

INVEST IN CANADA

2013-2014 EDITION



CANADA

IS...

The best country in the G-20 to do business

-Forbes Magazine's November 2012 Study

A leader among the G-7 in low corporate tax rates
-OECD 2012

Home of the lowest business costs in the G-7 for R&D-intensive sectors

-KPMG Competitive Alternatives 2012

Fiscally strong, with the G-7's lowest net debt-to-GDP ratio

—International Monetary Fund 2012

Home to the world's safest and most stable banking system
—World Economic Forum 2013

Home to the world's best-educated workforce, with the highest proportion of post-secondary graduates among OECD countries

-OECD 2012

A great place to live, with the second-highest quality of life in the G-7 and the second-highest standard of living in the G-20

-OECD and World Bank 2012

The first G-20 country to make itself a tariff-free zone for manufacturers

-Finance Canada



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MINISTER'S MESSAGE TO GLOBAL ENTREPRENEURS, INVESTORS AND BUSINESS LEADERS

Welcome to the 2013-14 edition of Invest in Canada.

Canada remains one of the best places in the world for international business and foreign direct investment, with a robust economy and strong business fundamentals. Indeed, in the aftermath of the worst global recession in a generation, Canada has continued to outperform its G-7 peers in terms of job creation, economic growth, income growth and debt-to-GDP ratio. Forbes magazine has rated Canada as the best country in the G-20 for business and the World Economic Forum has rated our banking system as the world's soundest for the past six years. We are also among just a handful of nations in the world with a triple-A credit rating. This provides assurance to business investors about the security of their direct investments in Canada.

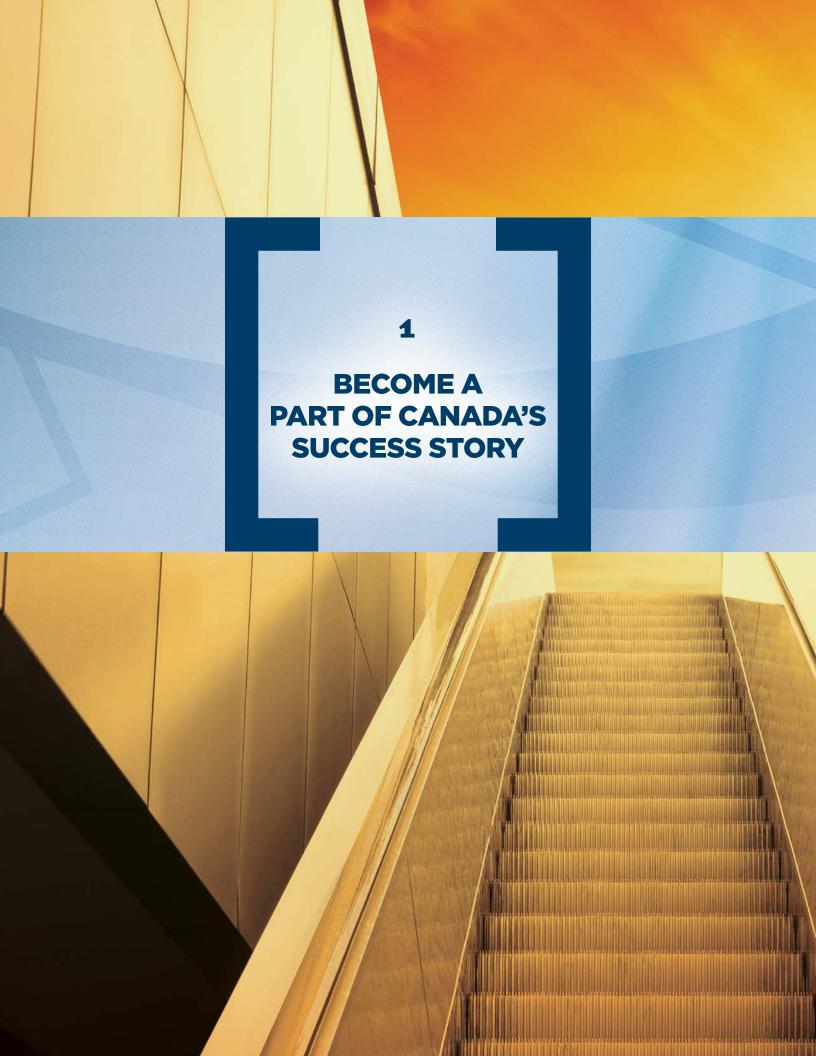
Our government is working to ensure that Canada continues to be a top destination for foreign investment that benefits Canadians and investors alike. Through Economic Action Plan 2013, we are bolstering the competitiveness of the Canadian economy by investing in the manufacturing sector, encouraging innovation and increasing the availability of skilled labour. Further, we are improving Canada's public infrastructure, deepening our trade and investment relationships in large and fast-growing markets around the world and improving our country's fiscal framework by returning to a balanced budget in 2015. Our government continues to create the conditions needed to attract the global investors who create jobs and new sources of economic growth and prosperity in communities across Canada.

Clearly, investing in Canada makes excellent business sense. We offer access to a North American market of more than 460 million consumers. We also offer a strong, stable financial system, low taxes, one of the highest standards of living in the G-20, a business-friendly environment, world-class cities, spectacular natural landscapes and an innovative, well-educated and multicultural workforce. Canada truly provides a preferred destination for global investment.

I invite you to read this document and to visit investincanada.com to find out why Canada continues to be a top destination for foreign direct investment. Further, I encourage you to contact our trade and investment professionals working around the world, who can help you expand and succeed by investing in Canada.

We look forward to working with you.

The Honourable Ed Fast
Minister of International Trade



INNOVATION + STABILITY = PROFITABILITY

Canada provides a successful formula for foreign investment by leveraging abundant energy resources with a capacity for innovation, a fiscally stable and predictable economy and a competitive business environment. While innovation is the basis for high profit margins, Canada's predictable economic environment ensures the benefits of innovation can be maintained year over year. With a wealth of opportunity for profits over both the short and long terms, it is easy to see why more and more companies continue to expand their presence in Canada through successive investments.

STABLE AND PREDICTABLE

A stable and diversified economy and resource base, a sound banking system, leading-edge innovation clusters, competitive business costs and a favorable tax environment are some of the most important location factors for international investors. Canada earns top scores on all of these factors and performs strongly on many more.

An Energized Economy

Canada is an energy giant. The country's energy resources are comprised of a vast and exceptionally diversified mix of oil and gas, hydro, nuclear, solar, wind, biomass and even tidal power. Canada has the third-largest proven reserves of oil and is the world's third-largest producer of natural gas. In fact, Canada is one of the few industrialized countries in the world to be a net energy exporter. Moreover, while other G-7 countries are rated "high risk" regarding short-term energy security, Canada continues to offer stable energy supplies to investors.

Canada [has the] world's most stable short-term energy supplies. Its ranking reflects the fact that it is a net exporter of electricity and fossil fuels, with abundant natural resources and a diverse energy mix, which provides flexibility and offsets the risks of price rises.

-Maplecroft, Energy Security Risk Indices, 2011

Natural resources, particularly in the oil-and-gas and mining sectors, are key drivers of Canada's economy. Its diversified base of natural resources attracts world-class capital projects from international investors. During 2012, more than 100 oil-and-gas, mining and primary-metals projects, each valued at \$1 billion or more, were either announced or under construction.¹ These projects complement the well-established base of investments in the resources industries made by large multinational corporations. This base has in turn helped build a large, growing pool of expertise and technologies in a number of advanced-manufacturing sectors supporting the profitable development, processing and sustainable management of resources.

"Canada has acted smartly by streamlining the approval process for energy development, which has allowed it to take advantage of its rich oil sands, a national asset. Canada's energy policy serves as an example for other countries to follow, including the United States".

-Thomas J. Donohue, President and CEO of the U.S. Chamber of Commerce

Many Canadian supplier industries, such as machinery and instrumentation, initially selected for their proximity to large resource-development projects, have since developed leading-edge specialized skills and technologies.

Canada's resource sector attracts unprecedented levels of investment; foreign and domestic capital investment projects worth a total of more than \$350 billion are currently announced or under construction.

-E&B Data, from Capex-online database, 2012

Technology-Intensive Economy

Canada is one the world's largest and most advanced economies. The country shares a border and one of the world's largest, most stable commercial relationships with the United States, its southern neighbour. Geography also provides Canada a natural advantage for traffic between Asia and Europe: sailing times from Canada's Atlantic and Pacific deepwater ports are up to two days shorter than from other North American ports.

"[Canada's] remarkable growth is a result of a diversified economy, lower corporate taxes, prudent fiscal management and financial regulation, and a business climate that rewards innovation and entrepreneurship. Pretty good formula. The government established the ground rules, then let the private sector create the jobs."

> John Engler, President, Business Roundtable in the U.S. Excerpt of a speech during the 2012
> Milken Institute Global Conference

UPON THE CONSTRUCTION OF A NEW, STATE-OF-THE-ART CANADIAN HEADQUARTERS AND A MILESTONE ANNIVERSARY

"We've been committed to Canada and investing here for 100 years and our goal is to continue expanding this strong presence for the next 100 years. More than 4,500 employees from coast to coast are helping provide our customers with the solutions and technologies necessary to build more efficient cities, offer sustainable-energy solutions, promote healthier lives and increase productivity in manufacturing. With our investments, we help ensure Canada remains a sustainable place to live and do business."

-Robert Hardt, President and CEO, Siemens Canada

The development of Canada's natural resources provides opportunities in strategic sectors, such as advanced manufacturing, agri-food, information and communications technologies, life sciences, and business and financial services. These advantages help propel the international profile and success of Canadian companies such as **Bombardier**, **CAE**, **CGI** and **Magna**. The advantages are also evident in the long and growing list of leading international investors operating—and expanding their operations—in Canada, such as **Google**, **IBM**, **Boeing**, **Samsung**, **Mitsubishi** and **China Investment Corporation**.

Canada's economy was the first among G-7 nations to recoup the employment losses recorded during the global recession.

-Statistics Canada

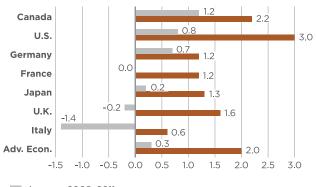
Canada is the best country in the G-7 in which to do business over the next five years.

-Economist Intelligence Unit

Consistently Outperforming G-7 Peers

The diversity and strength of Canada's economy are evident in its consistent and outstanding performance. For much of the past decade, the Canadian economy expanded faster than any other G-7 country: it led the G-7 with a real GDP average annual growth rate of two percent between 2002 and 2011. Furthermore, Canada has been widely heralded for having weathered and recovered quickly from the global economic turmoil of recent years. In this context, Canada has topped the G-7 with an average real GDP growth rate of 1.2 percent between 2008 and 2012, and is now expected to be among the top G-7 performers through 2017, as shown in the table below.

G-7 REAL GDP ANNUAL GROWTH RATE 2008-2017 (IN PERCENTAGE)



Average 2008-2011

Average 2013-2017

Source: International Monetary Fund, World Economic Outlook Database April 2013. Note: Forecast Data for 2013–2017



THE RISE OF TORONTO AS A MAJOR INTERNATIONAL BANKING CENTRE

"Canada's financial capital has enjoyed a rapid expansion in recent years and is increasingly being recognized as a centre of global banking. Toronto's international profile will continue to rise through the next decade, with employment in financial services growing at a faster rate than in New York, London, Tokyo, Paris or Zurich."

-Mark Hopkins, Chief Canadian Economist, Moody's Analytics

Strong Public Finances

Canada entered the global recession with a strong record of balanced budgets and low debt. Such fiscal strength allowed the Government of Canada to take timely, meaningful action to temper the effects of the global downturn, while delivering on promises to lower corporate taxes and to make strategic investments in public infrastructure and industries of the future.

Today, Canada has the lowest net debt-to-GDP ratio in the G-7 and a concrete plan, as announced in Budget 2013, to return to a balanced budget in 2015-16. This puts Canada in a strong position to continue the pro-business strategies that support long-term economic growth and competitiveness, and help the country attract global investors.



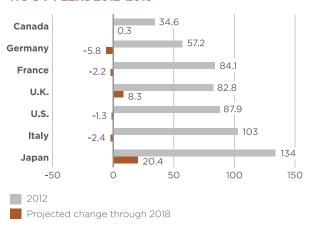
Standard & Poor's reaffirmed its AAA credit ratings for Canada in December 2012

Sound and Stable Financial Sector

Canada's economic strength is underpinned by one of the world's most sophisticated and stable financial and banking systems. The **World Economic Forum** recently (2013) ranked Canada's banking system as the soundest in the world for the sixth year in a row.²

Banks in Canada are among the best capitalized in the world, exceeding **Bank for International Settlements'** norms by significant margins.³ In fact, during the global financial crisis, no Canadian bank or insurer failed.

NET DEBT-TO-GDP RATIO IN CANADA AND ITS G-7 PEERS 2012-2018



Source: International Monetary Fund, World Economic Outlook Database: April 2013. Note: Forecast for 2018

² World Economic Forum 2013.

³ Canadian Bankers Association, 2012.

Become a Part of Canada's Success Story





Toronto skyline.

Today, as Europe's sovereign debt crisis creates international concerns about financial stability, Canada's banks remain open for business and fully committed to, and capable of, providing credit with good prudential oversight. Credit conditions in Canada remain favourable, and firms and banks both benefit from capital costs well below historical averages. Investors find Canadian banks and financial institutions to be receptive to their investment and expansion plans both in Canada and globally. Canada's banks and financial institutions provide competitive financing and risk-management solutions, along with specialized expertise, across a broad range of sectors.

In addition, Canada leads all G-20 countries in the World Bank's Investor Protection Index. This index measures the ability of companies to raise the capital needed to grow, innovate, diversify and compete.⁴

Six of the world's 50 safest banks are Canadian.

-Global Finance Magazine, April 2013

A FORMULA FOR INNOVATION AND PROFITABILITY

Based on successful innovation clusters, efficient transportation infrastructure, competitive costs and low corporate tax rates, Canada offers winning conditions for profitable international investment.

17 of Canada's 20 largest cities are located within a 90-minute drive of the Canada-U.S. border.

Open for Business

Companies operating in Canada can count on fast, reliable access to North American and overseas markets. Thanks to the **North American Free Trade Agreement** (NAFTA), companies in Canada have ready access to a massive market (which includes Canada, the U.S. and Mexico) with an annual economic output valued at US\$18 trillion.⁵ Dedicated "fast lanes" for pre-approved/low-risk travelers, expedited clearance processes for pre-authorized shipments and bilateral teams of customs officials at key border crossings are just a few of the mechanisms that help make Canada-U.S. trade efficient and virtually seamless.

⁴ World Bank, 2013.

⁵ World Bank, World Development Indicators Database, 2012.



SUPERIOR LOCATION FACTORS

"The easiest place in the world to do business is Canada. [...] They make it easy to invest [...]. They have a great education program and a great immigration policy."

-John Chambers, CEO, CISCO, excerpt from an interview with the Financial Times, February 2013

"[Canada] is an ideal location for us. Here we have access to a highly skilled workforce and are close to many of our major clients and partners. [Canada's] location on the border with the U.S. is also an advantage for us. Establishing a plant [in Canada] is a strategic decision that we have never regretted, and which we continue to support through new investment and innovation."

Colin Folco, General Manager, Dieffenbacher
 North America

Canada, the second-largest recipient of global FDI inflows per capita in the G-20 from 2007 to 2011, is committed to opening new markets, thereby increasing the value of investment in Canada, and spurring continued global recovery through free and open trade. Canada recently reached a historic trade agreement in-principle with the European Union and has concluded free-trade agreements with nine countries over the past five years. Furthermore, negotiations are underway with 11 Pacific Rim countries through the Trans-Pacific Partnership, as well as bilaterally with India, Korea, and Japan. Early discussions continue with other countries, such as Turkey. Additional bilateral negotiations aimed at protecting and promoting foreign investment have

been concluded with several countries, including China, and are underway with others, such as Indonesia, Pakistan, Vietnam, Mongolia and several in Sub-Saharan Africa.

Advanced Transportation Infrastructure

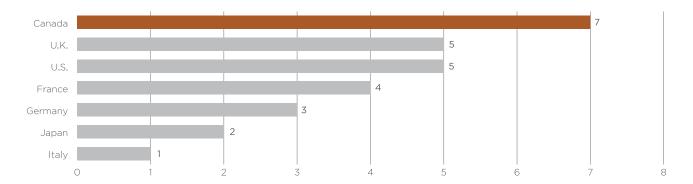
Canada's prosperity is a product of its success as a trading nation and of its well-designed transportation infrastructure. To support continued growth in international trade, the Government of Canada pursues a **Gateway and Corridor** approach with strategic investments in transportation systems. The Asia-Pacific Gateway and Corridor Initiative is a prime example: close to 50 infrastructure projects worth a total of up to \$3.4 billion, will better connect Canada with growing markets in Asia.⁶ The initiative is an important economic driver and key to Canada's continued competitiveness.



