

Summary of the New Brunswick Summit on Canada's Proposed Innovation Strategy

June 26, 2002, at the Delta Beauséjour Hotel in Moncton, New Brunswick

A. Introduction and Summit Highlights

With over 200 people in attendance, representing a broad cross-section of public and private sector interests, co-chairs **Yvon Fontaine**, President of the Université de Moncton, and **Jacques Boucher**, President of the Conseil Économique du Nouveau-Brunswick, opened the Innovation Summit in Moncton on June 26. This is one of 35 similar events being held across the country. During the morning, a range of speakers addressed the innovation challenge in New Brunswick and identified the key challenges for policy makers. The afternoon session was dedicated to dialogue among Summit attendees, designed to provide a New Brunswick response to the proposed innovation strategy.

Dominique Leblanc, Member of Parliament for Beauséjour-Petitcodiac, outlined some of the key components of the Innovation Strategy. (Details on the Strategy are available at www.innovationstrategy.gc.ca). He noted that while the Canadian economy is strong, Canada needs to move aggressively with strategies to increase productivity and ensure continued growth in our standard of living. M. Leblanc noted that innovation is important to all communities and all sectors: resource industries and small communities across New Brunswick have as much to gain from becoming more innovative as do new economy firms and large urban areas elsewhere in the country. M. Leblanc noted with pride the innovative capacity of New Brunswickers and pointed to New Brunswick as one of the first provinces to adopt an innovation strategy. He encouraged a community foundation for research and pointing to the growth of commercial and university based research initiatives around Moncton, saying that "collaboration breeds innovation". He encouraged conference participants to participate fully in the dialogue throughout the day, to ensure that their views resonate in the development of a national innovation strategy.

Pierre Michaud, Chairman of the New Brunswick Chamber of Commerce then offered an economic overview of the province. He emphasized that New Brunswick needs to improve its performance with respect to several key indicators of innovation. As an example, R&D funding in New Brunswick was 0.9% of GDP in 1999, compared to 1.8% for Canada as a whole. He suggested that lower levels of taxation and better access to venture capital funding could improve the capacity of New Brunswick to bring new products to market. On the skills agenda, he noted the importance of both training and retaining skilled graduates and immigrants in the province. While the number of citizens with post-secondary education is rising, it is still below the national average. He pointed to the decline in population in north-eastern New Brunswick and the limited growth in population generally as a particular challenge for the province. However, despite these concerns, he noted that new industries and the use of new technologies in existing industries are firing up the growth of local communities such as Moncton.

Mr. Michaud was followed by a four member expert panel. Panelists included:

- Nancy Mathis, President of Mathis Instruments (by video-feed)
- Christian Couturier, Director of the National Research Council Institute for Information Technology–e-business
- Brian Ritchie, President of Rigel Shipping Canada, Ltd.
- Tim Shaw, President of Info Light

Panel members spoke about the need for increased access to risk capital, a more accommodating taxation and regulatory environment, and how to import talented, skilled people with experience. Several speakers pointed to the importance of the federal government innovation strategy supporting provincial innovation initiatives already underway in New Brunswick.

Dr. Mathis described how the intellectual property she developed in heat transfer while working on her doctorate at the University of New Brunswick was successfully transferred to the instrumentation marketplace, because she recognized and exploited an opportunity in the pharmaceutical industry and the University was willing to recognize her IP ownership. She strongly emphasized the need to give higher priority within universities to innovative research with commercial potential. Restructuring her firm and bringing in outside talent helped her to secure a second round of venture capital financing this year. Matching federal and provincial labour sponsored tax credits have been instrumental in creating a supportive environment. She noted that in terms of patents and venture capital financing per capita, New Brunswick fared better than any other Maritime province.

Mr. Couturier took issue with the traditional model of innovation as a relay race whereby ideas proceed in a linear fashion through R&D to prototype to product to market. Innovation in his experience is more like a rugby game: complex, with multiple feedback loops and constant interactions between R&D, production, marketing and customers. What this implies is that we must not merely support a “process” of innovation but we must rather cultivate a “system” of innovation. Doing so requires linkages and networks, which are at the core of the notion of a “technology cluster”—a significant concentration of innovative companies around a nucleus of R&D facilities supported by formal and informal information networks.

