Independent Communications Authority of South Africa

3rd Report on the state of the ICT sector in South Africa

31st March 2018

TABLE OF CONTENTS

1 CONTENTS

1 INTRODUCTION

The Independent Communications Authority of South Africa's (ICASA) mandate is to regulate the South African telecommunications, broadcasting and postal industries in the public interest and ensure affordable services of a high quality for all South Africans. ICASA is also responsible for the collection of statistics to monitor and report on the progress of ICT in the country. This information is then used by the Authority to publish the *State of the Information and Communication Technology (ICT) Sector* report annually (the "Report"), with the inaugural version published in March 2016.

The questionnaires used to collect the relevant information were customised for the three sectors that ICASA regulates, namely telecommunications, broadcasting and postal. To address confidentiality issues, the information gathered was aggregated so as to conceal stakeholder-specific information. Responses were received from a total of eighty-four (84) Electronic Communication Services (ECS) and Electronic Communication Network Services (ECNS) licensees combined, which was a significant increase of 82.61% (only forty-six (46) responses were received in the previous reporting period), twenty-four (24) responses were received from television and radio broadcasters (an increase of more than 200% from the previous reporting period's seven (7) responses), and three (3) responses were received from postal service licensees (which only increased by 1 submission).

The high response rate for 2017 has not affected the increase in figures, for example, leading companies contribution for Revenue in both 2016 and 2017 were 99% and 97% respectively and Investment contribution in 2016 was 100% and in 2017 is 94%.

In preparing the Report ICASA utilised data from secondary sources (Statistics South Africa ("StatsSA")), as well as information collected through detailed questionnaires that were sent to stakeholders. The information covers a 12-month period ending on the 30th September 2017, unless otherwise specified.

2 INFORMATION ON THE ICT SECTOR AS REPORTED BY STATISTICS SOUTH AFRICA

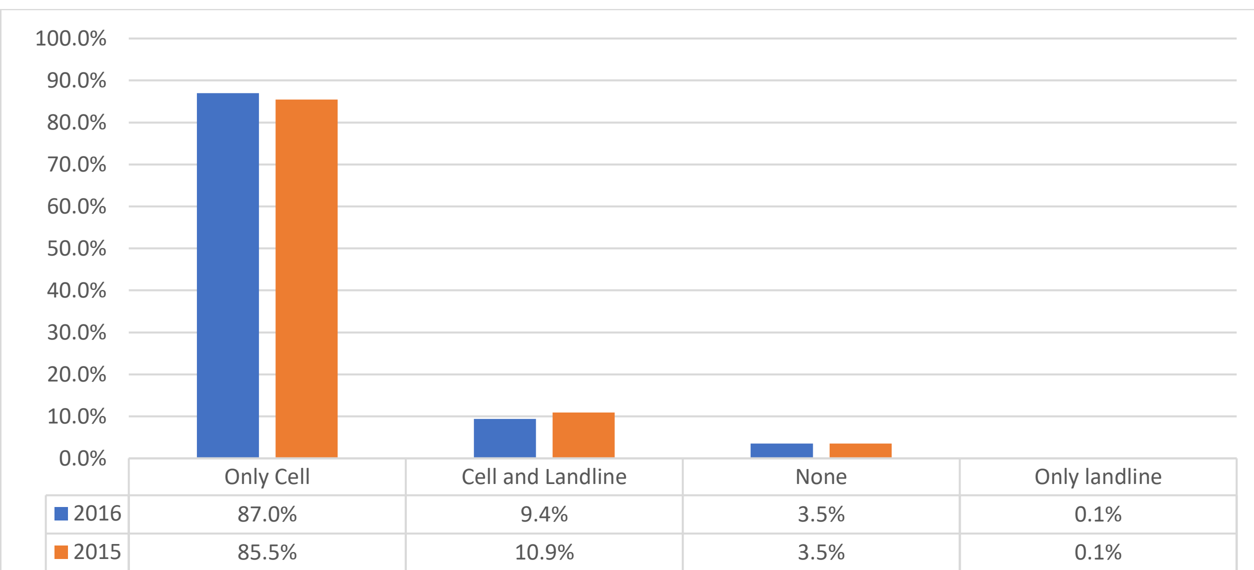
The publication of the State of ICT sector report is a year ahead of Statistic South Africa General Household Survey (“GHS”). ICASA’s publication is done on 31 March every year as part of our Annual Performance Plans.

According to StatsSA’s *General Household Survey* (“GHS”) nationally the number of households that have access to some form of a telecommunication service in 2016, cellular phones accounted for 87.0% (an increase from the 85.5% reported in 2015).

Households with access to both a landline and a cellular phone decreased from 10.9% (2015) to 9.4% (2016).

Households with no access to both a landline and a cellular phone remained unchanged between 2015 and 2016.

