



# Canada's Digital Economy: Moving Forward

## Proceedings

Ottawa • June 22, 2009



***Canada's Digital Economy:  
Moving Forward***

**Ottawa, Ontario  
June 22, 2009**

## Table of Contents

---

<b>Canada's Digital Economy: Moving Forward .....</b>	<b>1</b>
<b>Opening Remarks .....</b>	<b>1</b>
<b>The State of Canada's Digital Economy .....</b>	<b>2</b>
<b>Promoting Business Innovation Using ICTs .....</b>	<b>3</b>
Discussion .....	5
<b>Building a Digital Infrastructure for the Future .....</b>	<b>6</b>
Discussion .....	8
<b>Keynote Address.....</b>	<b>11</b>
<b>Ensuring a Safer, Stronger Online Marketplace .....</b>	<b>13</b>
Discussion .....	15
<b>Summary of Discussion .....</b>	<b>17</b>
<b>Participants' Recommendations to Minister Tony Clement.....</b>	<b>19</b>
<b>Closing Remarks.....</b>	<b>21</b>

## Canada's Digital Economy: Moving Forward

---

### Opening Remarks

#### HOST AND CO-CHAIR

The Honourable Tony Clement  
Minister of Industry

#### CO-CHAIR

Mike Lazaridis  
President and co-CEO  
Research in Motion

The Honourable **Tony Clement** said the Government of Canada aims to regain its leadership position in the digital economy. There are three facets to consider: how to give Canadian consumers more confidence and protection as they spend more time online; how to create a whole-of-government approach instead of individual departments working alone; and how to encourage Canadian businesses to increase their adoption of information and communication technology (ICT) and become more competitive.

Minister Clement said that the government is committed to working with industry and academia on all these fronts to help bridge the productivity gap with the United States and to increase Canada's competitiveness in international markets. For example, the government allocated \$225 million in *Budget 2009* for a strategy to increase broadband coverage to underserved areas of the country, and another \$200 billion to address gaps in the credit market and provide support to businesses to obtain better financing.

However, more must be done. Canada can create new competitive advantages to return to the forefront of the digital economy. This country has enormous potential, with a well educated workforce, good academic and research institutions, and excellent entrepreneurs.

"Today is about harnessing your ideas about ICT, helping to identify priorities, essential policies and strategies to pursue," said Minister Clement. "If we're going to lead in this new economy, we need the variety of perspectives gathered today. Working together, we can craft a way forward."

**Mike Lazaridis** said it is important to understand that high tech both is a strong industry in its own right, and creates value in other industries. He cited an example from his student days at the University of Waterloo. He was exposed to a brand new concept—the laser printer—and desktop publishing. He bought his first laser printer and a scripting language for \$7,000 and, with two other students, produced letterheads and business cards that made the small company look like a global enterprise.

"Adopting ICT made us competitive and gave us access to a wider industry," he said. "At that point, businesses were still using typewriters and carbon paper."

Lazaridis said Canadian ICT is largely taken for granted. It is successful and fast growing. Six hundred thousand people are directly involved, 43% of whom have university degrees and an

above-average salary. Another 600,000 people are indirectly involved. The industry generates \$150 billion in revenue.

"This industry depends on the talent and skills of our citizens and access to equity," he said. "We need a strategy to encourage investment in ICT and to find ways for other industries to adopt it, compete globally, and have access to the greater market that the world is today."

## The State of Canada's Digital Economy

### SPEAKER

J. Wayne Gudbranson  
President and CEO  
Branham Group Inc.

**Wayne Gudbranson** said that early in his career, he realized that Canada was home to some of the most progressive firms in ICT—innovative, disruptive, and world-class.

"Despite this, we are not known as a world leader in ICT," he said "We have to spread the word."

Gudbranson works with Canadian businesses in ICT to understand their issues. In every conversation, he asks if business is growing. The reply is always affirmative. Although the variable health of economies around the world has created a negative perception, some companies and sectors are growing. Canada's elite ICT companies reported revenue growth of 18% over the previous year.

Gudbranson launched the Branham 300 (the most comprehensive database of privately held and publicly traded Canadian ICT companies, ranked on total revenues) to raise the visibility of Canadian ICT sector. Branham ranks the top 25 multinationals with businesses in Canada. The Canadian arms of these companies often outperform their other sections around the world. Despite this, Canadian organizations do not invest sufficiently in ICT.

"We still fail to recognize the value ICT brings to the achievement of corporate goals," Gudbranson said. "Overall, we have a minimalist approach to ICT so we cannot achieve all its enabling effects."

According to Gudbranson's data, ICT expenditure in certain sectors decreased by as much as 50%, but is growing in others. Health care, for example, has slated \$172 billion for spending on ICT. Investing in ICT—e-health, broadband access, and green information technology—will help establish new areas of expertise.

Gudbranson said some companies mistakenly aim only to achieve improvements in productivity. Instead, those companies should also focus on management, sales, and marketing.

"This nation has what it takes to lead," he said. "Our glass is half full, not half empty. We have a solid sector but we need to be less complacent. We have much to learn collectively, but we can innovate and develop a voice that can be heard as a leader on the global ICT stage."

---

## Promoting Business Innovation Using ICTs

### MODERATOR

Andrew Sloss  
Country Manager  
eBay Canada and Kijiji Canada

### PANELISTS

Perrin Beatty  
President and CEO  
Canadian Chamber of Commerce

Kevin Warren  
President and CEO  
Xerox Canada

Stephan Lauzon  
President  
4L2 Consulting Group Inc.