Canada's Atlantic and Pacific ports offer a two-day sailing time advantage over other ports in North America.

⁶ Asia-Pacific Gateway and Corridor Initiative. Retrieved on February 11, 2013 from http://www.asiapacificgateway.gc.ca/reaches-a-milestone.html

CORE INNOVATION POLICY AREAS: CANADA'S G-7 RANKING



Source: The Global Innovation Policy Index-Information Technology and Innovation Foundation and the Kauffman Foundation-United States—March 2012. Ranking established by E&B Data.

Redefining Innovation

Canada generously supports private-sector innovation through the federal Scientific Research and Experimental Development (SR&ED) program and related provincial tax incentives, targeted supports to the auto and aerospace sectors, and various support programs for innovation in small- and medium-sized businesses. Businesses in Canada also enjoy the lowest R&D costs in the G-7—10.7 percent lower than those in the U.S., according to KPMG.⁷

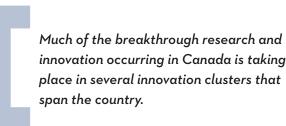
Canada ranks number one in the G-7 for higher education research and development expenditures as a percentage of GDP.

-OECD, 2012

Canada offers an appealing environment for leading-edge research and innovation in several regional clusters across the country. In addition to very favourable tax credits and incentives, this environment is built upon innovation-supporting policies. These policies provide a strong foundation for successful R&D programs which have been accessed by scores of international investors in Canada. This favourable environment includes policies addressing:

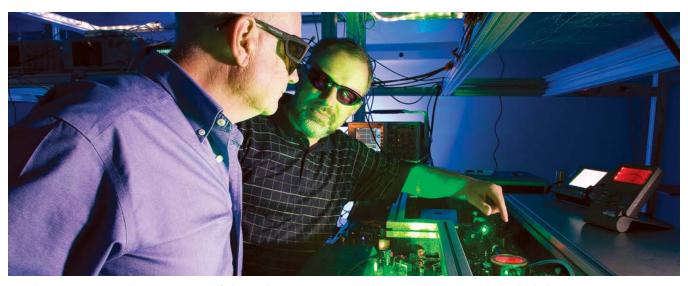
- Effective protection of intellectual-property rights;
- Open competition in domestic market for the deployment of digital information and communications technologies and platforms;
- Transparent government-procurement practices; and
- Openness to highly-skilled immigration.

A 2012 international study⁸ recognized the positive contribution that these policies make to innovation. The study identified eight core areas through which innovation drives economic growth. For each of these areas, countries were ranked according to their performance in appropriate policies. Canada ranked in the upper tier in seven of eight areas, making it the leading country in the G-7 in driving economic growth through an integrated approach to innovation.



⁷ KPMG Competitive Alternatives 2012.

⁸ The Global Innovation Policy Index-Information Technology and Innovation Foundation and the Kauffman Foundation-United States—March 2012.



Developing attosecond science. State-of-the-art laser equipment in the JASL αb . Studying individual electrons. Photo courtesy of National Research Council Canada

In 2011, IBM, Pratt & Whitney Canada, Ericsson, AMD, Alcatel-Lucent, Imperial Oil, Sanofi, GlaxoSmithKline and Pfizer were among the top 25 R&D spenders in Canada. They have collectively invested more than \$10 billion in Canadian R&D over the past five years.

-Research Infosource

Canada is home to many impressive innovations that—while perhaps not as familiar as **Bombardier**'s CRJ Series of regional jets, canola oil or BlackBerry generate a wealth of opportunities for international investors across a variety of sectors. Canada's worldleading mining companies, for instance, have developed advanced, higher-resolution imaging technology to optimize exploration programs. Canadian research into the potential health benefits of canola, probiotics and oat fibre enables food manufacturers to boost the health properties and international sales potential of processed foods. Finally, Canadian nanotechnology research enables the development of high-performance wood products that meet the demands of world construction markets.

Thales, a global technology leader in the Transport, Aerospace and Defence & Security markets

Thales Canada Inc., a subsidiary of the Thales Group, based in France, focuses on urban-rail systems, civil avionics and defence and security technology products and services for domestic and export markets. Thales Canada, Transportation Solutions serves as worldwide centre-of-excellence for urbanrail communications-based train control (CBTC) solutions. Recent product development includes further 'greening' of its technology to optimize the amount of energy used by metro lines and reduce CO₂ emissions. **Thales Canada**, **Aerospace** is a world leader in flight-control electronics for the business and regional jet market and is focused on nextgeneration solutions to improve aircraft performance. Thales Canada, Defence & Security is the prime contractor for the Canadian Army's Land Command and Support System program (LCSS), providing longterm software design, development and support of the Army's core command and control (C2) system. It also provides Command, Control, Communications, Computers, and Intelligence solutions, as well as radar and sensor equipment to the Royal Canadian Navy. In 2012, Thales Canada opened an official Thales Research and Technology (TRT) centre in the City of Québec, the fifth TRT centre in the world and the first in North America; it aims at strengthening Thales Canada's role beyond "development to research", while maintaining a leading position in the creation and transfer of technologies.

"Québec City's membership in the Intelligent Community Forum (ICF), a vast international Smart City community, coincides with Thales's global focus and impact on fundamental research, which delves deeper into the sciences than does business-oriented R&D. The Thales motto of "Global Reach, Local Expertise" has been exemplified by our team here for many years in collaboration with an innovation network that covers all of Canada and now will have global reach. While sharing knowledge with the global TRT network, academia, governments at all levels, commercial infrastructures and the industry will also benefit from our leading-edge, home grown research and technology achievements."

-Paul Kahn, President and CEO, Thales Canada

All of these innovations have been achieved thanks to strong collaboration between industry and universities, and supportive, progressive government policies, R&D tax credits and other incentives. Part II of this document provides a number of examples of Canada's innovation advantages.

Much of Canada's breakthrough research and innovation occurs in several clusters across the country. Some of these clusters grew out of local networks of companies; others emerged when a prominent company or educational institution spun off new businesses and attracted outside investors.

Universities, colleges and research institutions actively align their research and training efforts to meet the needs of existing and emerging clusters. Examples can be found in every Canadian province:

- British Columbia: Home of the most successful product in medical history—Angiotech's coated coronary stent has been implanted in millions of patients worldwide; annual sales have reached U.S.\$2.5 billion.
- Alberta: Canada's energy province is home to the Canadian Centre for Clean Coal/Carbon and Mineral Processing Technologies, a unique research and education centre that supports sustainable and responsible energy and mineral development. The province is also home to a global centre for nanotechnology research and commercialization.

- Saskatchewan: With 44 percent of Canada's cultivated farmland, the province is also a centre of advanced agricultural biotechnology.
- Manitoba: Home to a biomedical technology cluster that develops innovative medical devices. Over the past 20 years, the cluster has spawned more than 25 globally successful companies, including Intelligent Hospital Systems, Medicure and Cangene.
- Ontario: Home to a massive agri-food cluster that represents the third-largest food-manufacturing region in North America, Ontario also boasts one of the top five photonics clusters in the world. The cluster has diversified well beyond telecommunications and now encompasses healthcare (e.g. point-of-care blood testing), energy (solid-state lighting and solar energy) and numerous sensor applications.
- Quebec: In addition to hosting major knowledgedriven clusters in aerospace, digital media and life sciences, the province is home to a fast-growing aluminum-processing technology cluster that advances the design and manufacture of value-added aluminum products.
- New Brunswick: The province's information technologies and e-business cluster helps bolster Canada's competitive advantages in the learning, health care and entertainment fields. New Brunswick is also home to a strong contact-centre industry, with more than 100 centres spread across the province.





Nanoimprint.
Photo courtesy of National Research Council Canada

- Nova Scotia: Home to growing digital media, aerospace and life-sciences clusters. The province is also harnessing its ocean resources: ocean-focused businesses and organizations contribute more than seven percent of the province's annual GDP. The expertise of Nova Scotia-based Focal Technologies was used to transmit images from the ocean floor during the 2010 British Petroleum oil spill in the Gulf of Mexico.
- Prince Edward Island: Home to a growing biosciences cluster that develops effective treatments for health conditions such as Alzheimer's, stroke and diabetes, and attracts investment from global leaders such as Novartis.
- Newfoundland and Labrador: Home to a highly innovative ocean-technologies cluster that develops and tests technologies to address the needs of many sectors, including offshore energy, fisheries, marine transportation and ocean sciences.

As world business leaders look to take their businesses to new horizons, they will find fertile ground for new ideas and game-changing innovation in Canada.

A Diverse and Talented Workforce

Canada's highly educated, flexible and multicultural workforce is ideally suited to today's knowledge-based economy. Canada's workforce is underpinned by a world-class education system that includes some 100 universities and more than 130 colleges. As a result, thousands of highly qualified students graduate each year. These schools also attract students and researchers from around the world.

Three Canadian cities (Toronto, Montréal and Vancouver) are among the 10 lowest-risk cities in the world for recruiting, employing and relocating employees, according to Aon Hewitt's 2013 People Risk Index. This index measures the risks that organizations face with recruitment, employment and relocation in 138 cities worldwide.

CANADA: A COUNTRY OF ENORMOUS OPPORTUNITY

"General Electric has operated successfully in Canada for over 100 years, and we continue to grow and invest in the country. Building on a competitive corporate tax rate, a friendly business climate and great relationships with the federal and provincial governments, we have recently announced global centres of excellence and important collaborative research projects in energy, water and healthcare. For us, Canada is a country of enormous opportunity."

-Elyse Allan, President and CEO, General Electric Canada

Top 10 Lowest Risk Cities in the World to Recruit, Employ and Relocate Employees 2013

Rank	City	Rating
1	New York	67
2	Singapore	70
3	Toronto	72
4	London	73
5	Montréal	73
6	Los Angeles	74
7	Copenhagen	76
8	Hong Kong	76
9	Zurich	77
10	Vancouver	78
10	Chicago	78
10	Boston	78

Source: Aon Hewitt's 2013 People Risk Index.

Canada has traditionally been able to attract the best and brightest minds to staff the most demanding projects, and the Government of Canada offers support in this regard. A recent example: a new immigration program, known as Start-Up Visa, was introduced in April 2013. The program aims to recruit immigrant entrepreneurs, selected by venture-capital investors, as candidates to launch innovative start-ups in Canada. In support of the program, the Government will allot 2,750 visas per year until 2018 for entrepreneurs and their families.

As one of the world's most cosmopolitan countries—more than 200 languages are spoken here every day—Canada offers tangible advantages to companies seeking to serve a global marketplace. Multilingual and well-travelled, Canada's workforce is recognized for its ability to work in international contexts. In addition, Canadians enjoy a strong reputation for delivering projects on time and on budget.

Canada ranks number two in the G-7 and number five in the world for the quality of its management schools.

-World Economic Forum



Cost-Competitive

Canada's business-operating costs are the secondlowest in the G-7 and five percent lower than those in the U.S., according to the most recent KPMG analysis.⁹ This cost-competitiveness is particularly apparent in R&D-intensive industries such as biopharma, digital entertainment and software design, which require a high proportion of skilled labour.

> Canada now has a combined federalprovincial statutory general corporate income tax rate averaging 26 percent. This tax rate is below the level of most other G-7 countries and more than 13 percentage points lower than that of the U.S.

A key factor in Canada's superior economic performance is a decade-long plan to lower corporate income taxes. In January 2012, Canada further reduced its federal corporate income-tax rate to 15 percent,¹⁰ bringing the combined provincial and federal rate to an average of 26 percent, well below the comparable rates in most other G-7 countries and almost 13 percentage points below those in the United States. In fact, a 2013 KPMG study indicates that Canada's corporate income-tax rate has decreased more rapidly than that of any other country.¹¹

Another key factor is Canada's first-place rank in the G-7 for the lowest number of days required to establish a new business.¹² Regulations pertaining to the creation of new businesses are considerably more flexible in Canada than those in the rest of the G-7. Among G-7 and OECD countries, Canada has the lowest number of procedures required to establish a new business.

Canada is also the first G-20 country to make itself a tariff-free zone for manufacturers by eliminating tariffs on manufacturing inputs, machinery and equipment. When factoring in accelerated capital cost allowance (CCA) treatment for investments in machinery and equipment, along with other deductions and credits, foreign investors will find

⁹ KPMG, Competitive Alternatives 2012.

Onada Revenue Agency. Corporation Tax Rates. Retrieved on February 11, 2013, http://www.cra-arc.gc.ca/tx/bsnss/tpcs/crprtns/rts-eng.html

¹¹ KPMG, Le taux d'imposition des sociétés au Canada demeure compétitif, February 2013, Accessed March 4, 2013, http://www.kpmg.com/Ca/fr/IssuesAndInsights/ArticlesPublications/Press-Releases/Pages/Canadas-Corporate-Tax-Rate-Remains-Competitive.aspx

 $^{^{12}}$ World Bank, Doing Business in 2013.

that Canada has one of the lowest overall tax rates on new business investment among OECD countries and the lowest such rate in the G-7.13

All of these help make Canada one of the most cost-effective places to do business in the developed world.

An Outstanding Quality of Life

Canada has the second-highest quality of life in the G-7 and the second-highest standard of living in the G-20.

-OECD and World Bank

Canada's quality of life provides a significant advantage for international investors when it comes to relocating their top talent. No matter where you live in Canada—even in major cities—spectacular coasts, lakes, forests and mountains are never far away and beckon outdoor adventurers of all kinds. Multicultural cities and communities feature a mosaic of vibrant arts, entertainment and cuisine. Canada's public-health and education systems are rivaled by few in the world. Indeed, Canada ranked second in the G-20 in healthcare spending per capita in 2010. Furthermore, Canada ranked second in the G-7 for living conditions and quality of life, as measured by OECD's Better Life Index.

"Canada has been home to my family over the last five years. Canada's cities have strong neighbourhoods, a lot of public and open spaces and great schools. It's a great place to enjoy life—a really vibrant and fun place to be."

-David P. Homer, President, General Mills Canada

Vancouver (#1), Ottawa (#2), Toronto (#3), Montréal (#4) and Calgary (#7) are tops in North America when it comes to quality of life.

-Mercer

The Canadian way of life is inclusive and respectful of diversity and creativity—precisely the characteristics knowledge workers look for in a global marketplace. Canadian cities are safe, a reflection of widespread social stability. In addition, Canadian cities are recognized worldwide for their outstanding livability, quality of life and attractiveness, further enhancing Canada's reputation as a destination of choice.

The City of Québec, for example, was recognized by Condé Nast Traveller in 2011 as the sixth-best tourist destination in the world, while Vancouver was named the most reputable city in the world by Denmark's Reputation Institute. Furthermore, the Country Brand Index, a study of global perceptions, ranked Canada as the second-most powerful country brand in the world, based on criteria such as quality of life, heritage and culture.

Expatriates' Overall Lifestyle Experience in Country of Residence

Top Eight Countries

Rank	Country
1	Hong Kong
2	Australia
3	Canada
4	Netherlands
5	United Arab Emirates
6	U.S.
7	Saudi Arabia
8	U.K.

Source: HSBC Expat Explorer Survey 2012

¹³ KPMG, Competitive Alternatives 2012.



A WEALTH OF OPPORTUNITIES

Few people recognize just how diversified and innovative Canada's economy is. While so-called high-tech industries such as information technology and life sciences reach new levels of sophistication, traditional industries are also undergoing radical change. In fact, Canada's various industrial sectors have all not only become high-tech, but are also closely interrelated.

Canada is an energy giant, and high levels of activity in the country's oil-and-gas and mining industries help foster growth in enabling industries, such as machinery, business and financial services, and information and communications technology. Downstream-processing sectors are also booming, thanks to increased demand for inputs and supplies, often resulting in the use or creation of innovative technologies.

Innovation also tends to flourish at the intersection of apparently distinct sectors. Canada is a case in point. The development of many regional innovation initiatives spread across the country has favoured the formation of cross-industrial partnerships, with widespread support and collaboration from universities. Global investors frequently link with small but innovative Canadian firms and research

groups. Canadian governments at all levels are also supportive, through public funding of R&D centres, as well as targeted incentives and businessstimulating regulations and policies.

