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Author:

Jiwu Wang (shangwei@tusholdings.com)

Tus-Holdings Co.,Ltd, China

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Internationalization and Cross-Border Cooperation of China's Science Parks in the Context of Globalization of Innovation

Author: Jiwu Wang

I. Definition of Globalization of Innovation and Its Influence on Science Parks

(I) Definition and development traits of globalization of innovation

Globalization of innovation refers to the process of free flow and rational allocation of technological factors of innovation on a global scale, global sharing of the results of technological activities, as well as growing concordance of the game rules of promotion of economic development by science and technology worldwide. Globalization of innovation causes the global innovation system to expand continuously to achieve large-scale innovation and internationalization. Specifically, it takes the following forms: innovation industry globalization, innovation network globalization, innovation layout globalization, innovation investment globalization, strategic technology alliance globalization and technology trade globalization.

In comparison with the globalization of the manufacturing industry, the core flow of globalization of innovation is no longer physical products, but innovative resources on the basis of knowledge. Globalization of innovation is the product of replacement of the traditional economic paradigm by the new economic paradigm arising from the embodiment of the economic function of science and technology, so the combination of productivity factors does not center on material, but on people. In other words, those who can produce innovative knowledge are the organic carriers of innovative knowledge. Different from the globalization of the manufacturing industry, the main activities around globalization of innovation are innovation and entrepreneurship, instead of material trade and production. In other words, the resource factors will be concentrated in the places where there are new ideas and new business approaches.

(II) Influence of globalization of innovation on science parks

After the 2008 financial crisis, the pace of "globalization of innovation" has been gradually accelerated, the developed countries represented by the United States have been implementing re-industrialization[1], and high-tech industry has become the focus of development in the world. Under the tide of "globalization of innovation", the cross-regional, cross-border flow of innovative factors has become increasingly evident, and different countries have joined the global innovation network in succession, and made integrated use of global innovation resources to improve self-dependent innovation capability, hoping to remain unbeaten in the fierce international competition. Science parks are important representatives of the national innovation strength and important carriers of the high-tech industry, and the internationalization development and cross-border cooperation of science parks are main driving forces for the countries to integrate into the global innovation network. The influence of the globalization of innovation on science parks and technology industry is primarily embodied in the following respects:

[1] "Re-industrialization" is not simply a "return to industry", but a tertiary industrialization based on the secondary industrialization, and its essence is to develop high value-added manufacturing industries in reliance on high and new technology, such as advanced manufacturing technology, new energy, environmental protection, information and other emerging industries, thus realizing a new industrial system with strong competitiveness again.

Firstly, globalization of innovation promotes changes in the paradigm of science parks and industries. Globalization of innovation promotes innovation of science parks and industries, and introduces the concept of openness into the innovation activities of science parks, thus creating a new development approach of the technology industry. At the same time, globalization of innovation has formed an innovation growth pole of the technology industry, and further lifted the internal and external constraints of technological innovation, making the innovation of the technological industry geared to globalization of innovation, and bringing a series of changes in the theories, approaches and methods of the technology industry. **Secondly, the interaction approach of science parks tends to network.** Currently, the process of globalization of innovation continues to accelerate, and the global information network systems are maturing, so that the science parks in a country or region can configure technological resources through a global network. With the aid of global information network systems, cross-border or cross-regional cooperation can be achieved. Through continuous improvement of the information network and the ability of access to technological information from the outside world, a network of technology industry cooperation system can be established on a global scale. **Thirdly, the space paradigm of the technology industry shifts to the global scale.** In the context of globalization of innovation, people's focus on the "local scale" of the technology industry has shifted to "global scale". The development of science parks and industries makes the location selection not just related to the industrial scale, infrastructure level, production and service levels, but closely associated with technology resource cooperation and industrial layout carried out through the use of a global network. On the basis of market demand, people pay more attention to location selection for the layout of global technological resources and technology industry investment. In addition, geographical accessibility, economic accessibility and institutional accessibility will also be the key factors to consider.