**Andrew Sloss** said Canada's productivity gap is due in part to lack of ICT use, especially by small and medium-size enterprises (SMEs) and individuals. Sloss's company provides some SMEs with a primary or secondary source of income through eBay, PayPal, Skype, or Kijiji. With 126 million live listings globally and \$60 billion worth of goods traded in 2008, eBay is a good case study of a technology platform facilitating economic growth in Canada.

"We need to raise the understanding of how these technologies can catapult growth and create an appetite with end-users," Sloss said.

**Perrin Beatty** cited recent *New York Times* reports on countries that are creating conditions where innovation can flourish, through coordinating policies across departments. For example, Australia is investigating how to capitalize on its harsh climate and dispersed population, and Finland has implemented a comprehensive approach to innovation that includes investing in high-speed Internet for its residents.

"We should develop a strategy to stitch together actions that, today, are uncoordinated, and put it at the top of the list of catalysts for innovation," Beatty said.

While it is easy to focus on the short term in challenging times, as the economy begins to recover, Canada's prosperity will depend on strategic decisions made now. Canada should concentrate on ICT because global disruptions can create opportunities to advance the economy. Decision makers must demonstrate vision and determination.

"It's been 10 years since the first ministerial meeting on the subject in Ottawa," Beatty said. "We've had 10 years of discussion; Canada needs to take action. We cannot afford to delay."

Canada continues to be a world leader in the financial sector, natural resources, and others, but now risks its ability to attract and keep jobs in the knowledge-based economy. ICT must be treated as seriously as any other sector.

The Canadian Chamber of Commerce is releasing a paper highlighting how Canada can refocus. Canada must have a true national ICT strategy with industry, academia, and government all taking active roles. The paper recommends that government work with the

private sector to accelerate e-business among SMEs. Without proper investment and dedication to ICT, innovation, and intellectual property, Canada will be eclipsed by other countries.

Beatty asked what Canada, having fallen behind, is prepared to do to change direction. He said this conference would determine a set of measurable goals.

"Only in that way can we keep faith with the visionaries who launched world class companies and innovation here," he said.

**Kevin Warren** focused on areas in which Canada is performing well.

Innovation is the difference between good ideas and good outcomes, he said. It is driven by creativity, inspiration, and a vision that constantly extends the boundary of human achievement. It is not about products; it is about incubating good ideas and bringing them to market.

Xerox is a successful company that has generated steady revenue over time. It has always been an innovator through research, and the Canadian advantage has always featured prominently. In 1974, Xerox's innovation group launched the Xerox Research Centre of Canada because it felt that Canada was then and remains a natural enabler for innovation. Canada has a good corporate taxation framework, an educated workforce, proximity to the United States and a cluster of universities around the Centre.

Warren said that Xerox invests 5%–6% of its gross revenue in research and development. These investments ensure that the company can create value and new jobs even in lean times. The Centre has authored 11,000 research papers, filed 1,000 patents, and produced disruptive innovations—product improvements that the market does not expect.

"At every step, we have leveraged Canada and its core competencies to deliver sound policies and processes for document technology markets around the world," Warren said. "Thirty-five years ago, Xerox took a leap of faith and said 'Yes' to the promise of Canadian innovation. I hope we will embrace a similar vision for Canada's competitiveness."

**Stephan Lauzon** said his company, 4L2, helps companies of all sizes improve their supply chain by re-engineering processes. An efficient and effective supply chain is proven to reduce costs and increase productivity and responsiveness. Introducing ICT to support the supply chain involves merging many platforms that handle data, and its success depends on the data entered and the integrity of that data.

A company's internal structure may delay implementation of ICT. This environment actually encourages growth, said Lauzon, since SMEs must analyze their internal and external processes before going live with technology. This creates an opportunity for managers to gain a new perspective on their organization and optimize processes.

Lauzon said his company is working with Industry Canada to host conferences around the country in fall 2009, to discuss the use of technology for supply chain management. A team will research case studies on the availability of ICT software for SMEs, and the Royal Bank will teach SME leaders how to build a business case to obtain financing.

Many governments have not focused on ICT in sectors other than the ICT sector itself. However, most SMEs that can benefit from ICT in supply-chain management are not in the ICT sector. Workshops and training, generally areas governments focus on, are often not tailored to the audience or focus on concrete benefits.

"If SMEs are to adopt ICT, we have to convince managers that it can improve their business," Lauzon said. "So they need training on strategy. Frontline employees who will use it daily need training in use."

## Discussion

A participant asked where the "community of people" could be found in this discussion—people such as artists who sell products at their local community centres. Beatty replied that more peer-assisted learning should be available because demonstrating a success is the best way to show that technology works. It is also a way for newcomers to a technology to ask questions and see how they can apply it. The Canadian Chamber of Commerce can also play a role, he said.

Another participant noted competition breeds innovation. In the publishing industry, competition is high because of low barriers for entry, so the participant said he would like more access to ICT, to enable companies to be more competitive and innovative.

Warren said at Xerox, SMEs are a key partner. The company invests in their infrastructure and Xerox accesses their customer base in that way. SMEs are the fastest growing sector so it is very important to link into them as they grow. Beatty added that access should not be free, but it should be competitive and affordable.

One participant commented that Canada needs a new industry engagement model to pursue the new generation of networks. As Web 3.0 evolves, it will allow a range of new possibilities, such as global dictionary standards, definitions, lists of ingredients, lists of countries of origin, business process standards, traceability, and others. Web 4.0, the Internet of "things," can identify products across borders and supply chains, and enable mobile commerce and the use of cell phones. Cell phones will soon become both a payment vehicle and an information tool. All these applications must be safe and secure, he added.

