

ICT SECTOR REGIONAL REPORT 1997-2004

(August 2006)

Information & Communications Technology Sector Regional Report Definitions

(by North American Industrial Classification System, NAICS 2002)

The data reported in here do not correspond to the national data published in the *Canadian ICT Statistical Overview*. Due to limitations on the availability of data at the regional level, several industries normally included in the ICT definition are excluded from this report. These include the ICT wholesaling industries, cable and other program distribution, and some manufacturing industries (as described below in the 'manufacturing' section). The Information and Communications Technologies (ICT) Branch of Industry Canada regularly publishes data at the national level. This report focuses on the regional ICT perspective, and includes data up to the year 2004 for most indicators. For more timely national data, please refer to the *Canadian ICT Statistical Overview* (<http://strategis.ic.gc.ca/ictso>).

Due to rounding, figures in charts may not sum exactly to 100%.

Also note that the Territories are included with Atlantic Canada for all indicators except ICT R&D and exports, where the Territories are included with British Columbia. The Prairies, for the purposes of this report, are defined as Manitoba and Saskatchewan. Due to data unavailability, reporting on ICT manufacturing does not include the Territories.

Manufacturing:

- NAICS 33331: Commercial and Service Industry Machinery Manufacturing
- NAICS 334: Computer and Electronic Product Manufacturing
- NAICS 3341: Computer and Peripheral Equipment Manufacturing
- NAICS 33421: Wired Communications Equipment Manufacturing
- NAICS 33422: Wireless Communications Equipment Manufacturing
- NAICS 3343: Audio and Video Equipment Manufacturing
- NAICS 3344: Semiconductor and Other Electronic Components Manufacturing
- NAICS 3345: Navigational, Measuring, Medical and Control Instrument Manufacturing
- NAICS 33592: Communication and Energy Wire and Cable Manufacturing

NOTE: NAICS 334, Computer and Electronic Product Manufacturing is used as a proxy for overall ICT manufacturing for inter-regional comparisons in this report. This classification includes most ICT manufacturing industries (except NAICS 33331 and 33592) and includes some (small in Canada) non-ICT manufacturing industries (NAICS 33429 and 3346). Where more disaggregated data is available, ie. for certain provinces or regions and certain industries, this data is reported.

Services:

Software and Computer Services:

- NAICS 5415: Computer Systems Design and Related Services
- NAICS 5112: Software Publishing
- NAICS 51821: Data Processing, Hosting and Related Services

Telecommunications Services:

- NAICS 517: Telecommunications Services (EXCLUDING NAICS 5175, Cable and Other Program Distribution)

In 2004...

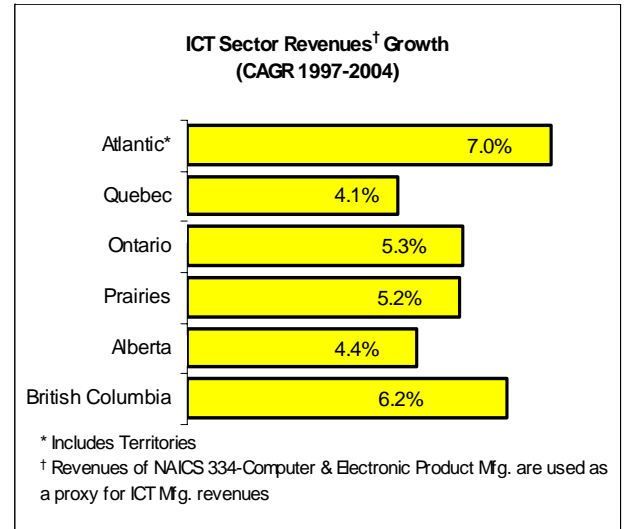
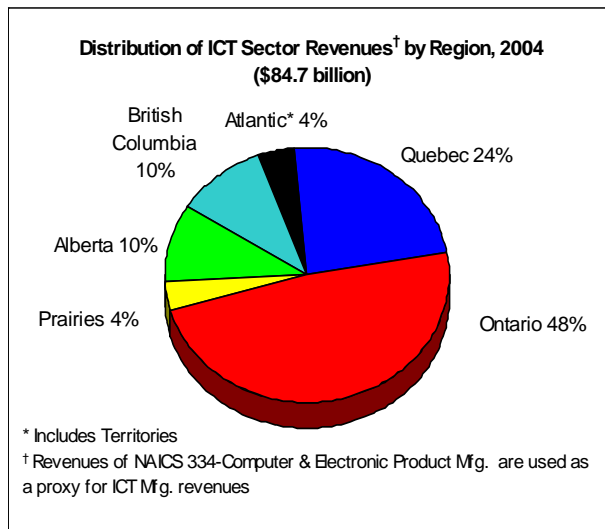
...ICT revenues were up, the first year of increasing revenues since 2000.

... growth in revenues was due to increased revenues accruing to the services sub-sector.

...while manufacturing revenues contracted, a continuation of the trend in recent years, the rate of contraction was low, indicating some stabilization in the sub-sector.

...ICT revenues remained concentrated in Ontario and Quebec, while the strongest revenues growth since 1997 was in the Atlantic Provinces and British Columbia.

ICT Sector Revenues:



In 2004, ICT sector revenues were \$131.4 billion (up 3.0% from 2003). For the purposes of this report, as explained in the note on the cover page, ICT sector revenues here are proxied by NAICS 334, 5415, 51821, 5112 and 517. Revenues to these industries grew to \$84.7 billion in 2004, an increase of 3.8% over 2003. This was the first year of increasing revenues for the ICT sector since 2000, when revenues for the sector peaked at over \$95 billion. This growth in revenues was due to increased revenues for the ICT services industries. While ICT manufacturing revenues were down in 2004, the decrease was smaller than in the few preceding years, indicating some stabilization.

Canada's ICT sector is concentrated in Ontario and Quebec, which accounted for 48% and 24% of revenues in 2004. Important contributions to the national total also came from British Columbia (10.4%) and Alberta (9.8%). Atlantic Canada and the Prairies accounted for the final 4.1% and 3.7%, respectively. This decomposition of national revenues was fairly unchanged over 2003, and these shares have remained fairly stable since 1997.

Sectoral revenues were up across Canada in 2004, with Alberta and British Columbia experiencing the strongest growth (6.1% and 5.9%, respectively). While revenues in Ontario were up by a more moderate 4.6%, due to the importance of this province to the national sector, increasing revenues in Ontario accounted for over 57% of national revenues growth.

Note: Since data on provincial revenues for 'commercial and service industry machinery' and 'communication and energy wire and cable manufacturing' (NAICS codes 33331 and 33592) were not available for all provinces, revenues and employment for the ICT manufacturing sub-sector were approximated by the 'computer and electronic product manufacturing' data (NAICS 334). Nationwide, NAICS 33331 and 33592 accounted for some 18% of ICT manufacturing revenues. Consequently, information on ICT manufacturing revenues and employment in this report is an underestimate.

In 2004...

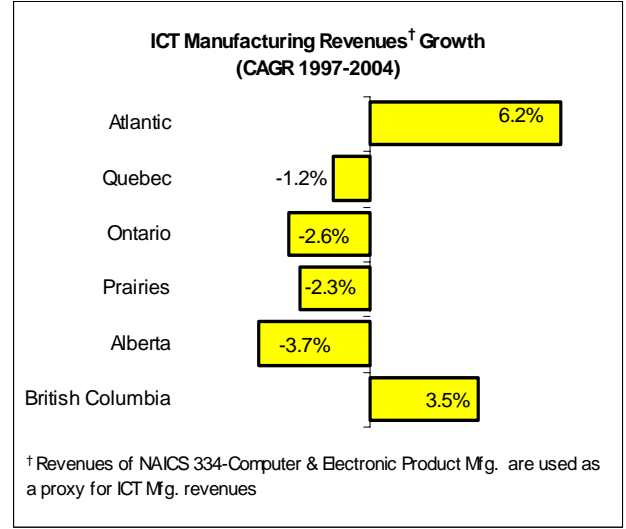
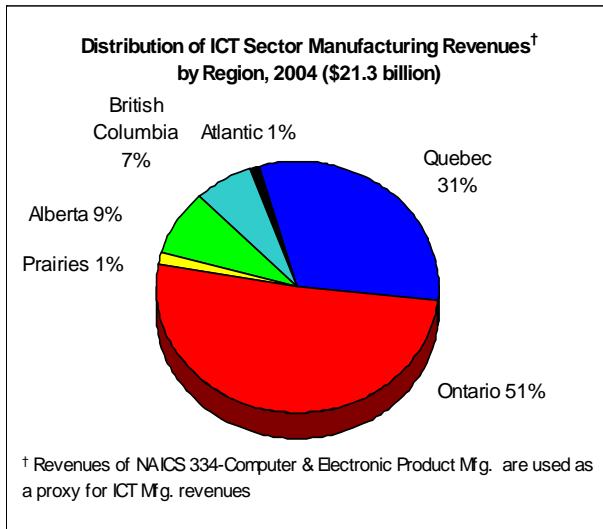
...the ICT manufacturing industries showed some signs of stabilizing.