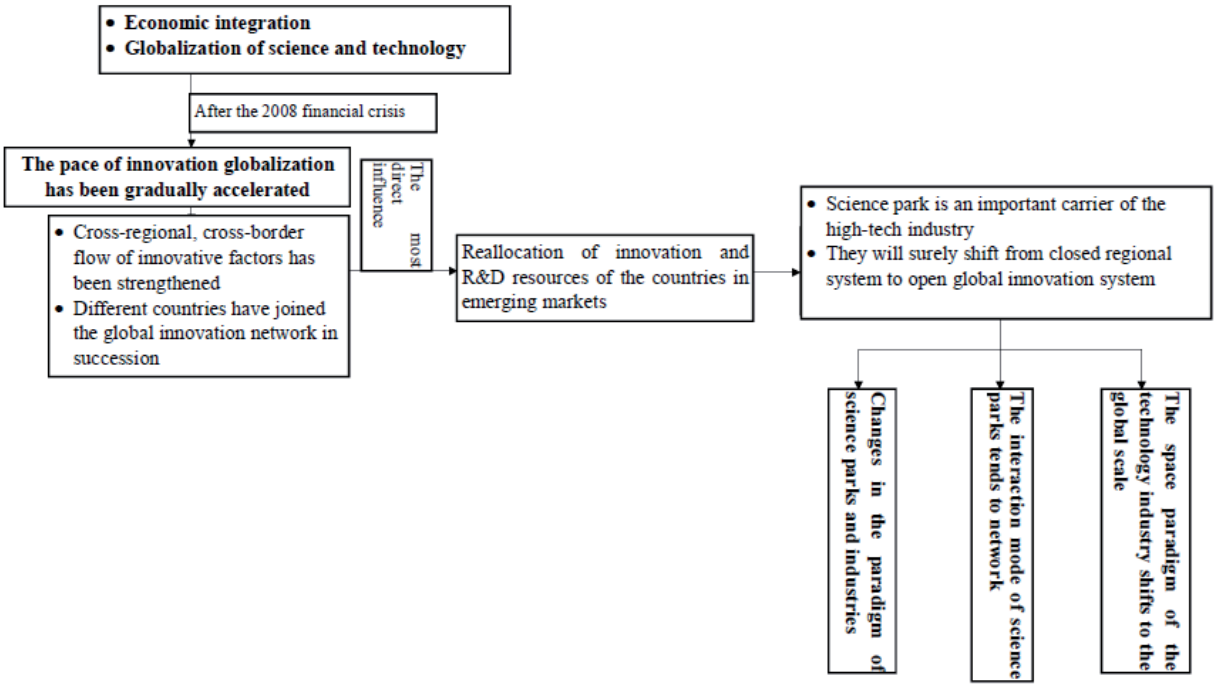


Figure 1 Conduction Effect of Globalization of Innovation on Internationalization of Science Parks

II. Concept Definition of Internationalization and Cooperation Mode of Science Parks

(I) Concept definition of internationalization of science parks

Science parks are also known as high-tech industrial development zone or high-tech park in China. Its English name is Science Park, High-Tech Park, or Technopole. There is no internationally uniform definition of the science park at present, but there is a unified understanding: It particularly refers to a high-tech community which is driven by technological innovation, technological competition and rapid transformation of technological achievements, takes the research, development and production of high-tech products as well as cultivation of high-tech enterprises and industries as primary focus, and is located in a relatively concentrated geographical area.

The concept of internationalization of science parks primarily includes three respects: **Firstly, the internationalization of the science park itself.** Namely, the science parks give play to their own advantages, fully learn from and absorb the practical experience of the world's best science parks during the process of park construction and operation, follow the international practices, and maintain the capability for sustainable development. **Secondly, the internationalization of the enterprises in the science park.** Namely, through reinvention of the government service environment and other means, guide the enterprises to take advantage of global innovation resources encourage the enterprises to explore the international market, and promote the enterprises to participate in international competition and cooperation at a higher level. Thirdly, the internationalization of the industries of the science park; under the context that the emerging knowledge-intensive industry is about to become the leading industry of the science parks, it is necessary to promote the transfer of original related capital and technologies, actively integrate into the general conventions and systems of the global innovation industry, and accelerate the internationalization of the industries of the science parks. The internationalization of science parks depends on the resource capabilities of a number of entities, including government, enterprises, research institutions and other innovation resources, also shows the need of the ability for the construction, attraction and gathering of innovative factors, so the combination and cultivation of a variety of factors is inevitable, such as intellectual resources, innovation environment, cultural atmosphere, innovation talents, capital and information.

(II) Internationalization and cross-border cooperation approaches

In view of the internationalization and cross-border cooperation approaches of the science parks in China, there are primarily three approaches: The first is the internationalization approach triggered by export-oriented economy. A typical feature is that the main objective of the parks is to make uses of foreign investment to meet the market demand from the date of their inception. This is also the main approach adopted by China's high-tech zones in the early phase of development, such as Suzhou New District. **The second is the internationalization approach of self-dependent innovation.** The enterprises in the parks take advantage of advanced technology to develop the world's leading products or services, and then enter the international market; in general, such enterprises have well-developed technical internationalization and market internationalization, possess a relatively large quantity of intellectual property rights, go global through advanced technology and occupy a favorable position in the international market, such as Huawei and ZTE in Shenzhen Nanshan Science Park. **The third is the internationalization approach of building global partnership.** Science parks and enterprises adopt the form of extensive cooperation, actively build cooperative networks on a global scale, and set up branches in the relevant countries and regions, so as to achieve development of innovation internationalization, such as Tsinghua University Science Park

