

Economic Analysis



Satellite Accounts

Information and Communication Technology satellite account
for South Africa, 2013 and 2014

Report No.: 04-07-01

March 2017

THE SOUTH AFRICA I KNOW, THE HOME I UNDERSTAND

Information and Communication Technology satellite
account for South Africa, 2013 and 2014

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Pali Lehohla
Statistician-General

Report number: 04-07-01
Statistics South Africa
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Published by Statistics South Africa, Private Bag X44, Pretoria 0001

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Information and Communication Technology satellite account for South Africa, 2013 and 2014/ Statistics South Africa.
Pretoria: Statistics South Africa, 2017
Report No. 04-07-01
Title continuous in English only
ISBN: 978-0-621-42501-7

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Abbreviations

AFS	Annual Financial Statistics
CPC	Central Product Classification
GFCF	Gross fixed capital formation
GDP	Gross domestic product
GHS	General Household Survey
GVA	Gross value added
HS	Harmonised System
HFCE	Household Final Consumption Expenditure
ICT	Information and Communication Technology
IES	Income and Expenditure Survey
ISIC	International Standard Industrial Classification of all Economic Activities
IT	Information Technology
LSS	Large Sample Survey
OECD	Organisation for Economic Cooperation and Development
SARB	South African Reserve Bank
SARS	South African Revenue Service
SIC	Standard Industrial Classification of all Economic Activities
SNA	System of National Accounts
Stats SA	Statistics South Africa
SU-tables	Supply and Use tables

Preface

The Information and Communication Technology (ICT) satellite account covers the reference years 2013 and 2014. It provides an overview of the role that ICT plays in the South African economy and provides information on the ICT sector's contribution to the South African economy both in terms of expenditure and output.

The ICT satellite account for South Africa is compiled and published by Statistics South Africa (Stats SA) according to a framework based on recommendations from the Organisation for Economic Cooperation and Development (OECD) and after examining other countries' experiences. The ICT satellite account is, together with various ICT indicators, one element of a planned compendium of ICT statistics. These will provide for the understanding and monitoring of the impact of ICT and the ICT sector on the South African economy over time.

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March 2017

Key findings

Key findings of the Information and Communication Technology satellite account for South Africa, 2013 and 2014 are:

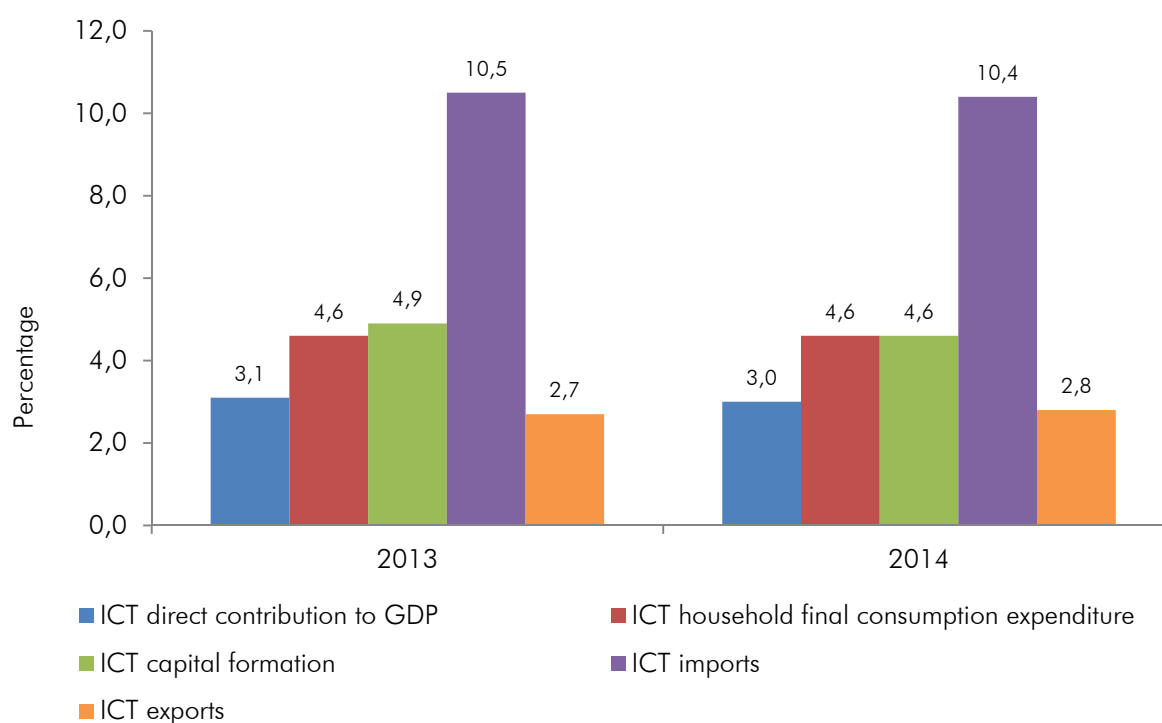
	2013	2014
Information and Communication Technology (ICT) contribution to gross domestic product (GDP) (R million)	108 662	114 487
ICT contribution to gross domestic product (GDP) (%)	3,1	3,0
ICT contribution to gross value added (GVA) (R million)	89 102	92 942
Total domestic output at basic prices of the ICT sector (R million)	257 056	268 043
Estimated ICT taxes (R million)	19 560	21 546
ICT imports (R million)	123 044	130 983
ICT exports (R million)	29 979	33 794
ICT trade balance (R million)	-93 065	-97 189
Compensation of employees paid by the ICT sector (R million)	35 646	38 343
Household final consumption expenditure (HFCE) on ICT products (R million)	99 019	105 714
HFCE on ICT products compared with total spend (%)	4,6	4,6

The latest estimates put the direct contribution of the Information and Communication Technology (ICT) sector to the gross domestic product (GDP) of South Africa at R108 662 million (or 3,1% of total GDP) in 2013, and R114 487 million (or 3,0% of total GDP) in 2014.

In 2014, telecommunication services contributed 1,9 percentage points towards the total ICT sector contribution to GDP (3,0% of total GDP), followed by related industries¹ (contributing 0,5 of a percentage point), computer services and activities (contributing 0,3 of a percentage point), manufacturing (contributing 0,2 of a percentage point), and content and media (contributing 0,2 of a percentage point) (please refer to Table 1).

Figure 1 shows selected ICT variables as a proportion of the country totals for 2013 and 2014. For example ICT accounted for 4,9% of South Africa’s capital formation in 2013, declining to 4,6% in 2014.

Figure 1: Key ICT variables as a percentage of corresponding totals, 2013 and 2014



Source: Statistics South Africa

Total domestic output at basic prices² of the ICT sector in 2013 was R257 056 million, with telecommunication services making the largest contribution (R167 944 million or 63%). Total domestic output at basic prices of the ICT sector in 2014 was R268 043 million, with telecommunication services making the largest contribution (R172 503 million or 62%).

The ICT sector paid taxes of R19 560 million in 2013 and R21 546 million in 2014 (5,2% and 5,3% of total tax for the economy respectively).

¹ Including trade.

² Excludes trade margins, transport margins and net taxes and subsidies on products.

