ITAC ACTI

INFORMATION TECHNOLOGY
ASSOCIATION OF CANADA

ASSOCIATION CANADIENNE
DE LA TECHNOLOGIE DE L'INFORMATION

2005/2006 Annual Review

Together, we're better
Strategic collaborations strengthen ITAC

JOHN DONNE'S OBSERVATION THAT "No man is an island" applies to associations as well. Collaboration strengthens us, drives efficiencies, creates new ways of looking at old problems and helps us contribute a higher level of value to those we serve.

ITAC has pursued a strategy of creative collaboration for a number of years. For example, our integration with the Strategic Microelectronics Consortium in 2002 brought a robust community of microelectronics companies into ITAC and enriched our capacity to address issues of innovation and commercialization from the vantage of this dynamic sector.

The Canadian Healthcare Information Technology Trade Association (CHITTA) merger announced in November is the latest manifestation of our commitment to collaborate where it makes sense for our members. This merger consolidates, in one association, an authoritative representation of the interests of all information and communication technology (ICT) firms with an interest in the critically important health-care space.

In 2004, we announced the creation of the Canadian ICT Federation, a community of national, provincial and regional ICT associations from coast to coast. The federation is gaining strength and proving itself to be a useful instrument for shared programming and joint research projects among its 13 members.

ITAC also maintains many linkages with other industry associations around the world. Through WITSA (the World Information Technology and Services Alliance), we collaborate with associations in more than 50 countries from Algeria to Zaire. But, sometimes, closer collaborations are called for. That's why we pursued a unique relationship with NASSCOM, India's National Association of Software and Service Companies. This relationship is project- and outcome-driven and has the oversight of a strong, bilateral, executive steering committee. Apart from our joint commitment to foster business growth between ICT companies in India and Canada, this relationship gives Canadian executives who have not yet experienced it an excellent vantage on the dynamic growth in ICT occurring in India and elsewhere in Asia.

Collaborations of this nature, both formal and informal, will continue as ITAC continues to assess its strengths, weaknesses and opportunities. It is, after all, a hallmark of the association business and a measure of our maturity as an organization.

This maturity continues to deliver value to members and attract new ones. In the past 12 months, ITAC welcomed 43 new members: these include **Cognos,** a true leader in Canada's innovation landscape, and a number of emerging companies, such as **Macadamian Technologies, Route1 Inc., bitHeads, inc.** and **Netsweeper,** all with ambitious leadership plans of their own. Our new initiative in health has brought **AGFA Healthcare** to join and, in 2006, we also welcomed **Intuit Canada**, a strategically important Alberta-based member.

RONAN McGRATH, ITAC CHAIR 2005/2006

Doing business within the ITAC community

FOSTERING BUSINESS relationships and creating new opportunities for collaboration and partnership is a key part of ITAC's mandate. Throughout the year, we operate several large and small forums to encourage ITAC members to meet and do business with one another.

"Doing Business with…", for example, is a speakers series that began in 2002 to detail the partner programs (formal and informal) of some of ITAC's larger members. The program has grown in popularity and scope. In 2005/06, speakers included Lawrence Loo of **Agilent Technologies,** Frank Maw of **Motorola,** Doug Cooper of **Intel,** John Haydon of **Nortel,** Walter Lowes of **Siemens,** Jordan Banks of **eBay,** William Bangert of **Bell Enterprise Group** and Ray Hession of **SAS Institute.**

Members of the Canadian ICT Federation, the group of provincial and regional ICT associations, have also found "Doing Business with…" of value. In January, ITAC and **BC TIA** (**British Columbia Technology Industries Association**) hosted a morning-long event that David McCarthy of **Telus** kicked off. He was followed by Al Hurd of **EDS Advanced Solutions,** Ross Rose of **MacDonald Dettwiler and Associates** and Caroline Dunn of **Sierra Systems.** In May, the Information Technology Industry Alliance of Nova Scotia (ITANS) hosted Doug Cooper at a Halifax edition of "Doing Business with **Intel**" (the third presentation Doug has made — he holds the record).