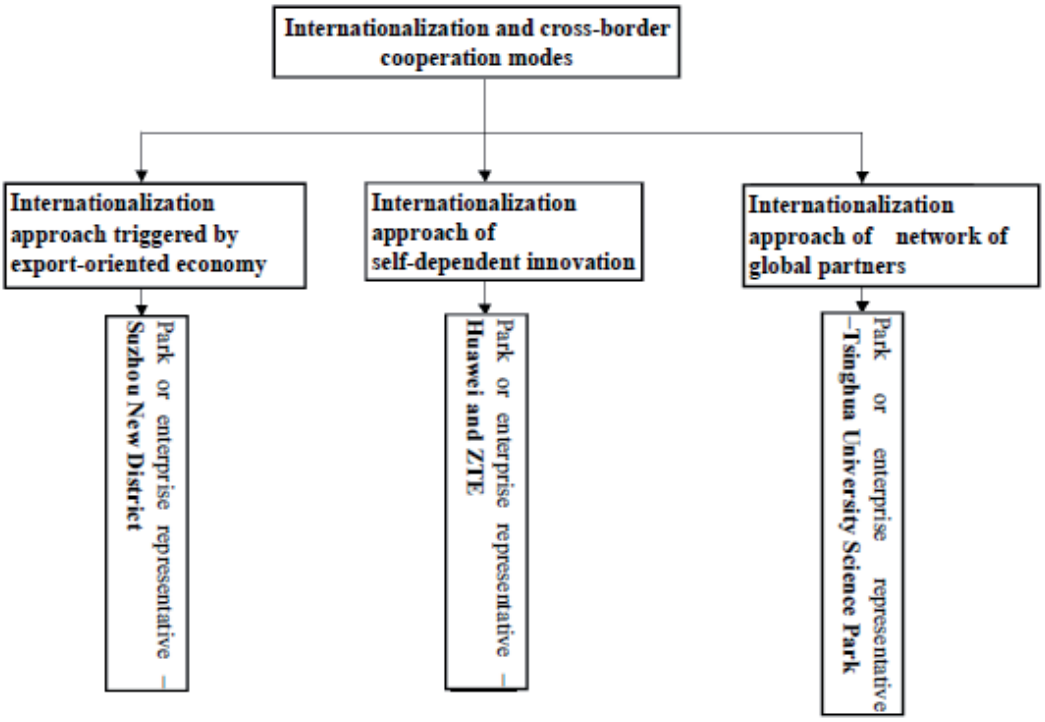
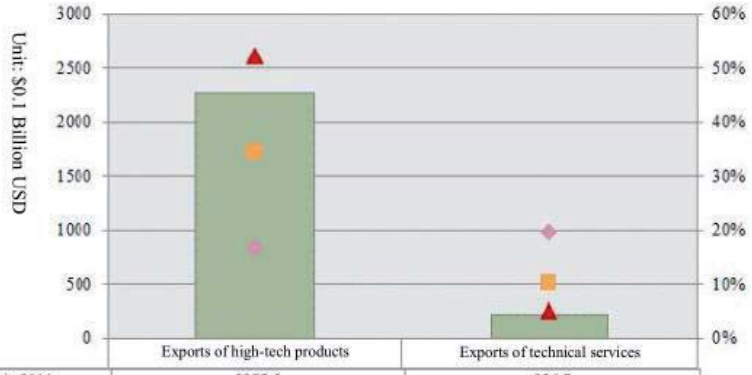


Figure 2 Classification of Internationalization and Cross-Border Cooperation Modes of Science Parks

III. Overview of Internationalization and Cross-Border Cooperation of the Science Parks in China

Since the approval for the establishment of "Beijing New Technology Industrial Development Trial Zone" (the predecessor of Zhongguancun) by the State Council in 1998, the science parks in China have been endowed with a functional orientation of "Demonstration, Piloting, Radiating, and Driving". After 20 years of development, science parks have become a strong support for China's national economic development, and its internationalization process has also been accelerated. For example, the foreign exchange earnings of the national high-tech industrial development zones (hereinafter: national high-tech zones) amounted to $427.2 billion USD in 2014, accounting for 60.5% of the national high-tech products exports. The science parks have been accelerating the pace of "internationalization" in the following three respects - internationalization of products, internationalization of factors and internationalization of organizations.

The national high-tech zones actively encourage the enterprises to explore and make use of the international market, optimize and upgrade the export trade structure through focusing on the export of high value-added high-tech products and technical services, and take a place in the highly competitive international market in terms of internationalization of products. In 2014, the total exports of high-tech products of the enterprises in the national high-tech zones amounted to $227.75 billion USD, accounting for 34.5% of that of all high-tech products in China, with a YoY increase of 16.9%. The total exports of technical services of the enterprises in the national high-tech zones reached $22.67 billion USD, accounting for 10.2% of that of all services in China, with a YoY increase of 19.6% (see Figure 2).



	Exports of high-tech products	Exports of technical services
115 enterprises in 2014	2277.5	226.7
Proportion of the total exports of similar products in China	34.5%	10.2%
Proportion of the total exports of national high-tech zones	52.3%	5.2%
Year-on-year increase of 114 enterprises	16.9%	19.6%

Figure 3 Overview of Exports of High-tech Products and Technical Services of National High-tech Zones in 2004

In terms of internationalization of factors, the national high-tech zones actively gather, integrate and make use of global innovation resources, strengthen technological opening-up and cooperation, absorb world-class research and development institutions and high-level overseas innovation talents, and create a good atmosphere for the gathering of global innovation achievements, talents and research and development institutions. By the end of 2014, there had been a total of 1,639 foreign research and development institutions in the national high-tech zones, 127 more YoY, and foreign research and development institutions have become an important platform for the effective allocation of international innovation resources. There are 26,969 enterprises established by overseas students, 111,000 overseas returnees among the total corporate employees, 56,000 foreign permanent staff, and 14,000 foreign experts in the national high-tech zones and a large quantity of international talents have been attracted to work or start businesses in the national high-tech zones.

