

CLUSTERS AND INNOVATION: BOOSTING CREATIVE CAPITAL

Speech given by
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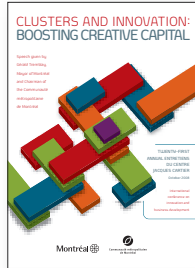
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Clusters and Innovation: Boosting Creative Capital

Asked to speak at a October 7, 2008 conference in Montréal on innovation and business development presented as part of the Twenty-First Annual Entretiens du Centre Jacques Cartier, the Mayor of Montréal and Chairman of the Communauté métropolitaine de Montréal reviewed the pivotal events marking the development of Montréal's clusters and then took a closer look at the metropolitan region's creative capital and the mechanisms that help nurture the innovation process. This document is a written version of this speech.



Launched in 1987, the Entretiens du Centre Jacques Cartier is an annual event composed of twenty or so conferences in various fields of research selected by researchers and scholars from both sides of the Atlantic. The event helps enhance the profile of France's Rhone-Alps region and its major cities—Lyon, Grenoble, Chambéry and Saint-Étienne—on the international stage, primarily in Montréal and throughout Québec. In addition to its scientific and cultural research programs, the Centre Jacques Cartier, founded in 1984, has helped open up scientific exchanges to public and private organizations and foster ties among the cities and governments involved.



The two-day international conference on innovation and business development was one of 22 conferences organized for the Twenty-First Annual Entretiens du Centre Jacques Cartier, held in Montréal and Québec City October 3-10, 2008. Organized by Montréal International, the conference drew several world leaders in innovation to Montréal.

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1. The timeline spanning the bottom of pages 6 through 21 lists the significant events that marked the emergence and deployment of the industrial cluster strategy over the past twenty-three years. The historic index on pages 24 and 27 provides a short description of each of these events.



INTRODUCTION

MONTRÉAL: A CREATIVE, PROSPEROUS CITY

Over time, my experience¹ in both business and politics has convinced me of several things: Montréal is a creative city; the success and prosperity of Montrealers lies in their ability to fully and completely express their creativity; and the industrial cluster movement² has the power to boost the creative capital of the metropolitan region. Though demonstrating this is certainly a tall order, it is nothing compared to the challenge of mobilizing all partners—industries, workers, universities, researchers, governments, unions and citizens—in order that each and every one may see the incredible potential that lies in strengthening the innovation system that is the very keystone of the industrial cluster model. By its very design, the cluster model can accelerate the creation of the conditions under which new ideas and ways of doing can more easily evolve from the formative phase to the marketing phase, to the benefit of all stakeholders. It is an ideal framework for intervention and mobilization as we prepare to weather the coming period of economic turmoil.

Introduced as part of the Québec government's economic development strategy in 1991 when I was the Minister of Industry, Commerce, Science and Technology, the industrial cluster approach had just been developed by Professor Michael Porter at the Harvard Business School. In the throes of a recession in the early 1990s, Québec also had to deal with the emergence of the new economic order in North America that had resulted from the 1988 signing of the Canada-United States Free Trade Agreement. Our economy needed a new vision. Therefore, the government's economic development strategy strongly urged industry to embark on an especially bold course of action, whose aim was nothing less than the reinvention of the Québec economy during a particularly difficult economic situation.

Seventeen years later, it is obvious that the shake-up was successful, especially in our high tech sectors. Quite rudimentary some 20 years ago, the industries that today make up the region's competitive clusters enjoy an enviable reputation in both North America and internationally. Despite its size, Montréal is one of the top ten in North America in life sciences, for example, and ranks 2nd in the world for aerospace. I am absolutely certain that creating more opportunities for cooperation among all the players in a cluster is key to the success of these two sectors, as it is for the information and communications technology cluster, whose international profile continues to rise, particularly in the field of video games. In this case, collaboration between our universities and industry, strengthened by the cluster approach, has acted as a veritable catalyst for creativity.

In terms of innovation, the shared challenge facing us today is our ability to replicate, in all of our high tech industries, the same mechanisms that have successfully developed creative capital in some of our fields of excellence. These mechanisms for boosting creativity are primarily found in the Greater Montréal Innovation System, the integrated transactional information system (ITIS) and our participation in CLUNET, one of the biggest European cluster networks of innovative regions. All three of these initiatives are part and parcel of our industrial cluster model. We will discuss them in greater detail after reviewing the pivotal events that marked the development of Montréal's industrial clusters. This development continues, and along with it the quest to establish and assert Montréal's economic identity!

Gérald Tremblay
Mayor of Montréal and Chairman of
the Communauté métropolitaine de Montréal

1. Gérald Tremblay and business development: A born politician

Elected Mayor of Montréal in November 2001, Gérald Tremblay was re-elected in the fall of 2005. As mayor, he holds the office of Chairman of both the Communauté métropolitaine de Montréal (CMM) and the Montréal Agglomeration Council. A lawyer and member of the Québec Bar since 1970, Gérald Tremblay holds a Master of Business Administration (MBA) from the Harvard Business School. He developed a business turnaround concept while acting as senior partner and general manager of a consulting firm under the Sobeco Ernst & Young Group. After helping to revive the Fédération des Caisses d'entraide économique du Québec, he was noticed by the Government of Québec, which was then led by Robert Bourassa. He was president of the Société de développement industriel du Québec from 1986 to 1989 and then served on the boards of both the Caisse de dépôt et placement du Québec and Hydro-Québec, becoming a member of the latter's executive committee. In 1989, Gérald Tremblay was elected an MNA and appointed Minister of Industry, Commerce, Science and Technology. During his tenure, he introduced the industrial cluster concept as part of the Québec government's 1991 economic development strategy. As Mayor of Montréal, Gérald Tremblay also plays a role in various Canadian and international bodies.

2. Clusters: A definition

"Clusters are geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition. They include, for example, suppliers of specialized inputs such as components, machinery, and services, and providers of specialized infrastructure. Clusters also often extend downstream to channels and customers and laterally to manufacturers of complementary products and to companies in industries related by skills, technologies, or common inputs. Finally, many clusters include governmental and other institutions—such as universities, standards-setting agencies, think tanks, vocational training providers, and trade associations—that provide specialized training, education, information, research, and technical support."

Porter, M.E. "Clusters and the New Economics of Competition," *Harvard Business Review*, November-December, (1998).

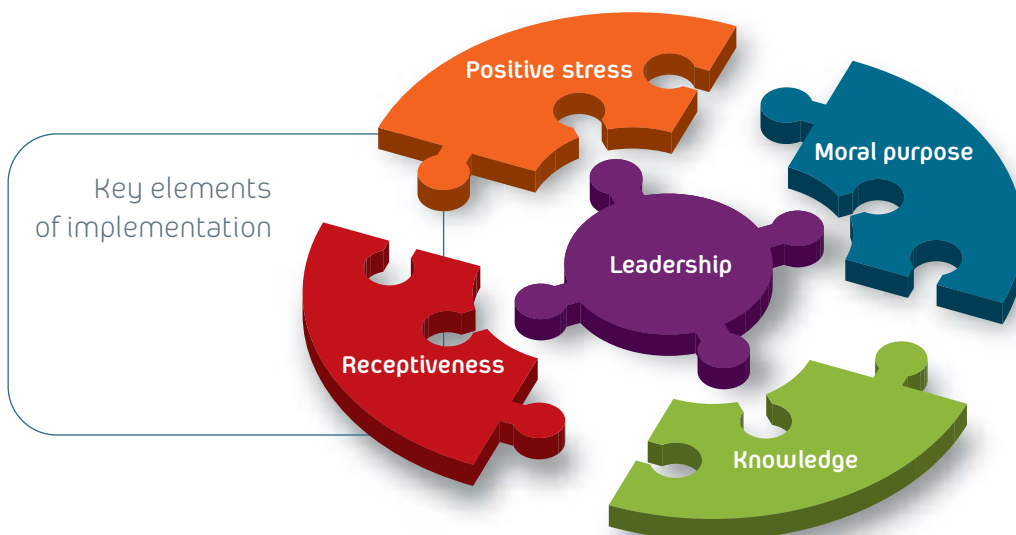
The success and prosperity of Montrealers lies in their ability to fully and completely express their creativity

THE FIVE KEY ELEMENTS OF IMPLEMENTATION

Leadership, positive stress, moral purpose, knowledge and receptiveness

The implementation of any cluster strategy is a long-term undertaking. It takes time to put in place each and every requirement to ensure the success of all five key elements of implementation: leadership, positive stress, moral purpose, knowledge and receptiveness. This document will therefore begin with a brief look at each of these elements, at the same time reviewing some of the important events that have marked the evolution of Montréal's economy and the gradual deployment of its cluster strategy over the past 20 years.

