



Canada: Procurement of Radar Systems and Equipment for National Defense

Lucy Latka
Erik Nattkemper
September 09

Summary

The Canadian Department of National Defence (DND) has announced plans to modernize the Canadian Forces (CF) and improve the nation's sensor and information capabilities. In 2007, the Government of Canada (GoC) spent \$19 billion on defense procurement, and equipment maintenance. Annual spending is now projected to increase to \$24 billion by 2012. U.S. firms traditionally account for the bulk of Canada's defense procurement and maintenance contracts and the DND's future modernization and increased spending will most certainly present extraordinary export opportunities for the U.S. aerospace and defense sectors. For further information on the export opportunities outlined in this report and doing business with the Canadian Department of National Defence please refer to the U.S. Commercial Service contact information provided at the end of this report.

Market Demand

Canada, with the second largest territory and one of the lowest population densities in the world, is increasingly relying on technological solutions to achieve national and international security. Vast stretches of Canadian territory are secured by remote and long-range surveillance including surface and satellite radar stations. Historically, this led to the development of three lines of surface radar stations for early warning purposes, including the DEW line, the Mid-Canada Line, and the Pinetree Line, which were constructed primarily in Canada. The thaw in international politics over the two decades following the end of the Cold War resulted in the decommissioning of many such stations. Despite this, Canada remains an important member of the North American Aerospace Defense Command (NORAD) and defends the sovereignty of both the United States and itself.

Arctic territories themselves are increasing in economic importance, which will cause northern remote detection systems to once more come to the forefront in ensuring security. The shrinking Arctic polar ice cap is resulting in an increased ability to reach Arctic resources, which has led to renewed interest in competing Canadian, Russian, American, and Danish (via Greenland) claims of sovereignty over parts of the Arctic. One especially important claim regards the Northwest Passage, which represents an important alternative shipping route between East Asia and Europe, similar to the Northern Sea Route along the Russian coast. Other very significant claims regard the possibility of Arctic petroleum and natural gas reserves that is currently driving several exploration and continental shelf mapping expeditions. Because of Arctic potential, Canada is likely to renew investments in Northern facilities to support its diplomatic, strategic, and security needs and goals.

Since the Second World War, Canadian military interventions have been predominantly peacekeeping campaigns. Though a focus on peacekeeping usually avoids large-scale military conflict, this situation places keen demands on surveillance and other technologies that grant situational awareness. Current postings for Canadian service men and –women include Afghanistan, the Atlantic, Sudan/Darfur, the Congo, West Africa, the Balkans, and the Caribbean. The wide variety of climates and conditions that Canadians have historically and will likely continue to operate in requires rugged and versatile radar technologies. Afghanistan, in particular, is an important ongoing conflict, involving 2,830 of all 6,000 Canadian Forces personnel abroad. Current forecasts place a full withdrawal from Afghanistan in 2011.

More generally, the [Canada First Defence Strategy](#), instituted May 12, 2008, heralds a sustained increase in defense spending. The DND announced \$23.5 billion in new major projects from June 25, 2006 to September 5, 2008 that doesn't include a myriad of smaller projects and ongoing infrastructure maintenance. The sustained increase in sustained military spending is intended to bring the CFs up to global standards. Canadian defense budget planning, including planned capital investments, is included in Figure 1.

**Figure 1: Forecasted and Planned Total and Capital Defense Expenditures
2008/2009 - 2011/2012**

	Forecasted 2008/2009 Millions USD	Planned 2009/2010 Millions USD	Planned 2010/2011 Millions USD	Planned 2011/2012 Millions USD
Total Expenditures	17,037	18,684	18,327	17,530
Capital Expenditures	3,038	4,424	4,256	4,095

Radar Apparatuses in particular are listed under Harmonized System (HS) 852610 and, along with other Navigational and Guidance Instruments, included under North American Industry Classification System (NAICS) 334511. Data on the industry is often more forthcoming than data on a particular product. Canadian navigational and guidance instruments manufacturing overall is a \$1,246 million industry. The greatest number of businesses associated with navigational and guidance instruments are based in Ontario, as are those businesses with the most employees. Other major concentrations of navigational and guidance instrument manufacturers are in British Columbia and Quebec, but firms are scattered throughout Canada. Most of these organizations are small-to-medium size enterprises (SMEs) and tend to pool capabilities for contracts with the aid of prime contractors.