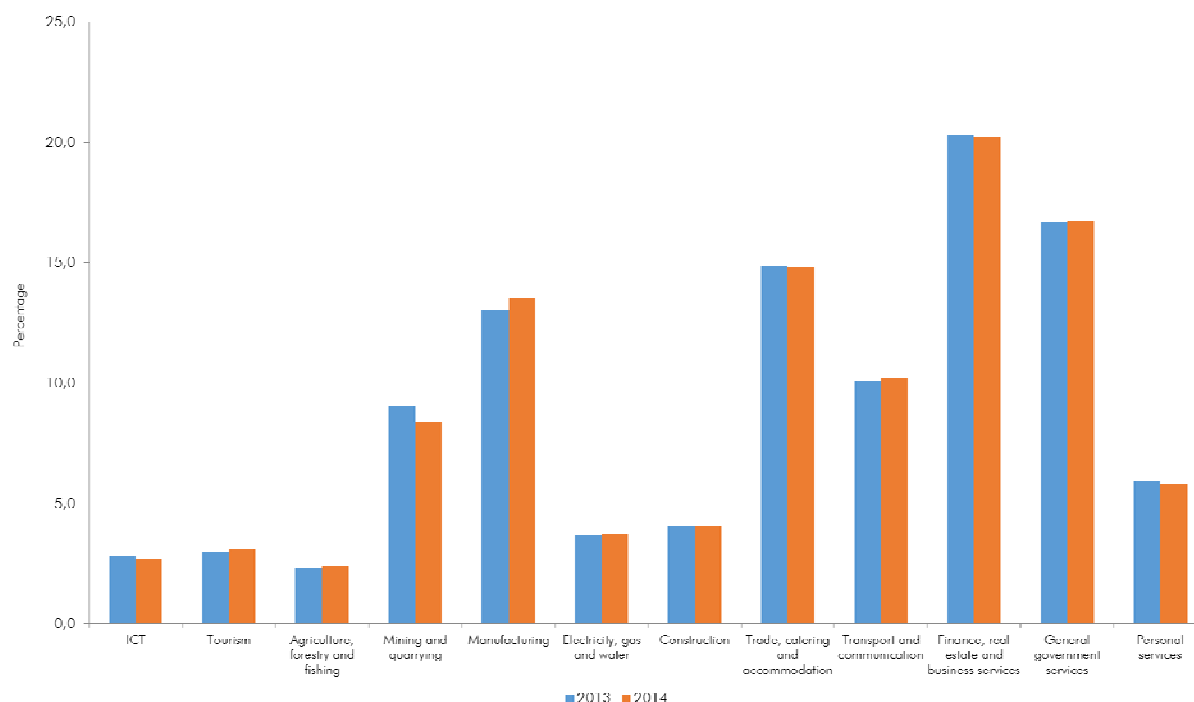
South Africa imported ICT products³ worth R123 044 million in 2013 (which was 10,5% of South Africa’s total imports⁴ in 2013). The ICT trade deficit was R93 065 million in 2013. ICT products exported in 2013 were worth R29 979 million (or 2,7% of total exports⁵). ICT products imported in 2014 amounted to R130 983 million (or 10,4% of total imports), while ICT exports were estimated at R33 794 million (or 2,8% of total exports). The ICT trade deficit increased slightly to R97 189 million in 2014.

Compensation of employees paid by the ICT sector in 2013 totalled R35 646 million, with telecommunication services making the largest contribution to compensation of employees (R18 986 million). In 2014, compensation of employees paid by the ICT sector totalled R38 343 million, with telecommunications remaining the largest contributor (R20 040 million).

Household final consumption expenditure (HFCE) on ICT products was R99 019 million in 2013 (or 4,6% of total HFCE). The major expenditure item was telecommunications, broadcasting and information supply services (R63 082 million or 63,7% of total ICT HFCE). In 2014, HFCE on ICT products was R105 714 million (or 4,6% of total HFCE). Telecommunications, broadcasting and information supply services remained the major expenditure item (R67 412 million or 63,8% of total ICT HFCE).

Figure 2 shows the contribution of the ICT sector to gross value added.

Figure 2: ICT sector contribution to gross value added compared with the tourism sector and industries, 2013 and 2014



Source: Statistics South Africa

³ Includes both goods and services.

⁴ Includes both goods and services.

⁵ Includes both goods and services.

Chapter 1: Introduction

Information and Communication Technology (ICT) is at the forefront of the modern economy. Computer processing power is increasing exponentially, with technology giving rise to cultural, social and productivity shocks. Communication has been completely transformed. Cellular telephones and other mobile devices connect individuals and businesses in a way that is not only fast, but also accessible. Data are transferred between individuals and businesses seamlessly⁶. Businesses, countries and people are connected like never before, and communication has been totally reshaped with email systems and online messaging that deliver instant responses.

The ICT sector in South Africa is an important component of the national economy. Technology is involved in almost every facet of the economy – from telecommunications to increasing productivity in manufacturing with robots, and more efficient computer hardware and software. Despite the economic importance of the ICT sector in South Africa and the world economy, it is not a clearly defined industry, as classified by the International Standard Industrial Classification of all Economic Activities (ISIC). Instead ICT is a component of multiple industries throughout the economy, including manufacturing, business services, trade and telecommunications.

There are multiple components to the ICT sector; they are measured through either ICT indicators (which measure the educational part and the socio-economic part) or the ICT satellite account (which measures the economic activity through National Accounts data). Statistics South Africa (Stats SA), along with other governmental stakeholders, is working towards creating a compendium of ICT statistics which will include both ICT indicators and the ICT satellite account.

⁶ Organisation for Economic Cooperation and Development – Guide to Measuring the Information Society (DSTI/ICCP/IIS(2005)6)

1.1 Why a satellite account?

In order to measure the ICT sector in an economy from National Accounts data, a satellite account is required. The System of National Accounts (SNA) recommends the development of satellite accounts for the measurement of economic phenomena that are not explicitly shown in the core set of accounts. A satellite account is an extension of the SNA that allows a component of the national framework to be examined with greater flexibility than the framework of the National Accounts typically allows. The advantage of a satellite account is that it can isolate the ICT supply and demand in various industries. It defines which industries and products⁷ are ICT specific and related, and which industries and products are not.

Another feature of an ICT satellite account is that it combines monetary aggregates with non-monetary data while still conforming to the SNA standards for monetary aggregates. There are no recommended guidelines and framework for an ICT satellite account. The Organisation for Economic Cooperation and Development (OECD) released guidelines proposing a conceptual model for the information economy⁸. Those guidelines form the basis of the recommended ICT industries and ICT products used in the draft ICT satellite account for South Africa.

The advantage of a completed ICT satellite account is that ICT data included within the National Accounts framework are explicitly estimated. The production, output, gross value added (GVA) and taxes paid by the ICT sector, the GDP contribution of the ICT sector, ICT employment, imports and exports of ICT products, household consumption of ICT products, and investment in ICT products within the economy are attainable values from an ICT satellite account. These values are important to policy-makers, investors and line ministries.

1.2 Information and Communication Technology satellite account methodology

The ICT satellite account framework forms the foundation of the ICT satellite account. The ICT framework allows for the compilation of the ICT satellite account by confronting supply and demand. It is highly recommended that the previous discussion documents and reports are read in conjunction with this report, consult the following discussion documents⁹ and reports^{10, 11}: *'The status of the Information and Communication Technology satellite account for South Africa'*, discussion document number: D0407; *'Draft Information and Communication Technology satellite account for South Africa, 2005'*, discussion document number: D0405.3.1; *Information and Communication Technology satellite account for South Africa, 2006-2011*: Report number: 04-07-01 and *Information and Communication Technology satellite account for South Africa, 2012*: Report number: 04-07-01. These are available online¹² at www.statssa.gov.za.

⁷ Products include both goods and services.

⁸ Organisation for Economic Cooperation and Development – Guide to Measuring the Information Society (DSTI/ICCP/IS(2005)6).

⁹ There have been three discussion documents published (March 2011, 2012 and 2013) detailing the progress and development of the Information and Technology Communication satellite account.

¹⁰ Information and Communication Technology satellite account for South Africa, 2006-2011: Report-04-07-01.

¹¹ Information and Communication Technology satellite account for South Africa, 2012: Report-04-07-01.

¹² Type the discussion document or report number into the search function (top right) at www.statssa.gov.za, and press enter.

The identification of the ICT sector was a fundamental step in developing the ICT satellite account. The ICT sector definitions and classifications adopted by Stats SA conform to the OECD international standards and thus maintain international comparability. The ICT definitions used for the ICT satellite account are as follows¹³:

- ICT products must primarily be intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display;
- For the ICT sector, 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;
- For the 'content and media' sector, the production (goods and services) of a candidate industry must primarily be intended to inform, educate and/or entertain humans through mass communication media. These industries are engaged in the production, publishing, and/or the distribution of content (information, cultural and entertainment products), where content corresponds to an organised message intended for human beings; and
- 'Content' corresponds to an organised message intended for human beings published in mass communication media and related media activities. The value of such a product to the consumer does not lie in its tangible qualities but rather in its information, educational, cultural or entertainment content.

The supply and use tables (SU-tables), which form the foundation of the ICT satellite account, are classified according to the Central Product Classification (CPC) (version 2) and the Standard Industrial Classification of all economic activities, 5th edition (SIC). While the SIC has not yet been updated to conform to the ISIC (4th revision), the CPC used within the SU-tables allows a direct link to OECD ICT product recommendations. There are industries classified under the SIC which are no longer directly linked to the latest version ISIC (4th revision).

