

# Research on the mode of scientific and technological innovation cooperation between Sichuan Province and ASEAN countries under the framework of RCEP

Huaguo Tang<sup>1</sup>, Dan Lin<sup>2\*</sup>, Shu Cheng<sup>2</sup>, Keran Liu<sup>1</sup>

1.Sichuan Science and Technology Exchange Center, Chengdu 610000, China

2.West Sichuan International Technology Transfer Center, Chengdu 610000, China

**Abstract:** In the 100 years of great changes, to further deepen the international science and technology cooperation and exchange work, continue to deepen the initiative to promote independent innovation research, and make full use of international science and technology innovation resources is an effective means to cope with global challenges. With the signing and coming into force of RCEP, it will promote the investment and trade facilitation of the countries in the agreement, and also bring new opportunities to China's international science and technology innovation cooperation. It has provided a strong external circular environment and high-level economic and trade rules to support the construction of China's new development pattern, enabling China to accelerate its production cooperation and trade flow with the international market, and promote domestic circular development with a more smooth upstream and downstream relationship of global industries. This paper takes the science and technology innovation cooperation between Sichuan Province and ASEAN countries under the RCEP framework as the research object, and proposes countermeasures and suggestions for deepening the science and technology innovation cooperation between Sichuan Province and ASEAN countries by sorting out and analyzing the main problems faced by the cooperation between Sichuan and ASEAN countries in the new era.

**Key words:** RCEP; Sichuan Province; Asean countries; Scientific and technological innovation; International cooperation

In the context of the once-in-a-century great changes, further deepening international scientific and technological cooperation and exchanges, continuously and actively promoting independent innovation research, and making full use of international scientific and technological innovation resources are effective means to address global challenges. With the signing of the Regional Comprehensive Economic Partnership (RCEP), its member countries have continued to expand, accounting for about 30% of the global population, GDP and trade. Since its entry into force on January 1, 2022, the RCEP has brought new opportunities for international cooperation in science, technology and innovation while promoting investment and trade facilitation among the countries in the RCEP. The RCEP has provided a strong external circular environment and high-level economic and trade rules for the construction of China's new development pattern, enabling China to accelerate production cooperation and trade flow with the international market, and promote domestic circular development with a smoother upstream and downstream relationship of global industries. As the "vanguard" of inland opening up, Sichuan Province is of great significance to strengthen scientific and technological innovation cooperation with ASEAN countries under the new situation.

## 1. The signing of RCEP brings new opportunities for science, technology and innovation cooperation between Sichuan Province and ASEAN

### 1.1 Building a platform: promoting the free flow of scientific and technological innovation factors

By encouraging the free flow of innovation factors, the RCEP has created a good new platform for international cooperation. It supports member states in exploring trade and investment-related economic and technological cooperation activities; And commit governments to provide technical assistance, training or capacity building to member states. In addition, the RCEP also commits to extend the application of intra-regional mobility to all categories of natural persons who may move across borders, including contract service providers, intra-company mobile workers, investors, accompanying spouses and dependents and other business personnel. The expansion of the scope of application of personnel mobility and economic and technological cooperation has further reduced the cost of the flow of scientific and technological innovation elements between Sichuan Province and ASEAN countries, and improved the convenience of the free and efficient flow of scientific and technological innovation elements within RCEP member countries.

### 1.2 Tariff reduction: Enhancing the innovation vitality of high-tech enterprises

The RCEP will gradually achieve zero tariffs for more than 90 percent of tax items among member countries, and set innovative rules of origin for the accumulation of regional components. In January-February 2022, a total of 56 import and export enterprises in the province will enjoy preferential treatment under the RCEP. In terms of export, Chengdu Customs issued 183 certificates of origin under RCEP, mainly for chemical products, accounting for 69.1% of the value; In terms of import, 161 items of preferential goods, mainly auto parts, accounting for 82.7% of the value. Enterprises are the main players in scientific and technological innovation cooperation. High-tech industrial enterprises enjoy the most tariff benefits under the RCEP. Tariff reduction and reduction will further enhance their vitality in scientific and technological innovation. In addition, the tariff reduction and cumulative rules of origin encourage the use of intra-regional intermediate inputs and consolidate regional industrial and supply chains. These rules further stimulate enterprises to deploy scientific and technological innovation chains around the provincial industrial development chain, continue to strengthen international scientific and technological

innovation exchanges and cooperation, and build an upstream and downstream service network related to manufacturing. Including design, research and development, marketing and other high value-added links.

