2011

Invest in Canada

SOFTWARE

Canada's competitive advantages

Canada

MAJOR GLOBAL INVESTORS IN CANADA

- Adobe Systems Inc.
- IBM Corporation
- Microsoft Corporation
- Oracle Corporation
- SAP AG
- Agfa HealthCare
- SAS Institute Inc.

LEADING CANADIAN COMPANIES

- OpenText Corporation (enterprise content management)
- The Descartes Systems Group Inc. (logistics)
- 20-20 Technologies Inc. (design)
- MKS Inc. (application lifecycle management)
- Bridgewater Systems Corporation (mobile applications)
- Clarity Systems Ltd. (finance)
- Redknee Inc. (communications)
- Absolute Software Corporation (asset management)
- Platform Computing Corporation

RECENT INVESTMENTS IN CANADA

IBM

IBM launched a $42 million IBM Compute Cloud Centre in Toronto in 2011, one of the most advanced computing facilities in Canada. Canadian businesses can securely develop, host and test applications while paying only for the computational power they use. The facility reduces costs, increases efficiencies and improves access to new technologies such as analytics and mobile computing.

GOOGLE

In August 2010, Google announced expansion plans in Canada to strengthen its business brand. Google already has 150 employees in its Canadian offices in Toronto, Montréal, Ottawa and the Kitchener-Waterloo region in Ontario.

AGFA HEALTHCARE

A provider of diagnostic imaging and healthcare IT solutions, Agfa HealthCare announced, in February 2010, the construction of a new research and development facility in Waterloo, Ontario.

HSBC

In January 2010, HSBC opened a global software development facility in Burnaby, British Columbia. The $47-million* building can accommodate more than 850 employees, who develop software solutions for HSBC operations around the world.

* Unless otherwise noted, all values in this publication are in Canadian dollars.

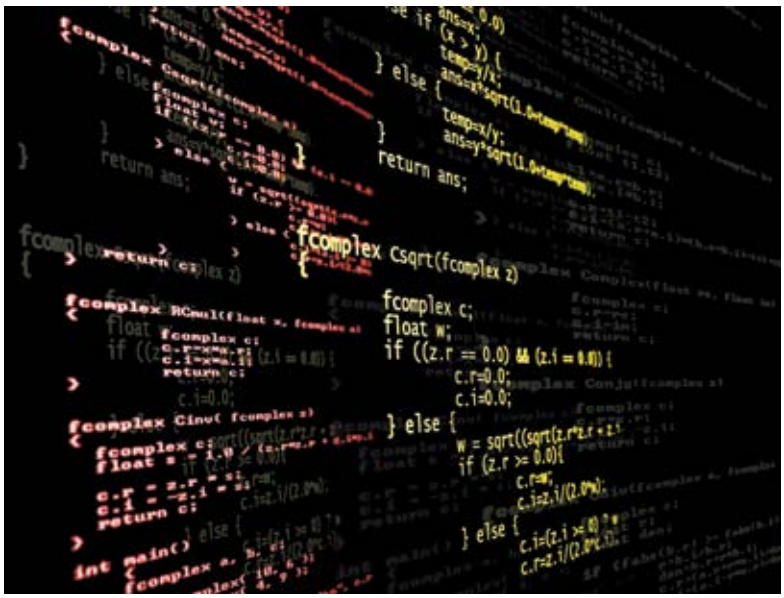


Photo credit: Ubisoft, Montréal

CANADA'S SOFTWARE INDUSTRY: LEADING THROUGH INNOVATION

In *Software Magazine's* 2010 ranking of the world's top 500 global software companies, 20 of the listed companies originated in Canada, the second-highest national percentage after the United States. Canada's information and communications technologies (ICT) sector comprises 31,500 companies, of which 79 percent operate in the software and computer services sectors. In 2011, Canada's ICT sector employs an estimated 545,000 people. Half of these jobs are in software development.

Canada's software strengths are evident in various fields, including enterprise application, e-security, e-health, imaging and financial services. In the past five years, Canada's software industry has received significant foreign investment, particularly from U.S.-based firms.

CANADA'S ICT WORKFORCE—EDUCATED, EXPERIENCED AND LOYAL: Canada's workforce is highly educated: 85 percent of all workers have some university or college training and 74 percent hold a post-secondary graduate degree at the very least. Close to 70 percent of Canada's workforce is in the 25 to 44 age group, a cohort that has both the experience and education prized by employers.[1] In addition, at least 46 percent of all employees have been in their job position for more than five years, while 50 percent of ICT workers have been in their position for at least three years.

RESEARCH AND DEVELOPMENT: The ICT industry is the largest private-sector research and development investor in Canada. Five of Canada's top-10 R & D investors operate in the ICT industry.[2] With an average annual growth rate of 14.5 percent since 2002, the software industry in Canada invests a great deal in research and development activities. The software industry's total R & D expenditure was forecast to increase to more than $1 billion in 2009.[3]

INNOVATION: Canada's culture of innovation has produced global leaders in the enterprise application software sector, such as IBM Cognos and OpenText. Multinational firms such as IBM, Microsoft, SAP, SAS, Oracle and EMC Corporation, to name just a few, have all invested in Canada's software sector. IBM's software R & D lab in Toronto, with more than 2,500 developers, is the company's third-largest lab in the world. Microsoft's major development centre in Vancouver

plays a prominent role in the company's global strategy for distributed software development, with employees working on more than 50 percent of all products and services offered by Microsoft. SAP Canada's R & D development labs in Montréal, Toronto, and Vancouver also employ more than 2,000 people.