Research was undertaken to identify these industries, based on whether they comply with the ICT sector definition or not. The identification of ICT-specific industries consisted of two stages. Firstly, the ICT products were identified within the SU-tables (any industry producing more than 50,0%¹⁴ of ICT products was regarded as an ICT-specific industry). The second stage was a filtering process, and this examined each identified industry and determined whether it met with the OECD definition of an ICT industry. If the industry did not, it was excluded from the ICT sector. The same process was undertaken for the content and media¹⁵ sector.

¹³ Organisation for Economic Cooperation and Development – Guide to measuring the Information Society, 2009.

¹⁴ Please see previous discussion documents no (D0407) for how this percentage was derived.

¹⁵ Content and media is included as a single line item within the ICT satellite account for South Africa.

The SU-tables are classified according to the CPC (version 2), mostly at a two-digit level. The OECD guidelines¹⁶ classify all ICT products at a five-digit level (this implies that products on the SU-tables are substantially aggregated when compared with the classifications put forward by the OECD; this is mainly due to product data limitations for South Africa, and is a phenomenon not confined to the ICT sector). The implication of this is that certain non-ICT products are classified within the same CPC product code as ICT products (due to the aggregation).

In order to extract ICT products from the aggregated data, certain assumptions are made in the treatment of ICT products:

- It is assumed that ICT products are only produced (in volume) within identified ICT industries that make up the ICT sector. There might be production of ICT products outside the ICT sector, produced as secondary output in other industries. This production is assumed to be very small in volume, and at this stage¹⁷ it cannot be accurately calculated;
- Certain industries meet the OECD ICT sector definition but the volume of ICT products produced is less than 50,0% of total output. These industries are regarded as ICT related, and while they fall outside the ICT sector, they are however included within the GDP calculation. An example of such an industry is trade services;
- In calculating ICT GDP and ICT GVA for the related industries, it is assumed they have a fixed-cost structure, and this implies their cost of output is the same regardless of the product mix produced; and
- In calculating the net taxes and subsidies and margins, it is assumed that the taxes are distributed evenly within an aggregated CPC code and, as a result of this, ICT and non-ICT products are taxed at the same rate.

In order to calculate the estimates of ICT products that were imported and exported, data supplied by the South African Revenue Service (SARS) were used to generate ratios that allowed the extraction of import and export data from the aggregated CPC product codes. The same import ratios were used in estimating ICT capital formation¹⁸ (these ratios were chosen because it was assumed that investment formed part of gross fixed capital formation (GFCF), and as such, most capital goods are imported into South Africa). This is in line with South Africa being a net technology importer and until more detailed data are available, this assumption will be used to estimate ICT capital formation.

Household final consumption expenditure (HFCE) on ICT products was calculated using a weighted ratio between ICT imports and ICT product outputs from the ICT sector. This ratio was then used to extract the ICT products from aggregated CPC codes. It was assumed that most households purchase a mix of locally produced and imported ICT products. The weighted ratio attempts to estimate this mix of products. Unfortunately at this stage¹⁹ there are insufficient data at a disaggregated level to link household expenditure to the individual ICT products and their origin of production.

¹⁶ Organisation for Economic Cooperation and Development – Guide to measuring the Information Society, 2009.

¹⁷ As of January 2017.

¹⁸ Equivalent to gross fixed capital formation.

¹⁹ As of January 2017.

The cornerstone of the ICT framework is the production account. The production account is used to confront supply and demand data. It identifies the ICT sector and isolates it from the rest of the economy, allowing for the calculations of ICT domestic output, ICT GDP, ICT GVA and ICT taxes and subsidies. The production account supplies the data to populate the ICT tables (excluding the employment, imports and exports, and final household consumption expenditure tables). The condensed production account is available as Annexure A (refer to the Excel sheets for the detailed production accounts).

The ICT products included within the draft ICT satellite account, along with the identified industries making up the ICT sector, are included in Annexure B. These ICT products and industries were identified and examined in the previous published discussion documents (discussion document no.: D0407).

Chapter 2: The Information and Communication Technology satellite account for South Africa, 2013 and 2014

This section includes the ICT satellite account for South Africa for the reference years 2013 and 2014.

This section provides the eight tables within the ICT satellite account for South Africa for the years 2013 and 2014. The individual tables will be supplied in Microsoft Excel²⁰ format (Share of GDP, Domestic output, Imports and Exports, Income components, Supply and Use, Investment in ICT, HFCE in ICT and Production accounts) for more detailed analysis, which is available at www.statssa.gov.za.

The SU-tables form the basis of the ICT satellite account. Additional data sources that have been used in the compilation of the ICT satellite account are:

- Large Sample Survey (LSS);
- Annual Financial Statistics (AFS);
- General Household Survey (GHS); and
- Income and Expenditure Survey (IES).

2.1 Information and Communication Technology Table 1: Information and Communication Technology share of gross domestic product

The headline table of the ICT satellite account for South Africa is given in ICT Table 1. This table shows the ICT share of GDP for both ICT specific and related activities for South Africa. It contains the calculated values for the ICT contribution to the economy in terms of contribution to the GDP and the ICT GVA. The primary data source is the ICT SU-tables. Table 1 shows the GDP and GVA at an aggregated level of the ICT sector for 2013 and 2014.

The ICT GVA and the GDP are the two economic aggregates that are important for explaining ICT in the economy. The SNA defines GVA as the value of output less the value of intermediate consumption. It measures the value created by production and is measured before the deduction of consumption of fixed capital²¹.

ICT GVA is therefore the value of output of ICT products minus the value of intermediate consumption used while producing ICT products²². ICT GVA can be directly compared with other industries, for example agriculture. ICT GDP measures ICT GVA at purchasers' prices, as opposed to basic prices for ICT GVA. It allows for comparing with the national GDP as well as a comparison with other countries' ICT GDP figures.

²⁰ Microsoft Excel 2013.

²¹ System of National Accounts.

²² Australian Bureau of Statistics – Information and Communication Technology satellite account, 2002.

Table 1: Information and Communication Technology share of gross domestic product by Information and Communication related activity, 2013 and 2014

Activities	ICT industry output (Rand million)	ICT gross value added	Share of ICT gross value added (%)	Share of total gross value added	ICT GDP (Rand million)	Share of ICT GDP (%)	Share of total GDP
2013							
ICT-specific activities							
Manufacturing	25 153	6 755	8	0,2	7 669	7	0,2
Telecommunication services	167 944	60 493	68	1,9	68 680	63	1,9
Computer services and activities	29 095	7 588	9	0,2	8 615	8	0,2
Content and media	18 884	6 728	8	0,2	7 639	7	0,2
ICT-related activities							
Related industries ²³	15 980	7 538	9	0,2	16 059	15	0,5
Total	257 056	89 102	100	2,8	108 662	100	3,1
2014							
ICT-specific activities							
Manufacturing	27 343	8 078	9	0,2	9 236	8	0,2
Telecommunication services	172 503	62 087	67	1,8	70 983	62	1,9
Computer services and activities	31 928	8 467	9	0,3	9 681	9	0,3
Content and media	19 705	6 626	7	0,2	7 575	7	0,2
ICT-related activities							
Related industries ²⁴	16 563	7 683	8	0,2	17 013	15	0,5
Total	268 043	92 942	100	2,7	114 487	100	3,0

Data in this table are considered experimental in nature.
Individual figures may not add up to stated totals due to rounding.

In 2013, the contribution to the economy (GDP) from the ICT sector²⁵ was R108 662 million (or 3,1% of total GDP). Telecommunication services contributed the most to the ICT share of GDP (1,9 percentage points). This makes telecommunication services the largest ICT industry by some margin. The ICT GVA in 2013 was R89 102 million (or 2,8% of total GVA).

In 2014, the contribution to the economy (GDP) from the ICT sector²⁶ was R114 487 million (or 3,0% of total GDP). Telecommunication services remained the largest contributor to the ICT share of GDP (1,9 percentage points). The ICT GVA in 2014 was R92 942 million (or 2,7% of total GVA).

²³ Including trade.

²⁴ Including trade.

²⁵ Including related industries.

²⁶ Including related industries.

2.2 Information and Communication Technology Tables 2 and 3: Domestic output of Information and Communication Technology products

The domestic output of ICT products provides a supply perspective. ICT Table 2 shows domestic output of ICT by industry for 2013 and 2014. Industries are grouped at an aggregated level.

