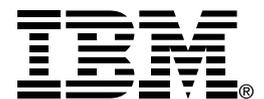


IBM Investments in Canada



Let's build a Smarter Planet.





Smarter Planet – A Canadian Perspective



According to the World Economic Forum, which studies and benchmarks over 100 global economies, Canada continues to lose ground in terms of competitiveness. In 2012, the organization further downgraded Canada's ranking by two index points placing it 14th overall. Some would argue that 14th out of a field of 144 isn't bad; we score good marks for our highly efficient markets, well-functioning and transparent institutions and excellent infrastructure, but of concern is the report's finding that Canada is lacking in its capacity to innovate.

At IBM, we have always believed that investment in research and development is an important driver for Canada's competitiveness and growth. We've been innovating in this country for more than 100 years, and rank among Canada's top five private R&D investors. Last year alone, we invested more than \$540 million into Canadian research activities, and we believe one of the best ways to address the innovation gap this country is facing is for academia, industry and government to work more collaboratively on common initiatives. This is precisely the goal of a research and development network we announced in April 2012, with the Governments of Canada and Ontario, a consortium of seven Ontario universities, and the Ontario Centres of Excellence. The network will help build home-grown software and engineering skills to accelerate the commercialization of Canadian led research and development, and link some of our universities' top researchers to one of the fastest high-performance computing platforms in the country.

This is just one example of our Public Private Partnership (P3) strategy in action. In 2012, we also partnered with the Canadian federal government, the Ontario provincial government, and the City of Barrie, to invest in a state-of-the-art data centre to help support research initiatives and the adoption of other innovative technologies such as cloud computing, and advanced virtualization. In addition, we partnered with the Government of Quebec, the Université de Sherbrooke, the City of Bromont and Teledyne (Dalsa) to open the MiQro Innovation Collaborative Centre (C2MI) – a centre focused on innovation in the field of microelectronics.

We expect to continue to make these kinds of investments — investments that contribute to Canada's future growth, and competitiveness; helping us build a smarter planet in our own backyard.

A handwritten signature in black ink, appearing to read "Dan Fortin".

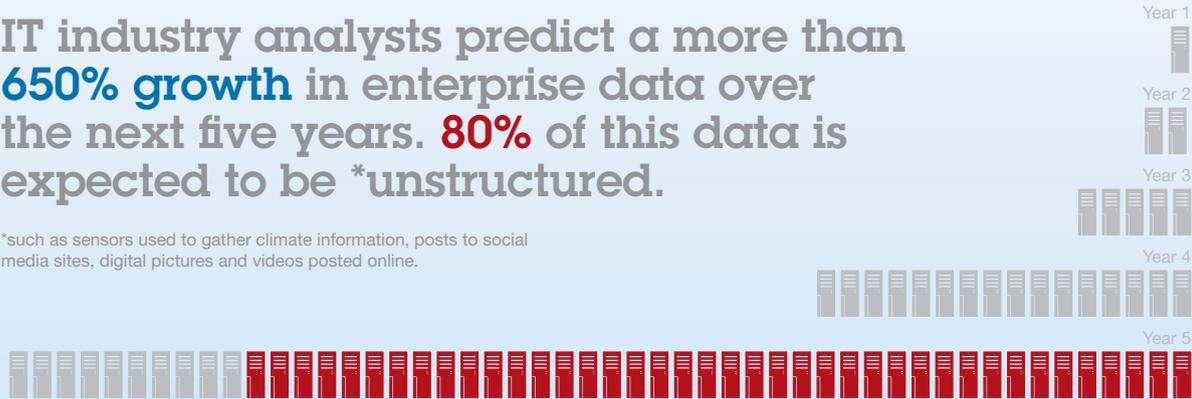
Dan Fortin
President, IBM Canada Ltd.

New Public-Private Sector Collaboration in Canada

Applying big data through high performance, agile and cloud computing to address important challenges for cities, healthcare, water and energy management systems.

IT industry analysts predict a more than **650% growth** in enterprise data over the next five years. **80%** of this data is expected to be *unstructured.

*such as sensors used to gather climate information, posts to social media sites, digital pictures and videos posted online.



69% strain



Mass urbanization straining cities: over **69 percent** of Cdns live in cities today.

