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Sherbrooke Innopole: building an innovation city

Parallel Session 5

What are the STPs evolving into?

Author:

Jacques Vidal (jvidal@sherbrooke-innopole.com)

Co-Author:

Pierre Bélanger

Sherbrooke Innopole, Canada

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Executive summary

The City of Sherbrooke, in Québec, Canada, is privileged in having two of its science parks as members of the IASP. Capitalizing on these two assets, Sherbrooke Innopole has developed a global economic development strategy where clusters development represents the heart of the said strategy, leading to a shift where science parks are now competing with other areas of the city that include the entire community.

The choice of the name Innopole (City of Innovation) perfectly illustrates the mandate given to the Sherbrooke Innopole team: creating a fertile community for innovative entrepreneurship by developing a strategy that addresses the Florida Effect issue while maintaining the necessary shift towards innovation: the rise of a science city. The three main elements of our development strategy are:

- The creation of an environment catalyst of economic growth;
- The development of four Key Sectors (clusters);
- The achievement of a world-renowned branding.

By using a clustering development strategy, the science city concept brings together the advantages of STPs andof a« work, live and play » approach.

1- Presentation of Sherbrooke Innopole and its two parks, members of the IASP

Sherbrooke Innopole is responsible for the economic development of the city of Sherbrooke which counts two Science parks on its territory that are members of the IASP: the Sherbrooke Science Park and the University of Sherbrooke Innovation Park. I will come back on the vocation of these two parks later on because firstI would like to give you an idea of the City of Sherbrooke.

Sherbrooke is located in the southernmost portion of the province of Québec, Canada, only 50 km from the United States border, and less than 150 kmfrom Montréal, which is the largest city in the province, with nearly 4 million inhabitants in its metropolitan area. Sherbrooke location allows easy access to some of the largest markets in North America, with New York, Boston and Toronto less than a 7-hour drive away.

With a population of over 170,000 inhabitants, Sherbrooke is the 6th largest metropolitan area in the Province of Québec and is the center of a larger zone of 600 000 people. It isgrowing at a faster rate than that of the rest of the Province. Sherbrooke also enjoys a dynamic immigrant population (6.3%), including over 100 different nationalities and close to 50 languages spoken in the area.

Sherbrooke is an important academic center with its eight institutions, including 2 universities, University of Sherbrooke and Bishop's University, and a yearly count of 40,000 students, which, in proportion to its size, makes it the highest concentration of students in Québec. It hasseveral faculties and amongst themScience, Medicine, Administration and Engineeringparticularly which are examples in their domains, for theirresearch as well as their teaching.

As I said before, Sherbrooke is fortunate to have two Science Parks on its territory.Originally exclusively dedicated to Life Sciences, the Sherbrooke Science Parkwas opened to all knowledge based companies in 2010 and its development is under the responsibility of Sherbrooke Innopole. It hosts life sciences companies, the Faculty of Medicine and Health Sciences, the Pharmacology Institute, the University Hospital Center, as well as numerous research centers, such as the Clinical Research Center and the new Center for Research on Cancer.

The Sherbrooke University Innovation Park is managed by the University of Sherbrooke and is offering research facilities in partnership with private companies and academic research teams, among which the *BRP Center for Advanced Technologies* and the *Interdisciplinary Institute for Technological Innovation*. The first one is dedicated to the development of different types of transportation vehicles, from boats to moon rovers, while the second is very active in microelectronics and nanotechnologies as part of research projects in areassuch as medical technologies and cleantech.

2 – A new generation of entrepreneurs and businessmen

Sherbrooke has been struck by the Florida Effect as put forth by Richard Florida, inhis 2002 book “The Rise of the Creative Class!” It defines the concept of “Creative Class”: a qualified, networked, urban population, attracted mostly by urban lifestyle which offers cultural and social activitiessuch as restaurants, cinemas, theaters, terraces, trendy bars, etc. Cultured and trend creators, as they are attracted by these places, strengthen their appeal and create a positive spiral, a virtuous circle that attracts other talents, drives businesses to choose this particular location, and prompts financial institutions to invest there. Just think of Silicon Valley.

To quote Richard Florida in The Rise of the Creative Class:“Today's driving force is the rise of human creativity as the key factor in our economy and society. Both at work and in other spheres of our lives, we value creativity more highly than ever, and cultivate it more intensely."

He also says: “Culture, according to the “traditional” view, motivates economic growth by focusing human energy and effort on work, and away from the pull of distractions such as leisure, play, sexuality, and other forms of non-work-related enjoyment. On the contrary, the “creativity” thesis argues that the role of culture is much more expansive, that human beings have limitless potential, and that the key to economic growth is to enable and unleash that potential.”