At least once a year for the past six years, ITAC's smaller members get to strut their stuff before a large audience of potential partners and clients. Who's Who is a fall showcase that celebrates the breadth and diversity of Canada's emerging ICT sector. The 2005 edition was held last September in Toronto, attracting more than 350 participants. Among the 35 companies exhibiting were **bitHeads, inc., Adlib Software, Carmel Vision Inc., Centrecity Software Inc.** and **Digital Boundary.** The city of Mississauga also used the Who's Who as the forum for releasing its study of the Mississauga ICT cluster.

Last year, ITAC also launched a regular luncheon forum for the leaders of emerging companies in the Toronto area to meet and discuss business issues.

WE'VE CHANGED OUR LOOK

"That bitmap is *so* 1980s"… if we heard it once, we heard it a hundred times. So, to coincide with the ITAC-CHITTA merger and the imminent move to new premises, we've decided to give our brand a makeover and a new colour treatment. This deliberately low-impact approach will allow us to continue to build equity in the ITAC word-mark while still appearing like we belong in the 21st century.

New realities: creative destruction and the microelectronics industry

David Orton addressed the ITAC Board of Governors dinner in November

DAVID ORTON, the CEO of **ATI Technologies,** set a brilliant tone for the 11th Executive Forum on Microelectronics. He discussed **ATI**'s growth from a start-up memory chip company to its current position as the leader in the global graphics components marketplace. David described various "inflection points" that **ATI** encountered in its evolution and demonstrated that the company's success is due in part to its willingness to exit lines of business or to cannibalize product lines.

Other forum speakers, including Moishe Gavrielov of **Cadence Design Systems,** George Cwynar of **MOSAID,** Rick White of **Elliptic Semiconductor** and Jenn Markey of **Semiconductor Insights Inc.,** discussed the various ways that microelectronics companies must adapt to new marketplace realities in order to achieve competitiveness and sustainability.

The forum marked the passing of the gavel from long-serving Strategic Microelectronics Consortium Council Chair Ken Schultz, now of **Research In Motion,** to Dan Trepanier, the CEO of **Quake Technologies.** Earlier in 2006, Dan launched two new strategic microelectronics consortium (SMC) initiatives — a regular CEO forum for senior level discussion of issues affecting the industry and a series of "best practice" forums for professionals in the industry.

Keeping government current on ICT

GOVERNMENT RELATIONS is a core mandate of ITAC. The key to effective advocacy is cutting through the wide diversity of public policy issues to find where political priorities align with the interests of our industry. This art is challenging at times, but particularly so in the context of the minority governments that have characterized 2005/06.

Nevertheless, we maintain a persistent program of meetings with key ministers and deputies in both the federal and Ontario governments. These meetings range from small briefings with ITAC staff and board members on specific issues, to dinners with our board and key ministers, to Board of Governors dinners such as the one we held in April featuring federal Health Minister Tony Clement.

Sometimes the dialogue between government and industry requires specific expertise. The ITAC Cyber Security Forum, for example, is an industry/government roundtable that has met quarterly for the last five years to discuss concerns specific to the cyber security sector, as well as to explore broader public policy issues related to national security. More than 60 members participate in this forum, including **Third Brigade Inc., Symantec, AEPOS Technologies** and **EWA Canada Inc.**

ITAC also presents its views before parliamentary committees and in ministerial briefings, such as the one Finance Minister James Flaherty held prior to his first budget in April. The sharp focus of the Harper government upon its five key priorities has somewhat limited our initial discourse. But Minister Flaherty signalled a strong intention to develop a productivity and competitive strategy for Canada and to address our lagging productivity in the months to come. Preparing for these initiatives will provide the focus for ITAC's advocacy in 2006/07.