20% thirst



1 in 5 or **20%** of the people on the planet do not have access to clean water.

20% loss



Municipalities often incur a **20% loss** of their water supply due to infrastructure leaks.

40% waste



Inefficient energy distribution equals approx. a **40% waste** from source to use.

\$M's in tax



Costs of healthcare, aging populations, & lengthy development cycles for new medicine cost **millions in tax**.

IBM

Ontario

MINISTRY OF
ECONOMIC
DEVELOPMENT
AND INNOVATION

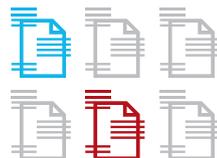
With the support of the Federal
Economic Development Agency
for Southern Ontario

Canada

UNIVERSITY OF
TORONTO

Western
UNIVERSITY - CANADA

**IBM CANADA RESEARCH
& DEVELOPMENT CENTRE**



**Working Together to Apply Big Data to Industry
Challenges for 21st Century Competitiveness**

An investment in smarter research and development is an investment in Canada...

IBM will invest up to \$175 million over three years through December 2014 to form the IBM Canada Research and Development Centre. IBM has partnered with the Government of Ontario, the Government of Canada, and seven Ontario universities to form a research consortium and, together, this Consortium will focus on “made in Canada” innovations.

This collaborative model engages small and medium-sized businesses and enables researchers to leverage a unique high performance computing infrastructure to solve societal problems related to health, the environment and energy, and facilitate smarter infrastructure and agile computing. The power of the HPC tools available, including a world class super computer and advanced analytics software, will enable researchers to tackle big data and grand challenges in new ways.

As Dr. Feridun Hamdullahpur, president and vice-chancellor, University of Waterloo, said, “This collaborative project will significantly enhance Canada’s data mining and analytics capacity, which in turn will help drive the advanced research and new product development required to ensure our global competitiveness and prosperity in the coming years.”

The momentum is positive. As of April 10, 2013, The IBM Canada Research and Development Centre has hired **more than 200** highly skilled researchers and developers. They are supporting agile research, cloud and big data analytics projects. More than **34 research projects** have been approved or initiated in the past 12 months, many collaborating directly with industry partners, and all supported by IBM technology which includes Blue Gene/Q, the fastest supercomputer in Canada, and advanced analytics, agile and cloud technologies.

Areas of research collaboration, which will benefit all Canadians, include:



Issues and challenges facing our cities such as rapid urbanization and aging infrastructure



Issues and challenges in the field of healthcare, including rising healthcare costs due to chronic diseases, afflictions of the brain, and the lengthy development cycle for new medicines



Better water conservation and management across a variety of watersheds, including urban areas, industrial areas and those designated for agricultural use



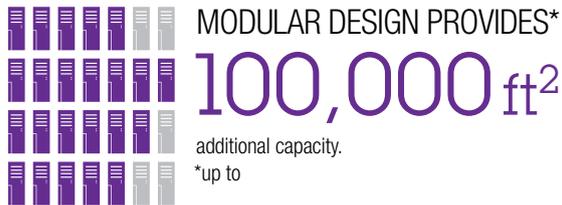
More efficient energy conservation and management through the application of advanced weather modelling and smart grid technologies



Software innovation in high performance computing platforms

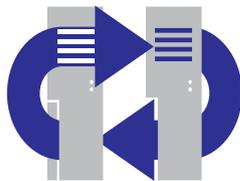


Continued investment in smarter infrastructure for growth and innovation



THIS SETUP CAN REDUCE
50% OF TOTAL COSTS

providing capacity when needed to quickly support new technology and compute models.



DUAL SITE CAPABILITY

for synchronous replication with another data centre.

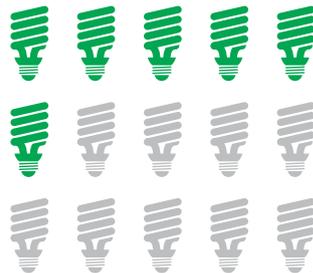


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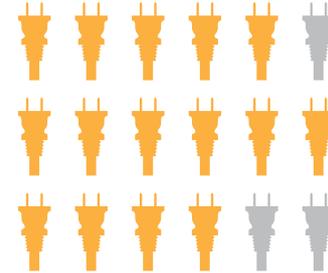
managed backup.