According to this author, the success of a city’s development relies on the right mixture of what he refers to as the “3 Ts ”: technology, tolerance and talent. In the United States, the regions that have had the most success in this regard are San Francisco, Boston, Washington, Austin and Seattle. 22@Barcelona and Berlin Adlershof would certainly be excellent European examples as well.It should be noted that the research team of Richard Florida is now improving its theory with the addition of a fourth "T" for “Territory”. This new component expresses the importance of quality urban spaces and architecture in the development of the “creative economy”. They also use the term “quality of place” to describe this concept.

This new generation of entrepreneurs wants to be where the action is, where the “Bobos” are, an acronym forbourgeois bohemians as named by David Brooks in his 2000 book, “Bobos in paradise”, they want to be where the artisans gather and where they have easy access to all socio-cultural activities.

Sherbrooke has not been spared by this new trend set by the Y generation: in the last few years we have witnessed a rebirth of our old downtown. Wellington Street, historically our main commercial street, had been abandoned in the years 80-90 and has now recovered most of its former splendour with restaurants, bars, cinemas, performance halls, trendy stores such as art galleries, clothing and furniture stores, but also with consulting, engineering and architecturefirms and knowledge based companies such as information technologies developers.

Deserted in the past, this street is now very active during the day and especially at lunch time, mostly with students and workers. This shift has been magnified by the introduction of government offices among these businesses.

The same tendency can be observed on King Street, a four-lane main strip with its stores and advertising signs. Today, new structuring buildings have been added and rehabilitationis on its way with a good number of knowledge based businesses now wishing to establish themselves there.

Science parks as we know them are not the only option for high technology businesses anymore, city centers and regenerated urban districts are very attractive for new knowledge based businesses. Science parks still play an important role and always will, but amajor shift is underway in how knowledge based organizations choose their locations, particularly for businesses in Information and communication technologies and other sectors such as medical technologies and cleantech developers that do not have specific heavy infrastructure needs.

Our actual experience tells us that the choice of a location can be based either on its proximity with institutions and research infrastructures or it can be based closeto socio-cultural activities and where the action is.

3-From science park to science city

Sherbrooke Innopole is both the manager of the Sherbrooke Science Park and the City of Sherbrooke’s economic development organisation and is the promoter of the Universityof Sherbrooke Innovation Park. In 2009, it underwent a complete strategic reorientation that brought it to revise the whole organization as well as its economic development strategy. As a result of a Local Economic Summit where all the socio-economic actors gathered, this renewal reflected the will of the community to move towards an economy based on innovation.

Before this, for years after years, the economic development was based solely on a reactive attitude through which the economic developers tried to answer, as best they could, demands from potential investors or real estate brokers, the focus being exclusively on the manufacturing industry. The logical positioning was therefore based solely on cost comparison (price of land, price of energy, salary levels). This had been a successful approach up until the end of the ‘80s but became less effective when faced with the globalization of the world economy: our community competed with countries where the socio-economic structure was extremely different making competition impossible, while dealing with a drastic decrease in the number of new businesses as well as an important loss in the number of production sites and jobs. A cascade effect followed,caused by the high number of sub-contracting

businesses who saw their clients move away or choosecheaper suppliers. Of course this situation is not unique to Sherbrooke; this analysis could be applied to numerous North American and European cities.

The situation therefore had to be approached with lucidity and a brand new economic development strategy was needed in order to take advantage of our two universities and their multiple research centers and to take the turn towards innovation and added value. Facedwith this new paradigm,how did we position ourselves?

Once the necessity of a new strategy had been recognized, the first step was to establish a thorough portrait of our economic community, without concessions but also without false humility. With hindsight, it becameclear that Sherbrooke's greatest assethas always been its world-class Universities. After decades of polite cohabitation between politics, economy and academic research, a new era wasinitiated, an era characterized by close relationships between stakeholders, with a common goal of local economic recovery.The second observation was that entrepreneurial growth would necessarily happen through innovation, innovation both for existing organizations and for new businesses. Key sectors were validated and, finally, improvements needed in the support services were identified.

A systemic approach

We are convinced that the development of a science city depends on a holistic development of the community that composes it. The science city cannot be isolated from its territorial, social, human or economic environment.

In the past, the Science Park was seen as an autonomous "flagship" that lived isolated from the community where it belongs.Today, a science city must develop arelationship with thecommunityand push it to its full potential. Thus, it can grow harmoniously and can ensure that eachof its parts contributes to the wellness and development of the other: the "science city part" with its investments and jobs, and the "city part" with its attractiveness both for businesses and workers.

