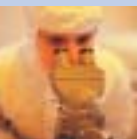


Innovation crucial to Ontario's continued prosperity



Government
investments in
scientific discovery
[page 6](#)



Centres of
Excellence
[pages 8 and 9](#)



The most for
the least
[page 10](#)



Open for business:
Oakville
[page 14](#)

“We now live in a world in which the organized ability to create and commercialize new ideas is the critical determinant of economic success.”

Dr. John Evans, the chairman of the Canada Foundation for Innovation (see “Interview with an Innovator,” [page 16](#)), neatly summarizes the importance of innovation with those words. Today’s competitive global economy rewards innovation as never before, with new investment, jobs and prosperity. As globalization continues at increasing speed, Ontario can only maintain and enhance its high level of prosperity through increased innovation in all economic sectors.

Canada’s economic leaders set the innovation agenda at a federal/provincial/territorial meeting on innovation in Vancouver in June. Jim Flaherty, the Ontario Minister of Enterprise, Opportunity and Innovation, was there.

“Everyone at the table agreed that to accomplish our shared goal, all governments must work together,” said Flaherty. “Government, in turn, must work co-operatively with private industry, colleges, universities, and public and private research institutions.”

That process is well underway in Ontario, where the province’s 2002 budget set aside more than \$750 million over the next



continued on page 7



Summit highlights importance of an innovation culture



Roger Martin and the Honourable Jim Flaherty at Ontario's Innovation Challenge

Innovation is the key to prosperity in the new economy. That was the message delivered loud and clear at Ontario's first international summit on innovation, held in Toronto on November 5.

Called Ontario's Innovation Challenge, the summit provided an opportunity for business leaders, academics and government representatives from Ontario and abroad to exchange ideas on how to keep the province competitive through innovation.

"We are increasingly facing competition from around the world in terms of creating an economic climate that attracts businesses and skilled workers," said Gordon Nixon, president and CEO of RBC Financial Group and co-chair of Ontario's Innovation Challenge.

"Ontario has an excellent reputation for creating and fostering new businesses. However, in order to compete internationally, we need to help them grow by stimulating more venture-capital investment, improving their relationship with research-and-development facilities, attracting the best and brightest workers, and removing all other obstacles," said Nixon.

The challenge facing Ontario in the new economy was also the subject of the first annual report of the Task

Force on Competitiveness, Productivity and Economic Progress, which was released at the summit.

The task force, chaired by Roger Martin, dean of the University of Toronto's Rotman School of Management, is an independent group of industry and academic leaders appointed by the premier. Over the past year, it measured Ontario's economic performance in comparison with that of a peer group of other provinces and U.S. states and revealed that, while our province is one of the most advanced economic regions in the world, it's lagging behind its peer group of high-performing states.

Among the 16 U.S. states and Canadian provinces examined, Ontario placed 14th in per capita gross domestic product, the key indicator of prosperity. Martin and his task force are optimistic that Ontarians can close the prosperity gap that currently exists if they put their minds to it. They propose setting a target – to improve Ontario's ranking by one place every two years – and they outline four major recommendations as the first steps to achieve it.

Their first recommendation is for Ontarians to raise their aspirations for the province's economic performance and progress. The report urges individuals to upgrade their skills and capabilities; businesses to compete globally, not just locally or regionally; and governments at all levels to create an environment that encourages innovation.

Next, the report recommends greater investment in post-secondary education to produce knowledgeable graduates for the new economy.

Third, the report calls for restructuring the tax system to encourage the entrepreneurship and innovation necessary to raise output and performance.

The final recommendation is for all levels of government to pursue ways to strengthen Ontario's cities. "We continue to be struck by how powerful cities are in driving productivity and prosperity for all Ontarians," said Martin, who pointed out that vibrant cities attract talent and foster creativity.

The task force also presented its research agenda for the coming year, which will explore further initiatives to raise prosperity and living standards across the province.

ORION

aims to keep Ontario at the leading edge

With the first link of the Ontario Research and Innovation Optical Network (ORION) set for completion on January 30, 2003, excitement is mounting within the province's research community.

When fully operational in the spring of 2003, the 3,700-kilometre high-speed network will make it possible for researchers, educators and scientists across the province to work together – and with colleagues around the world – on advanced research and development projects and new research tools and technologies.

“ORION will link researchers at Ontario's 43 post-secondary institutions and 50-plus

enhance the province's reputation for innovation in science and technology.

ORION is based on new technology that expands the information-carrying capacity of individual optical fibres. It's this expanded capacity and very high speed that will make collaborative research possible and provide a “virtual test bed” for new applications and services.

Among the researchers eager for the state-of-the-art network to get up and running is Mike Bauer, principal investigator for SHARCNET. SHARCNET is a consortium of Ontario universities developing a network of high-performance computing clusters, starting with the University of Western Ontario, McMaster University and the University of Guelph.

“We're excited about ORION,” says Bauer.

What SHARCNET is hoping ORION will do is enable multiple high-performance computer clusters to work on a computational problem simultaneously, giving leading researchers access to a virtual supercomputer, creating new research opportunities and accelerating production of their research results.

“We want to build a cluster of clusters and test and evaluate it using ORION,” he explains. “In the process, we hope to help develop new tools and capabilities that will keep Ontario at the leading edge in the critical areas of science, engineering and business.”