Outlook for offshore

Former international trade minister Jim Peterson and Kapil Sibal, minister of state for Science & Technology and Ocean Development, look on as Mukesh Gupta, director of Tata Consultancy Services, and Bernard Courtois of ITAC sign the NASSCOM-ITAC Memorandum of Understanding

THE WORK ON offshore outsourcing by ITAC's Wise Persons Committee of the Board culminated in November with an Executive Forum on Canada's Place in the Global Knowledge Economy. The Toronto forum was convened to discuss Canada's economic options in a period marked by phenomenal growth in emerging economies such as India, China, Brazil and others. Robert Scott of **PricewaterhouseCoopers** and David Ticoll of **Convergent Strategies** presented "A Fine Balance: The Buying and Selling of Canada." This report updated the groundbreaking work done by Rob and David in a 2004 study, and provided a comprehensive picture of who is outsourcing and what services are being outsourced in Canada.

One of the greatest assets that ITAC enjoys is the ongoing commitment of its members. They populate the committees that drive ITAC's advocacy and policy work. ITAC members write white papers to outline improvements for our economy and our society, as well as speak on behalf of our industry on matters that can help make Canada stronger. The forum also provided a venue to announce the agreement to collaborate between ITAC and NASSCOM (the National Association of Software and Service Companies in India). The agreement is directed by a NASSCOM/ITAC Committee composed of executives from Canadian and Indian IT companies. The committee meets four times a year to advance projects that foster closer business relationships between ICT sectors in India and Canada.

In February, the NASSCOM/ITAC Committee met in Mumbai. The meeting was held in conjunction with NASSCOM's annual leadership forum. ITAC chair, Ronan McGrath of **Rogers Communications,** was a featured speaker at the forum and led the ITAC delegation that included David Ticoll, Frédéric Boulanger of **Macadamian Technologies** and Mukesh Gupta of **Tata Consultancy Services.**
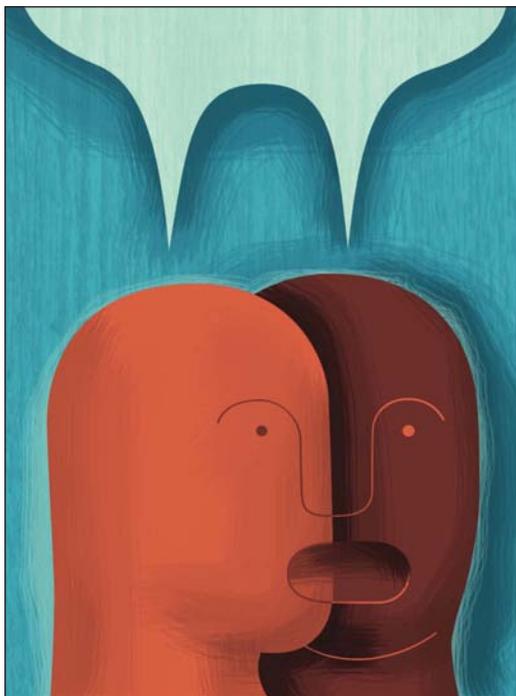
ITAC has championed the need for Canadian business to look closely at the benefits of outsourcing and the inclusion of offshore, as well as nearshore options in global supply chains in order to ensure competitiveness. In January, Bernard Courtois, president and CEO of ITAC, and Pankaj Agarwal, the vice-chairman of **BC TIA,** co-presented on the topic of "Doing Business with India" at a joint ITAC-BC TIA event in Vancouver.

ITAC has also promoted a pragmatic approach by government to privacy issues raised by the USA Patriot Act. Several governments have expressed concerns about their ability to ensure the privacy of personal information if they use the services of U.S. linked outsourcing partners.