...ICT manufacturing continued to be concentrated in Ontario and Quebec, while the strongest ICT manufacturing revenues growth was in the Atlantic and British Columbia.

...the ICT manufacturing sub-sector in the prairies, while small compared to other regions, grew by a very strong 28% in 2004.

...revenues for the Atlantic provinces' ICT manufacturing sub-sector have had strong growth since 1997, overall, and have outperformed national averages.

ICT Manufacturing Revenues:



In 2004, ICT manufacturing revenues were \$23.8 billion, down 0.9% from the previous year. Manufacturers bore the brunt of the ICT sector's rapid decrease in the early 2000's, and revenues in the sub-sector have declined considerably from their peak of \$44.8 billion (\$39.6 billion for NAICS 334 alone) in 2000. ICT sector manufacturing revenues (as proxied by NAICS 334 industries) were down slightly (-1.5%) in 2004, bringing total annual revenues in the sub-sector to \$21.3 billion. While this is a contraction, it is nonetheless the smallest contraction the sub-sector has experienced in four years, and is indicative of some stabilization in these industries.

Regionally, Ontario and Quebec accounted for over 80% of Canada's ICT manufacturing revenues in 2004, contributing 51% and 31%, respectively. British Columbia (8.6%) and Alberta (6.6%) were also important contributors to the total, with the Prairies and the Atlantic Provinces contributing a final 1.5% and 1.0%, respectively.

While they account for a small share of the national total, ICT manufacturing revenues in the Prairie provinces grew by 28% in 2004, the strongest growth in the country. This was the only strong growth in ICT manufacturing revenues anywhere in the country. British Columbia, Alberta and Quebec all posted modest gains (2.2%, 1.2%, 0.6%, respectively). Revenues were down by 13.7% in Atlantic Canada, and down 3.3% in Ontario. Due to the size of the manufacturing sub-sector in Ontario relative to the national total, this latter decrease had a significant impact on changes at the national level.

While most regions of Canada have had either contractions or modest growth in ICT manufacturing revenues since 1997, the Atlantic Provinces have realized a 6.2% compounded annual growth rate in ICT manufacturing revenues since 1997. Revenues in this region, however, are still substantially below their 2000 peak.

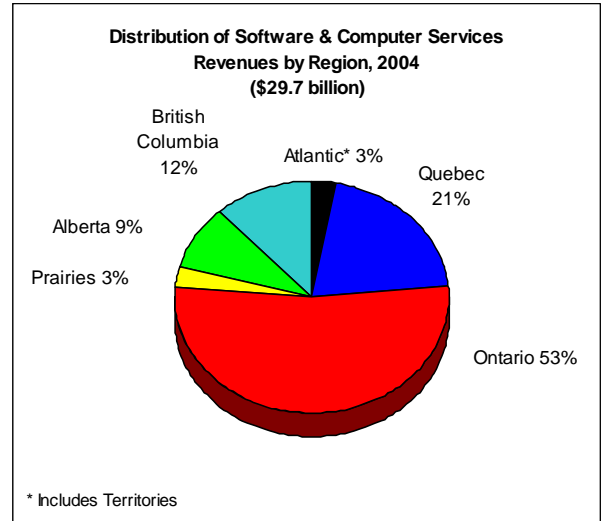
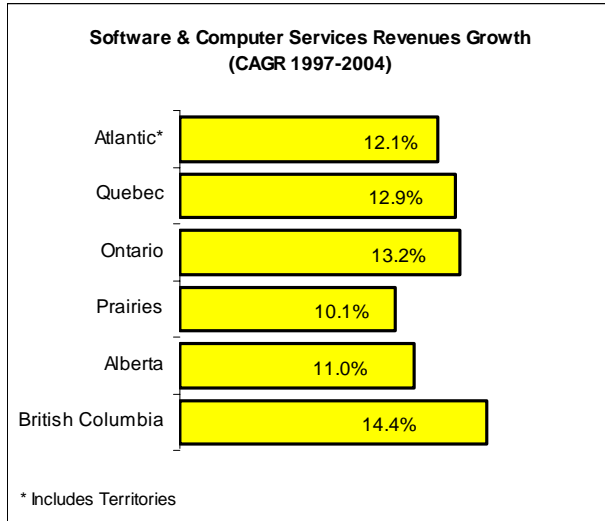
In 2004...

... software and computer services industries revenues growth in British Columbia was the strongest in Canada, with revenues increasing by 23% over the 2003 level.

... software and computer services revenues were more highly concentrated in Ontario and Quebec than other ICT industries.

...software publishing accounted for a higher percentage of software and computer services revenues in British Columbia than in any other region.

Software and Computer Services Revenues:



Nationally, revenues in the software and computer services industries have grown every year since 1997, and revenues were up by 8.7% in 2004 to reach a value of \$29.7 billion. Not surprisingly, some 59% of this growth came from Ontario, where revenues in the industry were up by 9.7%. The industries in British Columbia posted very impressive 23% revenues growth in 2004, contributing significantly to the national increase. Growth was more subdued in other regions, with the industries in Alberta, Quebec and the Atlantic Provinces growing by 5.1%, 4.0% and 4.5%, respectively. The Prairie Provinces saw a 7.0% contraction in revenues in 2004, but owing to the small relative size of the industry in these provinces, this did little to affect the national total.

As with other ICT industries, the software and computer services industries are concentrated in Ontario and Quebec, which accounted for 53% and 21%, respectively, of national revenues in 2004. The industries are also important in British Columbia and Alberta, which accounted for 11.6% and 9.1% of total national revenues. Some 2.8% of total Canadian revenues in these industries were generated in Atlantic Canada, with the same amount of the total coming from the Prairies.

The software and computer services category is composed of NAICS definitions 5415 (computer systems design and related services), 5112 (software publishing), and 51821 (data processing, hosting and related services). While it is included in this category, the software publishing industry is considerably different from other computer-related services. The importance of software publishing to software and computer services varied considerably across regions.

In British Columbia, software publishing accounted for 34% of revenues in the software and computer services category. Software publishing also figured prominently in Ontario, Quebec and Alberta, where it generated 21%, 20% and 15% of software and computer services revenues, respectively. In Atlantic Canada this industry contributed 10% to revenues in the software and computer services category, while the figure was closer to 8% in the Prairies. Comparatively, nation-wide, around 21% of software and computer services revenues were generated by software firms.

In 2004...

...telecommunications services revenues were up by 3.3%.

... telecommunications services revenues were less concentrated in Central Canada than were revenues in other ICT industries.

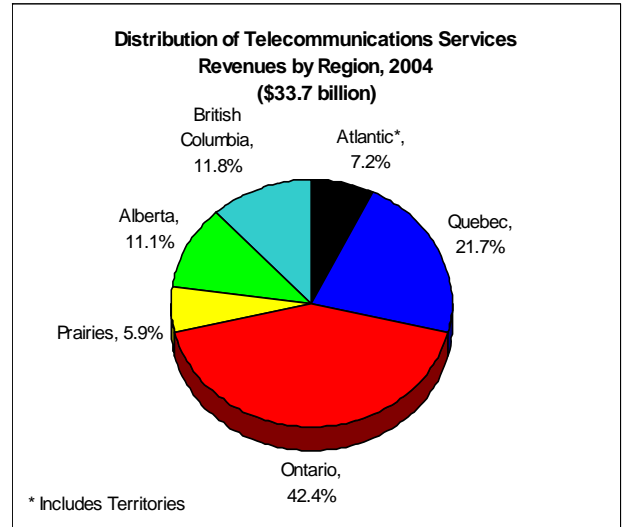
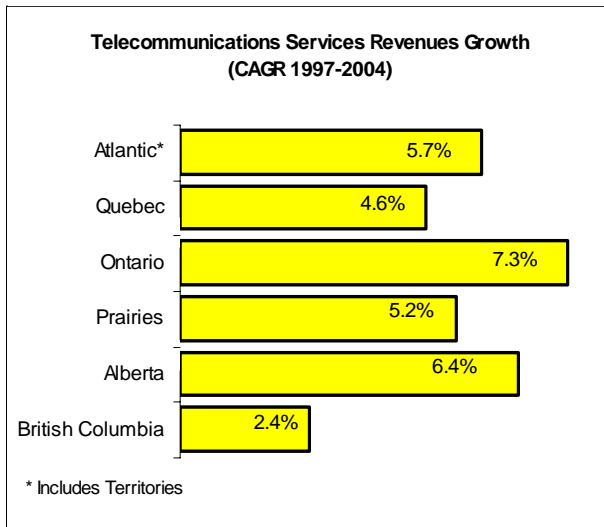
...the strongest revenues growth since 1997 was in Ontario.

...most of the increase in national telecommunications services revenues was generated in Ontario.