Graph 1: Percentage of Households who have functional landline and cellular telephone in the Republic of South Africa for 2016 and 2015

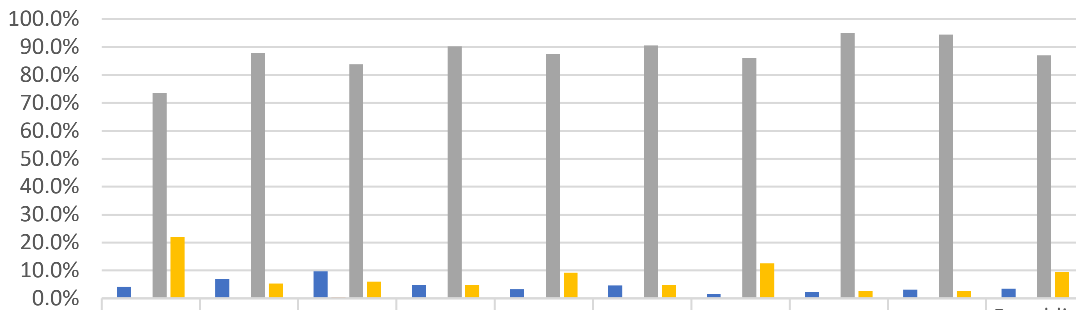


	Only Cell	Cell and Landline	None	Only landline
2016	87.0%	9.4%	3.5%	0.1%
2015	85.5%	10.9%	3.5%	0.1%

Source: StatsSA GHS, 2016

Households with access to only cellular telephones nationally is at 87%, with the Mpumalanga province showing the highest percentage of 95% and the Western Cape province the lowest percentage at 73.6%.

Graph 2: Percentage of Households who have functional landline and cellular telephone in their dwellings by province for 2016

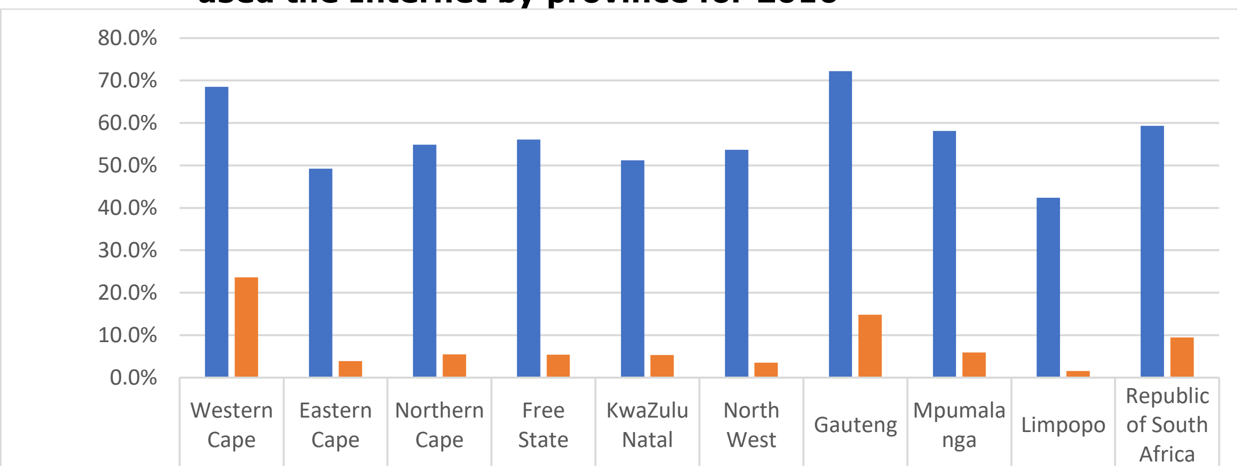


	Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu Natal	North West	Gauteng	Mpumalanga	Limpopo	Republic of South Africa
None	4.2%	6.9%	9.7%	4.7%	3.3%	4.6%	1.5%	2.3%	3.1%	3.5%
Only Landline	0.2%	0.1%	0.5%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%	0.1%
Only Cell	73.6%	87.8%	83.8%	90.2%	87.4%	90.5%	85.9%	95.0%	94.4%	87.0%
Cell and Landline	22.0%	5.3%	6.0%	4.9%	9.2%	4.8%	12.5%	2.7%	2.6%	9.4%

Source: StatsSA GHS, 2016

Household internet usage nationally was reported at 59.3%. This essentially means that for 59.3% of households at least one member in that household had access to the Internet either at home, workplace, place of study, or Internet café. Gauteng province had the highest percentage at 72.2%, followed by the Western Cape province at 68.5%. The lowest province was Limpopo at 42.4% in 2016.