The results are plain to see.

This section illustrates how Canada's innovation system participates in the emergence of next-generation products. See how gaming converges with simulation technologies and aerospace-support services, and how agriculture and chemicals combine to create tomorrow's bio-economy.

Canada offers a wealth of opportunities and a world of innovation.



ADVANCED MANUFACTURING



ADVANCED MANUFACTURING

Investors in the advanced-manufacturing sector understand Canada's unique benefits: the lowest overall tax rate on new investment among G-7 countries, integration with the North American industrial and consumer markets, lucrative R&D incentives and a skilled manufacturing labour force that consistently delivers high levels of quality and productivity.

AEROSPACE

Canada's aerospace and related industries sector is robust and dynamic, and has a long history of innovation and global success. It is ranked fifth among OECD countries for revenues generated and contribution to GDP. With some 700 companies, the sector generated direct annual revenues of \$22 billion¹⁴ and \$41.2 billion across multiple supply chains in Canada in 2011.¹⁵ The industry also exports 80 percent of its production. Although highly focused on commercial aviation, it is remarkably diverse in the market subsectors it serves.

Canada's aerospace producers have earned an outstanding worldwide reputation for quality, value, performance and reliability. Canada's aerospace sector is a leader in terms of export intensity and trade diversity. Its international footprint is well diversified, with partners in the U.S., Europe and the expanding markets of Asia and South America.

Moreover, this sector dedicates more than 20 percent of its activity to R&D. Its R&D intensity ranks third among OECD countries. With annual R&D and capital investment of more than \$1.7 billion, Canada's aerospace industry is a leader in aircraft-technology development and applications.

Strong Performance

With productivity growth of 53 percent between 2002 and 2009, the Canadian aerospace-manufacturing sector is a leader both in terms of productivity growth and of value added per employee. Today, Canadian aerospace firms are suppliers of choice for a broad spectrum of products and services, with key strengths in: commercial and business aircraft, helicopters, aircraft engines, avionics, aerostructures, full flight simulators and training devices, landing-gear systems, advanced-composites manufacturing, satellites, robotics and space-based services, and engine and component maintenance, repair and overhaul (MRO).

The MRO sector alone generates annual revenues exceeding \$6.5 billion¹⁶ and employs nearly 27,000 highly skilled workers. The sector's strengths include:

- Full 'nose-to-tail' services for single and twin-aisle commercial transports, regional jets and turboprops, business and military aircraft, and helicopters;
- Engine and accessory repair and overhaul for gas-turbine and piston engines.

¹⁴ Aerospace Review, Volume 1. Retrieved on February 12, 2013 from http://aerospacereview.ca/eic/site/060.nsf/eng/00038.html#s2_1

¹⁵ Industry Canada. Economic modelling based on data from Statistics Canada (Business Registry and Cansim) and firm level observation, 2012.

¹⁶ Aerospace review, Volume 1. Retrieved on February 12, 2013 from http://aerospacereview.ca/eic/site/060.nsf/eng/00038.html#s2_1



Bell 429 helicopter manufactured in Mirabel, Quebec. Photo courtesy of Bell Helicopter Textron Canada

Canada's space sector generates annual revenues of more than \$3.4 billion and employs 8,000 people, making it well-positioned to take advantage of emerging global opportunities.¹⁷ It consists of more than 200 private companies, research organizations, universities, and government departments and agencies. The sector generates 50 percent of its revenues from sales abroad, thus making it one of the most export-oriented in the world. The sector's strengths include: earth observation, space robotics, space science and exploration, and satellite communications.

The Canadian aerospace industry: more than 68,000 direct jobs in more than 700 companies and nearly 160,000 additional jobs in supplier industries.

Canada's **Bombardier Aerospace** is a world leader in the design and manufacture of innovative aviation products and services for regional, business and amphibious aircraft. The company's family of commercial and business aircraft includes the pioneering Bombardier CRJ Series of regional jets and the cost-efficient Q Series turboprop. In 2013, Bombardier C Series will set new standards for operational flexibility, cost effectiveness and passenger comfort in 100- to 149-seat aircraft.

CAE sets World Standards for Aerospace Modelling and Simulations

Headquartered in Montréal, CAE is the global leader in modelling, simulation, and training for civil aviation and defence, employing approximately 8,000 people at more than 100 sites and training locations in approximately 30 countries. CAE's business is diversified, ranging from the sale of simulation products to providing comprehensive services such as training and aviation services, integrated enterprise solutions, in-service support and crew sourcing and is also leveraging its simulation capabilities in new markets such as healthcare and mining.

¹⁷ Aerospace Review, Volume 2. Retrieved on February 12, 2013 from http://aerospacereview.ca/eic/site/060.nsf/eng/h 00034.html

"CAE is recognized globally for innovation and technology leadership in modelling, simulation, and training solutions for civil aviation and defence. Innovation is the constant thread in our 65-year history and continues to provide CAE with a compelling advantage as we look to the future. Our significant investments in R&D, made in part possible through our strong collaboration with the Government of Canada have been instrumental in securing our market leadership position while maintaining highly skilled jobs within Canada."

-Marc Parent, President and CEO, CAE

Leading-Edge Innovation

Collaborative innovation, a defining characteristic of the Canadian aerospace industry—the second-most research-intensive industry in Canada—results from a wide variety of public-private partnerships that drive the sector's global technology leadership. Key initiatives include:

- The Greener Aircraft Catalyst Project, a Quebec-based public-private collaboration of six aerospace companies,¹⁸ seeks to accelerate the development of lighter, more efficient, quieter and less carbon-intensive aircraft.
- The Green Aviation Research and Development Network (GARDN)¹⁹ is a multiprovincial business-led initiative to promote more environmentally-friendly aerospace technologies.

Some of the largest international investors in the aerospace industry have operations in Canada, including Bell Helicopter, Boeing, Bombardier, Eurocopter (a division of EADS), GE Aviation, UTAS (Goodrich), L-3 communications, Messier-Dowty, Pratt & Whitney Canada, Rolls-Royce, Thales and Ultra Electronics.

- The Composites Innovation Centre (CIC) in Manitoba is a not-for-profit corporation which works on industry-sponsored projects related to the development and application of composite materials and technologies for manufacturing industries. The CIC is driven by industry requirements in key sectors such as aerospace, and supports project coordination, engineering, design and testing.
- Developed by Aéro Montréal, MACH is a change program for accelerating the aerospace supply chain's competitiveness and performance. With a budget of \$15 million over five years, it targets 70 suppliers that will join the program in five annual cohorts.

Boeing, the world's largest aerospace company, has facilities in Richmond (British Columbia) and in Winnipeg, Ottawa and Montréal that produce parts, components, assemblies, and software applications for all of the company's commercial aircraft.

Aéro Montréal. Retrieved on February 15, 2013 from http://www.aeromontreal.ca/projet-mobilisateur-de-lavion-plus-ecologique-en/, and confirmed through Invest Québec, retrieved on February 15, 2013 from http://www.investquebec.com/en/index.aspx?page=3051

¹⁹ Network of centres of excellence of Canada. Retrieved on February 15, 2013 from http://www.nce-rce.gc.ca/NetworksCentres-CentresReseaux/BLNCE-RCEE/GARDN_eng.asp



Top-quality Talent

Availability of deep talent pools is another key reason that international investors in the aerospace industry choose to set up operations in Canada. This key locational advantage is underpinned by a top-quality education system that turns out some 3,000 aerospace graduates each year.²⁰ Some 20 universities, most of them ranked among the world's top 500, along with several specialized trade schools, offer advanced degrees and diplomas in aerospace and aerospace engineering at the undergraduate, graduate and PhD levels. A total of 11,450 students earned undergraduate degrees in engineering from Canadian programs in 2010.

Aerospace programs can be found at the **École des métiers de l'aérospatiale** and the **École nationale d'aérotechnique** in the Montréal area, and the **University of Toronto Institute for Aerospace Studies** and the **Ryerson Institute for Aerospace Design and Innovation**, in the Toronto area.

Many Canadian-based operations contributed to the Airbus A380, including Pratt & Whitney Canada (auxiliary-power units), Messier-Dowty (landing gears) and CAE (first flight simulator).

Mitsubishi Heavy Industries Expands Canadian Subsidiary

A subsidiary of Japan-based **Mitsubishi Heavy Industries**, **MHI Aerospace**, opened its new facility in the Greater Toronto Area in 2012—less than five years after setting up shop in Ontario. Mitsubishi Heavy Industries' first aerospace-production facility outside Japan fabricates wings for **Bombardier**'s high-speed business jets, and currently employs 420.

"We selected Toronto because it provided us with the highly skilled workers we need—many of them from around the world, which is also an asset—a facility that fit the bill and proximity to our client. This is the first trial for MHI Aerospace outside Japan in more than two decades and we've demonstrated manufacturing quality and efficiency."

-Haruhiko Machiyama, President, MHI Aerospace

Pratt & Whitney Canada invests some \$400 million annually in the development of new products and processes. The company has collaborated for more than 15 years with Canadian universities and the **National Research Council** to develop next-generation engines that are increasingly fuel-efficient, quieter and cleaner.

New Investment Projects by International Investors (since January 2012)

- France-based **Aerolia Canada** announced a \$82 million investment in a new head office and plant in Mirabel, Quebec, to assemble centre fuselages for the Bombardier Global 7000 and 8000 business jets. The project will enable the direct delivery of fully equipped and tested fuselages to Bombardier's assembly lines.
- U.S.-based General Electric Aviation announced a \$61 million project to build two new researchand-development centres in Bromont, Quebec. The centres, devoted to robotics, and testing equipment and machinery, will serve GE Aviation manufacturing facilities worldwide.

²⁰ Conference Board of Canada, *Canada's Aerospace Industry*, 2011.

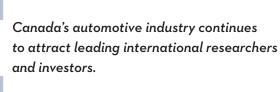
- France-based Messier-Dowty announced a \$58 million expansion of its plant in Mirabel, Quebec, that will increase production capacity. Messier-Dowty specializes in the design, development, manufacture and customer support of all types of landing gear.
- France-based Latécoère, specialized in aerostructures, wiring systems, and engineering and services, will build a new Canadian subsidiary in Montréal and plans to hire 60 employees by 2014.
- Mitsubishi Heavy Industries Canada Aerospace (MHICA) established a new facility in Mississauga, Ontario. This new facility represents an investment of ¥3 billion (approximately \$40 million).



The eVaro car, developed in Canada, is a three-wheeled electric sports car that can achieve speeds of up to 210 km/h and travel 200 km between charges.

Photo courtesy of Future Vehicle Technologies Inc.

AUTOMOTIVE



Canada has been an automotive-manufacturing nation for more than 100 years. With more than 1.300 facilities. Canada now accounts for 16 percent²¹ of vehicle production in North America. With annual revenues of \$71 billion²² and exports valued in 2011 at more than \$56 billion²³ per year, Canada continues to be a major global player. Annual capital investment in Canada's automotive industry averaged \$3 billion from 2002 to 2011²⁴ as companies such as **Chrysler**, Ford, General Motors, Honda and Toyota, along with manufacturers such as Hino, Motor Coach Industries, PACCAR and Volvo Bus, seek to make the most of the country's many advantages. Annual investments in R&D averaged more than \$455.6 million²⁵ from 2002 to 2012. Results are increasingly visible and the car of tomorrow is already taking shape—in Canada.

As fuel-economy and emission standards increase, so too does demand for expertise with the lighter materials that the automotive industry needs to meet them. First-generation swirled equilibrium enthalpy device (SEED) systems create semi-solid die-cast aluminum parts that are as strong as those made of high-quality forged aluminum for far less cost. This enables manufacturers to reduce both the weight of vehicles and carbon emissions. SEED systems were developed by Quebec-based STAS, in partnership with primary producer Rio Tinto Alcan and the National Research Council of Canada. The technology has been sold to R&D centres at Yamaha and European automotive suppliers Lebelier and CIE.

²¹ Industry Canada.

²² Statistics Canada.

²³ Industry Canada.

²⁴ Ibid.

²⁵ Ibid



GENERAL MOTORS CONTINUES TO INVEST IN CANADIAN RESEARCH AND DEVELOPMENT

Between 2009 and 2016, General Motors will have invested \$850 million in R&D in Canada.

"GM has long been a Canadian technology and innovation leader and these additional investments will build our expertise in strategic and important technologies even further."

-Kevin W. Williams, President and Managing Director, General Motors Canada

Top U.S. E-Car Scientist Chooses Canada

Hamilton's McMaster University made headlines in the automotive press with its 2010 recruitment of Dr. Ali Emadi from the Illinois Institute of Technology. One of the world's foremost developers of electric and hybrid powertrain technologies, Emadi now spearheads the effort to take hybrid-vehicle R&D to a new level. In addition to overseeing the construction of a new hybrid-vehicle research facility at the university, he also heads MacAUTO, the coordinating body for automotive research and education at McMaster.

"Building a unique program like this from the ground up is a wonderful opportunity. That, coupled with the university's vision and exceptional commitment for leadership in sustainable automotive research, made relocating impossible to resist."

-Dr. Ali Emadi

In eight of the past 12 annual J.D. Power and Associates quality surveys, Toyota and General Motors plants in Canada have been rated as the best in the western hemisphere.

Reputation for Manufacturing Excellence

Independent studies consistently rank Canada's auto sector highly in terms of productivity and quality. Canadian assembly plants have earned a global reputation for exceptional quality, winning many awards. In fact, Canadian assembly plants have won one-third of all J.D. Power and Associates awards for plant quality in North America since 1990; in 2012, the Toyota plant in Cambridge won the Gold Plant Quality Award.²⁶

These top-performing plants are supported by world-class suppliers with operations in Canada such as Aisin Seiki, Continental, Denso, Faurecia, Johnson Controls and TRW. In addition, major global suppliers based in Canada include ABC Group, Linamar, Magna, Martinrea, Valiant, Wescast and Woodbridge.

Deep Talent Pools

Canada is home to a highly-skilled automotive workforce of more than 112,000 people. Canadian autoworkers are known for their strong work ethic, low turnover, reliability, quality and productivity. Canada's top-quality educational institutions ensure a continuous supply of qualified graduates in engineering, machining, metalwork, welding, robotics, manufacturing systems and service, as well as tool-and-die making.

²⁶ About J.D. Power and Associates, Initial Quality Studies. Retrieved on February 12, 2013 from http://autos.jdpower.com/content/press-release/ws4mUEA/2012-u-s-initial-quality-study.htm



Factory acceptions test with operator at Mercedes Benz Fuel Cell Stack Production (Burnaby, British Columbia). Photo courtesy of Mercedes-Benz

Cutting-Edge Innovation

Canada's automotive industry enjoys productive and profitable research-and-innovation partnerships with universities, colleges and public research centres. AUTO21, for instance, is a national network that supports 200 top researchers working on innovative, applied auto-related research at more than 45 academic institutions across Canada. The network currently supports 38 research projects that range from consumer education in the use of safety devices, to new and improved processes for design, materials and manufacturing. Another example is the Automotive Research & Development Centre, a partnership between the University of Windsor and Chrysler, which has already invested \$600 million in R&D projects and infrastructure such as several road-test simulators.²⁷ Chrysler and FIAT have also contributed to the creation of a joint Master's degree program in automotive engineering at the University of Windsor and the Politecnico di Torino in Italy.

Key areas of R&D focus include alternative fuels, mechanical engineering, engine and transmission design, advanced materials, emissions, biomechanics and vehicle safety. Intensive R&D related to electric vehicles is also underway in Canada. **Magna International**, for instance, has already invested more than \$400 million with the support of the Canadian

and Ontario governments in research and development into electric vehicle technologies in Canada. Another government-supported initiative is the **Fraunhofer Project Centre** (FPC), a partnership between the **Fraunhofer Institute** in Germany and the **University of Western Ontario** (located in London, Ontario) focused on developing composite materials for industrial-scale trials of lightweight vehicles. Innovation in other sectors, such as information and communications technology, further strengthens Canada's automotive sector.

Launched in 1996, the Windsor, Ontariobased Automotive Research and

Development Centre (ARDC) began as
a \$30 million joint initiative of Chrysler
and the University of Windsor. This first
partnership of its kind in Canada has since
attracted more than \$600 million in investment. The goal of the centre is not only to
produce smarter, more durable and safer
cars, but also to train new generations of
Canadian engineers capable of leadingedge research and development in the
global automotive industry.