Market Data

Figure 2: 2006 Economic Figures by Application, Industry, and Product

	Aerospace and Defense Industry (NAICS 3364) Millions USD	Navigational and Guidance Instruments (NAICS 334511) Millions USD
Domestic Production	12,371	1,246
Total Exports	9,852	335
U.S. Imports	4,246	411
Total Imports	7,674	676
Domestic Demand	10,193	1,587

As the brand power of firms such as Bombardier attests, the Canadian Aerospace and Defense industry is very strong and is heavily involved in exporting. However, domestic Canadian demand for Aerospace and Defense is also significant, when implicit domestic demand is defined as domestic production plus imports minus exports. These imports show that U.S. opportunities in the Defense industry in general are strong despite the strength of some Canadian firms, and because U.S. firms account for just over half of all such imports, many U.S. firms are successful exporters to Canada. Contrasting general Aerospace and Defense to particular Navigational and Guidance Instruments highlights a telling difference. While Canada is a net exporter of Aerospace and Defense, Canada is a net importer of Navigation and Guidance systems. Canadian trading patterns suggest that Canadian demand for Navigation and Guidance Instruments can therefore be met with U.S. supply in support of a strong Canadian Aerospace and Defense industry.

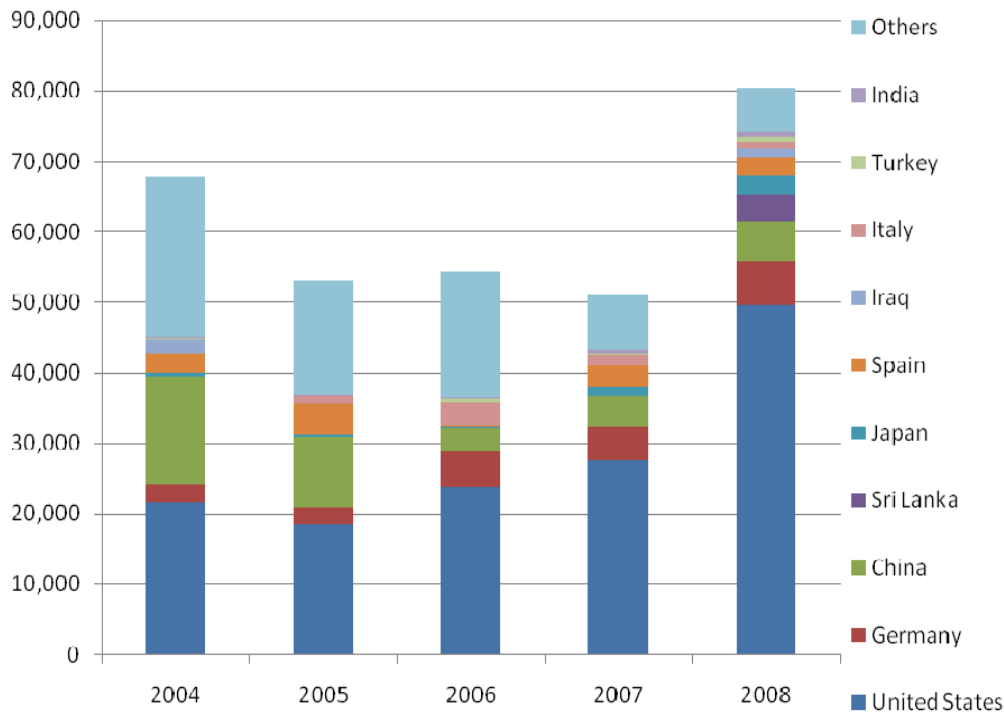
**Figure 3: Imports of Radar Apparatuses in Value and Growth in Thousands of USD
2004-2008**