### 1.3 Safeguarding: Building a safeguarding mechanism for international scientific and technological cooperation

After the signing of the RCEP, on the one hand, a separate dispute settlement mechanism has been established, covering the detailed rules of the stages of consultation, application for the establishment of a panel, the establishment of a panel, and the ruling of a panel, which stipulates that disputes will be handled within 120-150 days, and there will be no more appeals, effectively shortening the dispute time limit and improving the efficiency of dispute settlement. On the other hand, the RCEP Intellectual Property Chapter contains 83 articles and two annexes, covering a wide range of areas such as patents, anti-unfair competition, copyright, cooperation, transparency, technical assistance and intellectual property law enforcement, which has comprehensively raised the level of intellectual property protection in the region of RCEP member states. Sichuan Province is now at a critical stage of leapfrog from “innovation diffusion” to “innovation center”, and the international science, technology and innovation cooperation guarantee mechanism under RCEP will greatly reduce the external risk pressure of gradient upgrading in our province.

## 2. Main problems in science and technology innovation cooperation between Sichuan Province and ASEAN countries

### 2.1 Unbalanced regional distribution and single participants

According to statistics, among the provincial international science and technology innovation cooperation projects initiated from 2019 to 2022, Sichuan Province carried out a total of 47 science and technology cooperation projects with ASEAN countries, of which more than half of the foreign cooperation objects were in Singapore, and concentrated in the National University of Singapore and Nanyang Technological University, and the remaining nine countries approved 23 projects in total; The main subjects participating in international science and technology exchange and cooperation projects in Sichuan are mainly universities and research institutes, and the number of projects approved by enterprises is only 5. The project undertaking units are mainly distributed in Chengdu area, 2 are located in Guang ‘an City and 1 is located in Leshan City. Therefore, the participants of international science and technology cooperation in our province, the countries of the cooperation objects, and the regional distribution all show the problems of single structure and unbalanced development.

### 2.3 Lack of top-level planning for international science and technology opening up and cooperation

On the one hand, Sichuan university think tanks, business circles and government staff do not have a deep understanding of China-Asean Free Trade Area and RCEP economic and trade rules, lack of guidance on the strategic planning of participating in ASEAN’s opening and cooperation, and do not have a thorough study on Sichuan’s service and integration into RCEP international economic and trade rules. On the other hand, enterprises, universities and research institutes in Sichuan lack all kinds of information resources mastered by ASEAN countries, do not have much research on the needs of international scientific and technological cooperation in ASEAN countries, and the matching of industrial cooperation needs is not precise enough, resulting in a small industrial scale, a small proportion of total investment and a low level of cooperation. At the same time, many enterprises also show that the RCEP text is too long, do not know how to use, and the RCEP content is not familiar with, do not understand, etc. Therefore, Sichuan industry, university and research units are also in urgent need of government departments to strengthen the RCEP rules of the use of training guidance and scene application.

### 2.3 Insufficient international scientific and technological cooperation and innovation platform

Sichuan has established international platforms for scientific and technological exchanges and cooperation, such as the International Conference on the Modernization of Traditional Chinese Medicine, the International Science and Technology Expo, the European Fair and the West China Fair, with brand effect. It has established international cooperation parks such as China-ROK, China-Japan, China-France, China-Germany and Xinchuan. However, it has yet to form a long-term and stable platform for scientific and technological innovation cooperation with ASEAN countries. “China-asean Expo”, “China-Asean Technology Transfer Cooperation Network” and other large-scale science and technology innovation cooperation platforms have not landed in our province. It is learned that Guangxi, Guangdong, Yunnan, Jiangsu and other provinces have established special ASEAN science and technology cooperation parks.

## 3. Countermeasures for deepening the cooperation between Sichuan and ASEAN in science and technology innovation under the RCEP framework

The science and technology innovation cooperation between Sichuan and ASEAN countries is now in the stage of accelerating catch-up. In the follow-up work, we should continue to support the science and technology innovation work between Sichuan and ASEAN countries from the aspects of “building mechanisms, building platforms, gathering talents, improving channels and stabilizing support”.

### 3.1 Strengthen top-level design and establish a high-level dialogue mechanism

Taking advantage of the cooperation opportunities brought by RCEP, focusing on the needs of our province’s economic and social development, focusing on key areas of science and technology innovation cooperation, establishing a regular dialogue and exchange mechanism with (former) political leaders of ASEAN countries, heads of embassies and consulates in China, heads of international organizations, experts and scholars, and representatives of well-known enterprises to keep in close contact, enhance mutual trust, and create a good cooperation environment.