It's a sentiment that's echoed by other researchers, as well as by businesses and the government.

publicly funded research institutes and organizations, making it one of the largest leading-edge optical-based research networks in the world,” says Phil Baker, president of the ORION consortium. “The consortium represents the regional advanced networks of Ontario and the institutional users and is partnered with Bell Canada, Hydro One Telecom, Nortel Networks and Cisco Systems.”

ORION's ultimate goal is to boost Ontario's research and development capacity and

People have *always* had innovative ideas. The wheel. The airplane. The pace-maker. They all began with the simple question, “What if...”. In the fast-paced 21st century, the ability to ask the question, advance the idea and commercialize the product is the key to global competitiveness, economic growth and success.



In Ontario, building a culture of innovation is a government priority. We know our future prosperity and quality of life depend on our ability to generate and apply new ideas in all sectors. By cutting taxes, improving education and training, and supporting research and development, we have greatly advanced this goal. In this issue of *The Ontario Business Report*, we examine government programs that encourage innovation and highlight some of Ontario's most innovative people, ideas and businesses.

We all know that innovation needs a supportive environment, its greatest successes lie in collaboration. That is why our government has taken a lead role in promoting research excellence and business partnerships between government, private industry, universities, colleges, hospitals and research institutes. The \$750-million Ontario Research and Development Challenge Fund and \$1-billion Ontario Innovation Trust have helped launch hundreds of cutting-edge projects. The six Ontario Centres of Excellence have helped hundreds more make the vital trip from the laboratory to the marketplace.

Our government is also aggressively seeking ways to make our economy and our industry clusters more innovative and productive. Roger Martin, chair of Ontario's Task Force on Competitiveness, Productivity and Economic Progress, has indicated that, while there is great strength and diversity of industry in the province, research has shown that Ontario is not achieving the productivity and income levels it should from this solid platform. In November, our government hosted its first Ontario's Challenge on innovation, designed to help these industry clusters become more productive. Hundreds of people gathered to listen to leading experts and learn best practices from representatives of top-performing industries from around the world.

Our government intends for Ontario to become a leader in research and development, and be one of the most innovative jurisdictions in the world. We see our forward-looking investments and actions as essential to Ontario's future growth, prosperity and job creation.

Jim Flaherty
Minister of Enterprise,
Opportunity and Innovation

Ontario

Ontario firms lead on the national scene

Ontario reinforced its position as the powerhouse of Canadian corporate research activity in the 2001 fiscal year, with companies headquartered in Ontario dominating the corporate research-and-development scene.

Such companies accounted for 73 per cent of national corporate research-and-development spending, according to RESEARCH Infosource Inc.'s annual review of corporate results at 581 leading firms. Ontario-based companies spent a total of \$9.8 billion on research and

development in fiscal 2001, compared with total Canadian corporate spending of \$13.3 billion.

Although Ontario's 2001 total appears to be lower than that of fiscal 2000 (an apparent decrease of 1.6 per cent), the decline is attributable to the lower showing of one dominant firm, Nortel Networks. Once Nortel's results are omitted, Ontario firms' dominance becomes apparent. Ontario companies' spending increased by 19.9 per cent without Nortel. And, even without Nortel, Ontario firms still account for 58 per cent of total company research spending (see Table 1). Ontario companies' spending totals \$4.8 billion, compared with \$2 billion in Quebec (24 per cent of the total), the next leading province.

Table 1. R&D Spending by Region*, 2001
Total Companies – With and Without Nortel Networks

Region*	FY 2001 R&D Spending		% Change 2000–2001
	\$ million	% of Total	
With Nortel Networks			
British Columbia (116)	911.8	7	19.8
Prairies (88)	533.7	4	16.2
Ontario (248)	9,781.1	73	-1.6
Quebec (119)	2,029.9	15	33.3
Atlantic (7)	25.1	***	58.0
Outside Canada (3)**+	34.5	***	105.1
Total Companies (581)	13,316.1	100	4.7
Without Nortel Networks			
British Columbia (116)	911.8	11	19.8
Prairies (88)	533.7	6	16.2
Ontario (247)	4,789.0	58	19.9
Quebec (119)	2,029.9	24	33.3
Atlantic (7)	25.1	***	58.0
Outside Canada (3)**+	34.5	***	105.1
Total Companies (580)	8,324.0	100	22.9

* Head-office location

** Caution: Small base size

*** Less than 0.5%

+ Canadian companies with head-office locations outside Canada

companies pace Canadian research scene

A standard indicator used internationally to measure performance is GERD, or Gross Expenditure on Research and Development. This shows research and development as a percentage of the gross domestic product (GDP). Ontario also enjoys a large lead over other provinces on this important measure (see Table 2). Ontario companies' GERD ratio was 2.2 per cent in 2001, nearly twice the national average (1.2 per cent) and significantly higher than other provinces.

Because Nortel contributes \$5 billion to the Ontario spending total, regional GERD was calculated without Nortel, in order to examine underlying trends. Omitting Nortel from the calculation produces a significant change in national and Ontario regional GERD results.

Ontario firms continue to dominate in regional GERD, achieving total spending of 1.1% of provincial GDP in

Fiscal 2001, which is significantly less than the 2.2% Ontario result with Nortel included.

Ontario's leading position on the national research-and-development scene is clear when the performance of Canada's top-100 corporate research-and-development spenders is considered. As Canada's most populous province, Ontario is home to 58 of Canada's Top corporate research-and-development spenders. Among them, this select group of Ontario firms accounted for 77 per cent of top-100 spending, by far the largest of any province.

