Insigma's Technological Innovation Ecosystem for Implementing the Strategy of Green Smart City

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Abstract--**In 2004, in the report of "Innovative America" by the Council on Competitiveness, innovation ecosystem was first proposed, which has provide a new way for companies to compete in such a competitive society. Then, several literatures have focused on this area, and Chinese scholars have especially done some research about the enterprise technological innovation ecosystem. Insigma, as one of the excellent IT service providers in China, has constructed a successful technological innovation ecosystem in implementing its strategy of "Green smart city". In this article, we will first make a literature review about the enterprise innovation system focusing on the structure and operation mechanism. Then, we will provide a case analysis comprehensively describes how Insigma builds its own enterprise technological innovation ecosystem and how the system works. We will also introduce a kind of international innovation institute, which works like a regional technological innovation ecosystem as the support of Insigma's strategy.**

I. INTRODUCTION

Since the concept of innovation is proposed by Joseph Schumpeter in the early 20th century, it was continuously endowed with new connotation. After that, scholars have constantly extended its research field. Innovation has become a more influential pattern of economic growth as the process of globalization.

In 1985, Lundvall B A has proposed the "system of innovation" initiatively[8]. And then in 1987, C Freeman firstly used the concept of National Innovation System to summarize Japan's successful catch-up growth in his published paper "Technology, policy, and economic performance: Lessons from Japan"[5]. In the 1990s, Japan went through the ten years of economic downturn, but America's economic began to step in prosperity and development stage again with Silicon Valley as the representative. The continuous innovation and development of Silicon Valley leads to the concept of innovation ecosystem, which described Silicon Valley's success compared with Japan. "Regional Advantage: Culture and Competition in Silicon" and "The Silicon Valley Edge: a habitat for innovation and entrepreneurship" are two famous books in the study of Silicon Valley. Both of them think that the difficulty to replicate Silicon Valley's success can be explained by the view of ecosystem. In 2004, US Council on Competitiveness clearly propose the concept of innovation ecosystem in the report "Innovative America". This report argued that enterprises, governments and workers should establish a new kind of relationship, build an innovation ecosystem together in the 21th century[15].

Ecosystem is a concept proposed by English ecologist A.G. Tansley in 1935. An ecosystem is a biological term which refers to an environment consisting of all the organisms living in a particular area, as well as all the nonliving, physical components of the environment with which the organisms interact, such as air, soil, water and sunlight[7]. A biological ecosystem is a complex set of relationships among the living resources, habitats, and residents of an area, whose functional goal is to maintain an equilibrium sustaining state. Just like the biological concept, an innovation ecosystem consists of economic agents and economic relations as well as the non-economic parts such as technology, institutions, sociological interactions and the culture. Non-economic components or innovation structure can enable idea making, introducing innovation and diffusion of them[11]. A highly developed innovation ecosystem helps participants to operate beyond firm boundaries, enable to transformation of knowledge into innovation.

The concept of innovation ecosystem provides an emerging orientation to create novelty in business operations.

II. ENTERPRISE TECHNOLOGY INNOVATION ECOSYSTEM

A. The concept of enterprise technology innovation ecosystem

After the introduction of innovation ecosystem, several scholars began to study the innovation ecosystem from the enterprise view, namely enterprise technology innovation ecosystem, especially in China.

In Chen Siqing and Gu Ligang's definition, enterprise innovation system refers to a whole system consist of the enterprise technology innovation composite tissue and enterprise technology innovation composite environment, with the flow of innovation material, energy and information within a period of time, and a certain space[1]. Enterprise technology innovation composite tissue consists of participating organization, such as suppliers, distributors, and financial institutions, while composite environment consists of market, science and technology development level, physical environment, cultural environment, social environment, natural environment. Zhang Yin thinks that enterprise technology ecosystem is a system made of technology, knowledge, capital, innovative tissue, enterprise, collaborative developer, competitors, financial institution, government, external environment and operational mechanism[16].

Innovation ecosystem moves beyond market positioning and industrial structure, and have three major characteristics:

symbiosis, platform, and co-evolution[9]. In fact, innovation ecosystems can be analyzed from three components. First component of the ecosystem is state of cluster development. University-industry collaboration is second component of an innovation ecosystem. Culture to innovate is another structural component that is expected to foster innovative activity[12]. The essence of enterprise innovation ecosystem is that an excellent project should get knowledge support from other units, otherwise it will lose competitiveness.