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Leadership

The most crucial element for implementing a cluster strategy, leadership must be constant and sustained. It pulls diverse stakeholders together and embodies the collective will to turn a desire for change into concrete action. Strong leadership is a must for any transformative process, both at the macro and micro-economic levels.

Share
the vision.
Provide
the tools
for change.

Positive stress

For Montréal, like the province as a whole, the 1988 signing of the first Canada-U.S. Free Trade Agreement (FTA) was a turning point that signalled the continent's transition from the old economic order to the new. Signs of change had appeared several years earlier: SMEs experienced difficulty raising capital and drug patent protection became an issue. Six years later, in January 1994, the free trade zone was extended to all of North America. Competition increased and industry was radically restructured. The old economic order was definitely a thing of the past.

By 1994, the new economic order was already a lot more familiar than it had been six years earlier. This was because the economic community had been marked by a number of significant events since the mid-1980s. The combined effect of these events in fact created pressure, pressure that in retrospect could be called positive stress. Largely through the efforts of government leadership, this stress helped raise awareness in the business world and gradually exposed the new attributes of Montréal's economic identity.

As early as 1989, the Québec government saw an opportunity and had undertaken a vast economic restructuring project under the direction of its Minister of Industry, Commerce, Science and Technology¹. Determined to stem the losses caused by the severe recession of the early 1990s, the government declared a state of economic emergency. At the very end of 1991, it adopted an innovative economic development strategy, the cornerstone of which was the brand-new industrial cluster approach proposed by Professor Michael Porter of the Harvard Business School. Flying in the face of generally accepted notions, Porter's theory claimed that, in an increasingly competitive world, success lay in working together rather than working alone for short-term goals.

The stress created by both economic progress and decline and the resulting heightened awareness gave rise to an observation on the state of our economy that, some 15 years later, appears to be a simple truism, despite all the evidence behind it: For the community to thrive, a mass production economy, largely based on natural resources, must quickly shift to a value-added economy. With this, the Québec cluster strategy came into being and, at the same time, the government laid the foundations of its new economic leadership. The period of economic turmoil facing us today will cause another episode of positive stress within the economic community. This stress should, once again, help mobilize the key stakeholders in Montréal's economy to successfully weather the storms of the upcoming economic cycle.

Identify threats.
Communicate
a sense
of urgency.

1. Gérald Tremblay introduced the Québec industrial cluster strategy during his tenure as Minister of Industry, Commerce, Science and Technology from 1989 to 1994. Elected Mayor of Montréal and thus Chairman of the Communauté métropolitaine de Montréal in late 2001, he is updating and adapting the cluster approach to the economic realities of the Montréal metropolitan region.

Make change
meaningful.
Nurture the
common good.

Moral purpose

The shift to a value-added economy is not an end unto itself. The true aim is multi-faceted. To fulfil its promise, the value-added economy created when a cluster strategy is deployed must cultivate growth in three areas: industry, revenues and employment. In turn, this growth will result in a society of the future, open to the world. The moral purpose behind the cluster strategy is sustainable industrial development, which occurs when there is a stimulating climate of trust among all actors. This, in turn, leads to world-class companies supplied by local networks of highly efficient subcontractors.

The CMM's Economic Development Plan in fact provided new tools for significantly accelerating the implementation of the cluster strategy. The Competitiveness Fund⁴ was established to support the mobilization of stakeholders and the organization of a board of directors and secretariat for each cluster. Credits were allocated to implementing the Greater Montréal Innovation Strategy, with industrial clusters as the strategy's centrepiece. Work was also done to create an extensive integrated information system and strengthen the region's ties with European leaders in clusters (see pages 16 to 20).

Gather
information.
Make informed
decisions.

Knowledge

In December 1991, the introduction of the government's cluster strategy launched a series of projects that were covered two years later in the first *Atlas industriel du Québec*. A veritable encyclopaedia of economic activity, this reference work was another milestone² in the growing body of information and expertise that would lead to the adoption of the Economic Development Plan of the Communauté métropolitaine de Montréal (CMM) in 2005. Before drafting this plan, the CMM first produced a series of 16 detailed profiles, one for each metropolitan cluster³. After the declaration of emergency in 1991, the CMM's plan was the second turning point in the long process of deploying the Montréal cluster strategy.

2. In 1991, Professor Michael Porter, the author of the cluster theory, delivered the findings of a study commissioned by the Canadian government in a document entitled *Canada at the Crossroads*. This paper identified five major issues plaguing the Canadian economy: weak productivity growth; rising labour costs; high unemployment; insufficient investment in technology and training; and an unfavourable economic environment (public debt).

3. Each of the sixteen clusters was the subject of a separate study describing its various existing relationships. The development potential of each was the subject of a strategic analysis. These studies were designed to generate priority actions that would stimulate the cluster strategy process and focus the desire for innovation on establishing a development and innovation plan specifically for each cluster.

4. The purpose of the CMM's Competitiveness Fund is to support the operations and development of clusters to improve the growth and competitiveness of the higher value-added economic sectors. The CMM's partners in the Fund are the Québec government and the private sector. Each partner determines its own conditions under which clusters may qualify for funding.

Receptiveness

The final step in deploying a cluster strategy, the mobilization of stakeholders around a shared vision and goals, culminates in the physical organization of a cluster initiative, its board of directors and secretariat. The phenomenon of positive stress is just as necessary to creating the climate of receptiveness needed to launch a cluster initiative as it was to developing the Québec cluster strategy in the early 1990s. The text on pages 14 and 15 relates the key events that, starting in the year 2000, helped create a climate of receptiveness and a desire for change in four key sectors of Montréal's economy: aerospace, life sciences, information and communications technology and film and audiovisual production.