Graph 3: Percentage of Households with access to the Internet at home, or for which at least one member has access to or used the Internet by province for 2016



	Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu Natal	North West	Gauteng	Mpumala nga	Limpopo	Republic of South Africa
Anywhere	68.5%	49.2%	54.9%	56.1%	51.2%	53.7%	72.2%	58.1%	42.4%	59.3%
At home	23.6%	3.9%	5.5%	5.4%	5.3%	3.5%	14.8%	5.9%	1.6%	9.5%

Source: StatsSA GHS, 2016

Access to internet using mobile devices by households nationally was reported to be 53.9%. Accessing the Internet at home was 9.5%, at work 15.8% and at Internet Café or educational facilities 9.8%.

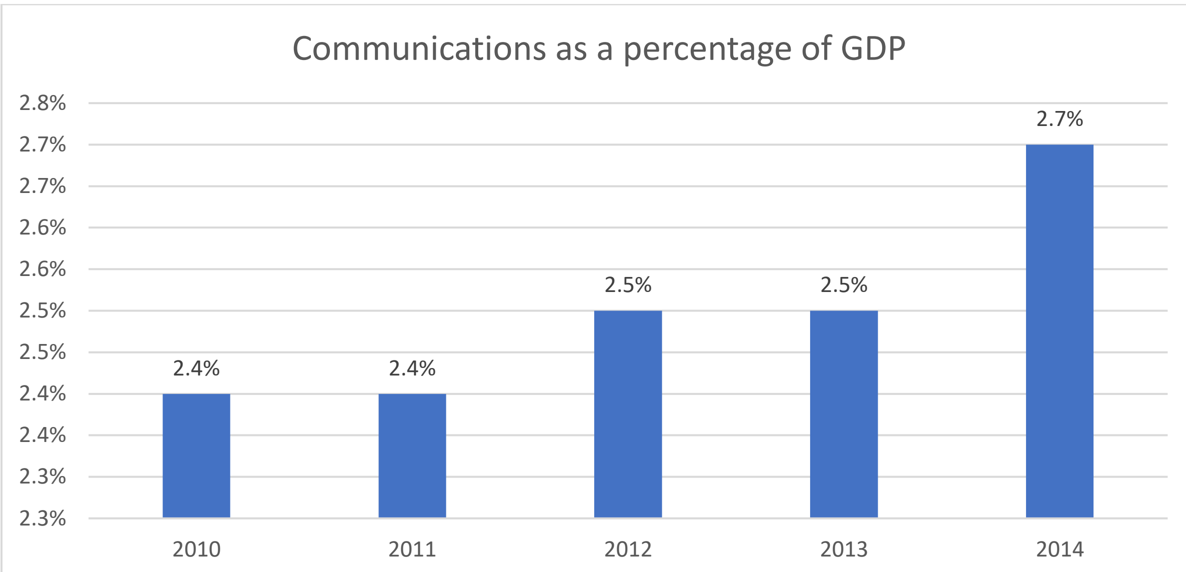
Table 1: Households' access to the Internet by place of access, geotype and province, 2016

Place Internets accessed	Geotype	Province (per cent)									
		WC	**EC**	**NC**	**FS**	**KZN**	**NW**	**GP**	**MP**	**LP**	**RSA**
At home	Metro	27,3	6,8	NA	8,2	9,0	NA	14,9	NA	NA	15,2
	Urban	16,6	5,8	6,3	4,7	6,7	6,6	13,8	5,4	5,2	8,3
	Rural	16,6	0,7	3,5	2,4	0,8	0,6	17,3	6,3	0,5	2,0
	Total	**23,6**	**3,9**	**5,5**	**5,4**	**5,2**	**3,5**	**14,7**	**5,9**	**1,6**	**9,5**
At work	Metro	25,0	20,9	NA	12,2	21,4	NA	25,4	NA	NA	23,9
	Urban	14,0	12,8	14,8	10,4	20,5	12,0	22,5	12,6	15,4	15,3
	Rural	9,0	2,5	4,6	2,7	4,4	3,4	25,4	5,4	2,7	3,9
	Total	**20,9**	**10,9**	**12,0**	**9,9**	**14,5**	**7,6**	**25,0**	**8,5**	**5,5**	**15,8**
Using mobile devices	Metro	64,5	67,0	NA	62,6	52,8	NA	62,2	NA	NA	61,6
	Urban	45,1	55,4	57,2	50,0	57,6	59,9	73,1	63,3	55,7	58,0
	Rural	25,8	29,9	39,4	41,0	35,5	45,2	58,8	50,0	35,5	38,3
	Total	**56,9**	**48,0**	**52,2**	**52,4**	**47,1**	**52,4**	**63,6**	**55,8**	**40,0**	**53,9**
At Internet Cafes or education al facilities	Metro	12,6	10,8	NA	6,8	15,9	NA	16,8	NA	NA	15,1
	Urban	11,3	9,0	3,5	8,5	8,9	5,4	14,7	5,9	3,7	8,5
	Rural	1,1	1,3	4,3	6,0	4,8	3,0	9,3	4,2	1,9	3,2
	Total	**11,6**	**6,2**	**3,7**	**7,7**	**9,9**	**4,2**	**16,4**	**4,9**	**2,3**	**9,8**

Source: StatsSA GHS, 2016

The communication sector contributed 2.7% to GDP to GDP by communication sector has slightly increased by 0.2 % in 2014 from 2013.

