



SERVICE BULLETIN

Quarterly Telecommunications Statistics 4th Quarter, 2003

Science, Innovation and Electronic Information Division

Vol. 27, No. 4

April 2004

All prices exclude sales tax

Catalogue No. 56-002-XIE, is available on Internet for CDN \$23.00 per issue or CDN \$43.00 for subscription.

A Print-on-Demand service is also available for CDN \$42.00 per issue or CDN \$86.00 for subscription.

Frequency: Quarterly / ISSN 1488-8025

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HIGHLIGHTS

- ▶ In 2003, the telecommunications industry contributed \$23.4 billion (1997 constant dollars) to Canadian gross domestic product (GDP), accounting for 2.3% of total economy GDP. (STC, CANSIM II Table 379-0018).
- ▶ For the first time since the fourth quarter 2001 the telecommunications services industry increased its capital expenditures in the fourth quarter 2003 over the same quarter the year before. These expenditures amounted to \$1.7 billion in the fourth quarter, up 16.3% from the same quarter of 2002.
- ▶ The operating profits of the telecommunications services industry jumped 24.5% in the fourth quarter of 2003 compared to same quarter of 2002, mainly due to the continued solid performance of the wireless segment.
- ▶ Operating profits in the wireless segment were 54.6% higher in 2003 than the record level profits achieved in 2002. They were \$368.0 million in the fourth quarter of 2003, up 94.7% from the same quarter of 2002.
- ▶ The revenues of the wireless segment increases a robust 14.9% in the fourth quarter compared to the same period in 2002.
- ▶ By contrast, the operating revenues of the wireline segment were down 9.3% in the fourth quarter compared to the fourth quarter of 2002, continuing a trend that began in the first quarter of 2002. There are a number of factors exercising a downward pressure on the revenues of this segment, including price competition and loss of business resulting from technology substitution
- ▶ The year-over-year growth in subscription to wireless services was 11.5% in the fourth quarter, exceeding the year-over-year increases observed in the previous two quarters.

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Symbols

The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0 ^S	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
P	preliminary
r	revised figures
x	suppressed to meet the confidentiality requirements of the Statistics Act
E	use with caution
F	too unreliable to be published

Abbreviations

n.e.c.	not elsewhere classified
FTE	Full-time equivalents
VGE	Voice-grade equivalents

North American Industry Classification System - NAICS (catalogue 12-501-XPE)

5133	Telecommunications
51331	Wired Telecommunications
51332	Wireless Telecommunications
51333	Telecommunication Resellers
51334	Satellite Telecommunications (including Satellite Resellers)
51339	Other Telecommunications Services

ANALYTICAL OVERVIEW

National and industry indicators

The telecommunications industry's **operating revenues** were \$8.3 billion in the fourth quarter of 2003 – a decrease of 3.6% over the fourth quarter of 2002. Facilities-based wireline telecommunications services accounted for 69.1% of total industry operating revenues, while wireless, resellers, satellite, and other services accounted for 30.9% of the fourth quarter total. The share of wireline carriers vis-à-vis wireless service providers and resellers continues to be dominant, but has gradually declined from its share of 80.0% in the first quarter of 1999 (Figure 1).

Operating revenues in the wireline industry totalled \$5.7 billion in the fourth quarter, down 9.3% from the previous year.

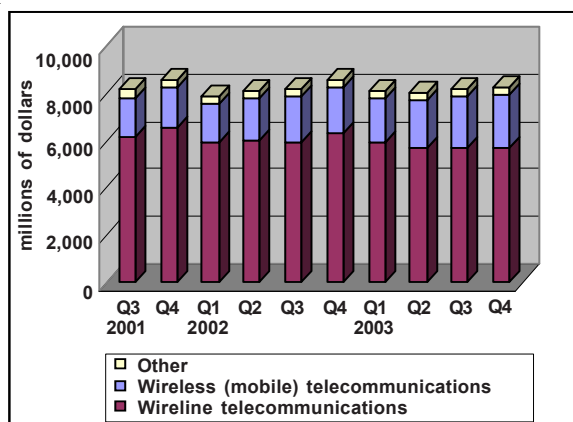
Operating revenues in the wireless industry have been far more buoyant than in the wireline industry. At \$2.2 billion this quarter, operating revenues are up 14.9% from what was reported one year ago.

Operating profit was \$1.4 billion in the fourth quarter, or 17.2% of operating revenues. This was up 24.5% from last year. Returns varied widely, however, depending on the telecommunications industry. The operating profit for wireline carriers was 18.4 cents on each revenue dollar, above the 17.9% average for the 1999-2002 period. Wireless carriers reached a profit of nearly 16.7 cents on each revenue dollar, a performance that is in sharp contrast to the previous three years when the combined operating profits for the 1999-2002 period were \$1.02 billion or 4.4% of wireless operating revenues. The reseller, satellite and other industries (NAICS 51333, 4 and 9, respectively) had an estimated operating profit amounting to 0.2 cents on each dollar earned this quarter.

Capital expenditures for the telecommunications industry reached \$1.7 billion, 16.3% higher than what was reported in the fourth quarter of last year. The wireline and wireless industries had capital outlays of \$1.2 billion and \$511 million, respectively, representing 21.6% and 23.1% of fourth quarter operating revenues (Figure 2). This was the first year-over-year increase in capital expenditures since the fourth quarter of 2001.

Figure 1.

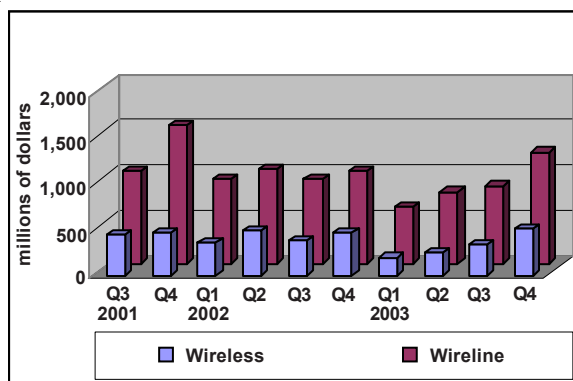
The share of wireline carriers vis-à-vis wireless service providers and resellers has been declining slowly over the last few years. (Revenues \$8.27 billion)



Source: Quarterly Telecommunications Statistics.

Figure 2.

Investments by the industry were up 16.3% in the fourth quarter of 2003 from the previous year. Both the wireless and wireline sectors of the industry increased their spending. (Capital expenditures \$1.74 billion)

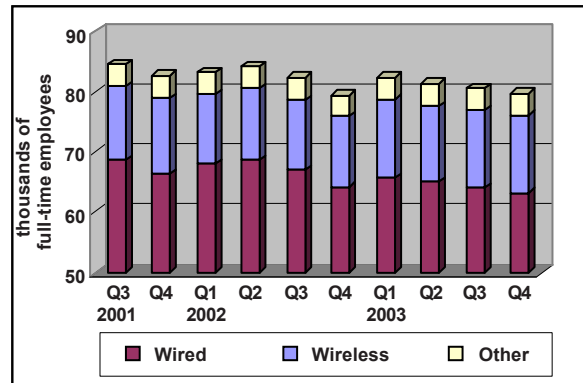


Source: Quarterly Telecommunications Statistics.

Figure 3.

Full-time employment in the telecommunications industries has decreased by 0.4% since fourth quarter, 2002

There were 79,753 **full-time employees** this quarter. This represents a 0.4% increase from the fourth quarter of 2002 (a gain of 299 full-time employees) (Figure 3). Since the fourth quarter last year, employment in the wireline industry decreased by 947 full-time positions, while the wireless industry gained 1,231 full-time employees. **Average annual labour costs** (wages, salaries and benefits) per employee (full-time equivalent) were \$73,285 for the wireline industry and \$67,797 for the wireless industry.



Source: Quarterly Telecommunications Statistics.

Public-switched telephone network (PSTN) **wireline access** was under 19.3 million lines at the end of the fourth quarter, a decrease of 1.3% from last year's level. This was the eighth consecutive quarter of year-over-year decline in wireline access. Since the fourth quarter of 2001 PSTN wireline access has decreased 2.6%. Residential lines accounted for 65.7% of the total and business lines represented 34.3% of PSTN lines (Text Table 1).

Each **ISDN (Integrated Service Digital Network) line** is capable of providing multiple access paths to the PSTN, based on their enhanced bandwidth. With ISDN lines converted to their voice-grade bandwidth equivalents (ISDN BRA = 2 lines, ISDN PRA = 23 lines), total fixed access this quarter was just under 20.0 million lines, a 1.3% decrease from what was reported one year ago.

Text Table 1. PSTN Network Infrastructure - Wired Access

PSTN Access	Fourth Quarter, 2003		
	Residential	Business	Total
Wired Access Lines (NAICS 51331)			
Individual lines	12,390,145	2,737,730	15,127,875
Party lines	56,684	1,029	57,713
ISDN BRA	56	59,438	59,494
ISDN PRA	...	29,120	29,120
Public telephones	...	158,059	158,059
Centrex	...	2,505,797	2,505,797
Official lines	...	420,782	420,782
Other	-	321,736	321,736
Undercoverage estimate	203,433	366,758	570,191
Total Wired Access Lines	12,650,318 (65.7%)	6,600,449 (34.3%)	19,250,767 (100.0%)
Total voice-grade Equivalents	12,650,376 (63.4%)	7,300,525 (36.6%)	19,950,901 (100.0%)

Source: Quarterly Telecommunications Statistics, 4th Quarter, 2003.

Fourth quarter mobile telephony subscribers were up 11.5% from last year. At quarter end, there were just over 13.2 million subscribers, more than one in every three Canadians. Of the 13.2 million wireless subscribers, 84.2% were digital (Text Table 2, Figure 4). This is in contrast to wireline access, which is nearly all digital. The share of digital mobile subscribers, however, has been growing quickly over the last few years.

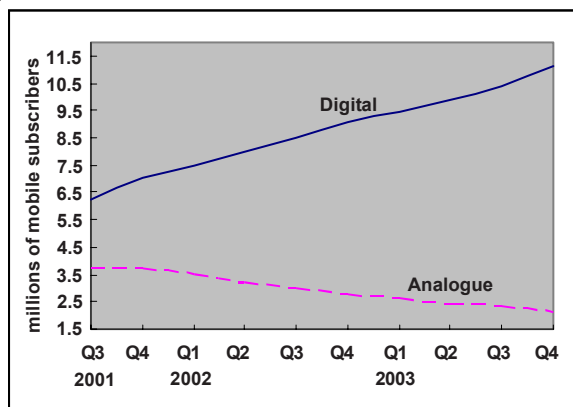
Teledensity measures the penetration of telecommunications services in a given population. For the wireline and wireless industries, there were 62.9 and 41.7 access paths (VGE) per 100 inhabitants, respectively. Total teledensity per 100 inhabitants was 104.6 in the fourth quarter, an increase of 2.6 from last year's fourth quarter figure (Text Table 3).