ENTERPRISE APPLICATION SOFTWARE: With annual expenditures on enterprise application software (EAS) approaching $1 billion, Canada offers a significant domestic market in key verticals such as financial services, government, health care and manufacturing.[4] In addition, owing to its proximity to the United States—the world's largest IT market with annual EAS spending in excess of US$13 billion—Canada is a logical, business-friendly place for those looking to do business in the North American market.

E-SECURITY: Leading cyber-security multinationals located in Canada include CA Technologies, McAfee, Symantec, Cisco Systems and EMC Corporation. Canadian e-security firms include Radialpoint and Certicom. Canada's commitment to fighting cyber crime offers companies opportunities to develop solutions targeted to government. Canadian e-security spending surpassed $440 million in 2010. Locating in Canada gives companies access to the health care and financial services sectors, which have significant IT budgets and make e-security a priority.

E-HEALTH: Leading multinationals located in Canada that offer e-health solutions include Microsoft, Agfa HealthCare, GE Healthcare, Philips Healthcare, IBM Canada, Canon Canada, Cerner, Siemens, McKesson, and Carestream Health (formerly Kodak Health Imaging). With Canada's commitment to invest $10 to12 billion in its "infostructure" over the next 10 years,[5] health IT has become a top priority sector and an area of opportunity for companies.

[1] *Analysis of labour force survey data for the information technology occupations 2000-2007*, Information and Communications Technology Council, March 2008.

[2] *Canada's Top 100 Corporate R&D Spenders*, RESEARCH Infosource Inc., 2009.

[3] *Canada's ICT Industry: A National Perspective*, Branham Group, June 2010.

[4] *Forecast: Enterprise Application Software, 2006-2011*, Gartner Dataquest, October 2008.

[5] Canada Health Infoway, 2008

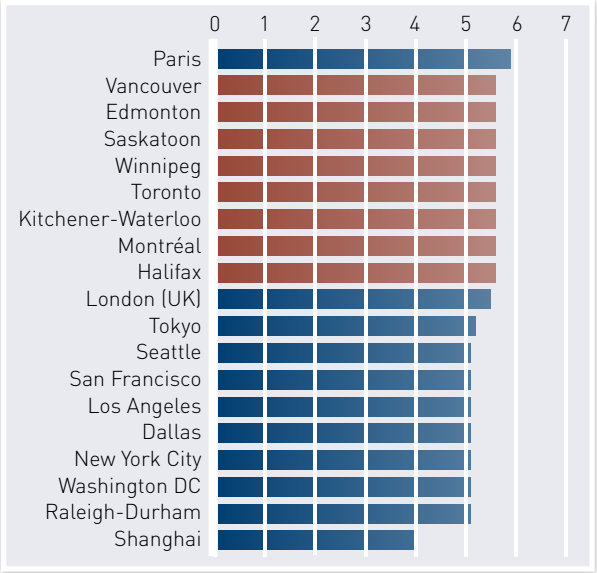
CANADA'S COMPETITIVE ADVANTAGES

Advantage:
A respect for intellectual property rights

The protection of intellectual property which includes the protection of patents and trademarks is essential for software companies that regularly depend on the innovative use of technology to create new products. As this chart indicates, Canada offers a high level of intellectual property protection.

- The chart rates selected cities on a scale of 0 to 7, where 0 signifies that intellectual property protection is "very weak" while 7 signifies that it is "very strong."

Intellectual property protection



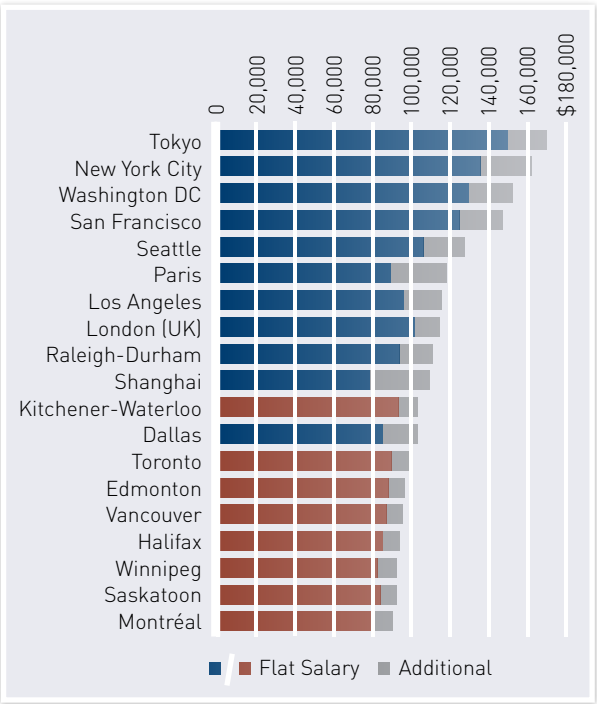
Sources: fDi Benchmark; World Economic Forum, *Global Competitiveness Report 2010-2011*

Advantage:
Competitive salary costs in software design

This chart compares the cost of remuneration for senior software development engineers in selected cities. Canadian cities prove more competitive than major centres such as Tokyo, New York, Paris and Los Angeles. Senior software development engineers provide technical support and guidance in all aspects of programming to other company personnel and directly to clients. They are responsible for high-level analysis, diagnosis and problem solving.

