

CALGARY: ADVANCED TECHNOLOGY

INFORMATION AND COMMUNICATION TECHNOLOGY SECTOR PROFILE





Calgary Economic Development's comprehensive Information and Communication Technology (ICT) sector profile provides information on the composition of Calgary's ICT sector. Our report summarizes the infrastructure, local initiatives, research, post-secondary educational support and government investments that support the sector and contribute to the continued opportunities within it. It also offers an overview of the sector's recent performance and future opportunities.

Over the last 10 years Calgary's growing ICT sector has become a major contributor to the strong economic growth in Calgary and Alberta, which are among the fastest growing economies in North America. It is anticipated that Calgary will continue to play a leading role in the continuing growth in the province.

Calgary's exceptional business climate offers companies within the sector well-developed infrastructure, access to capital, head office concentration of buyers and an entrepreneurial community. As well, Calgary's highly trained, well educated, and motivated labour force provides the sector with the human capital necessary to thrive and innovate.

For additional information, please contact:

Calgary Economic Development

731 - 1st Street S.E.

Calgary, Alberta T2G 2G9

Phone: 403-221-7831 or toll-free: 1-888-222-5855

Fax: 403-221-7828

Email: info@calgaryeconomicdevelopment.com

Website: www.calgaryeconomicdevelopment.com



Western Economic
Diversification Canada

Diversification de l'économie
de l'Ouest Canada

Canada

This profile was completed with the financial assistance of Western Economic Diversification Canada.

CALGARY ECONOMIC DEVELOPMENT



Calgary Economic Development (CED) is Calgary's lead economic development agency, committed to marketing the Calgary Region's competitive advantages, pro-business climate and superior lifestyle across Canada and around the world.

Our organization works proactively, collaboratively and responsively with business, partner agencies, educational institutions, the community and all levels of government. We focus on leveraging Calgary's abundant energy and innovative spirit to sustain economic growth.

Calgary is Western Canada's business centre and has more head offices per capita than any other Canadian city. Its key economic drivers are Transportation and Logistics, Information and Communication Technology, Energy, Manufacturing, Financial and Business Services, Film and Creative Industries. CED concentrates its activities on developing these sectors with an experienced economic development professional dedicated to each sector. Using a hands-on approach, we are furthering the success and growth of existing businesses, helping small and medium-sized businesses grow their markets globally and promoting the Calgary Region as the ideal location for business investment.

Proud of its past and focused on tomorrow, Calgary is Canada's leading business opportunity centre. To make Calgary a part of your tomorrow, let CED point you in the right direction.

For additional information, please see:

www.calgaryeconomicdevelopment.com

TABLE OF CONTENTS

01 INFORMATION & COMMUNICATIONS TECHNOLOGY SECTOR IN CALGARY

02 ICT Industry Sectors

03 BREAKDOWN OF ICT INDUSTRY BY SUB-SECTOR

04 Industry Breakdown by Sub-Sector

05 INFORMATION TECHNOLOGY

05 Employees

08 Local IT Support

09 ELECTRONICS

09 Employees

11 Local Electronics Support

12 WIRELESS & TELECOMMUNICATIONS

13 Employees

13 Wireless Specific Research

16 Local Wireless Support

18 GEOMATICS

20 Employees

22 Local Geomatics Support

23 DIGITAL MEDIA

24 Employees

25 Local Digital Media Support

26 HUMAN CAPITAL

26 Labour Force

27 Salary Information

29 LOCAL INITIATIVES AND ASSOCIATIONS

34 CALGARY'S ICT INFRASTRUCTURE

35 EDUCATIONAL INFRASTRUCTURE

37 RESEARCH CAPABILITIES

37 Federal Initiatives

38 Provincial Direction

39 Local Research Institutes

42 Local Research Activity

43 **ADVANCED TECHNOLOGY INVESTMENT**

45 **Public Capital**

52 **FUEL TAXES**

53 **BENEFITS TO BUSINESSES AND EMPLOYEES**

56 **UNIONIZATION RATES**

57 **BUSINESS AND INFORMATION SERVICES**

57 **The Business Link**

58 **Consulates and Honorary Consulates**

59 **EXCEPTIONAL QUALITY OF LIFE**

65 **APPENDIX A. EDUCATIONAL SUPPORT SUMMARY**

65 **A1. University of Calgary**

66 **A2. Southern Alberta Institute of Technology Polytechnic**

67 **A3. Mount Royal College**

68 **A4. Alberta College of Art + Design**

70 **APPENDIX B. FEDERAL AND PROVINCIAL SUPPORT**

70 **B1. National Research Council**

72 **B2. Scientific Research and Experimental Development Tax Incentive Program**

72 **B3. Industry Canada**

74 **B4. Natural Sciences and Engineering Research Council of Canada**

75 **B5. Western Economic Diversification**

76 **B6. Alberta Research Council**

78 **B7. Alberta Advanced Education & Technology**

79 **B8. Alberta Science and Research Authority**

80 **B9. Alberta Science and Research Investment Program**

82 **B10. Alberta Information and Communications Technology Institute (AICTI)**

84 **B11. Alberta Employment, Industry and Education**

86 **B12. Alberta Ingenuity Fund**

87 **APPENDIX C. ADDITIONAL LOCAL SUPPORT**

87 **C1. TRILabs**

88 **C2. iCORE**

88 **C3. University Technologies Inc.**

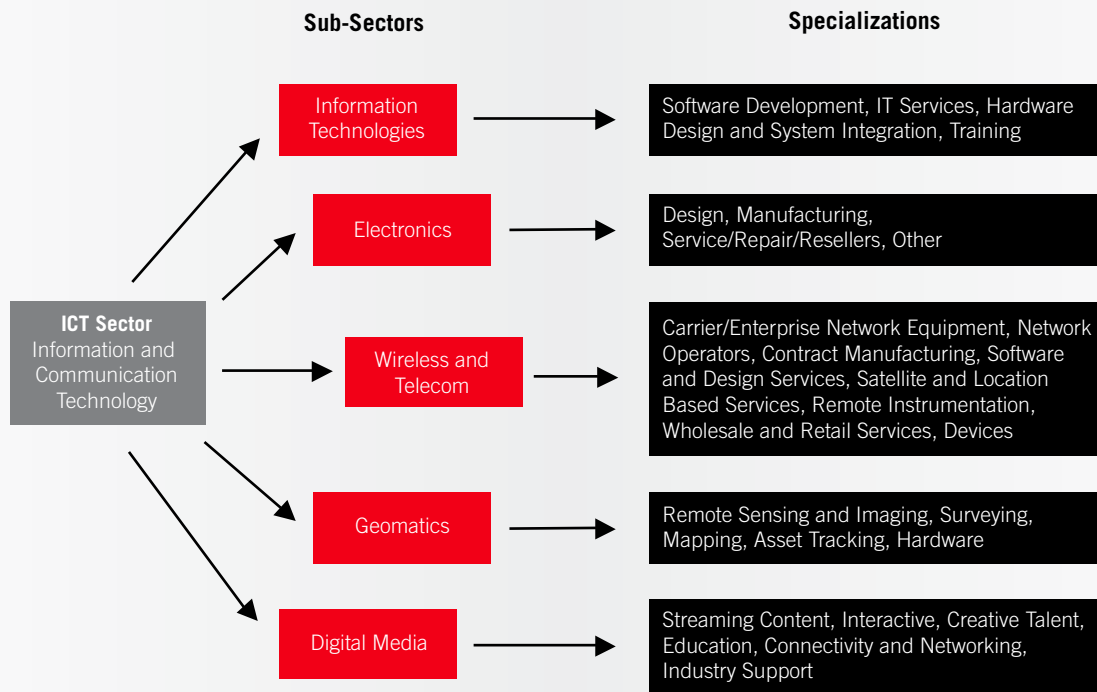
90 **C4. Medical Ward of the 21st Century**

INFORMATION & COMMUNICATIONS TECHNOLOGY SECTOR IN CALGARY

Calgary’s complex and rapidly evolving ICT sector is made up of five main sub-sectors which include Information Technologies, Electronics, Wireless and Telecommunications, Geomatics, and Digital Media. The sub-sectors’ contribution to Calgary’s economy extends to all parts of our society and our economy making the continued growth and development of these industries vital to the city.

Calgary’s ICT companies have several valuable assets and initiatives to assist in their growth and development and to support them in the dynamic and rapidly changing business environment that typifies the industry and the economy in general.

FIGURE 1– STRUCTURE OF THE ICT SECTORS





ICT Industry Sectors

Calgary’s ICT sector includes over 2,400 companies that employ over 55,200 workers, representing almost 10 per cent of total employment in the Calgary Economic Region. (Total employment in the region across all industrial sectors is 642,900.) Information Technologies is the largest sub-sector, employing almost 40 per cent of the workforce in the sector.

TABLE 1 – OVERVIEW OF THE ICT SECTOR

	Number of Companies	Number of Employees	% of ICT Companies	% of ICT Employees
IT	1,543	19,900	64.3	35
Electronics	263	5,300	11	10
Wireless & Telecom	253	10,300	11	19
Geomatics	251	11,400	10.4	21
Digital Media	710	8,300	30	15
TOTAL ICT	2,400**	55,200**	100*	100

**Please note that the total number of companies in the sub-sectors does not add up to 100 as some companies operate in multiple sectors. This is true when calculating the number of firms throughout this profile. Infoport’s data is based on the self-reporting from companies, and they often classify themselves as operating in more than one sector.*

***Source Statistics Canada, Labour Force Survey*

BREAKDOWN OF ICT INDUSTRY BY SUB-SECTOR

FIGURE 2 - CALGARY ICT SECTOR STRUCTURE

The IT sub-sector, which represents over half of the ICT companies located in the city, dominates Calgary’s ICT sector. The IT sub-sector is followed by the Digital Media sub-sector, which represents approximately 23.5 per cent of the ICT companies operating in the city.

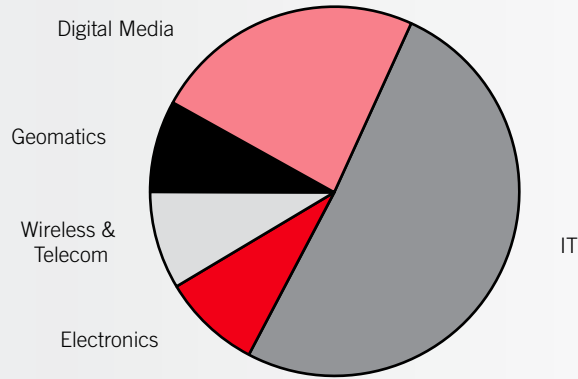


TABLE 2 – LARGEST EMPLOYERS IN THE ICT SECTOR

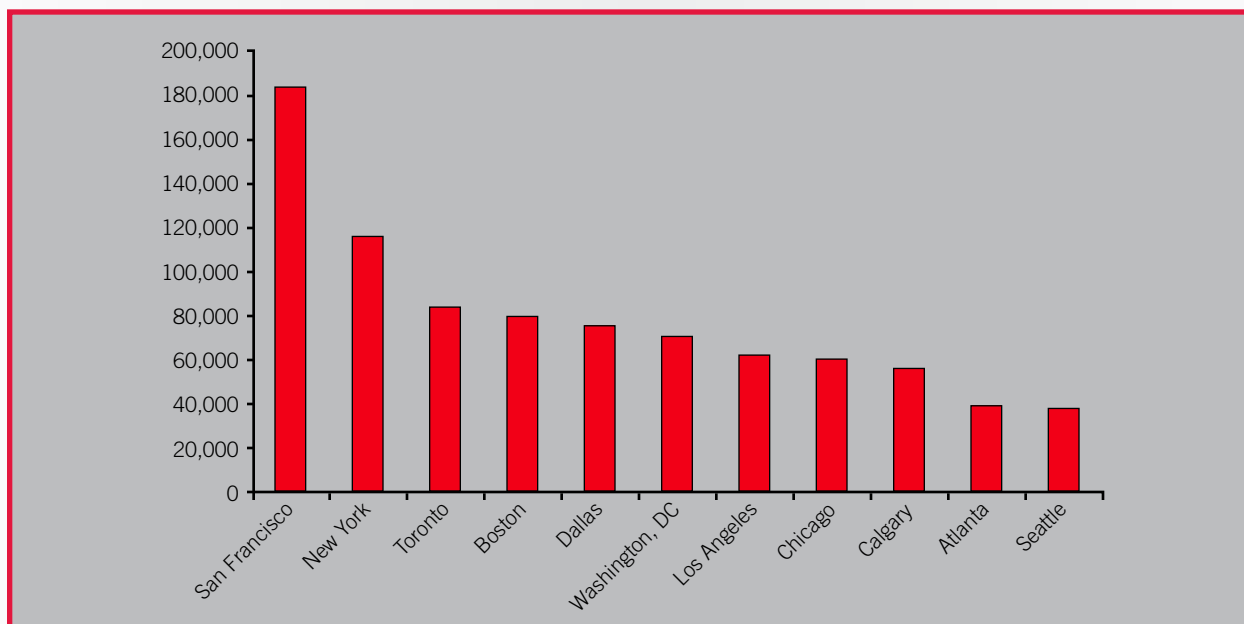
The following companies employ approximately 30 per cent of Calgary’s ICT employees.

Company Name	
Shaw Communications Inc	RIS Resource Information Systems Inc
CGI Systems Management Consultants Inc	Guest-Tek Interactive Entertainment Ltd
GE Power Systems Canada Inc	Emerson Process Management
Hemisphere GPS	BW Technologies Ltd
Nexen Inc	TELUS
Allstream	Novatel Inc
Flextronics	Veritas DGC Inc
Colt Engineering Corp	Hewlett-Packard
IBM Canada Limited	Smart Technologies Inc
Schlumberger Canada Ltd	Bell Canada
QC Data	Aspen Technologies
VIP International Corporation	Telvent
Bell West Inc	Xerox
Divestco Inc	Critical Mass Productions Inc
General Dynamics Canada Ltd	Vantis
Metafore Corp	Golder Associates Ltd
Amec Inc	IHS Energy
Spartan Controls Ltd	Axia Netmedia Corp
Electromec Manufacturing Solutions Inc	Cybersurf Corp
Raytheon Systems Canada Ltd	

**Please note that these are not necessarily companies that fall within the ICT sector, but companies that employ the most people engaged in ICT activity.*

FIGURE 3 - NUMBER OF ICT EMPLOYEES ACROSS MAJOR NORTH AMERICAN CITIES

Calgary's ICT sector is comparable to many cities with much larger populations. The city has the second highest concentration of ICT employees per capita compared with other major North American centres.



City	Population	ICT Employees	Per Capita ICT Employees
San Francisco	751,682	183,000	24.35%
Calgary	1,021,060	55,200	5.41%
Toronto	5,381,704	83,000	1.54%
Boston	5,716,669	79,000	1.38%
Dallas	5,462,360	75,000	1.37%
Washington	6,203,788	70,000	1.13%
Seattle	3,554,760	37,000	1.04%
Atlanta	4,310,754	38,000	0.88%
Chicago	9,157,540	60,000	0.66%
Los Angeles	9,937,739	62,000	0.62%
New York	21,199,865	115,000	0.54%

Source: E&B Data

Industry Breakdown by Sub-sector

Calgary's ICT sector is diverse. It supplies products to many of Calgary's various industries and consumer groups, which makes it key to the economic activity in the city. The following overview of the sub-sectors within the ICT industry illustrates the diversity of the sector and its far-reaching impact on the general economy of the city and the province.

INFORMATION TECHNOLOGY



Approximately 1,543 companies in Calgary belong to the Information Technology (IT) sub-sector; the majority of these businesses classify themselves as providing an IT service. About 800 companies work in software development and approximately 200 work in hardware design and system integration. The majority of the companies can be classified as system integrators with a software development component.

DEFINITION

Encompassing the computer and information systems industries, information technology is the capability to electronically input, process, store, output, transmit, and receive data and information, including text, graphics, sound, and video, as well as the ability to control machines of all kinds electronically.

Employees

IT employees work in all industry sectors. Many companies located in Calgary have significant IT divisions that focus on software development and support services integral to their business operations.

The IT sub-sector employs over 20,000 workers with a variety of skills; the majority work in computer systems design and related services. If software and development employees from other sectors are included, total IT employment in Calgary increases significantly, by 26,000 workers.

Consulting, system integrators and related services are by far the largest employers in the IT sub-sector. Following that is Web and Internet service, which includes designing, hosting and other business services such as e-commerce and other Web and network-based business operations.

TABLE 3 – LARGEST EMPLOYERS IN THE IT SUB-SECTOR

All 20 of the largest companies in Calgary’s IT sub-sector have over 100 employees. The relatively large size of the workforce in these businesses indicates that the IT sub-sector is maturing and has a solid foundation from which Calgary’s ICT industry can continue to grow and prosper.

Company Name	
Shaw Communications Inc	CGI Systems Management Consultants Inc
IBM Canada Limited	Aspen Technologies
Schlumberger Canada Ltd	Critical Mass Productions Inc
Telvent	Hewlett- Packard
Golder Associates Ltd	Metafore IT Solutions
Veritas DGC Inc	Fujitsu Consulting
Vantis	Kelman Technologies (KTI)
Emerson Process Management	Pason Systems Inc
IHS Energy	Cybersurf Corp
Divestco Inc	SAP Canada Inc
RIS Resource Information Systems Inc	Axia NetMedia Corporation
Long View Systems	

STATISTICAL SNAPSHOT OF THE IT SUB-SECTOR

A 2005 survey of 91 IT companies in Calgary provides an interesting snapshot of the city’s IT sub-sector:

- 55 per cent of firms had less than 10 employees, 24 per cent had 10-25 employees, 21 per cent had more than 25 employees, (two respondents had over 250 employees and four respondents had between 100 and 250 employees).
- 34 per cent were in operation for less than five years, 31 per cent five to 10 years and the remainder more than five years.
- 65.4 per cent reported a positive cash flow in the past fiscal year and expected to be profitable in the coming year.
- Over 60 per cent had revenues below \$1 million.
- 23 per cent had revenues between \$1 and \$5 million.
- 13 per cent had revenues between \$5 and \$50 million while 1.3 per cent had revenues between \$50 and \$100 million.
- 33 per cent were serving the oil and gas industry.
- 22 per cent were serving government.
- Over 50 per cent indicated that more than 80 per cent of their revenue is generated in Alberta while 18 per cent indicated that over 80 per cent of their revenue was generated outside of Alberta.
- 44 per cent indicated that they were part of the software industry.