Paging subscriptions have been decreasing over the last year, perhaps due to the strong growth in cellular telecommunications, considered to be a substitute for paging. There were just over 1.3 million pagers in service in the fourth quarter, down from 1.5 million subscribers in the fourth quarter of 2002 (-10.3%).

Long distance **traffic** is nearly completely undertaken via wireline access, which was 12.9 billion minutes this quarter down 7.0% from the fourth quarter last year. About 13.6% of total wireline long distance minutes are originating from points outside Canada (Figure 6). Mobile telephony is still primarily used for local communication. However long distance wireless usage has increased by 17.9% to an average of 79 long distance minutes per subscriber. Total billed minutes rose substantially since the fourth quarter of 2002 (26.7%) to just over 10.5 billion.

Readers should note that wherever possible, survey undercoverage estimates have been included in the industry tables. Please see the *Concepts and Methodology* section for further detail.

Figure 4.



Source: Quarterly Telecommunications Statistics.

Text Table 2. PSTN Network Infrastructure - Mobile Access

PSTN Access	Fourth Quarter, 2003
Mobile Access (NAICS 51332)	
Digital	11,135,949
Analogue	2,085,870
Total Mobile Access	13,221,819

Source: Quarterly Telecommunications Statistics, 4th Quarter, 2003.

Text Table 3. PSTN Network Infrastructure - Total Access

Teledensity	
Total PSTN Access	32,472,586
Total PSTN Access (VGE)	33,172,720
Wired access (VGE) per 100 inhabitants	62.9
Wireless access (VGE) per 100 inhabitants	41.7
Total PSTN (VGE) per 100 inhabitants	104.6

Source: Quarterly Telecommunications Statistics, 4th Quarter, 2003.

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**Telecommunications Industry
(NAICS 5133)**

Summary Tables

TABLE 1. Summary of operating indicators, NAICS 5133, Quarterly, 2003

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
		03/02 %		03/02 %		03/02 %		03/02 %		03/02 %
Financial indicators (\$000)										
Operating revenues	8,098,929	3.1	8,041,846	(0.9)	8,196,192	0.2	8,270,558	(3.6)	32,607,525	(0.4)
Operating expenses	6,789,067	2.3	6,739,111	(6.3)	6,575,852	(4.4)	6,850,999	(7.9)	26,955,029	(4.2)
Operating profit	1,309,862	6.9	1,302,736	40.2	1,620,339	24.5	1,419,559	24.5	5,652,496	23.0
% of operating revenues	16.2	3.7	16.2	41.5	19.8	24.3	17.2	29.2	17.3	23.5
Capital expenditures ¹	830,966	(36.3)	1,052,526	(31.7)	1,199,398	(9.7)	1,743,153	16.3	4,826,043	(14.9)
Employment (persons)										
Full-time	82,423	(1.0)	81,364	(3.4)	80,647	(2.1)	79,753	0.4	...	...
Part-time	<u>10,690</u>		<u>10,961</u>		<u>10,655</u>		<u>10,421</u>		...	...
Total	93,114		92,325		91,302		90,174		...	...
% of national industrial employment ²	0.709		0.679		0.682		0.674			
Total (full-time equivalents - FTE)	85,820		84,417		84,390		83,616		...	...
Labour costs (\$000)										
Average labour costs (\$) per FTE employee (annualized)	1,518,557		1,512,971		1,553,937		1,519,378		6,104,843	
	70,779		71,231		72,034		72,195		...	...
PSTN access paths (fixed and mobile)										
Total	31,511,245	2.7	31,641,366	2.9	32,022,612	3.2	32,472,586	3.5	...	...
Total (voice-grade equivalents - VGE)	32,212,818	2.6	32,339,841	2.8	32,718,631	3.2	33,172,720	3.5	...	...
Teledensity (VGE per 100 inhabitants)	102.3	1.5	102.5	1.8	103.4	2.3	104.6	2.6	...	...

Due to rounding, figures may not sum exactly to totals.

1. Comprises 51331 (Wireline) and 51332 (Wireless) only.

2. Survey of Employment, Payrolls and Hours (SEPH). The target population is composed of all employers in Canada, except those in agriculture, fishing and trapping, private households services, religious organizations and military personnel of defence services. For further information see Statistics Canada Catalogue No. 72-002-XIB.

TABLE 2A. Summary of operating indicators, (NAICS 51331, 51332, 51333, 4, 9), First Quarter, 2003

NAICS industries	51331	51332	51333, 4, 9	5133
thousands of dollars				
Operating revenues				
Telecommunications operating revenues	4,734,385	1,716,385	..	..
Other operating revenues ¹	1,002,259	86,535	..	..
Undercoverage estimate	<u>190,249</u>	<u>34,838</u>	<u>334,279</u>	<u>559,365</u>
Total	5,926,893	1,837,758	334,279	8,098,929
% of NAICS 5133	73.2	22.7	4.1	100.0
Operating expenses				
Telecommunications operating expenses	4,443,235	1,339,941	..	..
Other operating expenses	190,195	151,837	..	..
Undercoverage estimate	<u>294,989</u>	<u>31,678</u>	<u>337,192</u>	<u>663,859</u>
Total	4,928,419	1,523,456	337,192	6,789,067
% of NAICS 5133	72.6	22.4	5.0	100.0
Operating profit				
	998,474	314,302	(2,914)	1,309,862
% of operating revenues	16.8	17.1	(0.9)	16.2
Non-operating revenues and expenses (survey units only)				
Non-operating revenues	468,283	X	..	..
Non-operating expenses				
Interest expenses	433,983	69,242	..	..
Other	<u>38,253</u>	<u>X</u>	..	..
Total	472,236	X	..	..
Net income before taxes				
	994,521	135,346	..	..
EBITDA ²	1,950,258	687,773	..	..
Capital expenditures				
	631,170	199,796	..	..
% of operating revenues	10.6	10.9	..	..
Employment (persons)				
Full-time	65,799	12,897	3,727	82,423
Part-time	<u>8,110</u>	<u>2,382</u>	<u>198</u>	<u>10,690</u>
Total	73,910	15,279	3,925	93,114
% of national industrial employment	0.563	0.116	0.030	0.709
Total (full-time equivalents - FTE)	68,375	13,682	3,763	85,820
Labour costs				
Full-time	1,192,525	203,607	62,752	1,458,884
Part-time	<u>46,681</u>	<u>12,390</u>	<u>601</u>	<u>59,672</u>
Total	1,239,206	215,997	63,354	1,518,557
Average labour costs (\$) per FTE employee (annualized)	72,495	63,149	..	70,779

1. Other includes: terminal equipment rentals; sale of telecommunications goods; directory services; retail internet access; installations; customer repairs and maintenance, etc.

2. EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization.

TABLE 2B. Summary of operating indicators, (NAICS 51331, 51332, 51333, 4, 9), Second Quarter, 2003

NAICS industries	51331	51332	51333, 4, 9	5133
thousands of dollars				
Operating revenues				
Telecommunications operating revenues	4,383,953	1,838,774	..	..
Other operating revenues ¹	1,158,132	107,570	..	..
Undercoverage estimate	<u>183,796</u>	<u>37,610</u>	<u>332,012</u>	<u>553,417</u>
Total	5,725,881	1,983,954	332,012	8,041,846
% of NAICS 5133	71.2	24.7	4.1	100.0
Operating expenses				
Telecommunications operating expenses	4,014,044	1,430,058	..	..
Other operating expenses	475,521	164,841	..	..
Undercoverage estimate	<u>285,829</u>	<u>33,868</u>	<u>334,950</u>	<u>654,647</u>
Total	4,775,394	1,628,767	334,950	6,739,111
% of NAICS 5133	70.9	24.2	5.0	100.0
Operating profit				
	950,487	355,187	(2,938)	1,302,736
% of operating revenues	16.6	17.9	(0.9)	16.2
Non-operating revenues and expenses (survey units only)				
Non-operating revenues	112,342	X	..	..
Non-operating expenses				
Interest expenses	338,827	79,755	..	..
Other	<u>59,703</u>	<u>X</u>	..	..
Total	398,530	X	..	..
Net income before taxes				
	664,299	310,915	..	..
EBITDA ²	1,963,781	724,214	..	..
Capital expenditures				
	796,007	256,519	..	..
% of operating revenues	13.9	12.9	..	..
Employment (persons)				
Full-time	65,017	12,668	3,679	81,364
Part-time	<u>8,486</u>	<u>2,271</u>	<u>203</u>	<u>10,961</u>
Total	73,503	14,939	3,882	92,325
% of national industrial employment	0.540	0.110	0.029	0.679
Total (full-time equivalents - FTE)	67,255	13,451	3,711	84,417
Labour costs				
Full-time	1,186,813	209,086	62,750	1,458,648
Part-time	<u>40,855</u>	<u>12,920</u>	<u>548</u>	<u>54,323</u>
Total	1,227,668	222,005	63,298	1,512,971
Average labour costs (\$) per FTE employee (annualized)	72,753	64,572	..	71,231

1. Other includes: terminal equipment rentals; sale of telecommunications goods; directory services; retail internet access; installations; customer repairs and maintenance, etc.

2. EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization.

TABLE 2C. Summary of operating indicators, (NAICS 51331, 51332, 51333, 4, 9), Third Quarter, 2003

NAICS industries	51331	51332	51333, 4, 9	5133
thousands of dollars				
Operating revenues				
Telecommunications operating revenues	4,350,857	1,993,713	..	..
Other operating revenues ¹	1,177,300	111,848	..	..
Undercoverage estimate	<u>183,334</u>	<u>40,686</u>	<u>338,453</u>	<u>562,474</u>
Total	5,711,491	2,146,247	338,453	8,196,192
% of NAICS 5133	69.7	26.2	4.1	100.0
Operating expenses				
Telecommunications operating expenses	3,915,879	1,397,954	..	..
Other operating expenses	449,376	174,469	..	..
Undercoverage estimate	<u>277,915</u>	<u>33,390</u>	<u>326,869</u>	<u>638,174</u>
Total	4,643,170	1,605,813	326,869	6,575,852
% of NAICS 5133	70.6	24.4	5.0	100.0
Operating profit				
	1,068,321	540,434	11,584	1,620,339
% of operating revenues	18.7	25.2	3.4	19.8
Non-operating revenues and expenses (survey units only)				
Non-operating revenues	101,672	X	..	..
Non-operating expenses				
Interest expenses	315,908	68,334	..	..
Other	<u>56,402</u>	<u>X</u>	..	..
Total	372,310	X	..	..
Net income before taxes				
	797,683	291,889	..	..
EBITDA ²	2,069,937	903,357	..	..
Capital expenditures				
	860,896	338,502	..	..
% of operating revenues	15.1	15.8	..	..
Employment (persons)				
Full-time	64,132	12,868	3,647	80,647
Part-time	<u>8,041</u>	<u>2,417</u>	<u>197</u>	<u>10,655</u>
Total	72,173	15,285	3,844	91,302
% of national industrial employment	0.539	0.114	0.029	0.682
Total (full-time equivalents - FTE)	66,949	13,754	3,687	84,390
Labour costs				
Full-time	1,186,307	234,748	63,916	1,484,971
Part-time	<u>52,108</u>	<u>16,163</u>	<u>695</u>	<u>68,966</u>
Total	1,238,415	250,911	64,611	1,553,937
Average labour costs (\$) per FTE employee (annualized)	73,162	67,398	..	72,034

1. Other includes: terminal equipment rentals; sale of telecommunications goods; directory services; retail internet access; installations; customer repairs and maintenance, etc.

2. EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization.

TABLE 2D. Summary of operating indicators, (NAICS 51331, 51332, 51333, 4, 9), Fourth Quarter, 2003

NAICS industries	51331	51332	51333, 4, 9	5133
thousands of dollars				
Operating revenues				
Telecommunications operating revenues	4,223,380	2,008,136	..	..
Other operating revenues ¹	1,311,628	160,400	..	..
Undercoverage estimate	<u>183,562</u>	<u>41,903</u>	<u>341,549</u>	<u>567,014</u>
Total	5,718,570	2,210,439	341,549	8,270,558
% of NAICS 5133	69.1	26.7	4.1	100.0
Operating expenses				
Telecommunications operating expenses	3,959,831	1,549,663	..	..
Other operating expenses	428,773	254,135	..	..
Undercoverage estimate	<u>279,402</u>	<u>38,303</u>	<u>340,892</u>	<u>658,597</u>
Total	4,668,006	1,842,101	340,892	6,850,999
% of NAICS 5133	68.1	26.9	5.0	100.0
Operating profit				
	1,050,564	368,338	658	1,419,559
% of operating revenues	18.4	16.7	0.2	17.2
Non-operating revenues and expenses (survey units only)				
Non-operating revenues	60,606	X	..	..
Non-operating expenses				
Interest expenses	317,950	65,691	..	..
Other	<u>54,686</u>	<u>X</u>	..	..
Total	372,636	X	..	..
Net income before taxes				
	738,534	144,088	..	..
EBITDA ²	2,044,007	749,775	..	..
Capital expenditures				
	1,232,634	510,519	..	..
% of operating revenues	21.6	23.1	..	..
Employment (persons)				
Full-time	63,285	12,861	3,607	79,753
Part-time	<u>7,714</u>	<u>2,514</u>	<u>193</u>	<u>10,421</u>
Total	70,999	15,375	3,800	90,174
% of national industrial employment	0.531	0.115	0.028	0.674
Total (full-time equivalents - FTE)	66,018	13,950	3,648	83,616
Labour costs				
Full-time	1,165,433	221,751	62,381	1,449,565
Part-time	<u>50,332</u>	<u>18,778</u>	<u>704</u>	<u>69,813</u>
Total	1,215,765	240,529	63,085	1,519,378
Average labour costs (\$) per FTE employee (annualized)	73,285	67,797	..	72,195

1. Other includes: terminal equipment rentals; sale of telecommunications goods; directory services; retail internet access; installations; customer repairs and maintenance, etc.

2. EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization.

Table 2E. Summary of operating indicators, (NAICS 51331, 51332, 51333, 4, 9), Year to date, 2003

NAICS industries	51331	51332	51333, 4, 9	5133
thousands of dollars				
Operating revenues				
Telecommunications operating revenues	17,692,575	7,557,008	..	..
Other operating revenues ¹	4,649,319	466,353	..	..
Undercoverage estimate	<u>740,941</u>	<u>155,037</u>	<u>1,346,292</u>	<u>2,242,270</u>
Total	23,082,835	8,178,398	1,346,292	32,607,525
% of NAICS 5133	70.8	25.1	4.1	100.0
Operating expenses				
Telecommunications operating expenses	16,332,989	5,717,616	..	..
Other operating expenses	1,543,865	745,282	..	..
Undercoverage estimate	<u>1,138,135</u>	<u>137,239</u>	<u>1,339,902</u>	<u>2,615,277</u>
Total	19,014,989	6,600,137	1,339,902	26,955,029
% of NAICS 5133	70.5	24.5	5.0	100.0
Operating profit				
	4,067,846	1,578,261	6,390	5,652,496
% of operating revenues	17.6	19.3	0.5	17.3
Non-operating revenues and expenses (survey units only)				
Non-operating revenues	742,903	X	..	..
Non-operating expenses				
Interest expenses	1,406,668	283,022	..	..
Other	<u>209,044</u>	<u>X</u>	..	..
Total	1,615,712	X	..	..
Net income before taxes				
	3,195,037	882,238	..	..
EBITDA ²	8,027,983	3,065,119	..	..
Capital expenditures				
	3,520,707	1,305,336	..	..
% of operating revenues	15.3	16.0	..	..
Employment (persons)				
Full-time	63,285	12,861	3,607	79,753
Part-time	<u>7,714</u>	<u>2,514</u>	<u>193</u>	<u>10,421</u>
Total	70,999	15,375	3,800	90,174
% of national industrial employment	0.531	0.115	0.028	0.674
Total (full-time equivalents - FTE)	66,018	13,950	3,648	83,616
Labour costs				
Full-time	4,731,078	869,192	251,799	5,852,069
Part-time	<u>189,977</u>	<u>60,250</u>	<u>2,548</u>	<u>252,774</u>
Total	4,921,054	929,442	254,347	6,104,843
Average labour costs (\$) per FTE employee (annualized)	73,285	67,797	..	72,195

1. Other includes: terminal equipment rentals; sale of telecommunications goods; directory services; retail internet access; installations; customer repairs and maintenance, etc.

2. EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization.

TABLE 3. Summary of analytical indicators, NAICS 51331, 51332, Quarterly, 2003

NAICS industries	51331				51332			
	I	II	III	IV	I	II	III	IV
Financial								
Operating revenue per capita (\$)	188.30	181.52	180.57	180.31	58.39	62.90	67.86	69.70
Operating profit (% of operating revenues)	16.8	16.6	18.7	18.4	17.1	17.9	25.2	16.7
Average revenue per long distance minute (cents) ¹	9.30	9.15	9.93	9.31	13.65	12.99	15.33	13.52
Average revenue per local minute (cents)	...	...	...	...	14.85	14.04	14.53	14.29
Capital expenditures per capita (\$)	20.05	25.24	27.22	38.87	6.35	8.13	10.70	16.10
Capital expenditures (% of operating revenues)	10.6	13.9	15.1	21.6	10.9	12.9	15.8	23.1
Employment/Labour								
Industry employment as a % of national industrial employment ²	0.563	0.540	0.539	0.531	0.116	0.110	0.114	0.115
Revenue per FTE employee (\$)	86,682	85,137	85,311	86,621	134,321	147,497	156,046	158,454
PSTN access paths per FTE employee ³	289	292	293	296	880	913	923	948
Average labour costs (\$) per FTE employee (annualized)	72,495	72,753	73,162	73,285	63,149	64,572	67,398	67,797
Labour costs as a % of operating revenues	20.9	21.4	21.7	21.3	11.8	11.2	11.7	10.9
Teledensity (VGE)								
PSTN access paths per 100 inhabitants	64.1	63.6	63.3	62.9	38.2	38.9	40.1	41.7
Traffic^{1, 4}								
Local minutes per subscriber	...	...	...	...	655	737	727	722
Local minutes per capita	...	...	...	...	249	286	291	300
Long distance minutes per access path (VGE) ³	718	699	680	682	69	79	85	79
Long distance minutes per capita	438	423	410	408	26	30	34	33

1. Long distance minutes include domestic and international calls originating in Canada and toll-free calls for wireline carriers, and billed minutes for wireless carriers.

2. Survey of Employment, Payrolls and Hours (SEPH). The target population is composed of all employers in Canada, except those in agriculture, fishing and trapping, trapping, private households services, religious organizations and military personnel of defence services. For further information see Statistics Canada Catalogue No. 72-002-XIB.

3. Excludes official lines

4. Calculations do not include undercoverage estimates.

**Wired Telecommunications Carriers
(NAICS 51331)**

Tables and Graphs

TABLE 4. Operating revenues, NAICS 51331, Quarterly, 2003¹

Wired Telecommunications (NAICS 51331)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %
Telecommunications operating revenues										
Carrier services										
Contribution	F		F		F		F		F	
Interconnection	F		F		F		F		F	
Circuit rentals	F		F		F		F		F	
Other	E		E		E		E		E	
Total	F	F	F	F	F	F	F	F	F	F
Voice services										
Local telephony	1,690,045	(0.5)	1,700,500	(0.9)	1,689,174	(1.0)	1,692,196	(2.5)	6,771,915	(1.2)
Long distance telephony	1,106,121	(0.5)	1,058,614	(4.0)	1,106,498	(0.3)	1,039,736	(3.6)	4,310,969	(2.1)
Calling features	334,664	2.2	339,467	1.6	339,992	3.0	339,465	2.7	1,353,588	2.4
Connection	<u>73,844</u>	(6.5)	<u>83,553</u>	(11.7)	<u>90,869</u>	3.6	<u>78,285</u>	(0.8)	<u>326,551</u>	(4.1)
Total	3,204,674	(0.4)	3,182,134	(2.0)	3,226,533	(0.2)	3,149,682	(2.3)	12,763,023	(1.2)
Data and high speed services										
Narrowband packet-switched	F		F		F		F		F	
High speed switched ²	E		E		E		E		E	
Total	F	F	F	F	F	F	F	F	F	F
Non-switched services (private lines)										
Narrowband	F		F		F		F		F	
High speed	E		E		E		E		E	
Total	F	F	F	F	F	F	F	F	F	F
Other telecommunications services	E		E		E		E		E	
Total	4,734,385	(1.9)	4,383,953	(10.0)	4,350,857	(9.4)	4,223,380	(14.5)	17,692,575	(9.0)
Other operating revenues										
Terminal equipment rentals	47,295		46,837		46,787		46,596		187,515	
Sale of telecommunications goods	89,605		94,578		96,712		124,905		405,800	
Directory services	3,176		6,834		7,649		11,384		29,043	
Retail Internet services	486,942		501,341		489,586		519,080		1,996,949	
Other services n.e.c.	<u>375,241</u>		<u>508,542</u>		<u>536,566</u>		<u>609,663</u>		<u>2,030,012</u>	
Total	1,002,259	11.4	1,158,132	21.1	1,177,300	23.0	1,311,628	12.8	4,649,319	17.0
Undercoverage estimate	<u>190,249</u>	...	<u>183,796</u>	...	<u>183,334</u>	...	<u>183,562</u>	...	<u>740,941</u>	...
Total operating revenues	5,926,893	0.2	5,725,881	(4.9)	5,711,491	(4.0)	5,718,570	(9.3)	23,082,835	(4.6)

1. Some data available in previous issues of this publication can no longer be published due to a classification problem. All or some of these statistics will be made available once the classification issue has been resolved.

