INFORMATION AND COMMUNICATION TECHNOLOGIES
IN ATLANTIC CANADA

Atlantic Canada is renowned for its traditional natural resources: its forests, its fish, its mineral deposits. But now, Atlantic Canada is also gaining worldwide recognition for its new "natural" resource: Information and communications technology (ICT). The brains and infrastructure to nourish it abound here. From e-Learning to multimedia, to software development, the region's groundbreaking ICT companies are selling their products and services globally.

Characteristics

Today, the ICT sector in Atlantic Canada is one of the region's most important, employing approximately 40,000 people and generating some $4 to $5 billion in annual revenues. There are more than 2,800 ICT-related companies operating in Atlantic Canada, ranging from small software development studios to such major Information Technology (IT) companies as EDS, CGI, xwave, OAO Technology Solutions and Fujitsu Consulting. With the sector's strong growth, led by shared services and the contact centre industry, that number keeps increasing.

Internationally, Canada is known for the quality of its telecommunications infrastructure. A 2001 study[1] conducted by the OECD found that Canada had the second-highest rate of broadband penetration among the OECD's 30 member countries. Atlantic Canada is leading the other regions of the country.

> Look around ... you won't find a better deal. Atlantic Canada boasts the most competitive business-cost environment for companies in the ICT sector.

COMPARATIVE BUSINESS COSTS

ITC RELATED (US Average = 100)

	①	②	③			①	②	③
SAN JOSE, CA	114.8	128.3	126.0		MONCTON, NB	77.9	76.7	75.1
BOSTON, MA	107.3	115.0	114.8		SYDNEY, NS	77.8	76.8	75.0
SEATTLE, WA	103.9	107.2	109.6		SAINT JOHN, NB	77.7	76.5	74.9
HOUSTON, GA	105.0	108.8	107.1		HALIFAX, NS	77.5	76.5	74.5
HARTFORD, CT	103.0	105.5	106.8		FREDERICTON, NB	77.5	76.3	74.5
MINNEAPOLIS, MN	102.1	102.9	104.6		CHARLOTTETOWN, PE	77.3	75.0	73.1
SAN DIEGO, CA	102.2	101.7	104.9		ST. JOHN'S, NL	76.3	75.6	74.5
PORTLAND, OR	100.3	99.9	101.7		TRURO, NS	74.6	73.1	69.2
PHOENIX, AZ	100.1	99.4	100.8					
RALEIGH, NC	98.8	98.0	98.2					
ATLANTA, GA	99.4	99.2	99.1					
TORONTO, ONT	80.2	80.5	86.4					

(Right-hand column labelled: ATLANTIC CANADA)

① = **SOFTWARE –** ADVANCED SOFTWARE
② = **SOFTWARE –** CONTENT DEVELOPMENT
③ = **SUPPORT –** SHARED SERVICES

SOURCE: KPMG 2002

Look around... you won't find a better deal. Atlantic Canada boasts the most competitive business-cost environment for companies in the ICT sector. That's the word from KPMG, which analyzed the cost of doing business in more than 100 locations across North America, Europe and Japan in its 2002 KPMG Competitive Alternatives Study.

[1] The Development of Broadband Access in OECD Countries, Working Party on Telecommunication and Information Services Policies, OECD (2001)

Canada

Environment

Atlantic Canada's telecommunications infrastructure is one of the best – anywhere – with high-speed digital links, broadband networks, mobile and marine communications, satellite processing systems, and much more.

Major telecommunications companies, including Aliant Telecom, AT&T Canada, Sprint, Eastlink and Group Telecom serve Atlantic Canada.

The newest trans-Atlantic fibre optic cable network linking North American and European telecommunications infrastructure lands in Halifax, Nova Scotia.

Atlantic Canadian communities, including Fredericton, New Brunswick, and Summerside, Prince Edward Island, have built dark-fibre networks to stimulate broadband applications development.

Industry associations supporting the ICT cluster include:
- Newfoundland Alliance of Technical Industries
- New Brunswick Customer Contact Centre Association
- Information Technology Association of Canada – Atlantic Chapter

Atlantic Canada has numerous business parks with buildings and infrastructure specifically designed to meet the unique needs of ICT companies. Fredericton, New Brunswick's Knowledge Park, a multi-building, high-tech campus, houses leading firms such as CGI and SkillSoft. The 140,000-square-foot Atlantic Technology Centre in Charlottetown, Prince Edward Island, is the largest ICT incubation facility in eastern Canada, offering its tenants the very latest in ICT infrastructure.

