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**LLN Science Park: a 4th generation STP with the
integration of China-Belgium Technology Center**

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Managing the global dimension

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Executive Summary

When going global, up to 2010, Louvain-la-Neuve Science Park (Belgium) was employing traditional methods of a 3rd generation STP. They mostly consisted of a “push and pull” strategy of companies on the international scene: on one hand, we attracted foreign direct investment from multinationals, and on the other, we increased collaborations and support to Belgian SMEs in order to help them conquer unknown markets. With the arrival of “China-Belgium Technology Center”, we are taking a new step towards internationalization that propels our science park in what we consider a 4th generation STP. We are on the verge of successfully creating a “global technological platform” for businesses, at the benefit of both European and Chinese stakeholders. In this paper, we expose our evolution towards a new kind of internationalization and how it has reshaped the science park; while nurturing the same underlying purpose: to serve regional economic growth.

Chapter One.

Louvain-la-Neuve Science Park, regional economic growth and internationalisation up to 2010

Back in the early seventies, the nearly 600 year old University of Louvain (UCL) settled its French branch in a new-built town in Belgium (in direct proximity with Brussels, the headquarter of the European Union). Envisioned by pioneering urban developers, Louvain-la-Neuve arose as a human-sized knowledge city with a renowned university and a science park all packed within a 2 km radius. At that time, the implementation of a science park – in this case as a byproduct of the university - was a national “première”. Its intended role was, as many other STPs around the world, to boost and modernize Wallonia’s regional economic model in a period of industrial decline. With high standard admission criteria and systematic approval of new entrant companies by UCL authorities, the science park would attract/ host/ retain high tech firms with innovation value, foster their cooperation with the university and encourage technology transfer from academic laboratories to the civil society. In those times of international crisis, UCL positioned itself as a dynamic actor taking charge of the social and economic development of its region. Therefore, its aim was and still is to proactively contribute to regional economic growth and competitiveness.

In an increasingly connected world, the necessity to go global goes unquestioned, as it benefits both to the STP as an entity and to its clients which are resident companies. Meanwhile, we can observe a real evolution in LLN STP’s approach to internationalization over the years. This progression is closely linked to three main factors: aspects inherent to the STP, positioning of the university as a key player and federator of initiatives in innovation and entrepreneurship, and finally endorsement of our actions by public authorities in their international innovation policy.

At first, while the LLN STP was in infancy, the UCL had already embraced diversity and international openness. With a steady rate of 20% of global students from 127 countries, the university possesses centuries of experience in researcher/ academic/ student worldwide mobility and partnership agreements. The combined international recognition for its research and tradition of openness led the science park to attract first and foremost major global corporations. As a result, multinationals like Monsanto, Pfizer Animal Health, Abbott and Shell were part of the first batch of companies to declare residence in the STP. Such arrivals undeniably increased LLN STP’s global visibility and cultivated a positive brand image of Walloon region.

If historically big companies overrode in total number of tenants SMEs, start-ups, and spin-offs until 2000, LLN STP experienced a distinct reverse shift after that moment. Like a virtuous circle, small innovative companies comprehended the advantages of localizing in LLN STP. After all, Wallonia’s economic tissue consists of over 90% of SMEs , so it comes as logical that this group of residents would sooner or later be better represented in the figures of STP tenants. In parallel, figures in terms of commercial exchanges between Wallonia and the rest of the world proved that the region too is accustomed to exporting goods and services outside its borders . In light of those figures,

LLN STP almost naturally decided to recalibrate its international approach. Regional economic growth would now pass through the rise and prosperity of its local companies. If multinationals are by definition engaged in international business, smaller companies still need encouragement, support and networking in doing so. In helping them go global, LLN STP multiplied actions to widen business opportunities by instigating more efficient and faster connections: partnerships with similar foreign STPs, soft landing agreements, promotion

of and networking with supportive regional services in export and foreign investment,...These actions also benefited to the science park as an entity, as our partners made good publicity in their country of our STP and AWEX propelled foreign delegations towards Louvain-la-Neuve.