B. Enterprise innovation system structure

Analyzing the enterprise innovation ecosystem structure meticulously, the system members would include the material resources (funds, equipment, facilities, etc.) and the human capital (students, faculty, staff, industry researchers, industry representatives, etc.) that make up the institutional entities participating in the ecosystem (e.g. the universities, colleges of engineering, business schools, business firms, venture capitalists(VC), industry-university research institutes, federal or industrial supported Centers of Excellence, and state and/or local economic development and business assistance organizations, funding agencies, policy makers, etc.). Those members can be divided into two distinct, but largely separated economies, the research economy, which is driven by fundamental research, and the commercial economy, which is driven by the marketplace[7]. By design, the two economies are weakly coupled because the resources invested in the research economy must be derived from the commercial sector.

In order to better understand the ecosystem's working mechanism, the structure of enterprise innovation system can be divided as following picture, consisting of the core layer, the development&application layer and the innovation platform[1], as Fig.2.

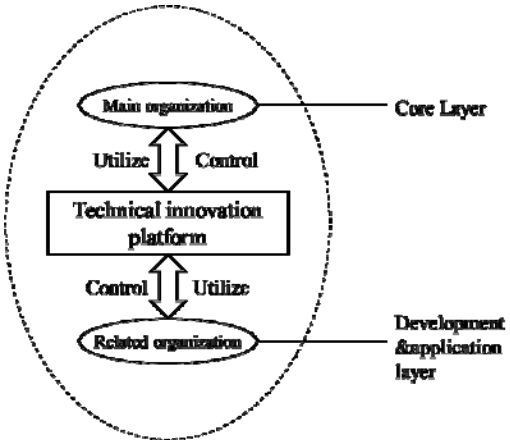

Fig.1 The structure of enterprise technology innovation ecosystem

1) The core layer

The core layer consists of one or more main organizations with strong influence in technology innovation. The core layer acts as the regulators of the technology innovation ecosystem, and works hard to build the technical innovation platform, which connects the core layer and the development&application layer. The core layer should set a goal for the whole innovation ecosystem first. And the all the members can work efficiently around the goal, and ultimately push the technology innovation activities through improving the efficiency of innovation, realizing the sharing and optimizing of resource.

2) The development&application layer

This layer consists of technology innovation related organizations, such as integrators, software developers, suppliers and financial institutions. Those organizations participate in the technology innovation activities through the technical innovation platform, and provide products and service for the core layer through specialized technology innovation, in order to realize the goal of the whole innovation ecosystem.

3) The technical innovation platform

This platform consists of the resources that related with each other, mainly including technology resources, information resources, production resources, marketing resources et al. The innovation platform is a connector developed by the core layer according to the relations between all the members. On one hand, the platform is developed and improved by the core layer, on the other hand, this platform provides a stool for the core layer to realize the sharing of resources. The relations between development&application layer and this platform can be concluded as utilizing and developing. In other words, the development&application layer's outcome can rich the platform, while it can take advantage of the abundant resources provided by the platform.

C. The significance of enterprise technology innovation ecosystem

The enterprise technology innovation ecosystem is established on the basis of independent member's voluntary. The members invest innovative resource together, and push the collaborative innovation led by the core enterprise through the optimization of resource sharing and innovation elements combination. The innovation ecosystem builds on the principles of open innovation and collaborative innovation.

In Chesbrough's definition, open innovation means that "the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and to expand the markets for external use of innovation, respectively". Through open innovation, organizations can use others' resources to make up for their own inadequacy, thus to improve the efficiency of innovation and competitiveness. They can also sell the technological achievement that they don't need to its partner in urgent need of it, thus to take full advantage of those achievement[2].

Chen Jin [3] defines collaborative innovation as a new paradigm of innovation theory that different entities, including corporation, university, research institute and intermediary, exerting their characteristics to promote the commercialization of original innovation under the guidance of national government. Collaborative innovation adopts a systematic view to handle the relationship among various innovation subjects and emphasizes a continuous exchange of information, energy and value in dynamic form. Collaborative innovation can lead to both technology integration and business integration supported by abundant resources.

All in all, the implementation of ecosystem can bring about several benefits. In the phase of technology innovation, the ecosystem can complete the big innovation projects that a single enterprise can't finished ever through the effective coordination of the innovation resources from ecosystem members; And in the phase of technology innovation commercialization, the ecosystem can utilize the commercial sources and funds within ecosystem, in order to realize a smoothly commercialization of the technology innovation[6]. To analysis in detail, those benefits can be described as followings.