ITAC has published a paper, "The USA Patriot Act and the Privacy of Canadians," that argues that risks to privacy are more theoretical than actual and aims to enhance the government understanding of how legislative measures to protect privacy may do more harm than good. Bernard Courtois has used this paper as the basis for a number of public speeches and consultations with governments including those of Ontario, Alberta and Manitoba. An updated version of the paper argues that experience over the past two years shows that a contractual and contextual approach is the best way to address USA Patriot Act risks without causing unnecessary harm to Canadians.

A single, effective voice for ICT in Canada's health-care community

HISTORICALLY, CANADA HAS UNDERINVESTED IN ICT for the health-care sector. At a level of two per cent of health operating expenditures, Canada is far behind other countries such as Sweden, which invests four per cent. ICT adoption has demonstrable impact on improving efficiencies and patient outcomes — as well as saving lives — so Canada's under-adoption seriously impedes our ability to control costs and improve performance in our health-care delivery system. This chronic underinvestment has been a key concern for many ITAC members, particularly those who constitute the ITAC/ITAC Ontario health committees.

We weren't alone. In 2002, a dedicated group of CEOs and senior executives from leading Canadian ICT health companies launched CHITTA, the Canadian Healthcare Information Technology Trade Association. CHITTA grew to represent more than 60 firms in the Canadian health-care ICT community, all committed to playing a responsible, responsive, cooperative and leading role in Canada's transition to a 21st-century health-care system.

In November 2005, CHITTA and ITAC announced that they would merge to create one single industry association and to unify the industry voice calling for wiser and more intensive use of ICT in health. The merger combined ITAC's strengths in advocacy, communication and administration with CHITTA's specific focus and expertise in health. As CHITTA chair, Dave Wattling, managing partner of the **Courtyard Group** noted, "With an effective voice for ICT in health care…our country can become a world leader in the adoption of ICT solutions for health. Starting with improving our own use of these new solutions, we can export our know-how and create an economic driver for Canada."

Under the terms of the agreement, the combination of ITAC members interested in health and CHITTA members constitute an expanded CHITTA, which will operate as a division of ITAC. The merger also adds significantly to our bench-strength. CHITTA staff Steve Huesing and Elaine Huesing will join forces with Caren Adno and Bob Horwood on the health front.

The new CHITTA focus also means that the combined organizations can present a more concerted exhibition of Canadian ICT capability in health care at key health events such as the Health Information Management Systems Society Conference in February and the COACH (Canada's Health Informatics Association) annual eHealth Conference.

IHE (Integrating the Health Enterprise) continues to be a key focus for ITAC. IHE is a growing worldwide movement that aims to overcome incompatibility problems that impede easy and efficient sharing of patient data, test results and administrative information between ICT applications in the health-care environment. IHE scored a major success when Canada Health Infoway included IHE integration profile requirements in the RFP (Request for Proposal) for three major provincial tenders for diagnostic imaging.

Our advocacy continues to gain currency within the public policy community. Health Minister Tony Clement told us at a Board of Governors dinner that swifter adoption of ICT in health was his "number one concern." And the Ontario Health Quality Council, the independent agency responsible for reporting to Ontarians on the quality of their health-care system, strongly affirmed the importance of ICT in health care. "We believe investing in e-health will do the most to improve all the attributes of a high-performing health system," the council's 2006 report stated.

Meanwhile, ITAC continues to offer meaningful programs for members through a series of health events. In 2005/06, these included "Outsourcing Desktop Services," and "e-Health in Sweden." In December, we convened our perennially popular "e-Health Update," which provides an annual review of new trends in electronic health in Ontario.

Doing business with government

THE PUBLIC SECTOR Business Committee (PSBC) is an important conduit for the exchange of views between the federal government procurement community and ICT vendors. This year, PSBC hosted speakers from government that included: Raymond D'Aoust, assistant privacy commissioner; Ken Cochrane, CEO, Information Technology Services; Jaime Pitfield, director general, Government of Canada Marketplace; Jim Alexander, acting CIO, Treasury Board; Bruce Deacon, assistant secretary, Treasury Board; Nancy Desormeau, director general, Enterprise Partnership Management; and Marshall Moffat, director general, Small Business Directorate.