Mr. Ritchie described how Rigel Shipping has grown from a small operation to one with a fleet of 16 tankers and preferred status within the petroleum industry. New Brunswick’s strategic location in Eastern Canada with good shipping access to a large number of markets and the province’s excellent telecommunication ability are the key factors in Rigel’s decision to operate in and remain in New Brunswick. Telecommunications are vital for an industry that must operate continuously and respond immediately. Privatization of ports allowed for innovation by the private sector resulting directly in increased capacity at the Port of Belledune; the federal government must look for more ways to reduce costs and the regulatory burden in order to improve the competitive position of companies such as his.

Mr. Shaw told the story of how a simple idea—using low-energy LED’s for scoreboards to save rink operators money—grew into an innovative small business. From its base in north-western N.B., InfoLight has become the first to supply full graphic interface and PDA-driven scoreboard controls to markets in the U.S. and Canada. What companies like his need the most in his view is assistance in obtaining patent protection, including assistance in obtaining patent registration abroad and a fund to support legal proceedings against patent infringers with the fund being

reimbursed from court settlements. He noted that while research has created many new products for his firm, marketing has been the key to product sales.

The presentations prompted a variety of comments and questions from summit participants, including:

- The methods for benchmarking innovation in companies should be revised to take into account the non-linear, multi-stakeholder, multi-feedback-looped process that innovation involves in the real world.
- Innovation in the resource sectors (still a significant contributor to New Brunswick's economy) should be given much more attention.
- Virtual clusters should be considered in addition to geographically organized clusters. Given our remote location, we need the benefit of virtual clustering.
- The national innovation agenda must address the particular needs of various regions in order to be truly national. The amount of federal program money spent per capita in New Brunswick lags behind national average.
- Given that New Brunswick already has an innovation program underway, the federal government should definitely consult the provincial government in developing national program.
- The critical link between marketing and R&D that is at the heart of successful innovation needs to be emphasized more in this program.

Luncheon speaker **Paul McSpurren**, President & CEO of Whitehill Technologies, provided an overview of his company's rapid development as a new source of business infrastructure software. He noted that he has 400 customers in over 32 countries, but only in Canada are questions raised about his decision to locate in Moncton. He praised the qualities of the Atlantic workforce that has graduated from local universities but strongly emphasized the need for that same workforce to improve its productivity in order to compete in world markets. He also stressed the vital importance of R&D to high-technology and information-technology companies. It is all too easy, he noted, to invest in the wrong kind of R&D—solutions looking for problems. Instead, he said, R&D must be market driven.

B. Summary of Dialogue Sessions

Following the luncheon, summit delegates were assigned to breakout sessions. Each session addressed one of the four challenge areas outlined in Canada's Innovation Strategy:

- Knowledge Creation and Commercialization
- Skills and Learning
- Business and Regulatory Climate
- Strengthening Community Capacity to Innovate

Facilitators for each session asked participants to:

1. review the Targets and Priorities, as set out in the Strategy
2. identify key challenges and opportunities

3. make recommendations for action

The discussion in the breakout sessions was free-ranging in order to allow a full exploration of the issues. Facilitators provided direction in order to encourage a consolidation of views for presentation at the Plenary Session. For the most part, this focused on the recommendations outlined at the end of each challenge area.

1.0 Knowledge Creation and Commercialization

1.1 Targets and Priorities

Most participants thought the target of 2010 was appropriate for the outcome measures identified under this challenge, as long term results are more likely to be achieved. However, they noted that this will require immediate action, and co-ordination and implementation beyond political timelines. Some questioned the feasibility of targets such as ranking among the top countries in R&D performance, noting that spending required of the federal government to achieve this goal is unrealistic.