...ICT sector employment was up in the ICT services sub-sector, while contracting slightly in the manufacturing sub-sector.

Telecommunications Services Revenues:

Compared to other ICT industries, the telecommunications services grouping displays a much less marked bias towards Central Canada, and the regional distribution of revenues seems to more closely match the demographic dispersion of Canada's population. This is likely due to the fact that the provision of telecommunications services is primarily to households. The concentration of this sub-sector must therefore, to some extent at least, reflect the population of the various regions. Total telecommunications services revenues in Canada were some \$33.7 billion in 2004, a 3.3% increase over the previous year. While this sub-sector is less concentrated than other ICT sub-sectors, Ontario is still the largest net national contributor to revenues, and some 78% of the observed increase in revenues in 2004 was attributable to a 6.2% increase in revenues to the industry in Ontario.



There was strong revenue growth of 9.6% and 7.0% in Alberta and the Prairies, which accounted for 11.1% and 5.9% of total national revenues, respectively. Revenues were fairly stable in Atlantic Canada (up 0.7%). Quebec, which generated some 22% of national telecommunications services revenues in 2004, had a 0.9% contraction in revenues this year, while the industry in British Columbia, with 2004 revenues amounting to 11.8% of the national total, experienced a 4.3% contraction.

ICT Sector Employment:

Revenues dropped precipitously from 2000 to 2001, and ICT sector employment echoed this drop from 2001 to 2002. However, employment in the sector has since rebounded. Employment in the manufacturing sub-sector is still down from its 2000 peak, while employment in the services sector is at its highest level since 1997. Actual ICT sector employment grew 1.9% in 2004 to 567,000. In 2004, employment in the ICT sector as proxied in this report (ie. using all of computer and electronic equipment manufacturing as a proxy for ICT manufacturing, and excluding cable and other program distribution from ICT services) grew 2.8% to a total of 459,000 workers. This growth was made up of 3.8% growth in services and a 1.3% contraction in manufacturing employment

ICT Sector Regional Report- Overview

In 2004...

...almost half (49%) of ICT workers were employed in Ontario.

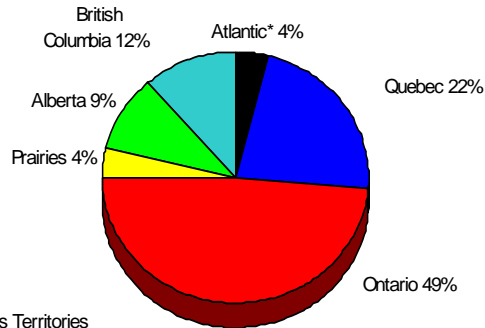
...the strongest average growth in ICT sector employment was in British Columbia.

...national ICT employment growth was driven by gains in British Columbia and Alberta.

...ICT manufacturing employment seemed to be stabilizing nation-wide.

...manufacturing employment remained more heavily concentrated in central Canada compared to other ICT industries.

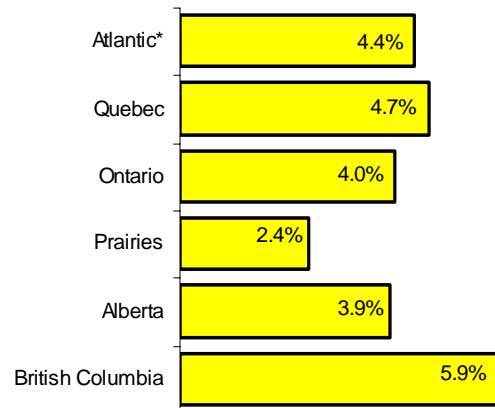
Distribution of ICT Sector Employment[†] by Region, 2004 (459,000 workers)



*Includes Territories

[†] Employment in NAICS 334- Computer & Electronic Component Mfg. is used as a proxy for ICT Mfg. employment

ICT Sector Employment Growth (CAGR, 1997-2004)



*Includes Territories

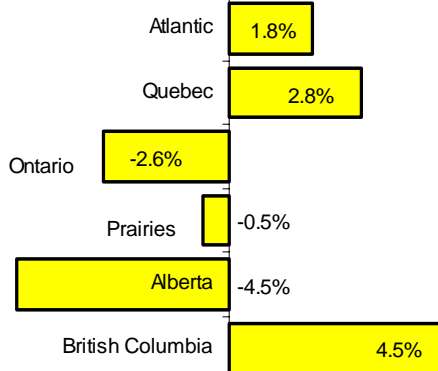
ICT sector employment is concentrated in Ontario and Quebec, which in 2004 accounted for 49% and 22%, respectively, of approximately 459,000 Canadians employed in the ICT sector in 2004. British Columbia and Alberta were home to another 12% and 9% of the total, with the Atlantic Provinces and the Prairies each contributing a further 4%. These shares have remained fairly stable since 1997.

ICT sector employment growth in 2004 was driven by growth in British Columbia, Alberta and Quebec. Nationally, there were over 12,000 new ICT jobs in 2004, of which over 6,100 were in British Columbia, over 5,300 in Alberta and over 2,600 in Quebec. Growth in other provinces was either slow or negative.

ICT Manufacturing Employment:

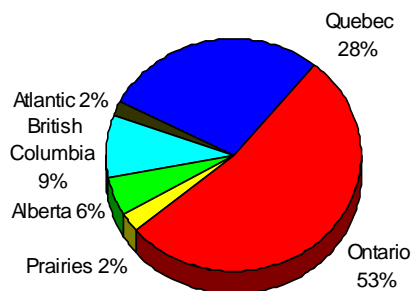
Actual ICT manufacturing sub-sector employment in Canada was 92,000 in 2004. The ICT manufacturing sub-sector, as proxied here by NAICS 334, employed some 86,700 people in 2004.

ICT Manufacturing Employment[†] Growth (CAGR, 1997-2004)



[†] Employment in NAICS 334- Computer & Electronic Component Mfg. is used as a proxy for ICT Mfg. employment

Distribution of ICT Sector Manufacturing Employment[†] by Region, 2004 (87,000 workers)



[†] Employment in NAICS 334- Computer & Electronic Component Mfg. is used as a proxy for ICT Mfg. employment

In 2004...

...the strongest growth in ICT manufacturing employment came from Alberta and Quebec.

...employment and revenues growth for the manufacturing sub-sector had displayed differing trends since 1997 in the Atlantic provinces and in Quebec, causing changes in the revenues per employee ratio in these provinces.

...software and computer services employment was up 4.1% nationwide.

...growth in software and computer services employment in British Columbia, Quebec and Alberta accounted for more than half of the national total.

This figure is down substantially from the 2000 peak of over 102,000 workers, but the rate of decline seems to be stabilizing in recent years, with employment decreasing by 1.3% in 2004, as opposed to a 4.9% contraction in 2003.

Regionally, ICT manufacturing employment is more heavily concentrated in Central Canada than is overall ICT sector employment, with 53% and 28% of all ICT manufacturing employment being located in Ontario and Quebec, respectively, in 2004. British Columbia contributed 8.7% to total ICT manufacturing employment, and Alberta, the Prairies and Atlantic Canada contributed 5.6%, 2.2% and 1.8% to the total in 2004.

In both Quebec and British Columbia, ICT manufacturing employment in real terms and as a share of the Canadian total has increased since 1997. In Quebec, the employment peak in 2000 was followed by several contractions, then growth in 2004. In British Columbia, unlike in every other region, manufacturing employment peaked in 2002, and contracted slightly the following two years.

Alberta and Quebec were the two provinces with the highest year over year growth in ICT manufacturing employment in 2004, with employment in Alberta growing 13.7% while the Quebec industries grew by a more moderate 6.4%. ICT Manufacturing employment contracted by 6.2% in Ontario this year. Ontario accounted for over 50% of all ICT manufacturing employment in 2004, so this was the single biggest contributor to the overall contraction in Canadian manufacturing employment.

Between 1997 and 2004, the various provinces and regions of Canada have seen very uneven growth in ICT manufacturing employment, but employment has tended to follow changes in revenues over this time. However, in Atlantic Canada and in Quebec, employment and revenue had very different growth over this time.

In the Atlantic Provinces, while manufacturing employment growth averaged 1.8% per year between 1997 and 2004, revenues growth was a much higher 6.2%. The converse is true in Quebec, where revenues decreased at a compounded rate of 1.2% per annum, while employment grew at an average rate of 2.8% per year. These changes have an impact on the ratio of revenues per employee in the sub-sector. In Atlantic Canada, revenues per employee in the sub-sector are low by national standards, but have been increasing rapidly, while in Quebec, revenues per employee are the second highest in Canada (behind only Alberta), but have been in decline recently.

Software and Computer Services Employment:

Nationally, some 259,000 Canadians worked in the software and computer services sub-sector in 2004. This was a 4.1% increase in employment over the 2003 level.

