2011

Invest in Canada

AEROSPACE

Canada's Competitive Advantages

Canada

MAJOR GLOBAL INVESTORS IN CANADA

- Atlantis Aerospace
- Bell Helicopter Textron Canada
- Boeing Canada Technology
- Dornier Seaplane Company
- Esterline/CMC Electronics
- Eurocopter Canada Ltd.
- GE Aviation
- Goodrich
- Honeywell
- L-3 Communications
- Liebherr Aerospace
- Lockheed Martin Canada
- Messier-Dowty
- Piaggio Aero Industries
- Pratt & Whitney Canada
- Rolls-Royce Canada Ltd.
- StandardAero
- Thales

LEADING CANADIAN COMPANIES

- Avcorp Industries
- Bombardier
- CAE
- Centra Industries
- COM DEV International
- Guardian Helicopters
- Héroux-Devtek
- Intelcan Technosystems
- Magellan Aerospace Corporation
- Vector Aerospace
- Viking Air

RECENT INVESTMENTS IN CANADA

GE AVIATION

In 2011, GE Aviation, in partnership with StandardAero, announced a $50 million* investment for a research, development and testing centre in Winnipeg. The centre will provide additional capacity to test commercial and military aircraft engines.

GE CANADA

In 2010, GE Canada, a subsidiary of General Electric in the United States, invested $63.5 million in a manufacturing project in Bromont, Québec, creating 80 jobs.

DORNIER SEAPLANE COMPANY

In 2010, Dornier Seaplane Company invested $71.5 million in a manufacturing project in Saint-Jean-sur-Richelieu, Québec, creating 250 jobs.

LIEBHERR AEROSPACE

In 2010, Liebherr Aerospace, a subsidiary of Swiss company Liebherr, announced a $9 million expansion of its landing-gear assembly plant in Laval, Québec, creating 35 new jobs.

ESTERLINE/CMC ELECTRONICS

In 2009, Esterline/CMC Electronics announced that it would invest almost $150 million over the next five years in a R & D initiative in Québec.

BOEING CANADA TECHNOLOGY

In 2008, Boeing Canada Technology expanded production in Manitoba, creating an estimated 200 new jobs.

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

Photo credit: CAE-built flight simulators at CAE's training centre.

AEROSPACE

According to Datamonitor, the global aerospace industry is forecasted to grow to US$515 billion in 2020, up from US$382 billion in 2009.[1] This growth is expected in both the civil and military aerospace sectors.

Canada's aerospace industry[2] is a strong contributor to this global growth. With more than 400 aerospace manufacturing and service companies across the country, Canada generated an estimated $22.2 billion in revenues in 2009. The sector employs a highly skilled workforce of 83,000 people and has a payroll of approximately $4.6 billion.

Canada is a world leader in market segments such as regional aircraft, flight simulators, small gas engines, robotics and satellite technologies, communications, aircraft maintenance, repair and overhaul, composite materials, and landing gear systems. Nearly 80 percent of Canada's domestic aerospace production is exported—more than any other country's.

In 2009, Canada's aerospace output ranked fifth in the world and in 2008, Canada's investment in aerospace and defence R & D amounted to $1.3 billion.[3]

According to an RNCOS market research published in March 2011[4], Canada's aerospace market has experienced one of the world's fastest growths during the last few years. Although the first half of 2010 was slower as air passenger traffic and export market performance subdued, a notable recovery occurred in late 2010 and the sector is expected to regain its pre-crisis growth by 2012 end.

Canadian expertise on aircraft manufacturing has been globally acclaimed and its military applications segment is on its way to become a hot spot for the global aerospace majors.

Furthermore, the maintenance, repair and overhaul (MRO) industry has emerged as one of the most potential growth areas. Aerospace clusters, like Manitoba and Québec, are rapidly positioning themselves as global MRO hubs.

[1] Teal Group Corporation
[2] Unless otherwise noted, information in this document pertains to the civil aerospace industry only.
[3] Aerospace Industries Association of Canada, Canadian Aerospace Industry: Performance 2008
[4] Canadian Aerospace Industry Future Outlook, RNCOS, March 2011

MRO majors have tied up close partnerships with various universities and upgrading the technology to offer competitive and cost effective product and services to their clients. The MRO segment is expected to achieve one of the fastest growths in the industry, which will position Canada as potential investment hub for concerned companies.