Table 2: Domestic output of Information and Communication Technology products by industry, 2013 and 2014

Activities	(Rand million)
2013	
ICT-specific activities	
Manufacturing	25 153
Telecommunication services	167 944
Computer services and activities	29 095
Content and media	18 884
Total ICT-specific activities	241 075
ICT-related activities	
Other related activities ²⁷	9 532
Related content and media	6 448
Total ICT-related activities	15 980
Total ICT domestic output	257 056
2014	
ICT-specific activities	
Manufacturing	27 343
Telecommunication services	172 503
Computer services and activities	31 928
Content and media	19 705
Total ICT-specific activities	251 480
ICT-related activities	
Other related activities ²⁸	9 520
Related content and media	7 043
Total ICT-related activities	16 563
Total ICT domestic output	268 043

Trade data are an estimate based on National Accounts data.

Data in this table are considered experimental in nature.

Individual figures may not add up to stated totals due to rounding.

Total ICT domestic output of the ICT sector at basic prices was R257 056 million in 2013. ICT-specific industries produced domestic output of R241 075 million and ICT-related industries (including trade) contributed R15 980 million. The largest industry was telecommunication services (domestic output of R167 944 million). The domestic output of trade services is an estimated ICT output²⁹.

Total ICT domestic output of the ICT sector at basic prices was R268 043 million in 2014. ICT-specific industries produced domestic output of R251 480 million and ICT-related industries (including trade) contributed R16 563 million. The largest industry remains telecommunication services (domestic output of R172 503 million).

²⁷ This includes other manufacturing and trade.

²⁸ This includes other manufacturing and trade.

²⁹ This is applicable to all domestic output tables.

ICT Table 3 offers an alternative format of ICT domestic output, grouped by producing industry for the years 2013 and 2014. The largest ICT product is telecommunications, broadcasting and information supply services, produced within the telecommunication services industry.

Table 3: Domestic output of Information and Communication Technology products by producing industry, 2013 and 2014

Products	Manu- facturing	Telecom- munication services	Computer	Content	ICT related industries	Total
			services and activities	and media		
(Rand million)						
2013						
ICT products						
Office, accounting and computing machinery	7 789	0	0	0	0	7 789
Radio, television and communication equipment	13 479	11 012	0	48	0	24 539
Miscellaneous ICT components and goods	3 184	0	0	0	0	3 184
Leasing or rental services without operator	1	166	1 222	0	9 928	11 317
Other professional, technical and business services	0	1 509	25 903	0	2 332	29 745
Telecommunications, broadcasting and information supply services	0	155 025	0	0	1 646	156 671
Content and media	284	150	2	18 832	2 074	21 342
Non-specific products	415	82	1 967	4	N/A	2 467
Total	25 153	167 944	29 095	18 884	15 980	257 056

Table 3: Domestic output of Information and Communication Technology products by producing industry, 2013 and 2014 (concluded)

Products	Manu- facturing	Telecom- munication services	Computer	Content	ICT related industries	Total
			services and activities	and media		
(Rand million)						
2014						
ICT products						
Office, accounting and computing machinery	8 065	0	0	0	0	8 065
Radio, television and communication equipment	14 823	11 305	0	51	0	26 179
Miscellaneous ICT components and goods	3 451	0	0	0	0	3 451
Leasing or rental services without operator	1	170	1 439	0	9 954	11 565
Other professional, technical and business services	0	1 550	28 358	0	2 547	32 454
Telecommunications, broadcasting and information supply services	0	159 154	0	0	1 798	160 952
Content and media	295	154	2	19 625	2 264	22 340
Non-specific products	708	170	2 129	30	N/A	3 036
Total	27 343	172 503	31 928	19 705	16 563	268 043

Data in this table are considered experimental in nature.

Individual figures may not add up to stated totals due to rounding.

2.3 Information and Communication Technology Table 4: Imports and exports of Information and Communication Technology products

Imports and exports of ICT products are reflected in ICT Table 4 for the years 2013 and 2014. The data were sourced from the ICT SU-tables (supplemented with additional data from alternative sources including SARS). The import and export data are traditionally classified according to the Harmonised System (HS) classification, and the HS classification has been linked to CPC (version 2).

Table 4: Imports and exports of Information and Communication Technology products by type of product, 2013 and 2014

Products	(Rand million)
2013	
Imports of ICT products	
Office, accounting and computing machinery	37 740
Radio, television and communication equipment	58 465
Miscellaneous ICT components and goods	555
Leasing or rental services without operator	0
Other professional, technical and business services	1 860
Telecommunications, broadcasting and information supply services	19 234
Content and media	5 191
Total imports of ICT products	123 044
Percentage of ICT imports (against total imports) (%)	10,5
Exports of ICT products	
Office, accounting and computing machinery	3 458
Radio, television and communication equipment	4 721
Miscellaneous ICT components and goods	460
Leasing or rental services without operator	0
Other professional, technical and business services	2 000
Telecommunications, broadcasting and information supply services	17 928
Content and media	1 412
Total exports of ICT products	29 979
Percentage of ICT exports (against total exports) (%)	2,7
ICT trade balance	-93 065

Table 4: Imports and exports of Information and Communication Technology products by type of product, 2013 and 2014 (concluded)

Products	(Rand million)
2014	
Imports of ICT products	
Office, accounting and computing machinery	40 175
Radio, television and communication equipment	62 237
Miscellaneous ICT components and goods	590
Leasing or rental services without operator	0
Other professional, technical and business services	1 980
Telecommunications, broadcasting and information supply services	20 476
Content and media	5 525
Total imports of ICT products	130 983
Percentage of ICT imports (against total imports) (%)	10,4
Exports of ICT products	
Office, accounting and computing machinery	3 750
Radio, television and communication equipment	5 121
Miscellaneous ICT components and goods	499
Leasing or rental services without operator	0
Other professional, technical and business services	2 150
Telecommunications, broadcasting and information supply services	20 444
Content and media	1 831
Total exports of ICT products	33 794
Percentage of ICT exports (against total exports) (%)	2,8
ICT trade balance	-97 189

Data in this table are considered experimental in nature.

Individual figures may not add up to stated totals due to rounding.

In 2013, South Africa was a net importer of ICT products and services with an estimated ICT trade deficit of R93 065 million. South Africa imported ICT products and services of R123 044 million and exported ICT products and services of R29 979 million. ICT imports contributed 10,5% of total imports into the economy, whilst ICT exports contributed only 2,7% of total exports. The largest imported ICT product was radio, television and communication equipment (R58 465 million). The largest exported ICT product was telecommunications, broadcasting and information supply services (R17 928 million).

In 2014, South Africa was a net importer of ICT products and services with an estimated ICT trade deficit of R97 189 million. South Africa imported ICT products and services of R130 983 million and exported ICT products and services of R33 794 million. ICT imports contributed 10,4% of total imports into the economy, whilst ICT exports contributed only 2,8% of total exports. The largest imported ICT product was radio, television and communication equipment (R62 237 million). The largest exported ICT product was telecommunications, broadcasting and information supply services (R20 444 million).

2.4 Information and Communication Technology Table 5: Income components of Information and Communication Technology industries

ICT Table 5 shows the income components of the ICT industries for the years 2013 and 2014. The data were sourced from the ICT SU-tables.

Table 5: Income components of Information and Communication Technology industries, 2013 and 2014

Activities	Compensation of employees	Gross operating surplus/Gross mixed income	Other net taxes on production	ICT gross value added
(Rand million)				
2013				
ICT-specific activities				
Manufacturing	4 217	2 494	44	6 755
Telecommunication services	18 986	41 493	14	60 493
Computer services and activities	6 851	603	134	7 588
Content and media	5 593	832	303	6 728
Total ICT-specific activities	35 646	45 423	495	81 564
ICT related activities				
Related industries ³⁰	N/A	N/A	N/A	7 538
Total ICT activities				89 102
2014				
ICT-specific activities				
Manufacturing	5 145	2 869	63	8 078
Telecommunication services	20 040	42 002	44	62 087
Computer services and activities	7 770	546	152	8 467
Content and media	5 388	875	363	6 626
Total ICT-specific activities	38 343	46 293	623	85 259
ICT related activities				
Related industries ³¹	N/A	N/A	N/A	7 683
Total ICT activities				92 942

Data in this table are considered experimental in nature.

Individual figures may not add up to stated totals due to rounding.

In 2013, the total GVA of the ICT sector was R89 102 million (the bulk of this was from telecommunication services). The estimated net taxes on production for the ICT sector was R495 million. The estimated gross operating surplus for the ICT sector was R45 423 million. Compensation of employees for the ICT sector was R35 646 million, with the largest contributor being telecommunication services (R18 986 million).