- 75 per cent expected to expand their workforce in the next two years, with almost 30 per cent indicating they would increase by more than 40 per cent.
- 40 per cent would be hiring from Alberta institutions while 51 per cent would hire local experienced people - the remainder would likely hire from outside the province.
- 16 per cent had more than 50 per cent of their employees involved in Research and Development.
- 28 per cent reported that they invested over 20 per cent of their revenue in R&D with over 11 per cent investing less than 20 per cent of their revenue in R&D, and 4 per cent not incorporating R&D.
- 55 per cent indicated they expect to increase their R&D investment in the next five years.

SPOTLIGHT – LONG VIEW SYSTEMS

Established in 1999, Long View Systems is one of the largest IT solutions and services companies in North America. Client engagement ranges from long-term contracts outsourcing entire IT functions, to specific, short-term projects requiring the highest level of expertise. Long View is headquartered in Calgary and has offices in Vancouver, Edmonton, Denver and Houston. Long View employs over 380 technical experts, with 290 of them located in the Calgary office.

Long View provides its clients with IT professionals and offers complete solutions around IT infrastructure, user support and technology procurement. The company specializes in virtualization & consolidation, storage, managed IT services, Cisco solutions and Microsoft server infrastructure design and support.

Long View chose to have its headquarters located in Calgary because the city provides the company a number of key advantages over other locations. These include:

- The concentration of head offices in Calgary (99 FP500 companies) means that there are highly sophisticated customers and a superior business environment.
- The Calgary International Airport provides easy access to key North American accounts from Calgary.
- Calgary's business community is very open to doing business with local and often small companies, which provides an exceptional environment for the establishment and growth of new businesses.
- The post-secondary educational institutions in Calgary provide high-calibre graduates. SAIT Polytechnic in particular is very responsive regarding new program development to ensure that the skills relevant to the industry are included in the curriculum.
- Calgary's excellent quality life is an advantage when it comes to recruiting external talent, and provides Long View's employees with a great place to live, work and raise a family.

“Calgary is one of the few cities in North America where major deals can still be made on the basis of a hand shake.” – Bill Arnett, President and COO



Local IT Support

InfoTech Alberta is the voice of Alberta’s IT industry. Formerly called the ICET Alliance, InfoTech Alberta works as an inclusive and effective representative alliance that initiates action on issues that affect its members across the province. InfoTech Alberta creates opportunities and partnerships that allow members to successfully grow the IT industry in Alberta.

For additional information, please contact:

InfoTech Alberta
Box 472, Alastair Ross Technology Centre
3553 - 31 Street N.W.
Calgary, Alberta T2L 2K7
Tel: 403-210-8332
www.infotechalberta.com

ELECTRONICS

Companies within the Electronics sub-sector range from design to manufacturing, including manufacturing in the telecom and wireless sector. A cluster of smaller contract Electronics manufacturing facilities service a variety of products for the petroleum, geomatics, agriculture, computer and consumer sectors. They include pc-board, board stuffing, component taping and system integrators. Calgary has several electronics design facilities with particular strength in Radio Frequency (RF) design and manufacturing, which support the region's strong wireless capability.

DEFINITION

Electronics is technology involving the manipulation of voltages and electric currents through the use of various devices for the purpose of performing some useful action. This large field is generally divided into two primary areas, analog electronics and digital electronics.

TABLE 4 – ELECTRONICS COMPANIES

Calgary has 263 Electronics companies with over half of them working in manufacturing.

Electronics Companies	263
Design	36
Manufacturing	159
Service/Repair/ Resellers	33
Other	111
<i>Source: INFOPORT.CA</i>	

Calgary's well-established Electronics sub-sector plays an important role with companies that have the capacity to support all of the industries that make up Calgary's economy, including forestry and agriculture. Companies within the sub-sector provide vital support to Alberta's oil and gas industry supplying it with critical services such as Supervisory Control and Data Acquisition (SCADA), telemetry and control services.

Employees

Approximately 5,300 employees work in the Electronics sub-sector. The main concentration of Electronics companies is located in the city centre and the northeast and southeast quadrants. The majority of the manufacturing and design electronics are also located in the north and southeast.

TABLE 5 – TOP 20 ELECTRONICS EMPLOYERS

Company Name	
Smart Technologies Inc	Interalia
Hewlett-Packard	ABB Inc
Spartan Controls Ltd	CB Engineering Ltd
GE Power Systems Canada Inc	Alberta Computer Cable Inc
Emerson Process Management	Continental Laboratories Ltd
BW Technologies Ltd	Guardian Telecom Inc
Evans Consoles Inc	Nuflo Measurement Systems
Honeywell Limited	Pro-Data Inc
Pason Systems Inc	Advanced Measurements Inc
Dynamic Source Manufacturing	Cam Tech Industries

Source: INFOPORT.CA

SPOTLIGHT – INTERALIA

Since its inception in 1975, Interalia has been a leader in the design and manufacture of digital voice announcement systems. With a base of more than 110,000 installations in over 60 countries world wide, Interalia has earned a reputation as the best in class for both voice and visual communications in a range of information dissemination applications for call centres such as announcements, call routing, audiotex, music/message on-hold, automated attendant, attendant overflow and call screeners. Its products also support solutions for on-board vehicle communications, platform/public address information, airport terminal information systems and weather or general information broadcasts.

With over 250 employees worldwide, Interalia employs over 100 people at its Calgary headquarters. All of Interalia’s design and manufacturing operations are handled in Calgary, servicing local, national and international clients including the Calgary Stampede, Environment Canada, Virgin Atlantic Airways, the London Underground and the US Air Force, among others.

Interalia attributes much of its on-going success to a number of advantages that come with having their head office in Calgary, including the following:

- Calgary is a pro-business centre with an excellent sense of community among the Electronics industry.
- The local talent pool has expertise in Engineering, Sales, Marketing and Manufacturing that provides superior support to local advanced technology companies.
- Calgary has an excellent reputation for its base of telephony expertise, especially in the wireless area.
- The Calgary International Airport offers excellent direct connections to domestic and international locales, allowing Interalia’s technical and sales staff to reach principal markets within 24 hours.

“Calgary is a community that is clearly open for business. Local and provincial governments actively encourage and enable business to get involved and work together for their own support.”
– Martin Grace, Director of Business Development

Local Electronics Support

The **Electronics Test Centre's (ETC)** specialists support industry efforts to market electronic products by providing one-stop testing, evaluation, engineering and documentations services. The company's design-to-delivery consultation services meet international and North American requirements, providing clients with the necessary expertise to improve product design and increase market penetration in a timely and cost effective manner.

ETC was established in the early 1990s through the privatization of the National Research Council's Electromagnetics Antenna Laboratory in Ottawa and expanded in 1995 through the acquisition of the Alberta Research Council's privatized operation, now located in Airdrie, Alberta. Both facilities are owned and operated by MPB Technologies, based in Montreal.

For additional information, please contact:

Electronic Test Centre
27 East Lake Hill
Airdrie, AB T4A 2K3
Tel: 403-912-0037
Fax: 403-912-0083
<http://www.etc-mpb.com/>

National Technical Systems (NTS) provides a full range of integrated engineering services and technical solutions, product testing and design for compliance, regulatory standards compliance testing and evaluation, project management, technical resources, engineering solutions and managed services. NTS is globally accredited by leading regulatory agencies, providing cost-effective programs that help clients meet their clients' requirements. NTS has testing laboratories and engineering services offices located throughout North America, Europe and Asia, offering the most skilled technical services possible from the largest independent testing laboratory in the world.

For additional information, please contact:

National Technical Systems
5151 47th Street NE
Calgary, Alberta T3J 3R2
Tel: 403-568-6625
Toll Free: 1-800-270-2516
Fax: 403-568-6970
<http://www.ntscorp.com/>

WIRELESS & TELECOMMUNICATIONS

The Wireless and Telecommunications sub-sector is dominated by large carriers like Telus and Bell. The sub-sector is well known for its strength in radio frequency (RF) design and its product development and prototyping capabilities. As well, a sizable component of the sector is involved in developing new products and services, which often entails hardware development with a large software component.

DEFINITION

Wireless is a term used to describe telecommunications in which electromagnetic waves (rather than some form of wire) carry the signal over part or all of the communication path.

Telecommunications is the transmission of information over a communications line. Telecommunications can include use of a modem, fax, telephone line, etc. to send voice, data, text, images, or video over long distances.

TABLE 6 – WIRELESS & TELECOMMUNICATIONS COMPANIES

Calgary is home to 253 Wireless & Telecommunications companies, 112 of which fall under the network operators, service providers, engineering and installation category.

Wireless & Telecommunications Companies	253
Carrier/Enterprise Network Equipment	54
Network Operators/Service Providers/Engineering and Installation	112
Contract Manufacturing	6
Software and Design Services	64
Satellite and Location Based Services	44
Remote Instrumentation	22
Wholesale and Retail Services	38
Devices	41
<i>Source: INFOPORT.CA</i>	

Employees

Over 10,300 people are employed in the Wireless & Telecommunications sub-sector. Most Wireless & Telecommunications companies are located around the downtown area and in the northeast quadrant of Calgary.

TABLE 7 – TOP EMPLOYERS IN THE WIRELESS AND TELECOMMUNICATIONS SUB-SECTOR

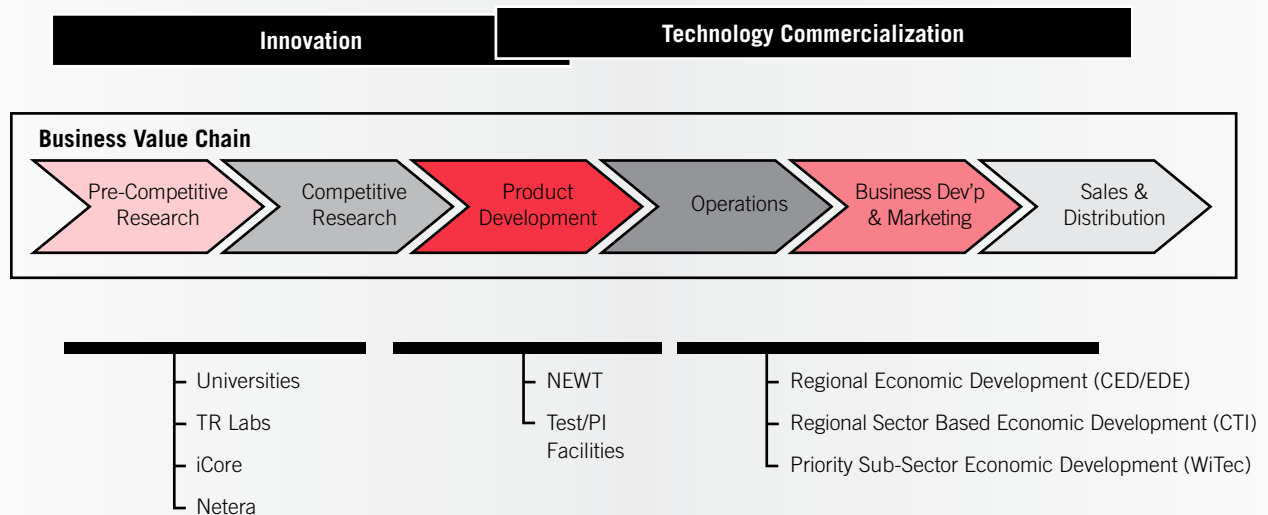
Company Name	
Telus	Guest-Tek
Shaw Communications Inc	Allstream
Nortel Networks	Novatel Inc
IBM Canada Limited	BW Technologies Ltd
Bell West Inc	Hemisphere GPS
General Dynamics Canada Ltd	IBI Group
Smart Technologies Inc	PDL Mobility and Call Centres
Hewlett-Packard	Zi Corporation – Calgary
Rogers Wireless	CriticalControl Solutions Inc
Allstream	Interalia
Wi-Lan	Unified Systems Group

Source: INFOPORT.CA

Wireless Specific Research

Local support infrastructure for the Wireless sub-sector has developed as a result of increased research and development, and the export and trade of wireless products. The University of Calgary has research groups that support electronic subcomponents and components hardware development, as well as software development.

FIGURE 4 – INFRASTRUCTURE OF WIRELESS SPECIFIC RESEARCH



In the not-for-profit research sector, approximately 450 lead researchers, research associates, research assistants, graduate students and support staff exist across the province conducting research in areas including:

- Digital signal processing
- Digital wireless systems
- Advanced RF circuits
- Photonics
- Optical networking
- Network capacity planning
- GPS software applications

STATISTICAL SNAPSHOT OF THE WIRELESS & TELECOMMUNICATIONS SUB-SECTOR

A January 2005 survey of 86 Alberta Wireless & Telecom executives, conducted by Ipsos-Reid, for WiTec (Alberta's W&T association), provided the following information:

- Estimated Total Sector Revenue of \$3.5 billion.
- Sales distribution: 63 per cent into Canada, 24 per cent into US, 5 per cent into Europe, 3 per cent into Asia.
- 47 per cent of companies have more than 50 per cent of their Canadian sales in Alberta.
- 72 per cent of companies have sales less than \$5 million.
- 78 per cent of companies have less than 50 employees.
- 57 per cent of companies employ greater than 10 per cent of their staff in R&D activities.
- 23 per cent of employees are graduates of provincial postsecondary institutions.
- 57 per cent of employees come from experienced recruits within the province.
- 43 per cent of companies spend more than 10 per cent of company revenue on R&D.
- 66 per cent of companies spend more than 60 per cent of their R&D budget within Alberta.
- 97 per cent of companies plan to grow (53 per cent) or maintain (44 per cent) current levels of investment in R&D.

- 63 per cent that forecast growth expect it to be greater than 25 per cent over the next five years.
- 67 per cent of companies are currently cash flow positive.
- 84 per cent of companies see an expanding workforce over the next two years.
- 46 per cent believe the growth will be up to 20 per cent over the next two years.
- 50 per cent of the 75 per cent of companies that expect the industry to grow believe the growth will be greater than 20 per cent over the next two years.

SPOTLIGHT – GENERAL DYNAMICS CANADA

General Dynamics Canada is Canada's premiere defence company with a global reputation for providing technology-based solutions to the armed forces in over 20 countries, from NATO to the Pacific Rim. General Dynamics Canada has operations in Ottawa, Calgary, Halifax and Canberra, Australia and has more than 2,200 employees. The Calgary location started off as Computing Devices Canada, which was purchased by General Dynamics in 1998. Ever since the Calgary location was awarded the \$1.1 billion Tactical Command Control Communications System (TCCS) for the Canadian Armed Forces in 1993, the city has been recognized as a key business centre for advanced technology enterprises.

Among its many strengths, General Dynamics Canada is a leading provider in wireless technologies, these include system design, development and integration of mobile, ad-hoc network communications systems for major transformation initiatives for the Canadian, British and Australian militaries. The company also provides biological and chemical detection systems, as well as self-propelled landmine detection systems to many military customers. General Dynamics Canada has a well-deserved, global reputation for providing leading-edge technology based solutions to armed forces in more than 20 countries – from NATO to the Pacific Rim.

General Dynamics Canada has been an established Canadian company since 1948 and has been included in Canada's Top 100 Employers list since 2003. There are more than 750 highly skilled, knowledge-based employees located at the Calgary facility.

There are a number of community attributes and business advantages that led to Calgary becoming the location of choice for General Dynamics Canada. Some highlights include:

- Calgary's labour force is full of highly skilled, highly educated and highly motivated technical employees.
- The citizens of Calgary possess an incredible amount of community spirit, which is evident in the amount and type of volunteerism in the community. This helps make Calgary a great place to live and raise a family.

- Calgary's pro-business environment is beneficial to new and established companies – they benefit greatly from the support they receive from local economic development efforts.
- There is a well established base of advanced technology support companies.

“When we were evaluating Western Canadian locations, there was really no question about where it would ultimately be – Calgary stood out.” – David Dean, Vice President and General Manger, Calgary



Local Wireless Support

WiTec Alberta is an industry association focused on supporting the Wireless & Telecom industry in Alberta. The association acts as an industry network to encourage collaboration among stakeholders. It assists organizations, events, resources and projects that serve to grow and strengthen the Wireless & Telecom sub-sector in the province. WiTec Alberta also provides mentorship opportunities, supports investment, and assists in creating and providing market access for members.

Wireless City, a marketing project of WiTec Alberta, focuses on driving the growth in the wireless sub-sector by showcasing innovative, made-in-Alberta technologies to global markets. The initiative is building an export economy around Alberta's wireless technologies and attracting outside investment.

For additional information, please contact:

WiTec Alberta
Alastair Ross Technology Centre
3553 - 31 Street NW
Calgary, AB T2L 2K7
Tel: 403-260-5244
www.witec.ca

The **Network for Emerging Wireless Technologies (NEWT)** is a wireless development centre providing hardware and software design, implementation and test support to developers of wireless products and services. The technical staff, industry network, lab facilities and test environments reduce product development costs, shorten product development time, increase technical knowledge and gain competitive advantage through accelerated creation and adoption of wireless technology.

NEWT was established in Calgary in 2002 through the support of 10 founding members; HP, IBM, Nortel, Sun and TELUS, TRILabs, CRC, CTI, Alberta Innovation and Science, and Western Economic Diversification Canada.

NEWT's lab facilities offer members a comprehensive array of test environments and equipment, including servers, workstations, wireless access points, wireless devices, and telephony. Services include lab equipment configuration, test model development, and technical support. From proof of concept to commercial product, expert staff guides members through the product development and testing cycle.

For additional information, please contact:

NEWT

120 -7777 10 Street NE

Calgary, AB T2E 8X2

Tel: 403-338-6398

Fax: 403-338-6399

www.newt.trilabs.ca

GEOMATICS

From high-end Global Positioning Systems (GPS) technology to state-of-the-art aerial remote sensing techniques, the Calgary Geomatics sub-sector leads the world in innovation. Encompassing a range of disciplines (surveying, GPS, Geospatial Information Systems (GIS) and remote sensing), the Geomatics community in Calgary is active in all sectors including industry, government and educational institutions.

Depending on their principal activity, geomatics firms fall within one of the following categories: surveying and mapping, computer systems design, wholesale of software and hardware products, engineering services, consulting services, computer manufacturing, software publishers and others.



DEFINITION

Geomatics is the science and technology of gathering, analyzing, distributing and using information related to space – often referred to as geo-info. Examples of geo-info include: topographic maps, aeronautical and nautical charts, geological, agriculture and forestry maps, legal surveys, cadastral surveying, aerial photography and satellite imagery, among other products.