Finally, Canada is the first G-20 country eliminating tariffs on all manufacturing inputs. Most of the reductions occurred in 2010 and, by 2015, all inputs imported by Canadian manufacturers, including chemicals, fibres, stone, glass, metals, as well as tools, machinery and equipment, will be totally duty-free.

CANADA'S KEY CAPABILITIES

Within the global value chain, Canadian aerospace firms have developed a number of product-and process-related specializations.

Regional and corporate aircraft: Canadian-based Bombardier is a leader in regional and business aircraft. Its CRJ regional jet is used by over 60 airlines worldwide, with more than 1,500 such jets in active service.

Gas turbine engines: Canadian divisions of major global investors, such as Pratt & Whitney Canada and Rolls-Royce Canada Ltd. supply one third of the global demand for small gas turbine engines.

Commercial flight and visual simulators: Canadian-made products such as CAE flight simulators hold a 70 percent share of the world market for visual simulators.

Commercial helicopters: Canada produces over 20 percent of global civil turbine helicopters through firms such as Bell Helicopter Textron Canada.

Landing gear: Canadian suppliers such as Heroux-Devtek and other companies meet close to one-third of the world demand for landing gear, including the manufacturing of 60 percent of all landing gear for large aircraft.

Structural assemblies: Several aerospace industry leaders such as Magellan produce a wide range of structural assemblies in Canada.

Avionics: Canada's avionics industry, featuring many small and medium-sized enterprises such as Canadian Avionics and Instruments, Pacific Avionics and Instruments as well as Maxcraft Avionics, produces systems dedicated to flight communications, navigation and in-flight entertainment systems.

Aircraft engine and component maintenance, repair and overhaul: Major aircraft engine and component maintenance, repair and overhaul facilities in Canada include Magellan Aerospace and StandardAero.

TALENT DEVELOPMENT AND DEPLOYMENT

Several Canadian universities, such as Ryerson University in Toronto, the University of Toronto, Ottawa's Carleton University and McGill University in Montréal, offer excellent programs in aerospace engineering, at the undergraduate, graduate and Ph.D. levels. Specializations include aerodynamics, propulsion, aircraft structures and flight control—fields that closely match the work done in Canadian aerospace industries.

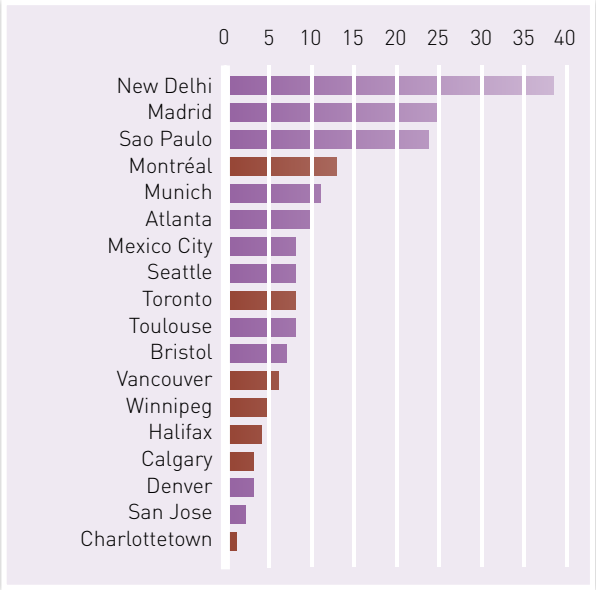
CANADA'S COMPETITIVE ADVANTAGES

Advantage:
Greenfield transportation-equipment projects (inward FDI)

In recent years, Montréal, Toronto and Vancouver have benefited from a fair number of greenfield foreign direct investment (FDI) projects in the transportation-equipment sector. A greenfield project involves the building of brand-new facilities and the creation of permanent, long-term jobs.

► This chart tallies the number of greenfield FDI transportation-equipment projects in selected cities since 2003.