- The remuneration figures in the chart include flat salary as well as additional compensation such as incentive payments and performance bonuses.

Senior software development engineer



Sources: fDi Benchmark; Towers Watson, *Global 50 Remuneration Planning Report 2010-2011*

THE SOFTWARE INDUSTRY ACROSS CANADA: AN OVERVIEW

BRITISH COLUMBIA

Vancouver is the centre of British Columbia's software industry. It is home to the Microsoft Canada Development Centre, one of only five such Microsoft centres worldwide, and the IBM Pacific Development Centre, which develops custom software solutions. Other leading multinational enterprises include Intel, Broadcom, 3M, Oracle, Nokia, ABAS Software, and Seiko Epson.

Vancouver's areas of market strength include content management, SaaS (software as a service), e-commerce, security, digital video, and Web 2.0. Talent is drawn from the University of British Columbia, the University of Victoria, and Simon Fraser University.

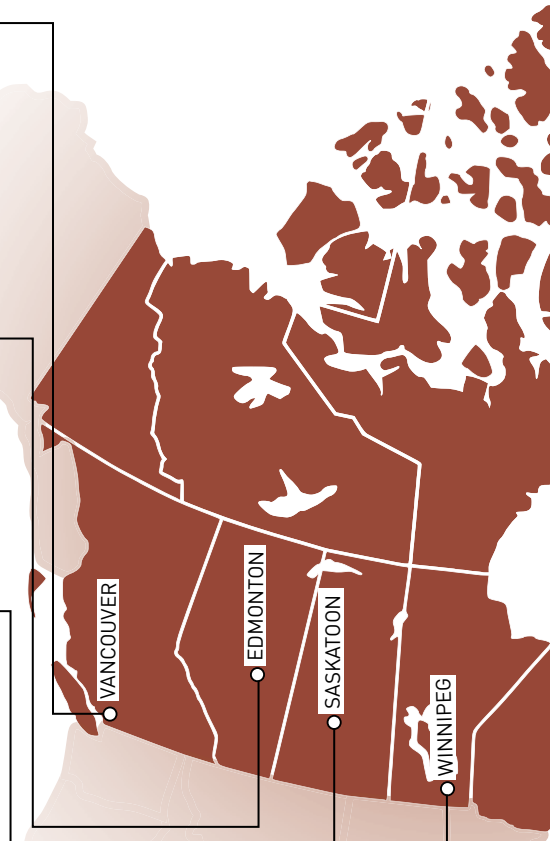
ALBERTA

With leading firms such as Oracle, HP Enterprise Services (formerly EDS), Autodesk, and CGI, **Edmonton** is widely recognized for its expertise in a number of business areas. These include custom programming, digital content creation, e-learning, energy- and resource-industry software, financial- and process-management software, as well as geospatial and remote-sensing systems and related software. Canada's largest ICT R & D consortium, TRLabs, has offices in Edmonton. The software sector draws on graduates from the University of Alberta and the Northern Alberta Institute of Technology.

SASKATCHEWAN

Saskatoon is home to Vecima Networks, CGI and GE Healthcare, along with at least 300 other ICT companies. It is the location of Canada's largest provider of information systems management services, ISM Canada (a subsidiary of IBM Canada).

Saskatchewan's expertise in computer software, health-care management systems and embedded real-time systems is exported around the world. Talent is generated at the University of Saskatchewan—the first university in Canada to offer courses in application development for Apple Inc.'s iPhone—and the University of Regina.



MANITOBA

The ICT cluster in **Winnipeg** consists of leading firms InfoMagnetics Technologies, Sierra Systems, EPIC Information Solutions, PCGI, Imaginet Resources Corp., Momentum Healthware, Online Business Systems, Protegra, and EISI (Emerging Information Systems), the largest financial planning software developer and vendor in North America. R & D facilities in Winnipeg include the University of Manitoba's $52 million Engineering and Information Technology Complex, TRLabs, and the Eureka Project Business Incubator.

The University of Winnipeg, the University of Manitoba and Red River College all offer education and skills training to meet the industry's labour needs.