Growth in this sub-sector nationally was due to growth in British Columbia, Quebec and Alberta. There was a total employment increase of over 10,200 jobs in 2004, with increases of over 5,400 jobs in British Columbia, over 3,800 jobs in Quebec, and over 3,700 jobs in Alberta. An employment contraction in Ontario in 2004 was a major damper on growth at the national level.

Year over year growth in this sub-sector varied considerably from province to province in 2004. British Columbia saw very strong 20% employment growth, and Alberta also posted 17% growth this year. Quebec's more moderate 7.0% growth was also significantly stronger than the national average.

In 2004...

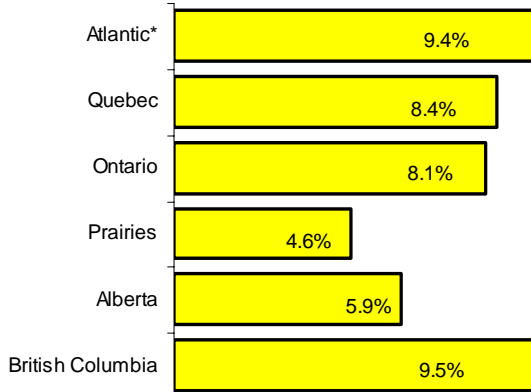
...since 1997, British Columbia and the Atlantic provinces had the strongest overall growth in software and computer services employment.

...revenues per employee had trended up, overall, since 1997 in every province.

...self-employment as a percentage of software and computer services employment varied between provinces.

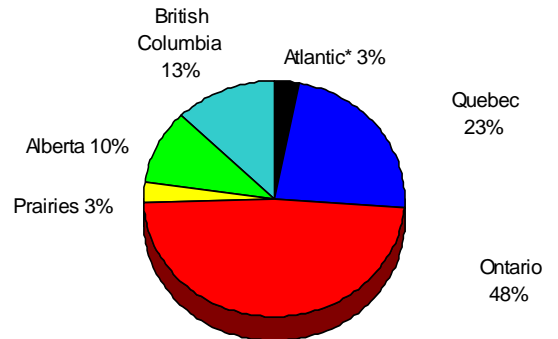
...self-employment as a ratio of total employment in this sub-sector was highest in Alberta and British Columbia.

Software and Computer Services Employment Growth (CAGR, 1997-2004)



*Includes Territories

Distribution of Software & Computer Services Employment by Region, 2004 (259,000 workers)



* Includes Territories

Employment in the Prairies and the Atlantic Provinces was up by 5.1% and 0.2%, respectively, while there was a 2.5% contraction in Ontario.

The longer-term compounded average growth rates for employment between 1997 and 2004 show very good performance across Canada. Average annual employment growth for this sub-sector ranged between a high of 9.5% for British Columbia to a low of 4.6% for the Prairies. Revenues per employee also trended up in every province and region, overall, since 1997.

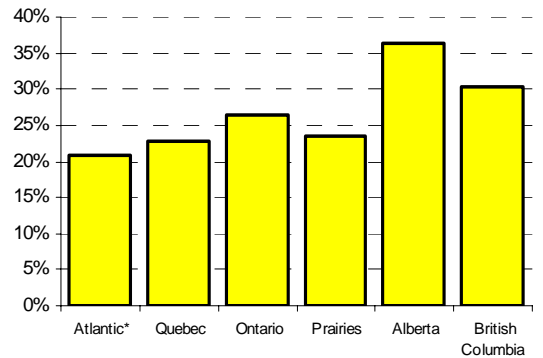
Self-Employment in Software and Computer Services:

Unlike the manufacturing or telecommunications services sub-sectors, self-employment figures quite prominently in the software and computer services sub-sector. Since 1997, the percentage of workers in this sub-sector that are self-employed has decreased overall. In the early 2000's, the percentage of self-employed workers increased as overall employment decreased, likely indicating that many workers became self-employed as a result of losing their jobs.

As employment is again increasing in recent years, it is possible that this percentage is again decreasing as formerly self-employed individuals find work in companies.

Despite this decreasing ratio, self-employment accounts for a significant amount of total employment in this sub-sector, particularly in Alberta and British Columbia, where 36% and 30% of workers in the

Percentage of Self-Employed in Software and Computer Services by Region, 2004



*Includes Territories

In 2004...

...telecommunications services employment was up.

...Ontario had the strongest employment growth in the telecommunications services industries.

...in all regions, telecommunications industry revenues to employment ratios grew from 1997 to 2004.

...the ICT sector was most important to Ontario, in terms of contribution to total provincial employment.

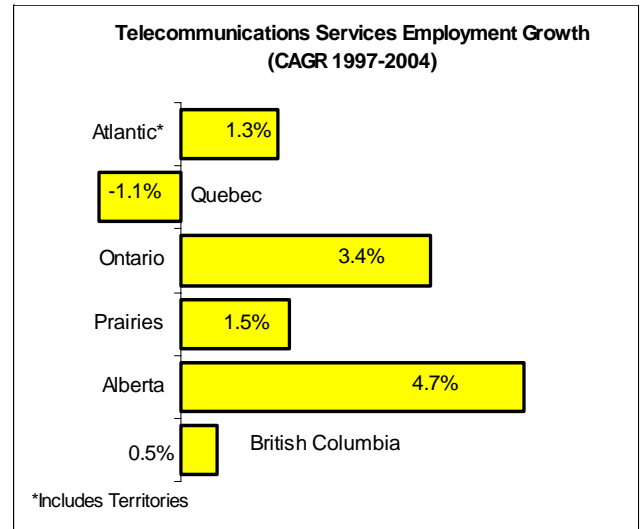
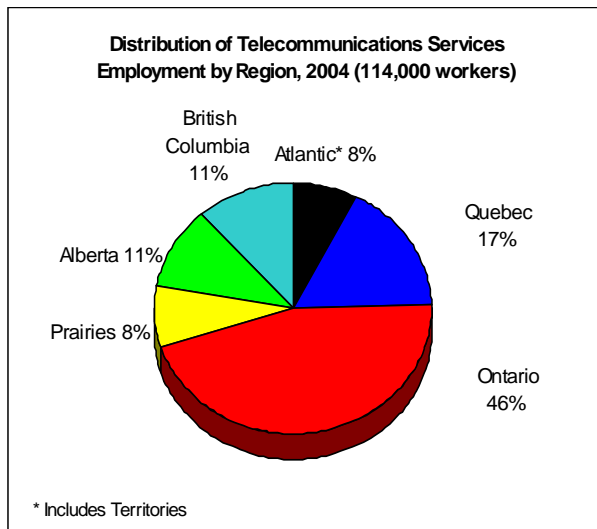
sub-sector are self-employed. Nationally, some 27% of workers in this sub-sector were self-employed in 2004.

Telecommunications Services Employment:

The telecommunications services industries employed over 114,000 Canadians in 2004, a 3.2% increase over 2003. Of this total, 46% worked in Ontario with another 17% being employed in Quebec. British Columbia and Alberta each accounted for 11% of the total, while the Prairies and the Atlantic Provinces each contributed a further 8%.

At a regional level, growth was extremely varied between regions in 2004. Telecommunications services employment had a second strong year of growth in Ontario, but the 10.1% increase in 2004 was nearly negated by contractions of 12.2%, 4.9% and 1.4% in Quebec, the Prairie Provinces and the Atlantic Provinces, respectively. There was strong employment growth in Alberta (8.8%) and British Columbia (8.7%).

Telecommunications revenues growth outpaced employment growth in all regions of Canada between 1997 and 2004. In Alberta, average annual growth for these two indicators over this period has been fairly similar, with employment growing at a compounded annual rate of 4.7%, compared to a rate of 6.4% for revenues. In Quebec, by contrast, while revenues grew at an annual rate of some 4.6%, employment actually decreased by 1.1% per year, on average, over this period.



Regional Importance of ICT Sector Employment:

As a percentage of overall employment in 2004, the ICT sector was most important to Ontario, where it accounted for some 3.5% of overall employment. At its peak in 2000, this share was 3.9% for Ontario.

For Canada as a whole, the trend has been one of increasing importance of the ICT sector to national employment levels. In 2004, employment in the ICT sector as defined in this report (see definitions

ICT Sector Regional Report- Overview

In 2004...

...British Columbia has seen the largest increase in the importance of ICT employment since 1997, from 1.9% of provincial employment in 1997 to 2.6% in 2004.

...ICT goods exports were up by 10.6%.

...well over half of all ICT goods exports from Canada came from Ontario.

...ICT exports outperformed overall exports growth in every region except Alberta and the Atlantic provinces.

...Quebec had the strongest ICT goods exports growth over 2003, but the strongest average growth since 1997 was in the Atlantic provinces.

