Information and Communication Technology

Definition

The Information and Communication Technology (ICT) sector is defined as a variant of NAICS industries. This sector is comprised of technologies such as desktop and laptop computers, software, peripherals, and connections to the Internet that are intended to fulfil information processing and communications functions.

This sector also includes industries primarily engaged in producing goods or services, or supplying technologies, used to process, transmit or receive information.

The underlying principles involving the definition of this sector are:

• For *manufacturing* industries, the products of a candidate industry: must be intended to fulfil the function of information processing and communication including transmission and display, or must use electronic processing to detect, measure and/or record physical phenomena or to control a physical process.

• For *services* industries, the products of a candidate industry: must be intended to enable the function of information processing and communication by electronic means.

The production (goods and services) of a candidate industry must primarily be intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display (Statistics Canada, 2015).

The Durham Workforce Authority considers information technology (IT) a subsector of ICT. The term ICT is an umbrella term that fully encompasses a variety of technologies and is not limited to software and computer services industries.

Overview of the Industry

The information and communication technology (ICT) industry continues to grow and develop in Durham Region. Today, virtually all industries and sub-sectors need some form of ICT support, whether through basic or advanced supports. This sector has experienced significant business growth in the professional, scientific and technical service subsectors (City of Oshawa, 2013). The creation of niche subsectors have emerged to support other businesses through software, publishing, telecommunications and other information services (City of Oshawa, 2013). The ICT industry continues to be key sector within existing Durham

Region clusters, and continues to support and encourage growth and development in other up-and-coming industries within the Region. This industry continues to attract and develop Durham Region's creative economy and serves as an opportunity for further expansion (Town of Ajax, 2010).

The National Research Council of Canada states that ICT industries are the backbone of the global digital economy and constitute a key driver of productivity growth in a knowledge-based economy (National Research Council of Canada, 2012). The ICT sector is continuously growing and accounts for 3.1% of employment across Canada (Innovation, Scientific and Economic Development Canada, 2016).

Regional innovation and industry support organizations have contributed to the creation of innovative and inventive spin-off companies within ICT sub-sectors (City of Oshawa, 2013). The ICT sector currently has the potential for business investment, attraction and expansion within Durham Region (Town of Ajax, 2010). As the economy of Durham Region shifts towards a knowledge-based economy, there is an emphasis on service sectors, such as ICT, to support this growth and transition (Town of Ajax, 2010). Durham Region's good location, affordable land, proximity to post-secondary institutions and transportation makes the Region a prime location to start a business in the ICT sector (Clarington Board of Trade & Office of Economic Development, 2016). Currently, Durham Region fosters local innovation and development through several business parks located across the Region. The Clarington Technology Business Park is focused on science, technology and research, which continue to support the growth and development of clusters within the Region (Clarington Board of Trade & Office of Economic Development, 2016). The Town of Whitby also has several business parks which continue to foster the development of healthy research partnerships (Town of Whitby, 2015). These business parks put an emphasis on cross-sectoral collaboration in order to ensure growth within a variety of sectors and clusters.

Durham Region tech companies have access to local organizations that support start-ups and entrepreneurship through programming, mentoring, accessing capital and other services such as professional services firms in banking, accounting, and legal with experience in international markets (Durham Region Economic Development, 2015). With the presence of five of Canada's largest information technology talent producers, including University of Ontario Institute of Technology and Trent University, Durham Region is recognized as one of Canada's fastest growing clusters (Region of Durham, 2016). Durham Region has evolved into an information technology hotbed, as it is the location of many key employers in the sector (Region of Durham, 2016). Durham Region is also the home to the Spark Centre, one of 15 regional innovation centres. The Spark Centre produces a thriving entrepreneurial community that embraces innovation and technology in order to compete as a part of a world class innovation cluster. The ICT industry has the ability to transform existing sectors into further productive and competitive sectors, in addition to helping them thrive nationally and compete globally.

The Durham Workforce Authority considers the ICT sector a Subject Matter Working Group for the Local Employment Planning Council (LEPC) because it demonstrates

the ability to continuously grow and support existing industries located in Durham Region. The ICT sector supports existing sectors through innovative technologies and practices, while modernizing current business practices and systems. This industry is an integral part to shifting the local economy towards a knowledge-based economy. Cross sector collaboration is essential to the success of Durham Region's economy and workforce. Supporting knowledge-based jobs represent a key component of the Region's creative economy and future economic growth (Town of Ajax, 2010).

Canadian Business Counts – Durham Region

Data within the Canadian Business Counts table represents counts of active businesses by industry classification and employment-size categories for Canada and the provinces and territories. The counts are compiled from the Business Register, Statistics Canada's central listing of Canadian businesses. The table below represents a sampling of active businesses, as of December 2015 within Durham Region in the information and communication technology sector. Sourced from Statistics Canada 2015.

	Without employees	Total, with employees	1-4	5-9	10-19	20-49	50-99	100-199	200-499	500 +
Total	34,517	14,731	8,308	2865	1763	1176	372	148	71	28
Unclassified	4,509	1,054	914	95	27	12	4	2	0	0
Sub-total, classified	30,008	13,677	7,394	2,770	1,736	1,164	368	146	71	28
Total – Information and Communication Technology	6,688	2,628	1,942	349	148	116	37	12	19	5

Industry Overview (NAICS)

The North American Industry Classification System (NAICS) is an industry classification system developed by the statistical agencies of Canada, Mexico and the United States. Created against the background of the North American Free Trade Agreement, it is designed to provide common definitions of the industrial structure of the three countries and a common statistical framework to facilitate the analysis of the three economies. NAICS is based on supply-side or production-oriented principles, to ensure that industrial data, classified to NAICS, are suitable for the analysis of production-related issues such as industrial performance.

NAICS is a comprehensive system encompassing all economic activities. It has a hierarchical structure and is composed of sectors (two-digit codes), subsectors (three-digit codes), industry groups (four-digit codes), and industries (five-digit codes). At the highest level, it divides the economy into 20 sectors. At lower levels, it further distinguishes the different economic activities in which businesses are engaged. The table below represents the top three industries in the information and communication technology sector with Durham Region.

NAICS Code	Description	Jobs in Durham Region (POW)	Durham Region Residents Employed (POR)	Total - Class of Worker	Employees	Self-Employed #2	Self - Employed	Median Wages and Salaries (POR)	Average Wages and Salaries (POR)	Median Wages and Salaries (POW)	Average Wages and Salaries (POW)
511	Publishing industries (except internet)	1,095	430	2,215	2,090	120	120	$46,753	$53,123	$39,533	$46,156
517	Telecommunications	1,330	500	4,625	4,590	35	35	$59,661	$63,523	$41,140	$49,904
541	Professional, scientific and technical services	10,445	5,640	20,745	16,085	4,660	4,625	$48,484	$57,933	$43,298	$54,246

Definition of Terms

Within this document data related to the industry is classified within two categories:
Place of Work (POW) and Place of Residence (POR).
Place of Work – is defined as individuals employed within Durham Region.
Place of Residence – is defined as Individuals who reside within Durham Region.

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