



# Information and Communications Technology (ICT) Report FOR THE YEAR ENDED 2011

## BACKGROUND

The Organization for Economic Development (OECD, 2007) defines the Information and Communication Technologies (ICT) sector as comprising a combination of manufacturing and services industries that enable or fulfill the function of information processing and communication, including transmission and display by electronic means. These industries are involved in the development, delivery and support of advanced technological products.

This report is generated using data from annual business surveys and shows the results of the core indicators on use of ICT by businesses. Analysis and tables related to GDP, employment, trade and investment contained within follow the CARICOM definition of the ICT sector (Box 1 on the inside back cover). Included in this measure are the industries that comprise the OECD 2007 definition as well as trade industries and content & media industries.

## 2011 HIGHLIGHTS

- The ICT sector contributed 4.3 per cent to Bermuda's GDP, or \$239 million.
- There were 914 ICT-related jobs in 2011, down 3.6 per cent.
- Almost 90 per cent of all businesses use computers during their daily operations.
- Imports of ICT goods and services dropped to \$127.9 million in 2011.
- Exports of ICT services fell to \$79.9 million.
- Capital investment in ICT goods totaled \$131 million.

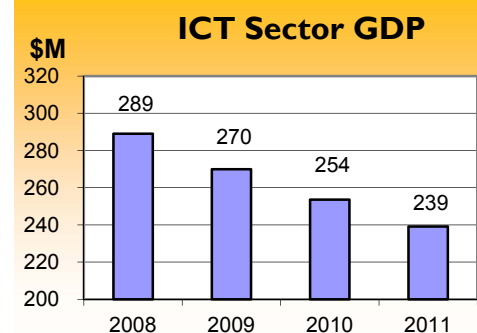
## PROFILE OF THE ICT SECTOR

### ICT SECTOR VALUE ADDED DOWN

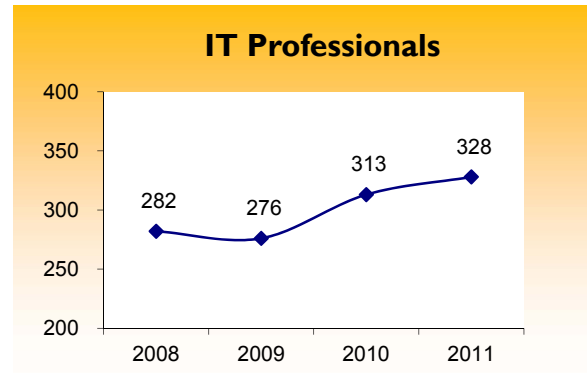
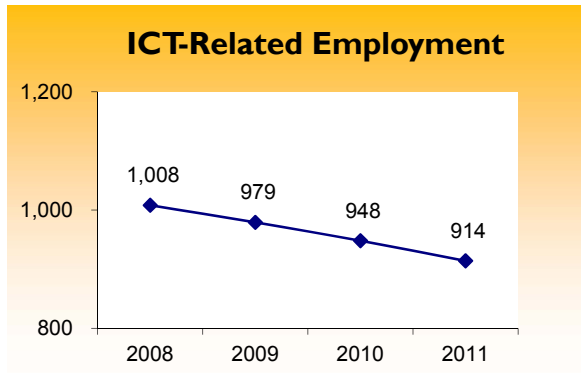
Growth in the ICT sector declined 5.7 per cent to \$239 million in 2011. Within the ICT sector, the ICT services sub-industry recorded the largest decline with a \$13 million fall in value added.

Businesses offering telephone and internet connections saw spikes in their operational costs that drove down their economic contribution. Companies engaged in the transmission of radio and television programming also suffered a dip in activity. Among other ICT sub-industries, the value added of trade industries and content & media industries declined by 3 per cent and 2 per cent, respectively.

Compared to 2010, the ICT sector's share of total GDP edged down to 4.3 per cent. While the sector ranked fairly low in terms of contribution to GDP, it surpassed all goods producing industries and services industries such as construction and community and personal services.



## LOSS OF TELECOM ENGINEER JOBS DRAG DOWN ICT EMPLOYMENT



ICT-related employment continued its downward trend, falling by 3.6 percent in 2011. This decrease was attributed mostly to a decline in the number of telecommunications engineers and telephone installers/repairers. Total ICT-related jobs represented 2.4 percent of overall employment.

The restructuring and the re-domicile of businesses contributed to the loss of ICT-related jobs. In 2011, approximately 29 percent of all companies outsourced their ICT needs to other companies, 75 percent of which were local companies. This helped to slow the loss of local computing professional jobs as 15 more persons were employed in this field of work compared to 2010.