Transport equipment (inward FDI)



Sources: fDi Benchmark; fDi Markets (Q3 2010)

Advantage:
Significant aerospace-related revenues

Canada ranked fifth in the world, both in 2008 and 2009, for activity related to the aerospace industry, after the U.S., the U.K., France and Germany. Canada's aerospace sector generated over $22.3 billion and employed 83,000 people. Seventy-eight percent of Canadian aerospace products were exported.

GLOBAL AEROSPACE REVENUES (2008)

Rank	Country	Revenue ($US billion)
1.	United States	204.0
2.	France	50.4
3.	United Kingdom	32.7
4.	Germany	32.1
5.	Canada	22.3
6.	Japan	14.1
7.	China	12.0
8.	Russia	10.0
9.	Italy	9.9
10.	Brazil	7.6
11.	Spain	6.1
12.	Singapore	4.3
13.	India	4.0
14.	Netherlands	3.4
15.	Mexico	3.0
	Others	34.2
	Total	**450.0**

Source: *Aerospace Globalization 2.0: Implications for Canada's Aerospace Industry*, November 2009, prepared by AeroStrategy Management Consulting for Aerospace Industries Association of Canada.

CANADA'S AEROSPACE INDUSTRY: AN OVERVIEW

BRITISH COLUMBIA

Aerospace compagnies in the greater **Vancouver** region, such as Avcorp Industries benefit from their proximity to Boeing, located in neighbouring Washington State. British Columbia's aerospace strengths include helicopter services, aircraft engine overhaul, multi-role aircraft maintenance, repair and overhaul, space systems and advanced composite aircraft structures. The industry in B.C. is also supported by one of Canada's largest aerospace training centres, located at the British Columbia Institute of Technology. Leading B.C. aerospace firms include ASCO Aerospace, Avcorp Industries, Cascade Aerospace, CHC Helicopter, Kelowna Flightcraft, MDA (MacDonald, Dettwiler and Associates), MTU Maintenance, Vector Aerospace and Viking Air.

ALBERTA

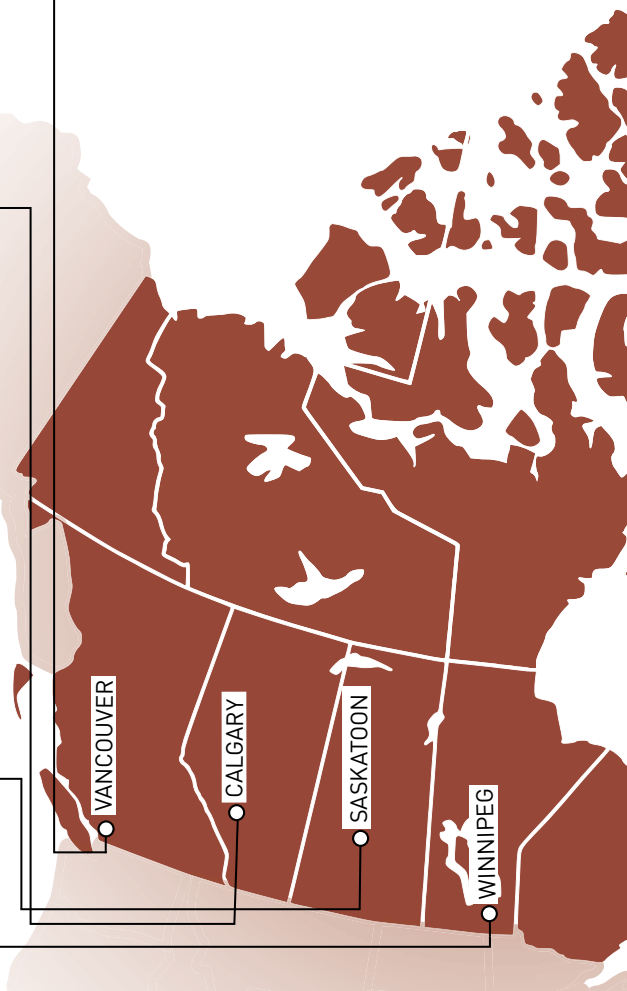
Alberta's aerospace industry contributes $1.3 billion in annual revenue to the provincial economy and is responsible for over 5,000 jobs exclusive of airlines and airports. The industry exports 40 percent of its output. Alberta offers competitive strengths in robotics and unmanned vehicle systems, space science, geomatics and navigation systems, and maintenance, repair and overhaul. More than 50 aerospace companies are located in and around the city of **Calgary**, with strong clusters in maintenance, repair and overhaul, and information communications technology. Major Alberta companies involved in aerospace include ATCO Frontec, Field Aviation, ITRES, Iunctus Geomatics, Pratt & Whitney, NovAtel, and Raytheon.