60%
LESS ENERGY
with green design.



15MWh
OF POWER.



GLOBALLY, IBM MANAGES:

- Over 450 data centres
- 1,235 mainframes
- 300,000 terabytes
- 193,000 servers
- 13,000,000 desktops
- 363,000 network devices
- More than 35 years of data centre management experience with over 450 client and IBM data centres under management
- 160 disaster recovery centres supporting a multi-vendor environment with over 200 IT hardware and software vendor partners



IBM Canada Leadership Data Centre

More than 175 industry advisors and analysts, clients, politicians and global and local IBM experts converged in Barrie, Ontario, north of Toronto, on September 21, 2012 to officially open the new IBM Canada Leadership Data Centre. With 25,000 sq. ft. of raised floor, and with the capability to scale to 100,000 sq. ft., it is the first new, standalone data centre built by IBM in North America in over 20 years.

Benefits of the data centre for clients and partners

- Clients and partners can access private cloud computing models and IBM strategic outsourcing (SO) services and business continuity and resiliency services (BCRS).
- Clients and partners can benefit from a dual-data centre strategy. This high availability facility was located in Barrie to be “far enough” away from the Greater Toronto Area (GTA) to provide geographic diversity from other client, partner, and IBM data centres. Yet it is also “close enough” to the GTA to support synchronous disk replication for mission critical systems, like banking and government. IBM is currently the only outsourcing provider offering an outside-of-Toronto facility within a short enough distance to allow for synchronous replication.
- Client and partner growth is prepared for with the ability to expand in modules as needs for additional capacity arise.
- Client and partner requirement for flexibility is prepared for with the ability to support higher density servers and virtualized environments.



David Drury, General Manager, IBM Global Technology Services, IBM Canada with Jeff Lehman, Mayor of Barrie.

To learn more about the IBM Canada Leadership Data Centre, please contact your IBM Representative or visit:

ibm.com/smarterdatacentre/ca

Big Data The New Natural Resource

Big Data is the digital convergence of structured data found inside databases, and unstructured data flowing from new sources like social networks, mobile devices, sensors, RFID, smart meters and financial systems. Today, organizations can capture and analyze any data, regardless of what type, how much, or how fast it is moving, and make more informed decisions based on that information.

Big Data is growing fast

Annual growth rate

60%

Structured and unstructured data¹

In social media alone, every 60 seconds

600

new blog posts are published, and

34,000

tweets are sent²



The digital universe will grow to



2.7ZB

in 2012, up

48%

from 2011, toward nearly

8ZB

by 2015³

Are you capitalizing on Big Data?

1 in 3 business leaders make critical decisions **without** the information they need⁴

53% of business leaders **don't** have access to information from across their organizations required to do their jobs⁵

If you aren't, you could be...

Organizations applying **analytics** to data for competitive advantage

Organizations adept at analytics enjoy

2.2x

more likely to substantially **outperform** their industry peers⁶

1.6x more **revenue** growth

2.0x more **profit** growth, and

2.5x more **stock price** appreciation than their peers⁷

*Information gathered by IBM

1 IDC

2 "In 60 Seconds" What is happening in the Digital World?, IBI Times, December 2011

3 IDC Key Forecast Assumptions for the Worldwide Big Data Technology and Services Market, 2012-2015

4 IBM CMO Study 2011

5 IBM CMO Study 2011

6 Analytics: The Widening Divide, Report by MIT Sloan Management Review and IBM Institute for Business Value, 2011

7 Outperforming in a Data-Rich and Hyper-Connected World, The IBM Center for Applied Insights & Economical Intelligence Unit

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IBM Services Centre: Nova Scotia