In 2014, the total GVA of the ICT sector was R92 942 million (the bulk of this was from telecommunication services). The estimated net taxes on production for the ICT sector was R623 million. The estimated gross operating surplus for the ICT sector was R46 293 million. Compensation of employees for the ICT sector was R38 343 million, with the largest contributor being telecommunication services (R20 040 million).

³⁰ Including trade.

³¹ Including trade.

2.5 Information and Communication Technology Table 6: Supply and use of Information and Communication Technology products

ICT Tables 6a and 6b show the supply and use of ICT products and the flow of ICT products through the economy for the years 2013 and 2014 respectively. ICT Table 6 is derived from the SU-tables, but lacks the detail and disaggregation to calculate ICT value added and GDP. The major purpose of ICT Table 6 is to highlight the flow of ICT products, and this includes:

- Intermediate consumption;
- Capital formation;
- Household consumption;
- Domestic output; and
- Imports and exports.

Table 6a: Supply and use of Information and Communication Technology products, 2013

Products	Office, accounting and computing machinery	Radio, television and communi- cation equipment	Miscellaneous ICT components and goods	Leasing or rental services without operator	Other professional, technical and business services	Telecommuni- cations, broadcasting and information supply services	Content and media	Non-specific products	Margins	Total
	(Rand million)									
ICT supply										
Domestic output	7 789	24 539	3 184	11 317	29 745	156 671	21 342	2 467	22 943	279 999
Imports	37 740	58 465	555	0	1 860	19 234	5 191	N/A		123 044
Margins	3 376	6 994	1 656				10 865	53	-22 943	0
Net taxes on products	510	5 318	447	105	1 576	10 230	1 131	244		19 560
Total supply	49 415	95 316	5 842	11 423	33 180	186 136	38 528	2 764		422 604
ICT use										
Intermediate consumption	10 091	69 593	4 421	10 627	30 626	105 126	25 163	2 764 ³²		258 410
Household final consumption expenditure	5 533	17 179	376	796	554	63 082	11 498	N/A		99 019
Capital formation	30 334	3 823	584	0	0	0	456	N/A		35 196
Exports	3 458	4 721	460	0	2 000	17 928	1 412	N/A		29 979
Total use	49 415	95 316	5 842	11 423	33 180	186 136	38 528	2 764		422 604

Estimated intermediate consumption of ICT products.

Data in this table are considered experimental in nature.

Individual figures may not add up to stated totals due to rounding.

³² There are no data on non-specific products produced within the ICT sector; a result of this is a discrepancy. This discrepancy is treated as intermediate consumption to allow for balancing, but in actuality no use data are available for non-specific products.

Table 6b: Supply and use of Information and Communication Technology products, 2014

Products	Office, accounting and computing machinery	Radio, television and communi- cation equipment	Miscellaneous ICT components and goods	Leasing or rental services without operator	Other professional, technical and business services	Telecommuni- cations, broadcasting and information supply services	Content and media	Non-specific products	Margins	Total
	(Rand million)									
ICT supply										
Domestic output	8 065	26 179	3 451	11 565	32 454	160 952	22 340	3 036	25 036	293 079
Imports	40 175	62 237	590	0	1 980	20 476	5 525	N/A		130 983
Margins	3 734	7 578	1 873				11 792	59	-25 036	0
Net taxes on products	563	5 518	485	111	1 755	11 567	1 243	304		21 546
Total supply	52 538	101 512	6 399	11 676	36 189	192 994	40 900	3 399		445 607
ICT use										
Intermediate consumption	10 425	75 616	4 847	10 739	33 446	105 138	26 461	3 399 ³³		270 071
Household final consumption expenditure	5 903	18 344	411	936	594	67 412	12 113	N/A		105 714
Capital formation	32 459	2 432	642	0	0	0	495	N/A		36 028
Exports	3 750	5 121	499	0	2 150	20 444	1 831	N/A		33 794
Total use	52 538	101 512	6 399	11 676	36 189	192 994	40 900	3 399		445 607

Estimated intermediate consumption of ICT products.

Data in this table are considered experimental in nature.

Individual figures may not add up to stated totals due to rounding.

³³ There are no data on non-specific products produced within the ICT sector; a result of this is a discrepancy. This discrepancy is treated as intermediate consumption to allow for balancing, but in actuality no use data are available for non-specific products.

2.6 Information and Communication Technology Table 7: Capital formation in Information and Communication Technology products

ICT Table 7 shows capital formation (mainly investments) in ICT products for the years 2013 and 2014. Capital formation within the ICT satellite account does not include changes in inventories and as such it is equivalent to GFCF. GFCF data are contained within the use side of the ICT SU-tables and are considered as mainly investments. The AFS provides business expenditure and investment data. At this stage³⁴ the disaggregated industry information only provides aggregated capital expenditure on new and existing capital per industry. Unfortunately, the AFS does not provide details regarding what that capital investment consisted of. The expansion of this table to include capital formation per industry is a planned future development.

Capital formation in ICT products is estimated using import ratios as it is assumed that the majority of GFCF is imported, in line with South Africa being a technology importer. Only the total ICT capital formation can be shown as there are currently no data to show the per industry capital formation of ICT products.

Table 7: Capital formation in Information and Communication Technology products, 2013 and 2014

Products	(Rand million)
2013	
Office, accounting and computing machinery	30 334
Radio, television and communication equipment	3 823
Miscellaneous ICT components and goods	584
Leasing or rental services without operator	0
Other professional, technical and business services	0
Telecommunications, broadcasting and information supply services	0
Content and media	456
Total ICT capital formation	35 196
Total capital formation	719 784
ICT capital formation as a proportion of total capital formation (%)	4,9
2014	
Office, accounting and computing machinery	32 459
Radio, television and communication equipment	2 432
Miscellaneous ICT components and goods	642
Leasing or rental services without operator	0
Other professional, technical and business services	0
Telecommunications, broadcasting and information supply services	0
Content and media	495
Total ICT capital formation	36 028
Total capital formation	781 657
ICT capital formation as a proportion of total capital formation (%)	4,6

Data in this table are considered experimental in nature.

Individual figures may not add up to stated totals due to rounding.

In 2013, office, accounting and computing machinery was the largest contributor to ICT capital formation (R30 334 million). The total estimated ICT capital formation in the economy was R35 196 million (4,9% of total capital formation³⁵ in the economy). In 2014, the total estimated ICT capital formation in the economy was R36 028 million (4,6% of the total capital formation³⁶ in the economy).

³⁴ As of January 2017.

³⁵ Gross fixed capital formation.

³⁶ Gross fixed capital formation.

2.7 Information and Communication Technology Table 8: Household final consumption expenditure³⁷ on Information and Communication Technology products

The consumption expenditure of households is an important value, as it allows for various trends to be explored within household expenditure. Table 8 below shows HFCE on ICT products and services for 2013 and 2014.

Table 8: Household final consumption expenditure on Information and Communication Technology products, 2013 and 2014

Products	ICT product expenditure		
	Value Rand million	Percentage of ICT expenditure %	Percentage of total expenditure
2013			
ICT products			
Office, accounting and computing machinery	5 533	5,6	0,3
Radio, television and communication equipment	17 179	17,4	0,8
Miscellaneous ICT components and goods	376	0,4	0,0
Leasing or rental services without operator	796	0,8	0,0
Other professional, technical and business services	554	0,6	0,0
Telecommunications, broadcasting and information supply services	63 082	63,7	2,9
Content and media products	11 498	11,6	0,5
Total ICT products	99 019	100,0	4,6
Total Household Final Consumption Expenditure	2 144 235		
ICT as a percentage of total HFCE (%)	4,6		
2014			
ICT products			
Office, accounting and computing machinery	5 903	5,6	0,3
Radio, television and communication equipment	18 344	17,4	0,8
Miscellaneous ICT components and goods	411	0,4	0,0
Leasing or rental services without operator	936	0,9	0,0
Other professional, technical and business services	594	0,6	0,0
Telecommunications, broadcasting and information supply services	67 412	63,8	3,0
Content and media products	12 113	11,5	0,5
Total ICT products	105 714	100,0	4,6
Total Household Final Consumption Expenditure	2 283 383		
ICT as a percentage of total HFCE (%)	4,6		

Data in this table are considered experimental in nature.

Individual figures may not add up to stated totals due to rounding.