	2004	2005	2006	2007	2008	Compound Yearly Growth
U.S.	21,561	18,469	23,727	27,617	49,557	+23%
Germany	2,494	2,321	5,063	4,527	6,190	+28%
China	15,384	10,042	3,175	4,594	5,631	-24%
Sri Lanka	0	0	0	0	3,788	N/A
Japan	496	370	427	1,178	2,772	+58%
Spain	2,712	4,373	111	3,099	2,646	-4%
Iraq	1,892	0	0	0	1,148	N/A

Italy	445	1,128	3,239	1,626	897	+19%
Turkey	12	76	692	98	816	+137%
India	80	102	80	376	809	+81%
Others	22,750	16,138	17,789	8,045	6,029	-28%
Total	67,827	53,020	54,302	51,160	80,283	+3%

Figure 3 helps underscore the trading trends among Radar Apparatus more clearly. In 2004, U.S. firms accounted for 32 percent of all radar imports and the largest single exporter, but the market was highly diffuse. Over the five years until 2008, Canadian imports of radar systems only increased by an average of 3 percent per year, but as the above shows, growth hardly followed such a regular pattern. Instead, coinciding with the announcement of the Canada First Defense Strategy in 2008, radar imports spiked upwards by over 50 percent in a single year from US\$51.2 million to US\$80.3 million. The U.S., a favorite source of imports to Canada, increased by over 75 percent that same year. Indeed, the United States now accounts for 62 percent of all Radars imported to Canada. This shows that the opportunities for American firms are lucrative and within reach. Perhaps surprisingly, the shift from Chinese and many smaller suppliers might represent a flight to quality, particularly U.S., and to a lesser extent German and Japanese, manufacturers. Figure 4 clearly shows the shift in Canadian importation habits from 2004 to 2008.

Figure 4
Radar Apparatus Imports and Market Share by Country of Origin in Thousands of USD 2004-2008



Most existing economic indicators will likely discourage investors that demand immediate results. In Figure 5, for example, it appears that a fall in GDP may reduce the purchasing power of Canadians so that U.S. firms will be unable to find customers. However, a closer look will reveal that a strong Canadian dollar relative to the U.S. Dollar increases the relative competitiveness of U.S. suppliers to Canadian customers, and in turn improves the attractiveness of Canadian customers among American merchandisers. Further, a low, maintained rate of inflation demonstrates both the ability of the government to keep its commitments, including potentially defense commitments, as well as the resilience of the Canadian consumer. Finally, it is important to keep in mind that the time to invest in new customers is before growth takes off and potential customers have already signed on with other suppliers.

**Figure 5: Macroeconomic Indicators
 2003-2008**

	2003	2004	2005	2006	2007	2008
Real GDP Growth, 2002-chained (%)	1.8	3.1	2.9	3.1	2.7	-3.4
Total CPI, seasonally adjusted (%)	2.7	1.8	2.2	2.0	2.1	2.4
Exchange Rate US\$:C\$	0.71	0.77	0.83	0.88	0.93	0.94
Canadian Population (millions)	31.5	31.9	32.2	32.6	32.9	33.3

Best Prospects

All Canadian federal tenders are conducted through [MERX](#), the GOC's electronic tendering service also lists provincial, municipal, private and U.S. tenders.

The PWGSC department of Electronic, Munitions and Tactical Systems (EMTS) has responded to the aforementioned *Canada First* Defence Strategy with a number of specific defense projects that require attention. Many of these prospects are general in nature, but it's possible for a specialized business to partner or contract with other firms in order to focus on a part of the wider project.