TABLE 8 – GEOMATICS COMPANIES

Of the 251 Geomatics companies operating in Calgary, the largest concentration is in the mapping industry (123).

Geomatics Companies	251
Remote Sensing and Imagining	61
Surveying	76
Mapping	123
Asset Tracking	81
Other	60
<i>Source: INFOPORT.CA</i>	

According to a Statistics Canada study, approximately 32 per cent of Canadian Geomatics companies are based in Alberta, and Calgary companies produce just over 50 per cent of Canada's Geomatics revenue.

TABLE 9 – STATISTICS CANADA, PRELIMINARY ESTIMATE OF GEOMATICS ACTIVITY BY INDUSTRIAL GROUPING, 2002

Calgary's Geomatics sub-sector comprises 77 per cent of the Geomatics companies in all of Alberta.

	# of companies	Revenue	Expenses and benefits	Salaries, wages
<i>Millions of Dollars</i>				
Canada	904	2242.2	2063.5	891.5
AB	287	1,154.4	1071.4	442.6
Calgary	222			
% AB has of Canada	32%	51.5%	52%	50%
<i>Source: Statistics Canada</i>				

Employees

The majority of Geomatics firms located in Calgary fall within two main categories: Geophysical Surveying and Mapping, and Surveying and Mapping. The total number of employees in the sector in Calgary is estimated at over 11,400.

TABLE 10 – TOP EMPLOYERS IN THE GEOMATICS SUB-SECTOR

Company Name	
TransCanada Pipelines Limited	Challenger Geomatics
Nexen Inc	Focus Corporation
Colt Engineering Corp	Novatel Inc
Alberta Energy and Utilities Board	Komex International Inc
Amec Inc	Hemisphere GPS
Golder Associates Ltd	Fujitsu Consulting
Stantec Consulting Inc	EBA Engineering Consultants Ltd
Veritas DGC Inc	Kelman Technologies (KTI)
IHS Energy	UMA Group
Divestco Inc	Geo-X Systems Ltd
Intergraph Canada Ltd	Axys Environmental Consulting Ltd
<i>Source: INFOPORT.CA</i>	

SPOTLIGHT – HEMISPHERE GPS

Hemisphere GPS is a world leader in the development of precision GPS and Differential GPS technology. Originally part of CSI Wireless Inc, a Calgary-based company since 1990, Hemisphere GPS is a global technology and market leader in precision agriculture, marine and OEM GPS products. The company actively licenses its technology to leading manufacturers of chipsets and GPS receivers. Employing over 215 people across North America, Hemisphere GPS has its corporate headquarters in Calgary, with an office of 120 employees.

Hemisphere GPS is the world's largest after-market supplier of GPS guidance products for the agriculture industry. Hemisphere's Air Agriculture products are used in row crop spraying, pest control, forestry and fire fighting. Their Ground Agriculture products are focused on tractor guidance, mapping and precision spraying. The company's line of GPS Precision products address a wide variety of location-based requirements including hydrographic surveying, navigation, GIS data collection and mapping, marine dredging, machine control, and other applications that require real-time, sub-meter positioning.

The company has identified some key benefits as a result of being headquartered in Calgary. These include:

- Compared with other locations, Calgary offers a measurable cost advantage, especially through lower taxes.
- Almost 60% of the materials needed for production are sourced locally which is a reflection of an established ICT-based manufacturing presence.
- Calgary has an excellent telecommunications infrastructure and the city has more installed fibre-optic cable than almost any other North American city of comparable size.
- Calgary's reputation and quality of life advantages helps with recruitment, as potential employees will choose Calgary over other North American locations.
- The services of the Calgary International Airport are a substantial advantage for the efficient movement of both people and finished products to key markets in North America and around the world.
- The University of Calgary, and in particular its Engineering Co-op program, have provided an excellent source of highly qualified and motivated graduates to help with the growth of the company.

"Calgary has an excellent reputation as a global centre of GPS technology and products. Along with Silicon Valley and Switzerland, Calgary ranks among the top 3 centres globally." – Steven Koles, President and CEO

Local Geomatics Support

The **Alberta Geomatics Group (AGG)** acts as a facilitator to promote geomatics innovations among the sectors and augment business development opportunities. The association was formed in July 1998 to facilitate the profitable development and growth of the Alberta Geomatics industry within Alberta, Canada and internationally.

For additional information, please contact:

Alberta Geomatics Group
P.O. Box 118,
1919B – 4 Street SW
Calgary AB T2S 1W4
www.infoport.ca/agg/bins/index.asp

The **Calgary Geomatics Cluster (CGC)** is an organization dedicated to developing and fostering excellence, innovation and collaboration in geomatics in Calgary. It brings together academia, government and industry to more effectively and completely serve clients.

The CGC also serves as a communication node between clients and the public at large, and the geomatics community in Calgary.

For additional information, please contact:

Calgary Geomatics Cluster
Email: info@calgarygeomaticscluster.com
<http://www.infoport.ca/geo/bins/index.asp>

DIGITAL MEDIA

Calgary's Digital Media sub-sector has several industry-leading integrated players who provide content, infrastructure and traditional media. The sub-sector plays a large role in Calgary's economy with companies across all business sectors employing creative people who design, develop, program and operate websites, intranets and extranets or create digital content for use in other media.

DEFINITION

The use of new and emerging interactive digital media to create, store, transmit and sell content for the purposes of entertaining, educating and informing. Digital media was formerly known as New Media.

TABLE 11 – DIGITAL MEDIA COMPANIES

Of the 710 Digital Media companies in Calgary, the largest number is found in the graphic artist/designer category, followed closely by Web design professionals. The audio industry also has a significant presence in Calgary.

Digital Media Companies	710
Animation	56
Audio	97
Content Developers	7
E-Learning	24
Film/Video	28
Games Developer	16
Graphic Artist/Designer	137
Photography/Image Bank	44
Print Media	65
Virtual Reality	2
Voice Recognition	2
Web Design	125
Web Portals	4
Writer/Editor	6
<i>Source: INFOPORT.CA</i>	

Employees

Calgary's Digital Media sub-sector employs about 8,300 people. Of these, approximately 1,000 are content creators, including individual website designers, animators and computer graphic artists, as well as significant advertising agencies, web shops, and software and game developers.

TABLE 12 – TOP EMPLOYERS IN THE DIGITAL MEDIA SUB-SECTOR

Company Name	
Alberta College of Art + Design (ACAD)	Bolder Graphics Inc
Critical Mass Productions Inc	Interalia
West Canadian Graphic Industries	Autodesk Development Canada Inc
Evans Consoles Inc	Bighorn Land
Cybersurf Corp	Ad Farm
Landmark Graphics Corp	Chartwell Technology Inc
Intergraph Canada Ltd	Alberta Computer Cable Inc
Relizon Canada Inc	All West Surveys Ltd
Apache Superior Printing Ltd	Computer Modelling Group
	Kanga Communications

Source: INFOPORT.CA

SPOTLIGHT – CRITICAL MASS

Critical Mass is a marketing company specializing in sophisticated website design and digital marketing programs. As an interactive services company, Critical Mass is dedicated to developing solutions to help many of the world's leading companies to increase revenues, reduce costs and deepen relationships with their customers. Founded in 1995 as a promotional CD-Rom developer, Critical Mass quickly evolved into a premier web development company. The company's services include strategy, user-centered design, personalization, content management, application development and electronic marketing programs.

With its corporate headquarters in Calgary, Critical Mass services their global client base from offices in Chicago, Toronto, New York, Austin, Atlanta, Las Vegas and Stockholm. Critical Mass employs over 500 people worldwide, 300 of which are located in Calgary, and the company continues to be 48% employee owned. High-profile clients include Mercedes-Benz USA, Dell, Hyatt, Citi and Pampers among others.

Among the many advantages to being located in Calgary, Critical Mass has identified the following key benefits:

- Calgary's cost of business is very attractive as compared to the company's other office locations.
- The Calgary International Airport provides easy, direct access to most of their customer locations.
- Calgary's quality of life and reputation makes it a relatively easy sell to external recruits.
- The local labour force provides a large amount of talented employees.

“Calgary offers an excellent choice of new graduates from its post-secondary institutions. In particular, graduates from the Alberta College of Art and Design are among the best in their fields in Canada.” – Dianne Wilkins, CEO

Local Digital Media Support

The **Banff New Media Institute (BNMI)** is a research and content innovation centre. Working with key partners, BNMI uses the capabilities of knowledge and technology networks, focusing on use and participation and encouraging technology and content creation. Using a cross-disciplinary approach, BNMI offers an effective network in Canada and internationally. BNMI provides research opportunities, summits, professional development workshops, academic exchanges, and publishing and business incubation.

For additional information, please contact:

The Banff New Media Institute
Box 1020, Station 40
Banff, AB T1L 1H5
Tel: 403-762-6652
Fax: 403-762-6665
www.banffcentre.ca/bnmi

The **Digital Media Association of Alberta (DMAA)** is an association devoted to promoting and connecting Alberta's thriving Digital Media companies. Through networking events, an educational program, peer-to-peer mentoring programs, advocacy work and marketing, DMAA is building the new media community locally and promoting it abroad. DMAA has five key objectives to help strengthen the industry in the province: leadership, education, investment, collaboration, and networking.

The region's new media industry is made up of over 700 companies with combined annual revenues in excess of \$3 billion.

For additional information, please contact:

Digital Media Association of Alberta
117A, 3553-31 St NW
Calgary, AB T2L 2K7
Tel: 403-284-6418
Fax: 403-912-5672
www.digitalmediaassociation.com

HUMAN CAPITAL

Calgary is a city of young, skilled workers, technicians and professionals.

Calgary has the youngest population in Canada, with an average age of 35, and has the highest net inter-provincial migration in Canada, attracting more than 11,000 people annually from 1997 to 2006. Overall, Calgarians are known as confident, hard working, and entrepreneurial. Calgary has one of the best educated populations in Canada; approximately 73 per cent of Calgarians have attended a post-secondary institution and more than 10,000 people a year graduate from Calgary's major post-secondary institutions.



Labour Force

The ICT sector has 12 different occupational classifications. The largest component of Calgary's ICT workforce is information systems analysts and consultants (19.9 per cent), followed by computer programmers and interactive media developers (17.7 per cent), and graphic designers and illustrators (9.8 per cent). Calgary boasts just over 57 per cent of Alberta's ICT employment by occupation.

TABLE 13 – EMPLOYMENT AND DISTRIBUTION OF ICT EMPLOYEES BY OCCUPATION, 2006

NOC Code	Occupational Title	Calgary		Alberta		Canada	
		Employment	Distribution	Employment	Distribution	Employment	Distribution
A122	Computer and Information Systems Manager	1,800	5.5%	4,600	8.0%	46,100	7.3%
C033	Electrical and Electronics Engineers	2,800	8.6%	4,700	8.2%	35,300	5.6%
C047	Computer Engineers (except Software)	900*	2.8%	1,500*	2.6%	18,700	2.9%
C071	Information Systems Analysts and Consultants	6,500	19.9%	10,800	18.9%	133,900	21.1%
C072	Database Analysts and Data Administrators	2,000	6.1%	3,300	5.8%	19,100	3.0%
C073	Software Engineers	1,500*	4.6%	2,600*	4.5%	32,000	5.0%
C074	Computer Programmers and Interactive Media Developers	5,800	17.7%	9,500	16.6%	120,000	18.9%
C075	Web Designers and Developers	1,600	4.9%	2,400	4.2%	23,600	3.7%
C181	Computer and Network Operators and Web Technicians	3,100	9.5%	5,300	9.3%	45,500	7.2%
C182	User Support Technicians	3,000	9.2%	5,700	10.0%	82,100	12.9%
C183	Systems Testing Technicians	500*	1.5%	900*	1.6%	10,700	1.7%
F141	Graphic Designers and Illustrators	3,200	9.8%	5,900	10.3%	68,600	10.8%
Total		32,700	100.0%	57,200	100.0%	635,600	100.0%
<p><i>*Due to data suppression, Statistics Canada designates occupations with fewer than 1500 employees with a "0". This number was therefore derived by applying the national share of this occupation to the provincial and regional totals, then rounding to the nearest hundredth.</i></p> <p><i>Statistics Canada, Labour Force Survey</i></p>							

Salary Information

Calgary's wage and salary rates are competitive with the rest of Canada and the United States. When total compensation rates are compared, Calgary rates offer a cost advantage compared to the United States largely because of publicly funded health care. The following table provides sample wages for various ICT occupations as surveyed in Calgary and Alberta in 2005.

TABLE 14 – SAMPLE ICT WAGES

Occupation Title	Average Hourly Wage After 3 Years
Computer and Information Systems Managers	\$38.46
Mechanical Engineers	\$35.38
Electrical and Electronics Engineers	\$32.01
Computer Engineers (Except Software Engineers)	\$40.34*
Information Systems Analysts and Consultants	\$27.83
Information Systems Business Analysts and Consultants	\$24.89
Database Analysts and Data Administrators	\$19.81
Software Engineers	\$32.25
Computer Programmers and Interactive Media Developers	\$26.06
Computer Programmers	\$24.97
Web Designers and Developers	\$21.17
Computer and Network Operators and Web Technicians	\$28.93
Computer and Network Operators	\$21.00
Web Technicians	\$19.07
User Support Technicians	\$26.85
Systems Testing Technicians	\$19.15 *
<i>All information is for Calgary except as noted. *Information available at the Alberta level only.</i>	

Additional source of information:

2006 Salary Guide, Robert Half Technology <http://www.roberthalftechnology.com/FreeResources>

LOCAL INITIATIVES AND ASSOCIATIONS

Calgary's ICT sector is exceptionally well served by dedicated and professional organizations and associations that work together to deliver the broadest possible networking, connection and advocacy for the benefit of the ICT sector and sub-sectors in Calgary. The associations listed below complement the industry-specific groups mentioned previously in this document.

Calgary Technologies Inc (CTI) is a joint partnership with the City of Calgary, the Calgary Chamber of Commerce and the University of Calgary, working with technology and life sciences companies and entrepreneurs to develop and expand their operations in Calgary. CTI was established in 1981 and provides unique programs and services for technology commercialization and incubation, including networking opportunities.

CTI is a single point of contact for investment in the high-tech industry and a doorway to a comprehensive range of information, resources and services in Calgary and across the province. CTI offers two programs designed to assist technology companies to obtain necessary financing:

- **Financing Your Vision:** A two-day workshop to explore the pros and cons of different financing options for start-up companies. Topics include: earnings-based growth, debt equity, granting agencies and public offering.
- **Concept to Capital program:** An intensive 12-week program designed to help emerging technology companies refine their winning business plan presentation and secure early-stage financing from investors. This program is open to companies working in the areas of information and communication technologies, biosciences and advanced engineering sciences.

For additional information, please contact:

Calgary Technologies Inc
3553 – 31 Street NW
Calgary, AB T2L 2K7
Tel: 403-284-6400
www.calgarytechnologies.com

INFOPORT.ca is the main portal to Alberta's technology sector. It is a resource for business-to-business connections in the ICT sector and serves as an online gateway to industry and business information and resources. INFOPORT.ca has a searchable database with over 6,000 companies and 20,000 individual contacts. It contains extensive information on Alberta's ICT sector, with links to industry associations and agencies, as well as news and data about the sector. INFOPORT.ca also provides a calendar with event listings and business networking opportunities across the province.

For additional information, please see:

www.infoport.ca

Westlink Innovation Network addresses Canada's innovation gap by connecting publicly funded research and educational organization members with industry experts through a range of programs and services. Westlink networking events, technology commercialization programs and consulting services are aimed at connecting academia and industry to accelerate collaboration and the movement of innovation from early stages to market-ready products.

For additional information, please contact:

Westlink Innovation Network
#301, 1220 Kensington Road NW
Calgary, AB T2N 3P5
Tel: 403-974-8470
Fax: 403-284-1773
www.westlink.ca

Netera Alliance is an Alberta-based, not-for-profit alliance that coordinates Alberta's inter-institutional ICT research structure for the major research and education organization in the province. Netera was established in 1993 by Alberta universities in partnership with government and telecommunication companies. Netera's mandate is two-fold: to plan and implement ICT research infrastructure for research in Alberta; and to support the use of this infrastructure.

For additional information, please contact:

Netera Alliance
University of Calgary
BioSciences 530
2500 University Drive NW
Calgary, AB T2N 1N4
Tel: 403-220-6778
Fax: 403-282-0838
www.netera.ca



The **Calgary Council for Advanced Technologies (CCAT)** provides a forum to enhance technology awareness, business development and networking opportunities for Calgary's advanced technology community. Founded in 1983, CCAT supports its members by providing an open forum for sharing technical and business information and ideas, and by promoting technology-based business and organizational networks in the Calgary region. CCAT also sponsors special events and awards, and has an annual program that includes a dinner series, a breakfast series, luncheons and site tours of advanced technology facilities.

For additional information, please contact:

Calgary Council for Advanced Technology
Alastair Ross Technology Centre
#117, 3553 - 31 Street NW
Calgary, AB T2L 2K7
Tel: 403-282-4759
Fax: 403-282-1238
www.ccat.org

The **Alberta ICT Council** is a partnership of five Alberta industry associations: Digital Media Association of Alberta, Alberta Geomatics Group, Edmonton ICT Cluster, InfoTech Alberta and WiTec Alberta. These associations represent sectors comprising over 3,500 ICT companies in Alberta. The partnership's mission is: "To focus the communications and relationships between the ICT sub-sectors and government and to lead the collaboration across sub-sectors on areas of common advantage."

For additional information, please see:

www.infoport.ca

The **Canadian Healthcare Information Technology Trade Association (CHITTA)** is the national trade association for the Canadian Healthcare ICT sector focused on growing the healthcare ICT market, domestically and internationally. CHITTA's members, Canadian Healthcare ICT companies, multi-sector companies, and multi-national healthcare vendors operating in Canada, have a common purpose:

- To raise the bar on the Canadian Healthcare ICT marketplace
- To grow the market to create a profitable environment within which to do business
- To facilitate the export of their products and services

For additional information, please contact:

Canadian Healthcare Information Technology Trade Association, CHITTA
5782 - 172 Street
Edmonton, AB T6M 1B4
Tel: 780-489-4574
Fax: 780-489-3290
www.chitta.ca

The **Information Technology Association of Canada (ITAC)** represents all sectors of the ICT industry and has a mission to identify and lead on issues affecting the industry and to advocate initiatives that enable its continued growth and development. ITAC promotes a business climate conducive to industry growth through a policy and advocacy program focused on key national issues and facilitates member business development through targeted programs and a variety of opportunities for networking and information exchange. ITAC was also a founding member of the ITC Federation, which comprises ICT associations from across Canada. The ITC Federation strives to foster a greater degree of communication and cooperation on technology issues between the diverse regions of Canada, and aims to achieve increased impact in promoting recommendations by speaking with a unified voice.