Ensuring the right climate and terms and conditions for the public sector marketplace is also a key mandate for PSBC, which it executes through seven commodity councils. Dave Perley of **Hewlett-Packard** is the acting PSBC chair. Louis Savoie of **Bell** chairs the Telecom Commodity Council. Celia Nelles of **Microsoft** and Sandra Cote of **SAP** co-chair the Software Commodity Council. Alex Beraskow, CEO of **IT Net,** chairs the Small Business Commodity Council. Phil Stein of **Fujitsu** chairs the Marketing Commodity Council. Doug Hunter of **IBM** chairs the Professional Services Commodity Council, which was particularly busy and effective in 2005/06. This council was able to significantly improve the government's proposed method of procurement for professional ICT services. And it was also able, for the first time, to bring other ICT associations together with ITAC and government to present a unified position on the procurement of professional services.

Ontario government procurement is also important to our industry. The PSBC of Ontario was revitalized and renewed this year under the leadership of George Krausz of **Motorola** and John Breakey of **UNIS LUMIN.** The committee refocused its efforts to improve the relationship with government and to identify key issues that required immediate attention. They also created a strategic plan and are well on the way to achieving some early first wins. Key areas for the committee are: "Improving the outcomes of large transformation business projects" where IT is a significant part of the project, moving towards improved model contracts, particularly for COTS (commercial off-the-shelf software) and streamlining terms and conditions for products and software.

Mind the gap: Canada is seriously underinvesting in ICT

OVER THE PAST FIVE YEARS, the link between investment in information and communications technology and productivity growth has evolved from hypothesis to mainstream economic and public policy orthodoxy — due in part to research and advocacy conducted by ITAC and its members.

Following landmark work done by the United States Department of Labour Statistics, ITAC, supported by **IBM Canada** and **Microsoft Canada,** commissioned the Conference Board of Canada to study the impact of ICT investment on Canadian productivity growth. The study concluded: "The recent surge in information technology investment in Canada has made a significant contribution to both labour productivity and output growth in the last decade."

Several other studies followed this initiative, and the link between ICT investment and productivity gained currency in public policy circles. One of the strongest affirmations of the link came in the Federal Budget Plan of 2004, which used it as the rationale for increasing the capital cost allowance rate applicable to computer equipment, broadband and internet infrastructure. This measure removed a major disincentive to technology adoption and represented a $350-million benefit to our industry.

One of the leading authorities examining the link between ICT investment and productivity is the Centre for the Study of Living Standards (CSLS). In 2003, CSLS published a paper that analyzed the growing gap between the U.S. and Canadian economies. It concluded that the lower investment levels in Canada in capital stock — or machinery and equipment including ICT — was a key contributor.