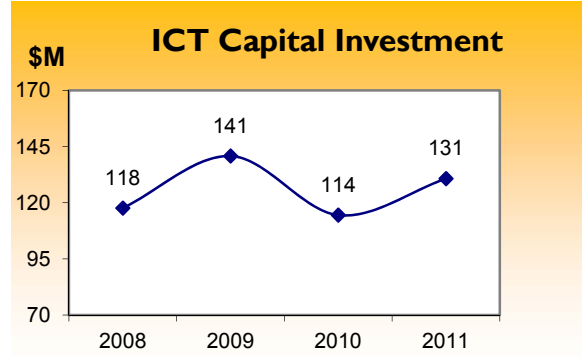
## TRADE IN ICT GOODS AND SERVICES RECORD A DEFICIT

In 2011, Bermuda ran a trade deficit on ICT goods and services. A total of \$127.9 million was spent overseas, down 12 percent over the previous year. Exports of information and communication technology services totaled \$79.9 million, down 3.3 per cent from 2010 (see Table 1 below).

	2010	2011
<b>IMPORTS</b>		
ICT Goods		
Telecommunications equipment	17,467	14,948
Computer and related equipment	15,951	16,735
Electronic components	2,593	1,927
Audio and video equipment	5,660	7,220
Other ICT goods	6,885	5,221
Total ICT Goods	48,555	46,051
ICT Services	96,741	81,893
<b>Total Imports (Goods and Services)</b>	<b>145,296</b>	<b>127,944</b>
<b>EXPORTS</b>		
Total Exports of ICT Services	82,582	79,896
<b>Trade Balance</b>	<b>(62,714)</b>	<b>(48,048)</b>

## ICT CAPITAL INVESTMENT RISE WITH SOFTWARE PURCHASES

Expenditure on ICT capital goods rose to \$131 million in 2011. The rise was due primarily to a 37 percent or \$21 million increase in business investment of computer software. As in the previous year, expenditure by financial institutions, the transport & telecommunications industries and the international business community accounted for more than half of all ICT investment in Bermuda during 2011. Industries such as agriculture, fishing, manufacturing and real estate invested the least in ICT capital goods during the year.



## BUSINESS USE OF ICT DOMINATED BY SERVICE INDUSTRIES

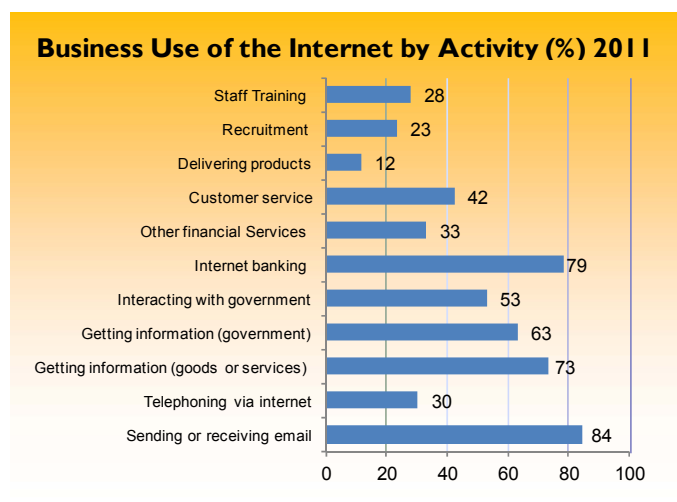
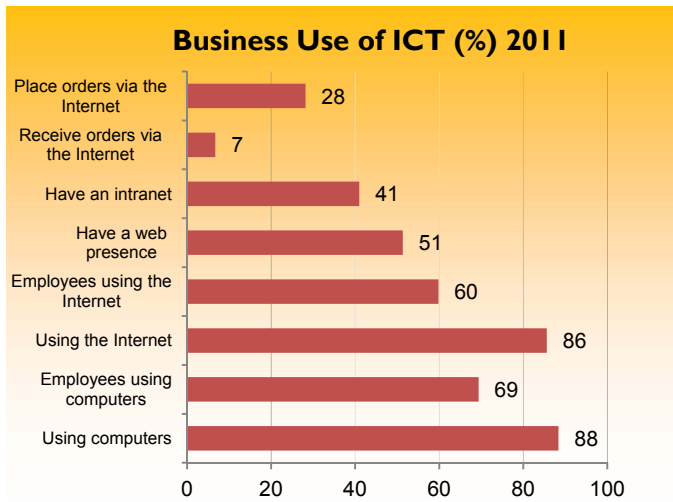
Businesses in Bermuda continue to rely on information and communications technology (ICT) during their day-to-day operations. Table 2 shows that service related industries, such as financial and insurance institutions were more prevalent users of ICT than goods producing industries. On average about 90 per cent of all companies in service related industries used a computer compared to only 80 per cent usage by goods producing industries such as agriculture and manufacturing. Establishments in the electricity and water supply sector experienced the largest increase in computer usage in 2011, growing by 25 per cent to 75 per cent.