Another participant commented that changes in technology are not only driven by human need but also by human demand, with design playing a large part. South Korea, Denmark, and the United Kingdom have all developed a design aspect to their ICT strategy. The participant asked how Canada would consider consumer and social needs and the market that drive Web 3.0.

Warren replied that those in the technology sector fall in love with anything that is fast, cool, and simply better than the previous generation of technology, but that consumers do not necessarily react the same way. The challenge is to leverage the technology to be both culturally appealing and good for business.

A participant said that rural access, digital literacy, and other matters are a first step but, to attain a leadership position, Canada must also differentiate itself. He asked in what ways Canada could achieve that.

Beatty replied that Canada can use ICT to stitch together a dispersed and Northern population, so that distance and climate are not impediments to business. Canada can look at areas where Canadians have established strengths already.

Warren added that, coming from the United States, he had a different perspective on how to achieve leadership in ICT. He suggested capitalizing on Canada's proximity to the United States, which is a heavy consumer; on the university structure, where quality versus cost is a tremendous value proposition and attracts the best and the brightest; on natural resources; on

the multicultural friendliness that makes all cultures feel at home in Canada; and on this country's stable government.

A participant asked what the benefit would be of separating content and services.

Beatty replied that he would not mandate that separation, but would create a strategy and let the marketplace decide. He would not recommend adopting the Asian model, in which the government also provides services.

## Building a Digital Infrastructure for the Future

### MODERATOR

Bernard Courtois  
President and CEO  
Information Technology Association of Canada

### PANELISTS

Nitin Kawale  
President  
Cisco Systems Canada

Bernard Lord  
President and CEO  
Canadian Wireless Telecommunications Association

Jacob Glick  
Canada Policy Counsel  
Google

Richard Alvarez  
President and CEO  
Canada Health Infoway

**Bernard Courtois** said the term *infrastructure* commonly refers to construction, but these days, it constitutes more than bricks and mortar—as evidenced by the grouping of knowledge infrastructure projects with general infrastructure in *Budget 2009*. Infrastructure is now both hard (towers, hardware) and soft (databases).

Industry has a role in innovating and in sharing the goals of establishing Canada as a leader in ICT. The government's role is to set goals for the country and to lead the way by communicating with citizens through technology.

**Nitin Kawale** reiterated Minister Clement's statement at the Canada 3.0 Forum in June 2009 that digital media will transform the economy. He said Canada needs a more aggressive strategy around ICT that will drive the entrepreneurial advantage and help Canadians acquire the skills necessary to lead. ICT can enable a strong standard of living and contribute to the country's economic success.

The time has never been better to look at business transformation, Kawale said. A period of transformation provides an opportunity to gain market share. What matters is not a company's starting point, but its end position.

Kawale said Canadians must harness ICT to lead the nation to a better end position. Canada needs a national strategy for infrastructure to connect the nation. Connecting government,

business, and individuals will increase business, as will strengthening education, public services, the regulatory framework, and business innovation.

Canada should examine providing equal access to ICT for citizens, especially in e-health; supporting ICT in globally creative sectors, such as energy and health care; and facilitating the transition of businesses to network-centric platforms to help them reach their consumers and suppliers in a more immediate way. ICT is the foundation for transformation in Canada, said Kawale.

**Bernard Lord** said ICT is the sector that most reflects today's constantly changing world. Within that, wireless is a catalyst for innovation prosperity and growth, and is playing an increasing role in infrastructure. The ability to move goods and people is no longer enough: ideas and thoughts must also move at the speed of light.

This is not the future, Lord said. This is the present—a present that is reflected in the way Canadians adopt new technologies at home and at work.

A recent report from Nielsen stated that mobile Internet adoption is reaching critical mass, with 21% of mobile consumers using their mobile device to access the Internet. This is up 15% from the last quarter of 2008. In the first three months of 2009, Canadians sent 7.8 billion text messages—and Canadians are hungry for more. So competition in wireless should be geared to innovation, and innovation needs continual investment. Mobile broadband will drive innovation wherever it will be embraced. Lord said the government should convert some of the spectrum windfall it received in 2008 into tangible benefits for Canadians.

**Jacob Glick** said Google's mission is to organize the world's information, and make it accessible and useful through the power of the open Internet. Google invests in Canadian innovation in Toronto, Waterloo, and Montreal: the mobile search engine—the one used in most mobile phones around the world—was produced in Waterloo.

Glick said that investing in the physical layer, both wireless and wired, is critical to Canada's competitiveness; as well, promoting an open Internet over fast, universal, and ubiquitous wired and wireless networks will help Canada succeed.

He said that a great deal can be accomplished without spending much money or being overly prescriptive.

In terms of the wired physical layer, Canada could regulate that every hard infrastructure project include laying down fibre, because associated construction costs account for 90% of the cost of laying fibre. If a construction project is under way, laying fibre should be automatic. For example, Glick said, Bank Street in Ottawa has recently undergone major reconstruction, but no fibre was laid.

On the wireless side, spectrum reform would be a simple improvement. A transition from analog to digital television, currently under way, will free spectrum and create opportunities for new players and innovators. Glick said he encourages the government to use the "TV white spaces" (frequencies allocated for broadcasting but not used locally) and deploy them for unlicensed uses without monopoly. This has already been done in the United States, and consumers will see the benefits in 18–24 months.

The government should encourage the open Internet that is the engine of innovation, not of private networks, or "walled gardens", Glick said, noting that public money should not fund walled gardens.

In the wired space, the government could ensure that existing regulations are used to protect the Internet. A cabinet directive to the CRTC (Canadian Radio-Television and Telecommunications Commission) could ask it to consider the open Internet in every decision. When public funds are used to develop broadband networks, the government could add a requirement that the networks be open.