²⁷ University of Windsor, The Automotive Research and Development Centre. Retrieved on February 17, 2013 from http://www.uwindsor.ca/engineering/ardc

New Investment Projects by International Investors (since January 2012)

- U.S.-based General Motors Canada is investing \$850 million to conduct automotive R&D in Canada, both independently and in partnership with other organizations. The R&D activity focuses on environmental technologies, reduction of vehicle weight and transportation systems.
- Japan-based **Kubota Metal Corporation-Fahramet Division** is building a new \$12 million plant in
 Orillia, Ontario, adjacent to its existing plant. The
 plant will manufacture non-hazardous friction
 material for use in the production of automotive
 brake pads.
- U.S.-based General Motors Canada started production of the all-new, flagship Cadillac XTS Sedan in Oshawa, Ontario in June 2012. The exclusive global production mandate is the result of a \$117 million investment in the facility.
- France-based Michelin North America has announced a \$73 million upgrade at its truck-tire plant in Waterville, Nova Scotia. This expenditure is expected to create 50 new jobs and increase production capacity of tires for North America's commercial truck market.
- TG Minto, a subsidiary of Japan-based Toyoda Gosei, announced construction of a new \$11 million plant in Stratford, Ontario. TG Minto will supply interior and exterior automotive components to Toyota Motor Manufacturing Canada.
- Japan-based Toyota Motor Manufacturing Canada announced a \$100 million expansion of its plant in Cambridge, Ontario. The project will increase production of luxury cross-over vehicles by 30,000 to 104,000 units annually, including 15,000 hybrid versions.

Germany-based Daimler AG started fuel-cell stack production at its Mercedes-Benz F-CELL plant in Burnaby, British Columbia, in June 2012. It is the company's first facility of its kind. In January 2013, Daimler, Ford and Nissan announced a three-way partnership to accelerate the commercialization of fuel-cell electric-vehicle technology based in part on work done in Canada.

MACHINERY AND EQUIPMENT

Canada ranks among the world's top machinery-manufacturing countries. With nearly 8,700 companies and a direct production labour force of more than 113,000, Canada's machinery and equipment industry recorded sales of \$45.9 billion in 2012;²⁸ exports accounted for 70 percent of all sales.²⁹ After a lull during the 2008–2009 global slowdown, export sales have resumed their growth—a reflection of Canada's growing reputation for excellence in international markets.

Canada's machinery and equipment manufacturing sector attracted over \$4.9 billion worth of investments in 2012. The growth of this sector is due, in part, to the high level of activity in the natural resources industry in Canada; indeed, strong demand for supplies, equipment and technology continually fosters growth in complementary industries.

Canada's expertise in the sector is fuelled by strong education and R&D infrastructure, and complemented by ready access to major markets. Foreign investors are attracted to Canada's skilled workforce and specialization in advanced materials, hybrid technologies, and intelligent systems, machinery and plant design. The industry also benefits from Canada's wealth of major capital investment projects in oil and gas, mining, power generation and transportation.

²⁸ Statistics Canada, includes NAICS 333 and 335.

²⁹ Industry Canada, Trade Data Online.

GLOBAL MINING GIANT VALE PARTNERS WITH CANADIAN INNOVATOR ON NEW DEMONSTRATION PLANT

Brazil-based **Vale** invested \$49 million in a demonstration project in Sudbury, Ontario, that features Rail-Veyor®, an innovative material-haulage system. The remotely operated light-rail system replaces diesel trucks with a series of interconnected two-wheeled cars propelled by stationary drive motors. The system also features variable-frequency drives, fibre-optic networks and programmable logic controllers.

"With Vale's support and commitment, we look forward to advancing the commercialization of the technology in underground mines on a global basis."

-Ronald G. Russ, President, CEO, CFO and Treasurer, Rail-Veyor Technologies Global

Major domestic machinery manufacturers have emerged over the years. Many are now active in international markets and have expanded their production capacity in Canada such as ATS Automation Tooling Systems, Charl-Pol, Premier Tech, Valiant and Weldco-Beales Manufacturing.

Global leaders with Canadian production facilities include France's **Alstom**, **Areva** and **Aldes**, Japan's **Hitachi**, Germany's **Siemens** and **Dieffenbacher**, Sweden's **Atlas Copco**, U.S.-based **Johnson Controls**, **Koester Associates** and **John Deere**, Italy's **Valvitalia** and **Biesse**. Most of these companies have made significant investments in Canada in recent years.



Vale's New Demonstration Plant Featuring Canadian Innovative Hauling System Technology. Photo courtesy of Rail-Veyor Technologies Global Inc.

Expansion of the Hitachi plant in Guelph, Ontario

With \$7 million worth of support from the Government of Canada, Hitachi Construction Truck Manufacturing will expand its Guelph plant, increasing production capacity and creating new jobs.

"With the recently launched Japanese-designed trucks, our goal is to increase the production volume for these new models as well as increase our current line of construction, quarry and mining-size trucks. We believe this complete product offering will allow Hitachi continued growth and solidify our footprint here in Canada. On behalf of Hitachi, I would like to express our appreciation and thanks to the federal government for the funding granted for the plant expansion."

—Hideo Kitawaki, President, Hitachi Construction Truck Manufacturing



AGRI-FOOD

Canada is a global agri-food powerhouse offering a wealth of opportunities to global investors. Its many advantages include abundant, high-quality and competitively priced agricultural raw materials, a large pool of skilled labour and ready access to global markets. From functional foods to fine niche products, Canada's agri-food sector is one of the world's most innovative and globally integrated.

Global agricultural production is projected to grow by 1.2 percent per year through 2050 to satisfy a world population that will increase by more than two billion during the same period. Canada is well positioned to benefit directly from this growth; indeed, Canada holds 46 percent of the world's potash reserves and is home to world-class nitrogen-fertilizer projects, with abundant natural-gas supplies providing potential for more.

FOOD PROCESSING

As one of the largest manufacturing industries in Canada in terms of production with shipment value worth \$97.3 billion in 2012, it employs 297,000 people.

The food and beverage processing industry is the second largest manufacturing industry in Canada; it accounts for 16 percent of the total value of manufacturing shipments and two percent of national GDP.

Canada exported \$24.6 billion worth of processed food and beverage to a total of 185 countries. Significant proportions went to the United States, China, Japan, South Korea, Mexico, and Russia.

Functional Foods and Natural Health Products: At the Forefront of the Health Food Revolution

Canadian researchers are making breakthroughs in developing and manufacturing healthy ingredients for natural-health products and dietary supplements.

These include omega-3 fatty acids from marine sources, unsaturated fatty acids from canola oil, soy protein, plant sterols and stanols from vegetable oils, as well as probiotics and fermented beverages. Canada has also introduced new, innovative products to the world such as flax bio-actives, fibre-based prebiotics and berry-based polyphenolic antioxidants. The country also continues to contribute to efforts to combat diseases impacting the food industry, such as necrotic enteritis, which affects poultry.

With close to 700 firms actively producing these health products, this sector yields annual revenues of over \$3.5 billion.³² Its success stems from Canada's stringent quality and safety standards, innovative

³⁰ OECD - FAO, Agricultural Outlook, Summary 2012 edition and World Agriculture Towards 2030-2050: The 2012 Revision.

³¹ Natural Resources Canada.

³² Agriculture and Agri-food Canada, Functional food and neutraceutical. Retrieved on February 14, 2013 from http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1170856376710



research infrastructure, abundant natural resources and an environment of collaborative teamwork between public and private partners. Recent examples:

- In 2012, Ocean Spray Cranberries opened a state-of-the-art receiving station in Richmond, British Columbia. This \$26 million facility will increase productivity in one of the largest cranberry-growing regions of the world.
- Technology Crops International, a leader in specialty crops, opened a state-of-the-art oilseed-processing facility in Prince Edward Island in 2011. The new facility uses innovative and sustainable refining technologies to manufacture custom refined oils.

What's in a name? Canola: the 'Canadian oil'

The crop we know today as canola is a made-in-Canada innovation. Indeed, the word "canola" is an abbreviation of "Canadian oil, low acid." In the 1970s, Canadian plant breeders developed canola from rapeseed for industrial uses. Researchers continued to develop new and improved forms of canola with fatty-acid profiles to make it safe and healthy for human consumption (with low levels of saturated fat), and livestock animal diets. Canola is now one of Canada's most valuable crops, contributing more than \$15 billion to the country's economy each year. It continues to attract foreign investment, notably in research, by companies such as Bayer CropScience and BASF.

Fine Foods and Other Specialty Products

Snack foods continue to gain in popularity both at home and abroad, and exports have increased steadily in the last decade. The industry has responded to evolving tastes in international markets by introducing new flavours and products, including organic snack foods made from hemp seeds and root vegetables such as parsnips, beets, sweet potatoes and carrots.

International demand for confectionary products is also thriving. Global giants such as **Ferrero** (Italy), **Barry-Callebaut** (Switzerland) and **ChocMod** (France) have invested more than \$475 million in chocolate-manufacturing facilities in Canada since 2004. Despite the recent economic slowdown, Canada's exports of confectionary products have grown by an average of three percent annually during the past five years.³³

Canadian exports of specialty foods, such as foie gras, kimchi, prosciutto and Harovinton soybeans (used in tofu) also continue to expand. In many cases, new immigrant entrepreneurs in Canada have invested in the necessary facilities.

³³ Statistics Canada.

Ferrero Chooses Ontario for New North American Plant

With growth plans critical to the company's future, Ferrero considered many factors in deciding where to establish a new manufacturing plant to enter the North American market. After analyzing financial factors, as well as quality of life and business environment, the company preferred Brantford, Ontario to alternative locations within the North American Free Trade Agreement (NAFTA) markets. The initial investment of more than \$400 million was followed by expansions of the plant in 2010 and 2012.

"Political and societal context were very important [location factors]. Our advantage in Canada, around a multicultural, businessfriendly, and multilingual environment, was particularly attractive to Ferrero. [Canada's] parliamentary system with a federal and provincial structure was understood by Europeans and considered successful and stable. [...] The country was viewed as modern and progressive. Several third-party studies reinforced quality-of-life ratings as amongst the highest worldwide. The fact that we could document a higher standard of living for employees at a lower cost was compelling for the business case. These factors, combined with a strong financial argument, made Canada the preferred location for the North American plant investment."

> —Allan Cosman, President and CEO, Ferrero Canada, speaking at the Financial Times (FT) Global Investment Series: Focus on Canada in Chicago, IL.

New Investment Projects by International Investors (since January 2012)

- **Liberté**, a subsidiary of France-based **Yoplait**, announced a \$45 million modernization of its plant in Saint-Hyacinthe, Quebec.
- U.S.-based Cargill announced the addition of a refinery facility to its canola-processing plant in Clavet. Saskatchewan.
- U.S.-based Sysco Canada has announced the construction of a new distribution centre in Woodstock, Ontario.
- SPF Canada, a subsidiary of France-based Group Diana SAS, will build a new \$4 million plant in Saint-Blaise, Quebec, to produce flavourings for cat and dog foods.
- U.S.-based **DuPont Pioneer** has invested in a new \$15 million canola and soybeans seed breeding and production facility in Wingham, Ontario.
- France-based **Bonduelle** announced a \$13 million expansion of its plant in Saint-Denis-sur-Richelieu, Quebec. The expansion will help the company, which specializes in processing canned and frozen vegetables, increase production and develop new products.
- India-based OmniActive Health Technologies has expanded its international operations by opening an advanced R&D centre at the Biocommons Research Park in Charlottetown, Prince Edward Island.



CHEMICALS AND PLASTICS

Canada's multi-billion dollar chemicals and plastics industry continues to thrive thanks to secure access to low-cost feedstocks, proximity to major North American industrial and consumer markets, low-cost energy, integrated transportation and industry infrastructure, and abundant skilled labour, including scientists and engineers.

In 2012, the industry employed nearly 158,000 Canadians and generated revenues of more than \$60 billion. Exports accounted for approximately 60 percent—or \$37 billion—of revenues.³⁴

CHEMICALS

With the world's third-largest reserves of oil, seventh-largest of gas, as well as a large petroleum-refining industry, Canada provides abundant and low-cost feedstocks to the petrochemical industry. Abundant minerals and biomass are also available across the country, making Canada a top investment choice for the organic chemicals, inorganic chemicals and plastics sectors. Canada has an extensive portfolio of minerals and metals, such as potash and rare-earth elements, that serve as a base for its inorganic chemicals industry. Moreover, with biomass feedstock including corn and wheat available across the country, new biotechnology is increasingly used to create chemicals produced from Canada's large agricultural and forestry industries.

From sustainable chemistry to bioplastics, Canada demonstrates how to build a profitable bio-economy.

Large and efficient extracting plants, modern ethylene crackers and derivative plants that are among the largest in the world and enable Canada to achieve important economies of scale. With 81,000 workers in 2012³⁵ and leading domestic establishments such as **ERCO Worldwide**, **Methanex**, **NOVA Chemicals** and **Raymor Industries**, Canada's chemical industry is one of the country's largest manufacturing sectors with shipments valued at \$46 billion in 2012,³⁶ including exports worth nearly \$30 billion.³⁷

Canada's competitive operating costs, along with strong commodity prices, contribute directly to profitability. Indeed, according to KPMG's 2012 survey of 100 cities in 14 countries, Canada recorded the third-lowest cost of business in specialty chemicals-manufacturing among established industrialized countries (behind the U.K. and the Netherlands). Canada ranked number two in the G-7 and held cost advantages of 3.4 percent over the United States and 3.7 percent over Germany.³⁸ The development of additional gas reserves and oil-sands bitumen will drive further growth in Canada's chemical industry.

³⁴ Statistics Canada and Industry Canada.

³⁵ Statistics Canada.

³⁶ Ibid.

³⁷ Industry Canada.

³⁸ KPMG, Competitive Alternatives, 2012.



Photo courtesy of National Research Council Canada

Major Global Investors in Canada

- Air Liquide
- Amcor
- BASF
- Cabot
- The Dow Chemical Company
- Koch Industries
- LANXESS
- Praxair
- Royal Dutch Shell
- Yara International

"Canada's access to competitively priced raw materials makes it a very attractive place to invest. NOVA Chemicals' Canadian operations will be converting natural-gas liquids from shale gas and oil development and oil-sands upgrading off-gases into high-value petrochemicals, and we are evaluating even larger Canadian investments for the future."

—Grant Thomson, Senior Vice President and President Olefins and Feedstocks, NOVA Chemicals

Basic, Intermediate and Specialty Chemicals

With its abundant natural resources and access to large quantities of reliable, low-cost electricity, Canada offers foreign investors access to all the key ingredients essential to the production of base and intermediate chemicals, including petrochemical and inorganic chemicals. These also serve as some of the building blocks for Canada's specialty chemicals subsector.

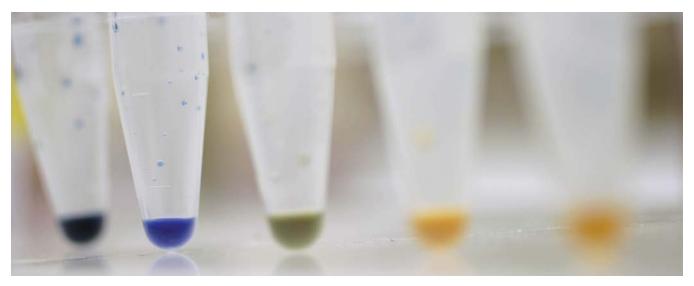
Sun Chemicals Canada Consolidates Quebec and Ontario Manufacturing Facilities

In order to reduce costs and improve eco-efficiency, Sun Chemicals Canada opened a \$3.1 million ink-manufacturing plant in Quebec, regrouping activities from four different locations.

"We are affirming our commitment to the Quebec and the Canadian market with this investment [...] Sun Chemical plans to be in this business for the long term and is providing the infrastructure needed to deliver best-inclass services to our valued customers."

-Rod Staveley, President, Sun Chemicals Canada

Chemicals and Plastics



Micropipettes
Photo courtesy of National Research Council Canada

PLASTICS

With 2012 shipments valued at approximately \$17.9 billion (including exports worth \$7.4 billion), a workforce of 95,000 and more than 2,700 establishments in 2010,³⁹ Canada's plastics sector is a sophisticated, multi-faceted producer of plastics products, machinery and moulds, as well as synthetic resins. Canada's large pool of highly skilled machinists and technicians represents an important asset. Canadian firms have internationally recognized expertise in high-quality injection moulding, thermoforming machinery, blown-film extrusion systems as well as extrusion capability for corrugated pipe and other specialized plastic profiles. Customerand market-specific projects, along with relatively short delivery times, help drive innovation at Canadian plastics companies.

Canadian companies accounted for six of the top 10 North American mould makers in 2010.