2. Wideband and broadband circuit- and packet-switched services.

TABLE 5. Operating expenses, NAICS 51331, Quarterly, 2003

Wired Telecommunications (NAICS 51331)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %
Telecommunications operating expenses										
Carrier services										
Contribution	F		F		F		F		F	
Interconnection	F		F		F		F		F	
Circuit rentals	F		F		F		F		F	
Other	E		E		E		E		E	
Total	1,116,316	(4.3)	810,864	(28.3)	776,896	(28.0)	722,202	(30.9)	3,426,278	(22.5)
Labour expenses	1,173,775	1.9	1,158,685	(0.2)	1,173,213	8.5	1,159,419	(0.4)	4,665,092	2.3
Depreciation	951,784	(3.9)	1,013,294	0.5	1,001,616	4.0	993,443	2.7	3,960,137	0.8
Other	<u>1,201,360</u>		<u>1,031,201</u>		<u>964,154</u>		<u>1,084,767</u>		<u>4,281,482</u>	
Total	4,443,235	2.1	4,014,044	(15.7)	3,915,879	(6.9)	3,959,831	(12.6)	16,332,989	(8.5)
Other operating expenses	190,195	(22.2)	475,521	66.3	449,376	(2.9)	428,773	(12.2)	1,543,865	4.2
Undercoverage estimate	<u>294,989</u>	...	<u>285,829</u>	...	<u>277,915</u>	...	<u>279,402</u>	...	<u>1,138,135</u>	...
Total operating expenses	4,928,419	0.8	4,775,394	(11.1)	4,643,170	(6.5)	4,668,006	(12.5)	19,014,989	(7.5)

TABLE 6. Financial and performance indicators, NAICS 51331, Quarterly, 2003

Wired Telecommunications (NAICS 51331)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %
Operating revenues	5,926,893	0.2	5,725,881	(4.9)	5,711,491	(4.0)	5,718,570	(9.3)	23,082,835	(4.6)
Operating expenses	4,928,419	0.8	4,775,394	(11.1)	4,643,170	(6.5)	4,668,006	(12.5)	19,014,989	(7.5)
Operating profit	998,474	(2.4)	950,487	46.8	1,068,321	8.5	1,050,564	8.7	4,067,846	12.3
% of operating revenues	16.8	(2.6)	16.6	54.3	18.7	13.1	18.4	19.8	17.6	17.7
EBITDA ¹	1,950,258	(3.1)	1,963,781	18.6	2,069,937	6.3	2,044,007	5.7	8,027,983	6.3
Revenue performance² (\$)										
Operating revenue per capita	188.30	(0.7)	181.52	(5.7)	180.57	(4.9)	180.31	(10.0)	730.70	(5.4)
Voice services revenue per PSTN line ³	166.98	1.1	166.80	(0.7)	169.49	1.2	166.12	(0.8)	669.39	0.2
Local revenue per PSTN line ³	88.06	1.0	89.14	0.4	88.73	0.4	89.25	(1.0)	355.18	0.2
Long distance revenue per PSTN line ³	57.63	1.0	55.49	(2.7)	58.12	1.2	54.84	(2.2)	226.08	(0.7)
Average revenue per long distance minute (cents)	9.30	2.1	9.15	(0.5)	9.93	4.7	9.31	4.0	9.42	2.6

1. EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization.

2. Calculations do not include undercoverage estimates, and where applicable are based on voice-grade equivalent (VGE) PSTN lines.

3. Excludes Official telephone lines

TABLE 7. Employment and labour costs, NAICS 51331, Quarterly, 2003

Wired Telecommunications (NAICS 51331)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
		03/02 %		03/02 %		03/02 %		03/02 %		03/02 %
Employment (persons)										
Full-time	65,799	(3.1)	65,017	(5.4)	64,132	(4.4)	63,285	(1.5)	...	...
Part-time	<u>8,110</u>	(13.0)	<u>8,486</u>	(8.9)	<u>8,041</u>	(5.8)	<u>7,714</u>	(4.8)	...	...
Total	73,910	(4.3)	73,503	(5.8)	72,173	(4.5)	70,999	(1.9)	...	...
% of national industrial employment	0.563		0.540		0.539		0.531		...	...
Total (full-time equivalents - FTE)	68,375	(4.8)	67,255	(7.3)	66,949	(6.5)	66,018	(2.6)	...	...
Revenue (\$) per FTE employee	86,682		85,137		85,311		86,621		...	...
Labour costs¹										
Full-time	1,192,525	(3.2)	1,186,813	(7.7)	1,186,307	7.6	1,165,433	1.8	4,731,078	(0.7)
Part-time	<u>46,681</u>	(33.4)	<u>40,855</u>	(42.8)	<u>52,108</u>	(29.6)	<u>50,332</u>	(21.0)	<u>189,977</u>	(32.0)
Total	1,239,206	(4.8)	1,227,668	(9.5)	1,238,415	5.2	1,215,765	0.6	4,921,054	(2.5)
Average labour costs (\$) per FTE employee (annualized)	72,495	(0.0)	72,753	(1.3)	73,162	3.0	73,285	3.0	...	...

1. Includes capitalized labour expenditures.

TABLE 8. Capital expenditures, NAICS 51331, Quarterly, 2003

Wired Telecommunications (NAICS 51331)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %
Capital expenditures	631,170	(32.8)	796,007	(23.7)	860,896	(8.2)	1,232,634	19.7	3,520,707	(10.9)
% of operating revenues	10.6	(32.9)	13.9	(19.8)	15.1	(4.4)	21.6	31.9	15.3	(6.6)
per capita (\$)	20.05	(33.5)	25.24	(24.4)	27.22	(9.0)	38.87	18.3	111.85	(11.7)

TABLE 9. Network infrastructure, NAICS 51331, Quarterly, 2003

Wired Telecommunications (NAICS 51331)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
		03/02 %		03/02 %		03/02 %		03/02 %
Network infrastructure (access)								
PSTN access lines								
Individual lines (includes PBX)	15,257,094	(0.9)	15,173,523	(0.7)	15,194,691	(0.8)	15,127,875	(1.0)
Party lines	62,776	(13.2)	61,196	(11.7)	59,126	(10.8)	57,713	(12.0)
ISDN BRA	64,893	(10.3)	62,873	(11.0)	60,989	(11.3)	59,494	(10.9)
ISDN PRA	28,940	(3.2)	28,891	(1.0)	28,865	0.3	29,120	0.2
Public telephones	162,018	(3.1)	160,436	(3.3)	159,137	(3.3)	158,059	(3.6)
Centrex	2,575,372	(0.4)	2,559,154	(2.0)	2,510,983	(3.3)	2,505,797	(2.9)
Official lines	415,411	6.8	415,116	8.6	416,852	8.4	420,782	8.4
Other (includes mobile and WATS)	339,760	(21.5)	332,619	(15.4)	326,783	(12.9)	321,736	(7.9)
Undercoverage estimate	<u>570,191</u>	...	<u>570,191</u>	...	<u>570,191</u>	...	<u>570,191</u>	...
Total	19,476,457	(1.2)	19,363,999	(1.1)	19,327,617	(1.2)	19,250,767	(1.3)
Residential (%)	65.4		65.4		65.7		65.7	
Business (%)	34.6		34.6		34.3		34.3	
Total PSTN voice-grade equivalents (VGE)	20,178,030	(1.3)	20,062,474	(1.1)	20,023,636	(1.2)	19,950,901	(1.3)
Residential (%)	63.2		63.1		63.4		63.4	
Business (%)	36.8		36.9		36.6		36.6	
PSTN (VGE) per 100 inhabitants	64.1	(2.3)	63.6	(2.0)	63.3	(2.0)	62.9	(2.0)
Residential access lines (VGE) per 100 households	106		104		104		104	
Business access lines (VGE) per 100 employed persons ¹	56.6		54.4		54.7		54.6	
PSTN access paths (VGE) per FTE employee ²	289		292		293		296	
Non-PSTN lines³								
Digital	289,757		288,420		288,733		288,615	
Analogue	<u>26,354</u>		<u>25,999</u>		<u>26,131</u>		<u>25,876</u>	
Total	316,111		314,419		314,864		314,491	

1. Employed persons from SEPH estimate of national industrial employment.

2. Excludes official telephone lines.

3. Calculations do not include undercoverage estimates.

TABLE 10. Long distance traffic, NAICS 51331, Quarterly, 2003

Wired Telecommunications (NAICS 51331)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
		03/02 %		03/02 %		03/02 %		03/02 %		03/02 %
Traffic statistics (thousands of minutes)¹										
Long distance traffic										
Outbound calls	9,562,388		9,192,356		8,739,490		8,798,529		36,292,763	
Toll-free calls	2,326,691		2,382,239		2,404,805		2,365,334		9,479,069	
Inbound calls to Canada	<u>1,889,102</u>		<u>1,766,498</u>		<u>1,809,923</u>		<u>1,763,080</u>		<u>7,228,603</u>	
Total	13,778,181	(1.8)	13,341,093	(3.2)	12,954,218	(4.4)	12,926,943	(7.0)	53,000,435	(4.1)
Traffic performance (minutes)¹										
Long distance traffic										
Outbound calls										
per access line (VGE) ²	498		482		459		464		1,903	
per capita	304		291		276		277		1,148	
Toll-free calls										
per access line (VGE) ²	121		125		126		125		497	
per capita	74		76		76		75		301	
Inbound calls to Canada										
per access line (VGE) ²	98		93		95		93		379	
per capita	60		56		57		56		229	
Total										
per access line (VGE) ²	718	(0.3)	699	(2.0)	680	(3.1)	682	(5.5)	2,779	(2.7)
per capita	438	(2.7)	423	(4.1)	410	(5.1)	408	(7.7)	1,679	(4.9)