For additional information, please contact:

Information Technology Association of Canada
5782 - 172 Street
Edmonton, Alberta T6M 1B4
Tel: 780-489-4574
Fax: 780-489-3290
www.itac.ca

CALGARY'S ICT INFRASTRUCTURE

Over time an array of infrastructure has been designed, installed and maintained to provide support to the ongoing growth and development of Calgary's ICT industry. Over and above the typical infrastructure all industries use and benefit from, like public transit, excellent air connections, serviced industrial and commercial land, to name a few, much of Calgary's infrastructure is specifically targeted to the ICT sector.

The following summarizes information about various infrastructure support initiatives. Additional information can be found in Appendices B and C and directly from the responsible organizations.

The **Research and Technology Commercialization** branch of **Alberta Advanced Education and Technology** is responsible for advanced technology R&D policy advice and exploiting business opportunities in ICT research. This includes growing, attracting and retaining firms specializing in electronics, microelectronics, telecommunications and information networks, computer technology including hardware and software, multimedia, advanced materials, and manufacturing.

Along with a large number of economic development activities targeted to various industries and initiatives, the **Alberta Employment, Industry and Education** department vigorously supports the growth, expansion and development of Calgary's ICT industries, primarily through its **Advanced Industries Branch**. This branch is primarily responsible for facilitating the growth of the sectors: Aerospace, Building Products, Health & Biotech and Information & Communications Technologies.

Western Economic Diversification Canada (WD) offers a **Loan and Investment Program** that allows financial institutions to supply loan capital to clients to whom they would not otherwise make loans. WD contributes funds to a "loan loss reserve" which partly offsets the higher risk associated with eligible loans to small businesses, including ICT businesses. Eligible clients apply directly to the financial institutions partnered with WD under this program.

Industry Canada offers a large number of programs and services, especially business information services, to assist companies in a variety of areas including: Aboriginal businesses, consumers, industry, regions, small business, research, science and youth. Many of these programs apply equally to ICT businesses. Specific Industry Canada programs directly targeted to ICT include: Canadian Institute for Advanced Research, CANARIE – CA*net4, Communications Research Centre Canada, and Communications Research Centre Canada's Innovation Centre.

The **Alberta Information and Communications Technology Institute (AICTI)** is a provincially created institute that supports the development and growth of the ICT sector in Alberta by providing strategic advice and policy guidance to government on public funding and investments in ICT-related research and innovation.

EDUCATIONAL INFRASTRUCTURE

Approximately 60 public and private institutions in the Calgary area provide education and training specific to the ICT sector. As well, institutions across the province provide a valuable pool of ICT graduates to contribute to Calgary's labour force.

TABLE 15- MAJOR ALBERTA EDUCATIONAL INSTITUTIONS

Institutions	Enrolment (2005/2006)
University of Calgary (U of C)	30,683
University of Alberta (U of A)	38,577
University of Lethbridge (U of L)	9,348
Southern Alberta Institute of Technology Polytechnic (SAIT)	25,548
Northern Alberta Institute of Technology (NAIT)	24,304
Mount Royal College (MRC)	12,565
Grant MacEwan College	17,294
Bow Valley College	10,984
Alberta College of Art + Design (ACAD)	1,316
<i>Source: Alberta Advanced Education</i>	

Alberta has three major universities: the University of Calgary, the University of Alberta, and the University of Lethbridge. These three major institutions graduate over 30,000 potential employees a year. Each offers areas of expertise and excellence in research:

- The University of Calgary is recognized for its outstanding Wireless and Telecom, Computer Science and Geomatics graduates;
- University of Alberta's Engineering and Nanotechnology departments have an excellent reputation; and
- The University of Lethbridge is renowned for its Computer Science and Geomatics study areas.

Calgary's ICT companies are supported by exceptionally well-regarded educational institutions offering programs that are relevant and responsive to industry needs and requirements. These institutions support the growth and development of Calgary's ICT sector by providing qualified graduates armed with the latest in skills and training, which allows them to add value to the companies that hire them. Graduates of Calgary's post-secondary educational institutions are recognized for their capabilities, and consequently are in high demand in Calgary's ICT industries and throughout Alberta and Canada.

The following is a summary of each post-secondary institution's ICT focus. Additional information can be found in the appendices and directly from each organization.

The **University of Calgary** awards undergraduate, graduate and postgraduate degrees in five ICT-focused program areas (Computer Engineering, Computer Science, Electrical Engineering, Geomatics Engineering and Software Engineering). In 2006, 435 graduate and 1,255 undergraduate students were enrolled full time in these programs. In the same year, the University granted 115 graduate and 348 undergraduate degrees in these disciplines. Additional information about the University can be found in Appendix A.

Southern Alberta Institute of Technology (SAIT) Polytechnic provides technical education and hands-on training to over 60,000 students each year. In support of ICT training, SAIT Polytechnic offers two applied bachelor degrees (Geographic Information Systems and Information Systems) as well as nine diploma programs (Computer Engineering Technology, Computer Technology, Digital Communications Technology, Electrical Engineering Technology, Electronics Engineering Technology, Engineering Design and Drafting Technology, Network Engineering Technology and New Media Productions and Design). In 2003/2004 SAIT Polytechnic graduated 829 students from these ICT programs. By March 2005, 91 per cent of these graduates were working in Alberta in training-related employment. Additional information about SAIT Polytechnic can be found in Appendix A.

Mount Royal College (MRC) serves approximately 15,000 students per year and in the 2005/2006 academic year awarded 1,679 applied degrees, diplomas and certificates. Specific programs targeted to training in ICT areas include two applied bachelor degrees, Electronic Communications and Computer Information Systems; one diploma in Computer Information Systems; and one certificate in Computer Science. MRC also offers a University Transfer program to the Bachelor of Science, Computer Systems program. Additional information about MRC can be found in Appendix A.

The **Alberta College of Art + Design (ACAD)** provides a studio-based experience for 1,100 fine arts students, including design and new media. ACAD offers two degrees applicable to ICT training: Bachelor of Design, Visual Communication and Bachelor of Fine Arts, Media Arts and Digital Technologies. Additional information about ACAD can be found in Appendix A.

DeVry Institute of Technology (DeVry) specializes in providing programs combining business skills with current technical applications. DeVry programs applicable to ICT training and education include three bachelor degrees (Computer Engineering Technology, Computer Information Systems and Electronics Engineering Technology) and three diplomas (Electronics and Network Technology, Electronic Systems Technology and Network and Communications Management). For the 2005/2006 academic year DeVry graduated 158 students from these programs. Additional information about DeVry can be found in Appendix A.

RESEARCH CAPABILITIES

In addition to contributing significantly to programs and initiatives of the educational institutions previously mentioned, the governments of Canada and Alberta also invest in the growth and development of Calgary's ICT sector through a number of national and provincial programs. These investments represent a significant source of support for the ongoing growth of these crucial industries.



Federal Initiatives

The **National Research Council (NRC)** is made up of 20 federal institutes and national programs spanning a variety of disciplines and offering an array of services. NRC is located in all provinces in Canada and plays a significant role in community-based innovation. NRC institutes and programs are organized in five key areas: Life Sciences, Physical Sciences, Engineering, Corporate Services, and Technology and Industry Support, many of which are applicable to the development of Calgary's ICT industries. Additional information about NRC's programs can be found in Appendix B.

Western Economic Diversification Canada (WD), a department of the federal government, has a mandate to promote the development and diversification of the economy of Western Canada and to advance the interests of Western Canada in national economic policy, program and project development and implementation. WD receives an annual allocation for grants and contributions that support a range of programs responding to Western Canada's economic development needs and priorities, including those in ICT. The majority of WD's grants, contributions and direct programs are delivered in partnership with other levels of government, universities and other post-secondary academic institutions, research institutes, industry associations and other not-for-profit organizations. Additional information about WD programs can be found in Appendix B.

Provincial Direction

In recent years the Government of Alberta has placed emphasis on increasing research capacity within the province. The government's strategic plan, *Today's Opportunities, Tomorrow's Promise*, has identified 'Unleashing Innovation' as one of four pillars for Alberta's long-term prosperity. The Ministry of Advanced Education and Technology identified the ICT sector as one of three priority areas and has set goals to build research capacity and accelerate innovation. The other two priority areas are energy and life sciences.

Steps have been taken to move these priorities forward. As part of the Government's Access to the Future Act (October 2005), a \$500 million increase to the Alberta Heritage Science and Engineering Research Endowment Fund has doubled the initial investment of \$500 million made when the Fund was established in 2000. The mandate of the Fund is to nurture the discovery of new knowledge and encourage its application to benefit Albertans. The Alberta government has also created other mechanisms to support and fund specific science and research projects, which further develop the ICT Sector.

Alberta Advanced Education and Technology, which has replaced Alberta Innovation and Science, provides leadership and makes strategic investments in research, science and technology initiatives in three key areas: Energy, Information and Communications Technology and Life Sciences. Its Research and Technology Commercialization branch is responsible for advanced technology R&D policy advice and to develop business opportunities in ICT research. The University Research and Strategic Investments branch coordinates grant funding for the Alberta Science and Research Investments Program (ASRIP) and other grant programs. This provincial ministry is also responsible for a number of organizations that administer their own funding programs, including Alberta Science & Research Authority (ASRA), the Alberta Ingenuity Fund, the Alberta Research Council and iCORE. For additional information about services provided by this department please see Appendix B.

The **Alberta Science & Research Authority (ASRA)** is an independent board of Alberta academic, industry and research leaders established by the Alberta government to maximize the effectiveness of science and research activities in Alberta. ASRA is the senior science and research advisory body to the Government of Alberta. Key foundational elements of ASRA's ICT strategy have begun to set the stage for further development and growth of Alberta companies, not only those involved in the production of ICT products and services, but also those that utilize ICT – in short all companies. Some of the current ICT initiatives of ASRA include the Alberta SuperNet, the Nanotechnology Institute, iCORE and TRILabs. See Appendix B for additional information about ASRA.

The **Alberta Research Council (ARC)** is an applied R&D corporation that specializes in converting early-stage ideas into marketable technology products and services. ARC works with customers and partners to advance technology in the following areas: Energy, Integrated Resource Management, Engineered Products and Services and Life Science. Additional information about ARC can be found in Appendix B.

The **Alberta Science and Research Investment Program (ASRIP)** of Alberta Advanced Education and Technology is a competitive funding program that supports science and research initiatives of strategic importance to Alberta. Current funding streams are in the areas of Infrastructure Sustainability, Research Infrastructure, Enabling Research Application and Technology Transfer, and Platform Technology. Additional information pertaining to ASRIP can be found in Appendix B.

The **Alberta Ingenuity Fund's** objective is to increase research expertise in Alberta companies. Eligible companies are for-profit, provincially or federally incorporated and operating in Alberta or wholly Alberta owned. The company must be engaged in R&D activities, the majority of which involve technology derived from science and engineering disciplines. Additional information about the Fund is located in Appendix B.



Local Research Institutes

UNIVERSITY OF CALGARY

Over the past five years, funding for research at the University of Calgary has increased dramatically. The University achieved the auspicious distinction of attracting over \$282 million in research funding in 2005, placing it seventh in Canada for overall research funding at post-secondary institutions.

The University's largest funding source for sponsored research comes from federal government departments and agencies; this funding has more than doubled, increasing from \$31.2 million in 1998/99 to \$73.2 million in 2002/03. Other government contracts and grants increased by almost \$12 million or 40 per cent; the provincial government is by far the largest contributor. Non-government sources have also increased by over \$8 million or 21 per cent.

One of the four strategic priorities outlined in the University's academic plan is Creating Technologies and Managing Information for the Knowledge Society. Various faculties are involved in a large number of research areas and projects related to ICT, often in collaboration with their colleagues in their own departments or in other disciplines. Current projects in various research areas span the spectrum of the ICT Industry, as outlined in Table 16.

TABLE 16 – UNIVERSITY OF CALGARY ICT RESEARCH

Strategic Priority	Research Area	Outstanding and Emerging Research Strengths
Creating technologies and managing information for the knowledge society	Information and Society	Communication and media has shown exceptional growth and is targeted for further development. Science and society, project management, and learning technologies are other areas of emerging strength.
	Information and technology	<ul style="list-style-type: none"> • Signal processing. • High-speed networks. • Software engineering. • Circuit analysis and design. • Emerging strengths in digital multi-media, media, including graphics, visualization, and human computer interface.
	Material, manufacturing and design	<ul style="list-style-type: none"> • Structures and materials such as concrete and masonry. • Advanced manufacturing and design is an emerging strength targeted for growth.
	Satellite based positioning, location and navigation	<ul style="list-style-type: none"> • Multi-sensor systems. • Inertial navigation systems. • Digital imaging. • Mapping and exploration systems. • Emerging strengths include geospatial information systems, multi-sensor mapping systems, and satellite-based global change monitoring systems.

The **Research Transition Facility (RTF)** is the University of Calgary's new incubator for high-tech companies. Built for laboratory research, RTF is a multi-tenant, not-for-profit facility located next to campus in the University Research Park. RTF is a three-year program designed to assist start-up companies to turn new ideas and discoveries into marketable products and services and to accelerate their growth towards commercialization.

For additional information, please contact:

Research Transition Facility
University of Calgary
3434 Research Road NW
Calgary, AB T2L 2K8
Tel: 403-220-8754
www.ucalgary.ca/rtf

Southern Alberta Institute of Technology Polytechnic Research

Southern Alberta Institute of Technology (SAIT) Polytechnic works with businesses to conduct applied research and is active in development and pre-commercialization activities such as design, prototyping, testing and optimization. Since the early 1990s, SAIT Polytechnic has worked with industry to launch 11 world-class Centres of Technology Development. These centres provide graduates with relevant skills and access to state-of-the-art practice facilities. They also support customized business training and serve as technology demonstration sites. The centres include engineering, rail training, environmental technology, electrical power and wellsite production among others.

Two recent initiatives undertaken at SAIT Polytechnic include:

- The Centre for Innovative Information Technology Solutions (CIITS) has as a goal to work with small and medium-sized enterprises to decrease the cost and risk of adopting new information technology.
- The SAIT Global Communications Centre of Applied Technology provides training and applied R&D infrastructure for the information and communications technology (ICT) industry. The Centre is a collaborative effort between SAIT Polytechnic, the Alberta Research Authority and a cross section of ICT industry partners.

Local Research Activity

Several other R&D programs, activities and institutions geared to supporting the growth and development of Calgary ICT companies exist at the University of Calgary in addition to the research activities undertaken in the ICT areas. The following summarizes the activities of the exemplary organizations and programs dedicated to supporting the development of Calgary's ICT industries. Additional details can be found in Appendix C and can be obtained directly from the institutions.

TRLabs (Telecommunications Research Laboratories) is Canada's largest not-for-profit ICT research consortium and is internationally recognized as a leading model for industry-university-government collaboration. The current research program is focused on six strategic areas: digital media, e-health, home technologies, micro devices, network systems and wireless communications.

iCORE (informatics Circle of Research Excellence) has been established to foster an expanding community of exceptional researchers in the field of informatics: computer science, electrical and computer engineering, physics, mathematics and other disciplines related to ICT. Since it was formed in 1999, iCORE has established more than 24 research chairs to focus on emerging areas, including wireless communications, artificial intelligence and quantum and nano-computing.

University Technologies Inc. (UTI) is a technology-transfer and commercialization centre that works with inventors to evaluate, protect, market and commercialize technology. Launched in June 1989, UTI works with university researchers and other private enterprises to create business opportunities from scientific innovation. UTI serves a variety of research-based clients in post-secondary institutions, government research laboratories, industrial R&D installations and private facilities.

The **Medical Ward of the 21st Century (W21C)**, a joint venture of the University of Calgary and the Calgary Health Region, has been established in Unit 36 of the Foothills Medical Centre. It is a medical inpatient ward that advances patient care, fosters research, and provides unprecedented medical teaching opportunities. The Research and Innovation Agenda focuses on four themes: technology integration; data, information and knowledge flow; communication and interaction; and organizational and regulatory factor.

ADVANCED TECHNOLOGY INVESTMENT

Calgary's ICT companies require large injections of capital to finance their growth. Capital provided by both government investments and private financiers help companies conduct research and enable technology commercialization leading to new, advanced and value-added products, processes or services. In addition to the support provided by the various federal and provincial programs already described, the institutions and programs listed below provide financial support and guidance for the development of Calgary's ICT companies.



The **Business Development Bank of Canada (BDC)** is a government-owned institution that provides financial and consulting services to Canadian small and medium-sized businesses. BDC is a major venture capital investor, active at every stage of a company's development cycle, from seed through expansion.

For additional information, please see:

www.bdc.com

The **Venture Capital Association of Alberta (VCAA)** works to enhance the sharing of information and promote excellence among key participants in Alberta's venture capital industry. VCAA offers membership to providers of venture capital and public equity.

For additional information, please see:

www.vcaa.com

Alberta Deal Generator works to facilitate investment in high-growth Alberta technology companies by using screening processes to connect technology firms that are investment ready with a network of angel investors, venture capital firms and other investment groups in special presentation forums. Alberta Deal Generator has established the largest network of accredited investors in Canada who are actively pursuing opportunities in Alberta's early and growth-stage companies. Alberta Deal Generator is a joint venture of TEC Edmonton and CTI.

For additional information, please see:

www.dealgenerator.com

VentureAlberta assists companies in finding the right investor so entrepreneurs can decrease the amount of time they spend looking for capital. VentureAlberta provides services such as business model assistance, seminars, conferences and venture forums for investors and entrepreneurs.

For additional information, please see:

www.venturealberta.com

The Association for Corporate Growth (ACG) is the premier global association for professionals involved in corporate growth, corporate development, and mergers and acquisitions. The Calgary chapter was established in 2003 and currently has 72 members. In North America over 10,000 members come from corporations, private equity, finance and professional service firms. ACG offers services such as Deal Exchange, where members can post live deals; and Knowledge Exchange, which provides current content from business journals related to corporate growth, mergers and acquisitions.