The future of the Internet as a platform for innovation cannot be assumed. If walled gardens persist, they may choke innovation. With minimal and targeted regulations, government can begin the development of the open Internet and innovation in Canada.

**Richard Alvarez** described the digital reform of health care.

Canada Health Infoway is a not-for-profit, collaborative organization that accelerates the use of electronic health records. Alvarez said health care is the most information-hungry industry, with 400 million prescriptions written annually, and 400,000 care providers operating out of 40,000 points of service.

Despite tremendous medical advances, the system is still run on paper. A comprehensive study discovered that more than 24,000 preventable deaths occur from adverse drug events, because the right information does not reach the right individual on time.

*Budget 2009* allocated \$1.6 billion for health information systems. That funding has been leveraged with funding from jurisdictions, making \$4 billion available to the transition to electronic health records (EHR). Results are starting to come in from 300 projects across Canada.

For instance, teams have been working to eliminate x-ray film, Alvarez said. Nearly all of Atlantic Canada now uses digital imagery, which reduces lag time and lowers the costs at rural and remote sites. The change has precipitated a 25%–30% improvement in productivity for radiologists, translating to 90 minutes per day; on a wider scale, switching to digital imagery has increased capacity by up to 500 radiologists, and reduced patient transfers, since they can now be examined at their local clinics.

By the end of 2010, every province and territory will benefit from new e-health systems, with 50% of Canadians having e-health records; this will climb to 100% by 2016.

Alvarez asked whether Canada is positioned to leverage the e-health advantage. Capacity is all-important. Consumerism is growing quickly and adding to demand; so are enterprise networks and video and audio streaming. For e-health to be effective, response times must be rapid and predictable; networks must be robust and secure.

Industry Canada and other government departments must initiate and develop an aggressive ICT strategy that will ensure networks are capable of sustaining the medical adoption of the EHR.

## **Discussion**

A participant said the digital revolution is as profound a change as the Industrial Revolution was in the eighteenth and nineteenth centuries. Canada needs an overall strategy to deal with the huge social and cultural upheaval this new revolution creates, and to keep up with the United States, France, and Germany, which have all announced policies in this regard. The participant suggested a vehicle such as a royal commission to bring this about.

The future belongs to wireless communication, said another participant; therefore, it is critically important to build both infrastructure and skills for it.

Another participant reported that his company had recently spent \$440 million to buy spectrum and that it is deploying infrastructure across the country. He asked how Canada could ensure that it generally has the right infrastructure at the right time, and suggested that competition may be the answer, since it promotes innovation. His business is capital-intensive, so he must find economies of scale to remain competitive.

For example, in Canada, Rogers is five times smaller than Europe's Vodaphone. At its current size, Rogers cannot compete with Vodaphone because it lacks the necessary scale to enable international access. The participant also raised the issue of access to capital markets and asked how companies might tap into those markets.

Another participant said he agreed that people want to be connected and mobile, but connected to what? Librarians and archivists have consulted on how to make material available to Canadians online. They have dealt with standards for digitization, privacy, and preservation, and are now ready to put Canadian content online. A study showed that 95% of Canadians expect access to libraries but fewer than 30% are satisfied with the content. Less than 4% of print material is posted online despite the best efforts of librarians and archivists. For audiovisual, the number drops to less than 1%.

The participant said that Canada is marching into the knowledge economy with less than 1% of its resources available. Can the country be competitive in those circumstances?

In addition, he said, the need for information in education and research is palpable. He cited the example of young people not knowing or being interested in Canadian history—in part because they cannot find it online. Canadian content should be an essential part of the infrastructure. The issue has clear support from the private sector and from the public. Governments and universities should take the digital challenge by making their records and research available, and finding new ways to work with writers and publishers.

Another participant asked the panelists to define broadband. Ten years ago, 1 megabyte (MB) was considered huge; today, he hears of countries deploying upwards of 100 MB.

Kawale replied that, since a video revolution is currently taking place online and 90% of traffic will be video by 2013, he defines broadband as the ability to receive video on any device. This definition depends not on speed or technology, but on demand—how it is managed and how fast it is achieved.

A participant said that if regulation on the Internet will be light-handed, then a flexible rights regime must allow both copyright and "open right." Producers need an international market but do not have access to capital investment. If copyright no longer exists, the participant asked what strategies would replace it to allow creativity to continue.

Glick replied that the Internet is empowering because it implodes production and distribution costs as never before. He said the issue of rights would not be solved that day, but any regime must balance interests such as creation and royalties.

A participant asked whether governments or the private sector would finance the digital economy. He said the private sector would ultimately need an incentive, such as capital cost allowances, to continue financing the economy. He also questioned whether Canada, which is

becoming known as a haven for online piracy, could also be considered a leader in the ICT revolution.

Lord suggested that the government could reinvest the spectrum windfall in wireless and create incentives for partnerships and for individuals to act.

A participant said that the role of federal research and development had not been mentioned. The National Research Council's Institute for Information Technology has \$196 million in sales and has transferred licences to companies. He also wondered about innovation—such as the development of new languages—since companies are not interested in basic research. He asked if the panel saw a role for federal laboratories in the ICT economy. Lord replied in the affirmative, and noted that university research has a role as well.

## Keynote Address

---

### SPEAKER

Sir Terence Matthews  
Chair, Wesley Clover  
and Chair, Mitel and March Networks

**Sir Terence Matthews**, whose companies are active in developing Internet protocols, said Canada was once ranked first or second in high-tech uptake, with a large proportion of the population having regular Internet access. Now, however, recent international rankings by *The Economist* and the OECD (the Organization for Economic Cooperation and Development) have placed Canada well down the list in Internet access and other measures.