Ontario firms rank highly on the all-important research intensity measure, which compares a company's research-and-development spending to its revenues. Ontario firms had an overall research intensity of

Table 2. R&D Spending as Per Cent of Provincial Gross Domestic Product* (GDP), 2001
Total Companies – With and Without Nortel Networks

Region**	R&D Spending \$ million		GDP \$ million	R&D Spending as % of GDP	
	With Nortel Networks	Without Nortel Networks		With Nortel Networks	Without Nortel Networks
Canada	13,316.1	8,324.0	1,092,246	1.20	.76
British Columbia	911.8	911.8	130,396	.70	.70
Prairies	533.7	533.7	218,427	.24	.24
Ontario	9,781.1	4,789.0	440,051	2.20	1.10
Quebec	2,029.9	2,029.9	228,516	.89	.89
Atlantic	25.1	25.1	62,467	.04	.04

* GDP figures obtained from Statistics Canada

** Only includes companies with head-office locations in Canada

Note: May not add up due to rounding, incomplete information or bases too small to report

Readers should note that RESEARCH Infosource attributes regional research spending to a firm's head office location. In some instances (for example CAE, Ericsson, and Nortel) firms conduct their research and development at different locations than their head office.

6.1 per cent, which was significantly ahead of the national research intensity average of 3.9 per cent (see Table 2). This indicates that Ontario firms are investing substantial amounts of today's revenues in tomorrow's competitiveness.

Canadian and Ontario economies continue to be strong, and while some sectors may see a slowdown, other sectors – such as pharmaceuticals/biotechnology and software and computer services – remain strong.

These are sectors in which Ontario firms account for the majority of firms.

Ontario's strong showing in 2001 comes on the heels of an equally impressive result in 2000, and even a modest decline in overall research-and-development spending in fiscal 2002 will not detract from the strong growth pattern of recent years. Ontario companies are poised to capitalize on past investments and to parlay them into new products and services.

Government investments in scientific discovery propel Ontario's future

“Knowledge and discovery lead to the development of new products and services, which result in economic growth and new jobs,” explains Jim Flaherty, Minister of Enterprise, Opportunity and Innovation. “We know our future prosperity and quality of life depend on our ability to innovate. Our goal is to make Ontario a leading jurisdiction in North America for research and development.”



Government actions in cutting taxes, improving education and training, strengthening infrastructure and building a culture of innovation are propelling the province toward this goal. It is further enhanced by a variety of programs that have been established to stimu-

late scientific and technological innovation in Ontario.

In 1997, the government created the Ontario Research and Development Challenge Fund. Boosted to \$750 million in the recent Ontario budget, the fund promotes research excellence and builds partnerships between research institutions and businesses. Over the past five years, it has invested \$435 million in 103 projects, worth close to \$1.5 billion. It has supported pioneering research in emerging fields, such as genomics and photonics, and established sectors, such as biomedical, agri-food and automotive. These cutting-edge projects are also keeping topflight researchers in Ontario and attracting others from around the world – a primary goal of the fund.

“The challenge fund builds research capacity by investing in researchers and supports innovation by investing in innovators,” says Flaherty. “It is also a catalyst in developing partnerships between large and small Ontario companies, hospitals, and educational and research institutions. Through collaboration, Ontario is building the knowledge it needs to compete globally.”

The Ontario Innovation Trust was established in 1999 to complement the work of the challenge fund. “Innovative people are our most valuable resource,” says Flaherty. “The innovation trust helps ensure that Ontario scientists and researchers have the proper research infrastructure to support their work.” The \$1-billion program helps support the capital costs of research (including equipment, scientific collections and specimens, computer software and building modifications) for Ontario universities, colleges, hospitals and research institutes. So far, it has committed \$637 million to 728 projects and has leveraged almost \$1 billion in partner funding.

“Ontario researchers have ingenuity, commitment and dedication and are engaged in highly complex and innovative work,” says Flaherty. “Our government sees their groundbreaking research as a critical element of our competitive future. We see our forward-looking investments in research and development as essential to Ontario’s future growth, prosperity and job creation.”

A list of Ontario government programs that encourage innovation is available on the Ministry of Enterprise, Opportunity and Innovation Web site at www.ontario-canada.com.

continued from page 1

Innovation crucial to Ontario's continued prosperity

five years for science and technology initiatives. Since 1997, the province has made a \$2-billion commitment to support research and development, research infrastructure and the indirect costs of research and commercialization. The government's investment has leveraged about \$4 billion in investment from institutions, government and the private sector.

The Ontario Research and Development Challenge Fund (ORDCF) plays a vital role in the encouragement of innovation.

"Investing in our researchers and research infrastructure will ensure that ground-breaking work continues and will help

Ontario retain and attract the world's top researchers and scientists," said David Turnbull, Associate Minister of Enterprise, Opportunity and Innovation. "By investing in innovation, our government is creating a stronger future for Ontario."

The province's new \$51-million Biotechnology Strategy includes \$20 million for the MaRS Discovery District in downtown Toronto and \$30 million to create the Biotechnology Cluster Innovation Program. A five-year initiative, the biotech program will provide matching funds to innovation clusters throughout the province for new strategies to maximize

investment and job creation. The strategy promises to bring together research and commercialization interests in excess of \$10 billion over 10 years and create up to 75,000 new full-time jobs.

