

# **(Speaking Notes – Check against Delivery)**

## ***“Canada’s Digital Economy: Moving Forward”***

***Terry Matthews Keynote***

12:15pm – 12:30pm, 22 June, 2009

### **Canada’s ICT Sector --- Enabler to the Digital Economy**

Thank you for the opportunity to speak to this important session today.

Clearly, it’s not really necessary for me to ‘make the case’ to this group for Canada to ‘pick up the pace’ when it comes to our global standing in the digital world. That’s what this meeting is all about.

Where Canada used to be considered number one or two in areas such as proportion of the population with regular internet access, or percentage of schools connected to the internet, or extent of government services available on line, recent international rankings by The Economist and the OECD indicate that we’re now well down the list in every area.

As the discussion paper prepared for this meeting points out, many countries already have comprehensive digital economy strategies in place. We don’t.

Canada had significant early success with it’s “Connecting Canadians” agenda, including putting in place the necessary policy and statutory provisions to encourage digital commerce and protect citizen privacy. The federal government also created and supported a number of successful programs such as Government On-Line, and Community Access Centres.

All of these were positive steps. But more 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. Clearly, we need to ‘get back in the race’, if this country is to maximize its benefits from the ‘Digital Economy’.

This conference is one small step in the right direction.

The topics being addressed are all significant in their own right. However, even though I know that the topic is being covered in other fora, I must admit I was disappointed to read the agenda and see no significant discussion planned on the need for a vibrant Canadian Information and Communications Technology industry as a major contributor to Canada’s ‘Digital Economy’. (From here on I’ll call it the ICT sector.)

The point is made clearly in the discussion paper that Canada’s ICT sector accounts for just 5% of our GDP, and the authors observe that the leadership position we once held in this area is slipping in the face of global competition. But then the issue is dropped, in favour of furthering the discussion on how to encourage “the other 95%” to make better use of the new ICT technologies.

Isn’t this a little like organizing an agricultural conference and inviting only food processing companies, importers, and consumers?

Where are the farmers? The people who produce the goods consumed by Canadians.

Well, I’m one of them. I seed and grow ICT companies, and so far, most of them have been started, and remain, right here in Canada. Over 80 in total and about 60 in Ottawa, with half of those still here and successful.

So let me spend the next few minutes to address this important area.

After all, ICT's are literally the enabler of the Digital Economy. So let's not ignore the 'farmers'.

Already, virtually all computer hardware, and much of the telecommunications hardware used here, is made and marketed by foreign firms, with little if any manufactured here in Canada.

Most are now products of what some are calling 'Chinmerica' (China, India and America), and we don't seem able to compete with their combination of massive investment in technology development and marketing, combined with their low cost of R&D and manufacturing. But without a vibrant ICT industry, any 'Digital Economy' is going to be completely reliant on the products and equipment from foreign suppliers.

Regrettably, I have to tell you that Canada's ICT Sector is facing some serious challenges, which will not come as a surprise to those here in Ottawa who read about the continuous string of companies that have either been sold off to foreign interests, or have failed through lack of funding.

Now it appears that Nortel is falling into both of those categories. It's disappointing to see that Canadian governments haven't been more active on this file.

Why these industrial problems? Are Canadian businesses perhaps not aggressive enough?

Do we give up too easily when faced with business challenges?

Are Canadian brains and hands too expensive now?

Or are we simply not treating our ICT sector as an essential part of tomorrow's economy?

There are significant challenges facing this sector, and real action from governments at all level is becoming increasingly urgent.

For example, the ICT industrial sector is a major participant in much of the high value R&D work done within Canada, but needs greater support to be successful.

There's a prominent reference in the discussion paper that while our ICT industry accounts for just 5% of our GDP, the ICT sector also carries out 40% of our R&D!

We have all heard about the poor performance of Canadian companies, when it comes to spending a reasonable proportion of their earnings on the development of innovative new technologies and products. Canadian corporate R&D spending is already down to 16<sup>th</sup> place in the OECD. Imagine where we would be without the 40% of Canadian industrial R&D conducted by our ICT sector, despite it's challenges?

Surely, having a vibrant and active industrial and commercial research community in Canada's high tech sectors must be an essential prerequisite to maintaining and building a healthy innovation based economy. Which in turn seems essential if we expect to have a strong 'Digital Economy' going forward.

Canada has greatly contributed to increased R&D expenditures through Canadian universities. We're now one of the largest spenders in the world in terms of funding for university based R&D. We spend almost twice as much of our GDP as the U.S. on university based R&D.

But the vast majority of this is theoretical or basic research contributing to overall global knowledge. (Often referred to as 'curiosity based research'.) And too little is applied and industrial research compared to other nations. Moreover, little university research ever gets translated into commercial products through Canadian companies.

In 2006, the Council of Canadian Academies, set up to advise the federal government on science matters, studied what we're best at in this country and recommended four broad areas for future Science & technology focus. *Information and Communications Technologies* was one of those areas.