“Recently, we seem to be standing still—parked on the side of the information highway while other nations pass us by—at a time when the underlying technologies that make the digital economy possible are changing and growing faster than ever before.”

Matthews expressed disappointment that this meeting’s agenda did not include a discussion on the need for a vibrant Canadian ICT industry as a major contributor to the digital economy. He likened this to organizing an agricultural conference but forgetting to invite farmers—the ones who actually produce the goods.

Most products today are made in countries that have invested in technology development and reduced the cost of research and development (R&D) and manufacturing. Without a vibrant internal ICT industry, Canada’s digital economy will rely completely on foreign products. Matthews questioned why companies such as Nortel were sold to foreign interests or failed through lack of funding, and said he was disappointed that Canadian governments are not taking a more proactive stance.

“Are we simply not treating our ICT sector as an essential part of tomorrow’s economy?” Matthews asked.

Although Canadian ICT accounts for only 5% of the country’s GDP, it carries out 40% of Canadian R&D. Since Canadian corporate R&D is down to sixteenth place in OECD rankings, Matthews questioned what that figure would look like without the contribution of ICT.

The Science, Technology and Innovation Council, of which Matthews is a member, advised the government on priorities within ICT, suggesting a focus on new media, animation and games, wireless networks and services, broadband networks, and telecommunications equipment. Matthews said Canada should now be considering how to support research and commercialization in these areas as part of the national strategy on the digital economy.

In short, he said, if Canadians want well paying, challenging, knowledge-based jobs for their children, Canada must become an innovation nation. Information technology, telecom, new media, and the creation of digital content can become the foundation for Canada’s future prosperity.

Matthews suggested setting bold objectives. For instance, he said, goals could include “Canada will have 10 domestic companies in ICT with annual revenues exceeding \$5 billion a year by 2020.” This would drive a policy debate and establish the conditions that companies need to achieve such a scale. Such companies would push Canada into a leadership position.

He also suggested re-examining the Scientific Research and Experimental Development (SR&ED) Tax Credit system, because it has not kept up with inflation. Other countries are providing generous breaks on taxes for young technology companies. For example, France is reducing 50% of R&D expenditures for start-up companies in their first year, 40% in the second, and 30% thereafter. Canada must address the severe lack of venture capital available, and change the Section 116 certificate.

"Today's system, essentially requiring every investor to register as a Canadian taxpayer, is a major turn-off, and has significantly damaged Canada's high tech sectors," Matthews said.

He noted he was pleased to see an extra \$100 million annually over the next two years allocated to the Industrial Research Assistance program, which has been badly under funded. He encouraged the government to maintain the top-up on a permanent basis.

Matthews also raised the issue of training and skills. According to Statistics Canada, he said, university enrolment is up in every major program area except math, computer and information sciences, the base programs for ICT. But even students in other programs should become digitally literate so they can use technology efficiently in their future work lives.

Many of the changes Matthews suggested require government action, which raises the question of whether Canada's federal and provincial governments are properly structured to support and encourage the digital economy. He said he is not proposing a massive reorganization of government, but while Industry Canada organized the conference, ICT is only a small area of that department's responsibilities. On the other hand, Australia has an entire Department of Broadband Communications and the Digital Economy; France has a Minister of State for Development of the Digital Economy; Britain has a Department of Communications, Technology and Broadcasting; India has a department for Communications and Information Technology; and other countries have similar departments.

Matthews concluded that Canada does indeed face challenges but also has many opportunities. "We need to pick up the pace, be bold, focus clearly on what we decide our objectives should be and, to steal a slogan from a certain sportswear company, 'Just do it.'"

---

## Ensuring a Safer, Stronger Online Marketplace

---

### MODERATOR

Tom Jenkins  
Executive Chairman  
Open Text Corporation

### PANELLISTS

Jennifer Stoddart  
Privacy Commissioner of Canada

Dr. Michael Geist  
Faculty of Law  
University of Ottawa

Tim Wilson  
Head  
Visa Canada

**Tom Jenkins** said Canada faces many challenges in information and communication technology. Over \$250 million have been invested in the past year in ICT. Two particular areas of challenges have become clear: privacy vs. Access, and copyright vs. the availability of information. Also, Canada must ensure a safe and more secure online marketplace for consumers.

In early June 2009, The Stratford Institute (University of Waterloo) and the Canadian Digital Media Network launched the Canada 3.0 Forum in Stratford. This event, a forum for shaping Canada's digital future, attracted 1,500 people, comprising students, government officials, and business people. Participants crafted an important document, *The Stratford Declaration*, a plan for the future of digital media in Canada.

**Jennifer Stoddart** said that since the *Personal Information Protection and Electronic Documents Act* (PIPEDA) was introduced in 2000, her office has been busy in unforeseen ways. Canadians go online for everything, and they want to have confidence that their information will be protected.

At the same time, online threats are becoming more sophisticated. Canadians also use a global structure that does not recognize international boundaries, so that doing business with other countries poses very real risks. For example, many phishing operations—use of ICT to fraudulently obtain sensitive information—sprouted as a result of the mortgage crisis in the United States.

The Government of Canada has made the Internet safer by introducing important identity theft legislation. It has also created vehicles for consumers to seek compensation if their identity is compromised. However, this is not enough, Stoddart said. The government must implement a more broad-based strategy.