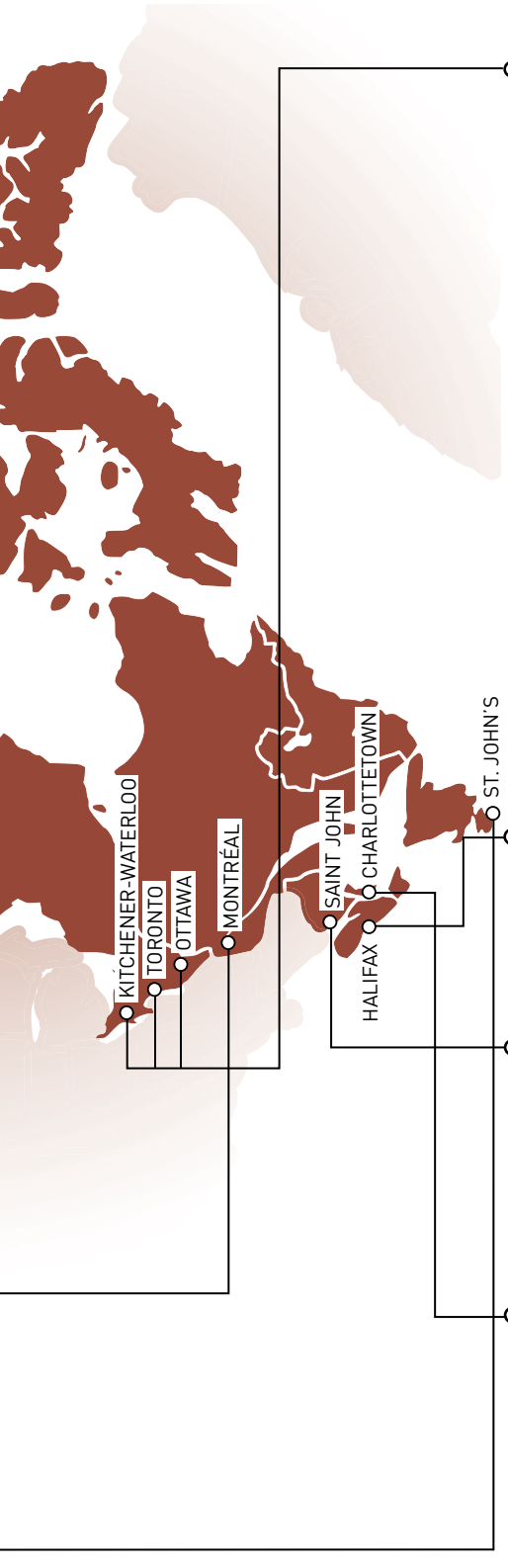
QUÉBEC

Montréal's software sector is highly diversified, with strong vertical niches in electronic commerce, customer relationship management, and enterprise resource planning. The city has more than 350 software development and publishing firms, which generate $1.2 billion in annual revenues and employ over 6,100 people.

Main players in the Greater Montréal area include the IBM Montréal Software Lab, CGI, DMR (Fujitsu), Dassault Systèmes, Ericsson Canada, MediSolution, SAP and Société GRICS. With four world-renowned universities and seven other institutions of higher learning, Montréal offers a large number of graduates to software companies.

NEWFOUNDLAND AND LABRADOR

In 2008, Massachusetts-based Progress Software expanded its technology business by opening an office in **St. John's**, prompted in part by the available pool of talented students graduating from Memorial University. St. John's is home to several enterprise-software and e-health companies, including Verafin, Pathix, Q5 Systems, Camouflage Software, ClearRisk, Greyfirst Corp., xwave, Plato Consulting, and zedIT Solutions. Other companies focus on software used in customer relationship management, GPS applications, the oil and gas industry, marine and ocean technology, mining, manufacturing, and education.



ONTARIO

Kitchener-Waterloo is known for global ICT leaders OpenText and Research in Motion (RIM), designer and manufacturer of the BlackBerry smartphone. The city's 700 high-tech companies benefit from close linkages to Wilfrid Laurier University and the University of Waterloo. Widely recognized for their entrepreneurial spirit, University of Waterloo computer science graduates are sought by companies such as Microsoft and Google, both of which have operations here. Belgium-based Agfa HealthCare, a provider of diagnostic imaging and health care IT solutions, is building a new research and development facility in Waterloo. Other leading multinational enterprises include Oracle, Sybase, McAfee, as well as the Canadian company DALSA.

Toronto has the largest concentration of medium- and large-sized private-sector ICT companies in Canada. Furthermore, in terms of jobs and number of companies, the ICT sector in the Toronto region is North America's third-largest, behind San Francisco and New York. Leading multinationals include IBM, which operates the third-largest IBM software R & D lab in the world, with more than 2,500 developers. Other major companies located in Toronto include Fujitsu, Roxio and ABAS Software. These companies attract high-quality graduates from the University of Toronto, Ryerson University, Centennial College and McMaster University.

Canada's national capital, **Ottawa**, is home to numerous research institutes, including the National Research Council Institute for Information Technology and Carleton University's Advanced Real-Time Simulation Lab. The city's 1,600 high-tech companies are supported by the Ottawa Centre for Research and Innovation (OCRI), the Canadian Advanced Technology Alliance (CATA), and the Information Technology Association of Canada (ITAC).