Electronics, Simulators and Defence Systems: EMTS will acquire numerous miscellaneous systems, including command and control systems, radar equipment, and navigational instruments, as well as secure simulation and training equipment and services, engineering services, and repair and overhaul services.

Combat Systems Engineering Support (CSES): EMTS will acquire in-service system engineering and support for CF HALIFAX and IROQUOIS class ships and naval facilities, especially regarding the complex sensor and weapon suite system.

Radar Upgrade Program (RUP): EMTS will provide improved radar capability for CF HALIFAX class ships.

Halifax Modernized Command and Control System (HMCCS): EMTS will upgrade existing command and control systems for HALIFAX ships. This project is intended to be incorporated into the CSES contract.

Land Command Support System: EMTS will acquire in-service system engineering and support for the Canadian Army, where the Land Command System (LCS) is composed of the Land Force Command System (LFCS), Tactical Command, Control and Communication System (TCCCS), and Position Determination and Navigation of the Land Force (PDALF).

Key Suppliers

Major Domestic Radar Suppliers

- [Accipiter Radar Technologies Inc.](#), based in the Niagara region of southern Ontario, designs and manufactures radar for both security and bird collision avoidance purposes. Accipiter is a wholly-owned subsidiary of Sicom Systems Ltd.
- [CMC Electronics](#), with bases in Montreal, QC, Ottawa, ON, and Chicago, IL, focuses on niche and emerging markets where high-tech innovation is most critical, and counts other high-tech companies, airlines, militaries, and governments worldwide as customers. CMC is wholly-owned by Esterline Corporation.
- [Comlab Inc.](#), headquartered in Quebec City, QC, is an R&D and engineering firm that designs and manufactures radio-frequency (RF) equipment and systems for telecommunications, guidance and surveillance purposes for private industry and defense.

Major Systems Integrators

- [Curtiss-Wright Controls](#), headquartered in Charlotte, NC, is involved in aerospace, defense, and industrial control engineering, embedded computing, and systems integration with customers worldwide. CWC is a division of Curtiss-Wright Corp.
- [General Dynamics Canada](#), based in Ottawa, ON, Calgary, AB, and Halifax, NS, focuses on systems integration for military purposes as well as engineering individual products and subsystems. General Dynamics Canada is a division of General Dynamics Corp.
- [Raytheon Canada Ltd.](#), headquartered in Ottawa, ON, is a Mission Systems Integrator for sea, land and air applications. Raytheon customers can be found throughout the Canadian defense, security, aerospace, and commercial market. Raytheon Canada is a wholly-owned subsidiary of Raytheon Company.
- [Thales Group Canada](#), based in Ottawa, ON, and Quebec City, QC, is primarily involved in defense systems and logistics for aerospace, maritime, and land purposes, focusing on customers in the Canadian Government. Thales Group Canada is a division of Thales Group.
- [Ultra Electronics](#), a group of 21 highly specialized businesses, are largely focused on various facets of tactical and sonar systems, aircraft and vehicle systems, and information and power systems. All Ultra companies are wholly-owned subsidiaries of Ultra Electronics Holdings UK.

Many other global firms do business in Canada, including Boeing and Lockheed-Martin. However, focusing on firms based in Canada and with a close relationship to the Canadian aerospace and defense industry will help U.S. firms enter the defense procurement market.

Prospective Buyers

[Public Works and Government Services Canada \(PWGSC\)](#)

This is the government's centralized purchasing agency responsible for overseeing federal procurement. Through PWGSC, the Canadian Government procures 17,000 different types of goods, services and construction a year, averaging 60,000 contracts with a total value in excess of US\$10.5 billion annually. PWGSC handles the procurement for more than 85 federal departments and agencies, as well as contracts for major Crown projects and Special Operating Agencies. PWGSC's largest client department is the Department of National Defence (DND). **PWGSC has the authority to directly purchase up to \$3 million in acquisitions, and through competitive contracting may manage up to \$40 million alone.**

Note: In general, departments and agencies (such as the Department of Fisheries and Oceans (DFO)) have the authority to individually purchase up to \$5,000 in goods. Any contracts exceeding this amount need to be approved by the Treasury Board. PWGSC will thereafter handle the procurements. However, sixteen departments have had their delegation of authority increased to \$25,000. Some of these departments include Health Canada (HC), Royal Canadian Mounted Police (RCMP) and Transport Canada (TC).