Graph 4: ICT Sector as reported by Statistics South Africa



Source: StatsSA ICT Satellite account for South Africa, 2013 and 2014; Gross Domestic Product(GDP), Q4 2016
Communications is basically telecommunication in this regard

3 ICT DATA COLLECTED BY ICASA

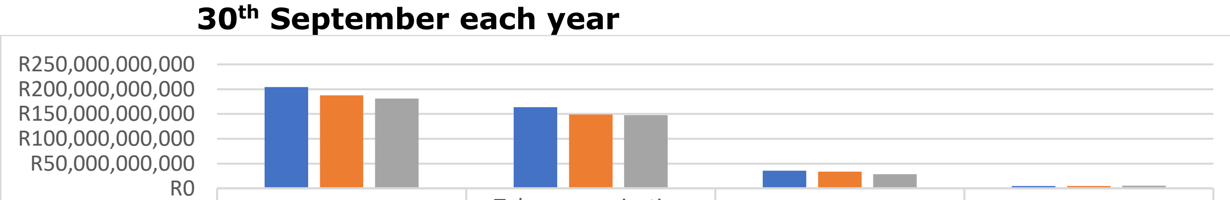
This section reports on the aggregated data that was received by ICASA through questionnaires sent to licensees in December 2017. In summary, eighty-four (84) Electronic Communication Services (ECS) and Electronic Communication Network Services (ECNS) licensees, twenty-four (24) broadcasters (TV and Radio), and three (3) Postal Licensees responded to the questionnaire as already mentioned.

3.1 Revenue for the three sectors that ICASA regulates

Annually: The total combined revenue reported for the three sectors (telecommunications, broadcasting and postal) increased by 9.1% from R187 billion to R204 billion. Individually, the telecommunications sector reported a revenue of R163 billion (or an increase of 10.2%) and broadcasting revenue increased to R35 billion (an increase of 5.8%). The postal sector experienced a decline in revenue by 0.6% for the period under review.

Compound annual growth rate (CAGR): The total sector revenue increased by 6.2% over a period of 3 years. Telecommunications and broadcasting revenue increased by 5.5% and 11.4%, respectively over the same 3-year period. Postal service revenue has continued to show decline, decreasing by 5% over the 3-year period.

Graph 5: Total revenue of the 3 sectors, for the 12 months ending 30th September each year



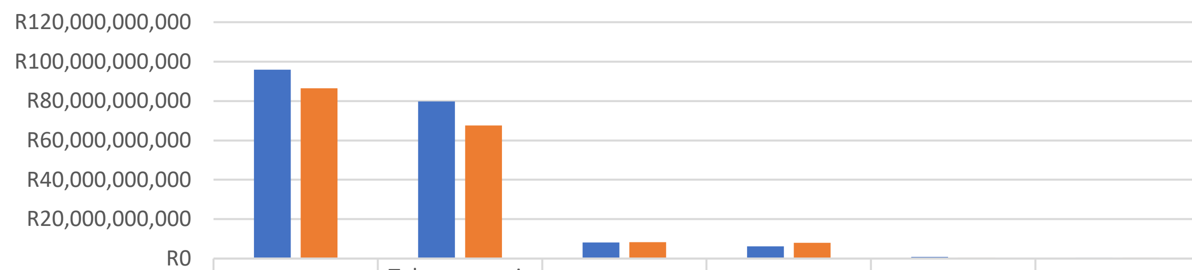
	Total Sector revenue	Telecommunication revenue	Broadcasting revenue	Postal revenue
2017	R204,386,608,276	R163,987,306,320	R35,606,415,286	R4,792,886,670
2016	R187,324,841,309	R148,849,340,077	R33,655,415,072	R4,820,086,160
2015	R181,334,709,753	R147,338,510,464	R28,688,718,290	R5,307,481,000

Source: ICASA Electronic Telecommunications, Broadcasting and Postal Questionnaire
**in 2017 Fixed internet revenue is added to telecommunication revenue **

3.2 Procurement spend from all suppliers in all 3 sectors

Total telecommunication procurement spend from all suppliers increased by 10.9% and procurement spend from suppliers based on B-BBEE rating level increased by 18.0% in 2017. Broadcasting procurement spend from suppliers based on their B-BBEE rating level significantly decreased by 22.1% in 2017. Postal procurement spend from suppliers based on their B-BBEE rating level decreased by 9.4% in 2017.

