COLLABORATION

Key to Building Canada's Knowledge-based Economy

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According to the World Economic Forum, which annually studies and benchmarks factors underpinning the national competitiveness of more than 100 global economies, Canada is continuing to lose ground. This year, for instance, they downgraded Canada by two notches, compared to the previous ranking, placing us 14th overall.

Some would argue 14th out of a field of 144 isn't bad. And we score good marks for our "highly efficient markets", "well-functioning and transparent institutions" and "excellent infrastructure." But what's concerning is the report's finding 'insufficient capacity to innovate" is one of the most problematic factors for doing business in this country.

At IBM, we've always believed continued investment in research and development is an important driver for Canada's competitiveness and future growth. We've been innovating locally for more than 100 years, and rank among Canada's top five private R&D investors for the past five years. Last year alone, we invested more than $500 million into research activities on Canadian soil, part of the $6 billion we spent globally on R&D.

But we're also cognizant of the fact there is an innovation gap in this country, one that falls between research and commercialization. We believe one of the best ways to address this gap, and improve our capacity for innovation, is for academia, industry and government to work collaboratively on common research initiatives.

Canadian universities produce a highly talented workforce, not to mention solid research and some of the best breakthrough ideas. Industry has the mindset and know-how to take new ideas and commercialize them. All levels of governments have at their core a mandate focused on job creation, economic growth and long-term prosperity, and funding to support that.

Combine this trio of complementary agendas and we have the ability not only to change the research climate in Canada, but to deepen and strengthen our knowledge-based economy. We must start seeing universities, industry and government as part of the same research continuum.

Now is a particularly opportune time to do this. Today, organizations are operating in a world of accelerating complexity and massively available information. Sensors embedded in devices, online transactions, social media interactions and a myriad of other activities collectively generate 2.5 quintillion bytes of information every day, and we are only at the beginning of this explosive growth of 'big data."

Concurrently, we're seeing the rise of intelligent computer systems that can learn, mine and analyze these enormous data sets, revealing insights from what has to this point only been information. This lucky confluence of events is providing researchers with an unprecedented opportunity to develop answers to solve some of the world's biggest challenges.

In fact, this is precisely the goal of a research and development network we announced in April 2012, with the Governments of Canada and Ontario, and a consortium of seven Ontario universities and the Ontario Centres of Excellence. It 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.

The first round of these university research projects focus on developing innovative, marketable solutions for problems within cities, the healthcare field, and energy and water management systems. In concert, IBM researchers have launched dozens of projects related to high performance and agile computing. Agile computing is an acceleration technology that will dramatically improve computing speeds and efficiency. This will enable our research partners to tackle grand challenges that to-date have been out of reach because the cost of the computing power was prohibitive. The research network will ensure our Canadian researchers a spot at the front of the line.

That's just one example of our P3 strategy. This year, we also, together with the Canadian federal government, the Ontario provincial government, and the City of Barrie, invested in a greenfield data centre to help support these ongoing research initiatives, as well as the adoption of other innovative technologies such as cloud computing, advanced virtualization and energy management.

Also this year, we partnered with the Government of Quebec, the Université de Sherbrooke, the City of Bromont and Teledyne (Dalsa) to open a centre of excellence for innovation in the micro electronics field. This research facility will stimulate and accelerate the commercialization of new electronic microchips and micro-electro-mechanical systems.

IBM undertook these three significant investments to foster more knowledge-based industries, improve competitiveness and advance this country's innovation legacy. More importantly, we've done so in lock-step with all levels of government as well as academic partners because we believe this is one of the best ways to ensure Canada remains "open for business."

Collaborative research that creates bridges so smart people can work directly with other smart people is the key to moving "Made in Canada" innovation out of the labs into commercialization, and then exporting it onto the world economic stage.