Stoddart expressed her full support for Bill C-27, which proposes amendments to the *Criminal Code* in the area of identity theft and related misconduct. The Electronic Commerce Protection Act (ECPA) strikes a balance between privacy and access, and will help the Office of the Privacy Commissioner fulfill its mandate. Stoddart said she is also hoping to see amendments to PIPEDA in the near future.

The Office of the Privacy Commissioner conducted a voluntary survey to analyze privacy breaches in Canada during 2006–2007. Too many organizations underestimate the value of personal information, Stoddart said, noting that human error is also often a factor. She said she would like to see tighter privacy legislation and an anti-spam act. Privacy issues for the national coordination of health information must also be resolved with the federal government.

Cyber-security and privacy are sensitive issues in the marketplace. Spam, identity theft, and cyber-attacks are global threats, and protecting Internet users will require international cooperation. In addition, the protection of individuals must be enhanced without compromising innovation. Digital innovation is equally important, and is an area in which Canada lags behind other nations.

**Dr. Michael Geist** said privacy and security are key components in instilling confidence. He proposed a digital action plan with the following highlights:

- **Ensure consumer protection.**  
Canada needs a consumer protection framework to match the speed at which the online marketplace evolves. Bill C-27 and the ECPA are a great start, and the Canadian Marketing Association was very supportive of this legislation. Some business groups, however, are trying to water down the legislation, and believe that privacy legislation is sufficient. Ultimately, this will undermine consumer confidence in electronic commerce.
- **Provide transparency and openness.**  
Confidence also comes from greater transparency and openness. The federal government should move towards making data more accessible. For example, the *Guardian* in the UK has reviewed and published thousands of documents detailing expenses incurred by Members of Parliament. This kind of openness can also happen in Canada. A philosophy of openness should also extend to taxpayer-funded research. Researchers who receive government grants must make their findings public. Canada has been making steps in that direction, but it must become a priority.
- **Improve network management practice.**  
Canada is sinking in international rankings for wireless network management practices. To instill confidence in this country's broadband and network infrastructure, Canada must achieve world-class speed, fair pricing, more transparent marketing, and enhanced network management practices. The CRTC will be examining these practices in the near future; however, confidence in the network must be an essential part of Canada's national strategy.
- **Reform copyright law in Canada.**  
Confidence in copyright plays a key role. The process that led to Bill C-61 (the Copyright Act) has undermined consumer confidence because there were no public consultations, and many special interest groups were involved. The "secrecy philosophy" must end, along with the perception that Canada is a "piracy haven". There is a need for reform that will provide businesses with the flexibility to innovate, and consumers with the protection they need if the sellers no longer support their products or services.
- **Build a leadership team.**  
Canada must build a leadership team, with a Canadian Chief Technology Officer, and restore confidence with a clear stand on digital issues.

**Tim Wilson** gave an overview of his corporation. The Visa network deals with more than 175 currencies around the world, and enables the economy to digitize all transactions. Electronic payments are fundamental to online transactions, Wilson said.

To enhance consumer protection, Visa has implemented world-class fraud prevention tools. Wilson stated that 78% of Internet users make payments online in Canada. However, this is only on par with the global average. In the United States, 94% of Internet users make payments online.

Wilson presented the following four recommendations to close that gap:

- **Give people a reason to transact.**  
The browse / buy ratio for Canadian products must be improved. Many Canadians shop outside Canada to find better prices and a wider selection. Only 8% of private Canadian companies sell online. The federal government can take a leadership role in this area to encourage the private sector to become more competitive.
- **Increase trust in the system.**  
Trust is critical to improve the browse / buy ratio, and online shopping must be more secure. PIPEDA and Bill C-27 are positive steps, but to increase consumer confidence the industry must build bigger firewalls and prevent thieves from using stolen data if a theft does occur.
- **Provide merchants and consumers with more ways to pay and be paid.**  
The current debit process has limited uses. Also, the lack of debit products has forced many Canadian shoppers to purchase offline.
- **Develop the "mobile model."**  
Mobile phones can be used to browse and make purchases, among other things. Business models and banks currently lack the technology to make this happen. As an additional benefit, this technology would provide the possibility of monitoring for fraud in real time. The federal government and the private sector can work together to make the digital marketplace flourish in Canada.

## Discussion

A participant from the Canadian Marketing Association noted that his organization started imposing rules in the mid-1990s, and that it welcome Bill C-27. However, he expressed frustration at the flood of foreign scams, which makes it tough for legitimate businesses to stand out. Panellists responded that effectiveness in dealing with these scams depends on the quality of the companies' cooperation. Currently, Canadian legislation only deals with Canadian spam. For example, the "Do not call" list does not prevent U.S. marketers from calling Canadian consumers.

A participant from the Canadian Recording Industry Association commented that a clear consensus and a coherent ICT policy will be needed to ensure progress. In the area of content, intellectual property represents \$85 billion in business in the recording industry, so content is important. The digital economy is stunted, the participant said, noting that the creators of a few years ago are now "Net losers."

The Internet must protect investors, creators, users, and intermediaries, the participant said, as the future of the digital economy relies on the business community. He recommended Deborah Spar's book, *Ruling the Waves*, in which the author states that the Internet is not much different from past technologies, and it does not change everything. When viewing cyberspace in the context of the span of history, power and profit seem to shift away. A vibrant online marketplace is founded on innovative business models, the participant said. At the same time, rules benefit everybody.

Panelists responded that creators are also important participants in this strategy. People tend to disagree on the specifics of legislation, which highlights the need for a consultative process.

As an SME, said a participant, Amika Mobile Corporation must deal with many issues: capital access to markets (such as India); selling products to the Government of Canada; security breaches (four have already occurred); and cyber-bullying—a relatively new word coined thanks to sites like Facebook, where people squat in trademarks.