The estimated HFCE on ICT products was R99 019 million (4,6% of total HFCE) in 2013 and R105 714 million (4,6% of total HFCE) in 2014. Telecommunications, broadcasting and information supply services had the largest HFCE of R63 082 million (63,7% of total ICT HFCE) in 2013, and R67 412 million (63,8% of total ICT HFCE) in 2014, followed by radio, television and communication equipment (R17 179 million or 17,4% of total ICT HFCE) in 2013 and R18 344 million (17,4% of total ICT HFCE) in 2014; and content and media products amounting to R11 498 million (11,6% of total ICT HFCE) in 2013 and R12 113 million (11,5% of total ICT HFCE) in 2014.

³⁷ HFCE.

Chapter 3: The future development of the Information and Communication Technology satellite account for South Africa

South Africa joins a small group of countries, which include Chile and Australia, that have compiled ICT satellite accounts for public scrutiny. While many countries have detailed ICT data, ICT satellite accounts, based on the National Accounts, are still quite rare despite the richness of data they provide.

The ICT satellite account for South Africa is aimed at being a component in a larger compendium of ICT statistics. The long-term goal is to produce a system of ICT statistics that contains two major components:

1. The ICT satellite account; and
2. The ICT indicators.

The way forward in the financial year 2017/2018 for Stats SA in the development and improvement of the ICT satellite account for South Africa is as follows:

1. Address any comments and/or suggestions received from stakeholders;
2. Further research into a more detailed ICT capital formation table;
3. Improvement of data within the ICT framework and ensuring the quality thereof;
4. Investigate a more accurate recording of software with the South African Reserve Bank (SARB); and
5. Further investigation into labour/employment in the ICT sector as well as employment of ICT professionals.

Stats SA values your feedback on this document. If you have any comments and/or suggestions, please contact Kevin Geddes (keving@statssa.gov.za) on or before 30 June 2017.

Annexures

Annexure A: The condensed production accounts for the Information and Communication Technology satellite account for South Africa

Tables 9a and 9b below show the condensed production accounts for the ICT sector for South Africa for 2013 and 2014 respectively.

Table 9a: A condensed production account for the Information and Communication Technology sector in South Africa, 2013

Products	Manufacturing	Telecommunication services	Computer services and activities	Content and media	Total ICT sector	ICT related industries	Total output of domestic producers (at basic prices)
	(Rand million)						
A. Specific products	24 738	167 862	27 128	18 880	238 608	15 980	729 708
1. Office, accounting and computing machinery	7 789	0	0	0	7 789	0	7 796
2. Radio, television and communication equipment	13 479	11 012	0	48	24 539	0	30 261
3. Miscellaneous ICT components and goods	3 184	0	0	0	3 184	0	51 042
4. Leasing or rental services without operator	1	166	1 222	0	1 390	9 928	107 038
5. Other professional, technical and business services	0	1 509	25 903	0	27 413	2 332	202 009
6. Telecommunications, broadcasting and information supply services	0	155 025	0	0	155 025	1 646	156 757
7. Content and media	284	150	2	18 832	19 268	2 074	174 806
B. Non-specific products	415	82	1 967	4	2 467	117 477	6 277 565
Goods	168	0	0	1	169	0	2 528 234
Services	247	82	1 967	3	2 298	117 477	3 749 331
Total output (at basic prices)	25 153	167 944	29 095	18 884	241 075	133 458	7 007 273
Total intermediate consumption (at purchasers' prices)	18 398	107 452	21 507	12 156	159 511	70 504	3 816 313
Total gross value added of industries (at basic prices)	6 755	60 493	7 588	6 728	81 564	62 954	3 190 960
Compensation of employees	4 217	18 986	6 851	5 593	35 646	36 521	1 625 118
Other taxes less subsidies on production	44	14	134	303	495	1 051	52 881
Gross mixed income	0	0	0	0	0	0	0
Gross operating surplus	2 494	41 493	603	832	45 423	25 382	1 512 961

Individual figures may not add up to stated totals due to rounding.

Table 9b: A condensed production account for the Information and Communication Technology sector in South Africa, 2014

Products	Manufacturing	Telecommunication services	Computer services and activities	Content and media	Total ICT sector	ICT related industries	Total output of domestic producers (at basic prices)
	(Rand million)						
A. Specific products	26 635	172 334	29 799	19 675	248 443	16 563	775 590
1. Office, accounting and computing machinery	8 065	0	0	0	8 065	0	8 072
2. Radio, television and communication equipment	14 823	11 305	0	51	26 179	0	32 210
3. Miscellaneous ICT components and goods	3 451	0	0	0	3 451	0	53 472
4. Leasing or rental services without operator	1	170	1 439	0	1 610	9 954	115 244
5. Other professional, technical and business services	0	1 550	28 358	0	29 908	2 547	219 154
6. Telecommunications, broadcasting and information supply services	0	159 154	0	0	159 154	1 798	161 044
7. Content and media	295	154	2	19 625	20 076	2 264	186 394
B. Non-specific products	708	170	2 129	30	3 036	123 826	6 731 123
Goods	184	0	0	1	185	0	2 689 532
Services	524	170	2 129	29	2 852	123 826	4 041 591
Total output (at basic prices)	27 343	172 503	31 928	19 705	251 480	140 389	7 506 712
Total intermediate consumption (at purchasers' prices)	19 265	110 416	23 461	13 079	166 221	75 268	4 086 396
Total gross value added of industries (at basic prices)	8 078	62 087	8 467	6 626	85 259	65 121	3 420 316
Compensation of employees	5 145	20 040	7 770	5 388	38 343	38 309	1 754 395
Other taxes less subsidies on production	63	44	152	363	623	1 360	63 626
Gross mixed income	0	0	0	0	0	0	0
Gross operating surplus	2 869	42 002	546	875	46 293	25 452	1 602 296

Individual figures may not add up to stated totals due to rounding.

Annexure B: List of Information and Communication Technology industries and products

Tables 10 and 11 show the ICT products recommended by the OECD. Tables 12 and 13 list the industries included within the ICT sector for South Africa.

Table 10: Information and Communication Technology products³⁸

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Computers and peripheral equipment			
45142	2620	8472.90	Point-of-sale terminals, ATMs and similar machines
45221	2620	8471.30	Portable automatic data processing machines weighing not more than 10 kg, such as laptop and notebook computers
45222	2620	8471.30	Personal digital assistants and similar computers
45230	2620	8471.41	Automatic data processing machines, comprising in the same housing at least a central processing unit and an input and output unit, whether or not combined
45240	2620	8471.49	Automatic data processing machines presented in the form of systems
45250	2620	8471.50	Other automatic data processing machines whether or not containing in the same housing one or two of the following types of units: storage units, input units, output units
45261	2620	8471.60	Input peripherals (keyboard, joystick, mouse etc.)
45262	2620	8471.60	Scanners (except combination of printer, scanner, copier and/or fax)
45263	2620	8443.32	Inkjet printers used with data processing machines
45264	2620	8443.32	Laser printers used with data processing machines
45265	2620	8443.32	Other printers used with data processing machines
45266	2620	8443.31	Units performing two or more of the following functions: printing, scanning, copying, faxing
45269	2620	8471.90	Other input or output peripheral devices
45271	2620	8471.70	Fixed media storage units
45272	2620	8471.70	Removable media storage units
45289	2620	8471.90	Other units of automatic data processing machines
45290	2620	8473.50	Parts and accessories of computing machines
47315	2620	8528.61	Monitors and projectors, principally used in an automatic data processing system
Communication equipment			
46921	2630	8531.10	Burglar or fire alarms and similar apparatus
47211	2630	8525.60	Transmission apparatus incorporating reception apparatus
47212	2630	8525.50	Transmission apparatus not incorporating reception apparatus
47213	2630	8525.80	Television cameras
47221	2630	8517.11	Line telephone sets with cordless handsets
47222	2630	8517.12	Telephones for cellular networks or for other wireless networks
47223	2610, 2630	8517.69	Other telephone sets and apparatus for transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network (such as a local or wide area network)
47401	2630	8517.70	Parts for the goods of subclasses 47221 to 47223
47550	2620	8523.51	Solid-state non-volatile storage devices

³⁸ Not all CPC (version 2) classification codes can be directly linked to the ISIC or to the HS 2007 classifications; in such cases they are left blank.