1. Calculations do not include undercoverage estimates.

2. Excludes official telephone lines.

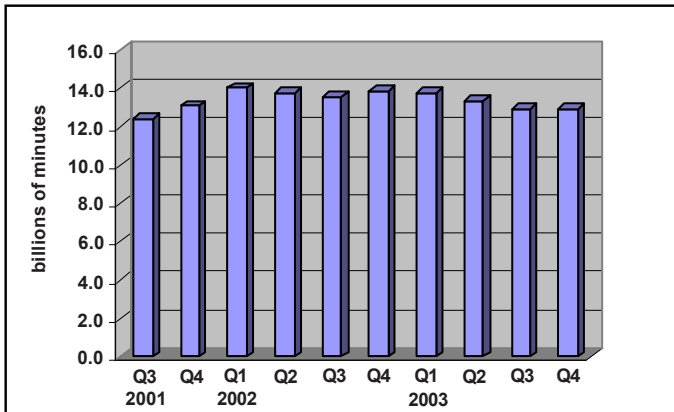


Figure 5.
Wireline traffic - Total long distance minutes
(12.9 billion)

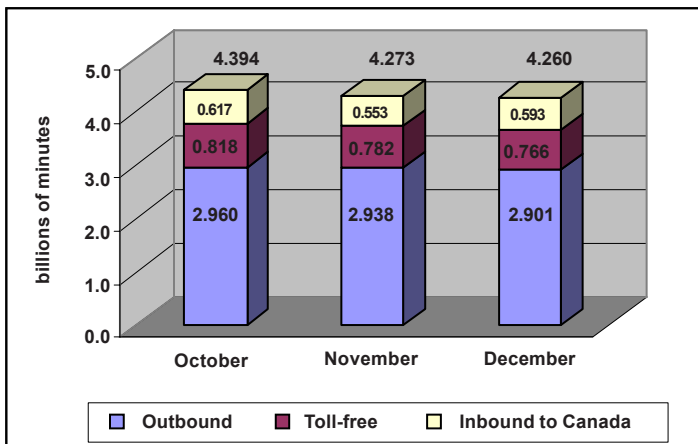


Figure 6.
Monthly wireline long distance minutes,
fourth quarter, 2003
Total outbound minutes 8.8 billion
Total toll-free minutes 2.4 billion
Total inbound to Canada minutes 1.8 billion

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**Wireless Telecommunications Carriers
(NAICS 51332)**

Tables and Graphs

TABLE 11. Operating Revenues, NAICS 51332, Quarterly, 2003

Wireless Telecommunications (NAICS 51332)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %
Telecommunications operating revenues										
Carrier services	52,498		74,717		94,975		77,502		299,692	
Local telephony										
Fixed (recurrent services)	811,866		836,801		865,591		894,388		3,408,646	
Air time (measured services)	309,081		381,798		413,060		406,617		1,510,556	
Other	<u>44,826</u>		<u>45,687</u>		<u>56,917</u>		<u>56,678</u>		<u>204,108</u>	
Total	1,165,773	11.2	1,264,286	14.4	1,335,568	13.6	1,357,683	11.8	5,123,310	12.8
Long distance telephony										
Air time	112,707		124,665		164,114		140,045		541,531	
Other	<u>0</u>		<u>0</u>		<u>0</u>		<u>0</u>		<u>0</u>	
Total	112,707	6.9	124,665	6.4	164,114	14.1	140,045	21.4	541,531	12.4
Messaging - Paging	32,629		31,576		27,940		26,062		118,207	
Dispatch services (RCC)	4,212		4,186		4,350		4,297		17,045	
Other telecommunications services	<u>348,566</u>		<u>339,344</u>		<u>366,766</u>		<u>402,547</u>		<u>1,457,223</u>	
Total	1,716,385	13.3	1,838,774	14.2	1,993,713	13.5	2,008,136	14.8	7,557,008	14.0
Other operating revenues	86,535	16.2	107,570	(10.6)	111,848	10.8	160,400	15.4	466,353	7.3
Undercoverage estimate	<u>34,838</u>	...	<u>37,610</u>	...	<u>40,686</u>	...	<u>41,903</u>	...	<u>155,037</u>	...
Total operating revenues	1,837,758	13.4	1,983,954	12.5	2,146,247	13.4	2,210,439	14.9	8,178,398	13.6

TABLE 12. Operating expenses, NAICS 51332, Quarterly, 2003

Wireless Telecommunications (NAICS 51332)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %
Telecommunications operating expenses										
Carrier services	85,705		82,164		88,097		75,939		331,905	
Labour expenses	221,507		216,959		231,788		235,162		905,416	
Depreciation	373,471		369,027		362,923		381,437		1,486,858	
Other telecommunications expenses	<u>659,258</u>		<u>761,908</u>		<u>715,146</u>		<u>857,125</u>		<u>2,993,437</u>	
Total	1,339,941	7.1	1,430,058	13.2	1,397,954	2.4	1,549,663	5.3	5,717,616	6.9
Other operating expenses	151,837	14.3	164,841	(1.0)	174,469	0.1	254,135	11.7	745,282	6.3
Undercoverage estimate	<u>31,678</u>	...	<u>33,868</u>	...	<u>33,390</u>	...	<u>38,303</u>	...	<u>137,239</u>	...
Total operating expenses	1,523,456	7.8	1,628,767	11.5	1,605,813	2.2	1,842,101	6.2	6,600,137	6.8

TABLE 13. Financial and performance indicators, NAICS 51332, Quarterly, 2003

Wireless Telecommunications (NAICS 51332)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %
Operating revenues	1,837,758	13.4	1,983,954	12.5	2,146,247	13.4	2,210,439	14.9	8,178,398	13.6
Operating expenses	1,523,456	7.8	1,628,767	11.5	1,605,813	2.2	1,842,101	6.2	6,600,137	6.8
Operating profit	314,302	51.5	355,187	17.1	540,434	68.3	368,338	94.7	1,578,261	54.6
% of operating revenues	17.1	33.6	17.9	4.1	25.2	48.4	16.7	69.5	19.3	36.1
EBITDA ¹	687,773	26.1	724,214	11.8	903,357	30.0	749,775	29.0	3,065,119	24.1
Revenue performance (\$) ²										
Operating revenue per capita	58.39	12.3	62.90	11.5	67.86	12.4	69.70	13.9	258.85	12.6
Local revenue per subscriber	97.36	1.3	103.49	4.2	105.72	2.3	103.16	0.3	409.73	2.0
Average revenue per local minute (cents)	14.85	(8.0)	14.04	(6.5)	14.53	(7.5)	14.29	(11.5)	14.41	(8.4)
Long distance revenue per subscriber	9.41	(2.7)	10.21	(3.0)	12.99	2.9	10.64	8.8	43.25	1.5
Average revenue per long distance minute (cents)	13.65	(9.4)	12.99	(11.5)	15.33	(3.4)	13.52	(6.9)	13.92	(7.6)
Paging revenue per subscriber	30.36	1.1	30.38	1.5	27.89	(12.3)	27.15	(13.3)	115.78	(5.9)

1. EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization.

2. Calculations do not include undercoverage estimates.

TABLE 14. Employment and labour costs, NAICS 51332, Quarterly, 2003

Wireless Telecommunications (NAICS 51332)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
		03/02 %		03/02 %		03/02 %		03/02 %		03/02 %
Employment (persons)										
Full-time	12,897	11.7	12,668	8.2	12,868	11.2	12,861	10.6	...	...
Part-time	<u>2,382</u>	0.9	<u>2,271</u>	29.6	<u>2,417</u>	25.4	<u>2,514</u>	26.0	...	...
Total	15,279	9.9	14,939	10.9	15,285	13.2	15,375	12.8	...	...
% of national industrial employer	0.116		0.110		0.114		0.115		...	...
Total (full-time equivalents - FTE)	13,682	12.7	13,451	6.5	13,754	11.0	13,950	12.7	...	...
Revenue (\$) per FTE employee	134,321		147,497		156,046		158,454		...	...
Labour costs (\$000)¹										
Full-time	203,607	5.3	209,086	9.8	234,748	19.2	221,751	13.1	869,192	12.0
Part-time	<u>12,390</u>	23.7	<u>12,920</u>	(14.9)	<u>16,163</u>	15.8	<u>18,778</u>	50.0	<u>60,250</u>	16.4
Total	215,997	6.2	222,005	8.2	250,911	19.0	240,529	15.3	929,442	12.2
Average labour costs (\$) per FTE employee (annualized)	63,149	(5.8)	64,572	(2.0)	67,398	1.1	67,797	1.4	...	...