Also located in Ottawa are software development labs run by IBM, Adobe and Research in Motion. Underpinning Ottawa's software cluster are the University of Ottawa, Algonquin College and Carleton University.

NOVA SCOTIA

Nova Scotia is home to more than 500 ICT companies, most of them clustered in **Halifax**. The industry is supported by strong educational institutions as well as by Digital Nova Scotia, a non-profit organization committed to promoting the growth and development of the province's IT industry. California-based eEye Digital Security is a recent investor in Halifax, joining Keane, Xerox, RIM, CGI, IBM Canada and xwave.

NEW BRUNSWICK

Massachusetts-based Q1 Labs and IneoQuest recently expanded into **Saint John**. It is also the location of Whitehill Technologies, a renowned developer of e-bills and statements, and CARIS, a leading supplier of spatial information management solutions to the U.S. Army and the Royal Netherlands Navy. Innovatia, Mariner Partners, T4G and xwave, among other companies operating in Saint John, offer expertise in e-commerce, software development, technical support, multimedia, e-learning and VOIP applications. Talent is drawn from the University of New Brunswick, St. Thomas University and Mount Allison University.

PRINCE EDWARD ISLAND

Charlottetown is home to major firms DeltaWare Systems Inc., Timeless Technologies, Bell Aliant, CGI, xwave, and Cogsdale. Charlottetown's software industry offers many areas of specialization, including advanced software development, health imaging applications, database development for the financial and human resources sectors, and innovative proprietary learning applications. The University of Prince Edward Island offers highly skilled graduates to the industry.

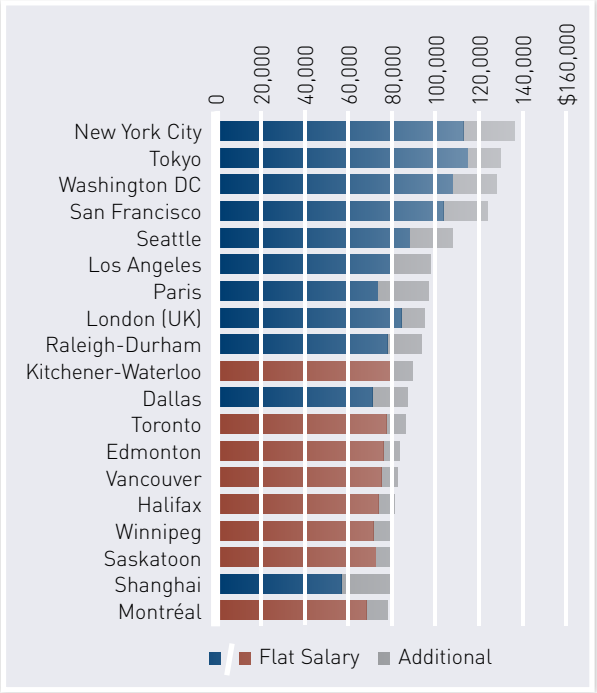
CANADA'S COMPETITIVE ADVANTAGES

Advantage:
Competitive salary costs in programming

Senior programmers handle complex programming issues, and are involved in designing, debugging, documenting and testing a range of operating systems applications and other systems software.

- The remuneration figures in the chart include flat salary as well as additional compensation such as incentive payments and performance bonuses.

Senior programmer



Sources: fDi Benchmark; Towers Watson, *Global 50 Remuneration Planning Report 2010-2011*

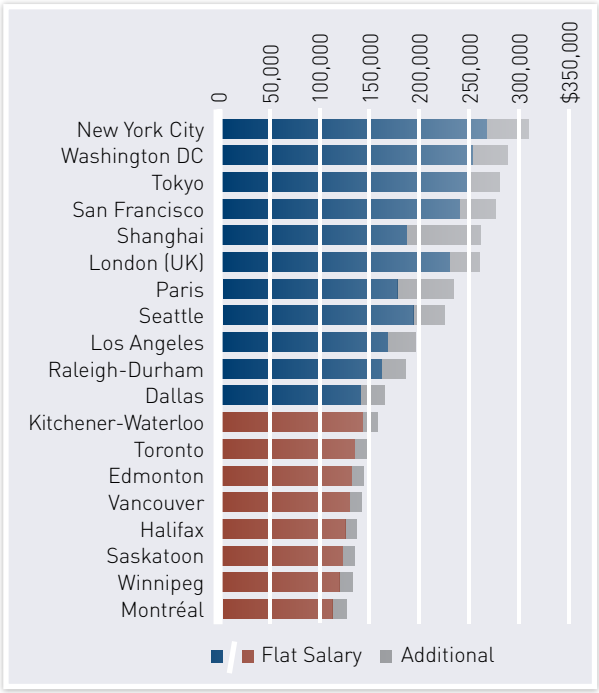
Advantage:
Competitive salary costs in R & D

When it comes to salary costs for R & D executives, Canadian cities prove more competitive than comparable cities in the United States, Asia and Europe.

R & D heads, who exercise overall control of their company's R & D function, may direct research units in a limited number of countries or in a large research and development centre for a single product line; the products they oversee are highly technical and require years of development.