In 2005, ITAC engaged CSLS to help us understand why Canadian investment in ICT was less than that of the United States. **Bell Canada, Hewlett-Packard Canada, Microsoft Canada, SAP Canada, Intel of Canada** and **Nortel** helped fund this research.
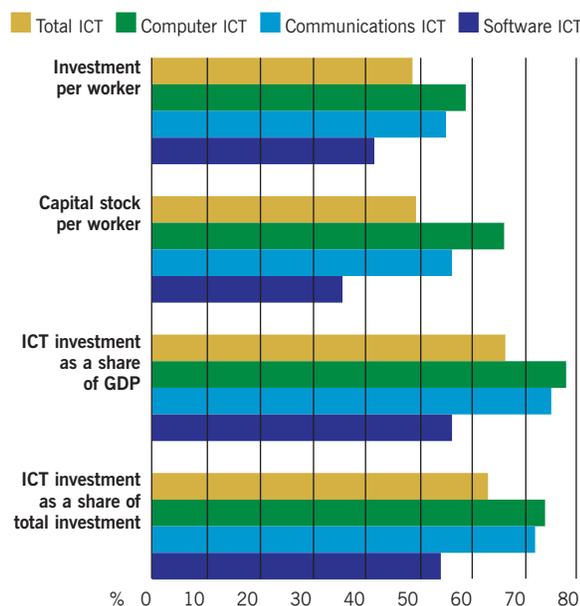
The gap in ICT investment between the two countries is large and apparently growing. In 2004, business sector ICT investment per worker in Canada was only 48 per cent of that of the U.S. In 1987, Canada's ICT investment as a share of gross domestic product (GDP) was 74 per cent of that of the United States. In 2004, we had dropped to 66 per cent. The CSLS study concluded that several factors account for the gap. For example, the Canadian economy contains disproportionately more small- and medium-sized businesses (SMBs) than the U.S. and SMBs in both countries underinvest in ICT compared with large firms. ITAC views ICT under-adoption seriously. Last year our members collaborated to create an eTeam, composed of SMB specialists from companies as diverse as **IBM, Microsoft,**

HP, Intel, Bell, Sun, Aliant and others, to work with selected industry associations to accelerate productivity by increasing ICT adoption in their sectors.

Meanwhile, ITAC has amplified its call for tax measures — direct incentives — to encourage the adoption of ICT especially in the SMB segment. In July 2005, we published a paper by Jacek Warda, "Incentives for ICT Adoption: Canada and Major Competitors," which examined what other countries have done to improve the rate of ICT adoption. Organization for Economic Cooperation and Development (OECD) countries, such as the U.K., Spain and Japan, have all implemented measures to encourage ICT adoption and training. Several successful emerging economies, including Korea, China and India, have also employed adoption incentives as part of their national ICT strategies.

Our campaign received a significant boost from the Telecommunications Policy Review Panel's Final Report released in March 2006 (see sidebar). And, while the Federal Budget of May 2006 contained no incentive measures, it did signal strongly that we can expect a more strategic and comprehensive approach to stimulating productivity and ensuring Canada's competitiveness and future prosperity. ITAC and its members will continue, through research and advocacy, to contribute to this important process.

Canadian Business Sector ICT Investment Relative to Levels in the U.S. Business Sector, Various Measures and Components, 2004 (%)

Legend: Total ICT · Computer ICT · Communications ICT · Software ICT

Categories: Investment per worker; Capital stock per worker; ICT investment as a share of GDP; ICT investment as a share of total investment

Source: Centre for the Study of Living Standards, based on data from Statistics Canada, U.S. Department of Labour, Bureau of Labor Statistics, and U.S. Department of Commerce, Bureau of Economic Analysis, February 2006

On the table: a telecom policy for the 21st century

IN MARCH 2006, following an extensive process of consultation, the Telecommunications Policy Review Panel presented its report to the Minister of Industry. The panel's deliberations and consultations were the first substantial review of Canadian telecommunications policy in more than a decade. Preparing ITAC's submission was a key focus of the Telecommunications Committee of the Board, chaired by Lawson Hunter of **BCE Inc.** Committee members include **Telus, Rogers, Nortel, SaskTel, RIM, Cisco, Aliant and Ottawa Telecom.** Bernard Courtois called the report "highly credible and comprehensive."

Among more than 100 recommendations on issues such as competition, regulation and connectivity, the panel's report included a detailed examination of information and communications technology adoption in Canada as well as the broader wave of external benefits accruing from smart adoption. The panel called upon the government, under the leadership of the Prime Minister, to develop a national ICT strategy to increase productivity, social well-being and inclusiveness in Canada. It recommended that the Minister of Industry establish a high-level National ICT Advisory Council comprised of leaders in all levels of government, industry and academe. It also called upon the government to introduce an ICT adoption tax credit targeted at small and medium-sized businesses. ITAC welcomed these recommendations, noting that "the call for adoption and training incentives is a huge boost for the campaign to improve Canadian productivity."