Ontario hosted its first international summit on innovation on November 5 as part of its concerted effort to establish a broad platform of innovation.

"The jobs of tomorrow depend on the innovations of today," said Flaherty. "When we encourage innovation, we are securing the future, for both the quality of life that those innovations bring and the economic activity they generate."

Innovation by design

*Company: Gourmet Settings
Sector: Manufacturing
Location: Richmond Hill
Contact: www.gourmetsettings.com*

Innovation isn't confined to scientists working in a lab. As an increasing number of Ontario companies show, innovation is good business in any sector.

"In the past, design wasn't always on the innovation agenda but it is gaining prominence," said Arlene Gould, the senior director of programming at the Design Exchange in Toronto. "We have some of the best designers in the world right here in Ontario, in all the disciplines: architecture, graphic design, industrial design, fashion design and interior design. Our schools are good," she said. "We have all the resources but we still aren't using them to anywhere near their potential when it comes to innovation."

Gould offers the example of Gourmet Settings, a company that has used design as a key part of its innovation strategy. The small Richmond Hill company has started what it calls a "tabletop revolution" by offering consumers high-quality, well-designed flatware at an affordable price.

"They teamed up with a Toronto design firm, Kerr & Company, and are now producing flatware that is sold by major retailers (WalMart, Costco, Target) around the world," said Gould. "They also worked with another Ontario design firm, Hahn Smith Design, to come up with the right package design that lets the consumer open the box and see the product. In this case, and many others, design is driving innovation."



Gourmet Settings has reinvented the low-cost flatware category by using design at an early stage in the product-development process. As Gould notes, Ontario companies can unlock tremendous potential by partnering with designers from the market research stage right through to package design.

In early 2003, the Design Exchange will offer a Saturday morning educational program that will explore how small- and medium-sized businesses can use design as an innovation advantage. The Design Exchange is also expanding its Web site with a new section entitled Design for Your Business. Web site: www.dx.org

Centres of Excellence

Innovation needs a supportive environment to turn ideas into viable products and services. The Ontario Centres of Excellence (OCE) have provided that environment since 1987 by building unique partnerships between industry and the research community.



Serving as bridges that transport great ideas from the lab to the marketplace, the four Centres of Excellence work with industry and post-secondary institutions on directed research, technology commercialization and industry-relevant education and training.

In 2001 alone, the OCE program realized a \$70.1-million investment from government and industry, with over 23,000 Ontarians reaping the benefits of being involved in the OCE network. The four centres are currently working with over 800 leading companies, nearly 2,400 researchers and 1,800 highly qualified research personnel. Through directed research partnerships, the OCE program granted 47 technology licences to existing companies and created 19 new spinoff companies. The goal: to assist in job creation and economic prosperity in the province of Ontario.

“The Centres of Excellence program is a clear example of what can be accomplished when government, industry

and research communities pool their strengths,” said Jim Flaherty, Minister of Enterprise, Opportunity and Innovation. “The four Ontario Centres of Excellence are a key part of Ontario’s innovation strategy. They are putting science and technology to work in hundreds of locations across the province.”

Each of the four centres focuses on a specific research area in which Ontario has strong potential for innovation.

The **Centre for Research in Earth and Space Technology** (CRESTech) conducts collaborative research and development in environmental and resource management and space technology.

CRESTech partners with corporations such as Imperial Oil and AlliedSignal Aerospace Canada and developing companies such as SMT HydraSil and Waterloo Hydrogeologics. One recently added partner is Botanical Alternatives Inc., which is developing insecticides from natural sources, such as black pepper.



e put innovation to work



Communications and Information Technology Ontario (CITO) acts as a catalyst to enhance the performance of Ontario's information-technology and communications industries. CITO has a variety of programs that create a network of knowledge to support the exchange of ideas among universities, colleges, companies and organizations. There are more than 600 researchers working on CITO-funded projects in Ontario universities and colleges, with more than 50 companies involved in collaborative research projects.

CITO ensures that Ontario's thriving information-technology sector has a good supply of master's and PhD students with broadly based skills and insight in key technology areas.

Materials and Manufacturing Ontario (MMO) connects the needs of Ontario industry with the province's best post-secondary researchers. MMO supports research in materials and manufacturing, develops partnerships and transfers knowledge and technology directly to industry.

The MMO Network has over 2,000 members who have access to a variety of programs and services. MMO currently supports more than 120 research projects that are managed by 168 researchers working with over 450 companies. One example is a research initiative at the University of Waterloo: working with industry partners in the automotive sector, researchers are devising a robotic system that will allow manufacturers to produce alloy wheels more efficiently while improving the working environment.

Photonics Research Ontario (PRO) is dedicated to creating new photonics knowledge and technology, fostering the supply of highly qualified people at all levels, enhancing applications and commercialization, and establishing regional and international collaboration.

PRO supports two research program areas with four themes in the photonics program and three in biophotonics. Researchers in eight Ontario universities and teaching hospitals undertake the projects with the research agenda driven by industry through its participation on research program committees.

"The Ontario Centres of Excellence program puts a high priority on managing the outcomes of its sponsored research programs," said Flaherty. "The people of Ontario are getting direct, measurable benefits from their investment in this program – today and in the future."

In November, the province announced plans to establish two new Centres for Excellence, one for alternative energy (to be jointly located at Queen's University and the University of Toronto) and one for electricity (at McMaster University and the University of Waterloo). The goal is to make Ontario the leading North American jurisdiction for research and development of clean energy technologies.