The industry is closely integrated with other advanced-manufacturing sectors, such as aerospace and automotive. It is also well supported by a large cluster of mould-making specialists including major companies such as **StackTeck**, **Omega Tool**, **Active Burgess**, **Reko** and **Valiant**. Of the top ten North American mould makers in 2010, six were Canadian companies and two of these, **Husky Injection Molding Systems** and **Wentworth Technologies**, ranked first and second, respectively.⁴⁰

Joining the Rise of Bioplastics

Canada is a leading global centre for the research and development of processes to produce plastic resins from biomass. Companies capable of using Canada's abundant supply of low-cost alternative feedstocks are gaining new ground in this fast-growing market worldwide. Annual growth rates are estimated by Ceresana Research at approximately 18 percent to 2018.⁴¹

³⁹ Industry Canada and Statistics Canada.

⁴⁰ Industry Canada.

⁴¹ Ceresana. Retrieved on February 18, 2013 from http://www.ceresana.com/en/market-studies/plastics/bioplastics/



CANADIAN SOLEGEAR PARTNERS WITH NATIONAL RESEARCH COUNCIL

Solegear Bioplastics, a commercial-scale developer and manufacturer of bioplastics, is looking forward to engineering new products with the support of the **National Research Council (NRC)**.

"The Polymer Bioproducts team at the NRC is world-renowned for their understanding and expertise in stabilizing bioplastics, and is a great fit with our technology for modifying specific performance characteristics of bioplastics. Our development agreements set the stage to deliver significant technology breakthroughs that would be otherwise unachievable if we both worked independently."

—Toby Reid, Founder and CEO, Solegear Bioplastics Inc.

Synthetic Resins

Canada's large energy reserves, along with a skilled workforce, helps drive growth in the synthetic-resin industry. With total shipments worth \$6.5 billion in 2010⁴² (including exports of \$5.5 billion), the industry continues to thrive and exports have been growing since then at a pace of seven percent per year.

Plants based in Western Canada produce commoditygrade thermoplastic resins from feedstocks derived mainly from natural gas, while those in Central Canada produce both thermoplastic and thermoset resins using raw materials derived from both crude oil and natural gas.

Much of the new capacity that has been built in recent years features world-scale technology: **Dow Chemical**'s plant in Fort Saskatchewan, Alberta uses proprietary metallocene technology, for instance, while **NOVA Chemicals**' plant in Joffre, Alberta, is the first to commercialize the company's made-in-Canada Advanced Sclairtech technology (Industry Canada).

A Selection of Major Plastic Products Firms in Canada

Company	Head Office
ABC Group	Canada
Advanced Drainage Systems	United States
Atlantic Packaging Products	Canada
Camoplast	Canada
CCP Composites	France
IPEX	Belgium
NOVA Chemicals	Canada
Novo Plastics	Canada
Royal Group Technologies	United States
Soucy Group	Canada

⁴² Statistics Canada.



New Investment Projects by International Investors (since January 2012)

- India-based Indian Farmers Fertiliser Cooperative (IFFCO) is investing \$1.2 billion with a local partner to build a nitrogen-fertilizer plant in Bécancour, Quebec. The plant will produce up to 1.25 million tonnes of urea per year to serve the local and Indian markets.
- France-based **Air Liquide Canada** has invested \$60 million in the construction of its new Air Separation Unit (ASU) in Dawson Creek, British Columbia. The new plant will supply in excess of 450 tonnes per day of liquid nitrogen to primarily industrial customers in the oil-and-gas sector in northeastern British Columbia and Alberta.

CCP Composites, a subsidiary of France-based Total Group, consolidated its Quebec operations into a larger, \$5 million plant in Drummondville, Quebec.



SUSTAINABLE TECHNOLOGIES

The development of sustainable technologies is a priority for all levels of government in Canada: federal, provincial, territorial and regional. Indeed, many support the emergence of a bio-economy with targeted policies and incentives that range from tax credits and education programs to market-stimulating regulations. As a result, projects to harness natural sources of power are underway across the country, and international investors are increasingly attracted to Canada.

WIND, SOLAR AND OTHER RENEWABLE-ENERGY CLUSTERS

Canada's enviable status among industrialized countries as a net exporter of energy will continue to rise during the 21st century, as alternative-energy projects proceed at a record pace from coast to coast. Indeed, Canada has the third-largest renewable-energy capacity in the world. Major long-term commitments for clean-power purchases in several provinces spur domestic development in this rapidly-growing sector.

"Canada is a key market for renewable energy, with high-quality projects that are supported by long-term feed-in tariffs. We are delighted with our progress which strengthens our position in this attractive market with further growth opportunities."

–Zin Smati, President and CEO, GDF SUEZ Energy North America

Hydroelectricity

Canada is the world's third-largest producer of hydroelectric energy,⁴³ with generation of about 373 terawatt-hours of electricity in 2011; it added another 1.3 GW (gigawatt) of capacity to end the year with 76.4 GW. Canada's status as a leader in hydropower stems from longstanding, home-grown technical expertise. For instance, the well-known engineering firm **SNC-Lavalin** has participated in hydro generation projects in more than 120 countries with a total installed capacity of more than 250 GW, and some 90,000 kilometres of power lines.⁴⁴

To support the development of Canada's renewableenergy capacity and related industrial fabric, many international firms have set up new facilities in Canada to develop and manufacture related components and technologies.

Wind Energy

Canada's installed wind-energy capacity now exceeds 6.5 GW and supplies about three percent of domestic electricity demand, making it the country with ninth-largest wind energy capacity in the world. In 2011, new projects added more than 1.27 GW to the country's wind-energy capacity; projects in British

⁴³ Renewable Energy Policy Network for the 21st Century, Global Status Report, 2011.

⁴⁴ SNC Lavalin, Expertise. Retrieved on February 13, 2013 from http://www.snclavalin.com/expertise.php?lang=en&id=4&sub=1

⁴⁵ Canadian Wind Energy Association, Wind Facts. Retrieved on February 13, 2013 from http://www.canwea.ca/images/uploads/File/NRCan - Fact Sheets/canwea-factsheet-economic-web.pdf



Columbia, Alberta, Saskatchewan, Ontario, Quebec, New Brunswick and Nova Scotia will soon increase capacity by a further 1.3 GW.⁴⁶ Well-known international investors in the sector include France's **EDF**, Spain's **Acciona**, U.S.'s **Invenergy** and **Pattern Energy**, and Germany's **WPD**. International leaders such as **Daewoo**, **Samsung**, **Enercon** and **Siemens** continue to invest in Canadian plants to develop and manufacture towers, turbines blades and other essential components.

Solar Energy

A solar-energy cluster is emerging in Canada. More than 350 solar companies operate in Canada, including 40 manufacturers of solar photovoltaic (PV) components. As an emerging technology, solar PV is R&D intensive, and Canada houses world-class university research groups, research institutes and testing facilities dedicated to solar PV technologies. The industry now covers the entire supply chain from raw materials (e.g. high-purity polysilicon) to finished products; it includes system integration as well as specialized parts and components such as solar cells, mounts, inverters and control panels. The cluster is based largely in Ontario, Canada's manufacturing heartland. Ontario is also the first jurisdiction in North

America to establish a comprehensive feed-in tariff program for electricity generated from renewable sources. Ontario's research community is involved in the whole range of technologies: thin films, spectroscopy, power distribution and generation, radiation modeling, photovoltaics energy conversion and silicon refinement, along with system design. This research strength, combined with government support and advanced-manufacturing capacity, positions Ontario as a prime location for project developers and for manufacturers of sustainable, alternative-energy technologies and related components.

Overall, there were 289 MW (DC) of solar PV capacity installed in Canada in 2011 representing over 335 GWh of power generation on an annual basis. This level of activity created \$584 million of direct economic output and employed approximately 5,100 direct full-time equivalents on an annual basis.⁴⁷

Top international investors such as U.K.based International Power and South Korea-based CS Wind have recently invested in new facilities in Ontario.

⁴⁶ Canadian Wind Energy Association, Wind Facts. Retrieved on February 13, 2013 from http://www.canwea.ca/images/uploads/File/NRCan - Fact Sheets/canwea-factsheet-economic-web.pdf

⁴⁷ Canmet ENERGY, Sector Profile for Solar Photovoltaics in Canada. Retrieved on April 5, 2013 from http://canmetenergy.nrcan.gc.ca/sites/canmetenergy.nrcan.gc.ca/files/files/pubs/2012-063-eng.pdf



Ocean Energy

Bordered by three oceans, Canada is exceptionally rich in tidal-current and wave-energy resources. Although most ocean-energy technologies are still under development, several demonstration projects provide a glimpse of their potential benefits for communities and for investors.

Canada became active in ocean energy in 1984 with the construction of the 20 MW tidal energy plant on the Bay of Fundy at Annapolis Royal, Nova Scotia. Canada has since developed a strong reputation for:

- Tidal generating stations including horizontaland vertical-axis turbines that harness currents and tides:
- Manned and unmanned specialized remote-tooling systems for subsea work;
- Modular and scalable remote off-grid, utility-scale, offshore and near-shore wave generators;
- Wave-technology test and simulation facilities;
- Wave-energy-driven desalinization technology; and.
- Numerical modeling, wave measurement and analysis as well as flow measurement.

New research findings from California-based Electric Power Research Institute identify the Bay of Fundy as potentially the best site in North America for tidal-power generation, with a world-class resource close to an existing electricity grid.

BIOENERGY AND BIOPRODUCTS

Large reserves of agricultural and forestry biomass resources, coupled with new made-in-Canada conversion technologies, provide a sound basis for the country's emerging bio-economy.

Biofuels

Whether for ground vehicles or aircraft, biofuel production has now reached two billion litres per year and continues to grow.⁴⁸ Canada enjoys an advantageous position in this fast-growing world market, thanks to new technologies, an abundance of suitable resources such as corn, wheat, canola and cellulose (wood fibre), as well as supportive government policies.

⁴⁸ Canadian Renewable Fuels Association, Growing Beyond Oil: Delivering our Energy Future - 2010. Retrieved on February 13, 2013 from http://www.greenfuels.org/uploads/documents/crfareportcardenglish2010final.pdf



CELLUFORCE: THE WORLD'S FIRST NANO-CRYSTALLINE CELLULOSE DEMONSTRATION PLANT

In January 2012, CelluForce opened a plant in Windsor, Quebec, to extract nanomaterial from dried wood fibre. Applications for the new material range from cosmetics and textiles to aerospace components and construction materials. The \$36 million plant was partly financed by the Government of Canada and the Government of Quebec.

In accordance with the **Federal Renewable Fuel Regulations**, Canada now blends an average of five percent ethanol into its gasolines. 44 ethanol and biodiesel plants already operate in Canada. In Eastern Canada, corn is the primary feedstock for ethanol, while animal fats are the primary feedstocks for biodiesel; facilities in Western Canada use wheat for ethanol and canola for biodiesel.⁴⁹

Several municipal and public-transit fleets in Canada already rely on biodiesels. In 2011, the Government of Canada introduced a two-percent renewable-content requirement for diesel fuel and heating oil. The Government of Canada strongly supports domestic production of renewable fuels by providing funding for programs such as **Sustainable Development Technology Canada's** NextGen Biofuels Fund, a \$500 million program designed to leverage private-sector investment in the world's first commercial facility to produce next-generation renewable fuels.

Biomaterials

The development of biomaterials has increased significantly in recent years in Canada. The recent opening of the country's first nano-crystalline cellulose plant indicates that biomaterials are destined to play a significant role in the Canadian bioproducts industry.

Nano-crystalline cellulose composites produced from wood fibres are used in the aerospace industry to replace heavier, more expensive and non-renewable materials. Other biomaterials are used in the production of automotive parts, tires, insulation, textiles and plastic composites. Canada, the world's second-largest exporter of primary forest products, 50 has an abundant supply of forestry resources. The country is also a world leader in plant genomics and has a number of centres of excellence for the development of the oils used in bioproducts.

Biochemicals and bioplastics are also under development in Canada; for more information, please refer to the Chemicals and Plastics section.

⁴⁹ Canadian Renewable Fuels Association, Growing Beyond Oil: Delivering our Energy Future - 2010. Retrieved on February 13, 2013 from http://www.greenfuels.org/uploads/documents/crfareportcardenglish2010final.pdf

⁵⁰ Natural Resources Canada. Canada's Forest Industry: An Overview, 2012.



"We evaluated a number of possible locations and selected [Canada] for many reasons including low-cost utilities, feed-stock availability (first and second generation), a skilled and experienced labour force, existing chemical infrastructure, competitive transportation costs and attractive government support at the municipal, provincial and federal levels."

-Jean-François Huc, CEO, BioAmber

New Investment Projects by International Investors (since January 2012)

- TSP Canada Towers, a joint venture between China-based Taisheng Wind Power Equipment (known as TSP in China) and British Columbiabased Top Renergy, will establish a \$25-million wind-tower manufacturing facility in Thorold, Ontario.
- Japan-based Hitachi will build a new \$60 million carbon-capture test facility in Estevan, Saskatchewan, in partnership with SaskPower, a provincial Crown corporation.



INFORMATION AND COMMUNICATIONS TECHNOLOGY

Backed by Canada's impressive talent pool, relentless creativity and competitive operating costs, international investors are increasingly drawn to Canada's successful ventures in digital media, software and telecommunications industries.

Canada's global leadership in the ICT sector results directly from a commitment to innovation. In 2012, this growing sector employed a workforce of 632,000. In 2011, the sector boasted revenues of more than \$168 billion and exports worth more than \$17.8 billion.⁵¹ ICT industries lead in private-sector R&D and account for 34 percent of all private R&D expenditures in Canada. In 2011, ICT sector R&D expenditures totaled \$5.3 billion.⁵² The sector's success has, in turn, become a key driver of Canadian innovation.



Revenues in the Canadian ICT industry increased by five percent in 2011 to more than \$168 billion.

DIGITAL MEDIA

Canada has quickly evolved into a hotbed of digital media innovation. The Canadian interactive-media sector includes more than 3,000 companies, employs more than 52,000 people and boasts a production value of \$3.8 billion (2008 data).

A strong base of highly creative independent firms has developed, fuelled by the growth of mobile applications, digital marketing and social-media industries. This talent base, combined with generous tax credits and sophisticated, flexible education and training infrastructure, attracts a continuous stream of international firms.

Video and Computer Games

Canada's video-game industry ranks third in the world based on number of employees.⁵³ With nearly 350 companies and a workforce of about 16,000, Canada's video-gaming industry generated more than \$1.7 billion in revenues in 2011.⁵⁴ It is the world's fastest-growing entertainment industry. In Canada, between 2009 and 2012, the industry grew by an estimated 15 percent annually.⁵⁵

Canadian studios develop some 20 percent of the top-selling games in North America, including titles such as Mass Effect 3 (**EA/BioWare's**), FIFA Soccer 13 (**EA**) and Luigi's Mansion: Dark Moon (**Next Level Games**).

In the fast-growth segment of mobile applications and social games, popular titles developed in Canada include FishWorld (**Big Viking Games**), About a Blob (**DrinkBox Games**) and Jurassic Park Builder (**Ludia**).

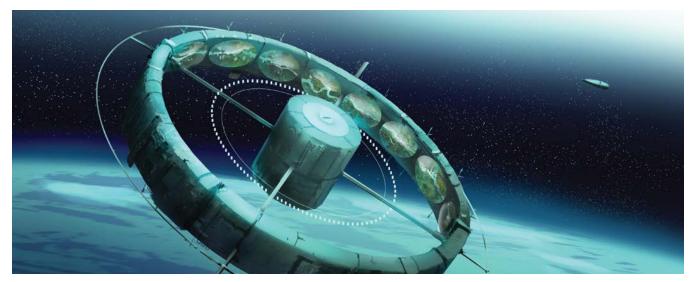
⁵¹ Industry Canada and Statistics Canada.

⁵² Industry Canada.

⁵³ Entertainment Software Association of Canada. Essential Facts 2012. Retrieved on February 12, 2013 from http://www.theesa.ca/wp-content/uploads/2012/10/ESAC_ESSENTIAL_FACTS_2012_EN.pdf

⁵⁴ Entertainment Software Association, 2011.

^{55`} Ibid.



Elite: Dangerous is an exciting new video game being developed in Halifax, N.S. and Cambridge, U.K. Photo © 2013 Frontier Developments plc

Canada has a visible mix of domestic and international companies in the video-game industry and related activities, such as animation and special effects:

- Leading developers: Activision, A2M, Capcom Entertainment, Electronic Arts, Google, Microsoft Game Studios, Ubisoft and Warner Bros. Interactive Entertainment:
- Mobile games: Gameloft, EA-Mobile Games, Eidos, Humagade, Fugitive Interactive, Tecmo Koei Canada, Microsoft Games, BioWare, Relic and Digital Extremes:
- Online games: Sarbakan, Frima Studio.