Panelists noted that while the ICT industry in Canada is recognized for all-time low fraud levels, there is room for improvement. The best ways to prevent fraud are to establish Peripheral Component Interconnect controls—an industry specification for connecting hardware devices to a computer's central processing unit—and have a zero-liability policy.

Sites like Facebook represent an interesting showcase of human behaviour, a panelist said, noting that actions have begun to protect children's privacy online, and to prevent cyber-bullying.

A participant from CanWest said consumers tend to think there are no problems with online transactions. He noted worrisome situations, such as when IBM lost a hard disk that contained half a million consumers' names and personal data. Banks could never be put in prison for committing gross privacy breaches, the participant said.

Panelists said proof of harm is often very difficult to prove, and the actual damage is sometimes hard to find. However, when there is harm, the vast majority of firms settle quickly. In reality, there are not sufficiently strong incentives to prevent privacy breaches, such as when the CIBC faxed some clients' personal information to a West Virginia junkyard.

A participant from the International Institute for Sustainable Development said Canada must ensure a stronger electricity supply system and smart grid technology to deal with the increased demands of a digital marketplace. Cisco, GE, and other companies promote this technology; currently, all Canada's grids run from north to south only.

Another participant said the Consumers' Council of Canada envisions a safer, stronger marketplace in Canada. The Council made a series of recommendations in 2005, but these have yet to be put into practice, he said.

People need to know that banks do not contact their clients by email, a participant said. Banks must build awareness in this area to help prevent fraud. Panelists agreed that financial institutions have been very active in working with clients to avoid becoming victims of phishing.

---

## Summary of Discussion

---

### SPEAKERS

Andrew Sloss  
Country Manager  
eBay Canada and Kijiji Canada

Bernard Courtois  
President and CEO  
Information Technology Association of Canada

Dr. David Johnston  
President  
University of Waterloo

**Andrew Sloss** summarized some of the day's major discussion points. He said information and communication technology is poised for innovation and strategy creation. Canada has fallen behind in the areas of ICT infrastructure and investment, but adoption of ICT is critical to success. Canada must create an ICT strategy, which will do the following:

- Work with Canada's strengths (education levels, proximity to the United States, leadership in energy).
- Raise awareness of ICT.
- Create a favourable investment environment.
- Facilitate SME adoption of ICT technology (provide skills required).
- Invite SME as partners and welcoming their valuable feedback.

**Bernard Courtois** said a range of perspectives was presented today, and both the soft and hard structure of ICT were discussed. This area has been studied for years, and the time to act is now. The following actions must be taken:

- Set ambitious goals.
- Stay focused—e-health capacity is approaching 50%, and it is important to stay focused on the goal of achieving 100% by 2016;
- Be a lead user—the federal government must be a lead user of ICT, in procurement and in other areas.
- Establish a harder broadband infrastructure (fixed / mobile, urban / rural).
- Digitize content, which would involve multiple layers of government.
- Establish a smart grid technology, which would address 95% of the economy's needs.

**Tom Jenkins** said two overwhelming words emerged from today's conference: confidence and trust. Without these, nothing else is possible, he said. Everything flows from the soundness of legislation. Transparency and content, governed by clear rules, will both serve to create trust.

Mr. Jenkins said the federal government should establish a benchmarking system—an annual report card—to compare how Canada fares against other OECD countries in the area of ICT. International Memoranda of Understanding flow from domestic legislation, and the absence of domestic legislation leaves this country at a disadvantage.

Content accounts for two-thirds of the ICT industry. A process should be put in place to create policies, and invitations should be extended to provinces to join that process. Tool users and makers must come together to define the rules.

Dr. David Johnston "I will tell you a story that happened 500 years ago," said Dr. Johnston, about "guys named John, Marty, Fred and Nick."

In 1475, Johannes Gutenberg invented the printing press. His invention went nowhere at the time and he died a bankrupt man, but eventually his press revolutionized Western Europe, with profound consequences in the areas of public education and the eradication of feudalism.

In 1523, Martin Luther translated the Bible from Hebrew to German, a controversial undertaking. He was sheltered in the Castle of Wartburg by Frederick III the Wise, Elector of Saxony.

In 1523, Nick Machiavelli wrote *The Prince*, the first secular book ever printed.

John Knox was the father of the Enlightenment in Scotland, establishing free public education, which ensured that all children grew up literate.

Thanks to Gutenberg's invention, books like the Bible, as well as popular literature and the exchange of information became available to the masses, giving them power. The printing press caused Western Europe to move ahead of other great civilizations of the times: Islam and India. Today, ICT is the printing press of the past; people must pay attention because in this century, progress moves much more quickly.

Two weeks ago, participants at the Canada 3.0 Forum developed the *Stratford Declaration* to guide a national digital media action plan. Stratford is an ideal location for innovative thinking because the town had to reinvent itself when its railroad stop shut down—however, the railway was replaced with a vibrant theatre industry, Dr. Johnston said.

The *Stratford Declaration* states the following:

- Canada is not yet a world leader in the digital media field.
- Canada has the potential to be internationally competitive, but it needs to change its trends.
- Significant upgrades are required to the digital infrastructure.
- Collaboration, partnership and collective action are required on a national and cross-sectoral scale.
- Canada must marry its creative talents with the technological potential of this era.
- Canada must become a test-bed for new products, so that its consumers, governments, and companies are known for embracing digital innovation.
- Canada must upgrade its regulatory and legal environment to meet current needs.
- Canada must become a place to train, innovate, work, and prosper.
- Canada must understand the potential of the digital economy.
- Canada must set an ambitious target—to become the first truly digital nation in the world—and move forward with urgency and determination toward this goal.