Volunteer of the Year sparked HR Forum

APART FROM ISSUE-SPECIFIC committees and forums, ITAC operates several peer-to-peer groups designed to facilitate best practice exchanges among professionals in our industry. We have, for example, two legal affairs groups for the lawyers in our community and are currently launching a series of best practice forums for microelectronics professionals.

But the mother of all our peer-to-peer groups is the HR Forum, which has operated for more than 12 years. With competition for talent as fierce as it is, it's a particular tribute to the generosity and professionalism of the HR Forum members that they can use this forum to effectively share experience on topics as diverse as pay equity, globalization of HR and disability programs. The HR Forum is comprised of more than 100 members and its monthly meetings are among the best attended in our calendar. They are informative, boisterous and never dull and, for the past six years, that's been due largely to the leadership of Deborah Nanton-Anderson, vice-president, human resources for **Unisys Canada Inc.**

In recognition of her creative and dedicated tenure as HR Forum chair, as well as her significant contributions as a mentor to other HR professionals, Deb has been honoured as ITAC's Volunteer of the Year. At the end of 2005, she stepped down as chair to welcome two new co-chairs, Nadia Cerisano of **Xerox Canada Inc.** and Tanya Lapierre of **ATI Technologies Inc.** Deb continues to represent **Unisys** on the HR Forum, the HR Executive Council and on the steering committee for the annual ITAC High-Tech Compensation Survey. The Comp Survey provides detailed analysis of compensation levels in 13 job families, including 56 sub-families and more than 350 positions in the ICT field. It offers insight into salary, other cash and non-cash methods of compensation. More than 77 companies participated in the 2005 Compensation Survey, which indicated that Canada's high-tech sector is anticipating salary increases of 3.4 per cent on average in 2006 (see chart below).

INDUSTRY	2005 ACTUAL SALARY INCREASE	2006 PROJECTED SALARY INCREASE	CHANGE
Computer Hardware/HT	3.2%	3.2%	—
Computer Software	3.4%	3.3%	↓
Prof./Info Services	3.2%	3.6%	↑
Telecom	3.0%	3.1%	↑
All Industry Average	3.4%	3.4%	—

Board of Governors events draw illustrious crowds

FOUR TIMES A YEAR, the ICT industry in Canada gets together for a bit of networking and a bit of business. The ITAC Board of Governors dinners present some of the most provocative thinkers and innovators in global technology and Canadian public policy in a forum for a free exchange of views. Previous keynote speakers and special guests have included premiers, cabinet ministers and some of the most visionary technology leaders in the world.

Board of Governors events are great opportunities to make important business contacts and to be inspired. The jewel in ITAC's Board of Governors' program is our Chairs' Dinner, held each year in June to celebrate the accomplishments of the association, its volunteers and its members. The dinner provides an opportunity to salute the retiring chair, introduce the incoming chair and pay tribute to IT heroes and the ITAC Volunteer of the Year.

In 2005/06, the guest list for our Board of Governors events was particularly stellar. Ed Zander, CEO of **Motorola Corporation,** provided a lively view of convergence in wireless and IT industries at our 2004/05 Chairs' Dinner in June. David Orton, president and CEO of ATI, spoke in November. In February, the ITAC directors had a reception for Ontario Premier Dalton McGuinty. And in April, we welcomed the Honourable Tony Clement in his new role as federal Minister of Health.

In February, ITAC's Ronan McGrath, left, and Bernard Courtois, right, hosted Ontario Premier Dalton McGuinty at a reception in his honour

Please visit our library

ITAC IS, INDISPUTABLY, a community of smart, innovative, enterprising people. And many of them contribute their ideas and recommendations into the public policy dialogue through ITAC's research program. These studies and white papers help synthesize our thinking, advance debate and actually effect substantive policy change. Here is the list of publications we released in 2005/06. All are available on the ITAC website.