For additional information, please see:

www.acg.org/calgary

Calgary also has a number of established forums where growth-stage companies can find seed funding. For example:

- The Alberta Deal Generator hosts regular investment forums in Edmonton and Calgary. Companies have the benefit of showcasing their opportunities to investors in both cities.
- The annual Banff Venture Forum offers companies from Western Canada an opportunity to present to both angel and venture capital investors. This forum typically sees presenting companies who have already attracted a first round of external investment.
- The Alberta Life Technologies Investment Forum, held during the same week as the Banff Venture Forum, offers opportunities for life science companies to present their investment proposals.

Public Capital

Public capital is another important source of financing in Calgary. Alberta ICT companies have raised over \$330 million in the last two and a half years through the TSX Venture Exchange, located in Calgary and the larger TSX in Toronto.

TSX VENTURE EXCHANGE

The TSX Venture Exchange (TSXV) is Canada's public venture capital marketplace. It provides emerging companies with access to capital while offering investors a well-regulated market for making venture investments. TSX and Venture Exchange-listed companies are active primarily in the mining, oil and gas, manufacturing, technology and financial services sectors. TSXV gives the Canadian economy the capital-raising infrastructure for the small and medium-size businesses that are driving economic growth in Canada.

With offices in Vancouver, Calgary, Winnipeg, Toronto and Montreal, TSXV provides corporate finance and business development expertise in key markets across the country.

For additional information, please contact:

TSX Venture Exchange – Calgary office

10th Floor, 300 – 5 Avenue SW

Calgary, AB T2P 3C4

Tel: 403-218-2800

www.tsx.com

Stellar Economic Performance

Calgary is Canada's fastest growing region, with an estimated 6.9% growth in real GDP in 2006. It also has had the highest growth in employment of any major Canadian city: 38.8% from 1997-2006.

Also, Calgary has had the highest total population growth in Canada over the past ten years (1997-2006) at a rate of 27.0%. Calgary was a migrant workforce magnet between 1997-2006, with interprovincial migration of 11,000 migrants annually. Due to this strong growth, the Calgary Region's population has topped 1.1 million.



Infrastructure

Calgary has highly integrated air, rail, road and transit infrastructures to meet the needs of the Region's business and commuter needs.

The Calgary International Airport's passenger facilities are considered to be the best in the world. In 2004, J.D. Power and Associates ranked Calgary's airport number one in passenger satisfaction for airports with less than 10 million passengers per year in its Global Airport Satisfaction Index Study. Spacious, modern and friendly, Calgary's airport has non-stop flights to 66 cities around the world and is Canada's fourth busiest airport. It serves approximately 11.3 million passengers a year (8.1 million domestic passengers, 2.2 million trans-border passengers and 900,000 international passengers).

Operated and maintained by the Calgary Airport Authority, the Springbank Airport is a Canada Customs-designated airport of entry located 10 kilometres west of Calgary just off the TransCanada Highway in the Municipal District of Rocky View No. 44. It occupies about 420 hectares (1,040 acres) and is the gateway to the Canadian Rockies and conveniently close to the towns of Cochrane and Bragg Creek.

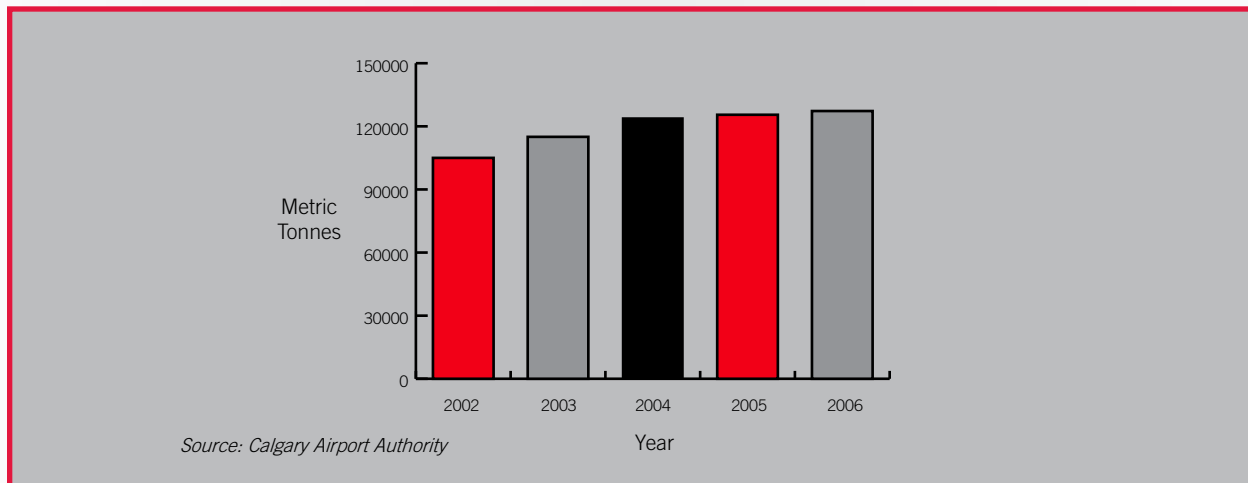
Calgary also provides ready access to Asia, Europe, and the United States: many American cities are less than a four-hour flight from Calgary.

Driving and Flight Times

Driving and Direct Flight times from Calgary		
Canada	Drive	Flight
Edmonton	3 h	45 m
Montreal	38 h	4 h
Ottawa	36 h	3 h 50 m
Regina	8 h	1 h 11 m
Thunder Bay	21 h	2 h 50 m
Toronto	35 h	4 h 10 m
Vancouver	11 h	1 h 15 m
Winnipeg	14 h	2 h 10 m
United States		
Chicago	26 h	3 h 30 m
Dallas	32 h	3 h 40 m
Denver	14.5 h	2 h 23 m
Los Angeles	27 h	3 h
New York City	40 h	5 h 53 m
Salt Lake City	15 h	1 h 46 m
San Francisco	22 h	2 h 44 m
Seattle	12 h	1 h 10 m
<p><i>Source: Statistics Canada, U.S. Census Bureau, The Calgary Advantage, Proximity One, GGA Management Consultants</i></p>		

In addition to a modern terminal, the Calgary International Airport has award-winning, first-class cargo facilities and services for any needs, including a premier livestock handling facility, on-airport refrigeration facilities and 24/7 operations with no curfew. Five Trade Parks on airport land promote and support economic development and enhance businesses' abilities to reach over 50 million people within one day's travel by truck. Calgary is the only Canadian city with 24/7 air cargo service to Asia and Europe. While air cargo facilities have expanded considerably to meet demand, the airport continues to have the land, resources and commitment to add facilities as business grows.

Annual Air Cargo



2002-2006 cargo figures in metric tonnes:

2002: 105,000

2003: 115,000

2004: 124,000

2005: 125,500

2006: 127,275

Favourable Tax Regime

Calgary benefits from a low tax regime: the province of Alberta has no municipal or provincial sales tax and has one of the lowest provincial corporate tax rates in Canada (10%). In addition, the Canadian corporate tax is 21% and the Department of Finance's Tax Fairness Plan proposes to further reduce this rate to 18.5% in 2011. This rate is lower than most U.S. jurisdictions and there is no provincial general capital tax. Calgary businesses also benefit from the fact that Alberta has no inventory tax, no machinery and equipment tax and no payroll tax.

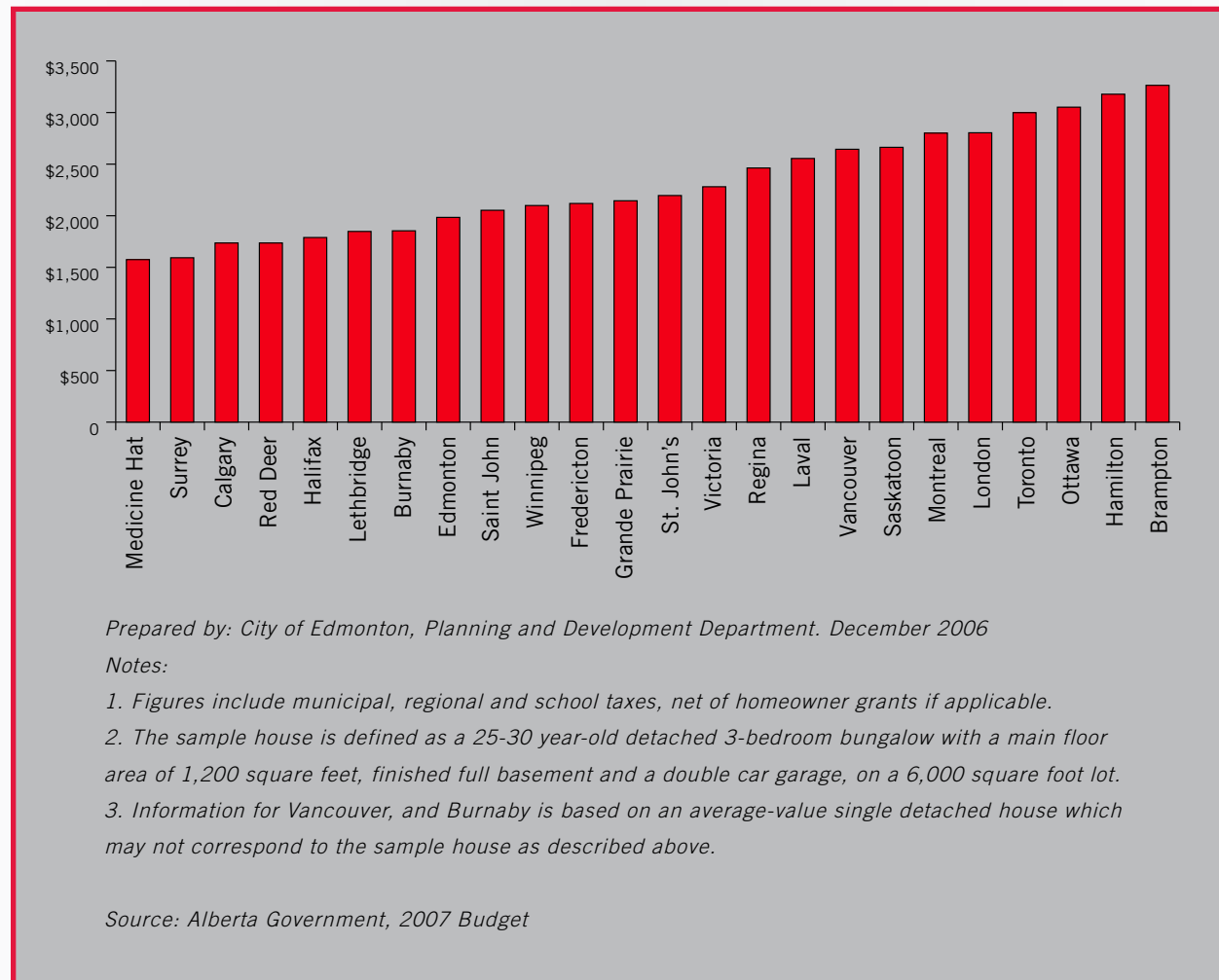
Alberta is the only Canadian province to have a flat income tax rate (10%). All other Canadian provinces work on a sliding income scale. In addition, the provincial government is debt-free and Calgary's low tax regime is expected to continue throughout the foreseeable future. Alberta's beneficial tax regime creates an environment in which businesses can operate more profitably, and individuals can retain more of their personal incomes.

Corporate Tax

In 2006, the provincial government dropped the general corporate income tax rate to 10% from 11.5%, to ensure Alberta's global competitiveness. The small business rate is 3%.

Since 2001, the provincial government has cut the small business rate in half and more than doubled the small business income threshold to \$430,000 while the general corporate tax rate decreased by 25%.

Net Property Tax for a Single-Family Home, 2006



Provincial Income Tax Rates, 2007

(%)	AB	BC	SK	MB	ON	QC	NB	NS	PE	NL	Canada
General	10.0	12.0	14.0	14.0	14.0	9.9	12.0	16.0	16.0	14.0	22.12
Mfg. & processing	10.0	12.0	10.0-14.0	14.0	12.0	9.9	12.0	16.0	16.0	5.0	22.12
Small business	3.0	4.5	4.5	3.0	5.5	8.0	1.5	5.0	5.4	5.0	13.12

Source: Alberta Employment, Immigration and Industry Rates effective January 2007

State Effective Corporate Income Tax Rates, 2006

(%)	Oregon	California	N Dakota	Montana	Idaho	Colorado	Utah	N Mexico	Louisiana	Federal
General	6.6	8.84	7.0	6.75	7.6	4.63	5.0	7.6	8.0	35.00
Mfg. & processing	6.6	8.84	7.0	6.75	7.6	4.63	5.0	7.6	8.0	32.9
Small business	6.6	8.84	6.85	6.75	7.6	4.63	5.0	4.8	6.9	33.0

Source: Alberta Employment, Immigration and Industry Rates effective January 2006

Top Marginal Personal Income Tax Rates, 2007

(%)	AB	BC	SK	MB	ON	QC	NB	NS	PE	NL
Federal	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00
Provincial	10.00	14.70	15.00	17.40	17.41	24.00	17.95	19.25	18.37	19.64
Federal abatement ¹	-	-	-	-	-	(4.79)	-	-	-	-
Total	39.00	43.70	44.00	46.40	46.41	48.21	46.95	48.25	47.37	48.64

Rates for other provinces known as of March 30, 2007.

¹Quebec residents receive an abatement of 16.5% of basic federal tax in lieu of federal cash transfers to Quebec for several social programs. This reduces the top federal rate of 29% by 16.5% or 4.79% of taxable income.

Source: Alberta Government, 2007 Budget

Major Provincial Tax Rates, 2007

	AB	BC	SK	MB	ON	QC	NB	NS	PE	NL
Personal income tax										
Statutory rate range										
– lowest rate (%)	10.00	5.70	11.00	10.90	6.05	16.00 ^a	10.12	8.79	9.80	10.57
– highest rate (%)	10.00	14.70	15.00	17.40	11.16	24.00 ^a	17.95	17.50	16.70	18.02
Surtax (%)	–	–	–	–	20.0/36.0	–	–	10.0	10.0	9.0
Credit amounts										
Personal amount (\$)	15,435	9,027	8,778	7,834	8,553	6,650	8,239	7,481	7,412	7,410
Spousal amount (\$)	15,435	7,729	8,778	6,482	7,262	6,650	6,996	6,352	6,294	6,055
Corporate income tax										
General rate (\$)	10.0	12.0	14.0 ^b	14.0	14.0	9.9	13.0	16.0	16.0	14.0
M&P rate (\$)	10.0	12.0	10-14 ^c	14.0	12.0	9.9	13.0	16.0	16.0	5.0
Small business										
– rate (\$)	3.0	4.5	4.0	3.0	5.5	8.0	5.0	5.0	4.3	5.0
– threshold (\$000)	400	400	300	400	400	400	400	400	400	300
Capital tax										
General (max. %)	–	–	0.3 ^b	0.50	0.285	0.49	0.20	0.25 ^d	–	–
Financial institutions (max %)										
	–	3.00	3.25	3.00	0.855	1.23 ^e	3.00	4.00	5.00	4.00
Retail sales tax (%)	–	7.0	5.0	7.0	8.0	7.5 ^f	8.0	8.0	10.0 ^f	8.0
Gasoline tax (cent/litre)	9.0	14.5 ^g	15.0	11.50	14.7	15.2 ^{g,h}	10.7 ^h	15.5 ^h	20.8 ⁱ	16.5 ^h
Tobacco tax (\$/carton)	37.00	35.80	36.60 ^h	35.00 ^h	24.70	20.60	23.50 ^h	33.04 ^h	34.90	36.00 ^h
Payroll tax (max. %)	–	–	–	2.15	1.95	4.26 ^j	–	–	–	2.00

Rates for other provinces known as of March 30, 2007.

^a Quebec residents receive an abatement of 16.5% of basic federal tax in lieu of federal cash transfers to Quebec for several social programs.

^b The general corporate tax rate will be reduced to 13% effective July 1, 2007. At the same time, Saskatchewan's small business income threshold will increase from \$400,000 to \$450,000 and the general capital tax will fall from 0.3% to 0.15%.

^c The general corporate tax rate is reduced by up to 4 points based on the share of a corporation's national manufacturing and processing income allocated to Saskatchewan. The maximum M&P reduction will fall to 3 points effective July 1, 2007 when the general tax rate becomes 13%.

^d Effective July 1, 2007, Nova Scotia's general capital tax will decrease from 0.25% to 0.2%.

^e The Quebec financial institutions capital tax includes the base rate of 0.98% and a compensatory tax of 0.25%.

^f These provinces apply their retail sales taxes on the retail price of the good inclusive of the GST.

^g An additional 6 cents/litre is imposed in the greater Vancouver area, 2.5 cents/litre in Victoria and 1.5 cents/litre in Montreal.

^h These provinces apply their retail sales taxes on the reatail price of the good inclusive of the particular excise tax.

ⁱ This rate is based on an 11.5 cents/litre base rate and 10.7% of the average wholesale price and is recalculated on a monthly basis.

^j Quebec levies an additional 1% compensatory tax on the wages paid by financial institutions that is not included in this rate.

Source: Alberta Government, 2007 Budget

FUEL TAXES

Alberta has the lowest fuel tax rate of the major Canadian provinces, 3.4 cents per litre less than the national average.

Fuel Tax Comparison

Fuel Tax Rates (cents per litre)					
	Alberta	Manitoba	British Columbia	Ontario	Saskatchewan
Gasoline (regular)	9	11.5	14.5	14.7	15
Diesel	9	11.5	15	14.3	15

Source: Gas Tax Honesty Campaign – Canadian Taxpayers Federation, May 2007



BENEFITS TO BUSINESSES AND EMPLOYEES

Business Cost Index

Calgary, AB	94.7
Toronto, ON	96.5
Oklahoma	97.8
Salt Lake City	99.6
Colorado	100.8
Dallas	101.2
Houston	102.9
<i>Source: KPMG CEO's Guide to International Business Costs, February 2006</i>	

Calgary has a very low, cost-effective business cost index, especially in comparison to other North American energy centres.