SASKATCHEWAN

Saskatchewan's aerospace companies operate in satellite technology, wireless communication systems, atmospheric research and testing, synchrotron research and development, micro-electromechanical devices, building structures, cases and harnesses, mini unmanned aerial vehicles, and training programs. The province's industry employs approximately 2,500 people. Saskatchewan's aerospace companies, located near **Saskatoon**, include SED Systems, Vecima Networks, Scientific Instrumentation, Summit Structures, SBC Case, and Draganfly Innovations.

MANITOBA

Winnipeg is the largest aerospace cluster in Western Canada and a major centre in North America for the manufacturing of composite aircraft components and aircraft maintenance, repair, and overhaul. Winnipeg is the location of Boeing's composite manufacturing plant, the largest such facility in North America, and home to one of Boeing's 10 major global sites for commercial aircraft. The aerospace cluster in Manitoba directly employs some 5,300 people and is led by four major global firms: Boeing Canada Technology, Magellan Aerospace, Aveos and StandardAero. The province is also home to 23 other established national and regional firms and several mid-sized aerospace suppliers. StandardAero, located in Winnipeg, is one of the largest independent maintenance, repair, and overhaul aerospace firms in the world.



ONTARIO

Southwestern Ontario is the location of Canada's second-largest aerospace cluster, with over 200 firms employing more than 20,000 skilled employees. **Toronto**, the core of this cluster, has key strengths in aircraft parts manufacturing, aircraft systems development, and maintenance and overhaul. Toronto also hosts many world-leading aerospace firms, such as Bombardier, Pratt & Whitney Canada, Honeywell Canada,Magellan Aerospace, and Northstar Aerospace. The University of Toronto Institute for Aerospace Studies and the Ryerson Institute for Aerospace Design and Innovation collaborate with industry partners on numerous R & D projects.

QUÉBEC

Montréal is the hub of Canada's largest aerospace cluster and is renowned for its expertise in aircraft assembly, engine manufacturing, maintenance, repair and overhaul, avionics, and landing gear. The city is home to more than 10 aerospace research centers, including the Canadian Space Agency, the Aerospace Manufacturing Technology Centre (NRC Aerospace) and the Consortium for Research and Innovation in Aerospace in Québec.

Montréal also has a well-integrated network of support agencies, such as the Québec Aerospace Association and Aéro Montréal, and is the headquarters of IATA (the International Air Transport Association), the International Business Aviation Council, and ICAO (the International Civil Aviation Organization). Approximately 42,400 employees work in Québec's aerospace industry for firms such as Bombardier, Bell Helicopter Textron Canada, Pratt & Whitney Canada, Rolls-Royce Canada and CAE. In 2009 alone, Québec's aerospace exports totalled over $11.5 billion.

NEW BRUNSWICK

New Brunswick's aerospace technological environment includes companies in the fields of aerospace design, advanced composites research, secure communications research, electronics/avionics assembly, advanced learning and simulation systems, metal fabrication, and precision machining. Companies are located in cities such as **Fredericton** and **Moncton**.

NOVA SCOTIA

Halifax is home to a number of world-renowned aerospace firms specializing in composite fabrication, electronic assemblies, simulation and modeling technologies, and engine manufacturing. Companies operating in the province include Lockheed Martin, Pratt & Whitney Canada, IMP Group, EADS Composites Atlantic, C-Vision and CAE.