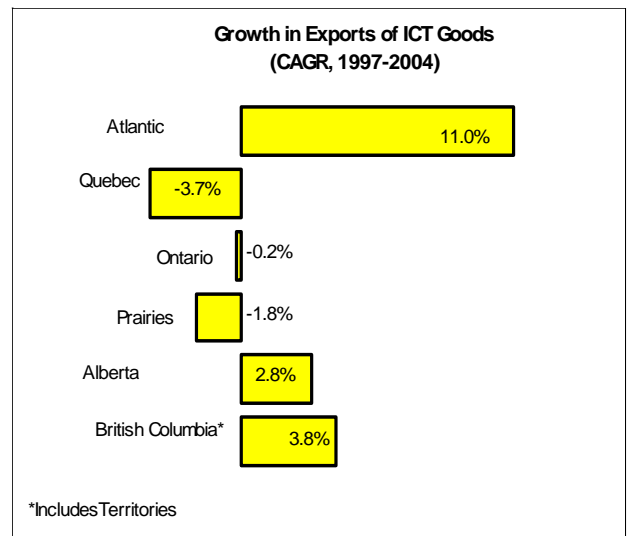
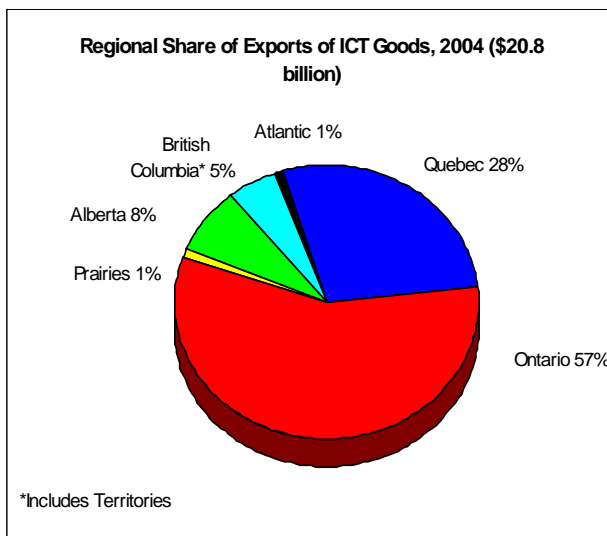
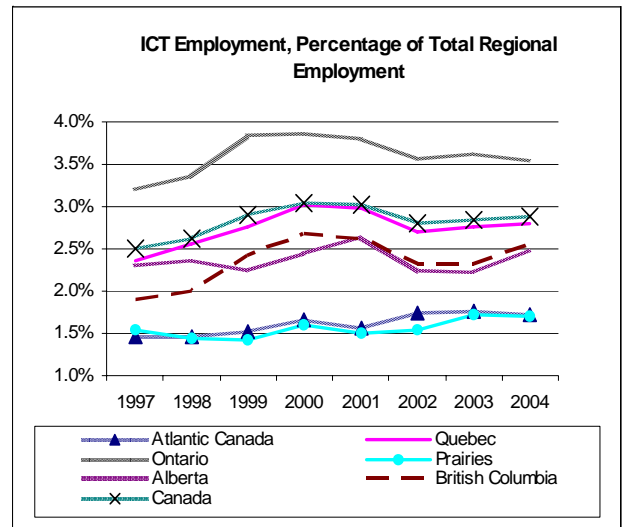
and notes on cover page) accounted for 2.9% of overall Canadian employment, nearly back up to the 3.0% share peak in 2000.

British Columbia has seen the largest increase in the importance of ICT employment since 1997, as this has gone from 1.9% of total provincial employment in 1997 to 2.6% in 2004. The share of the sector in employment was 2.8% in Quebec, 2.5% in Alberta, 1.7% in the Prairies and 1.7% in Atlantic Canada.

ICT Sector Goods Exports:

ICT goods exports from Canada were up by 10.6% in 2004, following a large contraction in 2003. This growth in exports came primarily from Ontario and Quebec, with increases in ICT exports from British Columbia and the Prairies also contributing.

Ontario accounts for well over half of ICT goods exports from Canada, some 57% of the total in 2004. This share has been increasing, overall, since 1997. Quebec accounts for some 28% of the total, a share that has fallen somewhat since 1997. Alberta and British Columbia contributed a further 7.7% and 5.3% to total ICT goods exports in 2004, with the Prairies and Atlantic Canada contributing the final 1.1% and 0.7% of exports.

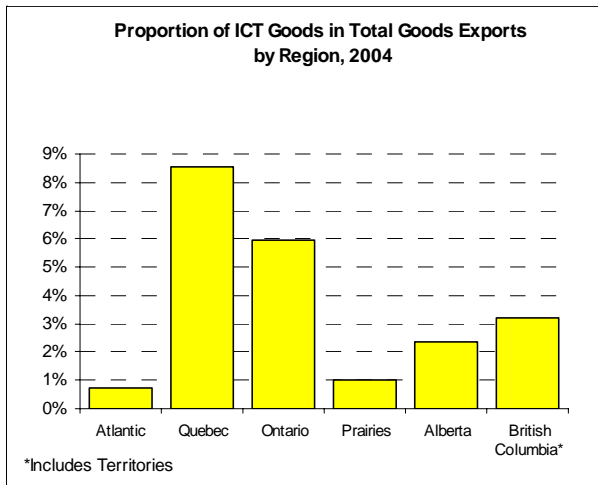


In 2004, ICT exports outperformed overall exports growth in every region except Alberta and the Atlantic Provinces. In Quebec and Ontario, ICT goods exports were up by 13.2% and 10.9%, compared to 6.7% and 5.2% growth for overall exports. Exports from the Prairies grew by 11.7%, while ICT goods exports were up by 31% in 2004 (though it should be noted that the small size of ICT goods exports from the prairies makes this figure fairly volatile). In British Columbia, ICT goods exports,

ICT Sector Regional Report- Overview

In 2004...

...ICT exports were most important to Quebec, in terms of contribution to total export earnings.



which were up 13.2% over their level in 2003, edged out the 10.9% growth in overall exports this year. In Atlantic Canada, overall exports growth of 5.5% was not reflected in a 1.2% contraction in ICT goods exports, and 17% growth in Alberta's exports in 2004 coincided with a 1.7% ICT goods exports contraction.

As a percentage of total exports, ICT goods were most important to Quebec and Ontario, where they accounted for 8.5% and 6.0% of total exports, respectively. This share has been fairly stable in Ontario in recent years (at its peak in 2000, it was only 7.7%). For Quebec, this share has declined considerably from a peak of nearly 20% of exports

in 2000. This share has decreased even as overall exports from the province have been declining, meaning that the rate of decline of ICT exports is faster than the rate of decline for overall exports. Alberta has also seen a strong decline in the relative importance of ICT exports, from 8.3% of the total in 2000 to 2.8% in 2004, but in Alberta ICT exports have declined in absolute value while other exports have been growing.

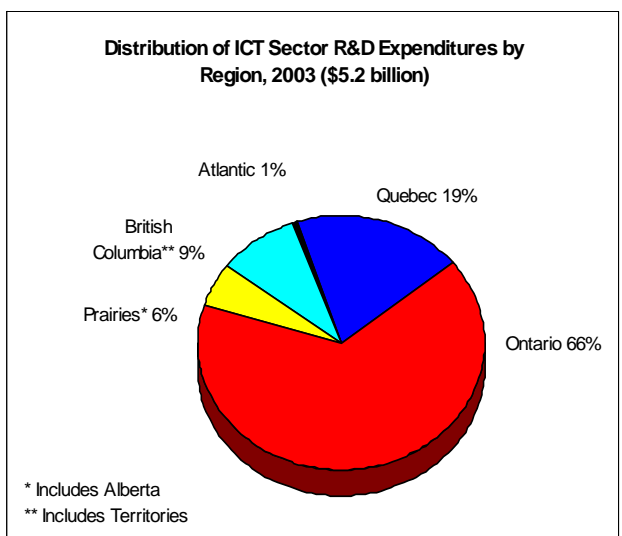
ICT Sector Research and Development (2003):

ICT sector research and development (R&D) spending was down 3.9% in Canada in 2003, with expenditures totalling \$5.2 billion.

ICT R&D expenditures were down in every region, with the exception of British Columbia, where expenditures were up 9.6%. Most of the 3.9% decrease in ICT R&D spending can be attributed to a 6.2% contraction in Ontario, but decreases in Quebec (-1.4%), the Prairies and Alberta (-2.6%) and the Atlantic Provinces (-12.7%) also contributed.

While Ontario's share of Canadian ICT R&D expenditures has been decreasing since 1997, the province still accounts for 66% of the total. Quebec's share of the total has increased over these years, and stood at 19% in 2003. British Columbia has also seen its importance to overall ICT R&D spending rise, and accounted for 9.1% of total Canadian ICT R&D spending in 2003. The Prairies (including Alberta) and Atlantic Canada had shares of 5.7% and 0.6% in 2003, respectively.

The ICT sector is very dynamic and is characterized by rapid technological change. Consequently, despite the drop in aggregate ICT spending between 2002 and 2003, it remained an important component of overall R&D spending. Across Canada as a whole, the ICT sector



In 2003...