- The remuneration figures in the chart include flat salary as well as additional compensation such as incentive payments and performance bonuses.

Head of research and development



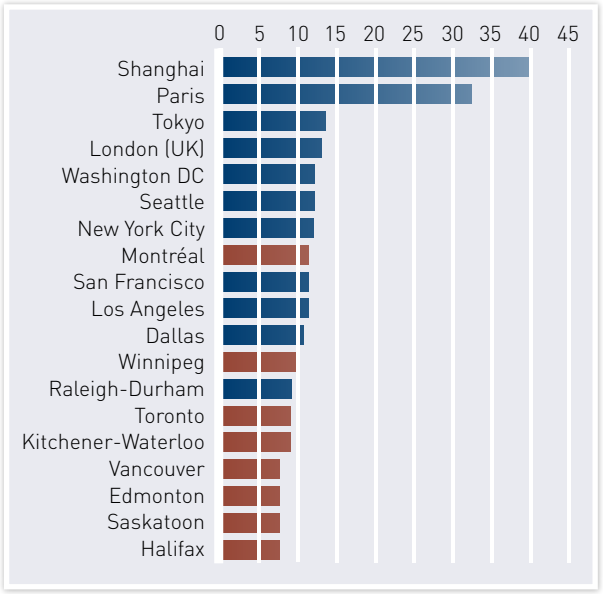
Sources: fDi Benchmark; Towers Watson, *Global 50 Remuneration Planning Report 2010-2011*

Advantage:
Low social security contributions

Canadian workers have very good social security coverage, but this does not translate into excessive costs to employers. In Canada, social security contributions paid by employers are generally lower than in the United States and in European countries.

- This chart looks at employers' contributions to employee social benefits, expressed as a percentage of employee salaries.

Social security paid by businesses



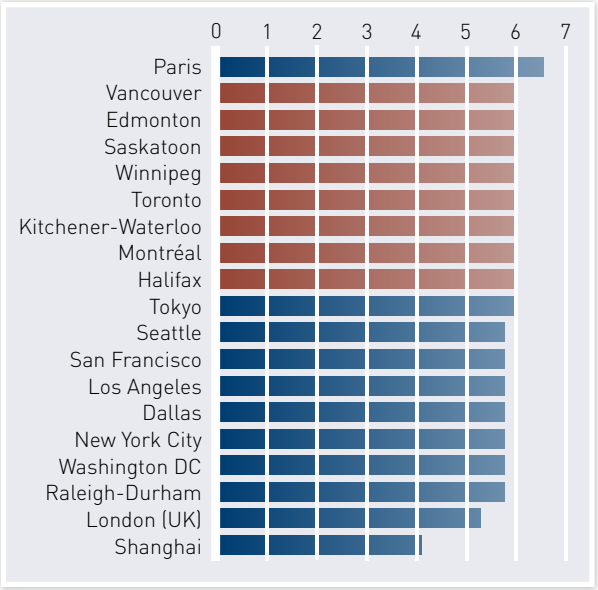
Sources: fDi Benchmark; Deloitte International, *International Tax and Business Guide* (Oct. 2009); Towers Watson, *2009/2010 Global 50 Remuneration Planning report*; PricewaterhouseCoopers, global tax summaries (Oct. 2009); fDi intelligence based on Towers Watson data (Aug. 2010); fDi intelligence based on data from the International Social Security Association (ISSA; Aug. 2010)

Advantage:
World-class infrastructure

Canada's modern, world-class public infrastructure supports the economic growth of its cities and communities. Canadian roads, bridges, railroads, ports and airports are well located, well built, well maintained and secure.

- This chart rates the overall quality of infrastructure such as transport, telephony and energy. A rating of 0 signifies that infrastructure is "extremely underdeveloped," while a rating of 7 signifies that infrastructure is "well developed."

Overall infrastructure quality



Sources: fDi Benchmark; World Economic Forum, *The Global Competitiveness Report 2010-2011*

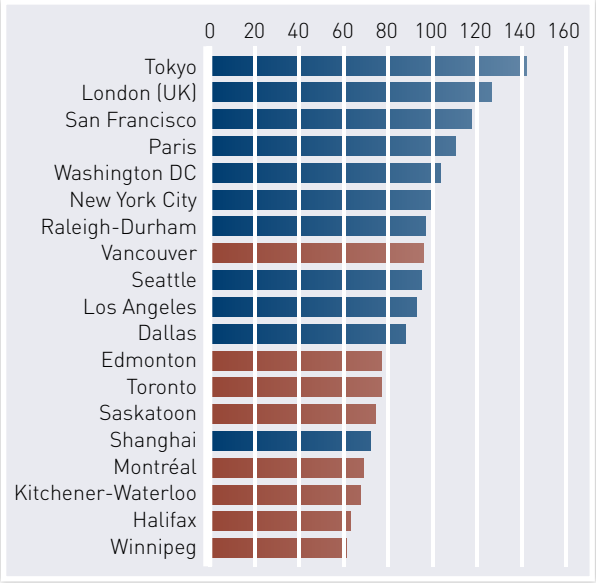
CANADA'S COMPETITIVE ADVANTAGES

Great quality of life at affordable cost

Canadian cities offer a high quality of life at an affordable cost. Comparatively, cities like Edmonton, Saskatoon, Winnipeg, Toronto, Kitchener-Waterloo, Montréal and Halifax boast a lower cost of living combined with a higher quality of life. In 2011, the Economist Intelligence Unit again ranked Vancouver as the most liveable city in the world, while Toronto and Calgary also placed in the top 10.