Table 10: Information and Communication Technology products (continued)

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Consumer electronic equipment			
38581	2640	9504.10	Video game consoles
47214	2640	8525.80	Video camera recorders
47215	2670	8525.80	Digital cameras
47311	2640	8527.99	Radio broadcast receivers (except of a kind used in motor vehicles), whether or not combined with sound recording or reproducing apparatus or a clock
47312	2640	8527.29	Radio broadcast receivers not capable of operating without an external source of power, of a kind used in motor vehicles
47313	2640	8528.73	Television receivers, whether or not combined with radio-broadcast receivers or sound or video recording or reproducing apparatus
47314	2640	8528.69	Monitors and projectors, not incorporating television reception apparatus and not principally used in an automatic data processing system
47321	2640	8519.89	Sound recording or reproducing apparatus
47323	2640	8521.90	Video recording or reproducing apparatus
47330	2640	8518.50	Microphones and stands therefor; loudspeakers; headphones, earphones and combined microphone/speaker sets; audio-frequency electric amplifiers; electric sound amplifier sets
47402	2640	8522.90	Parts for the goods of subclasses 47321, 47323 and 47330
Miscellaneous ICT components and goods			
45281	2610	8517.69	Sound, video, network and similar cards for automatic data processing machines
47130	2610	8534.00	Printed circuits
47140	2610	8540.89	Thermionic, cold cathode or photo-cathode valves and tubes (including cathode ray tubes)
47150	2610	8541.60	Diodes, transistors and similar semi-conductor devices; photosensitive semi-conductor devices; light-emitting diodes; mounted piezo-electric crystals
47160	2610	8542.39	Electronic integrated circuits
47173	2610	8542.90	Parts for the goods of subclasses 47140 to 47160
47403	2630, 2640, 2651	8529.90	Parts for the goods of subclasses 47211 to 47213, 47311 to 47315 and 48220
47540	2680	8523.40	Optical media, not recorded
47590	3290	8523.80	Other recording media, including matrices and masters for the production of disks
47910	2680	8523.21	Cards with a magnetic stripe
47920	2610	8523.52	'Smart cards'
48315	2610, 2670	9013.80	Liquid crystal devices n.e.c.; lasers, except laser diodes; other optical appliances and instruments n.e.c.
48354	2610, 2670	9013.90	Parts and accessories for the goods of subclass 48315
Manufacturing services for ICT equipment			
88741	2610		Electronic component and board manufacturing services
88742	2620		Computer and peripheral equipment manufacturing services
88743	2630		Communication equipment manufacturing services
88744	2640		Consumer electronics manufacturing services
88749	2680		Magnetic and optical media manufacturing services

Table 10: Information and Communication Technology products (continued)

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Business and productivity software and licensing services			
47811	5820	8523.40	Operating systems, packaged
47812	5820	8523.40	Network software, packaged
47813	5820	8523.40	Database management software, packaged
47814	5820	8523.40	Development tools and programming languages software, packaged
47821	5820	8523.40	General business productivity and home use applications, packaged
47829	5820	8523.40	Other application software, packaged
73311	5820		Licensing services for the right to use computer software
83143	5820		Software originals
84341	5820		System software downloads
84342	5820		Application software downloads
84392	5820		On-line software
Information technology consultancy and services			
83117	7020		Business process management services
83131	6202		IT consulting services
83132	6202		IT support services
83141	6201		IT design and development services for applications
83142	6202		IT design and development services for networks and systems
83151	6311		Website hosting services
83152	6311		Application service provisioning
83159	6311		Other hosting and IT infrastructure provisioning services
83161	6202		Network management services
Telecommunications services			
84110	6110, 6120		Carrier services
84121	6110		Fixed telephony services – access and use
84122	6110		Fixed telephony services – calling features
84131	6120, 6130		Mobile telecommunications services – access and use
84132	6120, 6130		Mobile telecommunications services – calling features
84140	6110, 6120, 6130, 6190		Private network services
84150	6110, 6120, 6130, 6190		Data transmission services
84190	6110, 6120, 6130, 6190		Other telecommunications services
84210	6110		Internet backbone services
84221	6110, 6120, 6130, 6190		Narrowband Internet access services
84222	6110, 6120, 6130, 6190		Broadband Internet access services
84290	6110, 6120, 6130, 6190		Other Internet telecommunications services
83162	6202		Computer systems management services

Table 10: Information and Communication Technology products (concluded)

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Leasing or rental services for ICT equipment			
73124	7730		Leasing or rental services concerning computers without operator
73125	7730		Leasing or rental services concerning telecommunications equipment without operator
73210	7729		Leasing or rental services concerning televisions, radios, video cassette recorders and related equipment and accessories
Other ICT services			
83325	7110		Engineering services for telecommunications and broadcasting projects
87130	9511		Maintenance and repair services of computers and peripheral equipment
87153	9512		Maintenance and repair services of telecommunications equipment and apparatus
87331	3320		Installation services of mainframe computers
87332	6209		Installation services of personal computers and peripheral equipment
87340	3320		Installation services of radio, television and communications equipment and apparatus

Source: Organisation for Economic Cooperation and Development – Guide to measuring the Information Society, 2009.

Table 11 shows the ICT products that are defined according to the 'content and media' definition.

Table 11: Information and Communication Technology 'content and media' products³⁹

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Printed and other text-based content on physical media, and related services			
32210	5811	4901.99	Educational textbooks, in print
32220	5811	4905.91	General reference books, in print
32230	5812	4901.99	Directories, in print
32291	5811	4901.99	Professional, technical and scholarly books, in print
32292	5811	4903.00	Children's books, in print
32299	5811	4901.99	Other books n.e.c., in print
32300	5813	4902.10	Newspapers and periodicals, daily, in print
32410	5813	4902.90	General interest newspapers and periodicals, other than daily, in print
32420	5813	4902.90	Business, professional or academic newspapers and periodicals, other than daily, in print
32490	5813	4902.90	Other newspapers and periodicals, other than daily, in print
32511	5811	4905.99	Maps and hydrographic or similar charts (including wall maps, topographical plans and maps for globes), printed, other than in book-form
32530	5819	4909.00	Printed or illustrated postcards; printed cards bearing personal greetings or messages, with or without envelopes or trimmings
32540	5819	4911.91	Printed pictures, designs and photographs
32620	5819	4911.10	Trade advertising material, commercial catalogues and the like
32630	5819	4910.00	Transfers (decalcomanias) and printed calendars
47691	5811	8523.40	Audio books on disk, tape or other physical media
47692	5811, 5812, 5813	8523.40	Text-based disks, tapes or other physical media
83631	5812, 5813		Sale of advertising space in print media (except on commission)
38950	5911	3706.90	Motion picture film, exposed and developed, whether or not incorporating sound track or consisting only of sound track
47620	5911	8523.40	Films and other video content on disks, tape or other physical media
83632	6010, 6020		Sale of TV/radio advertising time (except on commission)
84611	6010		Radio broadcast originals
84612	6020		Television broadcast originals
84621	6010		Radio channel programmes
84622	6020		Television channel programmes
84631	6010, 6020		Broadcasting services
84632	6010, 6020		Home programme distribution services, basic programming package

³⁹ Not all CPC (version 2) classification codes can be directly linked to the ISIC or to the HS 2007 classifications; in such cases they are left blank.

Table 11: Information and Communication Technology `content and media' products (continued)

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Motion picture, video, television and radio content, and related services			
84633	6010, 6020		Home programme distribution services, discretionary programming package
84634	6010, 6020		Home programme distribution services, pay-per-view
96121	5911, 6020		Motion picture, videotape and television programme production services
96122	5920, 6010		Radio programme production services
96123	5911, 5920		Motion picture, videotape, television and radio programme originals
96131	5912		Audio-visual editing services
96132	5912		Transfers and duplication of masters services
96133	5912		Colour correction and digital restoration services
96134	5912		Visual effects services
96135	5912		Animation services
96136	5912		Captioning, titling and subtitling services
96137	5920		Sound editing and design services
96139	5912		Other post-production services
96140	5913		Motion picture, videotape and television programme distribution services
96150	5914		Motion picture projection services
Music content and related services			
32520	5920	4904.00	Music, printed or in manuscript
47610	5920	8523.80	Musical audio disks, tapes or other physical media
96111	5920		Sound recording services
96112	5920		Live recording services
96113	5920		Sound recording originals
Games software			
38582	5820	9504.10	Software cartridges for video game consoles
47822	5820	8523.40	Computer game software, packaged
84391	5820		On-line games
73312	5812		Licensing services for the right to use databases
83633	5813, 5819, 6311, 6312		Sale of Internet advertising space (except on commission)
84311	5811		On-line books
84312	5813		On-line newspapers and periodicals
84313	5812		On-line directories and mailing lists
Online content and related services			
84321	5920		Musical audio downloads
84322	5920		Streamed audio content
84331	5911		Films and other video downloads
84332	5911		Streamed video content
84393	5819		On-line adult content
84394	6312		Web search portal content
84399	5819		Other on-line content n.e.c.