...ICT sector R&D spending was down nationally, and in every region except in British Columbia.

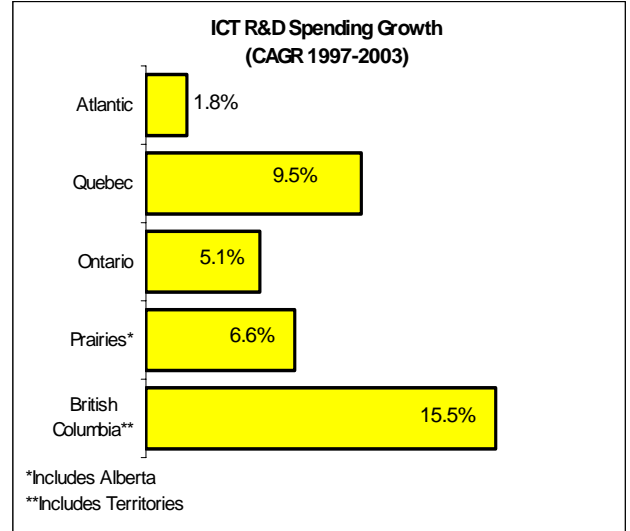
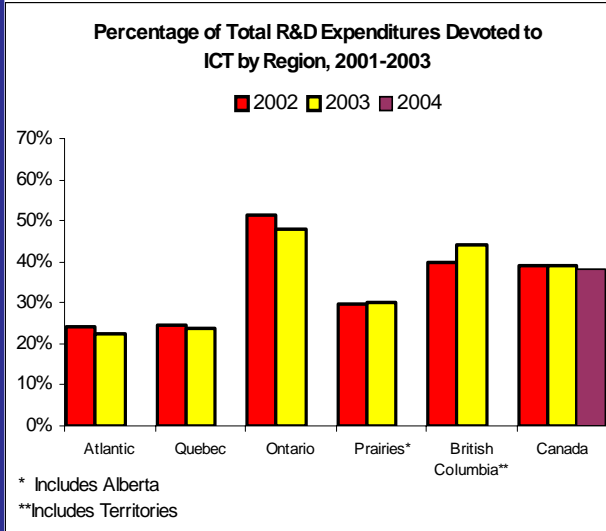
...the primary cause of decreased national ICT R&D spending was a contraction in Ontario, which is the biggest R&D spender at 66% of total spending.

ICT Sector Regional Report- Overview

In 2003...

...despite contractions in ICT R&D spending in 2003, the sector remained an important contributor to national R&D spending, especially in Ontario and British Columbia.

accounted for 39% of total R&D expenditures. In Ontario, this figure was 48% and it was 44% in British Columbia. In the Prairies (including Alberta) 30% of R&D spending was carried out by the ICT sector, while the comparable figures for Quebec and for the Atlantic Provinces were 24% and 23%, respectively.



ICT Sector Regional Report- Regional Focus

Atlantic Canada (& Territories)

Revenues (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Computer and Electronic Product Mfg.	136.4	163.0	205.5	281.9	328.8	219.9	241.6	208.4	-13.7%	6.2%
Telecommunications Services	<u>1,634.0</u>	<u>1,924.8</u>	<u>2,031.3</u>	<u>2,162.2</u>	<u>2,284.1</u>	<u>2,391.7</u>	<u>2,392.2</u>	<u>2,408.5</u>	0.7%	5.7%
Software and Computer Services	368.0	451.0	461.2	597.3	663.4	804.2	783.5	818.9	4.5%	12.1%
Total ICT Sector Revenues:	<u>2,138.4</u>	<u>2,538.8</u>	<u>2,698.0</u>	<u>3,041.4</u>	<u>3,276.3</u>	<u>3,415.8</u>	<u>3,417.3</u>	<u>3,435.7</u>	0.5%	7.0%
Employment	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Computer and Electronic Product Mfg.	1,403	<u>1,467</u>	1,695	<u>1,881</u>	<u>1,781</u>	<u>1,499</u>	1,568	<u>1,587</u>	1.2%	1.8%
Telecommunications Services	<u>7,842</u>	<u>7,716</u>	<u>8,609</u>	<u>8,518</u>	<u>7,620</u>	<u>8,056</u>	<u>8,727</u>	<u>8,608</u>	-1.4%	1.3%
Software and Computer Services	4,365	<u>4,876</u>	4,678	6,291	6,445	8,502	8,173	8,187	0.2%	9.4%
Total ICT Sector Employment:	<u>13,610</u>	<u>14,060</u>	<u>14,982</u>	<u>16,690</u>	<u>15,846</u>	<u>18,057</u>	<u>18,468</u>	<u>18,382</u>	-0.5%	4.4%
Exports (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Total ICT Sector Goods Exports	73.9	95.9	129.3	142.4	175.2	127.0	155.4	153.5	-1.2%	11.0%
Research and Development (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('02-'03)	CAGR ('97-'03)
Total ICT Sector R&D	29.8	32.3	26.7	33.6	34.5	38.0	33.2	NA	-12.7%	1.8%

NB: Territories are not included in manufacturing revenues or employment due to lack of data.

NB: Underlined figures are Industry Canada estimates. See definitions on cover page for details about inclusions in industry categories as reported in this table.

- In Atlantic Canada, ICT revenues grew continuously over the 1997-2004 period to reach \$3.4 billion, up by 0.5% from 2003. Growth in telecommunications services, which represented 70% of all ICT revenues in these provinces (compared to 40% of revenues nationally), offset the recent decline in the manufacturing sub-sector.
- Of all the regions, Atlantic Canada experienced the highest annual growth for ICT revenues between 1997 and 2004 (7.0%). This growth is mostly attributable to telecommunications services growth, but the software and computer services industries have also contributed very significantly to revenues growth in the region.
- Despite increased revenues in 2004, telecommunications services employment in the Atlantic provinces nonetheless contracted slightly. This led to an overall employment decrease this year. Since 1997, however, sector employment has performed fairly well, growing at an average annual rate of 4.4%.
- ICT exports from Atlantic Canada were down in 2004, despite strong growth in national ICT goods exports. However, since 1997, Atlantic Canada had the strongest growth in ICT goods exports of any region in Canada. This was largely due to exports of instruments (NAICS 3345), which accounted for 56% of Atlantic ICT goods and grew at an average annual rate of 21% since 1997.

ICT Sector Regional Report- Regional Focus

Quebec

Revenues (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Comm'l & Svce Machinery Mfg.	684.6	703.5	1,025.5	1,095.3	1,157.8	974.4	838.6	777.5	-7.3%	1.8%
Computer and Electronic Product Mfg.	7,290.8	8,782.7	10,872.8	15,819.4	8,993.1	7,096.8	6,656.7	6,696.8	0.6%	-1.2%
Telecommunications Services	5,313.3	6,847.1	7,165.8	7,020.5	7,576.2	7,820.1	7,358.2	7,295.3	-0.9%	4.6%
Software and Computer Services	2,600.0	3,392.0	4,569.3	4,921.1	5,275.1	5,886.0	5,849.0	6,085.8	4.0%	12.9%
Total ICT Sector Revenues:	15,888.7	19,725.3	23,633.4	28,856.3	23,002.3	21,777.3	20,702.5	20,855.4	0.7%	4.0%
Employment	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Comm'l & Svce Machinery Mfg.	4,864	4,994	5,420	5,757	6,180	5,439	4,891	4,224	-13.6%	-2.0%
Computer and Electronic Product Mfg.	20,280	21,460	23,723	27,715	24,920	24,565	23,106	24,595	6.4%	2.8%
Telecommunications Services	21,084	21,589	21,776	22,211	22,947	<u>21,573</u>	<u>22,166</u>	<u>19,453</u>	-12.2%	-1.1%
Software and Computer Services	33,549	40,199	46,594	52,788	54,581	50,079	55,100	58,952	7.0%	8.4%
Total ICT Sector Employment:	79,777	88,242	97,513	108,471	108,628	101,656	105,263	107,224	1.9%	4.3%
Exports (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Total ICT Sector Goods Exports	7,603.6	7,728.6	9,005.0	14,679.0	7,919.6	5,861.4	5,157.2	5,837.2	13.2%	-3.7%
Research and Development (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('02-'03)	CAGR ('97-'03)
Total ICT Sector R&D	570.2	636.0	719.5	1,148.3	1,171.3	998.0	984.3	NA	-1.4%	9.5%

NB: Underlined figures are Industry Canada estimates. See definitions on cover page for details about inclusions in industry categories as reported in this table.