1) Configuration of innovation resources

The ecosystem can integrate the public innovation resources and private innovation resources, and make those resources available for all members. Effective collaboration can encourage interactive learning, synergy and complementarity between key specialist groups and participating firms, such as design, marketing, production and finance [4,10] .

2) Reduced risk, moral hazards and transaction costs

In the background of economic globalization, the change of competitive environment and shortage of resources improve the risk of single organization's innovation. The technology innovation ecosystem provides a way for single organization to collaborate with other organizations, and share resources together, so that risks can also be shared throughout the network, and eventually leading to more informed decisions and further cost reductions. Ecosystem also encourages shared values, goals, norms, and ways of working which facilitate problem-solving, collective action and innovative behavior, often through a complex combination of competition and cooperation, and further reduce the transaction costs[12,14].

Besides, from the perspective of knowledge management, the implicit and exclusive knowledge in the ecosystem can be more extensively disseminated from one to another through cooperation. Thus, the interaction of knowledge in various entities can create more market opportunities with less transactional cost and affordable risk.

3) Co-evolutionary, improve the innovation capability of members

From the perspective of ecology, co-evolutionary is a distinguished feature of ecosystem. Co-evolutionary happens in the collaboration and competition of all members. In the ecosystem, member not only cares about its own development, but also regards other organizations' influence on itself. The innovation ecosystem can provide organizations with better accesses to information, knowledge, skills and experience. In particular, it provides opportunities for learning about new ways of operating and new technologies, and can reduce the development time and cost of new products and production processes[11,4,12].

4) Improved response capacity

The diversity kinds of members can provide wide accesses to information sources, and shorten the distance between enterprises and end-customers, which eventually promote the innovation's success. So it can allow participating entities to respond more quickly and to anticipate changing competitive circumstances[12].

III. INSIGMA'S ENTERPRISE TECHNOLOGY INNOVATION ECOSYSTEM

A. The history of Insigma

In 2000, academician Pan Yunhe, then the president of Zhejiang university, proposed that the university-industry collaborative platforms to establish an innovative, high-impact and high-tech enterprise, which is Insigma. And in 2001, Insigma is founded by the Zhejiang university enterprise group, the computer application and software engineering center of Zhejiang University and Zhejiang University Alumni Enterprises. In the first few years, Insigma focused on the areas such as IT service and software outsourcing, just worked as an information system solution provider. In 2004, Insigma chose the "Computer+X" as its development direction, and extended its business to the areas such as energy and environmental protection. In 2009, Insigma established "Green Smart City" as its development strategy. And in 2012, it starts to implement the innovation strategy for Green intelligence and city improvement. Now, it has become an international company with more than affiliated companies located all over China, including three publicly-listed subsidiaries, Insigma Technology Co.Ltd, United Electronic Co.Ltd and Zheda Lande Scitech Co.Ltd. With the help of more 10000 employees, its business has expand to North America, Europe, Japan and Southeast Asia.

B. Insigma's green smart city

In recent years, the Green Smart City business has attracted significant attention and provided a huge untapped market in China. China's urbanization process has reached an unprecedented level and pace in contemporary decade. Date shows that China's urbanization rate has come to 47%. The 2010 City Blue Book forecasts that by the year 2030, China's overall urbanization level will reach 65% and more than 70 cities with a population above one million which includes 18

above five million. There is no doubt that urbanization will keep its strong power and promote China's development in the near future. However, the urbanization works as double-edged weapon. Although it has improved the level of economic and living, some severe problems with unpredicted chain effect it brings have caused significant damages to our society, such as traffic jam, industrial pollution and energy shortage. Statistic show that nearly 400 cities of the 655 in China are short of water, and over 400 cities have traffic jams at the peak hours. Since 2013, several cities began to fall into serious air pollution called "Wu Mai", include Beijing, Shanghai, and even "The heaven in China" Hangzhou, one of the most beautiful and comfortable cities in China. Those problems not only do harm to people's health, but also will prevent development in the long run. All in all, those problems need to be solved in urgent[17].