[Department of National Defence \(DND\)](#)

The Government of Canada's defense spending has reached the highest level since World War II with a budget of slightly more than US\$18 billion per year, including capital expenditures of \$3-\$4.5 billion. As the sixth highest military spending economy in NATO, the GC is a significant purchaser of defense and security products, including aerospace and electronic systems (for aircraft, ships, and military vehicles), computer hardware and software, custom-manufactured and commercially-available products; informatics services; marine equipment and armament; marine inspection and technical services; communications, audio-visual and printing services; research and development services; and science and professional services. **DND has the second largest delegation of authority of \$2 million to directly acquire goods.**

[The Department of Defence Research and Development Canada \(DRDC\)](#)

Defence R&D Canada (DRDC) is an agency of the Canadian Department of National Defence responding to the scientific and technological needs of the Canadian Forces. Its mission is to ensure that the CF remains scientifically and operationally relevant. The agency is made up of [seven research centers](#) located across Canada with a corporate office in Ottawa. DRDC has an annual budget of \$300 million and employs 1,500

people. With a broad scientific program, DRDC actively collaborates with industry, international allies, academia, other government departments and the national security community.

[Department of Fisheries and Oceans \(DFO\)](#)

The Canadian Coast Guard (CCG) is a civilian fleet, which is part of the Department of Fisheries and Oceans. Its responsibility is to respond to Search and Rescue (SAR) emergencies and environmental issues; to provide services for boating safety and icebreaking; and, to provide marine navigation services, marine communications and traffic services. The Canadian Coast Guard operates all the DFO vessels. The types of products procured by this department are mainly security motion detectors, enhanced communications and video surveillance systems.

[Canadian Security Intelligence Service \(CSIS\)](#)

The Canadian Security Intelligence Service (CSIS) plays a major role in protecting the national security interests of Canada by investigating and reporting on threats to the security of Canada.

[Transport Canada \(TC\)](#)

Transport Canada promotes safe and secure air, marine, rail, and road transportation to all Canadians through policy development, rulemaking, and monitoring and enforcement activities. The department works in cooperation with numerous federal, provincial and municipal organizations, and agencies on transportation issues.

[Public Safety Canada \(PSC\)](#)

Public Safety Canada (PSC), formerly known as Public Safety and Emergency Preparedness Canada (PSEPC) was created in 2003. PSC is the department that most resembles the Department of Homeland Security. PSC ensures better integration and information sharing across government in relation to national security, emergency management, law enforcement and crime preventions, corrections and border management. They have an annual departmental and portfolio budget of \$6 billion. It is important to note that the Department itself is not a major purchaser, though equipment, services and goods are purchased by the five agencies that PSC receives support from, namely:

- [Canada Border Services Agency](#) (CBSA)
- [Canadian Security Intelligence Service](#) (CSIS)
- [Correctional Service Canada](#) (CSC)
- [National Parole Board](#) (NPB)
- [Royal Canadian Mounted Police](#) (RCMP)

Market Entry

There are three principles that a company should follow once the decision has been made to sell its defense products to the Canadian Federal Government.