Graph 6: Procurement spend from all suppliers in all 3 sectors



	Telecommunication Procument Spend from all supplliers	Telecommunication Procument Spend from all supplliers based on the B-BBEE Procument Recognition Levels	Broadcasting Procument Spend from all supplliers	Broadcasting Procument Spend from all supplliers based on the B-BBEE Procument Recognition Levels	Postal Procument Spend from all supplliers	Postal Procument Spend from all supplliers based on the B-BBEE Procument Recognition Levels
2017	R95,898,396,4	R79,716,674,4	R8,133,329,92	R6,243,530,61	R817,935,346	R503,345,609
2016	R86,448,461,0	R67,548,274,2	R8,267,951,96	R8,018,052,76	R555,395,857	R555,395,857

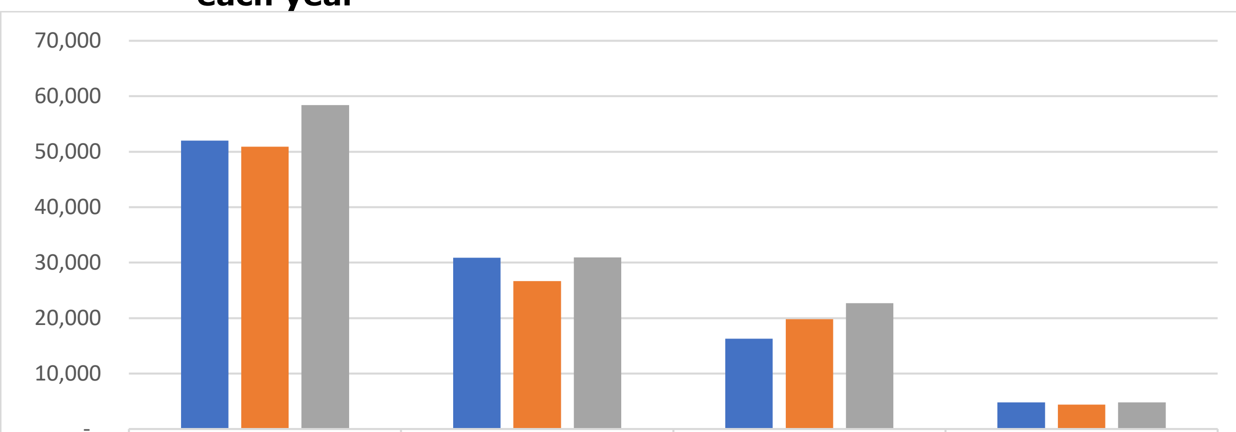
Source: ICASA Electronic Communications, Broadcasting and Postal Questionnaires, December 2017

3.3 Employment levels for the three sectors that ICASA regulates

Annually: Total overall employment numbers for the three sectors increased by 2.2% in 2017. Employment in the telecommunications sector increased by 15.8%, in the broadcasting sector it increased by 8.4%. The postal sector saw a decline in its employment numbers by 17.6% in 2017.

Compound annual growth rate (CAGR): Over a 3-year period total sector employment decreased by 5.7% which was affected by the growth of Postal service over the period of 3 years. Telecommunications decrease by 0.1, broadcasting employment show a growth rate as it increased by 0.1% and postal service employment still shows a decline in terms of growth as it decreased by 15.2% for the period of 3 years.

Graph 7: Total employment for the 3 sectors, as of 30 September each year



	Total Employment of 3 sectors	Telecommunications employemnt	Postal employment	Broadcasting employment
2017	51,993	30,881	16,312	4,800
2016	50,899	26,669	19,801	4,429
2015	58,411	30,951	22,671	4,789

Source: ICASA Electronic Communications, Broadcasting and Postal Questionnaires

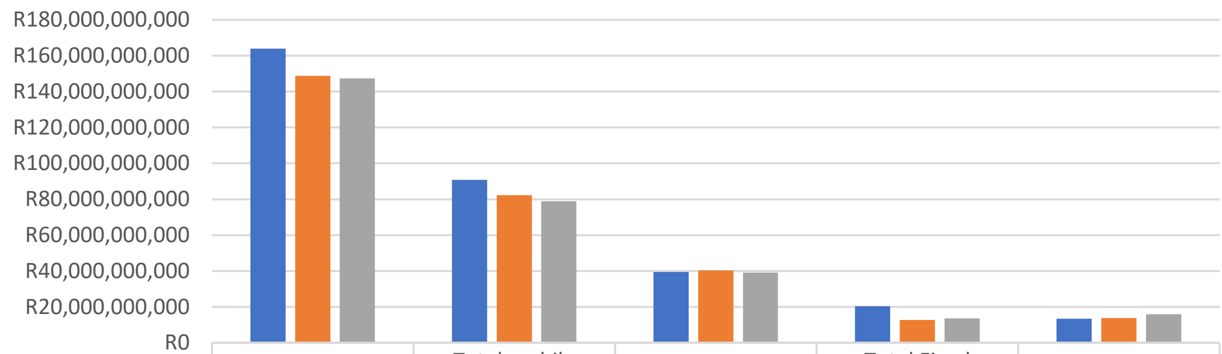
4 Telecommunications sector

4.1 Telecommunication sector revenues

Annually: The total telecommunication revenue and total fixed Internet and data revenue increased by 10.1% and 62.1% respectively in 2017. Total fixed line revenue and Total of any other revenue decreased by 2.3% and 2.2% respectively in 2017.