The Science, Technology and Innovation Council (which I'm a member of,) then drilled down further and advised the government on a more detailed set of S&T 'sub-priorities' we should focus more attention on. Within the ICT area, these were *New media, Animation & games, Wireless networks and services, Broadband networks, and Telecom equipment.*

We should now be considering how best to support research and commercialization in these areas as part of development of a national strategy on the 'Digital Economy.

We're already suffering from declining productivity growth (15<sup>th</sup> place out of 18 in the OECD list) and well behind our major competitor, the U.S. But the adoption of ICTs is now widely recognized as a common enabler of productivity improvement in virtually every industry.

Without the ICT sector leading the way, other industries will fall back even further. Declining corporate R&D inevitably means lack of new products and services. Lack of new or improved products or services means declining revenues, leading to lack of profits and loss of jobs.

Should we get out of high-tech? Throw our hands up? Give up? I think not!

The 'Digital Economy' for Canadians must not mean that we only become the world's best users of the Internet. Canadian companies MUST have a hand in building and equipping the underlying digital platforms and networks right here in Canada, with Canadian technology.

Canada's major telecom carriers could be playing a much greater role, ensuring that Canadian technologies are fully integrated into their networks and services as we move towards the next generation. They could do much more.

There are also significant opportunities for Canadian firms to focus on our areas of strength, such as those both the Council of Canadian Academies and the Science, Technology and Innovation Council have identified.

The competition internationally is fierce, but we do have many areas of technology where we are world leaders, including wireless and mobile systems, and rapid development of software driven services that build on, and complement, the products of larger strategic partner companies, both domestic and international.

We MUST also play a greater role in the area of content generation in the rapidly evolving world of digital media. Or are we also aiming to be known as the world's best users of other people's creative products?

The on-line marketplace and rapidly growing use of e-Commerce are certainly important aspects of Canada's 'Digital Economy', but do we want to always be buying other people's music, films, games and software? Keep in mind that even though manufacturing and software development can often be done more cheaply offshore, the creation of cultural content is much harder, if not impossible, to outsource to India or China.

In short, if Canadians want well paying, challenging, knowledge based jobs for their children, we MUST become an 'Innovation Nation'. IT & Telecom industries, along with new media and digital content creation, can become the foundation of Canada's future prosperity.

Fortunately, there are steps that can be taken to ensure a vibrant Canadian 'Digital Economy' that goes beyond using technologies from other countries to consume content from other sources. And no sector of the economy holds greater promise for improving productivity of Canadian companies across all sectors than our R&D intensive ICT sector.

So let me take the few minutes remaining to suggest some areas for improvement, with the objective of encouraging you to consider how Canada's 'Digital Economy' can be a more effective agent of economic and cultural development for our country....

First;

**SET BOLD OBJECTIVES!** We shouldn't be afraid as a nation to make a bold statement that a major national priority for Canada is to nurture and grow a vibrant and world class ICT industry in this country.

Why not set an objective, for example, that says "Canada will have 10 domestic companies in the ICT sector with annual revenues exceeding \$5B/year by the year 2020?"

Ten Flagships! It takes a company with revenues of more than \$1B per year to be a flagship – we don't have many! At about \$1B a year a company will have offices in most major cities around the world and a worldwide brand. I've grown some to this size.

This statement alone will drive a policy debate and resulting actions across government and society that will establish the conditions necessary to foster the development of companies capable of achieving such scale. And having companies that size will, in turn, create the requisite conditions to foster clusters and eco-systems that will push Canada's ICT sector into a world-leading position.

Some of the measures needed that would inevitably form part of the regime change needed to achieve such a bold objective must include taking steps to address many of the known short-comings and impediments previously identified in our current R&D policies.

For example,

If we want Canadian companies to increase the amount of R&D they perform or use, we need to revisit the SR&ED Tax Credit system. Though the 2008 federal budget did increase the ceiling amounts that could be claimed in certain categories, the current provisions haven't even kept up with inflation since the program's inception in 1985. More important, the government has done nothing yet to otherwise modernize the SR&ED system.

I don't have the time today to get into detailed proposals, but I would note that other countries have realized the potential for R&D and innovation to drive recovery from the current recession. For example, not only does France provide generous breaks on various employer's taxes for young technology companies, but they've recently decided to implement 50% refundability of R&D expenditures for start-up companies in their first year, 40% in the second year, and 30% thereafter.

Still in the area of encouraging corporate R&D investment, we need to address the severe lack of Venture Capital funding available in Canada. Frankly, the infamous "Section 116 Certificate" system needs to be significantly changed to eliminate its use for all but real property and natural resource holdings.

Otherwise, we will have no hope of once again attracting American, Japanese or British funding, which have been our major sources in the past. Today's system, essentially requiring every investor to register as if a Canadian taxpayer, is a major turn-off, and has significantly damaged Canada's high tech sectors, all of which depend on foreign venture investment.