At the same time, the national high-tech zones actively introduce into international capital, and the enterprises have attracted substantial international capital through listing in the overseas capital market, financing and other means. In 2014, the actual foreign investment attracted by the national high-tech zones and the enterprises directly under the national high-tech zones amounted to $7.01 billion USD, with 5.2% YoY growth, and 3.1 times the growth rate of China's actual use of foreign direct investment. The financing capital of these enterprises through overseas listing reached RMB 37.56 billion, with a YoY increase of 5.6%.

In terms of internationalization of organizations, the national hi-tech zones vigorously implement the national strategy of "going out", guide the enterprises to make overseas investment, encourage the enterprises to establish overseas production systems, R and D centers and marketing networks, and support the enterprises to foster international brands through application for overseas intellectual property rights, overseas acquisitions and other means. By the end of 2014, the enterprises in the national high-tech zones had set up 3,392 overseas marketing service agencies, 514 overseas technical research and development institutions and 365 overseas manufacturing bases.

At the same time, the overseas patents and overseas registered trademarks owned by enterprises in the national high-tech zones total 13,600 and 34,895 respectively. Among these, domestically controlled enterprises own 8,293 foreign patents and 26,865 overseas registered trademarks, a total of 206 domestically controlled enterprises have participated in the formulation of international

standards, and the proportion of overseas intellectual property rights owned by domestically controlled enterprises exceed 60% of that owned by all enterprises in the national high-tech zones.

Column - Overview of the Internationalization of Zhongguancun Science Park

Zhongguancun Science Park was the first national high-tech industrial development zone in China. After more than 20 years of development, it gathered nearly 20,000 high-tech enterprises represented by Lenovo and Baidu, formed six major advantageous industrial clusters, including the next-generation Internet cluster, mobile Internet and new-generation mobile communications cluster, satellite application cluster, biotechnology and health cluster, energy saving and environmental protection cluster, rail transportation cluster, and constructed a development pattern of "multiple parks with distinctive traits in one zone".

In recent years, Zhongguancun has achieved a significant improvement in terms of attraction and considerable international advanced innovative resources have been introduced to the region. Over the past two or three years, the global artificial intelligence expert Andrew Ng, the former vice president of Google Hugo Barra, the former global senior vice president of Microsoft Zhang Yaqin and other top talents have joined the enterprises in the Zhongguancun Demonstration Zone, boosting the internationalization of Zhongguancun enterprises. On the list of 2014 Fortune Global 500 enterprises, the number of enterprises which have set up subsidiaries or research and development institutions in the Zhongguancun Demonstration Zone reached 99, including Intel, Microsoft, International Business Machines Corporation (IBM), Siemens, Samsung, Accenture, Hewlett-Packard, Sony and many other multinational technology companies. Moreover, Zhongguancun Demonstration Zone has become increasingly attractive to multinational giants. In terms of attraction of global venture capital, according to Ernst and Young's ranking of global venture capital gathering places, Beijing and Zhongguancun rank 2nd, attracting venture capital of $7.71 billion USD, second only to the San Francisco Bay Area. In 2014, the amount of venture capital attracted by Zhongguancun enterprises accounted for 41.2% of that in China.

Zhongguancun Science Park also takes the lead in China in terms of "going out". In 2014, the high-tech exports of Zhongguancun enterprises accounted for 31.3% of their total exports, thus further optimizing the export structure. The number of patent applications filed by these enterprises to Europe, America and Japan was 2340, with a YoY increase of 21.1%, and the number of patents granted by Europe, America and Japan was 490 among these patent applications, with a YoY increase of 14.8%; the number of PTC patent applications filed by these enterprises was 2394, with a YoY increase of 24.8%. By the end of 2014, Zhongguancun enterprises had formulated 174 international standards. By positively carrying out global layout, Zhongguancun enterprises have accelerated the integration and use of various resources in the global innovation network. In the same year, 130 enterprises in Zhongguancun Science Park set up 571 branches abroad, 17 more YoY; meanwhile, Xiaomi and Baidu have established research and development centers to recruit overseas talents; SMIC, Origin Water, Never Quit and other enterprises have also conducted in-depth cooperation with Qualcomm, ARM, Schneider and other multinational companies to actively explore the international market.

IV. Internationalization and Cross-Border Cooperation Practices of TusHoldings

(I) Overview of internationalization and cross-border cooperation of TusHoldings

Tus-Holdings Co., Ltd. was established in July 2000 and is the former Tsinghua University Science Park (TusPark) Development Center founded in August 1994. TusHoldings is a large integrated enterprise established in reliance on Tsinghua University. It takes full responsibility for developing, constructing, operating and managing TusPark, and it is one of the first National Demonstration Enterprises in Modern Service Industry. It is the controlling shareholder or shareholder of over 200 listed and non-listed enterprises, and the total assets under its management have exceeded RMB 50 billion.