PRINCE EDWARD ISLAND

The **Charlottetown** aerospace cluster specializes in engine maintenance, repair and overhaul, and the manufacturing of precision components, engine coatings and airplane interiors. Nine aerospace firms, including Honeywell Canada and Vector Aerospace Engine Services - Atlantic, operate in the province and are located in Slemon Park, near Summerside. Holland College's Aerospace Centre provides a range of training opportunities for the burgeoning aerospace industry.

NEWFOUNDLAND AND LABRADOR

Newfoundland and Labrador's aerospace capacity includes aircraft modification; systems integration; marine surveillance; manufacturing and assembly of aircraft components; aircraft maintenance repair and overhaul; navigation and communication systems; marine and flight training programs, including simulation; and research and development opportunities, including unmanned vehicle systems and marine acoustic applications. The province also plays a vital logistical role for civil aviation through the **Gander** airport and its North Atlantic air control capacity.

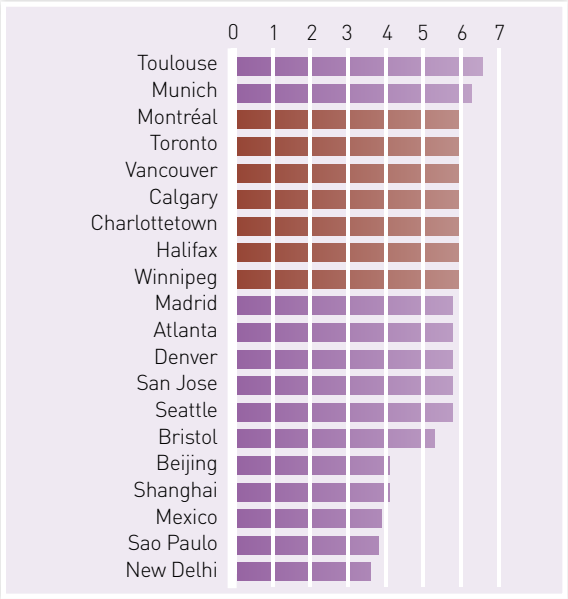
CANADA'S COMPETITIVE ADVANTAGES

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



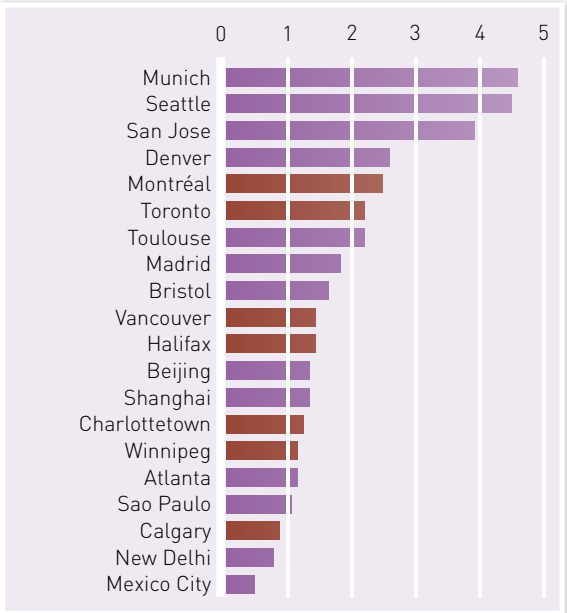
Sources: fDi Benchmark; World Economic Forum, *Global Competitiveness Report (2010/2011)*

Advantage:
Research and development investments

Compared with other major aerospace clusters around the world, Canada spends a relatively high percentage of its GDP on aerospace R & D.

- This chart illustrates the intensity of R-D in various cities as a percentage of a country's Gross Domestic Product.

