-scale overseas assets, not only the domestic financial supervision system is strict, but also the enterprises are still restricted from going to sea, and there are also restrictions on overseas asset mortgage financing. For example, in the face of sub-sovereignty, incomplete sovereignty and private entrepreneurs, the lack of corresponding financing policies takes a long time, and the export credit insurance policy needs to be optimized and adjusted urgently. Therefore, financing difficulty has become the biggest bottleneck restricting the sustainable development of the cooperation zone. At the same time, some countries are prone to financial crisis due to financial instability, low sovereign rating, long-term debt, changes in international exchange rates and other factors.

4.2 Institutional and institutional constraints are more serious

To achieve high-quality development, it is inseparable from the corresponding policy environment and innovative ecological environment. Sichuan Province has a large number of military enterprises and military research institutes, with strong original warehouse and new ability, reasonable structure of high-level talents, abundant supply resources for scientific and technological innovation, and achieved considerable scientific and technological innovation achievements [5]. However, due to the constraints of system and mechanism and the influence of subordinate

relations, the endogenous motivation of military enterprises and research institutes to promote integration of defense and civilian technologies and "converting military to civilian" is insufficient, and it is difficult to transform the scientific and technological achievements obtained locally and drive the formation of industrial chain, which makes no obvious contribution to local economic development and serves the high-quality development of the whole province.

4.3 There is a problem with cooperation with countries along the route

In the process of economic and cultural exchanges, there must be differences in economy, policy and culture with neighboring countries, and it will increase the difficulty in the process of cooperation and planning. For example, in terms of system, there are great differences in customs, currency and labor services among different countries, which need to be adjusted and coordinated, including trade barriers, bureaucracy and management systems of different countries.

4.4 Lack of cross-regional coordination mechanism in provinces

The enthusiasm along "The Belt and Road" is very high, and they all take this important strategy as the central task. However, there is a lack of multi-level cross-regional coordination mechanism between them, and there is a state of fragmented and disorderly competition. All provinces are emphasizing the construction of "The Belt and Road" platform, and are committed to making it an important strategic platform for "The Belt and Road". As a result, all provinces are fighting hard for platform economy, resulting in excessive occupation of platform resources, resulting in lack of linkage and competitiveness of platform economy among provinces. This will lead to the consistent choice of logistics gathering places and resource advantages, which will eventually lead to lagging development.

5. Suggestions for Sichuan to take advantage of the opportunity of "The Belt and Road" to promote open innovation in science and technology

Scientific and technological innovation cooperation is conducive to enhancing the scientific and technological innovation capabilities of all parties involved, directly benefiting people's livelihood and social and economic development, and is welcomed and valued by all countries. At the same time, scientific and technological innovation cooperation is conducive to driving Sichuan's technology, products and standards to go global, and constantly strengthening the internal relations between various countries and Sichuan.

5.1 Expand cooperation in key scientific and technological fields

First, strengthen cooperation with countries along the route in strategic emerging areas such as ecological environment protection, biomedicine and information technology, so as to benefit people's livelihood and promote the development of green economy. Give full play to Sichuan's agglomeration advantages and scientific research capabilities in strategic emerging fields, encourage qualified scientific and technological enterprises to set up R&D centers in countries along the route, develop new technologies and products with independent intellectual property rights, and realize the extension of product value chain to R&D, design and marketing services.

Second, deepen cooperation between modern agriculture and agricultural products processing. On the one hand, support enterprises to cooperate with European countries such as Israel and the Netherlands with developed agricultural science and technology to carry out technology introduction, demonstration and international promotion, and promote the construction of agricultural science and technology cooperation innovation demonstration parks and agricultural technology promotion centers; On the other hand, Sichuan agricultural enterprises are encouraged to "go global" and make strategic layout in the country along "The Belt and Road" to enhance the international influence of Sichuan overseas agriculture [6].

5.2 Promote the sharing of scientific and technological innovation service resources in Sichuan

Promote the sharing of scientific and technological innovation service resources between Sichuan Science and Technology Innovation Center and countries along the "The Belt and Road" strategy, and strengthen the mutual supplement and circulation allocation of scientific and technological innovation service resources between Sichuan Science and Technology Innovation Center and countries along the "The Belt and Road" strategy. Sichuan Science and Technology Innovation Center and the national innovation parks and high-tech parks along the "The Belt and Road" strategy are rich in innovative service resources, which are shared in terms of innovative human service resources and innovative institutional service resources, so as to enhance the global influence of Sichuan Science and Technology Innovation Center and promote the innovative development of countries along the "The Belt and Road" strategy.