As the flagship product of TusHoldings, Tsinghua University Science Park (TusPark) is currently the largest single university science park in the world, with a building area of 770,000 square meters, and more than 1200 enterprises have settled in the park. TusPark has become a gathering place for multi-national corporation research and development headquarters, Chinese technology enterprise headquarters as well as innovation and entrepreneurship enterprises. It has become an important platform of Tsinghua University to serve the society and promote regional innovation, as well as a famous brand in China and even in the global science park industry.

Figure 4 Business Architecture of TusHoldings

Since its inception, TusHoldings has given top priority to "Internationalization Strategy" among its three major strategies ("Internationalization Strategy", "Supporting Platform Strategy" and "Radial Development Strategy"), and started the strategic layout in enhancing the international visibility and influence of Tsinghua University Science Park (TusPark). After 21 years of development and exploration, TusHoldings has accumulated a wealth of experience in the development and operation of science parks, and formed a high-quality operation and management team. At the same time, it has actively promoted organic interaction between innovation resources and regional economy, successfully built an innovation system of global radiation which takes science parks as the carrier, and set up

134 technological innovation bases in China and the world, including 40 science parks and 30 science cities. In addition, it has constructed nearly 73 incubators represented by TusStar. TusHoldings has also established a strategic partnership with the governments, universities and scientific institutions in Egypt, Thailand, Pakistan, Malaysia, Australia, the United Kingdom, Mongolia and other countries. It signed a comprehensive strategic cooperation agreement with the Egyptian Ministry of Communications and Information Technology for cooperation in the field of science park. It signed a strategic partnership agreement with the National Bureau of Innovation of the Ministry of Science and Technology of Thailand for partnership in the fields of technological innovation, energy saving and environmental protection, as well as online education and it signed a partnership agreement with National University of Sciences and Technology (NUST), Pakistan, planning to construct the first "The Belt and Road" science park in Pakistan.

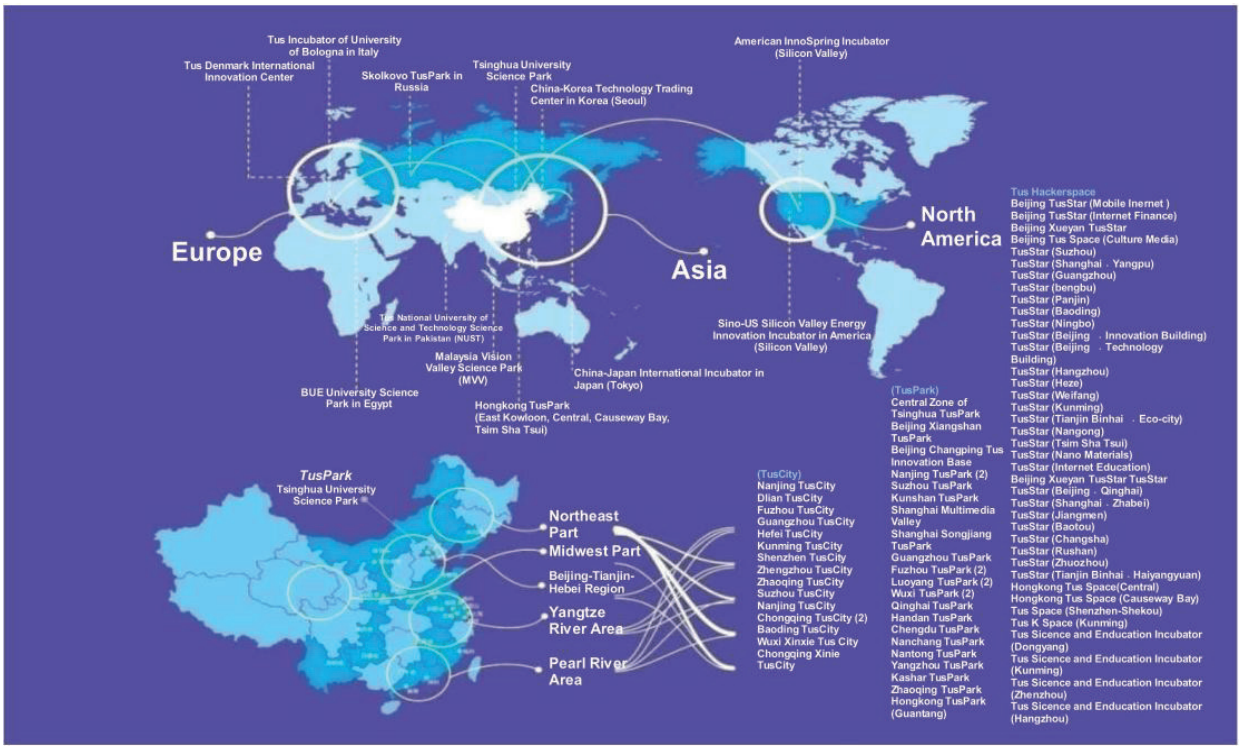


Figure 5 Distribution of Science Parks and Science Cities of TusHoldings in China and the world

Table 2 History of Internationalization and Cross-Border Cooperation of TusHoldings