At the same time, LLN STP put enlarged networking at the forefront of the agenda. As a founding member of the association Science Parks of Wallonia (SPoW) in 2002, the STP engaged in IASP activities to relate with peers on a global level. In 2007, IASP director Luis Sanz recognized the quality charter of SPoW's common admission criteria to their individual STPs as excellent. In 2010, SPoW organized IASP European Workshop in Brussels, where European STPs got to share their views and experience on science park management to European authorities' representatives. Together, they drew guidelines and recommendations aiming to reinforce the efficiency of STPs and their contribution to the knowledge-based economic development in Europe. Advocacy of our role as STP in innovation and economy is essential for international recognition and national to regional support in our daily job.

In a corresponding period, UCL advanced further on its third mission: service to the society. Besides its original missions of teaching and researching, the university secured in 2013 its position of proactive innovation player. The institution is now officially recognized as a fosterer of innovation and a catalyst for regional economic growth. This empowerment is charted in the larger "Louvain Innovation Network", a complete innovation chain. Inside this network, UCL teaches leadership/ entrepreneurship/ innovation, a technology transfer office (LTTO) diffuses knowledge to the society while running the biggest university tech fund in Europe VIVES II (43 million euros), LLN STP and incubators provide the perfect environment for companies and a local initiative called "Mind & Market", in partnership with the local association of companies, coaches the best innovation projects. Furthermore, UCL scientific workforce represents 4,000 researchers and doctorates in 21 research institutes and 25 technological platforms (over 100 laboratories). Thanks to UCL's close relationship with businesses, the university created 4 interdisciplinary research consortia in strategic themes that challenge our future in society like ageing, nutrition, urban development and energy. This willingness to rise at the forefront of entrepreneurship and innovation shows in international statistics: for the third year running, Louvain School of Management (LSM) is ranked first Business School in Belgium by the Financial Times and CPME Program is in the top ten Eduniversal Best Masters in Entrepreneurship 2013-2014. Walloon Brabant, our province, possesses the highest number of inhabitants with higher education in Europe and the highest potential of S&T human resources in Belgium. With an average of 7.5%, R&D expenditure in GDP percentage is over three times more than in the European Union. It also should be noted that UCL is the province's second employer behind pharmaceutical leader GSK. The university also turns to companies and international partners for support, and FP7 European programs help in research projects.

IASP track four description for World Conference 2015 has reason to say, we quote, that "traditionally, science parks (...) have strong local roots. Today, wholeheartedly embracing the global dimension of business and communities is an absolute necessity for success". Indeed, we demonstrated LLN STP belongs to a major University with which it shares common values regarding innovation and entrepreneurship. Its activities are anchored in a defined territory that is the city of Louvain-la-Neuve and its interactions take place within a regional knowledge ecosystem. In forty years of existence, Louvain-la-Neuve Science Park has undoubtedly become a third generation STP.

1. <http://www.entrepriseswallonnes.be/pdf/Q01.pdf>

2. According to AWEX (regional agency for Export and Foreign Investment in Wallonia), over 75% of Belgium's GDP is realized through exportation, the top destinations still being crossborder countries such as France and Germany

3. The regional agency for Export and Foreign Investment in Wallonia

4. <http://www.mindandmarket.com/>

Nevertheless, the science park bears in mind its primary role in regional economic growth and competitiveness, where going global is part of the game in innovation matters and company prosperity. Up to 2010, LLN STP employed somewhat classical methods used by any STP involved in international strategy. But since then, a new international collaboration resulted in a project unique in its kind: China-Belgium Technology Center (CBTC), which will be explained in Chapter Two.

Chapter Two.

China-Belgium Technology Center: internationalization from a new perspective

Embracing global dimension with CBTC project

Historically, in terms of target continents, the University of Louvain (UCL) and Louvain-la-Neuve Science Park were mostly relating with European, North / South American and African countries. Asia has now the



CBTC project to be realized in LLN STP by 2017. 3D sketch by Belgian architecture bureau BAEV ©

greatest potential for growth, and China is its major actor. With over 1.39 billion people, China ranks number one in the list of countries by population (19% of the world's citizens). In December 2014, Chinese economy overtook US, accounting for 16.5% of the global economy. Both UCL and LLN STP acknowledge that collaboration with China, as with most emerging and fast-growing economies, is of first importance to remain a world-class institution and STP. At the science park, we were open to partner with a Chinese counterpart that practiced a similar focus on technology and innovation.