Leadership

Knowing how to make the most of our connections is what sets Atlantic Canada apart. Aliant Telecom, an acknowledged telecommunications leader, launched the first fully digital provincial switching network in North America in 1993. It was also first in the world to offer universal voice messaging and an interactive telephone screen-based, e-Commerce service. The company recently announced an $85 million expansion of its broadband network in Atlantic Canada. In Newfoundland and Labrador, a province-wide fibre-optic system has allowed development of the Tele-medicine and Educational Technology Resources Agency network – the longest-standing telemedicine program in North America. Meanwhile, the Nova Scotia TeleHealth Network connects every hospital in the province to a computer and videoconferencing system.

Other examples:
- Prince Edward Island was first in Canada to have a province-wide ATM-based broadband network.

- Aliant's fully digital telecommunications network in Nova Scotia includes 4,800 kilometres (2,880 miles) of fibre optic cable.

- Group Telecom boasts a state-of-the-art synchronous optical network that automatically reroutes service when a break occurs in one part of the network.

Shared Services/Customer Contact Centre Location Benefits

Atlantic Canadians built it, and the world came. The quality of its telecommunications infrastructure and its low-cost business environment have made the region the perfect location for shared services and customer contact centres serving markets across North America. Atlantic Canada has over 150 call centres, employing more than 24,000 workers. That's why the Boyd Company, a well-known industry consultant, calls Atlantic Canada a "premier" location for the industry. Companies such as UPS, IBM, AT&T Canada, Royal Bank, Air Canada, Scotiabank, Convergys, Cendant, Unisys,

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Xerox, Federal Express, Fairmont Hotels, EDS, CIBC, Staples, Purolator and ICT Group have all set up major operations here.

When it comes to location, Call Center Magazine says, "Canada is delivering as advertised." With the low dollar, the low cost of doing business, an excellent education system, high worker productivity and government financial assistance, it's no wonder Atlantic Canada is attracting so many Fortune 1000 companies.

Education and Training

Atlantic Canada offers firms in the ICT sector excellent recruitment opportunities. We have one of the highest per capita post-secondary graduation rates in North America, with more than 27,000 people graduating from our colleges and universities every year. Our post-secondary institutions have been forward-looking in establishing specialized ICT training. An estimated 6,000 of our graduates come from IT-related degree or diploma programs.

Research and Development

Atlantic Canada has a strong network for ICT-related research and development.

The National Research Council, Canada's premier research and development (R&D) organization, operates its national e-Business research facility in Fredericton, New Brunswick, with specialized research facilities in Saint John and Moncton, New Brunswick, and Sydney, Nova Scotia. Current research topics include e-procurement configuration systems and tele-oncology.

The Halifax-based Telecom Applications Research Alliance (TARA) combines advanced telecommunications R&D equipment with seed investment funding and business mentoring resources. TARA is home to Canada's only Cisco Certified Internet-working Expert Certification Lab, as well as a Master of Engineering in Internet-working program offered by Dalhousie University.