Table 11: Information and Communication Technology 'content and media' products (concluded)

CPC (version 2)	ISIC (Rev. 4)	HS (2007 edition)	Product description (according to the CPC version 2)
Other content and related services			
47699	5920	8523.40	Other non-musical audio disks and tapes
73320	5811, 5813, 5911, 5912, 5920, 9000		Licensing services for the right to use entertainment, literary or artistic originals
83611	7310		Full service advertising
83620	7310		Purchase or sale of advertising space or time, on commission
83639	5811, 5812, 7310		Sale of other advertising space or time (except on commission)
83812	7420		Advertising and related photography services
83940	5812		Original compilations of facts/information
84410	6391		News agency services to newspapers and periodicals
84420	6391		News agency services to audio-visual media
85991	6399		Other information services
89110	5811, 5812, 5813, 5819, 5820, 5920		Publishing, on a fee or contract basis
96330	9000		Original works of authors, composers and other artists except performing artists, painters and sculptors

Source: Organisation for Economic Cooperation and Development – Guide to measuring the Information Society, 2009.

Table 12: Industries conforming to the Information and Communication Technology sector definition available in the benchmarked supply and use tables, 2005

ISIC (Rev. 4)	SIC (5 th level)	SIC grouping on the SU-tables	Description of industry grouping
ICT manufacturing industries			
5820	32600	SIC_3260	Reproduction of recorded media
2610	37100	SIC_3710	Manufacture of electronic components and boards
	37200	SIC_3720	Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy
2620	35900	SIC_3590	Manufacture of computers and peripheral equipment
2630	37420	SIC_3742	Manufacture of communication equipment
2640	37300	SIC_3730	Manufacture of consumer electronics
	39240	SIC_3924	Manufacture of games and toys (video games)
2680	33599	SIC_3359_60	Manufacture of magnetic and optical media ⁴⁰
ICT trade industries⁴¹			
4651	61501	SIC_6150	Wholesale of computers, computer peripheral equipment and software
4652	61509	SIC_6150	Wholesale of electronic and telecommunications equipment and parts
	62393	SIC_6239	Retail trade in sports goods and entertainment requisites
Telecommunications			
6110	75200	SIC_7520	Wired telecommunications activities
6120	75200	SIC_7520	Wireless telecommunications activities
6130	75200	SIC_7520	Satellite telecommunications activities
6190	75200	SIC_7520	Other telecommunications activities
Computer programming, consultancy and related activities			
	85230	SIC_8523	Renting of office machinery and equipment
	86100	SIC_8610	Hardware consultancy
6201	86200	SIC_8620	Computer programming activities
6202	86300	SIC_8630	Computer consultancy and computer facilities
6209	86900	SIC_8690	Other information technology and computer service activities
Data processing, hosting and related activities, web portals			
6311		SIC_8630	Data processing, hosting and related activities
		SIC_8640	
6312			Web portals
Repair of computers and communication equipment			
9511	86500	SIC_8650	Repair of computers and peripheral equipment
9512	86500	SIC_8650	Repair of communication equipment

Source: Statistics South Africa – Supply and use tables, 2005.

⁴⁰ ICT-related

⁴¹ ICT-related

Table 13: Industries conforming to the Information and Communication Technology ‘content and media’ definition available in the benchmarked supply and use tables, 2005

ISIC (Rev. 4)	SIC (5 th level)	SIC grouping on the SU-tables	Description of industry grouping
Publishing of books, periodicals and other publishing activities			
5811	32410	SIC_3241	Book publishing
5812			Publishing of directories and mailing lists
5813	32420	SIC_3242	Publishing of newspapers, journals and periodicals
	32430	SIC_3243	Publishing of recorded media
5819	32490	SIC_3249	Other publishing activities
	39220	SIC_3922	Manufacture of musical instruments
Motion picture, video and television programme activities			
5911	96130	SIC_96	Motion picture, video and television programme production activities
5912			Motion picture, video and television programme post-production activities
5913	96112	SIC_96	Motion picture, video and television programme distribution activities
5914	96122	SIC_96	Motion picture projection activities
Sound recording and music publishing activities			
5920	96490	SIC_96	Sound recording and music publishing activities
Programming and broadcasting activities			
6010	96130	SIC_96	Radio broadcasting
6020	96130	SIC_96	Television programming and broadcasting activities
Other information service activities			
6391	96200	SIC_96	News agency activities
6399			Other information service activities n.e.c.

Source: Statistics South Africa – Supply and use tables, 2005.

Glossary

Capital formation	Gross fixed capital formation in a particular category of fixed asset consists of the value of producers' acquisitions of new and existing products of this type less the value of their disposals of the fixed assets of the same type. Capital formation within the ICT satellite account does not include changes in inventories and as such capital formation is equivalent to gross fixed capital formation and not gross capital formation.
Central product classification	A classification based on the physical characteristics of goods or the nature of the services rendered. It covers products that are an output of economic activities, including transportable goods, non-transportable goods and services.
Gross domestic product	The total value of final goods and services produced within the geographic boundaries of a country for a specified period.
Gross value added (at basic prices)	The output valued at basic prices less intermediate consumption valued at purchaser's prices.
Household final consumption expenditure	Includes all consumption expenditure made by households from their own cash resources (including all income in cash received), as well as all the counterpart of income in kind (except social transfers in kind) that those households might have received, such as remuneration in kind and other transfers in kind. Note: It also includes the value of all consumption of output for own final use, such as that provided by second homes on own account used for tourism purposes or receipts through barter transactions.
Industry	Groups of establishments engaged in the same or similar kinds of activity. Note: The definition of industries is based on the SNA and is in line with that contained in the Standard Industrial Classification of all Economic Activities, fifth edition, Report No. 09-90-02 of January 1993 (SIC).
Intermediate consumption	Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets. Consumption of fixed assets is recorded as consumption of fixed capital.
International Standard Industrial Classification of all Economic Activities	The United Nations' version of a classification system used to classify businesses according to their economic activity.
National accounts	Serves as a framework for statistical systems. It also serves as a point of reference in establishing standards for related statistics. The internationally agreed framework that guides the compilation of national accounts is contained in the SNA.

Production	A process, carried out under the responsibility, control and management of an institutional unit, in which labour and assets are used to transform inputs of goods and services into outputs of other goods and services. All goods and services produced as outputs must be such that they can be sold on markets, or at least be capable of being provided by one unit to another, with or without charge.
Standard Industrial Classification of all Economic Activities	A South African version of a classification coding system used to classify an enterprise according to its economic activity. Note: It is based on United Nations ISIC with a number of adaptations for local conditions.
Supply table	Consists of a rectangular matrix with the rows corresponding to the same groups of products as the matching use tables and columns corresponding to the supply from domestic production valued at basic prices plus columns for imports and the valuation adjustments necessary to have total supply of each.
System of national accounts	An internationally-agreed standard system for macro-economic accounts. The latest version is described in the System of National Accounts 2008.
Use table	Consists of a set of product balances covering all products available in an economy arranged in the form of a rectangular matrix with the products, valued at purchasers' prices, appearing in the rows, and the columns indicating the disposition of the products to various types of uses.

Related Information and Communication Technology satellite account publications

Statistics South Africa, 2011. *The status of the Information and Communication Technology satellite account for South Africa*. Discussion document No: D0407. Pretoria.

Statistics South Africa, 2012. *The status of the Information and Communication Technology satellite account for South Africa*. Discussion document No: D0407. Pretoria.

Statistics South Africa, 2013. *Draft Information and Communication Technology satellite account for South Africa, 2005*. Discussion document No: D0405.3.1. Pretoria.

Statistics South Africa, 2014. *Information and Communication Technology satellite account for South Africa, 2006 - 2011*. Report No: 04-07-01. Pretoria.

Statistics South Africa, 2015. *Information and Communication Technology satellite account for South Africa, 2012*. Report No: 04-07-01. Pretoria.