To contact the Ontario Centres of Excellence, visit the Web site at www.oce-ontario.org or call (416) 665-5451.

www.oce-ontario.org

The MOST for the least

Microsatellite will be the world's smallest space telescope

Canada's first-ever spaceborne telescope will go into orbit early next year. It's the product of yet another partnership forged by the Centre for Research in Earth and Space Technology (CRESTech).

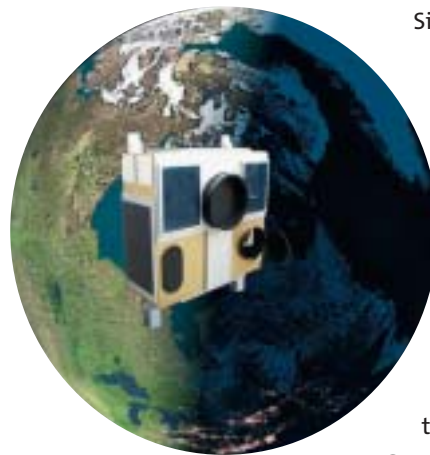
The MOST microsatellite (for Microvariability and Oscillations of Stars project) will be used to measure the age of stars in our galaxy. At 50 kilograms, it will be the size of a suitcase; the telescope aperture will be no bigger than a pie plate.

It will be the world's smallest space telescope but represents a big opportunity for Canada's space industry. And CRESTech – one of the Ontario Centres of Excellence – has played a key role in bringing together the government, academic and industry partners necessary to get this unusual project – literally – off the ground.

"This is a level of innovation that demands that you bring together key players and form strategic partnerships, which is exactly what has taken place," says Dr. Stephen Moran, president of CRESTech.

Mississauga-based Dynacon Enterprises Limited, a longtime member of the CRESTech network, is the prime contractor and is responsible for systems engineering and power subsystems. Other players in the partnership are the University of British Columbia, which is leading the science mission (including the telescope payload), and the Space Flight Laboratory of the University of Toronto Institute for Aerospace Studies, which is responsible for all remaining satellite and ground systems.

The MOST project is supported by a number of sources, including the Canadian Space Agency and, through CRESTech, the Ontario government. But "without CRESTech involvement, the project would never have happened," says Dr. Glen B.



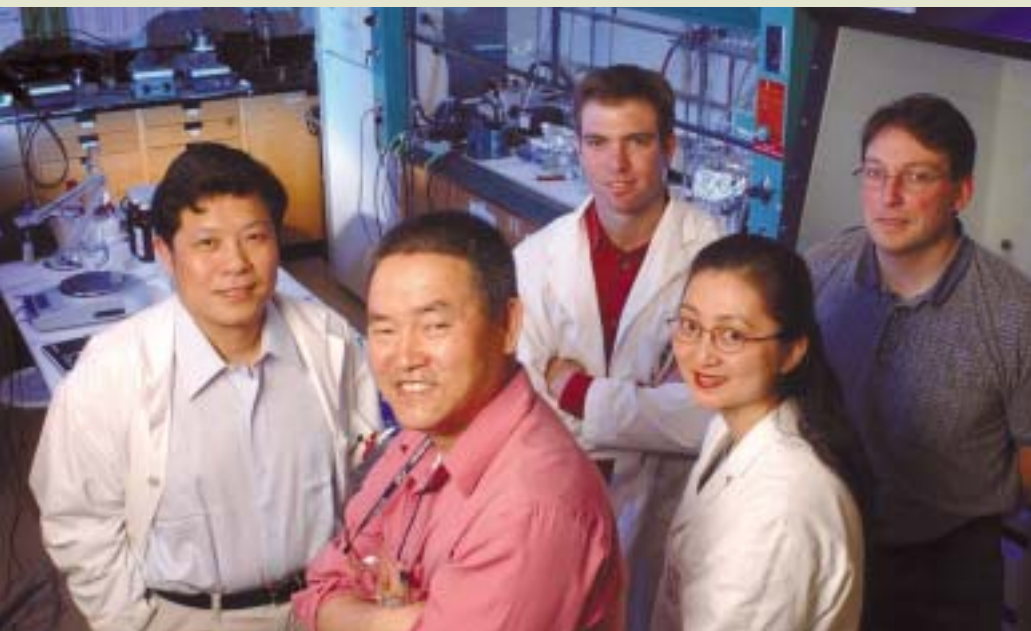
Sincarsin, Dynacon's chief operating officer, of CRESTech's role in promoting partnerships and alliances among academics, government and industry. "At the time, there wasn't enough money in one organization to build a microsat in Canada. CRESTech played a key role in putting the right team in place."

MOST is a comparatively inexpensive project among satellite-launching ventures, running somewhere between two and 20 per cent of the cost of other Canadian satellites. Less expensive, according to Dr. Robert E. Zee, manager of the Space Flight Laboratory, means more frequent flights, "which means we can fly more experiments, keeping us at the forefront of space research."

MOST will be launched early next year from Plesetsk, Russia, atop a modified intercontinental ballistic missile.

Investment + Innovation = Leading-Edge Technology

It was 1992 when the government of Ontario first put its faith and taxpayers' money into the work of Dr. Paul Santerre. The young investigator had intriguing ideas about developing modification technologies that could greatly minimize blood clotting. Among the direct applications were controlling drug delivery and aiding in tissue regeneration.