Compound annual growth rate (CAGR): For the period of 3 years as indicated on the graph below, there is increased growth. Total telecommunications revenue increased by 5.5%, total fixed internet and data revenue increased by 22.4% and Total of any other revenue increased by 0.4%. Total fixed line revenue decreased by 7.9%.

Graph 8: Telecommunications revenue, for the 12 months ending 30 September each year



	Total revenue	Total mobile services revenue (Rm)	Total of any other revenue	Total Fixed Internet and data revenue	Total fixed line revenue
2017	R163,987,306,320	R90,737,963,135	R39,400,714,280	R20,432,607,468	R13,416,021,437
2016	R148,849,340,077	R82,209,711,759	R40,295,245,779	R12,608,095,523	R13,736,287,016
2015	R147,338,510,464	R78,838,681,356	R39,059,280,775	R13,630,584,390	R15,809,963,943

Source: ICASA Electronic Communications Questionnaire

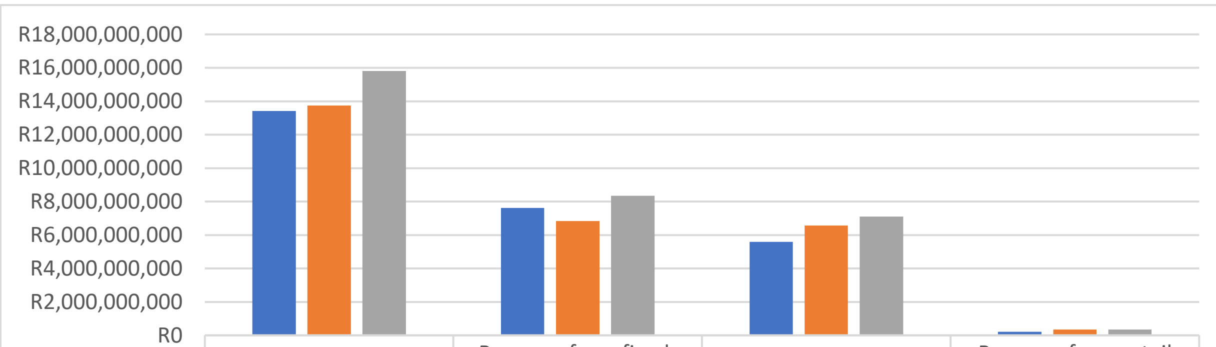
Note: Includes revenues from: telecommunication services earned from retail fixed-telephone, mobile-cellular, internet and data services offered by telecommunication operators (both network and virtual, including resellers) and interconnection, equipment sales and any other revenue

4.2 Total Fixed line revenue

Annually: The total fixed line revenue decreased by 2.3%. This was affected by revenue from retail fixed-telephone services and revenue from fixed-telephone calls which decreased significantly by 40.3% and 14.7% respectively in 2017.

Compound annual growth rate (CAGR): The fixed line revenue shows decreases in all categories as shown on the graph below.

Graph 9: Total Fixed line revenue, 12 months ending 30 September each year



	Total fixed line revenue	Revenue from fixed-telephone subscription charges	Revenue from fixed-telephone calls	Revenue from retail fixed-telephone services
2017	R13,416,021,437	R7,615,313,709	R5,595,498,449	R205,209,279
2016	R13,736,287,016	R6,832,868,171	R6,559,636,420	R343,782,425
2015	R15,809,963,943	R8,354,835,988	R7,104,611,411	R350,516,544

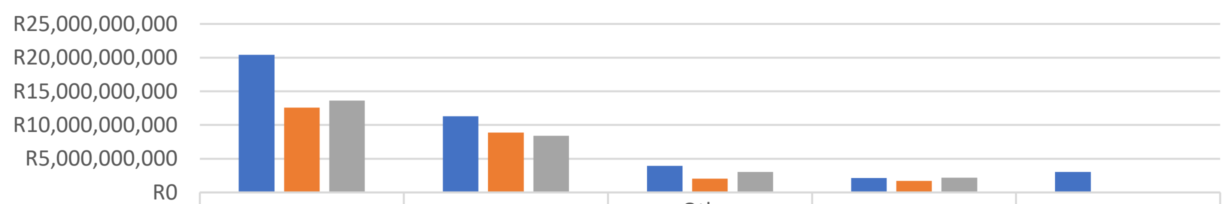
Source: ICASA Electronic Communications Questionnaire, December

4.3 Total fixed internet and data revenues

Annually: The usage of internet is growing very fast in South Africa. Total fixed internet and data revenue and other telecommunication services revenue, including revenue from leased lines and fixed value-added telecommunication services significantly increased by 62.1% and 94.7% in 2017, respectively. In 2017 the total fixed internet and data revenue included the fixed internet revenue which was not included in 2016 and 2015 totals.