As one of the excellent IT service providers Insigma, witnessed by its profound progress in past 10 years, started a strategy named "Green Smart City" in 2009 to cope with the challenges, but also opportunities. "Green Smart City" means pushing the ecological transformation of city and improving the efficiency of city operation through combing the clean technology and using information technology as drivers. This strategy tries to build a new city with characteristics such as information developed, ecology, efficient and economic prosperity et al. The mode of Green Smart City is emerging to solve these problems and change our way of life with promising future.

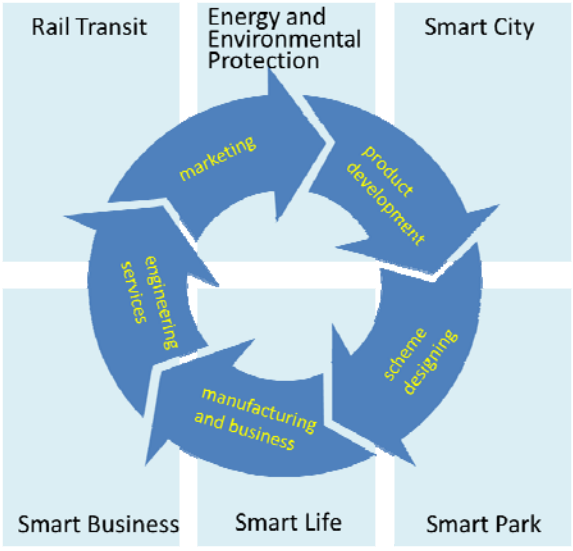

Fig.2 The structure of Insigma's business

According to the new strategy, Insigma has reestablished its business system. Now, it has six main business fields, including rail transit, energy and environmental protection, smart city, smart business, smart life and smart park, just as Fig.2. And according to those fields, Insigma has built very excellent ability of marketing, scheme designing, product development, manufacturing and business, and engineering services. In 2011, the company's operating income reached 6.915 billion, with profit 0.185 billion. And in 2012, the company's operating income reached 7.609 billion, with profit 0.179 billion. Insigma is also an innovative company, its average R&D input in the recent three years has reach 0.17 billion, about 2.4% of its operating income.

C. The ecosystem for Smart Green city

According to this strategy, Insigma has renewed its business system. Now it has six main business areas, namely rail transit, energy and environment protection, smart business, smart life, smart technology park and smart city.

Even though the flames of Green Smart City construction suggest an optimistic prospect, there are several problems that need to be solved for Insigma. The biggest obstacle for Insigma to implement this strategy is the diversity of relative industrial departments. Green Smart City business requires a cross-industrial cooperation, such as smart technology, clean technology, new energy technology and environment protection technology et al. As we know, as one of the most excellent IT companies, Insigma contains two core businesses: software outsourcing and IT integrated service. Although it has been considered as a strong performer in the current saturated IT market, it still hardly has reached the areas such as energy and clean-tech, which are very important elements of Green Smart City construction. In fact, nowadays, smart technologies and clean technology in China are immature to support the implementation of Green Smart City.

So how can it become a pioneer in green smart city business? Maybe Insigma need to search for all available resources related with green smart city business around the world, and includes them into its strategy. In other words, a technology innovation ecosystem is in urgent need to allocate different forms of resources in the process of designing and implementing of Green Smart City. This ecosystem calls for a synergy of different organizations to achieve a multi-win situation, which can be explained by the theory of open innovation and collaborative innovation.

In fact, with several years of development, Insigma has already maintained a close touch with Zhejiang provincial government and Hangzhou municipal government, which can offer significant convenience to the ecosystem to do business. In this case, to integrate different entities into an ecosystem platform to build Green Smart City project would be a smart choice. Through integrating related resources all over the world, the ecosystem devotes itself to provide the best green smart city services for customers in China, and even clients abroad.

D. The structure of the innovation ecosystem

In order to understand how Insigma's enterprise technology innovation ecosystem works, we will analysis the structure of Insigma's ecosystem according to the model presented as Fig.3