The result has been three new technologies (and three new proprietary applications). Simply put, they are modified products that play a beneficial role in blood and tissue compatibility. More technically, they're known as "surface enhancement of biomaterials" that result in "enhancement of polymeric material stability and reduction of protein and organic fouling."

Materials and Manufacturing Ontario (MMO) initially provided \$600,000 in support of Dr. Santerre's work in 1992; since 1992, it has provided more than \$1.1 million toward the research, which is showing great promise.

Dr. Santerre is the president and chief scientific officer of Interface Biologics, the MMO spinoff company that brought the three technologies together in 2001.

"We are a small biomedical startup company with three very exciting platform technologies and initial seed investment, looking toward second-round investments in 2003," says Dr. Santerre, who is also a professor of biomaterials at the University of Toronto.

MMO is an Ontario Centre of Excellence (OCE) established by the province to promote commercial research partnerships between universities and industry. The OCEs are funded by the Ministry

of Enterprise, Opportunity and Innovation, and are part of the government's \$2-billion investment in Ontario's knowledge economy, with a goal of making Ontario more competitive through innovation in science and technology.

One of the three core technologies Dr. Santerre has been working with is a novel material called Surface Modifying Macromolecules (SMM), which are low-molecule-weight triblock materials. These are used, for example, in intravenous catheters to minimize clotting.

With a second round of funding from MMO in 1997, Dr. Santerre's team wanted to develop a second generation of these "surface additives." The generation of materials, called Bioactive Fluorinated Surface Modifiers (BFSM), takes advantage of the surface-migrating tendencies of the original materials to deliver bioactive agents to the surface of medical devices and diagnostic tools. This funding resulted in the spinoff of new patented technology.

Interface Biologics, which was recently selected as one of Canada's Top 10 life-sciences investment prospects by the Ottawa Life Sciences Council, has also acquired a third technology that provides pharmacologically active polymers (PAPs), which respond to inflammation and release antibiotics to control infection. The release is delivered locally instead of throughout the system, and this is expected to reduce the potential resistance of bacteria to antibiotics. It's expected to be of importance in devices that have high infection rates, such as kidney dialysis machines or urinary catheters.

These leading-edge technologies will prove a boon to both patients and medical professionals throughout the world. Another benefit is that Dr. Santerre's program has trained about 15 experts in biomedical technology.



Jim Balsillie,
Chairman and
Co-CEO of
Research In
Motion

Research In Motion:

Innovation at the core of opportunity

Research In Motion (RIM) is an Ontario success story. Founded in 1984, the company developed the famed BlackBerry, a high-tech wireless platform that allows users to stay connected to their corporate information and e-mail while on the go. RIM is a global leader in the mobile communications market. Its portfolio of award-winning products, services and embedded technologies are used by thousands of organizations around the world. Jim Balsillie, chairman and co-CEO of Research In Motion, credits the company's strength to its emphasis on innovation.

“Innovation is at the core of our opportunities, our market, our strategy and the basis upon which we proceed and succeed,” says Balsillie. “Our business defines itself by its competitive advantage. Innovation creates that advantage.”

RIM employs more than 600 engineers (of a total staff of over 2,000) and is expected to invest approximately \$50 million in research and development this fiscal year. A newly opened research-and-development facility at the company's home-base in Waterloo facilitates new product development and helps speed the time to market.

“Our products are constantly evolving and adapting,” says Balsillie. “Our goal is always to be in the right place, with the right product, at the right time.” Most recently, RIM introduced the BlackBerry 6710 Wireless Handheld, which provides greater flexibility in making and receiving wireless phone calls, together with seamless access to the Internet,

e-mail, calendar and contacts. It also allows international travellers to use the same handheld in North America, Europe and Asia.

Balsillie believes that innovation and knowledge are the basis upon which global prosperity and quality of life will advance. Earlier this year, with a \$30-million personal contribution, he founded The Centre for International Governance Innovation (CIGI) in Waterloo. This independent centre for scholarly research will focus some of the best minds in the world on the global economy.

“The centre will consider issues such as the structure, priorities and policies of the International Monetary Fund or the World Bank; the absence of rules for country bankruptcies; or issues of stability and security,” says Balsillie. “The centre will help make better sense of global political and economic changes and discover the best way to manage that change.”

RIM president and co-CEO Mike Lazaridis has shown equal vision and leadership in founding the Perimeter Institute for Theoretical Physics. Officially launched in 2000 with a \$100-million donation from Lazaridis and \$10 million each from Balsillie and RIM executive Doug Fregin, the Waterloo-based institute is devoted to fundamental physics. The government of Ontario supports the work of Perimeter Institute through the Ontario Research and Development Challenge Fund and Ontario Innovation Trust.

“We all have a role to play in advancing knowledge – businesses, individuals, educators and government,” says Balsillie.

Research In Motion will continue to be at the centre of this swirl of research activity and innovation. As for its future, Balsillie simply foresees RIM as “bigger, more successful and more relevant.”

For more information, visit www.rim.com, www.internationalgovernance.ca and www.perimeterinstitute.ca.





Alfred Jay
President, Ramius Corporation

Ramius Corporation:

Changing the way people communicate

Company: Ramius Corporation
Sector: Web-based software applications
Location: Ottawa
Contact: www.communityzero.com

An extended family wants to keep in touch online. An association's members need a forum in which to discuss timely issues. Neither group can afford to build a costly intranet. The solution: **www.communityzero.com**.