Compound annual growth rate (CAGR): Total fixed internet and data revenue and revenue from Other telecommunication services revenue, including leased lines revenue and fixed value-added increased significantly by 22.4% and 13.6% over the 3 years, respectively.

Graph 10: Fixed internet revenue, 12 months ending 30 September (R million) each year



	Total Fixed Internet and data revenue	Revenue from fixed (wired)-broadband services	Other telecommunication services revenue, including leased lines revenue and fixed value-added telecommunicat...	Other wireless-broadband services revenue	Fixed Internet revenue (R)
2017	R20,432,607,468	R11,306,993,289	R3,943,395,318	R2,151,036,708	R3,031,182,153
2016	R12,608,095,523	R8,888,078,923	R2,025,882,253	R1,694,134,347	R0
2015	R13,630,584,390	R8,393,442,800	R3,055,425,191	R2,181,716,399	R0

Source: ICASA Electronic Communications Questionnaire, December

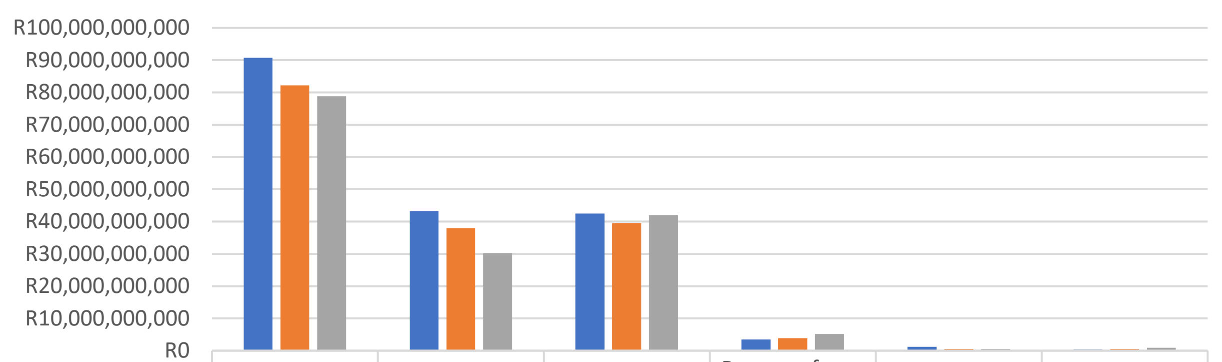
**In 2017 Fixed internet revenue is added to telecommunication revenue **

4.4 Total mobile services revenue (Rm)

Annually: The total mobile services revenue increased by 10.4% in 2017. Revenue from other mobile services significantly increased by 158.6% in 2017. Revenue from outbound roaming decreased by 16.9% in 2017.

Compound annual growth rate (CAGR): For the period of 3 years total mobile services revenue increased by 7.3%, however revenue from outbound roaming decreased by 34.9% and revenue from other mobile services increased significantly by 48.1%.

Graph 11: Mobile services revenue for the 12 months, ending 30 September each year



	Total mobile services revenue (Rm)	Revenue from mobile data services	Revenue from voice services	Revenue from text and multimedia messaging services	Other mobile services revenue	Revenue from outbound roaming (R)
2017	R90,737,963,1	R43,190,853,8	R42,474,346,2	R3,495,840,53	R1,198,304,77	R378,617,682
2016	R82,209,711,7	R37,881,274,9	R39,498,579,9	R3,910,993,63	R463,330,629	R455,532,639
2015	R78,838,681,3	R30,216,263,6	R41,992,110,9	R5,190,759,63	R546,158,563	R893,388,568

Source: ICASA Electronic Communications Questionnaire

This includes retail mobile revenue from: the provision of voice services from national and international calls; outbound roaming abroad; mobile data; and text messaging and multimedia messaging (SMS and MMS) and any other mobile revenue.