Reasearch and development investments



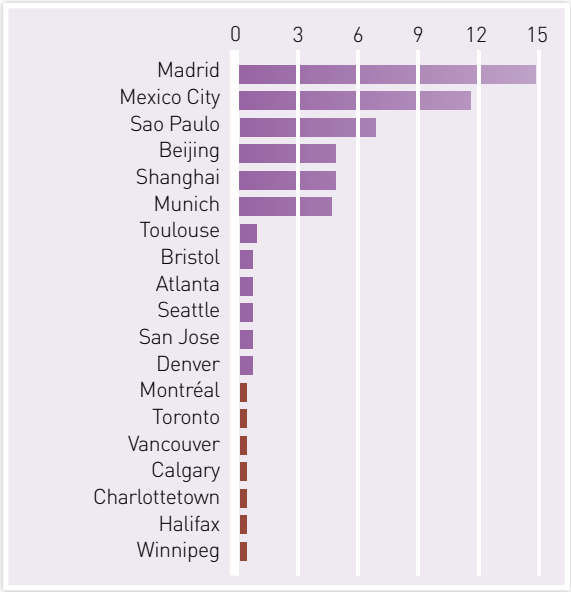
Sources: fDi Benchmark; fDi intelligence based on data from the National Science Foundation (U.S.), the Office for National Statistics (U.K.), Eurostat, and the International Monetary Fund; Statistics Canada; Ministry of Science and Technology (Brazil); UNESCO.org.uk; *OECD in Figures 2009*.

Advantage:
Low business set-up costs

The cost of establishing a business in Canada is very competitive—about half that of European and U.S. cities. Canada has low business tax rates, as well as the lowest payroll taxes among the G-7 countries.

- **This chart looks at the official total cost of procedures required to establish a business. The scale of 0 to 15 represents start-up costs as a percentage of income per capita.**

Cost of establishing a business



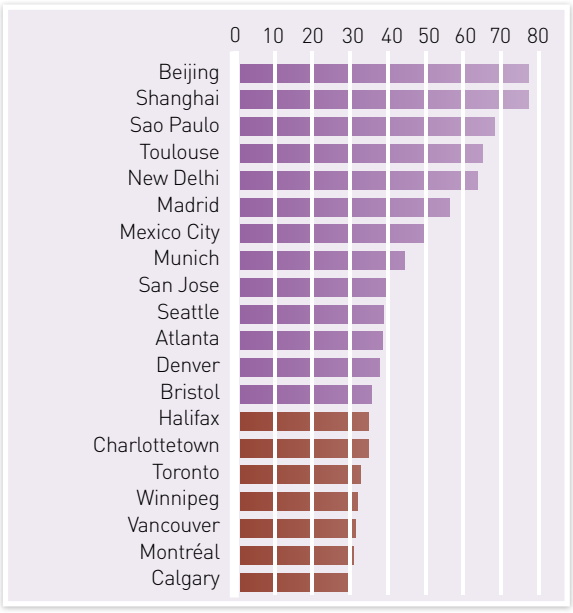
Sources: fDi Benchmark; World Bank, *Doing Business 2010*

Advantage:
Favourable corporate income tax rates

Canadian corporate income tax rates compare very favourably with those of other countries.

- **This chart looks at the total income tax payable by corporations in selected cities. Figures express tax payable as a percentage of companies' gross profit, in 2009-2010.**

Total tax payable by business



Sources: fDi Benchmark; World Bank, *Doing Business 2010*; The Tax Foundation, *National and State Corporate Income Tax Rates, U.S. States and OECD Countries, 2009*; KPMG: Income Tax Rates for General Corporations (2008/2009)

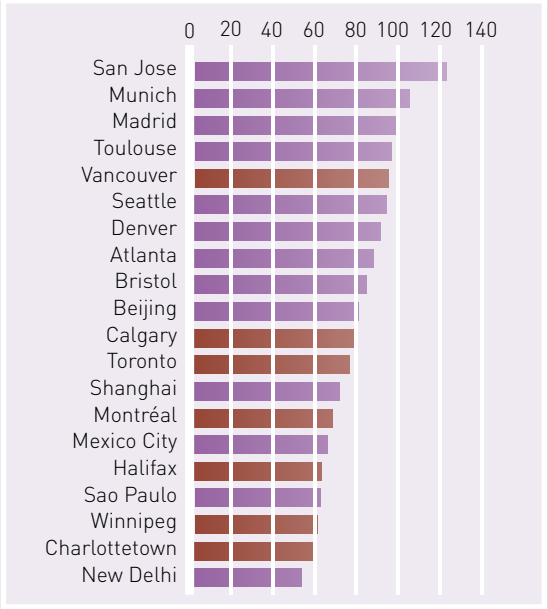
CANADA'S COMPETITIVE ADVANTAGES

Great quality of life at affordable cost

Canadian cities offer a high quality of life at an affordable cost. Comparatively, cities like Calgary, Toronto, Montréal, Halifax and Winnipeg boast a lower cost of living combined with a higher quality of life. In 2011, the Economist Intelligence Unit 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.