"As we build our global development network, we are very honoured and excited to have found Canada as our partner. [...] Canada has demonstrated a deep understanding of the digital media and game industries, especially in Vancouver, which has a long history as a pioneer in game development. This makes it a perfect choice for our first step forward in establishing our global network. I am confident that we will be able to achieve new and amazing feats in Canada, thanks to its great talent pool, leading-edge academic and research institutions, and pro-business federal and provincial governments."

 Hajime Nakatani, President, NAMCO BANDAI Studios Inc. (NBS), announcing on April 10, 2013 the opening of an online social game-development studio in Vancouver.

A Selection of Category-leading Games developed in Canada

Console games: A Game of Thrones: Genesis by Cyanide Studios, Mass Effect 3 by Bioware (EA), Bioshock 2 by Digital Extremes, Captain America: Super Soldier by Next Level Games, The Amazing Spiderman by Beenox (Activision) and Human Revolution by Eidos Montréal (Square Enix);

Mobile games: Madden NFL 11 (iPad version) by **Koolhaus Games**, Splatalot by **Marblemedia**, Fishworld by **Big Viking Games** and Superspace Bunny by **Vast Studios**;

Online games: Where's My Water (Sarbakan in partnership with Disney), Warhammer by Relic (Ubisoft), Club Penguin by New Horizon Interactive (Disney Interactive) and Need for Speed by EA Mobile.

Ubisoft's Montréal studio produced multiple top-selling, award-winning brands such as Assassin's Creed, Tom Clancy's Splinter Cell, Rainbow Six, Ghost Recon, Prince of Persia, Rayman, Imagine and Just Dance. In 2013, Ubisoft acquired **THQ Montréal** as well as the publishing rights for the upcoming video game South Park: The Stick of Truth, developed by **Obsidian**.

"Ubisoft made the decision to wager on Quebec's immense creative potential...Ten years later, the Montréal studio has been the driving force behind the conception and development of legendary brands... Today, we are pursuing our strategy centred on innovation by increasing investments in our creative teams based in Quebec."

-Yves Guillemot, CEO and Co-founder, Ubisoft

Canada has the third-largest video-game-development workforce in the world. Its leadership is expected to continue with a remarkable growth rate of 17 percent through 2013.

World-leading independent gamedevelopment studio **Frontier Developments** opened its first North American office in Halifax, Nova Scotia. The U.K.-based company develops games for consoles, smartphones, tablets and PCs. Previous titles include RollerCoaster Tycoon 3 with Atari, Kinect Disneyland Adventures and the Kinectimals series with Microsoft, and the self-published LostWinds series on Nintendo Wii and Apple's iOS devices.

Canada-based developers such as **Autodesk** (3ds Max, MotionBuilder), **Avid** (Softimage XS1) and **Toon Boom** (Storyboard Pro, Harmony) regularly provide their expertise in animation and special effects to the film industry. Indeed, many of Hollywood's top feature films rely on made-in-Canada multimedia technologies, such as *Maya®* and Houdini. Top-selling films featuring Canadian technology include *Monsters vs Alien, Madagascar 2*, and *Kung Fu Panda 2*; Canadian technology was also used in a series of films nominated for Academy Awards® in the special-effects category such as: *Avatar, Iron Man 2*, *Superman Returns, The Matrix, The Pirates of the Caribbean: At World's End, Titanic* and the *Harry*

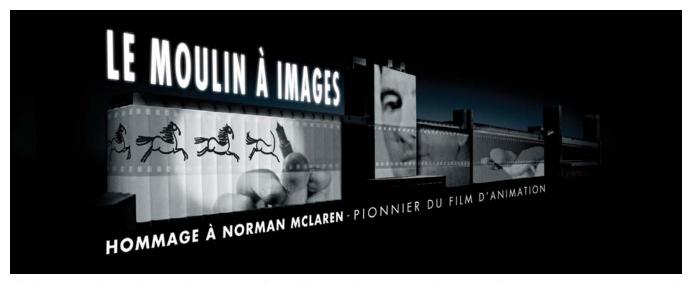
Potter, Spider-Man and The Lord of the Rings series. Canada-based ToonBoom, 2012 Primetime Emmy Engineering Award recipient, has also been recognized by The International Animated Film Society, ASIFA-Hollywood, for the Toon Boom® Storyboard™ Pro and Toon Boom® Harmony™, software used in the film, television, web-animation, games and mobile-devices industry.

Other recent blockbusters entrusted Canada-based companies to create the immersive big-screen experience in movies and advertising campaigns. Examples include *Life of Pi* (Guillaume Rocheron, from British Columbia, won the 2013 Oscar for Best Visual Effects), *Hunger Games* (special effects produced by **Ubisoft**), *The Girl with the Dragon Tattoo* (**Digital Domain**), *Small Fry* (**Pixar Canada**) and *Gnomeo & Juliet* (**Arc Productions**), as well as television series such as *Babar* (**Nelvana**) and *Detective Arki* (**Frima** in partnership with **Eyescream**) and advertising campaigns for **M&Ms** (**Topix**) and **General Motors** (**Crush**).

From Gaming to Simtech

Canada also has significant expertise in Simtech (simulation technologies), an industry that uses game-like technologies for training purposes in other sectors, such as aerospace and automotive. **CMLabs** and **Canadian Force Base Gagetown** regularly undertake defense simulations, for instance, while **Coole Immersive**, **Artifact Software**, and **Xpan**





The largest outdoor architectural projection in the world, Le Moulin à images (The Image Mill), uses as its screen Bunge North America's grain silo in the Port of Québec. Photo provided courtesy of Ex Machina

Interactive specialize in industrial training. Spongelab Interactive and Project Whitecard develop math and science games. Another well-known example of Simtech expertise in Canada is CAE, an international leader in aviation applications (especially flight simulators) and other industries including defence, health care and mining. This international leadership has helped increase CAE's workforce beyond the 8,000 mark.⁵⁶

Brown College in Toronto; along with the National Animation and Design Centre, the Institute for Computer Graphics Creation and Research, and the National Audio-Visual Institute in Montréal. Other top schools include Simon Fraser University's Centre for Digital Media, and the University of British Columbia, both located in Vancouver; Sheridan, Seneca and Centennial colleges, located in the Toronto area; the Université de Sherbrooke located in Quebec, and the University of New Brunswick.

With its long experience in simulation and training technologies, Canada's ICT industry is well placed to benefit from gamification: a technique that engages audiences in problem-solving processes.

Sources of Talent

Canada's technical colleges and universities offer a vast array of media-study programs, providing a deep and highly skilled workforce. Canada is now home to world-renowned schools such as **Screen Industries Research and Training Centre**, and **George**

SOFTWARE

With its large cadre of highly skilled, experienced software-development professionals, it is no wonder that 29 of the world's top 500 global software companies are headquartered in Canada, the second highest proportion after the U.S. Labour costs for high value-added activities in Canada are particularly advantageous when compared with those of the U.S., Japan and Europe. These advantages, combined with Canada's full and free access to the large U.S. software market, makes the country an ideal nearshore option for value-added software-development activities.

⁵⁶ CAE. Retrieved on February 21, 2013 from http://www.cae.com/uploadedFiles/Content/BusinessUnit/Corporate/About_CAE/Media_Centre/Documents/2012/CAE_Annual_Report_2012.pdf

IBM's First Canadian Global Delivery Centre Location for SAP application services

IBM Canada will create its first centre for application-services delivery in Halifax, Nova Scotia. IBM will collaborate with Dalhousie University, St. Mary's University, St. Francis Xavier, Acadia University, Cape Breton University and Nova Scotia Community College to teach analytics and application-development techniques that will help students and recent graduates acquire the skills needed for 21st-century jobs.

Grass-roots Innovation

Four computer scientists, including two Canadians, shared the technical-achievement award at the 2013 Oscar ceremony for their development of the Wavelet Turbulence software. This innovative software produces fluid simulations in a more detailed, and easier-to-control and faster-to-create way for use in the film, medical and astrophysics industries. The software has been used in more than two dozen recent movies, including Battleship, Avatar, Monsters vs. Aliens, Sherlock Holmes, Transformers: Revenge of the Fallen, Hugo, The A Team, and Green Lantern.

"Strengthening the synergies between government, universities, and industry fosters innovation and accelerates the development of commercial products with global impact. ... By infusing the C2MI with a high-value skill set, our collaboration is working to ensure Quebec and Canada will be able to continue and retain top talent and remain at the forefront of global innovation for years to come."

—John Lutz, President, IBM Canada, inaugurating C2MI, the largest microelectronics centre in Canada, in partnership with Université de Sherbrooke and Teledyne Dalsa.

Enterprise Application Software (EAS)

Canada is well positioned to tap into the global EAS market. **Gartner Group**, a leading IT-research firm, estimates the North American EAS market will experience consistent growth through 2014, when its total value will exceed \$140 billion.⁵⁷ In 2011, enterprise software spending in North America was an estimated \$121 billion.

Radware Acquires Strangeloop Network

Early this year, Israel-based Radware, a leading provider of application-delivery and security solutions for virtual and cloud-data centres, completed its acquisition of Strangeloop Networks, a leader in Web performance-acceleration domain based in Vancouver, British Columbia.

Canadian firms are leaders in EAS applications for customer-relationship management, digital-content creation, data, project and portfolio management, supply-chain management and web conferencing. Canada's home-grown industry leader **Open Text Corporation** is joined by numerous EAS international investors in Canada, including **Adobe Systems**, **Autodesk**, **IBM**, **Microsoft**, **Oracle**, **Sage Group** and **SAP**.

Cloud Computing and Energy Efficiency

Equation is a \$70 million joint project aimed at developing a more energy-efficient technology. Launched in 2011, Equation involves the Government of Quebec, **CGI**, **Ericsson**, **Fujitsu**, **IBM**, **Miranda Technologies** and **Teledyne DALSA**. The partners are already working on projects related to cloud computing and smart meters.

Health IT

Canada spent \$3.6 billion on health IT in 2010. Public-funding initiatives such as Canada Health Infoway and the Canadian Innovation Commercialization Program, as well as many similar initiatives at the provincial level, have helped bolster the country's health IT industry.

Researchers and entrepreneurs possess an ever-broader range of expertise: development of applications for health IT records; creation and deployment of picture-archiving and communications systems; creation of state-of-the-art drug-information technology that links physicians and pharmacists; and enhancements to in-home, remote monitoring, and assessment-support systems for alternative-care facilities.

Many leading international investors have set up Canadian operations to tap into the vast potential of Canada's health IT market. These include Agfa HealthCare, Canon, Cerner, GE HealthCare, Honeywell, IBM HealthCare, Carestream, Maximus, McKesson, Microsoft, Palm, Philips HealthCare and Siemens.

Cyber-security

Canada's cyber-security sector specializes in cryptography and encryption, mobile authentication, biometrics, surveillance, tracking and sensors. Canada also has three of the world's best laboratories authorized to evaluate and certify security products including CGI Group's IT Security Test and Evaluation Facility, DOMUS IT Security Laboratory, and EWA-Canada's IT Security Evaluation & Test Facility.

Many of the world's top data-protection firms locate their security operations in Canada. These include **Blue Coat**, **CA Inc.**, **Trend Micro**, **EMC**, **Entrust**, **Fortinet**, **McAfee**, **and Symantec**.

WIRELESS AND MOBILE COMMUNICATIONS

Canada is ideally positioned to tap into growing international demand for wireless technologies. Canada's 300 wireless firms are considered global leaders in several areas, such as mesh networks, WiMAX, RFID, UWB, SDR as well as broadband, satellite and fibre-optic applications.

The Canadian telecom-services market was estimated to be worth \$43 billion in 2012, with wireless data as the fastest-growing segment. Canada's strengths in Next Generation Networks (NGN), M2M and cloud-computing applications encourage many international companies to invest in the country. During the 2005-2010 period, capital expenditures in the industry grew at a compound annual growth rate of approximately 16 percent.⁵⁸

Given Canada's performance in wireless technologies and applications, many international investors have established operations here. The companies are attracted by Canada's highly educated and experienced workforce, competitive labour costs, world-class R&D, favourable tax rates and benefits, along with a savvy and fast-growing consumer market. Furthermore, worldwide spending on PCs, tablets and mobile phones, is forecast to reach \$718 billion in 2013, up 7.9 percent from 2012.⁵⁹

Bevond 3G

Canada is at the forefront of Next Generation Network (NGN) technologies dealing with wireless data transfer. The three largest carriers in Canada (Bell, Rogers and Telus) have all launched Long Term Evolution (LTE) technology in Canada. Examples of NGN technologies in Canada include:

⁵⁸ OVUM. The Benefit to the Canadian Economy from the Wireless Telecommunications Industries: An Economic Impact Assessment, 2012.

⁵⁹ IT World Canada. Retrieved on February 16, 2013 from <u>www.itworldcanada.com/news/mobile-still-vital-to-canadas-2012-growth-idc/144505</u>.

- Bridgewater Systems, a division of AMDOCS, offers LTE solutions capable of managing the increasing performance requirements of mobile broadband;
- Redline Communications is recognized as one of the first companies in the world with a complete WiMAX product offering certified by the WiMAX Forum.
- Ericsson's largest R&D centre outside Sweden is located in Montréal, Quebec. It also operates a second Canadian centre in Kanata, Ontario, focused on LTE and is present in Toronto, Ontario and Vancouver, British Columbia.

Activities in the sector continue to draw global enterprises such as **Alcatel-Lucent** and **Ericsson** to undertake NGN-related R&D in Canada. In 2010, **Alcatel-Lucent** and **Ericsson** spent a combined total of nearly \$600 million on R&D in Canada. This investment has already delivered results: new mobile-broadband applications made possible by 4G/LTE networks are being developed in Canada by **QNX Software Systems**, for instance, while **Alcatel-Lucent**'s LTE-connected-car concept delivers video-on-demand, Internet radio and other wireless-broadband services to moving automobiles. QNX software is already available on more than 200 car models, including those made by **General Motors**, **BMW** and **Ford**.

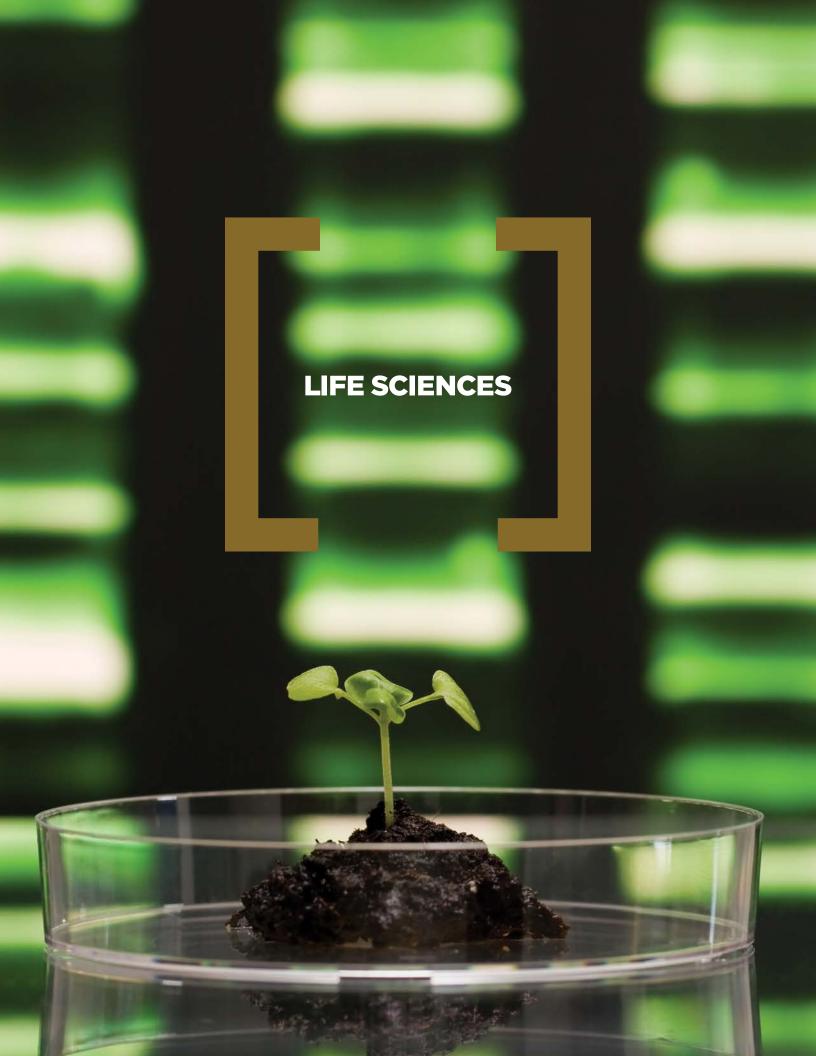
Just the Beginning

Global heavyweights such as **Alcatel-Lucent**, **Cisco**, **Ericsson** and **Ciena** have invested in Canada's wireless industry by establishing R&D centres in major Canadian cities. Most of these centres continue to expand, either through new projects or through additions to their campuses.