Labour Costs Index

Index of Labour Costs	
Calgary	100
Vancouver	104
Toronto	105
Colorado Springs	114
Minneapolis	117
Chicago	121
Seattle	122
<i>Source: KPMG CEO's Guide to International Business Costs, February 2006</i>	

Labour Costs Information

Mandatory	Alberta
<i>Employer Paid Benefits</i>	
- Canadian Pension Plan	4.95% (2007) ⁽¹⁾
- Workers' Compensation	\$1.43 per \$100 of insurable earnings (i.e. 1.43%) is the average for 2007. The rate for the insurance industry is \$0.27.
- Employment Insurance	2.52% (2007) ⁽²⁾
- Paid Vacation	4.0% (6% after four years) ⁽³⁾
- Holidays	Alberta employees are entitled to nine paid general holidays
Voluntary	
<i>Health Care Premiums</i>	
- Single	\$44/month ⁽⁴⁾
- Couple	N/A
- Family	\$88/month ⁽⁵⁾
Other	
- Minimum Wage	\$7.00

(1) Determined by federal law. Maximum contribution is \$1,989.90 (2007). Calculation is based on maximum pensionable earnings of \$43,700 minus a basic deduction of \$3,500 times 4.95%.

(2) Maximum contribution of \$1,008 is achieved at an annual salary of \$40,000.

(3) If employees are paid a monthly salary, they receive their regular rate of pay for the time of their vacation. All other employees receive vacation pay as a percentage of wages for the year for which vacation was given. All construction employees receive 6% (no qualifying period necessary).

(4) Assumes that adjusted taxable income exceeds \$20,970 otherwise a lower rate applies.

(5) Assumes that adjusted taxable income exceeds \$39,250 for a family with children, otherwise a lower rate applies. For a family with no children, the amount is \$33,240.



Crime Rate Index

CRIME RATE INDEX, SELECTED N.A. CITIES, 2002

City	Crime Rate Index
Chicago	374
Los Angeles	283
Vancouver	239
Edmonton	200
Denver	172
Seattle	149
Calgary	117

Source: The Relocation Crime Lab – National Association of Realtors, www.homefair.com

UNIONIZATION RATES

Alberta’s overall unionization rate is estimated at 24.4%, which is the lowest in Canada. However, it is the public sector (public administration, education and health) that makes up the bulk of this rate. Between 2000 and 2004, Alberta’s person-days lost due to labour disputes was the second lowest in Canada. In 2005, the estimated number of person-days lost to labour disputes in Alberta averaged 50.3 days per 1,000 workers. This was the third lowest rate in Canada. Nationally, the rate of person days lost to labour disputes was 254.0 days per 1,000 workers.

PROVINCIAL, NATIONAL UNIONIZATION RATES

Jurisdiction	2005	2006
Canada	32.2	32.0
Quebec	40.4	40.9
Newfoundland	37.8	38.1
Manitoba	37.8	37.5
Saskatchewan	35.1	36.9
British Columbia	32.7	32.0
Prince Edward Island	34.6	30.2
Nova Scotia	30.3	28.9
Ontario	28.4	28.1
New Brunswick	29.0	28.4
Alberta	23.8	24.4

Source: Statistics Canada, Labour Force Survey, January to June averages

BUSINESS AND INFORMATION SERVICES

The Business Link

The Business Link is Alberta's primary business service centre, providing information and assistance for those starting or expanding a business anywhere in the province. The Business Link offers information about everything from start-ups, regulations, marketing, and financing/loan programs to exporting, importing, e-business, Aboriginal business, and government programs and services.

Services include:

- Toll-free business information line
- Walk-in information centres in downtown Calgary and downtown Edmonton
- Extensive business resource library
- Small business training
- Volunteer guest advisor program
- Monthly electronic newsletter



The Business Link is a not-for-profit organization supported by the Government of Canada (through Western Economic Diversification) and the Government of Alberta (through Employment, Immigration and Industry), and is a member of the Canada Business Network.

For additional information, please contact:

The Business Link

250, 639 - 5 Avenue SW

Calgary, AB, T2P 0M9

Phone: 1 800-272-9675

www.cbcs.org/alberta <<http://www.cbcs.org/alberta>>

www.e-future.ca/alberta <<http://www.e-future.ca/alberta>>

CALGARY REGIONAL PARTNERSHIP

A number of diverse municipalities and jurisdictions, each with a unique identity, have joined the Calgary Regional Partnership to work cooperatively on issues related to delivering municipal services to residents and businesses, enhancing prosperity and protecting the natural environments upon which their citizens depend.

For additional information, please see:

www.calgaryregion.ca

Consulates and Honorary Consulates

The following consulates and foreign trade offices are located in Calgary to assist businesses in establishing and growing foreign trade partnerships:

- Consulate General of the United States of America
- Consulate General of the People's Republic of China
- Consulate General of Japan
- Consular Agency of Mexico
- British Trade Office of UK Trade and Investment
- Honorary Consulates representing more than 30 countries (including Austria, Denmark, France, Luxembourg, The Netherlands, Poland, Germany, Italy, Norway and Sweden)

EXCEPTIONAL QUALITY OF LIFE



Health

Calgarians value the quality of their public health-care system and are committed to continuously improving its services and program. For example, a new Alberta Children's Hospital was constructed on the University of Calgary's West Campus by the Calgary Health Region. This world-class pediatric health-care facility was opened in September 2006. It features state-of-the-art technology and family-centred care, research and education – to the benefit of all Calgarians.

The vast majority of the Calgary area's health services are delivered by 2,200 physicians (family practitioners and specialists) and the Calgary Health Region. Funded by the Province of Alberta, the Calgary Health Region employs 23,000 people and each year delivers more than \$2.3 billion of health-care services at more than 100 locations, including four hospitals in Calgary (the Foothills Medical Centre, Rockyview General Hospital, Peter Lougheed Centre and Alberta Children's Hospital) and more than a dozen hospitals and health-care centres in the surrounding communities of Canmore, Banff, Claresholm, Didsbury, High River, Black Diamond, Strathmore and Vulcan. In all, the Region serves more than 1.2 million people in southern Alberta, southeastern British Columbia and southwestern Saskatchewan.

An integral part of Calgary's health-care system is the University of Calgary, where the faculties of Medicine, Nursing, and Kinesiology educate new generations of health-care practitioners and conduct world-renowned research.

Calgary was ranked as the healthiest city in the world in which to live in a survey by Mercer Human Resource Consulting in 2002, 2004 and 2007 - Mercer's Quality of Life survey examines and ranks 144 major global cities.

Education

In addition to the post-secondary institutions highlighted previously, Calgary's education system includes; the Calgary Board of Education, which has 219 public schools with more than 9,000 teaching staff and nearly 100,000 students. Also, the city has 98 Catholic schools with more than 4,000 staff and nearly 44,000 students. A comprehensive curriculum of academic arts and sciences programs is offered by Calgary's primary and secondary schools, with a commitment to excellence and child-centred development. Calgary is also served by a growing number of private, charter and alternative schools.

Alberta and Calgary students ranked at the top in reading, mathematics and science in an international study undertaken by the Organization for Economic Cooperation & Development in 2003.

Lifestyle

A modern metropolis with a Western heritage. An exceptionally productive workforce that loves to play in the Rocky Mountains. A four-season city with abundant sunshine and warm Chinook winds.



If ever a city offered the best of all worlds, surely it is Calgary.

By international standards, Calgary is young (founded just 130 years ago). But it is confident and successful. For most of the past century the city has hosted “The Greatest Outdoor Show on Earth,” the annual Calgary Stampede and Exhibition. In 1988, the city welcomed the world to the “best-ever” Olympic Winter Games, demonstrating not only its friendly spirit, but its “we-can-do-it” attitude. These events reflect Calgarians’ love of the Old West and winter sports, particularly skiing and ice hockey.

Indeed, Calgarians were dubbed the greatest sports fans in the world in 2004 when the underdog Calgary Flames made it to the NHL's Stanley Cup Finals.

Calgarians love to work and play. They are Canada's most productive workers – and arguably they have Canada's greatest backyard: the majestic Rocky Mountains which include Banff National Park and Kananaskis Country.

Within city limits are the bow River, one of the finest trout rivers in the world, more than two dozen golf courses and three dozen parks connected by 580 kilometres of cycling and pedestrian pathways and 260 kilometres of on-street bike routes. Calgary's natural environment is one of the city's greatest assets. Citizens and government alike are deeply committed to protecting and preserving the river valleys and environmentally sensitive areas as well as the integrity of its communities.

First-class facilities such as the Pengrowth Olympic Saddledome, Spruce Meadows and Canada Olympic Park provide additional recreational opportunities and act as training and performance venues for some of the world's best athletes. As well, recreational facilities abound, such as community ice hockey arenas, swimming pools, soccer pitches and more.

Calgary's moderate climate accommodates year-round outdoor activities. The city receives 2,395 hours of sunshine a year. The average daily high in summer (June, July and August) is 22.3 °C; the average daily high in winter (December, January and February) is -2.3 °C, although daytimes temperatures of 10 °C are common during Chinooks, periodic warm western winds.

Arts and culture thrive in the city. The EPCOR CENTRE for the Performing Arts is home to several professional theatre companies and the Calgary Philharmonic Orchestra, and hosts hundreds of touring performers every year. Arts and artifacts take centre stage at the city's two museums: the Glenbow Museum and the Nickle Arts Museum. With programs in drawing, painting, sculpture, photography, glass, ceramics and other arts, the Alberta College of Art + Design helps educate and expand Calgary's artistic community.

For more than half a century, Calgary has been Canada's energy capital, and the city is home to more than 87% of Canada's oil and natural gas producers. To compete in the world arena, Calgary boasts international leaders in energy discovery, recovery, technology, and associated services and support.

KPMG Competitive Alternatives Section

The KPMG Competitive Alternatives Report profiles various business operations in countries and cities around the world. The result of this independent study, published in 2006, is a comprehensive analysis of 27 cost components most likely to vary by location and be of the most relevance to companies comparing business costs in Canada, the United States and offshore.

Cost components in the analysis include labour, utilities, investment in land and buildings, and relevant taxes at all levels (e.g. national, municipal, property). The analysis also includes any site location incentives that have clearly defined eligibility requirements such as tax abatements, investment tax credits, sales tax exemptions and other development and job tax credits where applicable.

The basis for comparison among the various locations is the after-tax cost of business start-up and operation over a 10-year time frame. A detailed description of the methodology and the detailed reports are available on the internet at:

www.competitivealternatives.com

Effective tax rates are not shown where results are not meaningful due to marginal profitability. Effective tax rates may be negative due to refundable tax credits exceeding taxes paid.

Competitive Alternatives.com Cost Model Detailed Comparison Report

OPERATION: AVERAGE OF 12 OPERATIONS (US \$'000)

City	Calgary	Edmonton	Montreal	Ottawa	Toronto	Vancouver	Chicago	Colorado	Minneapolis	Seattle
Province/State	AB	AB	QC	ON	BC	BC	IL	CO	MN	WA
Country	CA	CA	CA	CA	CA	CA	USA	USA	USA	USA
Exchange rate \$ per USD	C\$1.174	C\$1.174	C\$1.174	C\$1.174	C\$1.174	C\$1.174	\$1.000	\$1.000	\$1.000	\$1.000
Initial Investment										
Land	978	758	785	706	1,998	2,129	874	694	685	1,225
Buildings	1,985	2,146	2,077	2,437	1,754	2,373	2,096	1,863	2,513	2,844
	2,963	2,905	2,862	3,143	3,752	4,501	2,971	2,558	3,198	4,069
Rank, total investment	4	3	2	6	8	10	5	1	7	9
Cash	238	238	238	238	238	238	238	238	238	238
Inventory	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125
Fixed assets	4,710	4,710	4,710	4,710	4,710	4,710	4,710	4,710	4,710	4,710
	\$9,037	\$8,979	\$8,936	\$9,217	\$9,825	\$10,575	\$9,044	\$8,631	\$9,272	\$10,142
Initial Financing										
Debt	4,485	4,456	4,428	4,583	4,918	5,328	4,496	4,261	4,614	5,096
Equity	4,552	4,523	4,508	4,634	4,907	5,247	4,549	4,371	4,658	5,047
	\$9,037	\$8,979	\$8,936	\$9,217	\$9,825	\$10,575	\$9,044	\$8,631	\$9,272	\$10,142

City	Calgary	Edmonton	Montreal	Ottawa	Toronto	Vancouver	Chicago	Colorado	Minneapolis	Seattle
10-Year Average Profit and Loss										
Sales	15,915	15,819	15,929	15,935	16,076	15,986	16,200	16,172	16,221	16,225
Location-sensitive costs										
Salary and wages	4,820	4,603	4,806	4,821	5,046	5,068	5,392	4,914	5,320	5,609
Statutory plans	290	283	501	356	365	282	526	455	515	576
Other benefits	983	939	964	972	1,017	999	1,233	1,550	1,555	1,225
Total labour	6,092	5,825	6,272	6,149	6,427	6,349	7,151	9,918	7,390	7,409
Rank, total labour	2	1	4	3	6	5	8	7	9	10
Facility lease	268	246	252	252	335	268	295	328	289	263
Rank, facility lease	5	1	2	2	10	5	8	9	7	4
Road freight	458	495	251	251	223	566	281	597	681	795
Air freight	23	24	21	20	18	21	20	22	20	21
Sea freight	92	93	70	93	74	78	97	97	99	68
Total transportation	574	612	342	363	314	664	397	715	799	884
Rank, transportation	5	6	2	3	1	7	4	8	9	10
Electricity	188	159	167	212	234	118	259	224	173	155
Gas	92	88	114	96	96	93	102	88	96	103
Telecommunications	61	61	58	60	58	58	53	56	55	52
Total utilities	340	308	338	369	388	269	414	368	323	310
Rank, electricity	6	3	4	7	9	1	10	8	5	2
Rank, gas	3	1	10	6	6	4	8	2	5	9
Rank, telecommunications	9	9	5	8	5	7	2	4	3	1
Total operating costs	7,275	6,991	7,203	7,133	7,464	7,552	8,257	8,330	8,801	8,866
Rank, operating costs	4	1	3	2	5	6	7	8	9	10
Interest	47	34	35	52	80	112	95	89	162	198
Total interest,	723	734	729	753	708	749	730	715	758	780
depreciation	770	767	764	805	788	861	826	804	920	978
Income tax, national	408	456	429	406	367	325	392	371	227	191
Income tax, regional	265	288	207	265	243	175	73	57	13	-
Income tax, local	-	-	-	-	-	-	-	-	-	-
Capital tax, national	-	-	-	-	-	-	-	-	-	-
Capital tax, regional	-	-	34	5	5	-	5	-	3	-
Sales tax	-	-	-	104	104	119	111	84	148	196
Property tax	61	62	123	158	119	126	76	107	125	91
Gross receipts tax	-	-	-	-	-	-	-	-	-	50
Business tax	49	41	-	-	-	-	-	-	-	-
Grants, subsidies	-	-	-	-	-	-	-	-	-	-
Total taxes (net of grants)	783	846	792	941	842	743	663	621	479	455
Total location-sensitive costs	8,828	8,604	8,759	8,878	9,094	9,155	9,745	9,755	10,200	10,299

City	Calgary	Edmonton	Montreal	Ottawa	Toronto	Vancouver	Chicago	Colorado	Minneapolis	Seattle
Location-insensitive costs										
Materials	4,081	4,081	4,081	4,081	4,081	4,081	4,081	4,081	4,081	4,081
Other operating expenses	1,475	1,475	1,475	1,475	1,475	1,475	1,475	1,475	1,475	1,475
Total location-insensitive costs	5,557	5,557	5,557	5,557	5,557	5,557	5,557	5,557	5,557	5,557
Total costs	14,385	14,161	14,316	14,435	14,651	14,711	15,302	15,312	15,757	15,855
Net Profit after tax	\$1,530	\$1,658	\$1,613	\$1,500	\$1,425	\$1,274	\$898	\$860	\$465	\$370
% of sales	9.6%	10.5%	10.1%	9.4%	8.9%	8.0%	5.5%	5.3%	2.9%	2.3%
Overall rank	3	1	2	4	5	6	7	8	9	10
Overall index	94.7	93.3	94.3	95.1	96.5	96.9	100.8	100.8	103.8	104.4
Summary Measures										
Net profit before income tax	2,203	2,401	2,249	2,171	2,035	1,774	1,363	1,287	704	561
Effective income tax rate	30.5%	31.0%	28.3%	30.9%	30.0%	28.2%	34.1%	33.2%	34.0%	34.1%
Rank	4	6	2	5	3	1	10	7	8	9
Property-based taxes per sq. ft	\$1.95	\$1.76	\$1.67	\$2.15	\$1.64	\$1.71	\$1.07	\$1.76	\$1.70	\$1.46
Rank	9	8	4	10	3	6	1	7	5	2

APPENDIX A. EDUCATIONAL SUPPORT SUMMARY

A1. University of Calgary

The University of Calgary has over 30,000 full and part-time students, including 900 international students from 87 countries, enrolled in undergraduate, graduate and professional degree programs. The University has 16 faculties, 53 departments, and offers over 83 undergraduate courses. In 2005/06, the University graduated over 6,000 students from bachelor, masters and doctorate programs.

The University of Calgary prides itself in being a comprehensive research university, and is one of Canada's top seven research universities. The University belongs to at least 17 Networks of Centres of Excellence, and is home to 30 research institutes and centres. The University has set a target to be among the top five research universities in Canada by 2010.

The University has over 2,200 full-time equivalent teaching and research faculty, as well as over 2,100 full-time equivalent support staff, making it Calgary's fifth largest employer. Specific programs in support of ICT education and training are offered by the faculties of Engineering and Science and include the following:

- Computer Engineering
- Computer Science
- Electrical Engineering
- Geomatics Engineering
- Software Engineering

In 2006 a total of 435 graduate students and 1255 undergraduate students were enrolled full time in these programs. In 2006 the University granted 115 graduate degrees and 348 undergraduate degrees in ICT-related disciplines.