### 3.2 To enhance international information connectivity and build a platform for scientific and technological innovation

In close combination with the province’s industrial development layout and competitive fields, optimize the layout of science and

technology innovation cooperation with ASEAN countries in various forms and channels, and promote the construction of international science and technology innovation cooperation platforms. Taking the construction of the Chengdu-Chongqing “Belt and Road” international technology transfer Center and the “Belt and Road” science and technology Innovation cooperation Zone in the Chengdu-Chongqing region as an opportunity, we will make full use of the “Belt and Road” science and technology Exchange Conference, Science and Technology Expo, West China Expo and other open cooperation platforms for science and technology innovation, and hold the science, technology and trade thematic matchmaking meeting for ASEAN. Encourage institutions on both sides to pool scientific and technological innovation resources and break through technological bottlenecks in the development of key industries through the establishment of joint research and development cooperation platforms such as joint research centers, joint laboratories and international science and technology cooperation bases.

### 3.3 Strengthen joint research and technology export in key areas

Explore the establishment of a Sichuan-ASEAN special project on international science and technology cooperation, support enterprises, universities and research institutes of the two sides to carry out joint research and development, technology export and innovation platform construction, and promote the efficient flow of scientific and technological innovation factors. To guide a number of enterprises in biochemical materials, chip manufacturing, oil, gas and chemical, auto parts and other fields to play a leading role, carry out joint research on “bottleneck” technologies, raise the technical level of science and technology innovation cooperation between Sichuan and ASEAN, promote the transformation of achievements, promote the deepening of the upstream and downstream layout of the industrial chain between China and ASEAN, and maintain the security of the supply chain between China and ASEAN. To strengthen scientific research institutes and universities in the fields of traditional Chinese medicine, agricultural product processing, and mountain disaster prevention and control to cooperate with ASEAN in science and technology innovation, rationally distribute scientific and technological innovation achievements, and ensure the stability of joint research and development and technology export.

### 3.4 Strengthening personnel exchanges and training on scientific and technological innovation knowledge

The RECP facilitates the free flow of innovation factors among member states. Under this framework, we should give full play to the functions of platforms such as national cooperation bases, talent and intelligence attracting bases, personnel programs and exchange and training programs, and encourage universities and research institutes to actively conduct research on science and technology policy and industrial cooperation with ASEAN countries. We encourage enterprises to actively participate in the work plan for young scientists from Asian and African countries to come to China, carry out technical training programs for developing countries, and establish and improve a regular mechanism for science and technology exchange. Through joint scientific research with innovative talents and teams of ASEAN countries, training of scientific, technical and managerial personnel, we will promote the popularization and application of our province’s advanced and practical technologies in ASEAN countries, promote the upgrading of their technical level, and promote the common development of science, technology and economy between our province and ASEAN countries.

### 3.5 Expand the channels of international science and technology cooperation

Strengthen contacts and cooperation with regional state-level international technology transfer centers for South Asia, Central Asia and ASEAN, as well as the China-Shanghai Cooperation Organization technology transfer Center, the BRICS Technology Transfer Center and the South-South technology Transfer Center, and strive to establish a regular linkage mechanism for international technology transfer work. To form a large platform of international technology transfer service network with interconnection, openness and sharing, promote in-depth cooperation in platform co-construction, co-hosting of activities and information sharing, and open up and broaden the two-way channel of “bringing in” and “going out” technology between our province and ASEAN countries.

### 3.6 Strengthening factor support and guarantee

Give full play to the exemplary and guiding role of financial funds, constantly improve the investment system for international science, technology and innovation cooperation, innovate local financial fund investment mechanisms and methods, promote the formation of a diversified investment pattern with organic integration of financial funds and social capital, and increase support for the work related to international science, technology and innovation cooperation carried out by enterprises, universities and research institutes in Sichuan Province for ASEAN countries. Establish a stable and orderly mechanism for the growth of investment in international science and technology cooperation.

## References:

- [1] Xiao Zhang,Hui Li. Analysis of trade competitiveness between China and RCEP Partners from the perspective of global value chain production activities [J]. Journal of Qingdao University (Natural Science Edition),2023,36(01):131-138.
- [2] Ying Zhang. The path of China’s participation in international science and technology innovation cooperation under the framework of RCEP [J]. Contemporary World,2022(09):45-50.
- [3] Shuo Wang,Chunyan Zhu. Research on China-led international science and technology cooperation mechanism under RCEP framework [J]. Scientific Management Research, 2022, 40(4):8.
- [4].RCEP becomes a new booster for China-Asean relations. China Report,2022(06):70-71.
- [5] Lijuan Long. Research on the Evolutionary game of RCEP Scientific and Technological Cooperation among countries [D]. Yunnan Normal University,2022.