Clarification of the goals of this strategy was recommended: in particular, the question was asked whether the goal is innovation for innovation's sake, or is the goal productivity enhancement? Most participants clearly felt the latter is the appropriate target.

1.2 Challenges and Opportunities

Participants made reference to the Expert Panel and the examples the speakers provided of dynamic and innovative firms in New Brunswick. They also noted some of the challenges of operating at a distance from key clusters of innovative activity and in building research capabilities in a province where resources to support research infrastructure requirements are limited. They recognized the need to substantially increase research activities and commercial outcomes, including building better linkages between the two, but questioned whether governments have the commitment or the resources to ensure that this will happen in New Brunswick.

Considerable discussion revolved around the role of the universities. The fundamental role of universities in creating a foundation for learning and skills was noted, although participants also pointed with concern to the deterioration in infrastructure and outflow of young people to better funded programs elsewhere in the country. Collaborative efforts among institutions were seen as a way to overcome the disadvantages of the small size of the universities in New Brunswick; lack of specialization in research and graduate programs; and difficulty in attracting research funding. At the same time, it was pointed out that the universities and government are not in themselves the answer to innovation or achieving the targets. The solution is getting industry R&D to be the best in the world.

Specifically, participants noted that:

1. To improve research output, university staff need to be relieved of some teaching duties and universities need to change the conditions for rewarding faculty.
2. In other jurisdictions, curriculum and joint R&D activities are discussed with business. Very little of this happens outside of engineering departments. This could be done in other faculties, notably the business schools.
3. Commercialization activities and other networking between the universities and the private sector need to be strengthened, but maintaining a R&D office is a big challenge because of costs involved.
4. Province specific research funding such as the \$20 million provincial innovation fund or the Atlantic Innovation Fund should provide significant leverage for other federal research dollars in order to be truly useful.
5. There are few funding programs which address the “black hole”, i.e. the gap after research and before successful commercialisation where many small business fail.
6. One of our biggest challenges is finding people in New Brunswick with experience in commercializing products. Not many people have this experience, so there is a need to recruit personnel from other companies. We also need to look at mentorship outside of the province.
7. Not all research activities need to take place within the universities: private companies can provide the lab instead of the university having to build one.
8. One of the keys to doing research is having a high speed network to other research centres. Currently this doesn't exist outside key metropolitan areas.

1.3 Recommended Actions

Participants concluded the session by bringing forward the following recommended actions for guiding the evolution of Canada's Innovation Strategy.

1. Increase funding for universities and for indirect costs related to R&D.
2. Improve research infrastructure—particularly network connectivity.
3. Research funding for firms or researchers should be based in part on measurable results. Build greater accountability into research and infrastructure funding and reward collaboration between researchers and private sectors.
4. Many sources of research funding ignore marketing strategy. Marketing assistance should be provided to ensure commercialization takes place.
5. Create structures to liaise between the various stakeholders (government/ institutions/industry) and increase mentoring opportunities.
6. Ensure cooperation between federal and provincial government on the innovation agenda.
7. Recognize the funding needs of business at all the various stages in the innovation process, including providing timely, pre-seed funding for innovative development.

2.0 Skills and Learning

2.1 Targets and Priorities

Participants in this session began by giving feedback about how Industry Canada might improve on its targets and priorities. Some participants felt that these were too narrow for a comprehensive education and skills agenda. Others argued that the four main elements of the agenda are sound, but that the principle challenge for New Brunswick is to make sure that this agenda is sensitive to regional variations (including rural and distant regions). It was noted that increasing enrollment in graduate programs by 5 % annually will require substantial new resources for the universities to be able to meet that goal. Specific suggestions included:

1. An important goal to add is the retention of skilled workers. We can produce students, but if they leave for US, we're no better off for our efforts.
2. The most important and comprehensive challenge is the development of life-long learning opportunities. This target must be broadened and made more specific in terms of the intended outcomes.