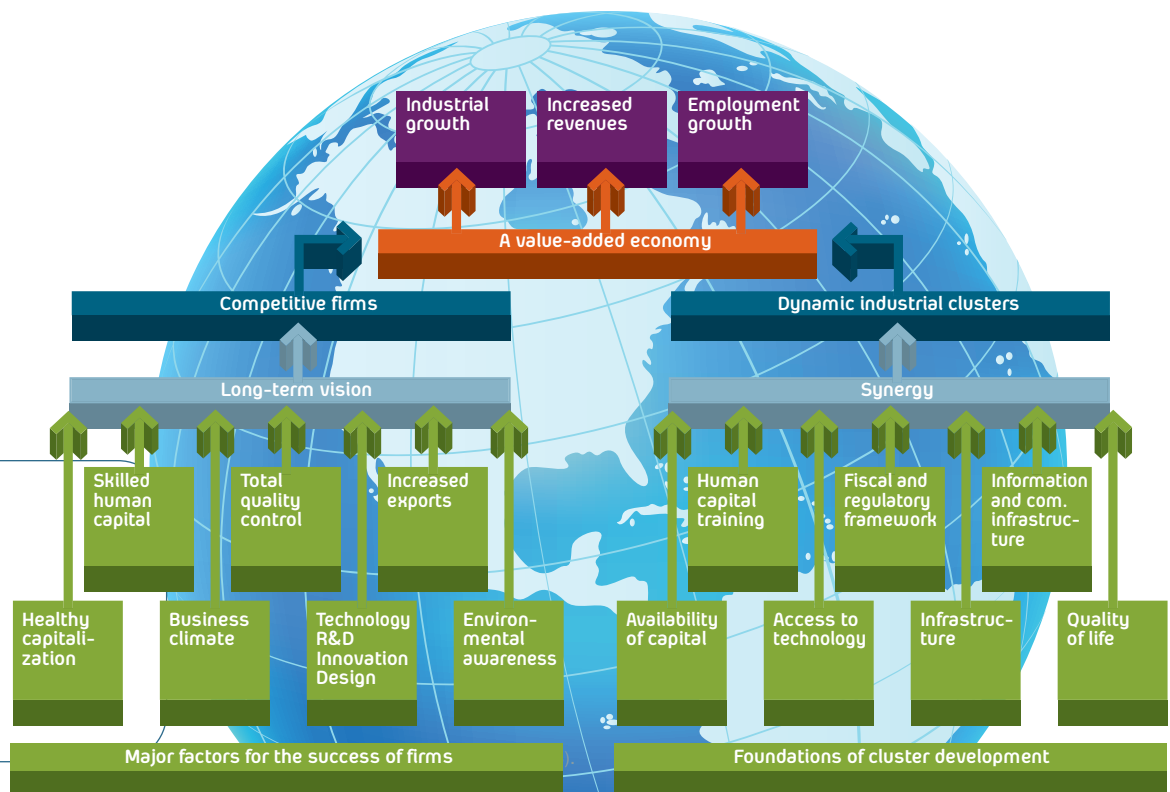
Enthusiasm for the cluster must be strong enough to overcome the many objections that will likely crop up among industrial competitors who must now work together on common goals. It takes time to create a climate of receptiveness with the necessary attributes for success. At a macroeconomic level, the Québec cluster strategy managed to generate such enthusiasm within the government's administrative machinery that, when the party in power changed, the civil service took over the work of the minister that had adopted it and continued implementing it with conviction and determination. Having espoused the cluster strategy, the team of civil servants of that era has continued to support it for the past 15 years. As proof, the ACCORD project, instituted by the Québec government in 2002 (with a five-year \$95 million budget), specifically aims to encourage the building of a competitive regional production system in every region in Québec by identifying and developing niches of excellence that will form the brand image of each region.

Without the unfailing commitment of government administrators and professionals, the cluster strategy would not enjoy the role it does today in the Montréal production system. This strategy has enabled Montréal to develop an enviable reputation in sectors like information and communications technology, life sciences, aerospace and film where creativity and innovation are deciding factors. The initial team of provincial civil servants who championed the strategy has been joined by a new generation of strategic planners who also look to global best practices to constantly refine the cluster approach in the Greater Montréal region.

Recognize
the issues.
Act
collectively.

A TOOL FOR CONCEPTUALIZATION

The cluster strategy is a tool for conceptualizing and visualizing production systems, coupled with a strategic analysis grid used to determine the strengths, weaknesses and potential of both a cluster and the firms that compose it. This strategy sets forth seven major factors of business competitiveness.



Source: *L'Atlas industriel du Québec*, Édition Publi-Relais, (1993).

1. The seven major competitiveness factors

- Healthy capitalization
- Skilled human resources¹
- A favourable business climate
- Total quality control
- Advanced R&D¹, technology, innovation and design
- Increased exports
- Environmental awareness

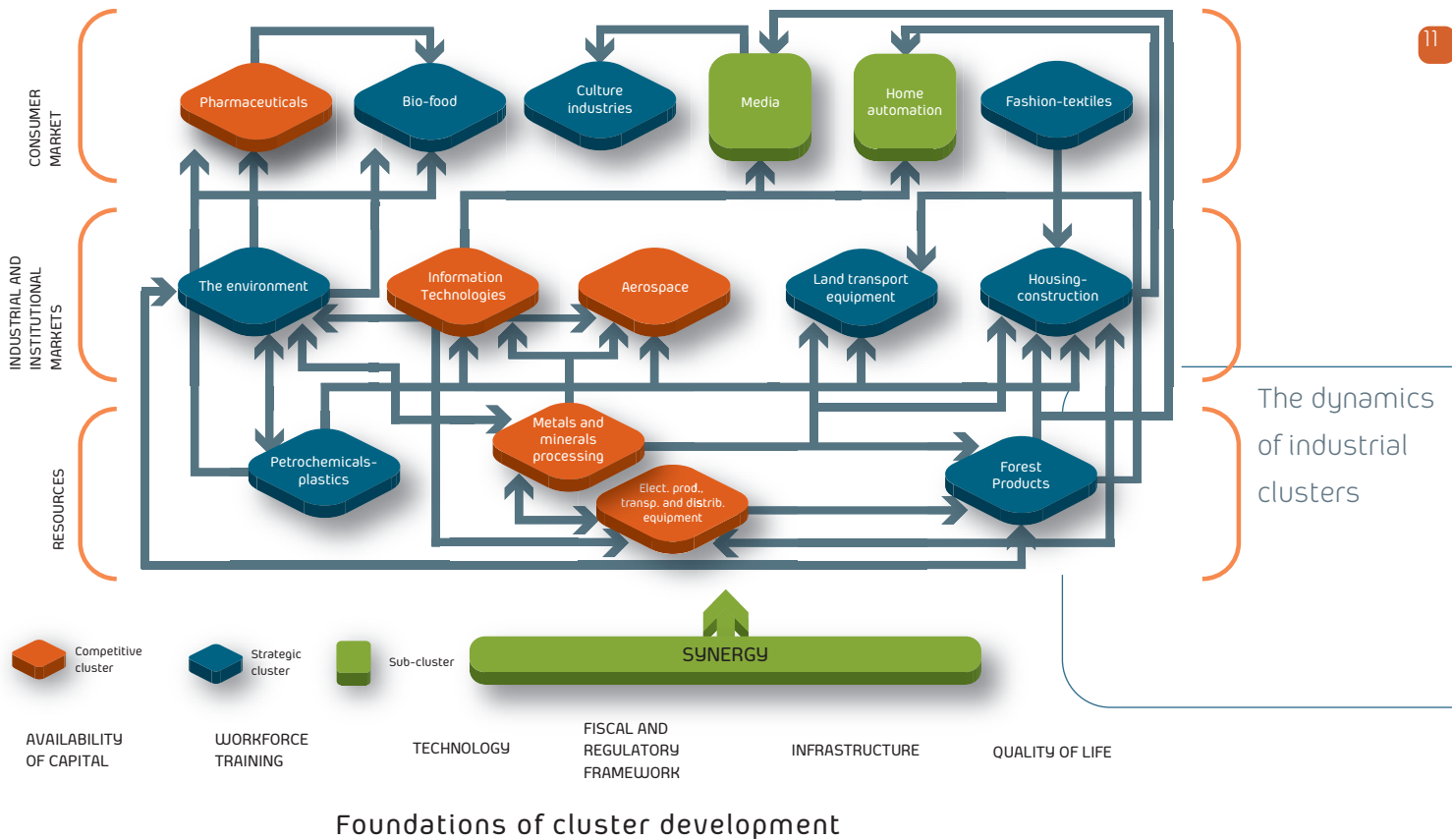
1. In the early 1990s, thanks to the Ordre des comptables agréés, entrepreneurs could add a note to their annual financial statements showing that R&D and training expenses would improve their company's long-term profits, even though short-term profitability would suffer.