SEGMENTS AND STATISTICS

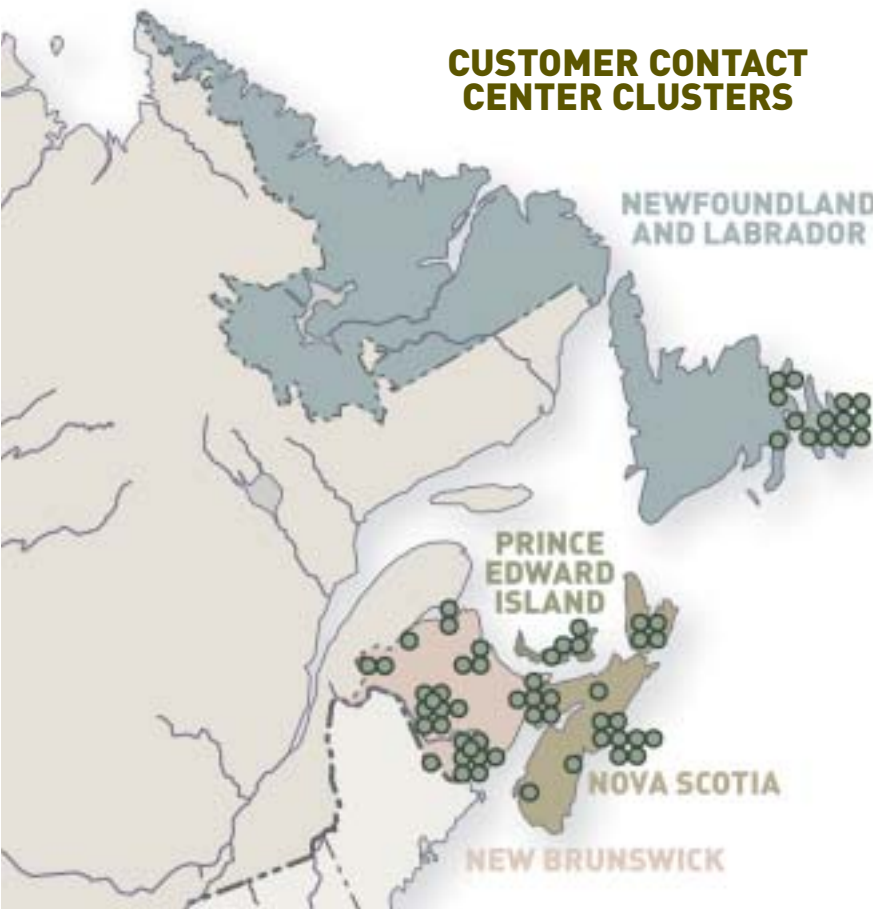### Industry Segments:
- Customer contact centres
- Shared services centres
- Software and Internet support help desks
- Accounting operations
- Telesales centres

Industry Stats:
- More than 24,000 people working in the industry
- More than $600 million in direct payroll
- More than 150 companies located across the region

CUSTOMER CONTACT CENTER CLUSTERS

NEWFOUNDLAND AND LABRADOR

PRINCE EDWARD ISLAND

NOVA SCOTIA

NEW BRUNSWICK

Atlantic Canada offers firms in the ICT sector excellent recruitment opportunities.

Canada's largest IT services firm, CGI Group Inc., built its worldwide "g-Commerce lab" in Fredericton, New Brunswick, to respond to the growing use of IT in government service delivery.

Atlantic Canada's universities are also driving much of the research and development in the area of ICT.

The University of New Brunswick (UNB) is involved in a number of major R&D initiatives. Its Computer Science Department is a Canadian leader in advanced software and IT research. Its current areas of research include automated reasoning, parallel distributed processing, data communications, and advanced computational research. UNB's Saint John campus has established an Electronic Commerce Centre in conjunction with private sector partners. UNB is also home to the Research Chair in the Management of Technological Change as well as the Information Technology Centre.

Dalhousie University is conducting ICT-related research through its Global Information Networking Institute. Current research areas include knowledge acquiring layered infrastructure, and secure active VPN environment.

Other university-based ICT research activities include Acadia University's Intelligent Information Technology Research Centre and Memorial University of Newfoundland's Centre for Digital Hardware Applications Research.

ICT in Action

The greatest testamony to the industry's success is the growth of its companies. xwave is one example. The company is the fourth largest Canadian-owned information technology service company, with offices in St. John's, Halifax, Moncton, Calgary, Edmonton and Dallas, Texas. With more than 2,800 employees and estimated revenues in excess of $100 million, xwave represents the next generation of IT companies.

CARIS is also growing. The Fredericton based company is a global leader in land and marine mapping software. CARIS has over 3,000 installations in more than 50 countries. Its customers are as varied as the Brazilian navy, the Port of Singapore, the U.K. Hydrographic Commission, Raytheon and Inco.

e-Learning in corporate and government training is a multi-billion-dollar global industry, and Atlantic Canada is a key player. Fredericton-based LearnStream Inc., for instance, is one of Canada's leading providers of e-Learning services. AV Video & Multimedia Producer magazine included LearnStream in its "Top 100" list of multimedia producers. The company's products and services include workstation and networking technologies, medical industry software, defence industry packages and emergency measures training.

ICT finds a perfect growth environment in Atlantic Canada. Advanced infrastructure, cost-competitiveness, highly developed R&D networks, and skilled employees are all part of that picture. So is a constantly enlarging pool of ICT leaders with global market reach. If you would like to find out more about this dynamic and profitable location, contact:

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