1. Includes capitalized labour expenditures.

TABLE 15. Capital expenditures, NAICS 51332, Quarterly, 2003

Wireless Telecommunications (NAICS 51332)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %	\$000	03/02 %
Capital expenditures	199,796	(45.2)	256,519	(48.5)	338,502	(13.3)	510,519	9.0	1,305,336	(24.2)
% of operating revenues	10.9	(51.7)	12.9	(54.2)	15.8	(23.5)	23.1	(5.1)	16.0	(33.2)
per subscriber (\$)	16.60	(50.0)	20.89	(53.1)	26.66	(21.8)	38.61	(2.3)	102.76	(32.1)
per capita (\$)	6.35	(45.7)	8.13	(49.0)	10.70	(14.1)	16.10	8.1	41.28	(24.9)

TABLE 16. Network infrastructure, NAICS 51332, Quarterly, 2003

Wireless Telecommunications (NAICS 51332)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
		03/02 %		03/02 %		03/02 %		03/02 %
Network infrastructure (access)								
Mobile subscribers								
Digital	9,464,521	26.4	9,904,739	24.2	10,421,539	23.1	11,135,949	22.1
Analogue	<u>2,570,267</u>	(26.1)	<u>2,372,628</u>	(26.1)	<u>2,273,456</u>	(23.6)	<u>2,085,870</u>	(24.0)
Total mobile telephony	12,034,788	9.7	12,277,367	9.8	12,694,995	10.9	13,221,819	11.5
Mobile telephony penetration per 100 inhabitants	38.2	8.5	38.9	8.7	40.1	9.9	41.7	10.6
PSTN access paths per FTE employee	880		913		923		948	
Paging subscribers	1,438,436	(9.9)	1,402,769	(11.9)	1,365,400	(9.1)	1,323,299	(10.3)
Paging penetration per 100 inhabitants	4.6	(9.8)	4.4	(13.7)	4.3	(10.4)	4.2	(10.6)

TABLE 17. Traffic statistics, NAICS 51332, Quarterly, 2003

Wireless Telecommunications (NAICS 51332)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year to date	
		03/02 %		03/02 %		03/02 %		03/02 %		03/02 %
Traffic statistics (thousands of minutes)¹										
Billed minutes										
Local	7,848,494		9,005,989		9,190,713		9,499,502		35,544,698	
Long distance	<u>825,679</u>		<u>959,616</u>		<u>1,070,360</u>		<u>1,035,764</u>		<u>3,891,419</u>	
Total	8,674,173	20.6	9,965,605	22.2	10,261,073	22.2	10,535,266	26.7	39,436,117	23.0
Traffic performance (minutes)¹										
Local minutes per subscriber	655	10.1	737	11.3	727	10.5	722	13.3	2,841	11.3
Long distance minutes per subscriber	69	7.8	79	9.7	85	6.3	79	17.9	312	10.2
Billed minutes per subscriber	724	9.7	816	11.3	812	10.2	801	13.6	3,153	11.2

1. Calculations do not include undercoverage estimates.

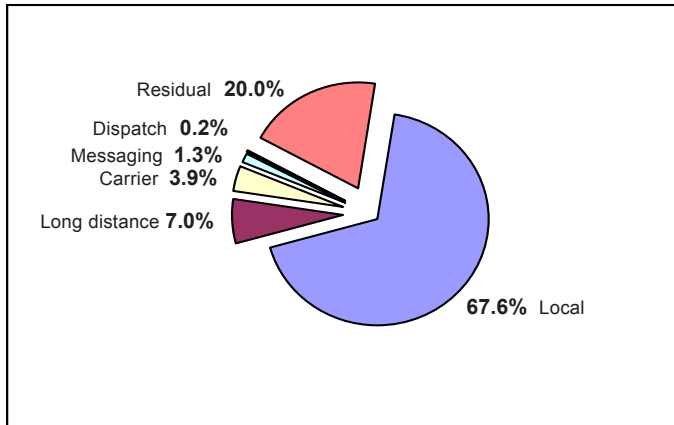


Figure 7.
Wireless telecommunications operating revenue shares
(Revenues \$2.01 billion)

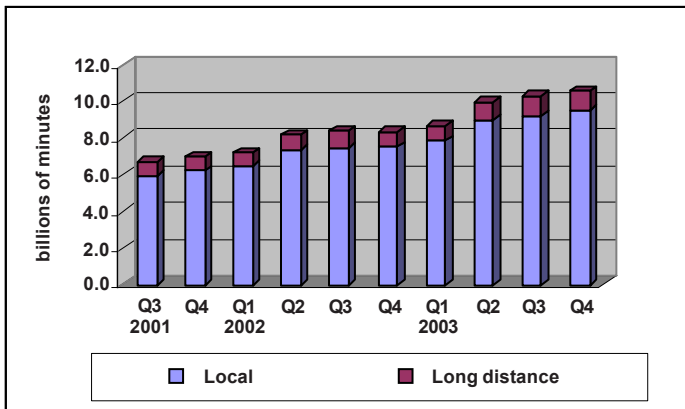


Figure 8.
Wireless traffic billed minutes
(10.5 billion)

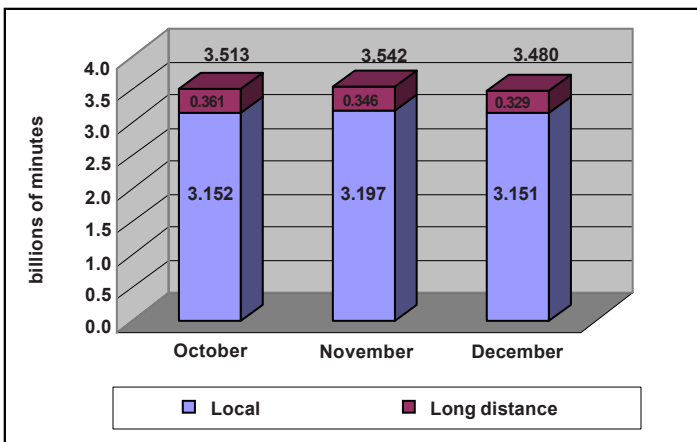


Figure 9.
Monthly wireless billed minutes,
fourth quarter, 2003
Wireless billed minutes remained over 10.5 billion
in the fourth quarter of 2003, an increase of 26.7%
from the fourth quarter last year.
The majority of these were local minutes (9.5 billion)

**Resellers, Satellite, and Other Telecommunications
(NAICS 51333, 51334, 51339)**

Undercoverage Estimates

TABLE 18. Undercoverage estimates, NAICS 51333, 4, 9, Quarterly, 2003

Resellers, Satellite, and Other Telecommunications (NAICS 51333, 51334, 51339)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year to date
Financial indicators (\$000)					
Operating revenues	334,279	332,012	338,453	341,549	1,346,292
Operating expenses	337,192	334,950	326,869	340,892	1,339,902
Operating profit margin	(2,914)	(2,938)	11,584	658	6,390
% of operating revenues	(0.9)	(0.9)	3.4	0.2	0.5
Employment (persons)					
Full-time	3,727	3,679	3,647	3,607	...
Part-time	<u>198</u>	<u>203</u>	<u>197</u>	<u>193</u>	...
Total	3,925	3,882	3,844	3,800	...
% of national industrial employment	0.030	0.029	0.029	0.028	...
Total (full-time equivalents - FTE)	3,763	3,711	3,687	3,648	...
Labour costs (\$000)					
Full-time	62,752	62,750	63,916	62,381	251,799
Part-time	<u>601</u>	<u>548</u>	<u>695</u>	<u>704</u>	<u>2,548</u>
Total	63,354	63,298	64,611	63,085	254,347

CONCEPTS AND METHODOLOGY

Survey objectives

The quarterly survey of telecommunications service providers (NAICS 5133) serves to measure the industry's financial performance, aspects of its network infrastructure, and industry operating characteristics relating to employment, capital expenditures and traffic activity. The survey improves on the monthly survey it replaces by: expanding survey coverage to include the major alternative wireline carriers and the wireless industry; providing undercoverage estimates for those units that make up the industry but are not included in the survey (resellers, satellite and small wireline and wireless service providers); using concepts consistent with the redesigned annual survey introduced in 1997; and, reducing reporting burden on respondents who had previously submitted twelve reports each year.

Survey coverage

The quarterly survey covers the largest establishments primarily engaged in the provision of telecommunications services and which operate telecommunications facilities (wired and wireless providers). There are 21 companies included in the survey representing every province and territory. Not surveyed are companies providing reselling, satellite and other services n.e.c. Activities for these companies are estimated based on annual surveys.

Industrial classification

Telecommunications service providers are classified to one of the five North American Industry Classification System (NAICS) telecommunications industries (Wired, Wireless, Resellers, Satellite and Other¹). Released in 1998, NAICS is the most up-to-date industry classification in use, and was jointly developed by Canada, the United States and Mexico. Reporting units

are classified according to the activity in which they are primarily engaged and the main technology they employ. This system allows for more accurate industry classification than the previous 1980 Canadian Standard Industrial Classification (CSIC). For further details about NAICS and for industry concordance between NAICS and the CSIC at all levels, consult the Statistics Canada publication 12-501-XPE, issue number 97001.

Survey methodology

The quarterly survey collects data from the largest companies corresponding to NAICS industries 51331 (Wired) and 51332 (Wireless), reflecting approximately 97.4% of revenue activity for these industries and 93.0% of revenue activity for the telecommunications industry overall (NAICS 5133) (see Table A). The annual survey, a census of telecommunications service providers, is used to produce undercoverage estimates for those units that are not surveyed in the quarterly, so that total industry activity can be estimated. NAICS telecommunications industries 51333, 51334 and 51339 are not surveyed because their respondents are generally smaller, and the few that are larger tend to dominate their industries, which would pose disclosure problems if they were to be included.

Variables which may be subject to wide variation from period to period, such as capital expenditures and non-operating revenues and expenses, were not estimated for non-surveyed units. In addition, these activities tend to be less significant the smaller the establishment (which is typical of the non-surveyed industries), such that the survey values for these variables are good proxies for total industry aggregates.

1. NAICS 51331

The wired (wireline) industry comprises establishments primarily engaged in operating and maintaining switching and transmission facilities to provide direct communications via land lines, microwave, or a combination of land lines, microwave and satellite link-ups.

NAICS 51332

The wireless telecommunications industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide direct communications via the airwaves, including cellular, personal communications services (PCS), enhanced specialized mobile radio (ESMR), and messaging (paging).

NAICS 51333

A telecommunications service provider is a reseller if it is primarily engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling telecommunications services to their clients.

NAICS 51334

The satellite industry comprises establishments primarily engaged in operating, maintaining and providing access to fixed and mobile satellite telecommunications facilities for the transmission of voice, data, text, sound and full motion videos. Resellers of satellite communications are also included.

NAICS 51339

The 'Other telecommunications' industry includes companies providing telecommunications services not covered by the industries described above (e.g., telemetry, satellite tracking, radar stations operations).

Coverage rates for the 2003 Quarterly survey are calculated by determining how much of total industry activity is attributed to the current quarterly respondents, using the most recent annual data available (2001), taking into consideration buy-outs, mergers and consolidations since 2001, and applying these ratios to the current quarterly data. The table below indicates coverage rates for operating revenues with respect to each NAICS industry. Undercoverage rates for other variables are similar to the rates presented here.

Table A - Coverage rates for operating revenues

NAICS	Coverage (%)	Undercoverage (%)	Total (%)
51331	96.8	3.2	100.0
51332	98.0	2.0	100.0
51333,4,9	-	100.0	100.0
5133	92.8	7.2	100.0

Undercoverage estimates for access lines are not adjusted between quarters because the observed growth in surveyed units (large incumbents and entrants) is not expected to be replicated by non-surveyed units (small, often rural, service providers). The undercoverage estimate simply reflects the number of access lines of the non-surveyed units for the most recent annual data available. Mobile subscriber undercoverage has not been adjusted between quarters, not because non-surveyed units are thought to be static, but because these units constitute such a small share of the industry that any change attributable to them would be negligible.