Development Stage	Year	Main Content
Early stage of internationalization	1993	Tsinghua University proposed the idea of establishment of Tsinghua University Science Park (TusPark).
	1994	Tsinghua University Science Park Development Center was formed, and the development idea of taking the path of internationalization was put forward.
	1997	A Fortune Global 500 enterprise - P &G settled in the TusPark.
	2000	A Fortune Global 500 enterprise - Schlumberger settled in the TusPark.
Acceleration stage of internationalization	2001	● Three major development strategies were developed - "Internationalization strategy", "Supporting platform strategy" and "Radial development strategy". ● The goal of development into an international university science park was established.
	2002	● Tsinghua University Overseas Students Pioneer Park was established; SUN (a Fortune Global 500 enterprise) and other enterprises settled in the park. ● TusPark Business Incubator Co., Ltd. won "2002 Science Incubator Best Practices Award" through joint evaluation and selection by European Incubator Network, Dutch Ministry of Economic Affairs and National Business Incubation Association of the United States.
	2003	● TusPark was approved to be the only Grade A national university science park jointly by the Ministry of Science and Technology and the Ministry of Education. ● TusPark became the first Chinese university science park member of the International Association of Science Parks and Areas of Innovation (IASP). ● A Fortune Global 500 enterprise - NEC settled in the TusPark.
	2006	Chen Hongbo, the Deputy Director of Tsinghua University Science Park Development Center, was elected as one of the 12 members of the IASP's Council, and also concurrently served as President of IASP Asia Pacific Division at the annual conference of the IASP held in Helsinki, Finland.
	2008	The annual conference of IASP Asia Pacific Division was successfully held in Tsinghua University Science Park. The IASP's only overseas office - China Office settled in Tsinghua University Science Park.
	2011	TusHoldings was invited to become a member of the Davos Forum Agenda Council.
Stage of establishment of	2012	InnoSpring incubator was established in Silicon Valley in the United States in partnership with Shui On Group, Northern Light Venture Capital and Silicon Valley Bank and other organizations.

a global network of innovation	**2014**	In August, TusPark International Advisory Committee was set up; in December, the construction of TusPark (Hong Kong) was officially launched.
	2015	● The first TusParkHK Innovation Hub was officially opened in Hong Kong, marking an important step in the development of TusHoldings' internationalization. ● It established a strategic partnership with the governments, universities and scientific institutions in Egypt, Thailand, Pakistan, Malaysia, Australia, the United Kingdom, Mongolia and other countries.
	2016	In March, Honeywell paid a visit to TusHoldings, and the two parties intended to cooperate in the fields of urban and industrial digital upgrade, energy saving, environmental protection, etc.

(II) Internationalization traits and cross-border cooperation approach of TusHoldings

(1) Internationalization traits of TusHoldings

The internationalization process of TusHoldings has distinctive traits: Under the general context of weakness of the current overall economic recovery in the world, TusHoldings has made great efforts to seek opportunities in this crisis; on the one hand, it has aimed at the United States, Europe and other developed countries, and promoted innovation and entrepreneurship and invested in the new economy through cross-border mergers and acquisitions and other means; on the other hand, it has aimed at the countries along "The Belt and Road", and rapidly expanded the market and actively built a global network of innovation and entrepreneurship through the construction of science park innovation bases, output of products under TusHoldings, as well as operational consulting services.

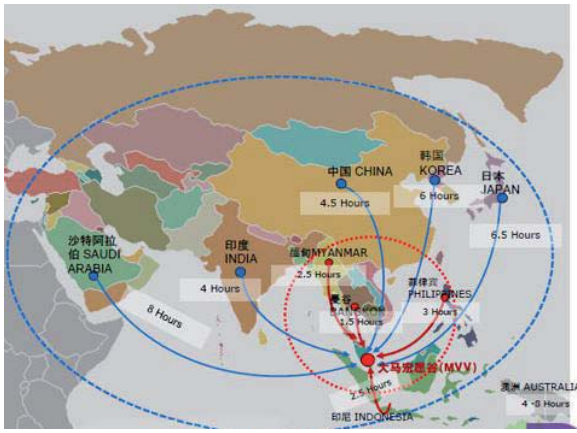
(2) International partnership approach and path of TusHoldings

① **Mode of partnership: To build a global network of innovation and entrepreneurship.** Based on the use of big data and cloud computing technology, TusHoldings has successfully achieved connection, interaction and sharing among the innovation bases all over the world, and built a technological innovation network covering the globe. By the end of 2015, TusHoldings had arranged 134 technological innovation bases in the forms of incubators, science parks and science cities in China and other parts of the world, and achieved layout in a number of countries along "The Belt and Road" and in APEC countries. In addition, it has established an international incubation base cluster in the United States, South Korea, Russia, Hong Kong and other countries and regions.

② **Specific path:**

— **Planning, consulting and operational services.** With reliance on an accumulated 21 years of experience in planning and design, construction and operational management of science parks and science cities, TusHoldings provides a wide range of services covering the entire industry chain for the countries along "The Belt and Road", from planning and design, industry positioning, operations management to financing and investment promotion. For example, TusHoldings undertook the strategic planning task of Malaysian Vision Valley Science Park (MVV SP), and provided consulting services focusing on How MVV SP connects with China's "The Belt and Road" strategy, how to determine the overall objective and industrial development orientation of MVV SP, how to build an innovation system

and other key issues concerning the operation and development of the science park. For another example, under the entrustment by British University in Egypt (BUE), TusHoldings undertook the task of "Feasibility Study on the Construction of BUE Science Park" and provided comprehensive consulting and advisory services for the planning, construction and management of the science park, so as to upgrade guidance and demonstration effect of BUE Science Park in promoting economic development and innovation and entrepreneurship in Egypt.