I was pleased to see the Budget 2009 commitment of an additional \$100M annually to the IRAP budget, though it's only for two years. IRAP is a fine program, but has been badly under funded for the past few years. The Minister of Finance should be encouraged to maintain the additional \$100M IRAP annual top up as a permanent feature of the program.

As a part of these improvements, more focus should be placed on helping companies commercialize their new developments, rather than just complete the technology.

IRAP is an excellent program for encouraging start-ups and young companies developing new technologies. But then we need to reintroduce a risk sharing program such as the former TPC which provides investment lending to be repaid through future earnings, while a growing company takes on the development and marketing of new innovative technology products.

Federal and provincial governments also need to re-examine the present system of Capital Cost Allowances by which the cost of non-consumable assets and equipment are converted to business expenses each year.

I appreciate that in the January budget this year, the government proposed to allow 100% write down in year of computer purchases, but only for general purpose office computers and only for two years. Why is Canada so restrictive in what it will consider for higher rates of Capital Cost Allowance? Why only general purpose computers and systems software? Why aren't communications systems, control and monitoring, and other productivity improvement ICTs in a permanently higher category?

Surely, by now, everyone recognizes how fundamental ICTs are to improving corporate productivity. Companies need to be investing in technology driven improvements NOW, during the economic downturn. And to do that, they need government encouragement and assistance.

Action is also needed to ensure that trained personnel are readily available for Canadian companies adopting new technologies.

StatsCan data shows university enrollments between 2001 and 2006 increased in every major program area with the exception of mathematics, computer and information sciences, which were down 20% in that period.

Almost three times as many students are now enrolled in programs associated with health, parks, recreation and fitness than in math or computer sciences.

But even with these students, it is important to encourage technology “familiarization” to ensure we produce graduates capable of using advanced technologies effectively and efficiently in the workplace – and it is also important to produce graduates capable of envisioning and creating those new technologies.

I understand that there were discussions on some of these points at the recent “Canada 3.0” conference as well, so it appears that common themes are beginning to emerge.

In the area of ‘New Media’ and ‘Digital Content Creation’, more needs to be done to ensure a healthy and more Canadian ‘Digital economy’. Why not encourage other provinces to emulate Quebec’s excellent program that underwrites much of a company’s cost of new technology or creative staff for up to three years? How about improving the incentives for Canadian companies and artists to create new material for the new cross-channel, multi device, digital media market?

There are already a significant number of Canadian success stories in this area. Let’s build on those and encourage many more. As I’ve already noted, content creation in the new media is an area where we already have considerable strength, and the world markets seem to enjoy what Canadians create, whether it’s music, film, television, or other art.

While we’re on the topic, when are we going to finalize and implement the essential improvements to Canada’s intellectual property protection law? And not by simply mimicking what the U.S. has done, which has become so extreme that it inhibits creativity and innovation.

Then we also need to address the continuing failure of all levels of government in this country to show any interest in buying Canadian technologies for their own internal requirements.

Yes, we subscribe to international trade agreements, and there’s even an inter-provincial trade agreement, but these are often taken far too literally and interpreted far more restrictively than in other countries.

I might add that I find it particularly ironic that Canada is not exempt from the Buy America provisions in recent U.S. stimulus legislation because we haven’t been able to get the provinces to agree to sub-national free trade provisions with the U.S. as other countries have. Yet for the past decade, our provinces & cities have paid little attention to helping or supporting Canadian technology in their own purchases.

As a part of a new ‘Digital Economy’ strategy, we need to consider how Canadian governments at all levels can play a larger role as early adopters and strong supporters of Canadian technologies, while still respecting our treaty obligations. Other nations certainly find ways to make this work, and I expect we can as well, given the incentive to do so.

Finally, you will have noticed that many of the changes I’ve suggested would require government action. Which raises the question of whether we’re properly structured at either federal or provincial levels to support and encourage Canada’s ‘Digital Economy’.

We need to consider whether we’re aiming for a “National Digital Economy Strategy”, or just a Federal strategy. Obviously, I would argue for the former. Let’s get the provincial government folks involved much more intensely on these issues!

I’m not about to propose massive reorganization of governments as the solution, but let me just note that while it’s Industry Canada that has organized this conference, and Industry Canada which currently ‘carries the ball’ for the Digital Economy in Canada, this is but one tiny area of the department’s responsibilities across an enormous range of industry sectors, ranging from automobiles and textiles to aviation and pharmaceuticals.

Meanwhile, in Australia, they have an entire “Department of Broadband, Communications, and the Digital Economy”. In France, they have a “Minister of State for Development of the Digital Economy”. In Britain, they have a “Department of Communications, Technology and Broadcasting”. In India, they have a “Ministry

for Communications and Information Technology". In South Korea they have a "Ministry of the Knowledge Economy", as well as a "Ministry of Science and Technology". And so on.

In conclusion, while we face significant challenges across the many sectors that make up Canada's 'Digital Economy', there are also 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 sports wear company,) "Just Do It".

Thank You