And then, this project unique in Europe and probably also in the world arose. In a close future, Louvain-la-

5. <http://www.worldometers.info/world-population/china-population>

6. <http://www.marketwatch.com/story/its-official-america-is-now-no-2-2014-12-04>

Neuve Science Park will welcome the first technological incubator for Chinese hi-tech companies in Europe: “China-Belgium Technology Center” (CBTC). The intention is to implement cross-incubation for high tech companies between Europe and China. Valued at over 200 million euros, this project is entirely dedicated to innovation and technology. The allocated 8.5 hectares and overall 90,000 sqm construction project in LLN STP will be broken down to include 4 specialized incubators in bio and nanotechnologies, ICT, (opto) electronics and sustainable development with new materials. There will be 73,000 sqm offices and labs, a service/ conference center and a 160-room hotel. Job creation potential is high for both Chinese and local workforce. Therefore, additional residential areas with 300 apartments to welcome Chinese expatriates are also under preparation in the city center.

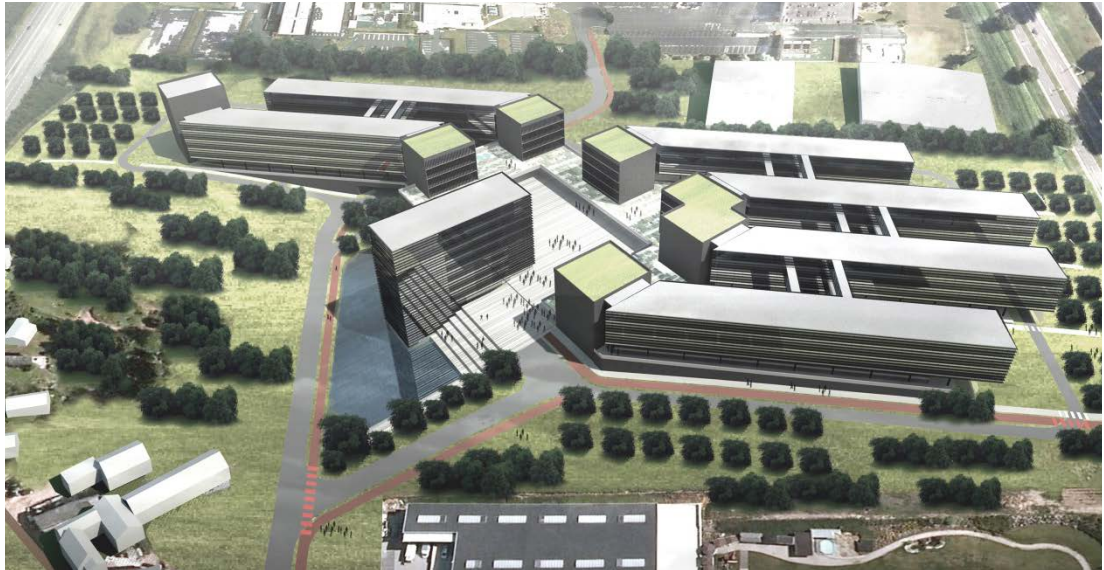
At the source of CBTC concept Wuhan East-Lake Hi-Tech Innovation Center (WHIBI) is a chinese expert and pioneer in incubator management since 1987. In nearly thirty years, WHIBI has accompanied 1,200 companies in its own network of nine hi-tech incubation parks, therefore sustaining the creation of 70,000