Quality and limitations of data

When Statistics Canada receives the completed quarterly questionnaires, they are checked for consistency with previous returns. All unusual occurrences are queried for confirmation and clarified with the respondents concerned. The data are almost always actual amounts, but where circumstances necessitate, best estimates are used from the respondents or derived by Statistics Canada based on the respondent's historical records and current industry trends.

The quarterly survey of telecommunications service providers is not a sample survey and therefore sampling errors do not occur. Non-sampling errors, however may occur. There are potentially four sources of non-sampling error that can be identified in any given survey: coverage error, response error, non-response error and processing error. Unlike sampling error, non-sampling error is not readily quantified. *Coverage error* results from inadequate representation of the intended population. This error may occur during selection of the survey population, or during data collection and processing. There is no evidence of significant coverage error in the 2003 Quarterly Survey of Telecommunications.

Response error may be due to many factors, including faulty design of the questionnaire, interviewers' or respondents' misinterpretation of questions, or respondents' faulty reporting. Frequent changes in company personnel may also lead to response error. The quarterly survey has several features that help respondents to complete the questionnaire, including logic and consistency checks, and a glossary of terms and concepts. Responses are compared from quarter to quarter and any significant deviations are queried by analysts to ensure their accuracy. However, even with these checks, the accuracy of data depends on the respondent's willingness to consult their records.

Non-response error occurs because not all potential respondents cooperate fully. This has not been a concern with the quarterly survey. *Processing errors* may also occur during coding, entry, editing and tabulation of the data. In this survey, procedures for quality control were used during the processing of data, as indicated above, to keep such errors to a minimum.

Revisions

Revisions are necessary as more complete data become available. The nature of the telecommunications industry is such that respondents often contact Statistics Canada to update their data or to report errors in data they had previously reported. Revisions are made each quarter to reflect these changes or corrections in the data. The most recent release of quarterly telecommunications data should always be consulted for the most accurate information.

Readers should note that some revisions have been made to reflect new accounting guidance and industry practice, as well as mergers and consolidations between companies. Communication between Statistics Canada and various companies resulted in improved allocation of wired operating expenses; and wireless operating revenues and expenses.

For more information, or to enquire about the concepts, methods and data quality, please contact Advisory Services Division at 1 800 263-1136; Facsimile 1 877 287-4369; infostats@statcan.ca.

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner and in the official language of their choice. To this end, the Agency has developed standards of service which its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1 800 263 1136.

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

The development of Statistics Canada's Telecommunications Statistical Infrastructure Program benefited from the advice and financial support of the Spectrum, Information Technologies and Telecommunications Sector, Industry Canada.

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GLOSSARY OF TERMS

Advanced services ratio. The ratio of operating revenues from software enhanced telecommunications services (e.g., calling features), services supporting internet and packet-switched communications, and other high speed applications (switched and non-switched services), and traditional telephony (local and long distance voice, connection and narrowband non-switched or private line services). (*Rapport des services de pointe*)

Alternative providers of long distance services. Non-incumbent (entrant) facilities-based and non-facilities-based (resellers) companies providing long distance telecommunications services. (*Rapport*)

Average labour costs per FTE employee (annualized). Total industry labour costs (wages, salaries and benefits paid to full-time and part-time employees) divided by the number of full-time equivalent employees. This calculation is a moving average, such that previous quarter data is included in the current quarter calculation, and adjusted to arrive at an annual estimate. The first quarter estimate is multiplied by four, the second quarter estimate is calculated by summing labour costs for the first two quarters divided by the average number of FTE employees for both quarters, and multiplying that result by two, etc. (*Coûts moyens de la main-d'oeuvre par employés à plein temps ou l'équivalent (annualisés)*)

Average revenue per long distance minute. Long distance operating revenues divided by long distance outbound minutes (including toll-free). (*Revenu moyen par minute de service interurbain*)

Broadband access. High capacity two-way links between end-user and suppliers networks (central offices) such as hybrid-fibre-coaxial-cable systems, fibre-to-the-curb and fibre-to-the-home systems for residential users, with speed in one direction exceeding 1.544 Mbps. (*Accès à large bande*)

Calling Features. Specialized software and database applications linked to telecommunications networks such as call waiting, call forwarding, caller identification, three way calling, speed dialing, etc.; call management services: call display, call return, call screen, call blocking, automatic call-back, etc.; and, tele-messaging: call answer, extension call answer, voice mail, voice menus, etc. These features are commonly offered on a per-use, or on fixed monthly charge basis. Calling features are also referred to as optional or enhanced local services). (*Options de gestion*)

Calls/messages, Outbound. Calling/messaging units originating in Canada and terminating in Canada, the United States, and overseas (foreign countries other than the United States). (*Appels ou messages de départ en provenance du Canada*)

Calls/messages, Incoming/Inbound. Calls/messages from either the United States or overseas (foreign countries other than the United States) and terminating in Canada. (*Appels ou messages d'arrivée internationaux à destination du Canada*)

Capital expenditures per subscriber. Dollar amount of wireless capital expenditures for every wireless subscriber. (*Dépenses en immobilisations par abonnés*)

Carrier services. Services provided to other telecommunication service providers (common carriers or resellers). This includes contribution, interconnection and other services provided to telecommunications service providers such as co-location, access to support structures, data base access, the recovery of start-up costs, other unbundled elements associated with the provision of dial tone, etc. (*Services aux entreprises de télécommunications*)

Cellular telecommunications. A telecommunications system that uses radio frequencies in the 800 MHz (megahertz) frequency band to provide mobile access to the PSTN (public switched telephone network). Cellular telecommunication can use either analogue or digital transmission technology over a multi-cell architecture. (*Cellulaire de télécommunications*)

Circuit. A facility consisting of the equipment and apparatus required to form a path suitable for the transmission of voice, text, audio, video or data communication between telephones and other communication equipment in the telecommunications network. (*Circuit*)

Connection. The one-time activation of telecommunications subscribers by connecting or reconnecting them to the PSTN. This does not include premises wiring. (*Connexion*)

Contribution. Payments (per minute or per circuit) derived from domestic and international long-distance telecommunications revenues to cover the revenue shortfall in the provision of local/access services. (*Contribution*)

Conversation minutes. The actual elapsed period in minutes a respondent's switches, circuits, lines or groups of lines are in use, or in the case of rebillers, the actual conversation time their customers use for calls and messages. Billing increments other than conversation time were converted to conversation minutes and reported by respondents accordingly. (*Minutes de conversation*)

Data and high speed services. This includes all wideband and broadband services (greater than 64 kbps), as well as narrowband packet-switched services. Wholesale internet services are not reported separately, and are included here. (*Services de données et à haute vitesse*)

Dispatch services. Non-switched services provided by radio common carrier (RCC) license holders for the provision of radio communications services (e.g., dispatch services for taxis or field service personnel, mobile data for police departments, etc.). (*Service de dépêche*)

Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA). For this survey, this is calculated by summing operating profit and depreciation. (*Bénéfices avant intérêts, impôts, dépréciation et amortissement (BAIDA)*)

Employee. Any person drawing pay for services rendered or for paid absences and for whom an employer must complete a Canada Customs and Revenue Agency T4 Supplementary Form. This includes full-time (work performed or paid absence of 30 or more hours in a typical work week) and part-time employees (work performed or paid absence of less than 30 hours a week), working owners, directors, partners and other officers of unincorporated businesses. It excludes owners or partners of unincorporated businesses, the self employed, unpaid family workers, persons outside Canada and casual workers for whom a T4 is not required. (*Employés*)

Enhanced Specialized Mobile Radio (ESMR). A telecommunications system that uses radio frequencies primarily in the 800 MHz frequency band to provide mobile dispatch services and mobile access to the wireline PSTN. ESMR uses digital transmission technology over a multi-cell network architecture. Its activity is reported as part of mobile telephony. (*Services de radiocommunications mobiles spécialisés (SRMS)*)

Establishment. A telecommunications service provider which is an operating entity capable of reporting basic elements of financial and network statistics, such as revenues, (wireless) operated. (*Établissement*)

Facilities-based operator. A telecommunications service provider that owns or operates any transmission facility (wire, cable, radio, optical, or other electromagnetic system, or any similar technical system) for the transmission of

intelligence (signs, signals, writing, images, sounds or intelligence of any nature) between network termination points. (*Fournisseurs de télécommunications exploitant leurs propres installations*)

Fixed wireless. The use of radio frequencies for the provision of telecommunication services from a fixed place. This is used for access to the PSTN in remote areas or for alternative access to the PSTN in built-up areas. In these circumstances, fixed wireless is known as wireless local loop (WLL). Fixed wireless can use either digital or analogue transmission technology. (*Sans fil fixe*)

Fringe benefits. Employer contributions to pension plans, medical and other welfare plans, unemployment insurance, Canada and Quebec Pension Plans and workers compensation. Not included are non-taxable benefits provided by an employer such as premiums under a private health plan, recreational facilities, moving expenses and certain employee counselling services. Reported with **Labour costs.** (*Avantages sociaux*)

Full-time equivalent (FTE) employees. Full-time employees plus part-time employees converted to full-time equivalents. For this survey, this is calculated by dividing total part-time labour costs by the average full-time salary (full-time labour costs divided by full-time employees). (*Employés à plein temps ou l'équivalent (EPT)*)

Interconnection. Services and facilities beyond the point of interconnection (such as switching and aggregation) to terminate traffic on behalf of an originating telecommunications service provider. This includes transiting or transport where provided pursuant to an interconnection tariff or agreement. Interconnection occurs between local exchange carriers (LEC s) and interexchange service providers (IXC s), including alternative providers of long distance services (APLDS), LEC s and wireless service providers (WSP s), and between domestic and foreign service providers. (*Interconnexion*)

Labour costs. The total remuneration paid to employees before deductions (the equivalent to the taxable employment income reported in Box 14 of the employees Canada Customs and Revenue Agency T4 slips). This includes regular wages and salaries, overtime pay, paid leave, taxable allowances and benefits, gratuities, director's fees, vacation pay and special payments such as bonuses and commissions, retroactive and accumulated wage payments, termination/ severance payments, cost of living adjustments and working owner's draws, for expensed or capitalized labour. This also includes fringe benefits (see **Fringe benefits**). Readers should note that the amount reported as part of Operating expenses may differ from what is reported in the labour cost section, since the latter may include payments for labour that are capitalized. (*Coûts de la main-d'oeuvre*)