► This chart assesses a variety of living costs, including housing. New York City is considered the base city, with a weighting of 100.

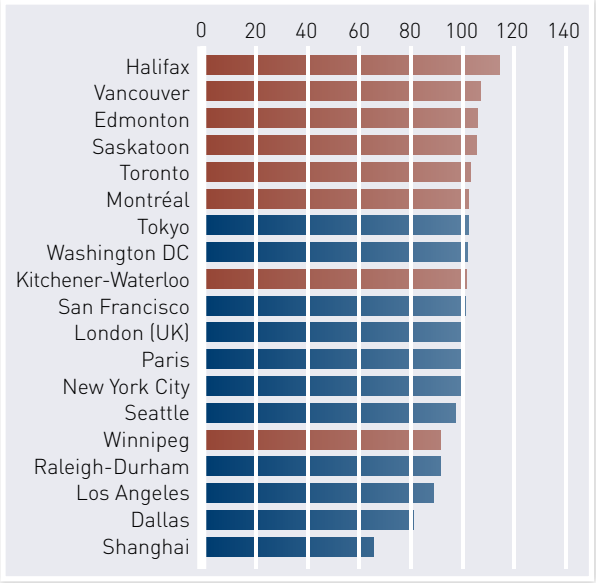
Cost of living index



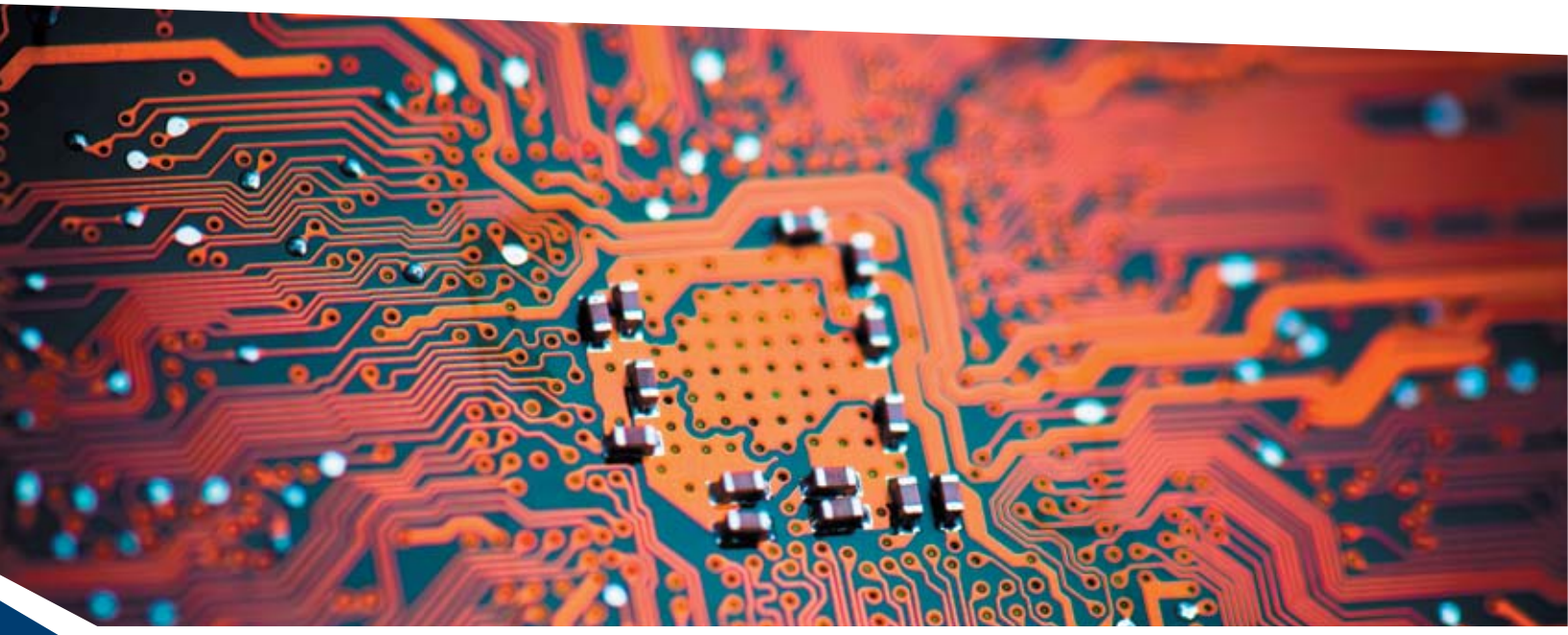
Sources: fDi Benchmark; fDi intelligence based on data from the Financial Times Ltd.