Synergy

In a cluster system, synergy, coupled with the seven competitiveness factors, can significantly increase the competitiveness of individual firms and the economy of an entire region. In today's global market, no firm can expect to succeed entirely on its own. Synergy among cluster participants is the foundation of the cluster strategy, a strategy that naturally leads firms in the same sector to function in "interconnectivity" mode. This means that the success of each individual firm depends on the competitiveness of its suppliers and subcontractors and the quality of the business relations that unite manufacturers and their subcontractors. To maximize the synergy within a cluster, firms must adopt a new way of doing business. In short, to succeed they must develop common ground and create networks of firms, suppliers and customers.

Acknowledging interdependency

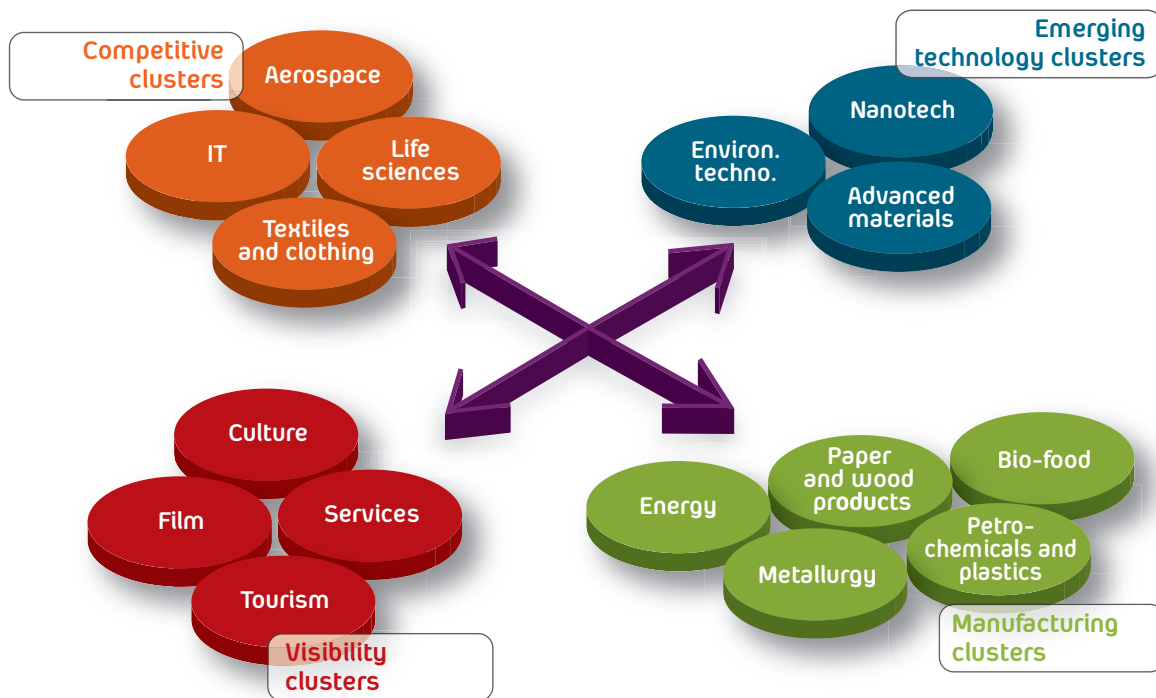
A firm's success depends on its ties with the production system as well as the seven major success factors listed in the sidebar on the previous page. The key to success lies as much with the synergy created within each cluster as with the dynamic of the entire regional production system, as illustrated in the figure below. Although created 15 years ago, this figure clearly illustrates the interconnectivity that now unites all partners in the economy. Clusters rely on research done in fields that are often cross-sectoral. For example, advances in bio-technology are useful to the environment, the bio-food sector and pharmaceuticals. Today's information and communications technology sector is unquestionably one of the best examples of this dynamic, because so many other fields depend on it.



3

MAPPING MONTRÉAL'S REGIONAL CLUSTERS

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Source: Communauté métropolitaine de Montréal's Economic Development Plan (2005).

Competitive clusters

Competitive clusters are those in which one or more segments have successfully penetrated foreign markets. Competitive clusters are among the top in the world and play a role of national economic engine. In Montréal, the aerospace and life sciences clusters fit this definition perfectly. Information and communication technologies (ICT) appear to be a cross-industry support cluster and many ICT segments are very successful internationally. Textiles and clothing may at first seem out of place in this first cluster category. However, although the primary textile producers are losing market share nationally, there is hope for future growth given their R&D spending and increasing use of innovations in an economic sector with a growing international reputation.

Emerging technology clusters

Dependent on emerging technologies, this category consequently includes clusters that boast high, long-term growth potential. They could almost be called developing micro-clusters. These types of clusters could well revolutionize more than one industry. At the present time, they are loosely organized and their development is essentially dependent on sustained R&D efforts.

Visibility clusters

The primary strength of these four clusters is their ability to enhance the metropolitan area's international reputation while taking an active role in regional development efforts. They help define Montréal's brand image and position on the international market and encourage the development of the region's creative capital. These clusters are key to the region's socio-economic development. They are essential ingredients in the dynamics of innovation and make a direct contribution to improving the quality of life.

Manufacturing clusters

This category describes clusters whose primary inputs are natural resources. Production-oriented, they generate a large number of jobs. Each individual sub-cluster in this group offers good growth potential and could form an independent, province-wide cluster. The situation is due to the fact that the members of manufacturing clusters and sub-clusters tend to be geographically scattered.

4

THE FOUR COMPETITIVE CLUSTERS



The aerospace cluster

Thanks to this cluster's 42,000 employees working for 235 different companies, Montréal is a world leader in aerospace, ranked just behind Seattle and just ahead of Toulouse. Québec's high-tech sector has performed very well in this field, primarily due to the aerospace construction industry, which shipped nearly \$12 billion in 2007.

Aéro Montréal was founded in 2006 as an initiative of the Comité aérospatial Québec, which was set up two years earlier to nurture joint actions among participants in the aerospace sector. A fully independent non-profit corporation, Aéro Montréal was established to unite all Montréal and Québec aerospace stakeholders around shared objectives and concerted actions in order to optimize the competitiveness, growth and visibility of the Greater Montréal aerospace cluster.

Aéro Montréal receives funding from the CMM's Competitiveness Fund. The steering committee, composed of 20 representatives from industry, associations and government, presented a strategic plan, a business plan and a governance model for the cluster in 2006, while continuing its efforts to mobilize as many sector participants as possible. In 2007, Aéro Montréal put together a three-year communication plan and a promotional video to brand the Greater Montréal aerospace cluster and enhance its profile and visibility. In December 2007, the cluster convened some 330 key aerospace players from Canada and around the world (businesses, research centres, educational institutions and associations) to the first Forum Aerospace Innovation. The event was an opportunity to share experiences and discuss various aerospace-related innovation issues. Among the attendees were the heads of six international clusters.¹



The life sciences cluster

With 41,000 employees in the cluster's 628 establishments, Montréal is one of the top ten North American cities for biotech jobs, even though it only ranks 16th in terms of population. The sector's manufacturing shipments are worth over \$4 billion.

Even before the cluster's creation in 2002, Montréal was already a strong competitor in the life sciences sector. To maintain and strengthen this position, in 2000 Montréal International had commissioned a background study for an action plan. The work was directed by a high-level group of 20 representatives from the private sector, universities, governments and venture capital. In all, some one hundred decisionmakers contributed to the "2002-2010 Action Plan for Greater Montréal, Accelerating the Development of the Life Sciences Cluster." The members of the original steering committee all agreed to sit on the Metropolitan Montréal Life Sciences Committee (MMLSC). In 2005, the CMM underscored its support of clusters by launching the Competitiveness Fund. A cluster secretariat was organized and its international brand strategy was defined, represented by the Montréal InVivo logo.

In 2006, Montréal InVivo's business plan proposed that the area's teaching hospitals (CHU) become better integrated. Entitled *Montréal, Health Technopole*, this report recommends that the life sciences cluster mobilize to use teaching hospitals as an engine of development. In 2007, Montréal InVivo welcomed some sixty venture capital firms and over 400 players in the North American biotechnology sector to BIO Venture-Forum East, the first time that this major forum had been held outside the United States.