CBTC – view from a courtyard. Copyright: BAEV ©

jobs. The network extends from the headquarters in Wuhan (Hubei) to other cities like Beijing, Suzhou, Guangzhou and Chengdu. WHIBI’s incubation parks benefit from the support of the ambitious China Torch Program (CTP) which is under the supervision of the Ministry of Science and Technology (MoST). CTP is considered to be one of the “most successful entrepreneurial program in the world” in “size, scale and commercial results”. WHIBI’s first incubation facility in Wuhan Eastlake High-Tech Development Zone was approved by the State Council in 1991 among the first batch of national hi-tech zones and presents today the highest development level in optical communications, laser, energy and environmental protection. Besides, the ten million people city of Wuhan ranks third in national education and scientific concentration areas. Perfect international partner for LLN STP, WHIBI leader is a visionary man who saw the important necessity to help national companies go abroad in a comfortable way – that is, by providing infrastructure and related services from a Chinese company with experience, solid reputation and high value network. In achieving CBTC project, WHIBI surrounded itself with top quality partners: Dongfeng Design Institute, branch of the number two in Chinese automotive sector Dongfeng Motors, and a holding named Hua Yong Investment Group. Their consortium is called Juxing International Technology Investment (JXITI).

In LLN STP’s march towards effective global reach with CBTC, we must point the importance of the following variables: raising global interest in LLN STP, finding the perfect likeminded international partner, building with



CBTC – aerial view. Copyright: BAEV ©.

patience a reliable business relationship and overcoming cultural misunderstandings, positioning of a major university as a leading actor of the project, and endorsement from mutual countries' highest authorities.

Benefits of CBTC for major stakeholders

With the arrival of CBTC, let's expose how LLN STP is "embracing the global dimension of businesses and communities" in a very unique way. LLN STP is a valuable partner to its Chinese counterpart, investor and manager of the CBTC, in guaranteeing its success. Together, we secured winning relationships for various stakeholders: Chinese high tech companies, STP residents, UCL university, Chinese CBTC investors and public authorities in both Belgium and China.

a) Chinese high tech companies

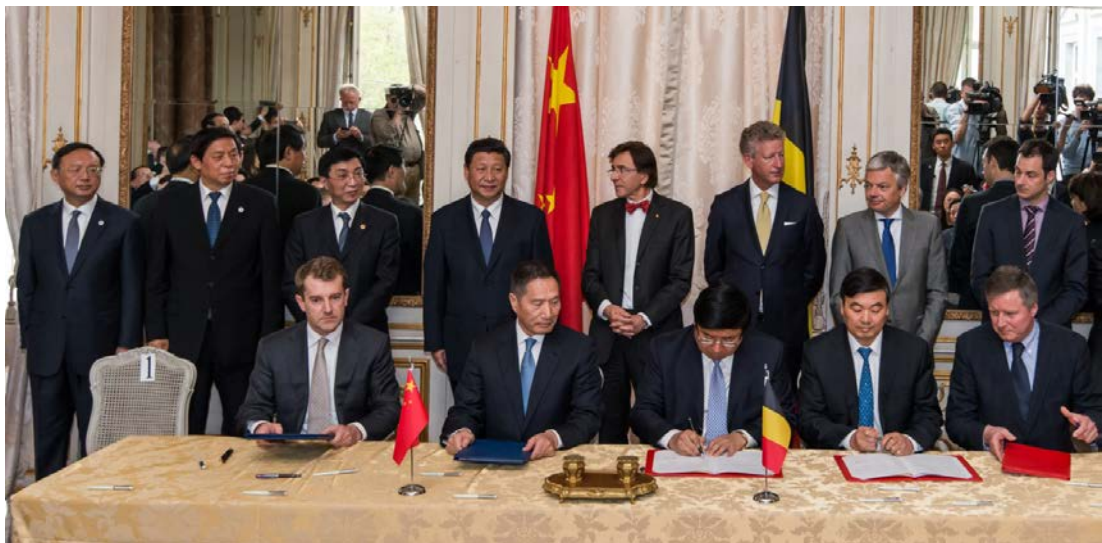
Through an implantation in Belgium, Chinese high tech companies will get easy supported access to the European market. With direct proximity to Brussels and therefore European decision makers, they will land softly in an environment that is focused on innovation and technological collaborations with local firms, University laboratories and R&D centers. From the heart of Europe, they will reach 65% of the continent's market within 500km, not to mention cross-border business opportunities in countries such as France and Germany. Close relationship with UCL as other national universities and research institutes will stimulate potential partnerships on research projects. And WHIBI, as a pioneer in incubation in China, will facilitate internationalization of Chinese companies by offering "all in" services in their mother tongue and providing residential accommodation in the city center (close to CBTC implantation). Other partners are also ready to help Chinese companies relate with Belgian business counterparts: Walloon sectorial experts, competitiveness poles, clusters, business clubs, chambers of commerce, etc.