► This chart assesses quality of living factors. New York City is considered the base city, with a weighting of 100.

Quality of living index



Sources: fDi Benchmark; fDi intelligence based on data from the Financial Times Ltd.



INVESTMENT LOCATION BENCHMARKING

The tables and graphs in the preceding pages were generated by fDi Benchmark, a service of the Financial Times Ltd. (www.fdibenchmark.com). This search tool relies on industry-recognized databases and location assessments to appraise the attractiveness of countries, states/provinces and cities around the world for specific sectors and investment projects.

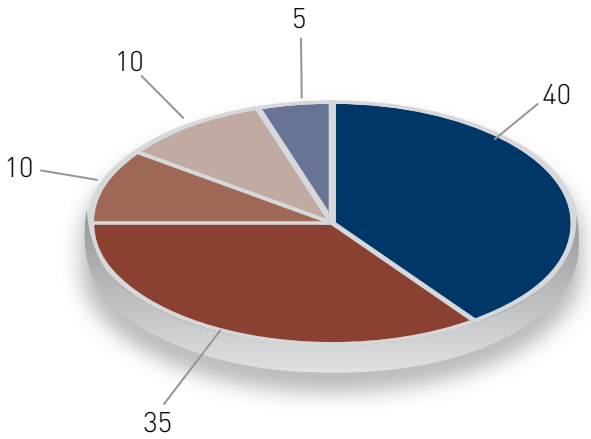
- The following Canadian and foreign cities selected for benchmarking are locations with a significant cluster of companies that produce and/or develop software: Dallas, Edmonton, Halifax, Kitchener-Waterloo, London (UK), Los Angeles, Montréal, New York, Paris, Raleigh-Durham, San Francisco, Saskatoon, Seattle, Shanghai, Tokyo, Toronto, Vancouver, Washington (D.C.) and Winnipeg.
- The company profile below is that of a software development centre with a staff of 100 employees located in a downtown office.

Software development centre

COST FACTOR	USAGE AMOUNT
Property	Square metres
Total occupancy (in-town office rent)	2000 m^2

EMPLOYEE TYPE	PROFILE HEAD COUNT
General management	
Business unit manager	1
Information technology	
Computer operator	28
Programmer	25
Senior programmer	6
Senior software development engineer	8
Senior Web developer	3
Software development engineer	14
Technology engineering specialist	6
Web developer	5
R&D / Engineering	
R&D team leader	2
Administration	
Secretary	2
Total	100

Quality model properties / Weights applied



WEIGHTING MODEL OVERVIEW	WEIGHTING
Labour availability and quality	40%
Presence of an industrial cluster	35%
Infrastructure and accessibility	10%
General business environment	10%
Living environment	5%

CANADA'S COMPETITIVE ADVANTAGES

Canada boasts many advantages and unparalleled potential: it is a place where businesses can achieve excellence on a global scale.

A HIGHLY EDUCATED WORKFORCE

Canada ranks second in higher-education achievement among members of the Organisation for Economic Co-operation and Development (OECD). (Source: IMD, *World Competitiveness Yearbook 2010*)

A WELCOMING BUSINESS ENVIRONMENT

The Economist Intelligence Unit rated Canada the number one place to do business in the G-7 for the next five years. (Source: Economist Intelligence Unit, *Business Environment Ranking, March 2011*)

A SOUND ECONOMY

Since the third quarter of 2009, Canada's economy has grown for six consecutive quarters and has now fully recovered job and output losses that occurred during the global economic crisis. (Source: Department of Finance Canada, Budget 2011)

FINANCIAL STABILITY

Over the past three years, Canada's banking system has repeatedly been declared the soundest in the world by the World Economic Forum.

LOW TAX RATES

Canada's overall tax rate on new business investment is substantially lower than that of any other G-7 country, while corporate tax rates are among the lowest in the G-7. (Source: Department of Finance Canada, 2010)

SCIENTIFIC RESEARCH AND EXPERIMENTAL DEVELOPMENT

Canada has a very generous Scientific Research and Experimental Development Program (SR & ED) and the lowest costs in R & D-driven sectors in the G-7. (Sources: KPMG, *Competitive Alternatives 2010*; OECD)

NAFTA

Canada's NAFTA advantage (North American Free Trade Agreement) gives investors access to more than 448 million North American consumers and a combined continental GDP of more than US$16.3 trillion. (Source: World Bank, *World Development Indicators Database, 2010*)

A GREAT PLACE TO LIVE AND WORK

World-class universities; a universally acclaimed health-care system; clean, friendly cities; and spectacular scenery make Canada a great place to invest, work, live and raise a family. (Sources: United Nations Development Programme, *Human Development Report 2010*; Economist Intelligence Unit, *Global Liveability Report 2010*)

Invest in Canada.
We Take Care of Business.

Invest in Canada
Foreign Affairs and International Trade Canada
111 Sussex Drive
Ottawa, ON, Canada K1N 1J1
vp.investincanada.com
Catalogue Number FR5-38/6-2011E
ISBN 978-1-100-18411-1