- ICT revenues in Quebec grew 0.7% in 2004. Gains in computer and electronic product manufacturing and in software and computer services were sufficient to offset losses in commercial and service industry machinery manufacturing and the telecommunications services industries.
- Manufacturing is a vital component of Quebec's ICT sector, and the computer and electronic product manufacturing and commercial and service industry machinery manufacturing industries (NAICS 334 and 33331) contributed 36% of Quebec's ICT revenues in 2004, and 27% of employment. Revenues in ICT manufacturing in 2004 were at 44% of their 2000 value, while employment in the sub-sector was comparatively unaffected, at 86% of the 2000 level.
- ICT sector employment growth of 1.9% in Quebec outpaced revenues growth in 2004. Software and computer services employed 54% of those working in the sector in 2004, though it only contributed 29% of total revenues. A 7.0% increase in employment in these industries was the primary factor underlying overall employment gains.
- Electronic component manufacturing is the biggest component of ICT manufacturing in Quebec, accounting for 36% and 38% of employment and revenues, respectively. Quebec's electronic components industry displayed robust (7.1%) employment growth in 2004, though revenues in this industry were only up 3.1% in 2004 and actually had a -2.6% CAGR between 1997 and 2004.
- ICT goods exports from Quebec were up 13.2% in 2004. Exports were up across all product groups, with the fastest growth coming from instruments exports which increased 18% in 2004. Electronic components are the most important contributor to ICT goods exports earnings, and accounted for 40% of the total in 2004. Growth of 16% in this category of exports in 2004 was responsible for over 48% of total ICT exports growth in 2004.
- ICT sector R&D was up 1.4% in 2003, and spending was almost at peak 2001 levels.

ICT Sector Regional Report- Regional Focus

Ontario

Revenues (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Comm'l & Svce Machinery Mfg.	820.8	990.5	1,053.3	1,466.9	1,485.6	1,368.3	1,398.0	1,354.8	-3.1%	7.4%
Computer and Electronic Product Mfg.	13,144.3	13,665.1	14,724.5	17,636.4	14,148.4	12,991.2	11,337.3	10,893.7	-3.9%	-2.6%
Communication and Energy Wire Mfg.	1,044.5	1,124.2	1,348.6	2,383.0	2,886.8	1,260.3	966.5	1,156.8	19.7%	1.5%
Telecommunications Services	8,709.1	11,107.8	11,638.5	13,123.8	14,249.1	14,061.9	13,427.3	14,258.0	6.2%	7.3%
Software and Computer Services	6,647.0	9,339.0	12,594.1	14,028.0	14,668.4	14,211.6	14,393.6	15,795.9	9.7%	13.2%
Total ICT Sector Revenues:	30,365.7	36,226.6	41,358.9	48,638.2	47,438.2	43,893.4	41,522.8	43,459.1	4.7%	5.3%
Employment	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Comm'l & Svce Machinery Mfg.	4,045	4,964	5,175	5,917	5,861	5,502	4,221	4,586	8.6%	1.8%
Computer and Electronic Product Mfg.	55,721	56,876	56,695	55,002	53,793	50,656	49,227	46,190	-6.2%	-2.6%
Communication and Energy Wire Mfg.	3,541	4,195	8,382	8,067	8,657	4,190	3,613	4,000	10.7%	1.8%
Telecommunications Services	41,128	41,808	41,390	42,021	41,541	42,659	47,341	52,106	10.1%	3.4%
Software and Computer Services	72,481	84,270	117,855	127,029	130,171	121,176	128,155	124,969	-2.5%	8.1%
Total ICT Sector Employment:	176,916	192,113	229,497	238,036	240,023	224,183	232,557	231,851	-0.3%	3.9%
Exports (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Total ICT Sector Goods Exports	12,048.2	12,905.7	13,258.9	15,890.1	13,789.8	11,586.6	10,697.7	11,861.4	10.9%	-0.2%
Research and Development (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('02-'03)	CAGR ('97-'03)
Total ICT Sector R&D	2,525.5	2,949.2	3,112.1	4,228.0	4,719.5	3,618.7	3,394.3	NA	-6.2%	5.1%

NB: Underlined figures are Industry Canada estimates. See definitions on cover page for details about inclusions in industry categories as reported in this table.

- ICT revenues in Ontario were up 4.6% in 2004. Manufacturing revenues were down, but the picture was varied on an industry by industry basis. The largest revenues losses were in computer and peripheral equipment manufacturing and instruments manufacturing, while communications equipment manufacturing posted strong revenues growth this year. The services industries all posted strong revenues growth, which was sufficient to offset losses in the manufacturing sub-sector.
- Communications equipment manufacturing is the most important revenue generator for the ICT manufacturing sub-sector in Ontario. In 2000, computer equipment manufacturing was a larger industry, but between 2000 and 2004 revenues in this industry decreased by 55% while employment lost nearly half of its value.
- With revenues growth of 20% and employment growth of 10.7% in 2004, the communications and energy wire and cable manufacturing industry had the best growth of any Ontario ICT industry. This growth comes on the heels of major contractions in 2003, however, and both employment and revenues in the industry are still down from their 2002 levels.
- ICT sector employment in Ontario was down slightly (-0.3%) in 2004. The only industry to contribute significantly and positively to sector employment was telecommunications services, which had 10.1% employment growth in 2004. The telecommunications services industries employ around 23% of Ontario's ICT sector workers. While their contributions to total employment were significantly smaller in 2004 (with total gains in each industry less than one tenth of employment growth in telecommunications services), commercial and service industry machinery manufacturing and communications and energy cable manufacturing also had strong growth this year.

Ontario

- Employment in the communications equipment manufacturing industries made up 47% of all of Ontario's ICT manufacturing in 2004. This share is down considerably from its peak in 2000, when 59% of ICT manufacturing jobs were in these industries.
- Ontario's exports of ICT goods were up by 10.9% in 2004 to reach a value of some \$11.9 billion. This growth was mostly due to increases in wired and wireless communications equipment exports. Exports of computer equipment declined rapidly between 2000 and 2003 and stabilized in 2004, with 0.8% growth this year. Despite the overall decline in recent years, exports of computer equipment still accounted for the largest share (27%) of Ontario's ICT goods exports.
- National ICT R&D is concentrated in Ontario. From 1997 to 2003, ICT R&D spending in this province grew at a rate of 5.1% per year. However, ICT R&D spending in Ontario contracted by 6.2% in 2003.

ICT Sector Regional Report- Regional Focus

The Prairies (NB: Prairies R&D Spending is Included with Alberta)

Revenues (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Computer and Electronic Product Mfg.	374.5	316.5	300.2	373.6	401.9	248.0	248.2	317.9	28.1%	-2.3%
Telecommunications Services	1,397.6	1,684.8	1,591.6	1,668.6	1,740.7	1,837.4	1,861.1	1,991.5	7.0%	5.2%
Software and Computer Services	426.0	509.0	452.0	487.0	434.8	625.0	897.3	834.3	-7.0%	10.1%
Total ICT Sector Revenues:	2,198.1	2,510.3	2,343.8	2,529.2	2,577.4	2,710.4	3,006.6	3,143.8	4.6%	5.2%
Employment	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Computer and Electronic Product Mfg.	2,012	1,794	1,834	2,298	2,176	1,832	1,828	1,937	5.9%	-0.5%
Telecommunications Services	7,952	7,831	7,855	8,253	7,863	8,794	9,283	8,824	-4.9%	1.5%
Software and Computer Services	5,274	4,751	4,661	5,771	5,190	5,284	6,870	7,218	5.1%	4.6%
Total ICT Sector Employment:	15,238	14,376	14,350	16,323	15,229	15,910	17,981	17,979	0.0%	2.4%
Exports (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'03)
Total ICT Sector Goods Exports	255.9	246.7	180.9	203.3	276.0	216.6	171.9	225.5	31.2%	-1.8%

NB: Underlined figures are Industry Canada estimates. See definitions on cover page for details about inclusions in industry categories as reported in this table.

- ICT revenues for the Prairies were up 4.6% in 2004, and grew at an annual rate of 5.2% between 1997 and 2004. Most of this growth was due to a 7.0% increase in telecommunications services revenues, but 28% growth in manufacturing revenues also contributed significantly. Telecommunications services account for some 63% of ICT revenues in The Prairies.
- In 2004, a reduction in telecommunications services employment was offset by strong growth in the manufacturing sub-sector and in software and computer services employment. Software and computer services employment has shown fairly strong growth since 1997, increasing at an annual rate of some 4.6%, on average. These industries now account for just over 40% of all ICT employment in the Prairies.
- 49% of all employment in the ICT Sector in the Prairies is in the telecommunications services industries. This sub-sector contracted by 4.9% in 2004, and grew at an average annual rate of 1.5% between 1997 and 2004.
- As of 2004, only 10.8% of ICT employment in the Prairies was in ICT manufacturing. This share has been decreasing since 2000, when it was 14%.
- ICT goods exports were up a very strong 31% in 2004, compared to 12% growth in overall goods exports.
- ICT goods contributed only 1.0% to overall goods exports from the Prairies a share that has remained fairly constant since 2000. Growth of over 100% in wireless communications equipment exports and 18% in instruments exports were primarily responsible for this increase in ICT goods exports. Instruments exports made up some 42% of ICT goods exports in 2004, and exports of these goods have increased at an average annual rate of 20% since 1997.
- Exports of communication wire and cable, in 2001, were valued at \$108.3 million, making these products the most important ICT exports from the Prairies. In 2004, exports of these products were valued at \$19.5 million, an increase of over 32% from 2003 but still well below the 2001 level.
- Most exports of ICT goods from the Prairies come from Manitoba, with slightly over a third coming from Saskatchewan.