b) LLN STP and STP resident companies

China-Belgium bonds grew even closer since UCL entertains active academic and research partnerships with leading Chinese universities. Regional and local public authorities have reason to rejoice as well: CBTC investors announced a job-creation potential of a minimum 1,500 people, with a proportion of 60% locally sourced in Belgium. This means 26% growth in terms of employees in LLN STP (actually 5,730). The city will enhance cross-cultural integration with other residents, as it expects the arrival of 450 long-term expatriates in the long term. The hotel on CBTC land will absorb the remaining short-term stays.

Any person working with Chinese people will pay attention to the so-called “guanxi”, or in other words interpersonal relations and networks. Chinese people trust and respect the ones they know and hold close personally, this is very true in equally personal and commercial matters. Subsequently, STP European residents will have the rare opportunity to instigate business collaborations by involving their prospective teams in CBTC network. In the process, they will gain invaluable market insight and cross-cultural knowledge straight from their workplace and home country. The Belgian companies that intensely relate with China can settle their office in CBTC. Furthermore, WHIBI will open the doors of its Chinese incubation network to Belgian and European companies. Thanks to CBTC and WHIBI's national network, European products shall be adapted to facilitate their introduction onto the Chinese market. In 2010, AWEX settled a “Belgium Welcome Office” for this purpose in WHIBI's headquarters in Wuhan. Again, AWEX has a special program in which students are formed to realise an export mission abroad in China for a Walloon company. Thanks to CBTC, their chances of success with the Chinese market will expand while minimizing risk and costs of a traditional export mission. Plus, as a one-of-a-kind incubator, CBTC is already drawing attention from other countries and international companies interested in working with China on European territory.

c) Public authorities in Belgium and China



31/03/2014 – Signature of an agreement between Juxing, China Development Bank and LLN STP in front of Chinese President Xi Jinping and past Belgian Prime Minister Elio di Rupo.
Copyright: Jean-Pol Schrauwen.

CBTC perfectly aligns with both countries' strategic goals: Wuhan is one of the Chinese key cities for sustainable development and a geographical priority for Belgium's region, Wallonia. With intent to reinforce its relationships with China starting from Wuhan, AWEX launched a China Welcome Office in Belgium in 2009 and its alter ego in Wuhan one year later. In this tie-up framework, WHIBI visited the members of the network of Walloon Science Parks (SPoW) in 2010 and decided to locate CBTC in LLN STP. In parallel, Chinese central government advocates for innovation-driven actions and internationalization of national companies. Chinese Embassy in Belgium and Ministry of Sciences and Technologies MoST support CBTC right from the start and still follow-up the advancement. China Development Bank, which is known for supporting Central government's priority projects internationally, is involved in the financing. This close cooperation between our STP, Juxing, local and national public authorities was crucial in the process of bringing together all the decision-makers (an agreement was signed in April 2014 in presence of Chinese President Xi Jinping and Belgium's Prime Minister Di Rupo).

Creating a credible global platform with CBTC: from theory to reality

China-Belgium Technology Center is a "global technology platform" that entangles a modern mix of innovation, internationalization and regional economic growth. As opportunities for major stakeholders were highlighted, we are conscious that LLN STP has to face a totally new set of challenges to obtain real complete success in hosting and creating global businesses within CBTC. Up to now, LLN STP was generally working mostly on economic, scientific and social aspects. The success of CBTC relies on answering those same aspects, but in an unusual contemporary way, with the addition of a component that is cultural integration. Together as partners, LLN STP and JXITI have already taken a step forward in hands-on tackling them.