To support this conviction, our new economic development strategy has been built on strong relations between all partners: municipal, governmental, and academic as well as other economic players. More than words, this is a new reality where economic stakeholders meet on a regular basis to share their projects and pool their actions to strengthen their community.

It is worth bringing to your attention that the University of Sherbrooke's 2010-2015 Strategic Planincludes several key initiatives dealing withcommunity and, for the first time, economic development.On its part, the strategic plan developed by Sherbrooke Innopole lays out a vision of dynamic knowledge economy and an innovative and attractive economic zone.The choice of our name "Sherbrooke Innopole" illustrates this strategy. With the name Sherbrooke Innopole, we clearly position Sherbrooke as an innovation city.

We insist on the importance of including the entire city/territory into the major turn towards innovation our organization has taken. Science Parks remain an essential but insufficient component of our development: some of our new technology businesses and mainly their employees require « work, live and play » environments. If the objective is to facilitate transit from home to work to services to leisure, why try to re-create this in a park when a city is built just that way? On the other hand, the concept of a Science City goes further than quality of life: it rests on strong connections between universities, research centers, businesses and quality of place. All urban components are included to create a maximum number of connections between its actors. This is because of the importance of

these connections within the entire community that the development of STPS cannot be done in isolation and that our strategy must be inclusive: we must engage all the city's stakeholders in this new vision of development.

4- A New Strategy

In substance, our strategic plan breaks down into threeaxes:

First, creating an environment catalyst of growth

Sherbrooke Innopole's goal is to establish Sherbrooke as a community where business is prosperous and accessible to all entrepreneurs, new or experienced. With this in mind, Sherbrooke Innopole has developed various partnerships for supporting entrepreneurship and the implementation of new knowledge based companies.

For this purpose, many investment funds were created:

- A group of local Business Angels was put up which offers local investors interesting investment opportunities while providing potential financial partners to start-up businesses. Business Angels meet monthly in our office to listen to presentations from different project teams and then decide if they wish to investigate further the possibility of investing in the projects. Generally the interest of Business Angels will trigger interest from other sources of financing such as venture capital.
- On top of this, we created a venture capital fund through syndication with an important financial institution in Canada. The Innovative Enterprises Fund, for start-ups at the commercialization stage, invests from $250,000 to $1M in equity or quasi-equity.
- We also manage various governmental funds that can contribute to new entrepreneurs,to the establishment of new companies or to support the growth of other ones.

Various approaches have been developed for the support of existing businesses, particularly by offering them specialized assistance in their efforts towardsinnovation and internationalisation. Among them, a Business Mentoring cell is coordinated by Sherbrooke Innopole. Ourgroup of 35 mentors, all experienced businessmen, offer their time and experience voluntarily for the benefit of entrepreneurs.

A business incubator (both physical and virtual) is currently under developmentand should be operational by the end of 2012. It will offerproactive user support, helping businesses reach the commercialization stage faster. Sherbrooke Innopole is also partner in the Technological Business Accelerator developed by the University of Sherbrooke with 9 start-up projects in the first 2011 cohort.This accelerator allows project managers to pursue university level management training while working on their start-up.The services offered include access to our team of specialists and to our many funds. We are also investors in a special fund dedicated to these new businesses.

Second, The development of four Key Sectors (clusters)

We believe that a Science City and clusters go hand in hand when looking at renewing our economic development. To us, the definition of cluster is the one stated by Dominique Graitson :"A cluster brings together companies of various sizes that are united by a community of interests (common constraints and needs), by complementarities or interdependences, and that voluntarily develop cooperative relations in one or more fields…the cluster must include institutions, primarily teaching and research institutions, with which businesses collaborate".

The industrial clustering model approach is a proactive one that offers many advantages for countries, regions and cities. For example:

- It creates considerable clout in a Key Sector and offers bona fide competitive advantages;
- It builds a critical mass of competencies and expertise;
- It provides access to the global economy and its markets as well as to the major production networks;
- It creates added value for the local or regional economy;
- It transforms the economic brand image of the city, region or country; and finally,
- It ensures long term development and creates wealth and well-being.

It should be added that, by acquiring one or more industrial clusters, a region substantially increases its drawing power and competitiveness.