Canada is also home to leading-edge research into nanomaterials and next-generation power amplifiers—advances that will lead to reductions in size, weight and power consumption for wireless equipment, along with improvements in next-generation networks. Canada has significant expertise in developing imaging software, multimedia chipsets and RF components for mobile platforms.

New Investment Projects by International Investors (since January 2012)

- U.K.-based Babel Montréal will build a new studio in Montréal, Quebec. Babel Montréal provides quality-assurance services with regards to gameplay, functionality, translation, and audio and mobile certification for software companies.
- Black Tusk Studios, a subsidiary of U.S.-based Microsoft, will build a new studio in Vancouver, British Columbia.
- Japan-based Gree Canada will establish a new studio in Vancouver, British Columbia to develop free-to-play games for mobile-phone users.
- U.S.-based Microsoft Game Studios will establish a new studio in Vancouver, British Columbia to produce games for Kinect and to push the limits of proven and unexplored game development.
- U.S.-based Kixeye will build a new gamesdevelopment studio in Victoria, British Columbia.
- U.S.-based Rockwell Collins will expand its offices in Ottawa, Ontario. The facility specializes in the design and development of wireless, ad-hoc networking technologies, including battlefield modeling and simulation of tactical networks.
- Thales Canada Inc., a subsidiary of France-based Thales Group, inaugurated a new Research and Technology centre in the City of Québec, the first in North America. The facility focuses on cyber-security, information fusion with smart networks and sensors, cognitive sciences, social-media analysis, optimization algorithms, mobile platforms, modeling and simulation. The centre also benefits from partnerships with Université Laval, Defence Research and Development Canada, as well as local businesses.



LIFE SCIENCES

Canada is a world leader in life sciences, from pharmaceutical research and development, to the design and production of medical devices. The sector covers the whole range of diagnostics and therapeutics.

BIOPHARMACEUTICALS

The world's largest pharmaceutical companies conduct a wide range of operations in Canada, from R&D and manufacturing, to marketing and product development. They are attracted by world-class R&D infrastructure, deep talent pools, top researchers, ready access to key markets and extensive public support that ensures quality output and supports scientific breakthroughs.

Canada: the ideal place to turn pioneering ideas into world-leading innovations

Continuous flow of high-profile R&D and investment projects

Innovation

The global therapeutics market is expected to reach a value of \$1.1 trillion by 2015, and Canada is well positioned to take advantage of this growth. Strong flows of intellectual and innovation capital continue to drive the development of Canada's life-sciences industry. Incentives and grants from federal, provincial and local governments ensure well-funded collaborative R&D is undertaken in Canada.

In 2012, four of the top foreign R&D investors in Canada spent a combined total of nearly \$450 million in research activities, ranking them among the top R&D firms in Canada.⁶⁰ Additional investments made in recent months include:

- Pfizer invested \$32 million to expand its multivitamin-manufacturing facility in Montréal, Quebec.
- Novartis completed a new \$2.8 million research facility in Victoria, Prince Edward Island. The new laboratory, part of the province's growing biosciences cluster, will support the development of vaccines against viral and bacterial diseases in farmed fish. Novartis also announced another \$40 million investment in a research project in Hamilton, Ontario, despite cost-cutting measures in higher-cost jurisdictions.

Also ranking high among the nation's top R&D spenders are several regionally headquartered companies such as **Valeant**. Other leading R&D-intensive Canadian companies in the sector include **AEterna Zentaris**, **Bioniche Life Science**, **Cardiome Pharma**, **Tekmira Pharmaceuticals Corporation** and **Xenon Pharmaceuticals**.



AWARD-WINNING BOEHRINGER INGELHEIM RECOGNIZES UNIVERSITY PARTNERSHIP

Boehringer Ingelheim (Canada) Ltd. received the Prix Galien Canada 2011, Innovative Product Award for its treatment for stroke prevention.

"The development of PRADAXA® represents an important milestone in Canadian pharmaceutical history (...). We are proud to say this global program was coordinated out of McMaster University in Hamilton, Ontario."

-Dr. Theodore Witek, President and CEO, Boehringer Ingelheim (Canada) Ltd.

Extensive Public Support

Canada's pharmaceutical industry is supported by a large public research infrastructure, led by the Canadian Institutes of Health Research (CIHR), the Government of Canada's health-research investment agency. Every year, CIHR provides hundreds of millions of dollars in health research funding, supporting more than 14,100 health researchers and trainees across Canada. The Government of Canada was one of the original contributors to MaRS, a large-scale innovation centre located in Toronto and networked across Ontario, focused on building Canada's next generation of growth companies. Further support for the industry came in 2011, when Ontario's Research and Innovation Ministry announced a \$344 million expansion of the MaRS **Discovery District** in downtown Toronto. Located near major teaching hospitals, the District houses international corporations such as GlaxoSmithKline and Merck, several fast-growth biotech firms as well as public R&D centres such as the Ontario Brain Institute, the Ontario Cancer Biomarker Network and the Ontario Genomics Institute. The expansion, to be completed in 2013, will also house the Ontario Institute for Cancer Research, along with Public Health Ontario's central lab, which plays a key role in the prevention and control of infectious diseases.

Industry Structure

Although life-sciences activity activity is spread across the country, clusters can be found in several major cities in Ontario, Quebec and British Columbia. In particular, these clusters are situated in regions where universities, research parks and incubators are adjacent to one another. According to a study released in October 2011,⁶¹ Ontario and Quebec accounted for most of the industry's activity, with 40,000 employees and more than 300 companies covering the entire spectrum of biopharmaceutical activities. Recent statistics (2012) suggest employment in Canada's life sciences manufacturing sub-sector remains stable.⁶²

The Ontario-Quebec Corridor Labour Pool

Private Sector Employment by Industry

■ Brand-name pharma: 13,100

■ Generic pharma: 10,960

■ Biotech: 4,700

■ Contract manufacturing: 4,040

■ Contract research: 7,300

⁶¹ PricewaterhouseCoopers, The Quebec-Ontario Life Sciences Corridor, 2011. A 2nd report, identifying priorities and key actions, will be released in 2013.

⁶² Source: Labour Statistics Division, Statistics Canada.

Manufacturing and Pharmaceutical Services

Companies involved in the development of therapeutics and diagnostics can rely on Canada's high-quality contract pharmaceutical services.

Canada's expertise in small-molecule and biologics production is well established, from pilot-stage to full-scale applications, executed according to strict Good Manufacturing Practice (GMP) standards.

Canada's contract service and technology providers have vast expertise in: drug, target and biomarker discovery and design; product formulation and manufacturing; and clinical testing.

MEDICAL DEVICES

With the value of exports totaling more than \$1.8 billion (2011),⁶³ Canada's medical-devices industry remains very healthy. In 2011, Canada's medical-device market was valued at \$6.3 billion, with an average annual growth rate of seven percent between 2006 and 2011.⁶⁴ From start-ups to large, established firms, both Canadian and foreign medical-devices firms develop and manufacture high-demand products within Canada. These innovative products incorporate the latest discoveries from other industries—including biotechnology, advanced materials, microelectronics, telecommunications, software and informatics.

In Canada, homegrown global leaders Nordion,
Novadaq Technologies, and Titan Medical are
joined by numerous multinational firms. They include
Abbott Point of Care, Alere, Baxter, Covidien, Elekta,
Hologic, Johnson & Johnson, Medtronic, Roche,
Smith & Nephew, Sorin Group and Zimmer.



The medical-devices industry is comprised of more than 1,000 firms with a total workforce of 26,000.

From Lab to Market: the Canadian Solution to Atrial Fibrillation

Canada's track record for innovation has helped convince Medtronic to invest continually. Based in Montréal, Medtronic CryoCath designs, develops and manufactures a new cryo-ablation therapy for atrial fibrillation: a rapid, irregular heartbeat that affects seven million people worldwide and is one of the leading causes of strokes. In 2012, Medtronic announced a \$50 million expansion of its research, training and manufacturing operations in Montréal, Quebec.

⁶³ Industry Canada.

⁶⁴ Ibid.



"Pioneered in partnership with the Montréal Heart Institute, the Arctic Front® Cardiac CryoAblation Catheter system now brings life-changing technology to patients around the globe. Montréal is the sole location in the world manufacturing this innovative technology. Medtronic CryoCath is one of the company's fastest-growing divisions. Medtronic remains committed to Canada and looks forward to the evolution of its medical technology and to becoming a trusted partner in delivering innovative health-system solutions."

-Neil Fraser, President, Medtronic of Canada

Canada's medical-devices industry produces a wide range of diagnostic and therapeutic products. Some key specialties include medical imaging, dental implants and materials, prosthetics, analytical instruments and advanced materials, as well as assistive devices and home-healthcare products. Here are a few examples of recent HIV analysis breakthroughs:

- Halifax-based MedMira developed a three-minute flow-through diagnostic HIV test, the only such product to earn regulatory approval in Canada, the United States, China and the European Union.
- University of Toronto researchers announced the invention of a portable cell-analyzer that makes it easier, faster and cheaper to monitor HIV patients in remote areas by testing their blood in real time and receiving results within minutes.⁶⁵

Ottawa World Leader in Point-of-Care Medical Diagnostics Industry

Since it was established 25 years ago, U.S.-based **Abbott Point of Care**'s facility in Ottawa, Ontario has continually increased production of i-STAT cartridges, a handheld portable instrument coupled with single-use diagnostic cartridges for rapid point-of-care testing. By 2005, Abbott Point of Care produced over 24 million units yearly and needed to expand in order

to meet growing demand. As a research-and-development, clinical research and manufacturing hub, Ottawa is the ideal location for Abbott. The company benefits from a vast pool of skilled labour—thanks to a microelectronics-apprenticeship program designed in partnership with Algonquin College—and has invested \$100 million in automation over the years to increase the facility's efficiency.

A Selection of Invented-in-Canada Medical Devices

- Dr. Chandrashekar at the **University of Waterloo** developed a unique knee-injury
 simulator—the first in the world—to
 better understand how to prevent
 anterior-cruciate ligament (ACL) tears,
 a common sports-related injury.
- The Neovasc Reducer[™] for refractory angina and PeriPatch[™] surgical tissue (developed and manufactured in Vancouver by **Neovasc**).
- Catheter-based products for the cryotherapeutic treatment of cardiovascular disease, now used in more than 500 medical centres around the world. Developed by Montréal-based Medtronic CryoCath.

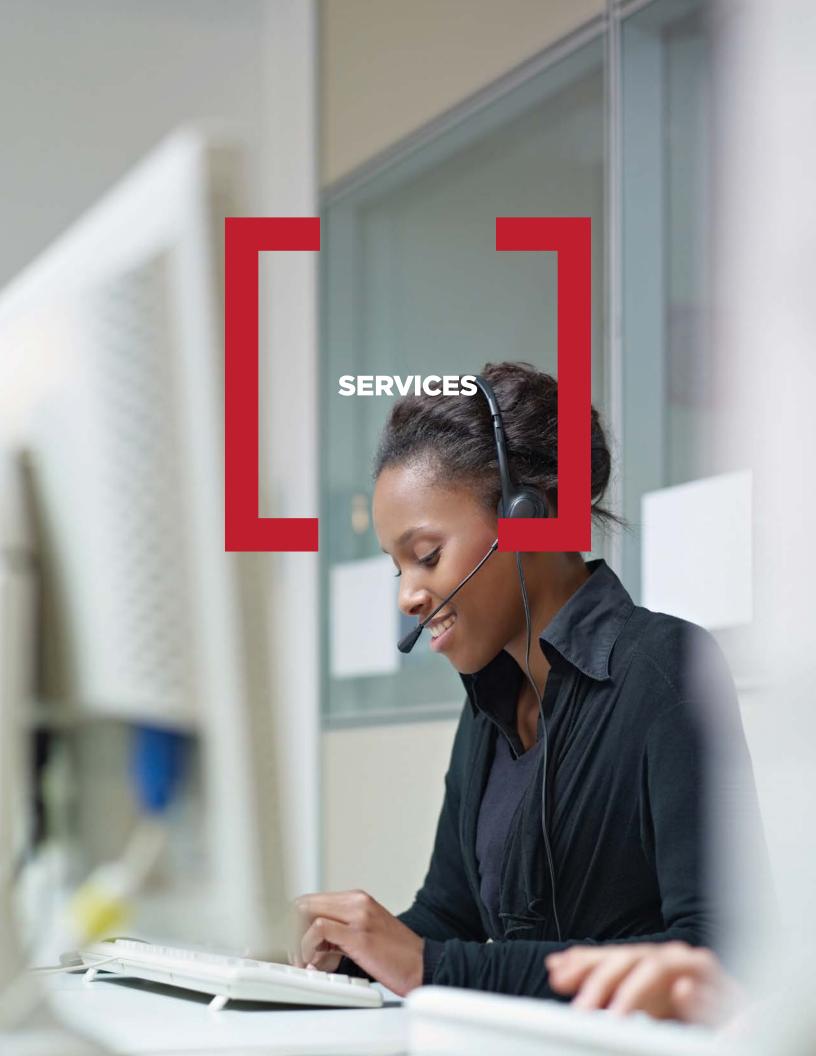


CAE Healthcare's VIMEDIX Ob/Gyn ultrasound simulator mimics the second trimester of pregnancy. Photo courtesy of CAE Healthcare

- The world's only movable, high-resolution, intra-operative MRI system (developed by Winnipeg-based IMRIS, a world-renowned image-guided therapy-systems company).
- A digital-radiography-imaging system used in nearly 40 countries (developed by Imaging Dynamics in Calgary).
- The SPY imaging system, which provides clinically relevant, anatomic and physiologic images during open and minimally invasive surgical procedures (developed by Novadaq Technologies in Toronto).
- A team at the Ottawa Hospital Research Institute developed the world's first bioengineered cornea: an artificial device implanted in the eye and injected with stem cells that promote the growth of a new cornea.
- The **C-Leg**, a microprocessor-controlled knee prosthesis, developed by a Canadian engineer at the University of Alberta.

New Investment Projects by International Investors (since January 2012)

- U.S.-based Express Scripts Canada will build a new service centre in Mississauga, Ontario.
- U.S.-based Gilead Sciences will build a new research laboratory in Edmonton, Alberta.
 The new 45,000 square-foot building will house a laboratory and office space for more than 80 scientists.
- U.S.-based McKesson Canada will build a new \$25 million distribution centre in Moncton, New Brunswick.
- U.S.-based Pfizer Canada invested \$32 million to modernize its plant in Montréal, Quebec. The investment will enlarge and upgrade the manufacturing facility where more than 4.4 billion multivitamin tablets are produced each year.
- Spain-based Almirall has set up an affiliate in Mississauga, Ontario, to support the firm's plans to promote its recently-approved chronic obstructive pulmonary disease drug aclidinium. This is the company's first office in North America.



SERVICES

BUSINESS SERVICES

Canada's business-services sector is a critical node in today's multinational, multi-value chain model. With a real GDP of more than \$60 billion in 2011,66 the professional, scientific, and technical services sector (or business services sector) employed nearly 1.3 million people—more than seven percent of the country's total labour force. In fact, Canada is a preferred destination for complex and high-value-added information-technology and business-process outsourcing.



Canada's business-process outsourcing (BPO) industry is sophisticated and mature, and includes a host of global leaders.

Canada has significant expertise in business-process outsourcing (BPO), human-resources management, customer-relationship management, knowledge-process outsourcing (KPO), finance and accounting, data mining, application-development labs, business continuity and disaster-planning support.

ADP Canada Expands in Dartmouth, Nova Scotia

U.S.-based ADP Canada, a leading provider of human resources, payroll and benefits solutions, plans to expand and add up to 250 new full-time jobs over five years in its Dartmouth location. The province, through Nova Scotia Business Inc. (NSBI), is supporting the expansion with a five-year payroll rebate for a maximum of \$2.3 million, that will support the company's growth as the demand for its services continues to grow.