Between 2011 and 2014, JXITI's first priority was to focus on CBTC construction project. Belgian regulations are quite different from Chinese when it comes to real estate. The "thinking" and "approval" phases take longer time. As any building project in the science park, the company had to receive UCL and IBW (the local public agency in charge of infrastructure works) approvals to launch a project on one of its lands. This land is rented to the company in the form of an "emphyteusis" agreement, or 99 years long-term lease payable annually. When mounting a construction project in the science park, a company has to comply with a set of specifications proper to the science park. The Walloon Region granted JXITI the urban permit at the end of 2014, and the emphyteusis agreement was signed between UCL, IBW and JXITI in April 2015. Onsite construction will start this summer, for complete realization by mid-2017. Three sites for 300 units of residential accommodation are planned in the city center. In parallel, the consortium of investors has set up a European company branch, Juxing Belgium. With the aim to attract companies before the end of the construction, they acquired 5,000 sqm offices in LLN STP. A dedicated JXITI team is working there for the follow-up of CBTC project and the elaboration of services for CBTC customers (either European or Chinese). They will also create a Chinese Chamber for businessmen in their facilities in a near future. Aside from the construction project, JXITI is at present actively organizing prospection in China for potential CBTC clients with high tech activities in the aforementioned sectors.

LLN welcomed in a year's time three delegations of Chinese companies interested in settling up a branch in Europe. Fine matchmaking between sectors and businesses was organized by JXITI and our STP with the public export agency AWEX and Belgian economic fabric e.g. clusters, competitiveness poles, aso. Afterwork networking sessions were held in local business clubs. On a total of approximately 40 visiting companies,

some are already present in JXITI Belgium's offices, three employed Belgian interns, and others have demonstrated interest in collaborating with UCL research department and Belgian companies. Two Belgian companies involved with the Chinese market have also chosen to settle their office there. We are involving more and more UCL research department in both Chinese delegation visits and systematic matchmaking with university research potential; the first feedbacks are very positive. We have taken actions to sensitize STP residents to the Chinese market. After a conference on "How to do business with China" and Belgian companies' testimonials, our annual networking Cocktail launched a Chinese art exhibition assembled by the science park. A "cultural business unit" also progressed on a pluriannual set of actions focusing on China; they will either be run in synergy with other partners (e.g. UCL chinese students association, Museum of Louvain-la-Neuve) or by the unit itself. Mandarin classes are provided by local institutes and colleges from child to adulthood. Belgian government has also taken the project in its interest. In June, a State Mission to China led by Belgian King Philip stopped in Wuhan for a presentation of CBTC project.



Welcoming of a Chinese delegation of high tech companies in Louvain-la-Neuve. Illustrated: informal exchanges between Belgian and Chinese managers in-between presentations and B2B meetings.

In the advancement of CBTC, the University of Louvain became aware this great project needed coordination from different departments under its authority, so the institution created a collaboration platform called "UCL China Desk". Among key participants, we find the science park of course, but also research, technology transfer, international exchanges, institutional communication and cultural departments. This strategic instance exchanges information about China and plans thorough action programs on various matters: academic (agreements with Chinese universities); scientific (research collaborations); economic (science park and CBTC); students, academics and researchers mobility; cultural (discovery and understanding of the Chinese culture) and social (urban integration of the estimated 450 long-term expatriates inside the city of LLN). Operational units then take charge of their effective realization.

Conclusion

CBTC is becoming a “global technology platform” that is on its way to successfully host and create global businesses in Louvain-la-Neuve Science Park. Thanks to the addition of cross-border culture and internationalization to concentration of hi-tech companies/ University/ R&D centers in a limited urban area, LLN STP is evolving in a 4th generation STP. In order to achieve such a step towards a new method of internationalization, we will suggest other STPs to capitalize on creation (or reshaping if existent) and coordination of the same 4 structures: economic, scientific, social and cultural. In doing so, they will further engage with their regional knowledge ecosystem, purposely serve their role in regional economic growth and undoubtedly attract international business visibility and STP recognition as a model for innovation.