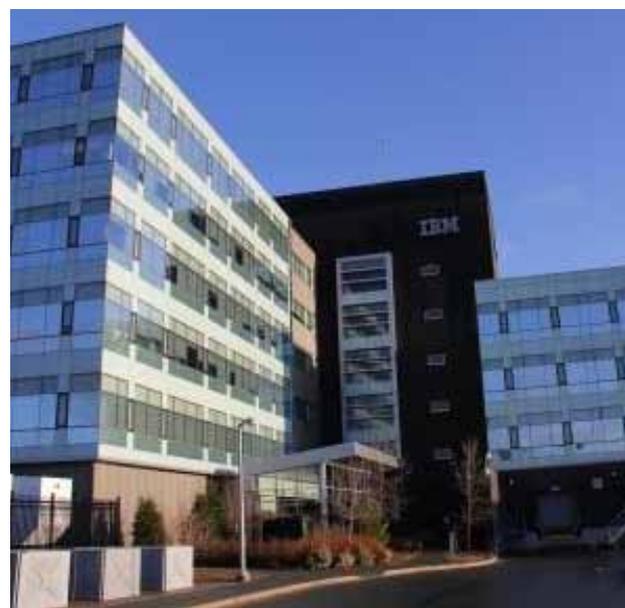
On November 8, 2012, the Government of Nova Scotia and IBM, in close partnership with Nova Scotia Business, Inc. and a consortium of six higher education institutions, led by Nova Scotia Community College, announced new agreements to establish a new IBM Services Centre; create 500 new highly skilled jobs; and nurture “economy-of-tomorrow” analytics skills within Nova Scotia.

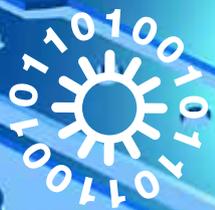
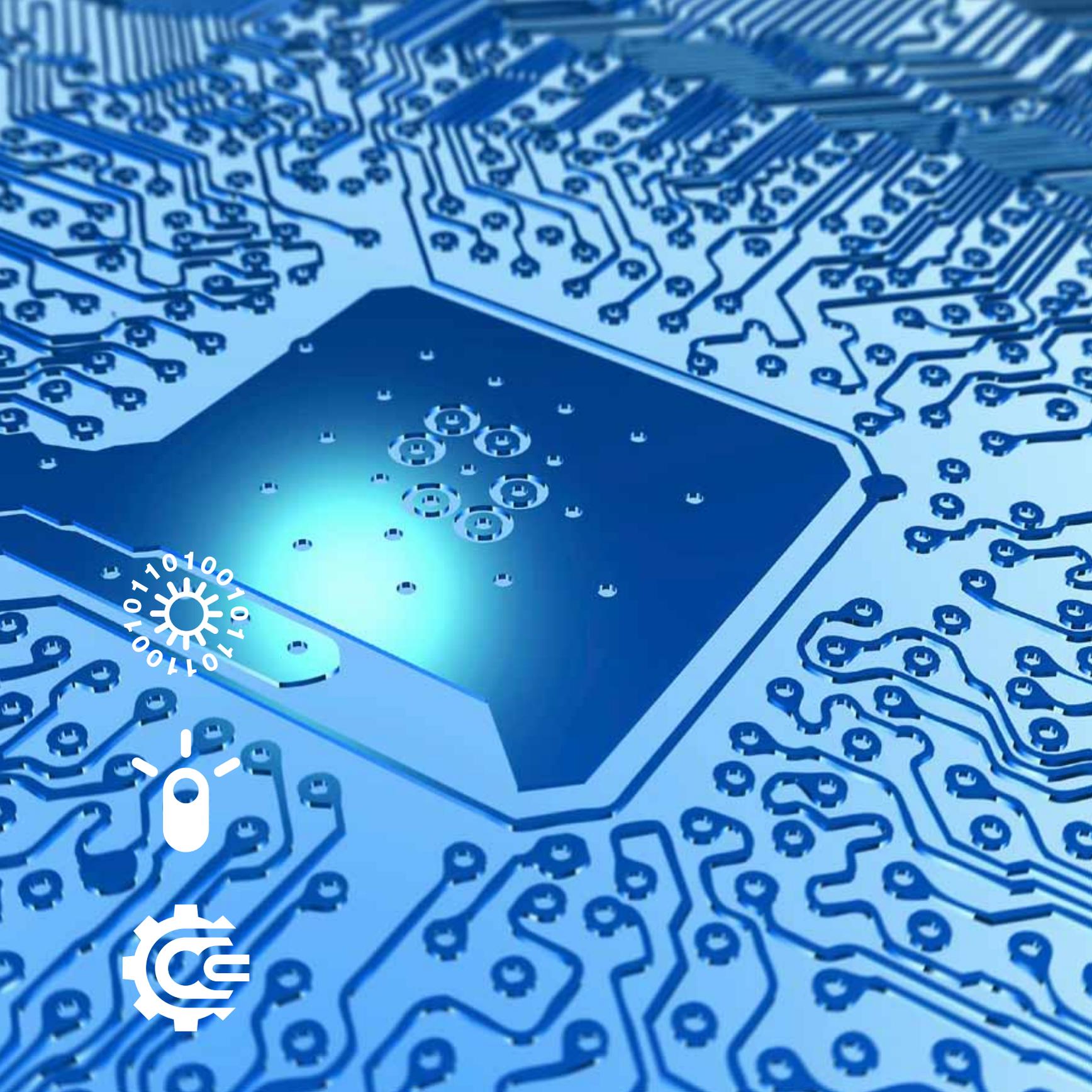
This services centre is the first of its kind in Canada. It will be part of IBM’s global network of GBS delivery centres that provide application management and consulting services to manage and transform IT systems for local government departments, businesses and universities. The centre supports three tiers of the IBM Globally Integrated Capability Model. The first tier encompasses client relationship management, advisory services, process improvements, blueprint architecture and other special projects delivered with highly skilled, local expertise. The second layer serves as an “in-bound” centre for application support services, at an all-Canadian site that meets the particular needs of government clients in terms of its security while taking full advantage of a lower cost, highly skilled pool of SAP and other IT talent that creates jobs in Canada and meets the “all Canadian” requirements for those customers that require it. The third tier is designed for high volume application development, maintenance and testing requirements without data security issues. The result: the right expertise delivered at the right stage of the engagement, at the lowest possible cost.