Founded in January 1998, Ramius Corporation is an Ottawa-based company that develops Web-based applications to establish online communities. CommunityZero is its signature software. All of its technology was developed internally.

"Originally, the application was designed for online communities of e-commerce vendors. Customers could share their experiences with one another," explains

president Alfred Jay. But as the product evolved, it matured into a more community-based concept. Now there are 65,000 different user groups, or communities; the number of users currently totals 850,000.

The service is much like an intranet. CommunityZero allows any Internet user to create a private, secure area on the Web to connect a group of people. This group can be an association's members, an organization's employees, work groups or families. They can then share knowledge and information online in a secure environment.

"It allows people with no technical knowledge or server hardware to build private areas on the Web," says Jay.

Remarkably, the company has spent less than \$10,000 in advertising since launching CommunityZero, relying instead on viral marketing, a phenomenon that encourages people to pass along a marketing message. (Zero is a reference to the viral

nature.) Globally, over 90,000 new users are added each month.

The company's other products are branded under the CommunityZero trademark.

Organizations using the software can see significant benefits, such as improved communication and knowledge management and greater interaction. It also means notable cost savings. To achieve comparable results using in-house development would require at least a six-figure investment. Ramius develops its technology internally and has 12 employees.

In 2000, Ramius was named one of the top-50 Web development and service companies in Canada by Branham250. *Internet World Canada* named Ramius its 2001 Impact Award winner for the category "Changing the Way People Communicate."

Jay acknowledges that it has been a tough market, but "our focus has been on delivering value to the user, and our success shows that," he says.

Oakville

Celebrating business opportunities in Ontario's municipalities



Oakville Harbour

Oakville is a picturesquely appealing community on the shores of Lake Ontario. More than 260 national and international corporate head offices, along with more than 4,000 businesses and 146,000 residents, call this town home.

“Oakville offers people a great live/work opportunity. We have a diversified business community; great recreational, arts and entertainment amenities; and an excellent quality of life,” says Elaine Scrivener, acting CEO of the Oakville Economic Development Alliance (OEDA).

Oakville was founded in 1827 and prospered as a shipping port and customs house through the early 1900s. The town values its heritage and actively preserves its historic past.

Today, Scrivener identifies a primary key to Oakville's success – location. Oakville has easy access to major highways, rail and shipping ports. There are two international airports (Toronto and Hamilton) within a 30-minute drive. Toronto is 30 kilometres away, and the U.S. border is only a one-hour drive away.

Since 1999, economic development in Oakville has been spearheaded by the OEDA, a not-for-profit corporation established to meet the economic objectives of the town. “It is a very entrepreneurial manner of attracting jobs, growth, businesses and visitors to Oakville,” says Scrivener.

The OEDA has an extensive Web site, with a Geographic Information System (GIS) component that offers businesses and developers the most up-to-date property information available. It also promotes Oakville through publications and events, including industry and tourism trade shows.

Businesses in such diverse sectors as plastics, pharmaceuticals, biotech and aerospace have all located in the community. They are, in part, attracted by a highly skilled local workforce. It is estimated that 65 per cent of Oakville's workforce has post-secondary degrees. The Ford Motor Company of Canada remains the town's largest employer (with 5,200 employees) and next year will celebrate the 50-year anniversary of the first car assembled at the Oakville plant. Ford's presence has also encouraged a thriving local auto parts industry. Presently, more than 2 million square feet of industrial and 1.5 million square feet of office space is available throughout the town. Lease rates for buildings are competitive with other suburban locations, and property tax rates are as much as 50 per cent lower than that of other municipalities.

“We are currently working to expand our knowledge-based sector and have a number of projects in the works,” says Norm Lingard, an investment and client development officer of OEDA. “For instance, we are partnering with Sheridan College on the development of a technology transfer centre.” The new centre will be a business incubator geared to developing entrepreneurial ideas.

The town of Oakville has growth, development, quality of life, knowledge-based industries and more. It offers a solid mix for business success.

Please visit www.oeda.oakville.on.ca or call 1-877-OAKVILL (625-8455) toll-free.

An international conference on regulatory reform hosted by Ontario's Red Tape Commission and the Institute of Public Administration in Canada attracted over 300 participants from across the continent and 15 countries around the globe.



Steve Gilchrist –
MPP Scarborough East,
Co-Chair, The Red Tape
Commission

Participants were asked to share their ideas for best practices in regulatory excellence at the Toronto conference, held September 25 to 27.

Participants such as the Insurance Bureau of Canada, the Mining Association of Canada, Accenture, Certified General Accountants of Ontario, Union Gas, Dow Chemical, Parmalat, the Canadian Association of Insurance and Financial Advisors, and Dupont ensured that industry and private-sector perspectives on “smart regulation” were heard.

The conference included more than 50 speakers from organizations such as the Harvard School of Public Management, the Organization of Economic Co-operation and Development (OECD), the U.S. White House Office of Management and Budget and Mexico's Federal Regulatory Improvement Commission.

The participation of Harvard professor Malcolm Sparrow, an internationally renowned regulatory-improvement authority, helped attract such prominent practitioners as the government of New Zealand's Minister of Commerce, British Columbia's

Minister of State for Deregulation and the Secretary of the Interior for Florida.