The choice of Key Sectors was determined by four criteria:

- their market potential and growth perspective
- the existence of a local pool of businesses
- the strength of existing public and private research entities in the chosen sector
- the capacity of the community to provide the necessary training to the workforce

Hereunder is the description of the Key Sectors chosen to propel Sherbrooke's economy:

- Life Sciences : Sherbrooke's Life Sciences cluster (biopharmaceuticals, medical technologies and nutraceuticals) has undeniable strength with researchers and institutions collaborating within a world-class cluster. The strength of this sector rests on our teaching institutions and their research centers, as well as world-class clinical and preclinical facilities. Over 700 individuals are employed in research centers, while nearly 500 employees work in private organizations. Outstanding medical technology projects stem from our ICT and mechanical engineering sectors.

- Cleantech : Sherbrooke's expertise has already been recognized by the biofuels and bioplastics industries. Its concentration of high quality businesses has contributed to the creation of a Pole of Excellence in the environmental bio-industries sectorwith over 80 businesses and nearly 3000 jobs.The Cleantech sector is the most active in terms of technological business start-ups.

- Nanotechnology and Advanced electronics: Sherbrooke University's reputation as a world-renowned nanomaterial research center is well represented by the international leadership of Tekna Plasma Systems, a university spin-off research in the domain of nanopowders. The recent creation of two important development centers holds promises for the future of

entrepreneurship: the Micro Innovation Collaborative Center, which includes the participation of IBM. Besides, the Interdisciplinary Institute for Technological Innovation within the Sherbrooke University Innovation Park, will shortly include a CNRS research group from Grenoble, France, for the purpose of creating a joint research unit.

- Information and Communications Technologies: The Sherbrooke ICT sector is one of the most prolific areas as it represents an immense potential for the creation of new businesses in the following areas: software, gaming, services, cyberspace, wireless communications, etc.At this time, we count nearly 2000 jobs in 70 different businesses.

Key Sector directors have been added to the team in 2010, all recognized specialists in their field. Their mandate is to promote and stimulate their Key Sector, to create collaboration between private and institutional players, to encourage the creation and growth of businesses as well as to seek out new investment possibilities.They support business projects, help improve business plans, participate in investment committees, and organize international missions.

Third, a world renowned branding

Establishing Sherbrooke's global reputation means building a strong sense of community while attracting potential foreign investments. On these premises, an ambitious Web 2.0 strategy structured around the following objectives has been put in place: offer entrepreneurs with all the information they may need for their project in Sherbrooke, and promote the reputation of the Key Sectors by acknowledging the entrepreneurs' and researchers' remarkable achievements. Social networks and blogs play an important role in this sharing of information.Our objective is to offer the local business community a platform through which realisations are shared and new information can be found to initiate new projects.Our site is available for all businesses and offers a powerful tool to leverage on their own communication efforts.

In parallel, Sherbrooke Innopole strongly promotes its innovative community by actively participating in many networks, of which the IASP, as well as with international partnerships, for example the Montpellier International Incubator Center (MIBI) and the Massachusetts Biotechnology Council.This active participation in global networks is essential in creating bridges for entrepreneurs in their internationalization process and investment opportunities.

5-Scope

With this presentation, we hope that we have succeeded in showing you how an IASP member such as Sherbrooke Innopole has included the entire city within its strategy, orienting the whole community's economy towards innovation and thus contributing to the territory's growth objective for its ScienceParks and Innovation areas.

This strategic reorientation was induced by two elements: the emergence of a new class of businesspeople looking to set their business in lively districts, the "Florida Effect" and, secondly, the shift toward a knowledge and innovation economy where a strong bond with academics is necessary.

Although Science and Technology Parks are essential components of our economic development, the success of the renewal of a community the size of ours also rests on complementary assets: academic and research institutions, retention of young talents, but most of all, the synergy of its socio-economic stakeholders. By focusing on 3 axes, the business environment, the key sectors and branding, we have made choices that bring all stakeholdersto support our goals and to encourage the emergence of innovative entrepreneurship.

The Science City Project as we see it aims at combining the benefits of STPs, the « work, live and play » concept, and clustering. It is a modern interpretation of the word "City", where entrepreneurs, researchers, workers and facilitators work together, share, and buildcommon projects, thus contributing to the notoriety of their city.Old European cities would evolve within their walls; industrialization has created industrial parks for industry with high environmental impacts. These parks have evolved with time into Science Parks and have created societies where knowledge is shared. This evolution towards knowledge societies with low environmental impact closes the loop with brand new urban dynamics where business life and personal life both happen in the same space. Creative workers want to work in a city neighborhood, not in an isolated business park: the quality of place expresses the ability to provide an environment where they want to stay.

As economic developers, we must find new strategies to take into account these new realities; strategies which absolutely need to include all of the city's major players and stakeholders.