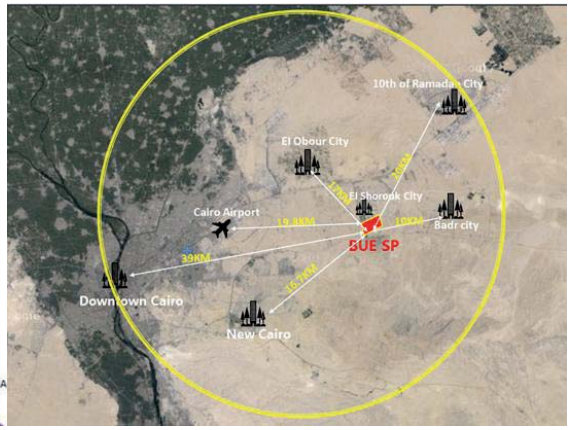


Figure 6 Schematic Diagram of MVV SP Project Figure 7 Schematic Diagram of BUE Science Park Project

— **Cross-Border mergers, acquisitions and partnership.** The strategic vision of TusHoldings is to achieve cross-border mergers and acquisitions in the amount of tens of billions of RMB or more. It has actively conducted negotiations with the enterprises that represent the new economy, such as Honeywell (a Fortune Global 500), intending to carry out partnership in the fields of urban and industrial digital upgrade, energy saving and environmental protection, technology incubation and acceleration, and lay a solid foundation for TusHoldings to rank among the world-class enterprises.

— **Industrial and product partnership.** A number of technology companies under TusHoldings, such as Tus-Sound, Tsinghua Solar and Yadu, have actively implemented the strategy of "going out" with the acceleration of internationalization of incubators, science parks and innovation bases, and conducted negotiations positively with the countries along the framework of the "The Belt and Road". Their products and technologies have been applied in waste and water treatment, solar power generation, air purification and other fields, and the overall technological content and economic benefits of the science park have been improved.