Encourage Sichuan Science and Technology Innovation Center to jointly invest in science and technology innovation finance of countries along the "The Belt and Road" strategy, and deepen innovation cooperation between Sichuan Science and Technology Innovation Center and countries along the "The Belt and Road" strategy in science and technology innovation finance. Promote the cooperation between Sichuan Science and Technology Innovation Center and countries along the "The Belt and Road" strategy, and deepen the innovation cooperation between Sichuan Science and Technology Innovation Center and countries along the "The Belt and Road" strategy.

5.3 Relying on comparative advantages, build an industrial hinterland open along the western border

Play the "industry card" to provide support for "going out". Sichuan's industrial strength supports and supplements the western border areas. Sichuan and the western border provinces have obvious complementarity and great potential for joint development in terms of industrial structure, technological advantages, resource advantages and transportation network layout, which is an important support for the country to open to the west and south. Sichuan should give full play to the strategic supporting role of the hinterland of Sichuan, take the advantageous industries as the breakthrough point, actively integrate into the strategic opportunities of opening up along the border, and jointly expand the open space.

5.4 Insist on gathering innovative talents

Implement a more competitive talent attraction system, actively introduce first-class leading talents in science and technology, vigorously introduce high-level talents at home and abroad, adhere to the combination of bases, projects and talents, give full play to the basic role of industry in attracting talents, gather and train strategic science and technology and high-end professionals who can grasp the general trend of science and technology and judge the direction of innovation, cultivate and forge innovative entrepreneurs with strategic vision, innovative spirit and social responsibility, and form a team of innovative talents with large scale, reasonable structure and first-class quality. Establish the demand orientation for economic and social development, vigorously develop the vocational education system, and transform the scale advantage of labor force into the competitive advantage of high-skilled talents.

6. Conclusions

The deep integration of Sichuan's scientific and technological innovation into "The Belt and Road" conforms to the needs of Sichuan to create a three-dimensional and comprehensive opening pattern, the needs of Sichuan's factor flow transformation and industrial transfer, and the needs of Sichuan and other economic cooperation countries' structural transformation. Sichuan enterprises going abroad should extensively explore international economic cooperation opportunities, strengthen exchanges and interactions with governments, financial institutions and enterprises of other countries, and make new contributions to grasping the development opportunities of "The Belt

and Road" and promoting Chinese enterprises to go abroad. Gather the high-end R&D resources of Sichuan Science and Technology Innovation Center and countries along the "The Belt and Road" strategy, and focus on strengthening the orderly and free flow of innovative human resources elements and efficient allocation of technological elements of scientific and technological innovation between Sichuan Science and Technology Innovation Center and countries along the "The Belt and Road" strategy.

Acknowledgement

This research was supported by Chengdu Science and Technology Plan Research Program (Project No.: 2020-RK00-00035-ZF)

References

- [1] Li Wenhui, Yi Luyang, Zhao Hedian, Chen Shengmi, Fu Wenying, & Chen Zhongnuan. (2018). Research on the efficiency of scientific and technological innovation in universities along "The Belt and Road". *Science and Technology and Economy*, vol. 31, no. 181, pp. 20-24.
- Xin Yueyou, Zhang Wei,&Wei Wu. (2018). Development Strategy of Engineering Science and Technology Talents Facing "The Belt and Road": Needs, Problems and Countermeasures. *Research on Higher Engineering Education*, vol. 171, no. 04, pp. 67-72+125.
- [3] Li Youshu, Ma Yinghan,&Li Fuping. (2018). The impact of financial ecological environment construction on deep integration into the "The Belt and Road" initiative —— Taking the empirical data of Sichuan Province as an example. *Economic Issues*, vol. 472, no. 12, pp. 32-40.
- [4] Yang Xiling. (2018). Collaborative research on international logistics and international trade in Sichuan Province under the strategy of "The Belt and Road". *Science and Technology Economic Market*, vol. 000, no. 009, pp. 45-47.
- [5] Zhang Juncheng,&Li Weihao. (2020). Research on the theoretical and practical path of scientific and technological innovation in the new era under the background of "The Belt and Road". *Scientific and technological progress and countermeasures*, vol. 37, no. 08, pp. 33-39.
- [6] Hao xindong. (2020). summary and prospect of international scientific and technological cooperation research on "The Belt and Road"-from the perspective of provincial level. *science and technology and innovation*, vol. 148, no. 04, pp. 96-97.