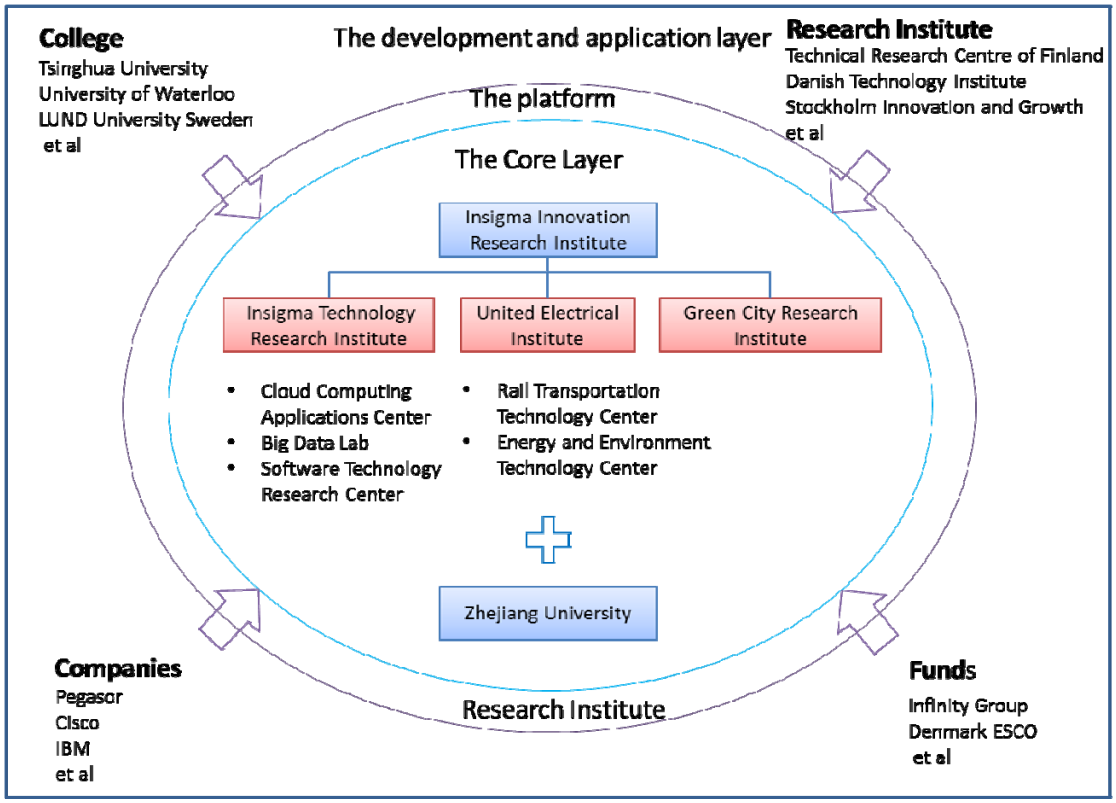

Fig.3 The structure of Insigma innovation ecosystem

1)The c ore layer

The core layer includes Insigma and Zhejiang University. Insigma was an IT service cooperation established by Pan Yunhe, the former President of Zhejiang University in 2001 to work as the model of industry-university cooperation. In other word, it is an affiliated company of Zhejiang University (later refer as "ZJU"), one of the top universities in China. The company and Zhejiang University have a close talent exchange. Insigma and ZJU have established several joint research labs and cooperative projects to accomplish university-industry cooperation. Last but not least, Zhejiang University keeps delivering advanced scientific achievements to Insigma to realize the commercialization of those achievements.

What is more, after ten years of development, Insigma has already built its own research and development system. We can analysis this R&D system from three levels. The first level is Insigma Innovation Research Institute, which is responsibility for the whole group's innovation activities and top decision-making. The second level consists of Insigma Technology Research Institute, United Electrical Institute and Green City Research institute, which are the main research institutions on the subsidiary level. The third level consists of these institutes focused in particular areas belong to the subsidiary company, such as Cloud Computing Applications Center, Big Data Lab, Rail Transportation Technology Center, Energy and Environment Technology Center and Software Technology Research Center et al.

Insigma and Zhejiang University constitute the nucleus of the technology ecosystem together, and lead the R&D direction. They are also responsibility for dealing the public relations with government and other related parties, and selecting the market information.

2) The development and application layer

For get better ecosystem performance, Insigma has built extensive collaborations with other organizations. Those organizations constitute the development and application layer together, and they can be divided into three kinds, namely university and research Institute, enterprises, financial Institute.