1. Make Yourself Known

Though this implies numerous networking, advertising, and other marketing activities, one of the most effective ways a defense company can make itself known is by attending trade events across Canada and the United States. Identifying and actively marketing to key contacts in government agencies, by email, post, telephone, or in person, has significant advantages over passive advertisements. The U.S. Commercial Service in Ottawa has many different methods of assisting companies in gaining market exposure. However, Canadian procurement relies upon certain procedures for procurement. To bid successfully, a company must subscribe to [MERX](#). To do so, non-Canadian companies must first obtain a Canada Revenue Agency (CRA) Business Number from the [Business Registration On-line](#) (BRO) service. With a Business Number, the business must then register as interested in supplying to the Government of Canada through the Supplier Registration Information (SRI)

database via [Business Access Canada](#). This provides the business a Procurement Business Number (PBN), that can be used when responding to bid notices/tenders.

2. Identify Opportunities

The Canadian government's official internet-based electronic tendering service [MERX](#) gives subscribers access to more than 1,500 open tenders from the federal government, provincial governments, and many municipalities, school boards, universities, and hospitals that are subject to Canada's trade agreements. Approximately 200 new tenders are posted daily. The [MERX](#) system provides U.S. suppliers with easy access and excellent opportunities to sell a wide range of products and services to Canada's public sector. The Basic Subscriber package is free of charge providing U.S. companies with access to Federal Government procurement opportunities. From there, it is possible to search, view and download tender documents at no charge. This package also includes a free delivery of Opportunity Matching results, and one free Opportunity Matching Profile that automatically searches for opportunities of interest to a company's criteria in the profile it can create. In order to access opportunities other than federal government opportunities, users must subscribe to one of the fee-based packages.

3. Gather market intelligence

In order to keep up with what is going on in the defense and aerospace sector, subscribe to trade journals, newspapers, etc., so that you are aware of upcoming procurements. The best time to talk to GOC end-users about upcoming requirements is before they are posted on [MERX](#). Once the opportunity is posted, you may only speak with the procurement official handling that particular project. It will be beneficial to have a person "on the ground" to keep you up-to-date and to market your organization/technology; therefore, making it a good idea to hire a local representative. The increase in military spending has created a greater demand for organizations that provide consulting/lobbying services to organizations wanting to increase their sales to the GOC. This is considered an effective method for U.S. companies wanting to penetrate this lucrative market. The U.S. and Foreign Commercial Service in Ottawa, Canada can assist U.S. companies in finding a representative to assist with market entry.

Market Issues & Obstacles

Defense procurement, like all Government of Canada procurement, must abide by certain policies. Most important for a U.S. firm is the Industrial and Regional Benefits (IRB) policy incorporated into many procurement efforts. IRBs include various forms of reinvestment of awarded contract revenues in Canadian firms and regions by creating jobs, transferring technology, etc. When a firm submits a contract bid, IRBs are usually considered alongside factors such as technical capability and cost when deciding to whom to award a contract. IRB requirements are almost always required when a GC contract is worth in excess of CDN\$100 million.

Trade Events

DEFSEC Atlantic 2009
September 9-11, 2009
Halifax, Nova Scotia, Canada
Website: <http://www.defsecatlantic.ca/>

Defence Security Innovation (DSI) 2009
October 26-29, 2009
Loews le Concorde, Québec, Canada
Website: <http://www.defenceinnovation.org/>

CANSEC 2010
June 2-3, 2010
Landsdowne Park, Ottawa, Canada
Website: <https://www.defenceandsecurity.ca/>

Resources & Key Contacts

Useful Government Websites:

- [Business Access Canada](#), general information on selling to the Canadian Government.
- [Standing Offers and Supply Arrangements](#), describing procurement procedures.
- [Industry Canada](#), resource for valuable trade information by sector.
- [Canadian International Trade Tribunal](#), can hear complaints regarding procurement efforts and appeals to Canada Border Services Agency decisions.

- [Canada Revenue Service](#) and [Business Registration On-Line](#)
- [Business Access Canada](#) and the [Supplier Registration Number](#)
- [MERX](#), electronic tendering service focused on Canadian opportunities.