From Research to Commerce, by Dr. Jeffrey Crelinsten, **The Impact Group,** June 2005
This paper refutes the notion that knowledge-based commerce begins within the research laboratory. Jeffrey argues that our innovation ecosystem is critically short of people who have an appropriate combination of technical- and commerce-based skills and discusses effective strategies for developing this important resource.

Incentives for ICT Adoption: Canada and Major Competitors, by Jacek Warda, July 2005
Jacek presents a concise, comprehensive scan of the use of incentives for ICT adoption and training by OECD and developing nations.

USA Patriot Act and the Privacy of Canadians, by Bernard Courtois, July 2005
Using input from many representatives of ITAC members, ITAC's president and CEO offers an industry perspective on how the privacy concerns raised by the USA Patriot Act can best be managed.

Strategies for Evaluating the Return on Investment in ICT on Health, by Dr. Sanjeev Sharma and Karivan Talachian, August 2005
Two members of ITAC Ontario's Health Committee offer a review of effective measures for assessing ROI on the ICT health investment.

Improving Liquidity Options for Mid-Life High Technology Companies in Canada, by Denzil Doyle, **Doyletech Corporation,** September 2005
High-tech guru Denny Doyle expands his argument that Canada pays far too little attention to the vitality of Canadian companies that grow past the start-up stage.

The Contenders: What Canadian Firms Need to Do to Stake Their Claim in the Lucrative Software R&D Outsourcing Market, by Frédéric Boulanger, **Macadamian Technologies,** November 2005
Frédéric outlines the nature of the relatively new market for outsourced software R&D and suggests what Canada needs to do to lead it.

What Explains the Canada-U.S. ICT Investment Intensity Gap?, by Dr. Andrew Sharpe, Centre for the Study of Living Standards, December 2005
In this paper, CSLS explores the reasons for the significant gap between ICT adoption rates in Canada and the U.S.

Some Unexploited Opportunities for Diversification of Canada's Economy, by Denzil Doyle, **Doyletech Corporation,** February 2006
Denzil argues that there is a wealth of unexploited R&D (about $228 million's worth) with commercial potential embedded in the processes and proprietary technology of Canada's resource and resource processing sectors.

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- More than 579,400 Canadians are employed in the ICT sector (the automotive industry employs about 500,000).

- The ICT workforce is well educated: 38% have a university degree (compared with the national average of 21%).

- ICT workers are also well paid: average earnings in 2004 were $53,335, 45% more than the economy-wide average of $36,695.

- Contrary to popular belief, employment growth in ICT is strong — up 7% since the dot-com bubble of 2002.

- The ICT sector is the most innovation-intensive sector in the Canadian economy, accounting for more than 38% of private-sector R&D investment ($5.2 billion annually); the aerospace and defense industry invests $1 billion annually in R&D.

- ICT companies are robust global traders: two-thirds of ICT products manufactured in Canada are exported. Exports grew by 8.8% from 2004 to 2005 for a total value of $22.6 billion.

- The United States is the ICT industry's most important market, accounting for 68.2% of our total exports, but new markets are growing in importance. Canadian ICT firms exported $2.7 billion to the Asia-Pacific region in 2004. The region accounted for 5% of ICT exports in 2000; today, it accounts for 12.1%. Exports to the European Union also continued to increase in 2005, reaching $3.1 billion or 13.6% of our exports (compared with 8.7% in 2000).

- The gap in ICT investment between Canada and the U.S. is large and growing. In 2004, Canada's ICT investment as a share of gross domestic product (GDP) was 66% that of the U.S.

- ICT sector output in 2004 reached $57.5 billion, representing 5.5% of Canadian output, and up 4% from 2003.

- ICT plays a unique role as a growth engine for the Canadian economy, responsible for 60% of Canada's productivity growth since 1997.

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Fast facts about the impact of ICT on Canada's economy