University and Research Institute

Besides Zhejiang University as the main cooperative partner, Insigma also signed with several famous universities from western countries, such as University of Waterloo, LUND University Sweden, Eindhoven University of Technology Netherlands and Chinese University of Hong Kong. Several world-leading technology research organizations also join this ecosystem because of the effort of Insigma, such as VTT, CLEE, DTI and STING. Technical Research Centre of Finland (VTT) has very remarkable technology and innovation capability in the areas such as air clean technology. Cluster for Energy and Environment (CLEEN), as one of six SHOKs (Strategic Centre for Science, Technology and Innovation) in Finland, was established in

2008 to facilitate and coordinate world-class industry driven research in the field of energy and environment. Danish Technology Institute (DTI) is an independent, not-for-profit institution, focusing in green building technology, such as energy-saving windows technology, green roof technology, solar energy technology and water reuse technology. "Future Industrialized Sustainable Houses" is an example of DTI's successful achievement. Stockholm Innovation and Growth (STING) is a world-class start-up ecosystem from Sweden, consisting of many start-ups and mature high-tech enterprises focusing in environmental technology and energy technology, such as carbon technology, smart grid technology, wave energy technology et al. These universities and institutes can not only provide technology and talent support for the early R&D activities in the ecosystem, but also take some successful achievements to China market.

Enterprise

Besides those research institutes, Insigma also builds relationship with companies that focused in related areas, such as Pegasor, Cisco, IBM and some small entities with strong innovation capability. Pegasor is a leading clean-tech company in the field of particle emission monitoring from Finland, with its technology and products providing better information of the air quality and particulate emissions. Cisco, as one of the most excellent internet solutions providers in the world, has built a joint venture together with Insigma for Smart Connected Community (S+CC) business, call City Cloud. The Research and Development Center of Green Smart City, founded by IBM, Insigma and Zhejiang University, works on development and innovation of technology related with green smart city. These enterprises can take advanced technology achievements that already get great successes in developed market to China through this ecosystem. What is more, they can participate in the R&D and commercialization activities in the ecosystem.

Financial Institute

To work as a ecosystem, the financial force is essential. Insigma has established a complete investment system by cooperating with some financial institute. Those partners include: Industry investment fund, such as Hangzhou Venture Capital and Zhejiang Innovation Industry Fund; Venture funds, such as Zhejiang Yinao Veture Capital Co, Ltd and Hangzhou Xueyou Investment Co, Ltd; Private Equity, such as Harvest Capital Co, Ltd and Zheshang Fund CO, Ltd. Insigma, together with Infinity Group in Israel, built an mutual fund to support the development of the ecosystem. These financial institutes can not only provide enough funds for R&D activities and promote commercialization of technology achievements, but also help the start-ups in the business incubator grow up to large-scale.

3) The platform—— Model of Research Institute

The technology innovation platform provides a place where all the members can work together to promote its green smart city strategy actively. In Insigma's ecosystem, this platform takes the form of research institute. Since the implementation of this strategy, Insigma has set up several research institutes all around China with the members from the innovation ecosystem. Guangzhou Industrial Research Institute, Changshu Industrial Research Institute, Zhoushan International Institute and Kunshan Innovation Center are the successful examples of this institute model. This kind of research institute acts a platform for the ecosystem members to collaborate, integrating universities, institutes, enterprises and funds at home and abroad, in order to become a technology business incubator which can drive the regional technology innovation and industrial development together with the local government.

More in detail, Insigma should deeply understand the demand of local economic development. And then, referring to its green smart city strategy, Insigma determines the technology areas that in urgent need to be developed and suited to develop under the help of local governments. Then, Insigma can select appropriate partners from its existing innovation ecosystem, and set up the research institute together. With several years' experience of successful implementation, this model can be duplicated elsewhere to popularize Insigma's green smart city strategy.

E. The benefit for all parties

1)For Insigma

Confined to its own business ability, Insigma can do less to carry out green smart city strategy than expected. Through this ecosystem, the innovation resources and intellectuals provided by other entities can make up for Insigma's shortage. Insigma not only can utilize others' excellent resources, but also can have talent exchange with those institutes, so as to improve its own innovation capability. Combined with its existing expert team and rich market experience, Insigma will surely spark thrilling findings that is unable to happen with original resources.

2) For university and research institute

Universities and research institutes are the major force for technology innovation, and are on the leading edge of technology development. But we all know that innovation won't become successful unless it went into commercialization successfully. This technology ecosystem provides a way for them to have their R&D achievements commercialized, further can help them build cooperative relationship in R&D with other universities, research institute and even enterprises.

3) For enterprise

The penetration of Chinese market for a foreign company can no way be easy, especially given the fact that Green Smart City business has a significant relevance to China's national economy and people's livelihood. Besides, Insigma is very familiar with local demand and policies, while a foreign subject can hardly seize the true picture in China.