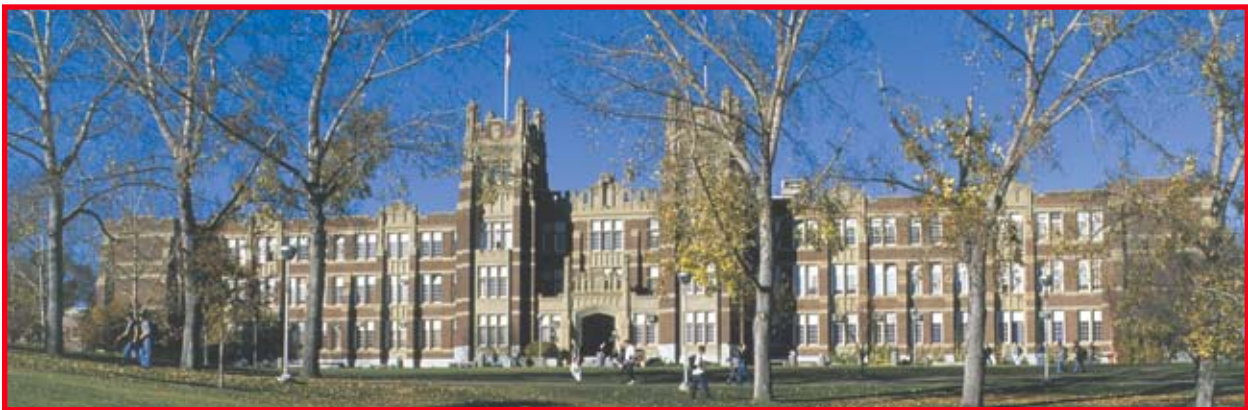
For additional information, please contact:

University of Calgary
2500 University Drive NW
Calgary, Alberta, T2N 1N4
Phone: 403-220-5110
www.ucalgary.ca

A2. Southern Alberta Institute of Technology Polytechnic

SAIT is Canada's premier polytechnic providing relevant, skill-oriented education which equips graduates to compete successfully in the changing world of work. Established in 1916, SAIT provides career training to more than 76,000 registrants by 1,900 faculty and staff with a budget of \$215 million.

SAIT offers four applied degrees, 62 diploma and certificate programs, 33 apprenticeship programs and 1,950 continuing education and customized business and industry courses. Articulation and transfer credit agreements exist with educational institutes provincially, nationally and internationally to provide SAIT graduates with an opportunity to further their credentials.



Over the last 5 years, SAIT graduates have enjoyed an employment rate of 97 per cent. Graduates are in demand because SAIT programs are designed with employers in mind.

The Institute has recently completed its five-year, \$80-million Invest in Technology campaign. The campaign raised just under \$85 million – a testament to the prestige with which SAIT programs are held by business, industry and individuals.

In 2003/2004, SAIT Polytechnic graduated 3,323 students of which 829 (25 per cent) graduated from ICT-specific programs. By early 2005, 98 per cent of these graduates were working in training-related employment with 91 per cent of them employed in Alberta.

Specific ICT related programs offered by SAIT Polytechnic include:

- Bachelor of Applied Technology – Geographic Information Systems
- Bachelor of Applied Technology – Information Systems
- Diploma, Computer Engineering Technology
- Computer Technology Diploma
- Digital Communications Technology Diploma
- Electrical Engineering Technology Diploma
- Electronics Engineering Technology Diploma
- Engineering Design and Drafting Technology Diploma
- Geomatics Engineering Technology Diploma
- Network Engineering Technology Diploma
- New Media Production and Design Diploma

For additional information, please contact:

SAIT Polytechnic

1301 – 16 Ave NW

Calgary, Alberta, T2M 0L4

Phone: 403-284-SAIT (7248)

Toll free: 1-877-284-SAIT (7248)

www.sait.ab.ca

A3. Mount Royal College

Established in 1910, Mount Royal College is a public college serving approximately 13,000 credit students in more than 60 collaborative degree, applied degree, university transfer, diploma and certificate programs, as well as 4,000 students in its internationally known Conservatory, 2,500 in international programs and 17,000 learners in professional and personal development courses. Courses and programs are offered in arts, business and entrepreneurial studies, communications, health and community studies, music and the performing arts, and science and technology.

Mount Royal has a proven record of responsiveness to the local community. It was the first college in Alberta to offer university courses (in 1931) and pioneered the applied degree credential nationally (in 1995). To address

growing student and community demand for university programs, the institution is seeking approval to evolve into a unique student-centred and teaching-focused undergraduate university that will complement existing university offerings in Alberta.

In the 2005/06 academic year, the college awarded applied degrees, diplomas and certificates to 1,679 students.

Programs offered by Mount Royal College applicable to ICT education and training include:

- Bachelor of Applied Communications – Electronic Communications
- Bachelor of Applied Computer Information Systems
- Computer Information Systems Diploma
- Computer Science Certificate
- Bachelor of Science, Computer Systems (University Transfer)

For additional information, please contact:

Mount Royal College
4825 Richard Road SW
Calgary, Alberta, T3E 6K6
Phone: 403-440-6111
Fax: 403-440-5938
www.mtroyal.ca/

A4. Alberta College of Art + Design (ACAD)

ACAD is one of only four accredited, public art and design colleges in Canada, and is the only post-secondary institution in the Prairie Provinces devoted exclusively to advanced education, practice, and research in visual culture, design and associated fields.

ACAD has over 1,300 full and part-time students enrolled in a variety of programs including bachelor programs in the areas of Fine Arts, Design, Liberal Studies, Media Arts and Digital Technologies. ACAD distinguishes itself from many other institutions by providing a studio-based experience for students in fine art, design and new media.

Programs offered by ACAD in support of ICT education and training include:

- Bachelor of Design, Visual Communications
- Bachelor of Fine Arts, Media Arts and Digital Technologies.

For additional information, please contact:

Alberta College of Art + Design
1407-14 Ave NW
Calgary, Alberta, T2N 4R3
Phone: 403-284-7600
Fax: 403-284-7644
www.acad.ab.ca

A5. DeVry Institute of Technology

DeVry Institute of Technology (DeVry) offers bachelor degree and diploma programs that combine the best of today's business skills with current technical applications. DeVry is part of the DeVry University system, which also offers undergraduate and graduate programs online. For the 2005 /2006 academic year, DeVry Calgary graduated 158 students from its ICT programs.

Programs specifically related to ICT education and training include:

- Bachelor of Computer Engineering Technology
- Bachelor of Computer Information Systems
- Bachelor of Electronics Engineering Technology
- Electronics and Network Technology Diploma
- Electronics Systems Technology Diploma
- Network and Communications Management Diploma

For additional information, please contact:

DeVry Calgary
2700 - 3 Avenue SE
Calgary, Alberta, T2A 7W4
Phone: (403) 235-5400
Toll free: (800) 363-5558
www.devry.ca

APPENDIX B. FEDERAL AND PROVINCIAL SUPPORT

B1. National Research Council

The National Research Council (NRC) comprises over 20 institutes and national programs, spanning a variety of disciplines and offering an array of services. NRC offices are located in every province in Canada and play a major role in stimulating community-based innovation.

NRC institutes and programs are organized into five (5) key areas:

- Life Sciences
- Physical Sciences
- Engineering
- Technology and Industry Support
- Corporate Services

NRC is a federal organization whose mandate is set out in the National Research Council Act (*NRC Act*). Under the NRC Act, NRC is responsible for:

- undertaking, assisting or promoting scientific and industrial research in different fields of importance to Canada;
- establishing, operating and maintaining a national science library;
- publishing and selling or otherwise distributing such scientific and technical information as the Council deems necessary;
- investigating standards and methods of measurement;
- working on the standardization and certification of scientific and technical apparatus and instruments and materials used or usable by Canadian industry;
- operating and administering any astronomical observatories established or maintained by the Government of Canada;
- administering NRC's R&D activities, including grants and contributions used to support a number of international activities; and
- providing vital scientific and technological services to the research and industrial communities.

This mandate is discharged to a great extent through the operation of the NRC Industrial Research Assistance Program (IRAP), the NRC Canada Institute for Scientific and Technical Information and the Canadian Technology Network.

The Industrial Research Assistance Program (IRAP) provides a range of technical and business advisory services, along with potential financial support, to growth-oriented Canadian small and medium-sized enterprises (fewer than 500 employees).

NRC-IRAP provides non-repayable contributions to Canadian small and medium-sized enterprises (SME) interested in growing by using technology to commercialize services, products and processes in Canadian and international markets. NRC-IRAP also provides mentoring support and invests on a cost-shared basis for research and pre-competitive development technical projects, upon assessment of a project and firm by a team of Industrial Technology advisors. Depending on the specifics of the proposed project, NRC-IRAP is able to invest up to 50 per cent of eligible projects costs to a maximum of \$500,000.

NRC-IRAP also delivers two youth initiatives on behalf of the Government of Canada's Youth Employment Strategy that provide financial support in the hiring of post-secondary graduates. These programs are the Internship Program with Innovative Small and Medium Enterprises and the Collaborative Research Internships Program. Both internship programs are expected to last from between six months and one year. The maximum financial support provided by NRC-IRAP in each of these programs is \$12,000 to help cover part of the graduate's salary. Overhead, benefits and project costs are the company's responsibility.

For additional information, please contact:

National Research Council

Industrial Research Assistance Program

250 Karl Clark Road

Edmonton, AB T6N 1E4

Phone: 780-495-6509

Fax: 780-495-6510

<http://irap-pari.nrc-cnrc.gc.ca/>

B2. Scientific Research and Experimental Development (SR&ED) Tax Incentive Program

This SR&ED program is offered by the Government of Canada and is administered by the Canada Revenue Agency. This tax incentive program is designed to encourage Canadian businesses to conduct R&D in Canada that will lead to new, improved, or technologically advanced products or processes. The Scientific Research and Experimental Development (SR&ED) program is the largest single source of federal government support for industrial research and development (R&D).

Generally, Canadian-controlled private corporations can earn an investment tax credit (ITC) of 35 per cent, up to the first \$2 million of qualified expenditures for SR&ED carried out in Canada, and 20 per cent on any excess amount. Other Canadian corporations, proprietorships, partnerships and trusts can earn an ITC of 20 per cent of qualified expenditures for SR&ED carried out in Canada.

To qualify for the SR&ED program, the R&D work must advance the understanding of scientific relations or technologies, address scientific or technological uncertainty, and incorporate a systematic investigation by qualified personnel. Examples of work that qualifies for SR&ED tax credits includes:

- experimental development to achieve technological advancement to create new materials, devices, products, or improve existing ones;
- applied research to advance scientific knowledge with a specific practical application in view;
- basic research to advance scientific knowledge without a specific practical application in view; and
- support work in engineering, design, operations research, mathematical analysis, computer programming, data collection, test or psychological research, but only if the work is commensurate with, and directly supports, the eligible experimental development or applied or basic research.

For complete application information, including full eligibility criteria and additional information, please contact:

The Calgary SR&ED Division
130, 220 – 4 Avenue SW
Calgary, AB T2G 0L1
Phone: 403-691-5890
www.cra-arc.gc.ca/sred/

B3. Industry Canada

Industry Canada and the Industry Portfolio have many programs and initiatives to provide help related to a variety of areas, such as Aboriginal business, consumers, industry, regions, small business, research, science and youth.

Specific programs geared to ICT include:

CANADIAN INSTITUTE FOR ADVANCED RESEARCH

Established in 1982, the Canadian Institute for Advanced Research (CIAR) encourages research excellence in Canada and strengthens the Canadian research community. CIAR brings together recognized researchers to tackle key issues that confront human society and challenge our understanding of the natural world.

CANARIE — CA*NET 4

CANARIE Inc, Canada's advanced Internet development organization, links researchers and educational communities across Canada and around the world. CANARIE also acts as a catalyst for developing and testing advanced network technologies, products, applications and services. In 2002 the federal government provided one-time funding of \$110 million for five years to CANARIE to deploy and operate CA*net 4, Canada's National Research and Education Network. CA*net 4 operates as a national backbone that interconnects the provincial research networks and, through them, links to universities, colleges, research centres, government laboratories, museums, schools and other eligible sites. CA*net 4 is also connected to international research networks enabling Canadian scientists to collaborate with researchers around the world.

COMMUNICATIONS RESEARCH CENTRE CANADA

The Communications Research Centre Canada (CRC), an agency of Industry Canada, is the Canadian government's centre of excellence for R&D in advanced telecommunications. Under its four research branches (Terrestrial Wireless Systems, Satellite Communications and Radio Propagation, Broadband Network Technologies and Broadcast Technology), CRC specializes in an interdisciplinary approach to longer-term R&D in wireless systems, radio fundamentals, communication networks, photonics and interactive multimedia. CRC initiatives work to provide broadband technologies for rural and remote areas, support small and medium-sized enterprises, create and license intellectual property and collaborate with the information and communications technology industry in Canada and around the world.

Founded in 1994, the Communications Research Centre Canada's (CRC) Innovation Centre is a unique facility that helps dynamic young Canadian companies to develop their potential through on-site technology incubation. Companies receive office space, access to test beds, facilities and expertise on a fee-for-service basis, as well as vital linkages to a range of services and funding. The Innovation Centre also accepts established companies requiring CRC expertise or facilities to carry out R&D on a new product.

For additional information, please contact:

Industry Canada
#400, 639 – 5 Avenue SW
Calgary, AB T2P 0M9
Tel: 403-292-4575
Fax: 403-292-4295
www.ic.gc.ca

B4. Natural Sciences and Engineering Research Council of Canada

Natural Sciences and Engineering Research Council of Canada (NSERC) supports the development of highly qualified Canadians in the natural sciences and engineering through a number of scholarship and fellowship programs. Companies can propose a research project or nominate recent doctoral graduates to undertake research and NSERC will provide financial assistance through salary provisions.

Financial support by NSERC is offered through the following programs:

- Industrial Research and Development Fellowships (IRDF) - \$30,000 per year for two years, plus a minimum company contribution of \$10,000 per year.
- Industrial Postgraduate Scholarships (IPS) - \$15,000 per year for two years, plus a minimum company contribution of \$6,000 per year.
- Industrial Undergraduate Student Research Awards (USRA) - \$4,500 per year, plus an additional contribution by the company of at least 25 per cent of the value of the award.

For complete application information, including full eligibility criteria and additional information, please contact:

Natural Sciences and Engineering Research Council of Canada

350 Alberta Street

Ottawa, ON K1A 1H5

Phone: 613-995-4273

www.nserc.gc.ca



B5. Western Economic Diversification

Western Economic Diversification (WD) Canada was established in 1987 to help broaden the economic base of the four western provinces: British Columbia, Alberta, Saskatchewan and Manitoba. Under the Western Economic Diversification Act, 1988, the department is mandated to promote the development and diversification of the economy of Western Canada and to advance the interests of Western Canada in national economic policy, program and project development and implementation.

To do this, WD provides programs and services designed to achieve the following strategic outcomes: a strengthened Western Canadian innovation system; a competitive and expanded business sector in Western Canada; and economically viable Western Canadian communities that offer a high quality of life.

WD PROGRAMS

WD receives an annual allocation, approved by Parliament, for grants and contributions that support a wide range of programs responding to Western Canada's economic development needs and priorities.

PARTNERSHIP PROGRAMS

A majority of WD's grants and contributions are delivered in partnership with other levels of government. These partnerships allow for cost sharing initiatives that respond to regional needs and opportunities.

DIRECT PROGRAMS

WD's grants and contributions also support projects delivered directly by WD, either alone or in partnership with other organizations. Groups eligible to apply under these programs include universities and other post-secondary academic institutions, research institutes, industry associations and other not-for-profit organizations. The following are programs that fall under WD's Direct Programs:

Western Diversification Program (WDP) invests in projects that support WD's strategic priorities of innovation, entrepreneurship and community economic development, including a number of partnership programs undertaken with other levels of government.

Loan and Investment Program allows financial institutions to supply loan capital to clients to whom they would not otherwise make loans. Under this program, WD contributes funds to a loan loss reserve, which partly offsets higher risks associated with eligible loans to small businesses. Eligible clients apply directly to the financial institutions partnered with WD under this program.

Canada Foundation for Innovation Support Program reimburses qualified western research institutions up to 90 per cent of eligible direct costs incurred, to a maximum of \$20,000, to assist with the cost of preparing a Canada Foundation for Innovation proposal.

Western Canada Business Service Network is a group of several independent organizations that receive funding from WD to provide a range of services to help create and build small businesses across the West.

For additional information, please contact:

Western Economic Diversification Canada
#300, 639 - 5 Avenue SW
Calgary, AB T2P 0M9
Tel: 403-292-5458
Toll Free: 1-888-338-9378
Fax: 403-292-5487
www.wd.gc.ca

B6. Alberta Research Council

Alberta Research Council (ARC) is an applied (R&D) corporation that develops and commercializes technology to grow innovative enterprises. ARC specializes in converting early-stage ideas into marketable technology products and services. Key lines of business are:

- Applied research
- Technology assessment
- Technology development and demonstration
- Technology commercialization
- Consultation and policy development
- Testing and analysis

ARC serves more than 900 customers and partners around the world in the energy, life sciences, agriculture, environment, forestry and manufacturing sectors. ARC also works with the Alberta government to deliver Alberta's innovation agenda.

ARC employs over 500 scientists, engineers, business managers and support staff that operate in five facilities located throughout Alberta – in Edmonton, Calgary, Vegreville and Devon. Customers have access to leading edge expertise, equipment and facilities. ARC offers a variety of working arrangements to meet customers' needs including fee-for-service, joint ventures, consortia and strategic partnerships.

AREAS OF EXPERTISE

ARC works with customers and partners to advance technology in four areas of expertise:

- Energy
- Integrated Resource Management
- Engineered Products & Services
- Life Sciences

SERVICES

Scientific and technical experts provide a wide range of services in:

- Technology Development
- Technology Commercialization
- Science and Technology Capacity Building

For additional information, please contact:

Alberta Research Council
3608 - 33 St NW
Calgary, Alberta T2L 2A6
Tel: 403-210-5222
Fax: 403-210-5380
www.arc.ab.ca/

B7. Alberta Advanced Education & Technology

Alberta Advanced Education and Technology provides leadership and makes strategic investments in research, science and technology initiatives in three priority areas:

- Energy
- Information and Communications Technology
- Life Sciences, (includes agriculture, biotechnology, forestry, sustainable resource management and water research)

These investments will build on Alberta's existing strengths and help the province develop a more globally competitive, knowledge-based economy.

Alberta Advance Education & Technology is committed to fostering excellence in ICT research that contributes to the continued prosperity of this province. Through its Research and Technology Commercialization and University Research and Strategic Investments branches, Alberta Innovation and Science focuses on making Alberta a global leader in ICT.

Research and Technology Commercialization is responsible for high-tech R&D policy advice, as well as the development of business opportunities in ICT research. The division works to increase the knowledge industry in Alberta by growing, attracting and retaining firms specializing in electronics, microelectronics, telecommunications and information networks, computer technology including hardware and software, multimedia, advanced materials and manufacturing. This group also facilitates new product development and increased technology commercialization opportunities across all knowledge-based sectors.

University Research and Strategic Investments branch coordinates grant funding processes for the Alberta Science and Research Investments Program and other ASRA grant programs. The group also coordinates the review of grant applications, specifies grant conditions and accountability, manages contracts and payments, ensures conditions are met and monitors results achieved.