ICT Sector Regional Report- Regional Focus

Alberta (NB: Alberta R&D Spending Includes the Prairies)

Revenues (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Computer and Electronic Product Mfg.	2,376.3	2,475.8	2,538.6	3,536.3	3,267.1	2,026.3	1,806.5	1,827.9	1.2%	-3.7%
Telecommunications Services	2,421.1	3,097.5	2,727.4	2,932.2	3,073.5	3,257.7	3,403.6	3,730.0	9.6%	6.4%
Software and Computer Services	1,303.0	1,860.0	1,918.7	2,262.9	2,617.3	2,111.4	2,578.5	2,709.3	5.1%	11.0%
Total ICT Sector Revenues:	6,100.4	7,433.3	7,184.7	8,731.3	8,957.9	7,395.3	7,788.6	8,267.2	6.1%	4.4%
Employment	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Computer and Electronic Product Mfg.	6,695	6,280	6,347	8,407	7,003	5,794	4,280	4,866	13.7%	-4.5%
Telecommunications Services	<u>8,910</u>	<u>9,851</u>	<u>7,267</u>	<u>7,232</u>	<u>11,028</u>	<u>11,209</u>	<u>11,321</u>	<u>12,316</u>	<u>8.8%</u>	<u>4.7%</u>
Software and Computer Services	17,686	19,540	20,960	23,010	25,184	20,461	22,652	26,408	16.6%	5.9%
Total ICT Sector Employment:	33,291	35,671	34,574	38,649	43,215	37,464	38,253	43,590	14.0%	3.9%
Exports (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Total ICT Sector Goods Exports	1,308.2	1,606.5	2,089.5	4,657.4	2,861.2	2,254.3	1,617.9	1,590.1	-1.7%	2.8%
Research and Development (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('02-'03)	CAGR ('97-'03)
Total ICT Sector R&D	201.8	254.3	236.3	250.3	263.3	303.5	295.7	NA	-2.6%	6.6%

NB: Underlined figures are Industry Canada estimates. See definitions on cover page for details about inclusions in industry categories as reported in this table.

- ICT revenues in Alberta were up by 6.1% in 2004, driven primarily by a 9.6% increase in telecommunications services revenues. These industries accounted for 45% of sector revenues in 2004. Manufacturing revenues were also up slightly in 2004, the first gain in 4 years for the sub-sector.
- ICT sector employment growth for Alberta was 14% in 2004, led by 17% growth in software and computer services. Of all ICT sector workers in Alberta, 61% were employed in the software and computer services sub-sector, making it the largest contributor to ICT employment in Alberta.
- Alberta's ICT manufacturing employment in 2004 was at 58% of its 2000 level (as opposed to 85% for Canada as a whole). ICT manufacturing employment in this province increased by 14% in 2004.
- Alberta's exports of ICT goods were down 1.7% in 2004, while overall goods exports did well. Between 1997 and 2004, ICT exports from Alberta grew at a CAGR of 2.8%.
- Instruments exports, which had 28% growth in 2004, supplanted wired communications equipment exports (which contracted 28%) as Alberta's number one ICT goods export. Instruments exports accounted for 30% of Alberta's exports of ICT goods. Instruments exports have increased every year since 1999.
- ICT sector R&D expenditures were down by 2.6% in Alberta and the Prairies in 2003, the first contraction since 1999. Total research expenditures contracted by a slightly higher 3.1% that year, so the share of total R&D expenditures attributable to ICT spending actually increased slightly over 2002. ICT sector R&D spending accounted for just under 30% of all private-sector R&D in Alberta in 2003.

British Columbia (NB: Exports and R&D Spending Include The Territories)

Revenues (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Computer and Electronic Product Mfg.	1,100.6	1,200.0	1,520.9	1,952.6	1,717.3	1,223.6	1,370.7	1,401.5	2.2%	3.5%
Telecommunications Services	3,360.8	3,831.8	3,858.1	3,963.3	3,480.7	3,854.3	4,155.2	3,974.9	-4.3%	2.4%
Software and Computer Services	1,338.0	1,820.0	2,171.8	2,414.7	2,450.9	2,541.7	2,795.5	3,434.3	22.9%	14.4%
Total ICT Sector Revenues:	5,799.4	6,851.9	7,550.8	8,330.7	7,648.9	7,619.5	8,321.4	8,810.6	5.9%	6.2%
Employment	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Computer and Electronic Product Mfg.	5,526	6,199	5,919	7,056	7,427	8,013	7,842	7,531	-4.0%	4.5%
Telecommunications Services	<u>12,592</u>	<u>12,545</u>	<u>14,505</u>	<u>15,457</u>	<u>13,880</u>	<u>12,804</u>	<u>11,996</u>	<u>13,039</u>	8.7%	0.5%
Software and Computer Services	17,140	18,300	25,370	29,125	28,973	24,806	26,832	32,257	20.2%	9.5%
Total ICT Sector Employment:	35,258	37,044	45,794	51,638	50,280	45,623	46,670	52,827	13.2%	5.9%
Exports (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('03-'04)	CAGR ('97-'04)
Total ICT Sector Goods Exports	844.7	1,016.0	1,154.8	1,706.7	1,013.4	997.5	970.7	1,099.2	13.2%	3.8%
Research and Development (\$000,000)	1997	1998	1999	2000	2001	2002	2003	2004	%Change ('02-'03)	CAGR ('97-'03)
Total ICT Sector R&D	199.0	251.2	290.5	451.9	499.4	431.9	473.3	NA	9.6%	15.5%

NB: Underlined figures are Industry Canada estimates. See definitions on cover page for details about inclusions in industry categories as reported in this table.

- ICT revenues in British Columbia were up by 5.9% in 2004, second only to the growth of ICT revenues in Alberta. Between 1997 and 2004, ICT sector revenues grew at an average annual rate of 6.2%. Telecommunications services, which accounted for 45% of all 2004 ICT revenues in the province, contracted by 4.3%, but this was more than offset by a 23% year over year increase in software and computer services revenue, the best performance for these industries of any region or province in Canada. Software and computer services revenues, on average, have grown 14% per year since 1997.
- At 2.2%, manufacturing revenues growth in 2004 was slow compared to overall ICT revenues growth, but still surpassed the national average (-1.5%).
- Employment growth in the ICT sector surpassed revenues growth, posting a 13.2% year over year increase in 2004. Some 62% of ICT employment in British Columbia was in the software and computer services industries in 2004, and strong growth in employment in these industries was the root cause of the overall employment increase.
- Software and computer services is more important to British Columbia's ICT sector than in any other region in Canada, both in terms of employment and revenues (though telecommunications services is still a larger revenue generator in the province).
- Exports of ICT goods from British Columbia & the Territories grew by 13% in 2004, outpacing 11% growth in overall goods exports.
- Electronic components exports were up 26% in 2004, and accounted for just over 30% of total ICT goods exports from British Columbia & the Territories. Over half of all ICT goods exports growth in 2004 was attributable to this large increase. Instruments exports were the second major contributor to increased ICT exports revenues in 2004, with 19% year over year growth and a 32% share of the ICT total.
- With a CAGR of 15.5% British Columbia experienced the greatest average growth in ICT R&D spending between 1997 and 2003. ICT R&D spending increased by 9.6% in 2003. British Columbia's share of total Canadian ICT R&D spending increased from 5.6% in 1997 to 9.1% in 2003.

Employment

ICT Manufacturing

Annual Survey of Manufactures (ASM),
Cat. no. 31-203,
Manufacturing, Construction and Energy Division, Statistics Canada.

Telecommunications Services

Survey of Employment, Payrolls and Hours (SEPH),
Cat. no. 72-002,
Labour Statistics Division, Statistics Canada.
Industry Canada estimates based on SEPH and the Annual Survey of Telecommunications Service Providers.

Software and Computer Services

Employees:

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Cat. no. 63-222,
Service Industries Division, Statistics Canada.

Self-employed:

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Labour Force Survey (LFS),
Cat. no. 71-001,
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Revenues

ICT Manufacturing

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Cat. no. 31-203,
Manufacturing, Construction and Energy Division, Statistics Canada.

Telecommunications Services

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Cat. no. 56-203,
Science, Innovation and Electronic Information Division, Statistics Canada.

Software and Computer Services

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Service Industries Division, Statistics Canada.

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Cat. no. 88-202 and/or 88-101,
Science, Innovation and Electronic Information Division, Statistics Canada.

Exports

ICT Goods

Trade Data Online, (<http://strategis.ic.gc.ca>)
International Trade Division, Statistics Canada.