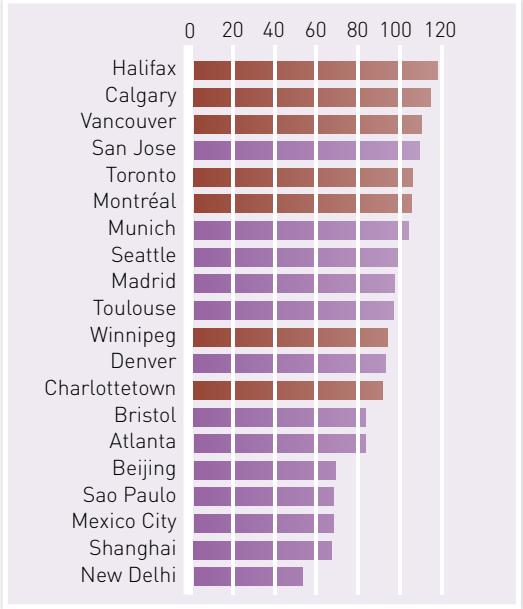
Cost of living index



Sources: fDi Benchmark; fDi intelligence from the Financial Times Ltd

► This chart assesses quality of living factors.

Quality of living index



Sources: fDi Benchmark; fDi intelligence from the Financial Times Ltd

Photo credit: CRJ900, Bombardier Aeronautics

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.

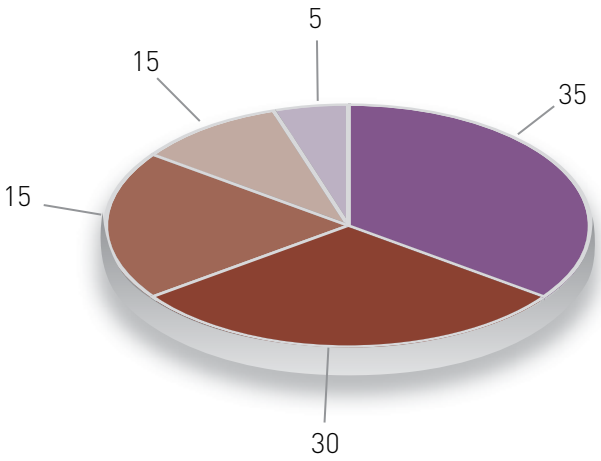
- The following Canadian and foreign cities selected for benchmarking are locations with a significant cluster of aerospace companies: Atlanta, Beijing, Bristol, Calgary, Charlottetown, Denver, Halifax, Madrid, Mexico City, Montréal, Munich, New Delhi, San Jose, Sao Paulo, Seattle, Shanghai, Toronto, Toulouse, Vancouver and Winnipeg.
- The company profile below is that of an aerospace manufacturing plant with a staff of 250, most of whom work in an industrial setting with a few others located in a downtown office.

Aerospace manufacturing plant

COST FACTOR	USAGE AMOUNT
Property	**Square metres**
Total occupancy (in town office rent)	1,200 m^2
Total occupancy (industrial rent)	50,000 m^2
Utilities	
Electricity	42,000 100 kWh
Industrial gas	220,000 m^3

EMPLOYEE TYPE	PROFILE HEAD COUNT
Finance	
Accountant	2
Manufacturing	
Head of manufacturing	1
Production manager	1
Production operative (highly skilled)	50
Production operative (skilled)	130
Production operative (unskilled)	20
Quality control manager	1
Quality control specialist	10
R&D / Engineering	
Engineer	27
Administration	
Facilities/Office services specialist	2
Secretary	6
Total	**250**

Quality Model Properties / Weights Applied



WEIGHTING MODEL OVERVIEW	WEIGHT
Presence of an industrial cluster	35%
Labour availability and quality	30%
General business environment	15%
Infrastructure and accessibility	15%
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.

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