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1. The six clusters present were Aerospace Valley, from France; Sky Win Wallonie, from Belgium; Hamburg: The Place for Aviation and BaVAlRia from Germany; ProMEXICO and TechBA, from Mexico.



The information and communications technology cluster

With 120,000 employees working in the approximately 5,000 businesses and organizations of this cluster, Montréal is ranked 3rd in North America for job density in the ICT sector. The industry is active in seven sub-sectors: manufacturing, software, IT services, telecommunication services, interactive digital media/services, digital audiovisual and sound and the digital arts. In 2006, the cluster's exports reached an estimated \$5 billion.

TechnoMontréal grew out of a movement to mobilize industry players that began in 2002 under the auspices of Montréal International. A steering committee of leaders from the public, private and educational sectors of each sub-sector in the ICT cluster was then created two years later, chiefly to produce an ambitious action plan that was launched in 2006. With this plan, the implementation of a governance model that could be used to construct a true industrial cluster became an organizational priority and a means for defining the cluster's position on the international scene.

In 2007, the cluster adopted a brand image to match its position. In April of the same year, everything was in place for the official launch of TechnoMontréal, the ICT cluster's new name. With over 300 key players from Montréal's ICT industry in attendance, TechnoMontréal presented its board of directors and secretariat, logo, Website and promotional video. TechnoMontréal receives financial support from the CMM's Competitiveness Fund.



The film and television production cluster

With 35,000 employees working in the sector's 500 firms, the film and television industry cluster has helped significantly boost the volume of film and television productions since its creation in 2005, with the numbers rising from \$100 million to \$270 million.

Created following the Forum métropolitain de l'industrie cinématographique (FMIC), the Québec Film and Television Council (QFTC) acts as the cluster secretariat. The QFTC's mission is to contribute to the development of Québec's competitiveness as a world-class film and television production centre in collaboration with the other film and television offices (Montréal, Québec and Argenteuil-Laurentians).

In 2007, the QFTC's board of directors mandated an advisory committee to study the cluster's issues and objectives in order to direct the development of the film and television production industry. This new vision will be reflected in the projects proposed by the cluster's working groups (human resources, foreign investment, innovation, brand-visibility-profile and strategic intelligence) and its current three-year development strategy (2008-2010). The film and television production cluster receives financial support from the CMM's Competitiveness Fund.

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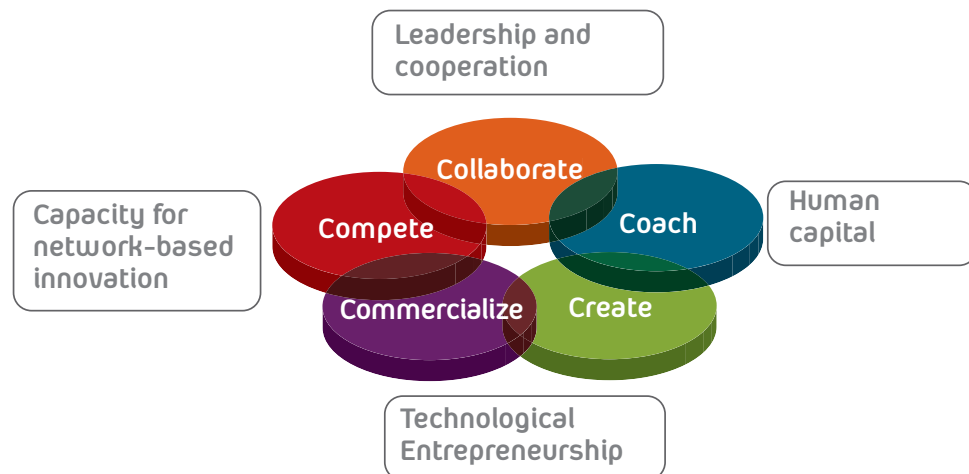
THE GREATER MONTRÉAL INNOVATION SYSTEM

A model of an advanced value-added economy

The adoption of the Greater Montréal Innovation Strategy by the Communauté métropolitaine de Montréal in October 2007 along with the creation several months later of the Montréal International Innovation Committee (MIIC) accelerated the implementation of the Greater Montréal innovation system. It is a key step in the deployment of the cluster strategy because, from a theoretical point of view, the innovation system can be considered the "cluster of all clusters" as it boosts creative capital to ultimately lead to an advanced, value-added economy.

16

The five keys
to innovation



The Greater Montréal Innovation Strategy

Adopted after the Québec Research and Innovation Strategy and Canada's National Science and Technology Strategy, the Greater Montréal Innovation Strategy aims to create the conditions under which new ideas, products and processes can more easily result in the maximum economic and social benefits for all metropolitan stakeholders.

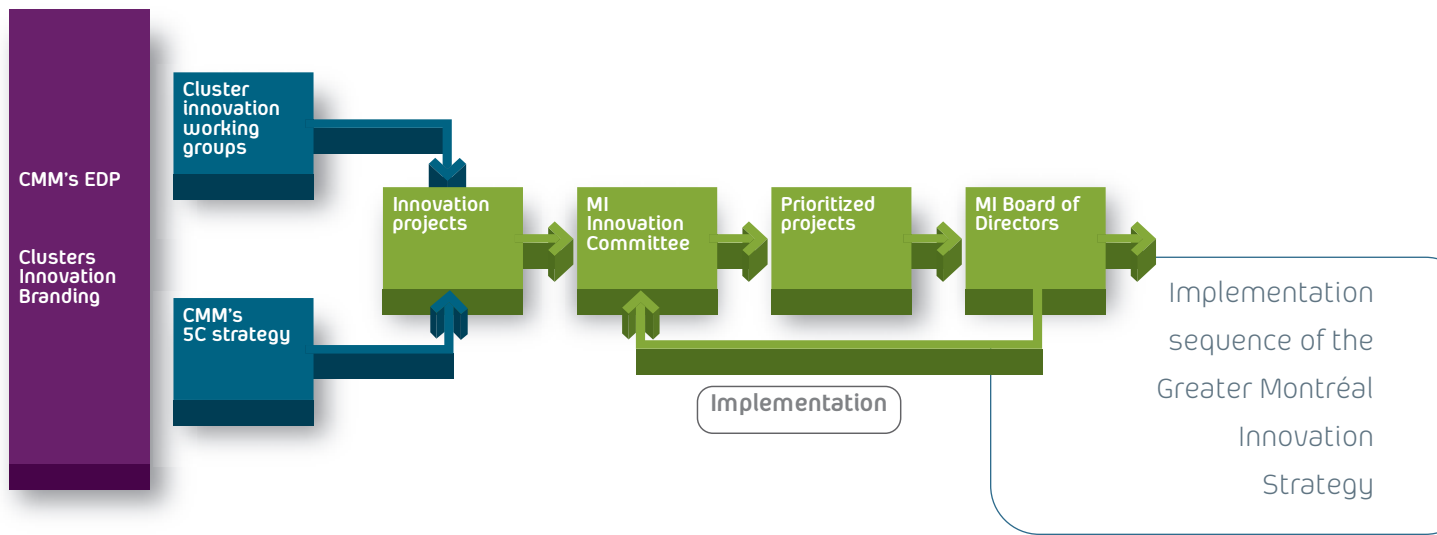
To fulfil its aim, the CMM's strategy, in accordance with its economic development plan, focusses on significantly increasing interaction among the five keys¹ to innovation as illustrated in the diagram on the preceding page.

Greater Montréal possesses major, distinctive assets to give it a competitive edge in the new knowledge economy. Thanks to its research facilities, major companies, network of SMEs and technological entrepreneurship, the region boasts a higher density of jobs and expertise, particularly in the aerospace and ICT sectors, than most North American metropolitan regions. Research tax credits, a pool of skilled employees and competitive clusters are already creating conditions conducive to innovation. To promote it even further, be more competitive and increase wealth creation, the region must boost collaboration among the key stakeholders in innovation.