2.2 Challenges and Opportunities

Participants were wary of too narrow a focus and observed that innovation occurs across the spectrum of educational opportunities. They recommended support for educational opportunities in the arts, humanities as well as well as the sciences. The efforts that New Brunswick has taken to build a bilingual workforce were identified as a unique strength among Canadian provinces. The following points were raised:

1. Building broadband access throughout New Brunswick could remove some of the barriers to life long learning.
2. A tax credit, either targeted at the individual or the firm could encourage on the job training, particularly for those employed in smaller enterprises. New Brunswick is a province of small business, many of which cannot afford to offer training.
3. One of the challenges is to encourage young people to pursue their studies. There is little guidance in high schools as to where the jobs will be once students complete their studies. Community Colleges of New Brunswick (CCNB) have done a better job at recruiting students than the Universities.
4. Private colleges need to be included in these discussions. They specialize in skills training; something that universities do not often accomplish.
5. Unless we can get better at training people for the right fields, we can't fulfill the needs of society. Federal and provincial governments need to work together on a comprehensive skills and education strategy to complement each other's programs.
6. Better financial support for students is required, relative to the increases in the cost of university and college education. Many graduate students are in their 30s and 40s, but there is little assistance available for part-time students including women and single parents.

7. Running graduate programs is challenging when the enrolment numbers are so small. We need to create virtual masters and doctoral programs to help address this problem.
8. To bring in more immigrants, changes must be made in how we assess immigrants' qualifications.

2.3 Recommended Actions

1. Promote bilingual education and opportunities for work.
2. Give tax breaks to employers who train employees.
3. Improve access to postsecondary education and provide more assistance to students in accessing funding.
4. Establish an ongoing forum of consultation for stakeholders and get employers input into designing programs at educational institutions.
5. Improve co-ordination and provide incentives for coordination among education institutions.
6. Develop entrepreneurial culture and innovation skills from k-12 and through lifelong training.
7. Increase funding for literacy programs across the province and recognize the special needs of rural areas around skills and development.
8. Create a repatriation program for native New Brunswickers.

3.0 Business and Regulatory Climate

3.1 Targets and Priorities

Participants viewed the targets set out in this challenge as central to success in the innovation strategy. However, they felt that there was not enough urgency in these priorities and that in many areas, more aggressive goals are required. In particular they recommended:

1. Canada's business tax regime should lead its competitors (it currently lags behind many in the G8).
2. Move up the timeline for review of business and regulatory policies from 2010.

Participants observed that the targets need to be followed up quickly with an implementation plan. Several noted that some of the national targets will need to take into account regional variations as well as the interaction between the policies of the two senior levels of government. Tax and regulatory regimes vary considerably across provinces and improvements in the innovation environment are unlikely to be successful across the country unless these actions are coordinated between federal and provincial governments.

3.2 Challenges and Opportunities

Discussion centered around possible improvements in the innovation environment and the impact this could have in encouraging the workforce and managers to think and work differently, in particular to take more responsibility for productivity improvements and to encourage risk-taking. It was also recognized that the transition to a knowledge-based economy requires new

types of strategies which may not always be welcomed in smaller communities where traditional values and sources of employment still dominate. Nevertheless, it was pointed out that in order for the innovation strategy to be truly successful, it will need to garner support from a broad cross section of interests and communities. On the innovation environment, participants noted that:

1. For small companies, the time between making expenditure and receiving the tax credit reimbursement is too long.
2. The government should require labour sponsored venture capital funds raised in New Brunswick to be invested locally.
3. Personal taxation rates need to be lowered to improve the standard of living.
4. Tax incentives should be restructured to ensure that New Brunswick's home-grown companies remain in the province: too many have left.
5. Science and technology strategies should target traditional industry sectors, which are often left out as the focus has shifted to IT.
6. A global business strategy is needed, e.g., towards Europe, so that N.B. is seen as a gateway to North America. This will help to brand N.B. in the eyes of international investors
7. Red tape reduction is a priority; SMEs don't have time for it. More harmonization of federal and provincial policies and regulations is required.