One key aspect of fulfilling the Centre’s mandate is the innovation partnership with the higher education institutions to build the skills required for a 21st

Century workforce. “Today’s students need continuous preparation for a digital world that blends both business and technology skills,” said Don Bureaux, president, Nova Scotia Community College. “Our collaboration with IBM will spark the growth of specific skills businesses will need to grow and compete in a global marketplace. With this step, we will be providing Nova Scotia students with a home-grown opportunity to build these in-demand skills for meaningful economic impact.”

“Together, we are building a reputation and workforce that will attract more business and investment, and giving our young people more reason to believe they can succeed and raise a family here at home.”





MiQro Innovation Collaborative Centre

The MiQro Innovation Collaborative Centre (C2MI) in Bromont Quebec opened in July 2012. Located in the Bromont Technoparc, this centre is a collaborative university-business partnership model, dedicated to becoming an international centre of excellence for the packaging of microchips. Its state-of-the-art infrastructure will serve as a technology hub for enterprises worldwide seeking to carry out research and development to accelerate the commercialization of new electronic products in sectors such as healthcare, automotive, aerospace, environment and IT as well as consumer goods like smart phones, GPS and other transportation devices.

IBM is one of four founding members of the MiQro Innovation Collaborative Centre along with Teledyne DALSA, the Université de Sherbrooke, and the City of Bromont. IBM's commitment to C2MI encompasses infrastructure, operating funds and most importantly, people.



C2MI lab facilities

IBM is:

- Donating 40 acres of land where the C2MI facility has been built.
- Providing technical expertise for the construction of the C2MI complex: for the past four years, a total of 300 Bromont employees contributed to the building construction concept, plus the selection and installation of scientific equipment.
- Contributing \$11M for the lab equipment that will be used for R&D.
- Sharing responsibility for the project of \$100M over the next five years. This makes up the bulk of the \$140M industrial investment.
- Providing the skilled workforce and technical expertise of 190 highly skilled individuals. These IBM employees will be part of the C2MI collaborative research structure working with our customers, suppliers, university researchers, and with the 20 new professional employees who report directly into C2MI.

The project creates a true microelectronics cluster in Québec, fitting very strategically into the northeastern microelectronics corridor, which stretches from East Fishkill, N.Y. to Bromont, Québec representing over 35,000 jobs.

To learn more about IBM capabilities
and how IBM is helping to make the
world work smarter please visit:

ibm.com/smartinvestment/ca



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Produced in Canada
May 2013

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