In concrete terms, the goal of the Greater Montréal Innovation Strategy is to mobilize the community to create the conditions that will nurture innovation and increase the amount of business investment in R&D. As a result, the strategy will be assessed on its long-term impact, according to five indicators: number of patents, licenses and new companies and growth in exports and productivity.

The diagram below illustrates the implementation sequence of this strategy.

1. Compete, commercialize, create, coach and collaborate



Montréal International Innovation Committee (MIIC)

The Montréal International Innovation Committee (MIIC) was mandated to implement the Greater Montréal Innovation Strategy. It was decided to adapt the mission of an existing organization, in this case Montréal International (MI), while at the same time ensuring that the president of each cluster would have a seat on the MI board of directors. This organization also formed an operational committee composed of the executive directors of each cluster to determine a limited number of priorities and projects likely to create the conditions conducive to innovation and increase R&D spending by Montréal-area tech companies. The implementation of these projects will be funded on an individual basis according to the project's merit and the promoter's

funding structure. The CMM uses a quadripartite approach to funding, involving equal contributions from the governments, the CMM and the private sector.

Nurture
economic,
social,
environmental
and urban
innovation

Proposing new ways of producing, living and creating

Innovation in Montréal does not stop with the economy. In the long term, the strongest performing metropolitan regions are those capable of offering their citizens and the global market new ways of living and creating in addition to new ways of producing. With this in mind, we must find a uniquely Montréal way to nurture innovation in all spheres of our urban world: the economy, the environment and society.

The integrated transactional information system: Promoting the expression of creative capital

Metropolitan cluster development depends on knowledge and the speed at which the various partners can circulate information amongst themselves. This requires creating innovative information management and promotional tools like an efficient transactional system and a Website to link the members of each cluster as well as the clusters themselves.

The CMM is currently instituting the first component of its integrated transactional information system (ITIS). This component will make information on every Montréal regional cluster available to prospectors and investors. It will include maps identifying the locations of firms in each cluster, facilities, training and research centres and the primary areas where jobs are concentrated. A special application will be used to activate each function on the maps. Users will also be able to access a cluster's general profile as well as obtain more detailed information on its specific components.

This system will be configured for compatibility with similar systems around the globe. The ITIS is a perfect illustration of the importance, or rather the necessity, of networking. Ultimately, one could argue that the regional production system is itself a type of cluster, as illustrated in the figure below, and that all the players in the region must work in a network so that the cluster – in reality, the region – can compete globally. The ITIS is a perfect match for Web 2.0. It takes the idea of communities of practice a little further by broadening the approach to include all the players in a given cluster. It has the potential needed to promote the expression of Montréal's creative capital in all its forms and thereby contribute to the success of high value-added Montréal businesses.



CLUNET: Montréal benefits from European best practices

Montréal is the only non-European innovative region to take part in the international CLUNET (CLUster NETwork) project co-ordinated by the North West Development Agency under the aegis of the European Commission. Part of the PRO INNO Initiative, a program to support research and innovation, this project is designed to bring together innovative regions for cluster policy networking. Scheduled to last 36 months, the project was launched in October 2006 in Bolton, Great Britain, and involves 13 innovative European regions and 64 high-quality clusters.

Montréal has much to gain from its participation in this unique international network for CLUNET's prime goal is to identify all the existing cluster policies in each of the 14 participating metropolitan regions. The aim is to discover and, more importantly, understand the policies behind the most dynamic European clusters so that the member regions of CLUNET may adapt these policies to their individual circumstances. In addition to sharing best practices, the network partners are also implementing concrete experiments in international cooperation. Eight pilot projects are in the works, including one pairing the Montréal region with Italy's Tuscany region as part of a trans-national business incubation project.

The project essentially consists of helping two Tuscan companies try to expand their business. The objectives of the Italian companies may differ, with one perhaps looking to sign technological and/or commercial alliances in Canada and/or the Northeast United States, while the other may seek a financial partner in Québec. Inno-centre, a Montréal business incubator specialized in tech company start-ups, is associated with the project.

With CLUNET, Montréal has an opportunity to make use of the expertise acquired by innovative European cities, enhance the visibility of its industrial clusters and develop business relations with the 13 other participating regions. This unique access to European best practices will undoubtedly help accelerate the creation of the conditions under which new ideas and ways of doing can more easily evolve from the formative phase to the marketing phase, to the benefit of all metropolitan stakeholders.

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CLUNET:
Network of
European
best practices

A shared vision and values, strong and constructive leadership

In 2003, the CMM adopted a strategic vision statement for the economic, social and environmental development of the metropolitan area. Entitled *Charting our international future: Building a competitive, attractive, interdependent and responsible community*, this vision was the result of a rigorous analysis² and represented what the community would like to become by the year 2025.

- A **competitive** community, because it is important to set demanding goals if we wish to regain our position as one of the world's leading metropolitan areas.
- An **attractive** community, because we must fulfil the expectations of our citizens and attract more people to the metropolitan area by optimizing our assets: creativity, innovation, knowledge and culture.
- An **interdependent** community, because we must fight social exclusion, reduce the school dropout rate, increase the number of immigrants contributing to our development and develop partnerships between firms and educational institutions.
- A **responsible** community, because we intend to meet the challenge of participatory democracy by providing our citizens with continuous information and "online government."

Vision 2025 is a call to mobilization and action. It provides a common focus for the actions of all players involved in regional development and helps ensure consistency. As such, the CMM's *Vision 2025* is an indisputable example of strong, constructive leadership.

In addition, the CMM's Economic Development Plan, the City of Montréal's Economic Development Strategy (*success@montreal*), and its *Imagining • Building Montréal 2025* game plan together constitute a consistent, sector-based vision of the region's medium and long-term development. Finally, the ACCORD project and the CMM's Competitiveness Fund both complement the aforementioned initiatives by supplying exceptional levers for accelerating and supporting the implementation of a support organization for each cluster.

A competitive,
attractive,
interdependent
and responsible
community.

2. The analysis conducted by the CMM in 2002, which was confirmed by the OECD's territorial review in 2004, provided elected officials with an accurate and realistic view of the situation in the Montréal metropolitan area.

CONCLUSION

REALIZING THE FULL POTENTIAL OF INDUSTRIAL CLUSTERS

The complete opposite of a passing trend, the cluster approach remains, more than ever, the keystone of Montréal's development strategy. Since the industrial cluster system has the power to boost the creative capital of the metropolitan region, by its very design it can accelerate the Montréal innovation process, the only means possible for increasing our economic productivity and competitiveness. It is also an ideal framework for intervention and mobilization as we prepare to weather the coming period of economic turmoil.

The figure on the following page clearly expresses the dynamic behind a "culture of encouraging creativity," as some scholars have dubbed it. The interconnections between knowledge, creativity, innovation and prosperity are well-established, as is their connection to the industrial cluster dynamic. Montréal's approach differs by suggesting that our cluster model be equipped with mechanisms to ensure that Montrealers fully and completely express their creativity. Industrial clusters can only reach their full potential if they develop in an environment that prioritizes innovation, and that is exactly what the Montréal region is currently targeting.

The Greater Montréal innovation system, the integrated transactional information system and international networking—through our membership in CLUNET, one of the biggest European cluster networks of innovative regions—are now part and parcel of the Montréal cluster model. Their implementation, along with the support and funding of cluster secretariats, make up our short and medium-term goals.