- [Public Works and Government Services Canada](#), the main portal for the Ministry.
 - PWGSC's [Supply Manual](#)
 - PWGSC's [Standard Acquisition, Clauses and Conditions \(SACC\) Manual](#)
 - [Procurement Allocation Directory](#), contacts for purchasing managers at PWGSC.
 - [Dave Hatherall](#)
Manager – QF
Defence and Major Projects Sector
Electronics, Munitions and Tactical Systems Procurement Directorate
Electronics, Simulators and Defence Systems Division
Telephone: (819) 956-0558

- [Department of National Defence](#), supports Canadian Forces with construction and R&D.
Telephone: (613) 995-2534
 - [Department of Defence Research and Development](#), the R&D agency of DND.
Defence R&D Canada's External Relations Office Email: corp.bdo-bda@drdc-rddc.gc.ca
Canadian Defence Liaison Staff in Washington, DC Email: wshdc-outpack@dfait-maeci.gc.ca

- [Department of Fisheries and Oceans Canada](#), supporting sustainable development of Canada's waters.
 - [Canadian Coast Guard](#), a civilian fleet and special operating agency of DFO.
Telephone: (613) 993-0999

- [Canadian Security Intelligence Service](#), proactive intelligence and security agency.
Telephone: (613) 993-9620

- [Transport Canada](#), with authority over aviation and marine transport.
Civil Aviation Telephone: (613) 991-4071
Innovation Telephone: (613) 998-2690
Transportation Development Centre Telephone: (613) 990-5437

- [Public Safety Canada](#), umbrella for emergency response, law enforcement, security policy, etc.
Telephone: (613) 944-4875

Associations:

- [Canadian Association of Defence and Security Industries](#)
130 Slater Street, Suite 1250
Ottawa, ON K1P 6E2
Telephone: (613) 235-5337
Fax: 613-235-0784
Email: cadsi@defenceandsecurity.ca

CADSI is a non-profit national business association that represents defense and security organization that are located in Canada. With over 800 members that employ over 70,000 Canadians and who generate approximately US\$9 billion in revenues, CADSI represents the premier body of advocacy, business development, networking, and member services for aerospace and defense firms. CANSEC, a yearly event produced by CADSI, is the primary marketing event for defense companies in Canada.

Publications:

- [Frontline Security](#)
- [Canadian Defence Review](#)
- [Aviation Week & Space Technology](#)
- [esprit de corps](#)
- ["Canada First" Defence Newsletter](#)
- [The Globe and Mail](#)
- [The National Post](#)

Note: All dollar values are in USD, and where necessary an exchange rate of CAN0.89=USD1.00 was used.

Note: "Defense" is spelled "defence" in Canada.

Note: The GOC's fiscal year is April 1 to March 30

For More Information

The U.S. Commercial Service in Ottawa, Canada can be contacted via e-mail at: Lucy.Latka@mail.gov.doc;
Phone: 1-613-688-5219; Fax: 1-613-238-5999; or visit our website: <http://www.buyusa.gov/canada/en/>.

The U.S. Commercial Service — Your Global Business Partner

With its network of offices across the United States and in more than 80 countries, the U.S. Commercial Service of the U.S. Department of Commerce utilizes its global presence and international marketing expertise to help U.S. companies sell their products and services worldwide. Locate the U.S. Commercial Service trade specialist in the U.S. nearest you by visiting <http://www.export.gov/eac>.

Comments and Suggestions: We welcome your comments and suggestions regarding this market research. You can e-mail us your comments/suggestions to: Customer.Care@mail.doc.gov. Please include the name of the applicable market research in your e-mail. We greatly appreciate your feedback.

Disclaimer: The information provided in this report is intended to be of assistance to U.S. exporters. While we make every effort to ensure its accuracy, neither the United States government nor any of its employees make any representation as to the accuracy or completeness of information in this or any other United States government document. Readers are advised to independently verify any information prior to reliance thereon. The information provided in this report does not constitute legal advice.

International copyright, U.S. Department of Commerce, 2009. All rights reserved outside of the United States.