Local switched telecommunications. The switching and transmission of voice, data, image and video messages over the PSTN within local calling areas. (*Télécommunications commutées locales*)

Long-distance switched telecommunications. The switching and transmission of voice, data, image and video messages over the PSTN between local calling areas. (*Télécommunications commutées interurbaines*)

Messaging. An interactive telecommunications service that provides for information interchange among users by means of store-and-forward, electronic mail, or message-handling functions such as paging and narrowband PCS. Telephone answering services are not included. (*Messagerie*)

National industrial employment. Total national employment from Statistics Canada's Survey of Employment, Payrolls and Hours (SEPH). The target population is composed of all employers in Canada, except those in agriculture, fishing and trapping, private households services, religious organizations and military personnel of defence services. This figure does not include self-employment. For further information see Statistics Canada Catalogue No. 72-002-XPB. (*Emploi industriel national*)

Narrowband PCS. A telecommunication system that uses radio frequencies in the 900 MHz frequency band to provide one or two-way messaging services. This service uses digital transmission technology with radio frequency channels of 50 kHz (kilohertz) or less. (*Bande étroite (SCP)*)

Net income before taxes. Total revenues (operating revenues plus non-operating revenues) less total expenses (operating expenses plus non-operating expenses). (*Revenu net avant impôt*)

Network access service. Primary connection to a company owned network for the purpose of telecommunications, regardless of the physical characteristics of the link. This includes individual and party line circuits; trunks connecting company facilities with switching devices located on customers premises; licensed radio-telephones; primary connections within networks (i.e., drops); WATS; and primary special services circuits. (*Services d'accès au réseau*)

Non-switched telecommunications. Dedicated communication lines or paths between specified points for the exclusive use of the lessees or owners typically not involving the PSTN for routing or switching the communication, e.g., private voice and data networks linking multiple business locations, dedicated links for transferring high-resolution video, etc. (*Télécommunications sans commutation*)

Non-PSTN Lines. Telecommunications lines not connected to the PSTN, e.g., non-switched transport services such as low-speed data links for automated teller machines; private voice and data networks linking multiple business locations; and dedicated links for transferring high-resolution video. Analogue lines (voice, sub-voice) are typically used for alarm monitoring, traffic control, point-of-sale terminals, etc. (*Télécommunications sans commutation*)

Operating profit. Total operating revenues less total operating expenses. (*Bénéfice d'exploitation*)

Operating revenue per capita. Industry operating revenue per person based on the quarterly population estimate. (*Revenus d'exploitation par personne*)

Packet switched telecommunications. Voice, data or video telecommunications that are divided into packets of fixed or variable length to be routed along non-reserved circuits to their destination. Each packet is addressed and numbered so it can be routed to its proper destination and reassembled in its proper sequence upon its arrival. These packets typically follow various routes depending on what is available at the time, which maximizes the network's operating efficiency. (*Commutation par paquets*)

Paging. A one-way telecommunications system that provides signaling or information transfer by such means as tone, tone-voice, tactile, or optical read-out. Analogue or digital transmission technology may be used. (*Radiomessagerie*)

Paging revenue per subscriber. Paging revenues per paging subscribers (does not include undercoverage estimate). (*Revenus de messagerie par abonné*)

Personal Communications Services (PCS). Mobile telecommunications using radio frequencies in the 1900 MHz frequency band connected access to the PSTN. PCS uses digital transmission technology over a multi-cell network architecture. (*Services de commutations personnelles (SCP)*)

Public Switched Telephone Network (PSTN). The worldwide dial-up telephone network (switching, circuits, transmission and access services), or a portion of that network, used to establish voice and non-voice (text, audio, video or data) communications carried over a path initially established using normal telephone signaling and ordinary switched long-distance telephone circuits. (*Réseau téléphonique public commuté (RTPC)*)

PSTN, Centrex access lines. A business telephone service offered by a service provider that permits direct inward dialing to a customer's extensions, transfer of incoming calls from one extension to another, and

identification of extension telephones for billing of long-distance calls. Centrex is based on switching equipment usually located on the service providers premises. (*Lignes d'accès Centrex (RTPC)*)

PSTN, Individual access line. A subscriber line arranged to serve one main telephone. This includes PBX (private branch exchange) lines for businesses that have corresponding dedicated ports in the telephone exchange equipment. (*Ligne d'accès individuelle (RTPC)*)

PSTN, ISDN access line (Integrated Services Digital Network). A high capacity digital line the equivalent of 2 (BRA) or 23 (PRA) voice grade lines. These are counted as single lines despite their greater capacity. See voice-grade equivalents for a measure that is frequently used to take into account the enhanced capacity of these lines. (*RTPC, Réseau numérique d'intégration de services (RNIS)*)

BRA (Basic Rate Access) access lines deliver two 64 kbps channels (B channels) and one 16 kbps channel (D channel) over a standard twisted-pair loop. The 64 kbps channels are capable of transmitting voice or data simultaneously while the D channel transmits call control messages and packet data at 9.6 kbps. (*Accès à débit de base ADB*)

PRA (Primary Rate Access) lines can transmit at 1.544 Mbps (T1 trunk facility) consisting of 23 64 kbps B channels and one 64 kbps D channel. The B channels carry voice and data at 64 kbps while the D channel carries out-of-band signaling for one or more primary rate links. (*Accès à débit primaire ADP*)

PSTN access paths per FTE employee. Access lines for the wireline industry and mobile subscribers for the wireless industry, per full-time equivalent employee in the respective industries. (*Voies d'accès RTPC par employé à plein temps ou l'équivalent*)

PSTN, Other access lines. Wireline access lines not specified by any of the defined categories (individual, ISDN, public, centrex) such as WATS, Mobile access lines (this is not the same as mobile telephony subscribers). (*Autres accès (RTPC)*)

PSTN, Party access line. A subscriber line arranged to serve two or more main telephones (e.g., residential party lines). (*Partagés (RTPC)*)

PSTN, Public telephones. Coin or card payphones including semi-public phones (payphones available to the public on a restricted basis owing to their location, e.g., those on private premises such as restaurants). (*Téléphones publics (RTPC)*)

Reseller. A telecommunications service provider primarily engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling telecommunications services to their clients. Resellers may own some network facilities such as switching equipment or apparatus to manipulate and control intelligence but do not operate or maintain a full network, nor own transmission facilities such as wire, cable, radio or optical systems. (*Revendeur*)

Retail Internet services. The value reported in these quarterly reports represents only a small part of retail internet services in Canada, as most telecom companies have subsidiary companies or separate operating divisions (ISP's - Internet Service Providers), which are not telecommunications industries according to the North American Industry Classification System (NAICS). (*Services Internet de détail*)

Revenue per FTE employee. Total operating revenues per full-time equivalent employee. (*Revenu par employé à plein temps ou l'équivalent*)

Satellite, fixed. Communications via satellite transmission in which the terrestrial terminal points are fixed. (*Satellite (Fixe)*)

Satellite, mobile. Communications via satellite transmission in which the terrestrial terminal point can be mobile. (*Satellite (Mobile)*)

Subscriber. A customer of a wireline or wireless telecommunications service provider having unique access to the PSTN. (*Abonné*)

Switching equipment. Digital and analogue equipment and related software used to switch traffic over the PSTN. PBX's used as public switches are included whereas PC's used as switches are excluded. (*Équipement de commutation*)

Telecommunications. Any transmission, emission or reception of signs, signals writing images, sounds or intelligence of any nature, by wire, radio, visual or other electro-magnetic system. (*Télécommunications*)

Telecommunications, wireline (wired). Establishments primarily engaged in operating and maintaining switching and transmission facilities to provide direct communications via land lines, microwave, or a combination of land lines, microwave and satellite link-ups. (*Télécommunications par fil*)

Telecommunications, wireless. Establishments engaged in operating and maintaining switching and transmission facilities to provide direct communications via the airwaves. (*Télécommunications sans fil*)

Telecommunications, other. Establishments primarily engaged in providing specialized telecommunications services such as satellite tracking, communications telemetry and radar station operation. The includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. (*Autres services de télécommunications*)

Teledensity. A measure of the number of phone lines (fixed access lines and mobile subscribers) per 100 of population. Between 40 and 50 lines per 100 of population indicates fairly good density. The OECD average was 48.9 in 1997. Teledensity is a measure of a country's economic development. (*Télédensité*)

Telemetry. The measurement or recording of an activity from a distance by monitoring equipment connected to a telecommunications network. (*Téléométrie*)

Telephone. A compact unit containing the parts necessary for the transmission and reception of speech and for ringing or signalling the party called, and which can be interconnected to any other such unit in the general telephone network. (*Téléphone*)

Terminal equipment. Equipment on customer premises connected to telecommunications lines: e.g., PBX's not used for public switching, telephone sets, routers, modems in customer sites, key systems, etc. (*Équipement de terminal*)

Voice services. Services generally associated with voice communication, narrowband or voice-grade communication, including voice telephony, fax, PSTN access, etc. (*Services de transmission de la voix*)

Voice-grade. A voice-grade access line can transmit voice or data at 64 kbps. They also transmit communications in an audio frequency range between 300 and 3000 Hz, typical of the human voice. (*Qualité téléphonique*)

Voice-grade equivalents ('B channel' equivalents). Refer to how many voice-grade lines would be needed to provide the same or equivalent bandwidth to the line in question. ISDN BRA lines (bandwidth = 144 kbps) are the equivalent of 2 voice-grade lines while ISDN PRA (bandwidth = 1.544 Mbps) are the equivalent of 23 voice-grade lines. (*Équivalent qualité téléphonique (équivalent « canal B »)*)

Wide area telephone service (WATS). Service provided by a telephone company enabling a subscriber to dial certain distant exchanges on either a flat rate or a measured time charge basis. (*Services interurbain planifié (WATS)*)

Wideband. Telecommunications of bandwidth greater than 64 kbps up to and including 1.544 Mbps. A telecommunications path with 2 way capabilities with speed in at least one direction fitting the criteria described above. (*Large bande*)

Wireless Broadband Services. A multipoint telecommunications systems that use radio frequencies to allow the transmission and/or reception of information such as multimedia, data, and video over radio frequency channels of 50 kHz or greater (e.g., LMCS). Either digital or analogue transmission technology is used. (*Service sans fil à large bande*)