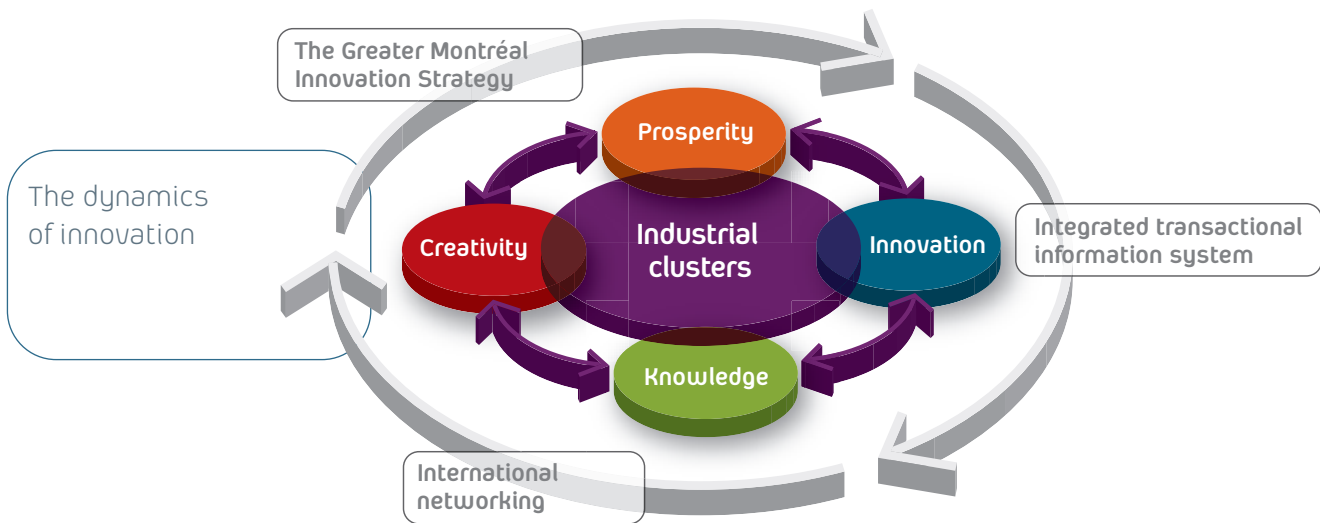
In 1991, when the Québec government adopted a brand-new vision of economic development, I was convinced that the cluster dynamic was capable of injecting a strong dose of synergy into the Québec production system. Elected Mayor of Montréal and Chairman of the Communauté métropolitaine de Montréal 10 years later, I was absolutely certain that this approach must be used once again as the cornerstone of our long-term vision and economic development plan.

We must find a uniquely Montréal way of multiplying opportunities for exchanges between artistic creators and scientific creators so as to foster the transfer of attributes from one to the other.

Today, the goal is to ensure that the mechanisms nurture creativity and innovation make concrete contributions to the success of high value-added businesses. As you may have guessed, our aim is to fully unleash Montréal's incredible creative potential. We already produce the most popular business jets in the world, create the most realistic virtual characters and make stunning medical breakthroughs. Now we must construct an organized system for our model of creativity and innovation.

Innovation in Montréal does not stop with the economy. In the long term, the strongest performing metropolitan regions are those capable of offering their citizens and the global market new ways of living and creating in addition to new ways of producing. With this in mind, we must find a uniquely Montréal way of multiplying opportunities for exchanges between artistic creators and scientific creators so as to foster the transfer of attributes from one to the other to benefit all spheres in our urban world: the economy, the environment and society.

A review of the past 20 years, *Clusters and Innovation: Boosting Creative Capital* is also a blueprint for the next 20. By looking back at all the steps and stresses that led from the concept introduced in Québec in 1991, to the reality of the first true clusters some ten years later, the October 2008 speech given in Montréal relates how this strategy, now widespread, was deployed to focus our search for a new economic identity. By boosting the creative capital of Montrealers, our cluster system will become a major driver of economic growth and prosperity!



HISTORIC INDEX

The historic index lists the 40 or so significant events that, one by one, marked the phases and influences of the idea first proposed in the early 1990s, which eventually resulted, 15 years later, in the Greater Montréal innovation system and the creation of the first four cluster secretariats.

1985 Saucier Report

The Québec government creates the Saucier Commission, whose mandate is to draft concrete proposals for improving the financing of firms, including SMEs with good growth potential.

1986 Pharmaceutical industry crisis

Afraid that Parliament intends to modify Bill C-22 on patent protection, representatives from various Montréal business, political and scientific groups form a united front and reiterate their support for the legislation. The pharmaceutical industry threatens to cancel its investments, worth some \$1.4 billion. A precursor of this threat was two years earlier when Ayerst Laboratories transferred their R&D activities to the United States.

1986 Picard Report

The Canadian government mandates a committee to draft a report on revitalizing the regional economy. It recommends targeting seven competitive economic sectors: international activities; high technology; international trade and finance; design; cultural industries; tourism; and transportation. According to the report, this revitalization will require joint action from both the public and private sectors.

1988 Canada-United States Free Trade Agreement (FTA)

The FTA is signed with the help of Québec's leaders who, unlike those in other Canadian provinces, are largely in favour of eliminating trade barriers between the two countries. Coming into effect on January 1, 1989, this agreement is the first step towards creating a trade zone encompassing the entire continent.

1991 Economic recession

The recession coincides with a move to a more open economy: the FTA in North America, privatizations (Canadian National and Air Canada), deregulation in transportation and communications and the first steps in restoring the country's fiscal balance.

1991 *Notre économie : état d'urgence*

To stem the losses suffered by the Québec economy at the height of the recession in the early 1990s, Gérald Tremblay, at that time Minister responsible for economic affairs, goes down in the record books when he gives a talk entitled "Notre économie : état d'urgence." The system can no longer keep up with the demands of a value-added economy. "It is critical that we make choices and decisions." Two months later, he proposes the industrial cluster approach to restructure the Québec economy.

1991 *Canada at the Crossroads*

Directed by Michael Porter, this study suggests a framework for understanding the deciding factors of Canadian competitiveness and identifying the sectors which require change. The study is in line with current widespread concerns, particularly with regard to low productivity growth and rising unemployment.

1991 First long-term social contract

The opening of a major steel mill in Québec (worth \$500 million) leads the union and the company to sign an agreement using a partnership approach based on a medium and long-term vision of the company's future. In other words, the parties abandon the long-held practice of making contracts last a maximum of three years. With this first agreement, the concept of long-term social contract is born in Québec.

- 1991** **Industrial cluster strategy**
Introducing its new development strategy, based on the recently published industrial cluster theory, the Québec government undertakes an exciting, innovative approach aimed at reinventing the Québec economy.
- 1993** ***L'Atlas industriel du Québec***
A veritable encyclopaedia of Québec's economic activity, this volume, written with the support of Gérald Tremblay and prefaced by Michael Porter, is an important benchmark in assembling the data and knowledge that would eventually lead to the adoption of the CMM Economic Development Plan in 2005.
- 1993** ***L'entreprise à valeur ajoutée, le modèle québécois***
This document, with a preface by Gérald Tremblay, aims to help businesses adopt a growth-oriented approach by increasing their understanding of the concept of added value and improving access to information.
- 1993** ***Les grappes industrielles***
Published by the Ministère de l'Industrie, du Commerce et de la Technologie, this monograph examines competitive economies, synergy among the players in key sectors, and the issues, priorities and challenges facing Québec.
- 1993** **The Patent Act (Bill C-91)**
With Bill C-22 in 1987, the federal government granted pharmaceutical companies exclusive rights to market their new drugs for a period of seven years. Bill C-91 improves this protection by allowing brand drugs to be protected for an extended period of 20 years.
- 1993** ***Ensemble vers la réussite***
With a three-year, \$1 billion budget, this Québec government action plan proposes a dozen or so concrete measures to support the economy and job creation and thereby meet the needs of workers hit hardest by the recession.
- 1994** **North American Free Trade Agreement (NAFTA)**
On January 1, 1994, the FTA is replaced by NAFTA with the addition of Mexico.
- 1996** **Summit on the Economy and Employment**
A Québec government initiative, the Summit convenes a wide variety of representatives from Québec society in order to obtain a consensus and approval for its goals of reduced public spending.
- 1996** **Task force on the revitalization of Montréal**
As part of the work done for the Summit on the Economy and Employment, the government mandates a group of Montréal businesspeople to diagnose what ails the Montréal economy and propose a plan to revitalize the city. The committee comes up with thirty or so initiatives, grouped into three major categories: shifting to the new economy; modernizing established sectors; and improving overall development conditions.
- 1996** ***L'urgence d'agir***
"L'urgence d'agir" examines the following themes as they relate to Québec: demographics, values, territorial development, the Québec model of economic development, globalization, civil society and government leadership. It is published by the Observatoire du Québec, a group of former Québec civil servants and academics.
- 1997** **Montréal International (MI)**
A public-private partnership, MI is charged with the mission of contributing to the economic development of metropolitan Montréal and increasing the region's international status. MI is funded by the Québec and Canadian governments, the City of Montréal, the Communauté métropolitaine de Montréal and the private sector. It was created as a result of the Summit on the Economy and Employment.
- 1997** **Montréal Technovision**
The mission of this organization is to transform the Montréal region into an international centre of technological activity. In 2002, it merges its mandates and resources with those of MI.