Table 2: Percent (%) Use of ICT for Selected Industries

Use of ICT	Agri- culture	Manufac- turing	Electricity and Water Supply	Cons- truction	Financial Insti- tutions	Insurance and related activities	Inter- national Business Activity	ICT Sector
Employees using computers	24	53	60	30	99	100	100	86
Using the Internet	65	81	75	71	92	100	95	96
Employees using the Internet	20	44	59	23	96	79	96	77
Have a web presence	14	43	50	22	86	89	73	86
Have an intranet	2	32	50	19	77	100	74	61
Receive orders via the Internet	**	10	25	1	23	22	1	39
Place orders via the Internet	9	32	**	17	18	33	24	10
<b>Proportion of businesses using the internet by type of activity:</b>								
Sending or receiving email	63	79	75	70	92	100	94	93
Telephoning via internet	5	13	25	15	74	100	67	52
Getting information (goods or service)	49	70	75	56	85	100	82	90
Getting information (government)	35	51	50	48	85	100	81	75
Interacting with government	28	40	25	36	79	89	68	57
Internet banking	63	75	75	64	90	100	92	93
Other financial Services	9	17	50	24	79	89	66	39
Customer service	21	37	25	29	74	100	38	57
Delivering products	5	14	25	3	44	33	17	31
Recruitment	2	14	25	13	41	56	37	36
Staff Training	**	13	25	9	56	78	66	46

\*\* denotes zero

**Bermuda Information and Communication Technologies, 2011**



Slightly more than half (51%) of all businesses have a web presence, however most did not utilise this web presence for e-commerce. Although the number of companies trading goods via the internet increased in 2011, only 28 per cent of these companies used the internet to place orders for goods and services and an even smaller portion (7%) received orders over the internet. Most businesses used the internet for sending and receiving e-mails, with internet banking and accessing information among the more frequent internet activities.

In 2011, 88 per cent of all companies used computers in their daily operations (Table 3) and 86 per cent used the internet, up from 87 per cent and 82 per cent, respectively. For aspects of ICT use such as having a web presence and e-commerce, the size of businesses continued to be positively correlated to usage. The larger the company, the greater was the use of the internet for activities such as recruitment, staff training, delivering products and customer service.

**Table 3: Percent (%) use of ICT by Size of Company, 2011**

Use of ICT	1 - 9	10 - 19	20 - 49	50 - 249	250 +	Total
	employees	employees	employees	employees	employees	Economy
Using computers	83	96	98	100	100	88
Employees using computers	88	65	62	69	73	69
Using the Internet	79	94	98	99	100	86
Employees using the Internet	76	54	53	56	72	60
Have a web presence	37	63	76	91	100	51
Have an intranet	30	52	59	70	100	41
Receive orders via the Internet	4	6	9	21	57	7
Place orders via the Internet	21	34	45	43	57	28
<b>Proportion of businesses using the internet by type of activity:</b>						
Sending or receiving email	77	93	97	99	100	84
Telephoning via internet	21	36	45	65	86	30
Getting information (goods or services)	63	84	94	97	86	73
Getting information (government)	51	78	86	87	100	63
Interacting with government	39	71	76	82	100	53
Internet banking	69	92	94	98	100	79
Other financial Services	25	37	48	61	100	33
Customer service	32	54	59	69	71	42
Delivering products	8	12	18	25	71	12
Recruitment	10	35	47	63	100	23
Staff Training	15	37	49	70	86	28

## DEFINING THE ICT SECTOR

In 2010, Bermuda was selected as one of four Caribbean Community Secretariat (CARICOM) member states to participate in a pilot project to measure the economic contribution of the ICT sector. The information Box below outlines the various industries that comprise the ICT sector as defined by CARICOM. The selected industries align with the United Nations International Standard Industrial Classification (ISIC) Rev.4.

### CARICOM ICT sector definition (based on ISIC Rev.4)

#### *ICT manufacturing industries*

- 2610 Manufacture of electronic components and boards
- 2620 Manufacture of computers and peripheral equipment
- 2630 Manufacture of communication equipment
- 2640 Manufacture of consumer electronics
- 2680 Manufacture of magnetic and optical media

#### *ICT trade industries*

- 4651 Wholesale of computers, computer peripheral equipment and software
- 4652 Wholesale of electronic and telecommunications equipment and parts
- 474 Retail sale of information and communications equipment in specialised stores
- 476 Retail sale of cultural and recreation goods in specialised stores

#### *ICT services industries*

- 5820 Software publishing
- 61 Telecommunications
- 62 Computer programming, consultancy, and related activities
- 631 Data processing, hosting, and related activities; web portals
- 7730 Renting and leasing activities
- 8220 Activities of call centers
- 951 Repair of computers and communication equipment
- 9521 Repair of consumer electronics

#### *ICT content and media industries*

- 581 Publishing of books, periodicals, and other publishing activities
- 591 Motion picture, video, and television programme activities
- 5920 Sound recording and music publishing activities
- 60 Programming and broadcasting activities
- 639 Other information service activities

Source: Determining the contribution of ICT to GDP (CARICOM, May 2011)

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