## **Participants' Recommendations to Minister Tony Clement**

### *John Cassaday, Corus Entertainment*

Canada needs a vision that is global and citizen-driven; Canadians must see what's in it for them. We have been advancing a policy framework for months, and now we must act. We must embrace Canadian-owned content, but we must also go global. We must increase our probability of success (internal versus global competitiveness). We must develop a Canadian industrial strategy.

Corus Entertainment, one of Canada's largest media companies, is urging broadcasters not to leave Canadians out. Help us protect our intellectual property rights. The transition of radio and television to digital is slow; Canada is lagging behind and government funding is required.

### *Peter Nicholson, Canadian Council of Academies*

Canada needs an action strategy. We have a statement of vision, and now we need to act. Collectively, we need to focus on areas where we can be world leaders. There should be cultural and economic incentives for developing ICT. Areas where Canadians can lead and also derive benefit include e-health and multi-cultural content. We also need programs that foster technology diffusion to, for example, manufacturing, exploitation of natural resources, and agriculture. Leadership is crucial to inspire concerted action.

### *Doug Cooper, Intel of Canada*

ICT has a direct application on infrastructure and health care. We need to move more quickly on that, as it has social and economic benefits. We need to make more effective use of records. This, in turn, will help lower health care costs and help people manage their health.

### *Ron Dembo, Zerofootprint*

"Greening" will be an important part of our economy. ICT will play a huge role in creating a lower-carbon world by allowing development of more efficient ways of doing things—better algorithms; smarter buildings and cars. We have the ability to be world leaders here. The minister should look for ways to bring other departments together to be leaders in the greening of our world.

### *Sara Diamond, Ontario College of Art and Design*

Canada needs to end the "walled garden". Our culture of social media views users as living in a different world. Canadians excel at content innovation, so we need to hear more from youth and women.

### *Rob McPhee, Muskoka Community Network*

SMEs are the most challenged by technology, as they have limited financial resources to secure internal support. The expertise, therefore, goes to large corporations. We need to bring supply and awareness to SMEs, which represent a large segment of our economy.

### *Harinder Ahluwalia, Info Electronic Systems*

Research and development are the bane of any innovation. The federal government should make accommodations for SMEs, who are financially weaker, and allow them to participate

from the beginning. We are concerned about free trade, because the federal government always seems to find reasons to give its biggest contracts to U.S. companies.

*Jacques Shore, Lawyer*

Jacques Shore spoke on behalf of Amazon, noting Canada must find that national strategy, because there is so much to look forward to. We must present the challenge to universities to participate in our digital strategy. Collaboration must be ensured between the private and public sectors and universities.

*David MacDonald, Softchoice*

David MacDonald, a past member of the Information Technology Association of Canada (ITAC), said it is time to focus our efforts and capitalize on our strengths. The Americans, for example, are impressed with our health care system. This represents a tremendous opportunity to illustrate what is possible with ICT.

*Brian Doody, DALSA Corporation*

We need a whole-of-government approach: involve departments at the municipal and provincial levels. The University of Waterloo has been very successful in turning inventions into drivers of Canada's digital economy. Our economy requires new ideas and the knowledge to bring them to the marketplace. Academics, however, are not business people. Universities need to transfer their IP to business-minded people who will bring these ideas to the marketplace.

*Brian Gordon, On-Line*

If Canada is to have a digital strategy, it must be implemented soon. The federal government should set up a centralized digital strategy office to cut across the turfs of national and provincial agencies.

*Andrew Clement, University of Toronto*

The Minister should draw upon previous initiatives to move our country forward now. The process should be open; it should involve citizens and the social media. This will provide the Minister with political allies.

**Marita Moll, Telecommunities Canada:**

Parallel meetings on ICT are taking place among citizens in Toronto, Ottawa, and Vancouver. These meetings create a rolling momentum to encourage people to speak out. This is important, as demographics are very different in each area, so what works in one place may not in another. We should continue to invite these groups into the dialogue.

---

## Closing Remarks

---

The Honourable Tony Clement  
Minister of Industry

Dr. David Johnston  
President  
University of Waterloo

The Honourable **Tony Clement** thanked participants, noting that an important part of his job is to engage in ongoing dialogue on these issues. He thanked ITAC for hosting the reception, and his staff for their work in making the conference possible.

Minister Clement said he would report back to participants on the ideas that were generated at the conference. He said there is no logical impediment to Canada's progress in the digital economy—Canada has the resources, will, and collaboration to move forward. Certain aspects under discussion today are already happening, and issues of privacy and copyright will be addressed in the near future.

The dividing line between creators and consumers is breaking down, and that is a positive trend. He cited the use of Twitter, which has taken on a prominent role as a vehicle for commenting on the situation in Tehran.

Minister Clement said he needed help from various industries and communities to establish guidelines on some of these issues. Certain discussions will have to take place to address the recommendations offered by the participants. "We will not change the digital economy in one day, but we can certainly move it forward," he said.

**The Honourable James Moore, Minister of Canadian Heritage and Official Languages** said, and it is impossible to know what things will look like five, 10, or 15 years from now. For example, the average age of members of Parliament is 55, and they have spent most of their lives without iPhones. Change is constant: Canadians are consuming media through mechanisms that did not exist even a few years ago.

Minister Moore added that it should not be assumed that all policy makers understand the opportunities that lie ahead, because more than 80% of members of Parliament were elected in 2004 or sooner. These parliamentarians might not have taken part in discussions on these issues prior to their election. Dr. Johnston emphasized the need to keep educating and debating.