- 2001** **Communauté métropolitaine de Montréal (CMM)**
The CMM is a planning, co-ordinating and funding body serving 82 municipalities, including Montréal, Longueuil and Laval.
- 2002** **Montréal Summit**
Upon being elected the new Mayor of Montréal in November 2001, Gérald Tremblay promises to convene some 3,000 participants for a summit to draft a shared vision of the new city's future and mobilize citizens to take part in projects to increase collective wealth and improve the quality of life. The Summit is the founding act of the new City of Montréal, which is created on January 1, 2002, following the merger of all the municipalities on the island.
- 2002** **Action Plan for the Life Sciences Cluster**
Working with industry stakeholders, MI prepares an action plan to position the metropolitan region as one of the world leaders in life sciences, notably by focussing on job creation and strengthening the existing R&D infrastructure (see 2005).
- 2002** **ACCORD Project**
The mission of this project is to nurture the construction of an internationally competitive regional production system in each of Québec's regions by identifying and developing niches of excellence to create a brand image for each region.
- 2003** **CMM Vision Statement**
Following a rigorous analysis (presented in the Vision 2025 discussion paper), the CMM adopts a strategic vision statement for the economic, social and environmental development of the metropolitan region entitled, *Charting our international future: Building a competitive, attractive, inter-dependent and responsible community*.
- 2004** **OECD – Territorial Review of Montréal**
Reaching the same conclusions as the CMM analysis conducted two years prior, the OECD's territorial review of Montréal sends shockwaves through the community when it notes the region ranks 26th out of 26 North American metropolitan regions in terms of GDP per inhabitant and 44th out of the 65 most prosperous urban centres in the OECD. The report makes five major recommendations: invest in strategic infrastructure; focus on raising education levels and training the work force; attract more skilled workers; stimulate innovation; and encourage the development of innovative clusters.
- 2004** **National Forum on Economic Growth of the Big Cities in Canada**
At this forum, the mayors of Canada's 22 biggest cities (BC-22) meet with representatives from various Canadian associations to discuss how partnerships of government, business and civil society can accelerate wealth creation. At the closing of the forum, the 22 mayors adopt a declaration proposing partnerships specific to each big city.
- 2005** **Action Plan of the Information and Communications Technology (ICT) Cluster**
The ICT cluster starts getting mobilized with the formation of a steering committee composed of leaders from the public and private sectors and academia and the creation of task forces for each ICT sub-cluster.
- 2005** **The CMM's Economic Development Plan and Competitiveness Fund**
The CMM adopts its Economic Development Plan, which includes a metropolitan cluster development strategy and a Competitiveness Fund to provide financial support for cluster organization. Just like Vision 2025, which was adopted in 2003, the Plan targets the development of a metropolitan region that is a learning region, competitive and prosperous, attractive and world-class.
- 2005** **City of Montréal Economic Development Strategy *success@montreal***
The City's 2005-2010 Economic Development Strategy complements the CMM's Economic Development Plan and is based on five priority areas of activity: the business environment; knowledge and innovation; culture; quality of life; and openness to the world.
- 2005** ***Imagining · Building Montréal 2025***
The City of Montréal's game plan aims to make Montréal one of the most dynamic and stimulating metropolitan areas in North America by accelerating economic growth and the launch of key projects. This game plan for the next 20 years includes some one hundred private and public projects worth over \$64 billion.

- 2005 Montréal InVivo**
The metropolitan Montréal life sciences cluster adopts a brand strategy to reinforce its market position. Montréal InVivo is the new name of the life sciences cluster secretariat.
- 2005 Québec Film and Television Council**
The Québec Film and Television Council (QFTC) is the secretariat for the film and television industry cluster. The QFTC works to co-ordinate and harmonize promotional activities, hospitality services and industry support.
- 2006 Aéro Montréal**
Aéro Montréal is the secretariat of Montréal's aerospace cluster. As such, its mission is to rally all industry players around common goals and concerted actions to increase cohesion and optimize the competitiveness, growth and influence of the cluster.
- 2006 *Using Clusters to Mobilize and Take Action: From Concept to Reality***
On December 4, 2006, Gérald Tremblay, Mayor of Montréal and Chairman of the CMM, gives a talk in Lyon, France, as part of the Nineteenth Annual Entretiens du Centre Jacques Cartier. This speech closes the conference entitled "Clusters, grappes et pôles de compétitivité." In it, the mayor reviews the pivotal events of an economic strategy that also seeks to establish and maintain Montréal's economic identity.
- 2006 Québec Research and Innovation Strategy**
With this strategy, the Québec government is trying to mobilize all members of industry to increase the number of firms investing in research and development. However, the strategy's primary goal is to promote innovation and more effectively transfer research results to businesses and other organizations.
- 2007 TechnoMontréal**
The information and communications technology (ICT) cluster adopts a new name, TechnoMontréal, and a brand image aimed at strengthening its market position.
- 2007 Mobilizing Science and Technology to Canada's Advantage**
The federal government publishes its national science and technology strategy and focuses on increased research and development in the private sector as the cornerstone of a stronger Canadian economy.
- 2007 Engaged in Montréal's Development**
Concordia University publishes a document reviewing its contributions to Montréal's future and examining the university's links to each of the 16 industrial clusters identified by the CMM.
- 2007 *Cap sur l'innovation (The Greater Montréal Innovation Strategy)***
The CMM adopts its metropolitan innovation strategy, entitled *Cap sur l'innovation*. When metropolitan business leaders were consulted, four strategic issues with regard to innovation emerged. The CMM's strategy for these issues identifies five keys to innovation: compete, commercialize, create, coach and collaborate.
- 2008 Competitiveness and prosperity: Montréal and Québec City working together**
In the spring of 2008, Régis Labeaume and Gérald Tremblay, the mayors of Québec City and Montréal, were invited to jointly address the members of the Board of Trade of Metropolitan Montréal to mark Québec City's 400th anniversary. On this occasion, the mayors agreed to combine forces to improve the productivity and competitiveness of Montréal and Québec City businesses.
- 2008 Networking: Montréal and Rimouski sign a memorandum of cooperation**
In late summer 2008, the Board of Trade of Metropolitan Montréal and the Rimouski Chamber of Commerce signed an agreement to encourage networking and the creation of sustainable partnerships among firms working in the same economic sectors, particularly the maritime and ICT (information and communications technology) industries.
- 2008 Campus des technologies de la santé (CTS)**
A public-private partnership, which includes a financial partner, the CTS aims to accelerate the marketing of innovative products and technologies in the health sector.

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KNOWLEDGE,
CREATIVITY AND
INNOVATION

Montréal 

UNESCO City of Design