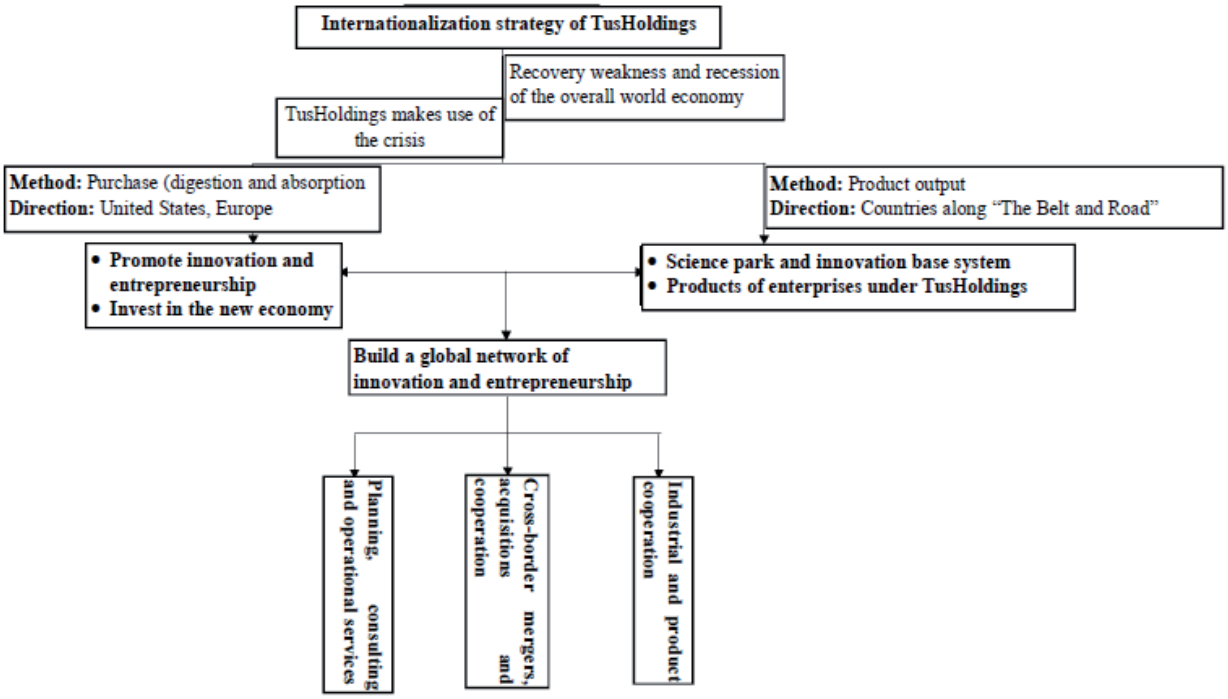


Figure 8 Schematic Diagram of Internationalization Strategy of TusHoldings

V. Problems, Risks and Suggestions on Internationalization and Cross-Border Cooperation

(I) Primary problems and risks

The problems encountered by science parks in China throughout the process of internationalization are primarily as follows: **Firstly, there is a shortage of high-quality international talents.** This is the biggest bottleneck confronted by the science parks in China during the process of internationalization. At present, many management personnel involving foreign affairs in the science parks and high-tech enterprises are only proficient in foreign languages or have work experience in administrative services in foreign countries, but lack professional knowledge and skills in international trade, investment, finance and other special respects, so these science parks and high-tech enterprises face greater difficulties in overseas expansion, cross-border mergers and acquisitions and other areas, and it is difficult for them to implement the internationalization strategy effectively. **Secondly, there is a lack of clear strategic paths and objectives for internationalization.** In recent years, as part of the internationalization practices of the science parks in China, some enterprises did not get the desired benefits due to bad investment decisions, but paid a huge price, and the reason is that these enterprises lack clear strategic paths and objectives in line with the local conditions. **Thirdly, the soft environment for internationalization needs to be improved:** (1) Public services must be improved. Poor access to information has become a major obstacle to the enterprises' internationalization process, the construction progress of the public service platform for the enterprises' overseas development is slow, and there is a lack of effective way to understand the local market, policies and resources. It is difficult to satisfy these common needs in reliance on a single science park or enterprise, and public service from the government is urgently needed to effectively address such needs. (2) Greater support from the government is needed. Policy support for the promotion of enterprise internationalization development is insufficient and needs to be further strengthened. To participate in overseas exhibitions, presentations and exchange

is an important way for the enterprises to accelerate the development process of internationalization, and the government shall provide greater support for the enterprises' participation in influential exhibitions of higher level in terms of subsidy, exhibition participation organization and guidance.

Science parks are often faced with investment risks during the process of internationalization, which can be summarized into four types: **The first is political factors.** For the internationalization and cross-border cooperation of science parks, the most difficult thing to deal with is the obstruction from the government of the host country. Regardless of the purpose, if the government of the host country take a discriminatory and repressive attitude, it is very difficult for high-tech parks and enterprises to find a foothold in the country. **The second is the law and industry standards.** Science parks and related enterprises worry that their products and services are not in line with the laws and industry standards of the host country, thus making the overseas expansion of the science parks and enterprises extremely difficult. **The third is cultural factors.** Cultural factors include different corporate cultures and significant cross-border, cross-regional cultural differences. The success of the integration process after the merger and acquisition of foreign enterprises can never be achieved through the participation by just a small part of the leaders, but requires active participation by a large quantity of personnel from the headquarters to the operational level, and the enterprises must face the daunting challenge of breaking through cultural barriers. **The fourth is management factors.** It is difficult for the science parks and high-tech enterprises in China to adapt to the competitive environment of the host country due to their own ability and other conditions, so this is very painful to these science parks and high-tech enterprises. At the same time, the adaptability and localization ability are also extremely important for survival and development.

(II) Suggestions

Expansion of international vision. In face of new circumstances, international vision is of great significance for the development of science parks and high-tech enterprises. It is necessary for the enterprises to put themselves in the global context when thinking, studying, comparing and understanding from technical innovation, research and development, park planning and design, and industrial development orientation at the front end of the industrial chain to park market development and output of physical products at the rear end of the industrial chain. When formulating a strategic development plan, the enterprises shall make clear the strategic objective, and make more efforts on how to enhance the development quality of enterprises, enhance the international competitiveness of the industry, and make better use of global innovation resources.

Establishing international talent projects. Firstly, create a favorable environment to attract overseas returnees. Establish global enterprise talent pools and international talent markets. Make full use of economic and trade negotiations, cultural exchanges, tourism and other channels to attract and recruit overseas enterprise talents. Secondly, develop market-based talent agencies, and attract internationally renowned talents at home and abroad into China's overseas science parks to carry out innovation activities. Thirdly, develop advanced talent cultivation and training programs conducive to the growth of talents and development of China's overseas science parks. Focus shall be placed on strengthening the training of domestic talents and overseas students in the specialized areas of incubator service, intellectual property transactions and protection, investment as well as financing.

Strengthen government support. Firstly, actively build "one-stop" service platforms for enterprises to "go out", and help enterprises in science parks to implement the internationalization strategy. Create an international service system and service organizations, and actively guide and promote the

construction of the platforms for technology transfer transactions, Internet banking, as well as intellectual property protection so as to form an ecosystem for the sound development of science parks in the global arena. Secondly, enact relevant support policies and measures in the key areas of technology, human resources, as well as capital, markets to rapidly enhance the international research and development level and international competitiveness of the enterprises in the science parks, and actively promote the high-tech companies to integrate into the global innovation network.

Create an international atmosphere actively. Firstly, achieve full partnership with the media to enhance visibility and influence of science parks and high-tech enterprises on the international stage. At the same time, take advantage of important opportunities (such as Boao Forum and Davos Forum) to obtain positive publicity, and strengthen publicity and promotion through the international exhibition catalogues and major international industrial media. Secondly, strengthen exchanges and partnership among the international science parks continuously, update the development concept of science parks, and keep abreast of the development trends and dynamics of science parks, so as to learn from the successful experience and failures of peers around the world.