Alberta Advanced Education and Technology is working to attract, grow, establish and retain information and communications technology and life sciences businesses in Alberta. By working with Alberta Economic Development, technology commercialization agencies and organizations, and industry, Innovation and Science is helping promote this province as a good place to live, work and do business.

The Minister of Advanced Education and Technology is also responsible for several organizations that administer their own funding programs:

- Alberta Science & Research Authority (ASRA)
- Alberta Ingenuity Fund
- Alberta Research Council
- iCORE

For additional information, please contact:

Alberta Advanced Education and Technology
5th Floor, 10020 - 101A Avenue
Edmonton, AB T5J 3G2
Phone: 780-427-0285
Fax: 780-415-9824
www.innovation.gov.ab.ca/

B8. Alberta Science and Research Authority

Created in 1994, the Alberta Science and Research Authority (ASRA) is an independent board of members from Alberta's academic, business and research communities, appointed by provincial cabinet. ASRA was established to maximize the effectiveness of science and research as an integral component to the success of the province in the global economy.

ASRA's mission is to enhance the contribution of science and research to the sustainable prosperity and quality of life of all Albertans. To fulfill this mission, ASRA functions as the senior science and research advisory body to the Government of Alberta and works collaboratively with government departments and agencies and other stakeholders to:

- stimulate R&D and related scientific activities in Alberta;
- develop science and research policies and priorities compatible with economic and social priorities of the government;
- conduct annual reviews and evaluations of all government science and research policies, priorities and programs;
- develop and monitor a financial management plan for government science and research investments;
- promote communication on matters related to science and research; and
- encourage Alberta's science and research sector to attain international competitiveness and recognition as a leader.

CURRENT INITIATIVES - ICT

ASRA's ICT strategy is important in ensuring Alberta remains competitive and maintains its role as a leader. ASRA has taken significant steps to lay a foundation that will allow Alberta to fulfill the objectives of the ICT strategy.

Alberta's SuperNet is a significant cornerstone in Alberta's foundation for improved services in e-learning, e-health, e-government and e-commerce. The network will make Alberta the first jurisdiction in North America to connect its communities to the leading edge of the knowledge economy. Every community with a school, hospital, library or provincial government building will have access, strengthening Alberta's existing claim as the most wired jurisdiction on the continent.

Nanotechnology is considered to be the next major revolution in technology with societal and economic impacts expected to be larger than those of the computer revolution. It is expected to play a vital role in revolutionizing many areas, including health, computing science, energy, biotechnology, education, manufacturing and engineering.

For additional information, please contact:

Alberta Science and Research Authority
500 Phipps-McKinnon Building
10020 - 101 A Avenue
Edmonton, Alberta T5J 3G2
Tel: 780-427-1488
Fax: 780-427-0979
www.asra.ab.ca/

B9. Alberta Science and Research Investment Program

The Alberta Science and Research Investments Program (ASRIP) is a competitive funding program that supports selected science and research initiatives of strategic importance to Alberta. The program will run its 2005/06 competition with distinct funding streams:

- Infrastructure Sustainability (IS)
- Research Infrastructure (RI)
- Enabling Research Application and Technology Transfer (ERATT)
- Platform Technology (PT)

ASRIP has three main objectives:

- Supporting quality and research excellence
- Building the capacity for innovation
- Promoting initiatives of strategic benefit to Alberta

The program will continue to be used to leverage support from other sources such as the federal CFI and the private sector in order to maximize the research funds flowing into Alberta.

Research infrastructure plays a key role in Alberta's academic and economic competitiveness by providing the means to generate new knowledge and to transform that knowledge into products, services, processes and policies. ASRIP places a high priority on innovative research and scientific excellence and, like the CFI, plans to invest in infrastructure that will allow researchers, institutions and their partners to develop exceptional research programs.

Each stream is designed to support distinct types of research activities or infrastructure and has distinct eligibility requirements. Applicants should direct their proposals to the appropriate stream. The program will not support the same initiative concurrently through more than one stream.

For additional information, please contact:

University Research and Strategic Investments Branch

5th Floor, Phipps-McKinnon Building

500, 10020 - 101A Ave

Edmonton, AB T5J 3G2

Tel: 780-422-4845

Fax: 780-427-1430

http://www.innovation.gov.ab.ca/inv/sec/ursi/pro/asrip_001_1.cfm

The next ASRIP competition is currently under development and no application dates have been confirmed. Details on timing of the next ASRIP competition, as well as updated program guidelines, will be posted on the above website as soon as the information becomes available.

B10. Alberta Information and Communications Technology Institute (AICTI)

In 2005 the Government of Alberta created the Alberta Information and Communications Technology Institute through the Alberta Science and Research Authority Act. The ICT Institute will review and update the provincial ICT strategy, Information and Communications Technology: A Strategy for Alberta. This strategy has led to successful projects and the creation of substantial infrastructure. Important outcomes from this strategy include: the Alberta SuperNet, the Alberta Informatics Circle of Research Excellence (iCORE), Alberta Ingenuity Centre for Machine Learning, investments in high-performance computing infrastructure through WestGrid and Netera, and the establishment of the National Institute for Nanotechnology.



Mandate

The AICTI Board supports the development and growth of the ICT sector in Alberta by providing strategic advice and policy guidance to government on public funding and investments in ICT-related research and innovation. AICTI ensures that publicly funded initiatives are aligned with the provincial strategy. The AICTI board works with provincial departments, agencies and institutions to stimulate the development and application or commercialization of new knowledge, technologies and products. The board provides advice to further develop ICT capacity, particularly in terms of recruiting qualified people and research infrastructure.

Focus Areas

HIGHLY QUALIFIED PEOPLE

- Advise on strategies to improve the training, attraction and retention of highly qualified personnel in the areas of ICT research, innovation and technology commercialization
- Collaborate with other research organizations to align the research and innovation agendas in the areas of ICT, energy and life sciences

DEVELOPMENT OF ICT INFRASTRUCTURE

- Advise on strategies for a coordinated approach to ICT research infrastructure in Alberta

GROWTH OF THE ICT SECTOR

- Foster improved communication, coordination and knowledge sharing among Alberta ICT stakeholders
- Assist in stakeholder efforts to improve Albertans' understanding of the province's ICT capacity and capability
- Provide advice on balancing funding needs of basic research, applied research and technology commercialization to obtain maximum value

For additional information, please contact:

Alberta Information and Communications Technology Institute

5th floor, 10020 - 101A Avenue

Phipps – McKinnon Building

Edmonton, Alberta T5J 3G2

Tel: 780-427-7722

Fax: 780-427-5924

www.innovation.gov.ab.ca/res/sec/alb_res_com/aicti_001_1.cfm

B11. Alberta Employment, Industry and Education

The new Alberta Employment, Industry and Education department is mandated to undertake the economic development activities of the Province of Alberta. This department supports a number of initiative and activities in support of ICT, and other, industry development as described below.

INVESTMENT & INDUSTRY DEVELOPMENT

Investment & Industry Development acts as Alberta Economic Development's (AED) investment attraction marketing team as well as an advocate and catalyst for new investment, increased competitiveness, diversification and leading-edge innovation within key Alberta manufacturing and service sectors.

ECONOMIC STRATEGY IMPLEMENTATION

In cooperation with private industry and government organizations, the Economic Strategy Implementation branch leads the implementation of Alberta's value-added strategy, Securing Tomorrow's Prosperity.

Regional Development

Through its branch corporate office and 11 regional offices, Regional Development provides Alberta regions and communities with information, support and training to assist them with their efforts to achieve long-term economic viability and prosperity. The branch supports businesses through The Business Link and through cooperation with other regional partners in their delivery of business information.

The branch also actively supports the Rural Development Initiative (RDI) of the Economic Development Strategy Cross Ministry Initiative, Alberta Economic Development and Alberta Agriculture, Food and Rural Development are co-leads for the RDI.

POLICY & ECONOMIC ANALYSIS

Policy and Economic Analysis has the primary responsibility for delivering on the department's core business of providing strategic economic leadership and business intelligence. This is achieved by working closely with the other divisions and business organizations and by supporting the work of the Minister, and the Alberta Economic Development Authority (AEDA).

BUSINESS INFORMATION & RESEARCH

- Transmits economic intelligence and business information to the business clients and other stakeholders, using a number of different media, such as printed material and the Internet
- Provides economic data and business cost competitiveness data benchmarking the Alberta Advantage relative to competing jurisdictions

INTERNATIONAL OFFICES & TRADE

Alberta Economic Development maintains a presence in key international regions through a network of international offices located in Asia, Europe and North America.

ADVANCED INDUSTRIES BRANCH

The Advanced Industries Branch is responsible for facilitating the growth of Alberta exports within the following sectors:

- Aerospace
- Building Products sectors
- Health & Biotech
- Information & Communication Technologies

The Advanced Industries Branch identifies business opportunities and provides market intelligence and contacts to Alberta companies interested in selling their products and services into targeted international markets. The Branch has a full-time staff of 12, divided into two teams focusing on:

- Asia Pacific - Target markets include: Japan, S. Korea and Greater China (Hong Kong, Mainland China and Taiwan)
- United States and European Union - Target markets include: U.K., Germany

Advanced Industries representatives are located in both Edmonton and Calgary and work closely with representatives from Alberta's International Offices.

Due to recent government reorganization, the business areas of the former department of Alberta Economic Development have moved to the following new ministries:

- Employment, Immigration & Industry
- International, Intergovernmental & Aboriginal Relations
- Tourism, Parks, Recreation & Culture

Clients may still contact these business areas at:

Alberta Economic Development

6th Floor, Commerce Place
10155 - 102 Street
Edmonton, AB T5J 4L6
Tel: 780-415-1319
Fax: 780-422-1759
www.alberta-canada.com/

B.12 Alberta Ingenuity Fund

The primary objective of the Alberta Ingenuity Fund is to increase the research expertise in Alberta companies. Eligible companies are for-profit, provincially or federally incorporated and operating in Alberta or wholly Alberta owned. The company must be engaged in R&D activities, the majority of which revolve around technology derived from science and engineering disciplines.

Alberta Ingenuity Fund also grants the Alberta Ingenuity Industrial Associate award. Granted to upwards of 40 recipients each year, the award consists of an annual stipend of \$48,000 and a research allowance of \$7,000 per year for up to two years, for a total support of \$110,000. Eligible candidates are Master's or PhD program graduates who have been out of school for no longer than five years, or individuals expected to complete their degree requirements within three months of submitting the application.

For complete application information, including full eligibility criteria and additional information, please contact:

Alberta Ingenuity Fund
2410 Manulife Plaza
10180 – 101st Street
Edmonton, AB T5J 3S4
Phone: 780-423-5735
www.albertaingenuity.ca

APPENDIX C. ADDITIONAL LOCAL SUPPORT



C1. TRILabs

TRILabs (Telecommunications Research Laboratories) is Canada's largest not-for-profit information and communications technology research consortium and is internationally recognized as a leading model for industry/university/government collaboration. This tripartite model successfully combines the expertise and resources of an unlimited number of organizations and perspectives, resulting in TRILabs' prominence as an important element of Western Canada's science and technology infrastructure.

The research program is focused on six strategic areas: digital media, e-health, home technologies, micro devices, network systems and wireless communications. Industrial participation in the R&D activities of TRILabs allows for enhanced collaboration, leverage of research dollars and expertise, access to new technologies with strong market potential and access to highly skilled graduating students.

For additional information, please contact:

TRILabs
120, 7777 - 10 Street NE
Calgary, AB T2E 8X2
Tel: 403-338-6393
Fax: 403-338-6399
E-mail: info@trilabs.ca
www.trilabs.ca

C2. iCORE

iCORE was established in October 1999 by the Government of Alberta to foster an expanding community of exceptional researchers in the field of informatics: computer science, electrical and computer engineering, physics, mathematics and other disciplines related to information and communications technology (ICT).

As part of the Government of Alberta's strategy to create a globally competitive knowledge-based economic sector, iCORE directs its support to areas in which Alberta has a chance to develop internationally recognized research teams. It also focuses on areas in which Alberta companies are active, so intellectual property and valuable knowledge workers resulting from iCORE's investment will have compelling reasons to stay in Alberta.

iCORE invests in people – the highest calibre research scientists who work on fundamental and applied problems in informatics. It operates several grant programs to develop iCORE chairs at Alberta universities, around which world-class research teams are developed. Since its inception, more than 24 research chairs have been established to focus on emerging areas such as wireless communications, artificial intelligence, and quantum and nano-computing.

For additional information, please contact:

iCORE
3608 – 33 Street NW
Calgary, AB T2L 2A6
Tel: 403-210-5335
Fax: 403-210-5337
www.icore.ca/

C3. University Technologies Inc

University Technologies International (UTI) is dedicated to technology commercialization, creating business opportunities from scientific innovation. Part of the University of Calgary, UTI was launched in June, 1989, with a mandate to provide services on all matters related to technology transfer and commercialization. UTI serves a variety of research-based clients in post-secondary institutions, government research laboratories, industrial R&D installations, and private facilities.

UTI is a technology-transfer and commercialization centre. It works exclusively with inventors to evaluate, protect, market and commercialize technology. Technology commercialization often takes a path of company creation or start up; in these cases UTI is equipped to design and build a company based on thoughtful IP strategy and a clear path-to-market. UTI technology commercialization managers provide a seamless environment, working closely with researchers and business partners to take innovation through to industry.

UTI client services include:

- **Invention Assessments** - Over 100 inventions are evaluated annually by UTI. Technologies are screened for technical feasibility and commercial potential before being accepted into UTI's portfolio.
- **Intellectual Property Protection** - The value of intellectual property is protected and increased through UTI's active patent, copyright, and trademark registration program.
- **Executive in Residence** - The UTI Executive in Residence (EIR) program is designed to help support its company creation activities. Executives in Residence are brought on with funding support to coach and mentor researchers through the process of company creation. In most cases the EIR will act as managing director or president for the start-up companies to develop fundable opportunities. This innovative new program will provide the expertise required for increased start-up success.
- **Licensing & Business Development** - UTI markets a portfolio of over 130 technologies ready for licensing, collaborative research and joint development.
- **IGNITE: Creating New Technology Companies** - The IGNITE team creates and nurtures new companies based on innovation from both university researchers and innovators from the local community.
- **Post Agreement Management** - Skilled project managers provide ongoing, post-agreement management and administration of intellectual property transactions including monitoring agreements, payments etc.

For additional information, please contact:

University Technologies International Inc (UTI)
Suite 130, 3553 – 31 Street NW
Calgary, AB T2L 2K7
Tel: 403-270-7027
Fax: 403-270-2384
E-mail: info@uti.ca
www.uti.ca

C4. Medical Ward of the 21st Century

Opened in April 2004, the Medical Ward of the 21st Century (W21C) is a joint venture between the University of Calgary and the Calgary Health Region and is located in Unit 36 of the Foothills Medical Centre. This ward is specifically designed to advance patient care, foster research and provide unprecedented teaching opportunities. It is a flexible environment for delivering patient-centred care using the best in design, equipment, and technology innovation to improve information flow and streamline patient care processes. After nearly a full year of construction, the focus has shifted to the Research and Innovation Agenda.

All W21C research activities fall under the over-riding theme of enhancing patient safety and quality of care. Four sub-themes, described below, will define specific research activities. Research in each of the sub-theme areas will be coordinated by a steering committee that will ensure each proposed project fits into the W21C's strategic research plan.

The W21C Initiative's four research sub-themes are:

1. Technology Integration researches the development and subsequent integration of appropriate technologies into the clinical practice setting to enhance workflow and care processes. This theme overlaps considerably with themes 2 and 3.
2. Data, Information, and Knowledge Flow conducts research into methods for enhancing the flow of health data and information from source to user and improving its synchronization and prioritization. This theme area captures research into the process of converting health data (i.e. raw data) into information and subsequently converting that information into knowledge to yield evidence-based decision making.
3. Communication and Interaction encompasses research into the essential process of communication among players in the health care arena, with attention to the complexity of this process; and the development of processes and tools that enhance communication. Beyond communication, the theme captures research into human factors and the various forms of human-human and human-technology interaction that occur daily in care settings and that influence quality of care and patient safety.
4. Organizational and Regulatory Factors captures research into organizational and regulatory factors that influence quality of care and patient safety, with the objective to produce evidence to help health care organizations better align their organizational and management practices with goals of patient safety and quality of care.

Several research initiatives are at various stages of planning or implementation in advance of the establishment of the W21C Research Centre. The projects described below illustrate the key W21C characteristics of novelty, inter-disciplinary interaction and potential for innovation and/or technology commercialization, which the W21C Research and Innovation Agenda is designed to encourage.

THEME 1 - TECHNOLOGY INTEGRATION

RFID and WiFi tracking - Radio frequency identification (RFID) and wireless fidelity (WiFi) tracking of a complex hospital ward system

Smart cameras - Multi-disciplinary evaluation and implementation of 'smart cameras' with motion sensing capability

Wireless vital sign monitoring - Development, evaluation, and implementation of state-of-the-art wireless vital sign monitoring

THEME 2 - DATA, INFORMATION, AND KNOWLEDGE FLOW

Point of care technologies - Implementation and evaluation of point of care technologies to enhance quality of care and safety

Visualization of data in healthcare - Visualizing uncertainty and visualization for comprehension

THEME 3 - COMMUNICATION AND INTERACTION

Enhancing communication - Innovations for enhancing communication and information flow in inter-professional collaboration

Human factors - High-fidelity simulation of human factors and their relation to quality of care and safety

Provider well being - The well being of health care providers and the effects of interaction with new technologies on the work experience

Web-based communication tool - Development, implementation, and pilot testing of a Web-based communication tool for seamless discharge of hospitalized medical patients to the outpatient primary care setting

THEME 4 – ORGANIZATIONAL AND REGULATORY FACTORS

Evaluating new technologies - Economic evaluation and health technology assessment of efficacious new technologies

Infection risk comparison - Randomized trial assessing hospital environmental design features for their impact on infection risk on a low infection risk unit (W21C) versus a traditional medical ward

Organizational safety culture

For additional information, please contact:

The Ward of the 21st Century
Unit 36, Special Services Building
Foothills Medical Centre
1403 - 29 Street N.W.
Calgary, Alberta T2N 2T9
Phone: 403-944-3060
www.w21c.org

CALGARY
ECONOMIC
DEVELOPMENT



731 – 1st Street S.E.

Calgary, Alberta

Canada

T2G 2G9

Phone: 403-221-7831

or toll-free: 1-888-222-5855

Fax: 403-221-7828

Email: info@calgaryeconomicdevelopment.com

www.calgaryeconomicdevelopment.com