Therefore high-end technology is far from enough for foreign companies to enter the Chinese market. However, if those companies cooperate with Insigma, in other words join the innovation ecosystem, the dilemma will be cleared. It's a delicate way to achieve a win-win situation—both parties can serve as a complimentary counterpart to satisfy each other's deficiency by making the use of its own advantage.

Especially, some of the enterprises from development market have small size. They may be technology leaders in the related field of the world, but they won't have a bright future for development due to the firm size and market size. China, as a developing country, is on the rapid development stage of economic. The fast development not only leads to demand of urban construction, but also results in some problems such as pollution. Both of them provide huge market for these small high-tech enterprises.

4) For financial institute

Because of the huge market demand, the ecosystem focused in the green smart city business provides a new way for those financial institutes to get generous profits. Financial institute can not only provide fund for innovation and commercialization, but also bring about new collaboration network for the ecosystem, such as high-tech companies related with these financial institute.

IV. THEORETICAL IMPLICATION: ENTERPRISE TECHNOLOGY INNOVATION ECOSYSTEM

Innovation ecosystem is an emerging concept that has far-reaching influence on innovation activities. It provides an ecological way for companies to solve the problems in innovation activities. The innovation ecosystem's working mechanism can be illustrated with open innovation and collaborative innovation theories. This can be implied in its technology integration and business integration supported by abundant resources. Different organizations with different comparative advantages integrate to form an innovation ecosystem. Tong Liang (2006) suggests that traditional information source mainly brings knowledge that is already mature, while cooperation between different organizations can provide brand new knowledge[13]. The vitality of innovation ecosystem is provided by vigorous support from government, investment capital and intermediary, which can create more new knowledge value compared to traditional innovation structure.

The ecosystem built by Insigma and its partners is a successful implementation of enterprise technology innovation ecosystem. Through the case of Insigma's ecosystem, we can understand the structure and operation mechanism of the ecosystem better. And from this study, we found that the core layer plays an important role in the ecosystem. So it reminds us that the core layer should control the innovation platform well and carry out the resources sharing to realize the success of whole ecosystem.

V. PRACTICAL AND POLICY IMPLICATION

Insigma's ecosystem is a successful example of innovation ecosystem, with the innovation institute model can be replicated and the experience of operation ecosystem can be applied elsewhere. The practical implication for the innovation ecosystem lies in that we should execute some extensive integration of resources in innovation activities, because the Green Smart City business covers numerous relative industrial backgrounds. Although it will take the management team a bit longer time and more energy to carry out this complicated integration, the overall accomplishments can do the very best for a bright picture. We strongly believe with the technological integration roadmap and strategic market penetration, the ecosystem will surely grasp the interest of customers and eventually depict a magnificent blue print of Green Smart City business in China.

From another perspective, this case has also provided significant implications for policy makers. Green Smart City strategy is a pioneering work that will bring about several benefits to people, society and even the earth. We have already knew that those institutes constitute the whole ecosystem, we should also know that macroscopic environment, namely policy has a great influence on the ecosystem, especially for the Green Smart City business. We should be indicated that government support will elevate the synergy effect of innovation activities. As mentioned in previous section, Chinese government has acknowledged the significance of green smart technology. To preferably push the green smart city, government should adopt following advices.

Provide enough support for related industries. Given the fact that different regions feature in individualized demand for urbanization, local government are playing a critical rule in guiding Green Smart City business. This supporting policy should be consistent in long run for local government to adopt more applications & services with superior product from related industries, such as smart transportation, health presence for prescription, remote education. If decision makers can offer some favorable policies and work with the service company as a whole, the green smart city business can be rigorously improved.

Encourage the building of innovation ecosystem. Frist, government should construct a favourable environment for the ecosystem, such as building standard market competition environment, providing encouragement policies for it and providing some kinds of fund. Second, they can also encourage universities, financial institutes and intermediaries to join in the construction of ecosystem, to increase the financial and technology support for the development of innovation ecosystem.

All in all, the enterprise technology innovation ecosystem, as an emerging innovation paradigm, can provide phenomenal vitality for the innovation environment to stimulate exciting value sparkles. And Green Smart City business, as a new and perfect solution for city development

in China, will see in a bright future with the policy support and using of ecosystem model.

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