3.3 Recommended Actions

1. Increase collaboration among Maritime provincial governments to reduce red tape and create supportive tax and regulatory regimes
2. Improve the coordination of federal and provincial programs and policies related to the business environment.
3. Brand Canada and the regions within it as well.

4.0 *Strengthening Community Capacity to Innovate*

4.1 Targets and Priorities

Some confusion was noted around the discussion on clusters. Do clusters only include those associated with new industries, those based on science and technology? Could viable clusters also include older industrial clusters, where new technology could redefine their competitive positions? What about cultural industries? Participants suggested that:

1. Definitions and language around clusters should be clarified.
2. The term "innovation performance of communities" should be clarified: what will be measured?
3. A baseline for innovation performance needs to be established, with relevant road markers in order to ensure that the 2010 target is realistic.

4.2 Challenges and Opportunities

The challenges of small communities around the province were captured in this discussion group. Participants pointed out that:

1. A dispersed population and lack of critical mass means that New Brunswick should build virtual clusters, unconstrained by geography.
2. Small business in small communities need special efforts so that they can see themselves as part of the innovation economy.
3. Communities in New Brunswick needs to find means to improve value added and innovation in primary industries, or the main benefits of these industries will continue to flow elsewhere.
4. Literacy remains a challenge for many small communities across Canada: the brain drain is exacerbating the problem.
5. Community development requires an accurate assessment of strengths and weaknesses as well as taking ownership on new initiatives. The diversity among communities (aboriginal, rural, language) needs to be recognized
6. Community networks can help to develop regional advantages. Going it alone does not work for small communities.
7. Lack of infrastructure including transportation and communications is a major challenge.
8. For small communities in N.B., the province's small size can be seen as an advantage. Unlike other larger Canadian provinces, where remote regions are really remote, we are never really far from one another.

4.3 Recommended Actions

1. Broadband access must be expanded throughout the province, to ensure that the benefits of the innovation economy do not only accrue to those in the Fredericton, Saint John and Moncton triangle.
2. Transportation infrastructure requires federal support to ensure that high transportation costs do not compromise the move to a knowledge-based economy.
3. Strengthen the commitment to rural communities in the innovation strategy by identifying specific targets and ways of measuring progress.
4. Formalize the mechanisms for federal and provincial governments to work together on rural-innovation strategies.
5. Develop programs to provide competitive intelligence to SMEs located in remote locations.
6. Support forward thinking institutions such as the National Research Council who are providing leadership in identifying potential clusters of new activity.

C. Plenary Session and Wrap-Up

The facilitator of each dialogue session reported back to the full assembly on their group's key recommendations, and invited group members to make comments and corrections. Several common themes emerged in these presentations.

- A national innovation strategy must also recognize regional variations across the country. National policies must be sensitive to variations in economic structure within and across provinces. Success in reaching the targets proposed in the strategy will only be realized if the needs of Canada's diverse regions are incorporated into the strategy.
- Many of the targets are ambitious and will require significant commitments of resources. An implementation plan needs to be quickly developed, in order for stakeholders to begin to assess the tough policy choices which will need to be made.
- In Atlantic Canada, it may be difficult to adequately achieve the innovation targets without addressing other long-standing issues such as the decline in core funding for higher education and research.

Co-chair **Yvon Fontaine** thanked the presenters and all participants for their input. He pointed to the importance of feedback from all those in attendance in guiding this initiative. The discussion at this summit had highlighted some very substantial differences for those living and working in New Brunswick compared to their counterparts in Toronto. He felt that it was important this be brought out in the report to the national summit next fall in Toronto, to ensure that the views and needs of Atlantic Canada are taken into account.

He made reference to two points which had emerged at several points during the summit. The first was the importance of strategies to eliminate the “black hole”, where research fails to get the support needed to move to the next stage, including through to commercial development. Second, he pointed to the need to ensure that rural communities are full partners in this strategy, with full consideration given to maximizing opportunities around the current and potential resource base.

In closing the conference, he thanked the organizers for a truly outstanding event and said he was looking forward to the evolution to a full fledged national initiative.