"Increasingly, organizations of all sizes are choosing ADP to provide payroll, human resources and benefits services and expertise so they in turn can focus on growing their business. As this demand continues to grow, so too does our presence in Nova Scotia."

 Cindy Jeffrey, Vice-President, Client and Employer Services Division, ADP Canada

Engineering Services

Canada has exceptional strength in engineering, and is home to many major international firms such as **Dessau**, **Golder**, **Hatch**, **MMM Group**, **Trow Global** and **SNC-Lavalin**. The sector's specialized expertise includes resource extraction, energy, telecommunications, transportation, infrastructure engineering and public-private partnerships. Many Canadian firms are international leaders in specific fields such as hydro projects and the construction of aluminum smelters.

Companies providing engineering and related services employed more than 180,000 Canadians in 2011, and generated revenues in excess of \$22.5 billion in 2010.⁶⁷ That same year, Canadian companies were the fifthlargest exporter of engineering-design solutions among the world's top engineering-design

⁶⁶ Statistics Canada.

⁶⁷ Statistics Canada.



In 2012, Canada was one of the top three global suppliers of BPO services. Photo courtesy of National Research Council Canada

companies.⁶⁸ Indeed, exports accounted for eight to 13 percent of sales by Canadian engineering and design services in 2010.⁶⁹ Canadian companies in the sector serve clients in more than 125 countries;⁷⁰ their enviable international reputation for top-quality engineering services has contributed to the healthy growth rates experienced by the industry in 2010 and in 2011.

Nearshoring and Offshoring

Canada is a leading provider of business-process outsourcing and information-technology outsourcing to U.S. firms.

Thanks to its proximity to—and cultural similarities with—the United States, Canada is a major player on the world stage as a provider of BPO services. Canada's outsourcing industry recorded a second consecutive year of strong growth in 2011. Hosting services experienced particularly robust growth, as sales increased close to nine percent above the 2010 level.⁷¹

In 2011 and 2012, Canada was one of the top three global suppliers of BPO services, significantly ahead of other destinations such Mexico, Ireland and China.⁷² And as U.S.-based multinationals continue to move outsourced and captive services closer to home, Canada is an increasingly attractive destination for foreign direct investment in this sector.

In its 2011 ranking of international suppliers of offshoring services, the global management-consulting firm A.T. Kearney rated Canada:

- Third in quality of business environment (and first in North America);
- Sixth in workforce availability and skills.

Canada is also home to several international leaders, such as CGI, the world's fifth-largest independent IT and business-process services company in 2012, with revenue exceeding \$10 billion. Canada is an essential and fully integrated component of North America's IT supply chain.

^{68 &}quot;How the Top International Design Firms Shared the 2010 Market", Engineering News Record, July 25, 2011, p.38.

⁶⁹ Statistics Canada.

Prism Economics and Analysis, Engineering and Technology Labour Market Study. Retrieved on February 13, 2013 from http://www.engineerscanada.ca/files/w_Engineering_and_Technology_Labour_Mark_Study.pdf

Merit outsourcing, Canadian outsourcing trends. Retrieved on February 13, 2013 from http://www.meritoutsourcing.com/canadianoutsourcingtrendsjune2011update.html

 $^{^{\}rm 72}\,$ Everest Group, Global BPO Market by Destination, March 2013.

Management Services

Management services are another fast-growing industry segment in Canada. Multinational firms established in Canada have accounted for much of this growth in recent years and now represent close to 40 percent of Canadian head-office and management operations. Their employees include well-established professionals, such as accountants and financial managers, recognized globally for their high standards and professional ethics. These firms also provide a host of other fast-growth services related to on-line applications.

The exceptional quality of available staff, coupled with the attractive quality of life offered in Canadian cities, makes Canada a global magnet for head-office and management operations.

Technology Capital Investor Opens an Office in Toronto, Ontario

Motivated by business climate and growth potential, U.S.-based **Technology Capital Investor** opened an office in Toronto in February 2012.

"With thousands of small and mid-size businesses in need of IT expertise, Canada represents a high-potential growth market for managed service providers (MSPs) who deliver a comprehensive, business-minded approach to outsourced IT services."

> —Sam Attias, Managing Partner, Technology Capital Investors

Cloud Computing - Infrastructure-as-a-Service

With Internet bandwidth unable to expand as fast as international traffic, the need for private industry to maximize IT efficiencies and security, while reducing energy costs, are some of the most important factors to consider when investing in the construction of data centres.⁷³

Canada's competitive cost of electricity provides a key advantage to data-centre and cloud-computing operations. Electricity costs in Canadian cities such as Montréal and Winnipeg can be significantly lower than those in cities such as Seattle, Dallas, Tel Aviv and Shanghai.

"In 2012, over \$430 million of data-centre investment projects have been announced or are already under construction in Canada. Investors include international operators such as OVH, IBM, Fujitsu as well as Canadian-based companies such as Cogeco Data, Telus and Q9 Networks".

-E&B DATA, from the Capex-online database, 2012

The Data Centre Risk Index (DCRI) ranks Canada second for data centres worldwide. The Data Centre Risk Index identifies the top risk likely to affect the successful operation of a data centre, such as: energy cost, international bandwidth, ease of doing business, corporate tax rates, labor costs, energy security, political stability, sustainability (percentage of energy from alternatives), GDP per capita, inflation and water availability.



Downtown Calgary viewed from Prince's Island Park.

New Investment Projects by International Investors (since January 2012)

- U.S.-based Alphanumeric Systems will build new offices in Montréal, Quebec to house a global multilingual service centre dedicated to clinical applications, a support centre for technical applications and an administrative unit.
- U.S.-based **Acquity Group**, specialized in digital marketing, built a new office in Toronto, Ontario.
- U.S.-based Kleinfelder, a science, architecture and engineering consulting firm, announced the opening of a new office in downtown Calgary, Alberta. The office will provide additional regional support to clients in Canada's oil-and-gas, water, industrial and commercial markets.
- U.S.-based Automatic Data Processing (ADP) Canada will expand its operations in Dartmouth, Nova Scotia. ADP Canada is one of the world's largest providers of human resources, payroll and benefits-solutions software.
- France-based Alten, a technology and engineering firm, will open a new office in Montréal, Quebec. The new office will enable the company to service North American markets and should create more than 200 new jobs.

- U.S.-based **TinyCo** will establish a new \$18 million games-development studio in Vancouver, British Columbia.
- France-based **OVH** will establish a new \$100 million data centre in Beauharnois, Quebec that will accommodate 80,000 servers within three years.
- U.S.-based Applied Systems, an insurancesoftware company, announced the opening of its data centre in Toronto, Ontario, to meet growing demand for cloud-based solutions. The facility is the company's third data centre and its first outside the United States.
- U.S.-based SoonR announced the opening of two new data centres in Toronto, Ontario.
- U.S.-based CloudFlare will establish a new data centre in Toronto, Ontario. CloudFlare offers free and commercial, cloud-based services to help secure and accelerate websites.
- Japan-based Fujitsu will build a new data centre in Regina, Saskatchewan.



FINANCIAL SERVICES

Canada's financial industry enhanced its global reputation for strength, stability and robustness during the global financial crisis of 2007-2008. Since then, all Canadian financial centres have improved their international rankings because of factors such as business environment, infrastructure, market access and competitiveness.

Canada offers a combination of irresistible locational advantages, such as:

- Between 2010 and 2015, investment in Canadian infrastructure projects (including public projects) is expected to grow at a rate of 2.5 times faster than the rate for the previous five years. Canada is thus expected to become the fifth-largest construction market in the world.⁷⁴ Canada was also identified as the third-most attractive international destination for infrastructure investments.
- A boom in industrial development: more than \$350 billion⁷⁵ worth of megaprojects (in excess of \$1 billion each), private-sector industrial projects have already been announced in Canada for the current decade. These projects require extensive international financing.
- Expertise in mining, energy, asset management, wealth management, insurance and banking, as well as financial IT.
- Low costs relative to other international financial centres; regional financial incentives help further reduce costs.

- The remarkably large number of recent immigrants creates a natural market for international financial institutions.
- Deep financial markets with a wide variety of sources of funds, including government-managed (Business Development Bank of Canada, Export Development Canada), private equity and venture capital.

The financial-services sector employed nearly 700,000 Canadians directly and contributed \$102.5 billion to the national GDP in 2012.

PricewaterhouseCoopers, Global Construction 2020. Retrieved on February 15, 2013 from http://www.pwc.com/gx/en/engineering-construction/publications/global-construction-2020.html



Canadian Global Financial Centres: A Rising Wave

As rated in the Global Financial Centres 2012 Index

- **Toronto**, ranked fourth in North America and tenth worldwide, is likely to become a more significant centre worldwide. In fact, Toronto already ranks along other global leaders, such as Chicago, Frankfurt, Hong Kong, London, New York, Singapore, Tokyo and Zurich. Home to the TSX Group, Toronto ranks first in the world for the number of new listings and third for equity capital raised. Toronto is renowned as a world leader in mining-sector listings and a strong performer in the energy and life-sciences sectors.
- Vancouver ranked seventh in North America and 16th worldwide along with other established transnational centres such as Boston, Edinburgh, Kuala Lumpur, Melbourne, San Francisco, Seoul, Sydney and Washington, DC. Vancouver's international ranking is improving regularly and now exceeds that of Shanghai. It is active and renowned in international financial transactions, venture capital (VC) investment finance, insurance and wealth management.
- Montréal, ranked eighth in North America and 17th worldwide. The city's worldwide rankings have also greatly improved during the past five years showing the largest rise among all American cities during 2012 and now exceeding those of cities such as Paris and Shanghai. Its strengths include banks and intermediaries, insurance, securities and financial IT.
- Calgary, ranked ninth in North America and 23th worldwide, is a globally recognized hub for energy and resource financing. Indeed, Calgary is recognized as more than just Canada's energy capital; it is also a financial-services centre with growing numbers of local and international companies.

China's Sovereign Fund Sets up Shop in Canada

By choosing Toronto over other financial centres such as London and New York for its first corporate location outside of China, **China Investment Corporation** signals its plan to increase its Canadian holdings.

"There are countries with comparable economic characteristics to Canada, but with much less friendly environments. In our dealings with the Canadian government, various parts of the government, with the business people, we feel that it's a lot more congenial to our investments."

-Gao Xiqing, President, China Investment Corporation Canada hosts 24 domestic banks (including six chartered banks: BMO Financial Group, Scotiabank, CIBC, National Bank of Canada, RBC and TD Canada Trust). Canada also has large and financially successful credit-union institutions such as Mouvement Desjardins and Vancouver City Savings Credit Union. Major fund managers include Ontario Municipal Employees Retirement System (OMERS), Ontario Teachers' Pension Plan, the Caisse de Dépôt et Placement du Québec and Canada Pension Plan (CPP) Investment Board. With a combined total value of managed assets exceeding \$500 billion, these organizations are significant players on international financial markets.

Canada's safe and regulated environment, sophisticated financial markets and world-class financial services help attract top firms from around the world, a trend well underway before the global 2008 financial crisis. The Canadian banking sector includes 25 subsidiaries of foreign banks, 23 fullservice branches of foreign banks and five lending branches of foreign banks. There are also 20 foreignrepresentative offices in Canada. Foreign financial institutions that have set up or expanded operations in Canada since 2008 include Barclays, BNP Paribas, BNY Mellon, Citigroup, Citco, Deutsche Bank, Mitsubishi UFJ, Morgan Stanley, Rabobank, Société Générale, State Bank of India, UBS, Bank of China, Korea Exchange Bank, ING Group, Kaufmann-Rothstein International, Talanx, Industrial and Commercial Bank of China, Caixa General de Depòsitos, RJ O'Brien & Associates, Macquarie Group and Edmond de Rothschild Group.

U.S.-based M&T Bank Opens Toronto Office

In 2010, U.S.-based M&T Bank opened an office in Toronto to benefit from a favourable business climate.

"Canada has a robust economy and a strong trade relationship with the U.S., with a large amount of that trade flowing across the Ontario-New York border."

-Mark Czarnecki, President, M&T Bank

Canada: A Rising Star in International Finance

"[...] When the financial crisis exploded onto the world stage in 2008, Canada quickly came to be recognized as a role model of stability in an otherwise boom-and-bust-dominated industry.[...]This is reflected in a growing and increasingly international cluster of financial services firms comprising both foreign investors such as HSBC, Aviva, Citigroup and Wells Fargo, as well as domestic firms like the major Canadian banks, the Canadian pension funds and insurers such as Sun Life and Manulife, which are increasingly expanding operations internationally. We are also seeing considerable interest from financial technology firms hoping to take advantage of a strong local market and a great talent pool."

Matthew Hobbs, Vice-President, Business
 Development and Marketing, Toronto Financial
 Services Alliance

New Investment Projects by International Investors (since January 2012)

- Burns & Wilcox Canada, a subsidiary of U.S.-based
 H. W. Kaufman Financial Group, will open a new office in St. John's, Newfoundland.
- U.K.-based Admiral Insurance will expand its Canadian headquarters in Halifax, Nova Scotia.
- U.S.-based Neuberger Berman has opened an office in Toronto to oversee institutional distribution and client service in the Canadian institutional market.
- Cayman Islands-based Admiral Administration, recently acquired by Luxembourg-based Maitland, selected Halifax, Nova Scotia as its primary centre for middle- and back-office operations in an effort to support future growth of the fund administrator worldwide.
- U.S.-based Technology Capital Investors will open an office in Toronto, Ontario.
- Agricultural Bank of China (ABC) has opened an office in Vancouver, British Columbia to increase the company's Asia-North America trade.
- U.S.-based Incapital Canada, a securities and investment-banking firm and an underwriter of fixed-income securities and financial products, will open an office in Toronto, Ontario.



"Almirall, an international pharmaceutical company based in Spain, expanded its global presence in 2012 by establishing a new affiliate in Mississauga, Ontario after having considered other locations. Almirall plans to create over 45 new jobs in Canada. The decision to base its Canadian headquarters was made with the support of the Trade Commissioner Service of Foreign Affairs, Trade and Development Canada, in Spain and in Canada. Key factors that helped with the decision to locate in Mississauga were the abundance of highly qualified pharmaceutical talent along with its proximity to the Toronto region, which is a well-known hub of biopharmaceutical activity. Almirall is now focused on bringing innovative new medicines to Canadian patients who suffer from chronic obstructive pulmonary disease (COPD). Almirall is currently conducting research in COPD and has filed new drug submissions with Health Canada. Almirall will now have the opportunity to make directly available to Canadian patients a range of innovative medicines while advancing its internationalization process."

-Ed Dybka, General Manager, Almirall Canada"

Whether your company plans to establish its own operation in Canada, seeks a Canadian partner or wants to gain a Canadian base for access to North American markets, Canada wants to do business... and will assist in taking your business to a new level.

Invest in Canada is responsible for ensuring that foreign investors have the information and help they need to make successful investments in Canada. We work closely with partners across Canada to deliver the market intelligence, connections and support business investors need to identify and capitalize on opportunities.

Comprehensive, confidential and free of charge, our services for investors include:

- Detailed, sector-specific market intelligence
- Help in making the right government contacts in Canada
- Referrals to independent investment professionals such as lawyers, bankers and accounting firms
- Help in arranging site-selection visits
- Information and advice on doing business in Canada

Our global network of investment and trade professionals, operating in more than 150 cities worldwide, is available to assist. Contact information can be found under www.tradecommissioner.gc.ca and to learn more about Canada's investment advantages, please visit: www.investincanada.com.

Provincial and Territorial Investment-Promotion Organizations

Alberta: www.albertacanada.com

British Columbia: www.britishcolumbia.ca

Manitoba: www.investinmanitoba.ca
New Brunswick: www.inbcanada.ca

Newfoundland and Labrador: www.nlbusiness.ca

Northwest Territories: www.iti.gov.nt.ca
Nova Scotia: www.novascotiabusiness.com

Nunavut: www.edt.gov.nu.ca

Ontario: www.investinontario.com

Prince Edward Island: www.investpei.com

Quebec: www.investquebec.com

Saskatchewan: www.enterprisesaskatchewan.ca

Yukon: www.investyukon.com

The Consider Canada City Alliance

Canada's large cities are working together towards global trade and investment. Contact information can be found at www.considercanada.com





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Catalogue No. FR5-24/2013E-PDF ISSN Printed Document 1926-7894 This report and related publications are available on our website.

Content is based on the latest available information at time of publication.

Également disponible en français sous le titre: Investir au Canada. Édition 2013-2014.

All dollars in Canadian currency, unless otherwise stated.

Sources available upon request.