“Ontario is recognized as a leader in the quest for excellence in the way new laws are developed and in working to reduce red tape,” said Steve Gilchrist, MPP and the conference and Red Tape Commission co-chair.

Dr. Rolf Alter, who heads the OECD's Division of Regulatory Reform, agreed, saying: “There is no doubt that jurisdictions that cut red tape create a better environment for business, stimulate investment and ultimately create jobs.”

The conference offered delegates the ability to listen to both small and large business perspectives.

Canadian Federation of Independent Business representative Tom Charette, for example, highlighted the impact of regulatory decisions on small business. “Unlike large organizations, small businesses – the main engine of job growth – have a limited capacity to comply with the cumulative burden of overlapping jurisdictions.”

Presenters at the conference succeeded in identifying critical challenges in reducing red tape while meeting other important goals, such as protecting health, safety and the environment, and increasing security, competitiveness and the ability to be innovative.

Visit the Red Tape Commission Web site at www.redtape.gov.on.ca.

continued from page 16

Interview with an innovator

reminding us how important it is to have business, financial and academic enterprises grouped in clusters, where they can feed on each other's ideas and experience. Research-park clusters have many advantages.

OBR: *Wouldn't the Medical and Related Sciences (MaRS) Discovery District in Toronto be a good example of that?*

Dr. Evans: Definitely. MaRS is very much committed to creating productive opportunities in Ontario and Canada by developing the advantages of a cluster combining investment capabilities, venture capital, established businesses, start-up businesses, and relevant professional and scientific support services. By actively networking different groups, our chances of successful commercialization of innovations are much greater.

Interview with an innovator

Dr. John Evans is one of Ontario's (and Canada's) best-known innovators. His diverse career has included medical education, academic administration, charitable foundations, and business. He currently serves as Chairman of the Canada Foundation for Innovation, Chair of the Medical and Related Sciences (MaRS) Discovery District in Toronto, Vice-Chair of NPS Allelix Corporation, Chairman of Torstar Corporation, and as a director of several Canadian corporations and institutions. He is committed to the growth of Canadian companies and to sharing knowledge with the developing world.

ONTARIO BUSINESS REPORT (OBR):

"Innovation" is the business buzzword of the new millennium. What's your definition?

Dr. John Evans: It's a lot more than a buzzword. Our economy is knowledge driven. It depends on people with creative, synthetic and critical talents to drive innovation. I would define innovation in this context as the generation and application of new ideas for useful purposes.

OBR: *How can we create a culture of innovation? Isn't this something that happens spontaneously?*

Dr. Evans: Innovation needs a supportive environment, and we already have it in our universities and technological institutions. University research has been a pioneering force in innovation. There are a lot of examples in computing, telecommunications and the Internet, but the most-promising new scientific frontier is in the biological and life sciences. Unraveling the genetic information system has greatly accelerated research in many areas. New imaging techniques will give us major advances in the understanding of fundamental learning processes such as memory and behaviour.

Together, these diverse new technologies will also help us design new ways to diagnose, treat and even prevent disease.

OBR: *So most of the innovation will occur in the life sciences?*

Dr. Evans: Not necessarily. We've had an explosive growth of fundamental biological knowledge, but that wouldn't have occurred without technological innovations in areas such as robotics, computation and bio-informatics. These innovations come from several different disciplines: physics, chemistry, mathematics, engineering and computer science, all interacting with the biological sciences. It's a creative, interdisciplinary process.

OBR: *What is the role of our higher education system in creating future innovators and innovations? Should we increase the emphasis on science and investigative techniques?*

Dr. Evans: The challenge for higher-education institutions is to continue to attract the best minds and to provide the resources and environment that allow them to reach their full potential. With the emphasis on the knowledge-driven economy, they have



Dr. John Evans

unique potential to expand economic activity by discovering new sources of wealth. There's tremendous potential here in North America, in Europe and in Japan, and by unleashing it, we can also do a lot to help those in the Third World.

OBR: *How can we ensure that this happens?*

Dr. Evans: Financial resources are critical, of course, to attract and nurture talented people. Several federal programs have been launched in the past few years, and Ontario has also become much more active in the support of scientific research. But government can't do it all. Roger Martin [dean of the Rotman School of Management at the University of Toronto] is always

continued on page 15

OBR THE Ontario BUSINESS REPORT

Ministry of Enterprise, Opportunity and Innovation
Communications and Public Affairs Branch
Eighth Floor, Hearst Block
900 Bay Street
Toronto, Ontario, Canada M7A 2E1

Telephone: (416) 325-6666 • Facsimile: (416) 325-6688

Minister: Hon. Jim Flaherty
Associate Minister: Hon. David Turnbull
Deputy Minister: Barbara Miller
Parliamentary Assistant: Al McDonald

Editor: Robert D. Mikel
E-mail: ontariobusiness.program@eoi.gov.on.ca

Electronic versions of *The Ontario Business Report* can be found on the ministry's Web site, www.ontario-canada.com.

The focus of this newsletter is on business – successes, news, trends, opportunities, challenges and issues affecting Ontario's business climate. Information is drawn from ministries and agencies across government and from other public sources believed to be reliable. All efforts are made to ensure timeliness and accuracy.

La version française du *The Ontario Business Report* est disponible sous le titre *Cahier des affaires de l'Ontario*.

We want to hear from you.

Comments and contributions are welcome.
Please write to us by mail, fax or e-mail.