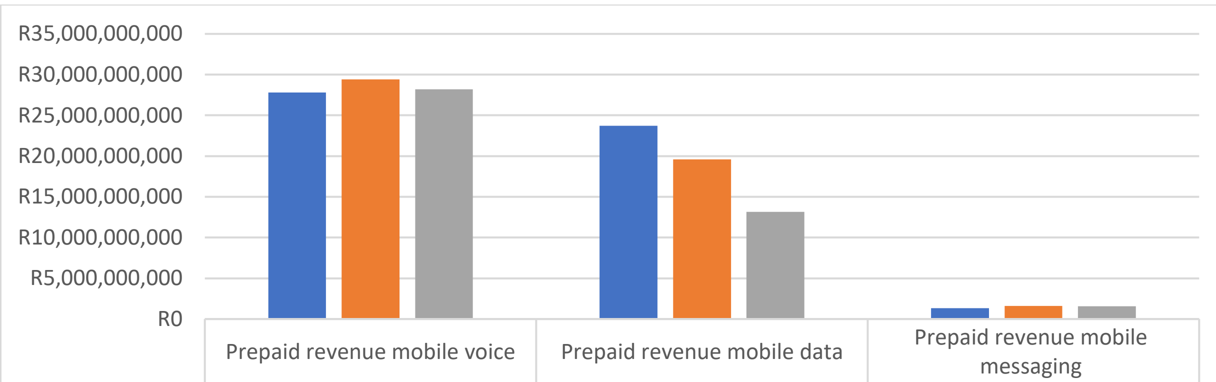
Note: Excludes equipment revenue and termination (interconnection) revenue and any other revenue categories e.g. other wholesale services.

4.5 Prepaid mobile, data and messaging revenue

Annually: Prepaid revenue mobile data increased significantly by 21.2% whilst both prepaid revenue mobile voice and messaging decreased by 5.4% and 16.8% in 2017, respectively.

Compound annual growth rate (CAGR): Over the 3-year period revenue from prepaid mobile data increased significantly by 34.3%. Revenue from prepaid mobile voice and messaging decreased by 0.7% and 8.6%, respectively.

Graph 12: Prepaid mobile, data and messaging revenue for the 12 months ending on 30 September each year



	Prepaid revenue mobile voice	Prepaid revenue mobile data	Prepaid revenue mobile messaging
2017	R27,821,766,556	R23,738,773,852	R1,328,612,859
2016	R29,404,161,623	R19,582,648,739	R1,596,794,034
2015	R28,214,729,224	R13,163,220,180	R1,589,242,304

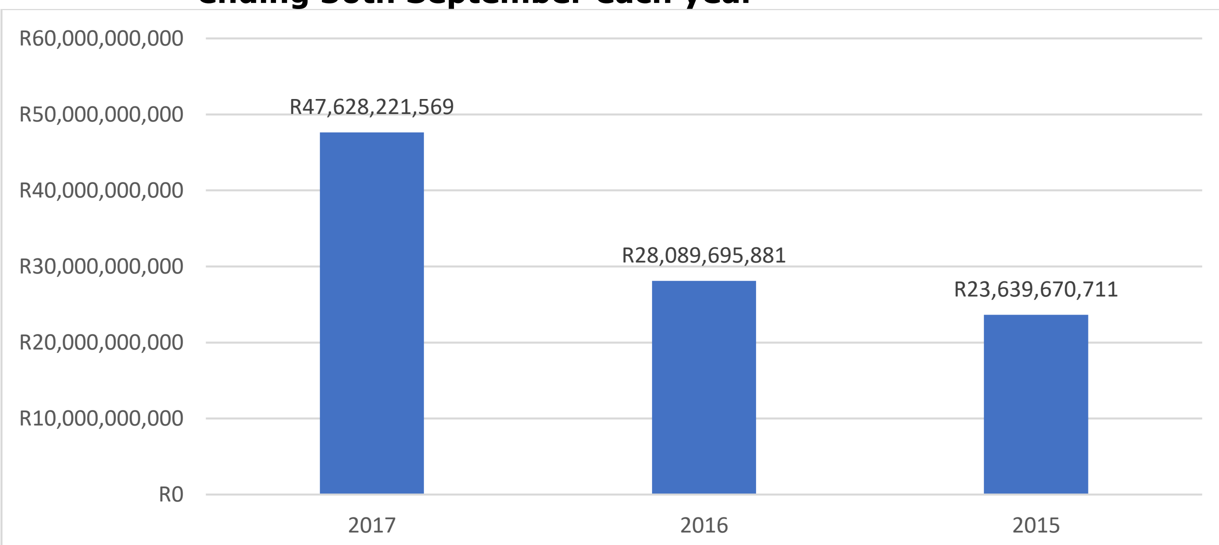
Source: ICASA Electronic Communications Questionnaire

4.6 Total telecommunication investment

The annual total telecommunication investment in 2017 increased by 69.6%. This increase was due to the inclusion of infrastructure, expansion and maintenance investment which was not included in the 2016 figures.

The CAGR increased by 41.9% over the 3-year period.

Graph 13: Total telecommunication investment, for the 12 months ending 30th September each year



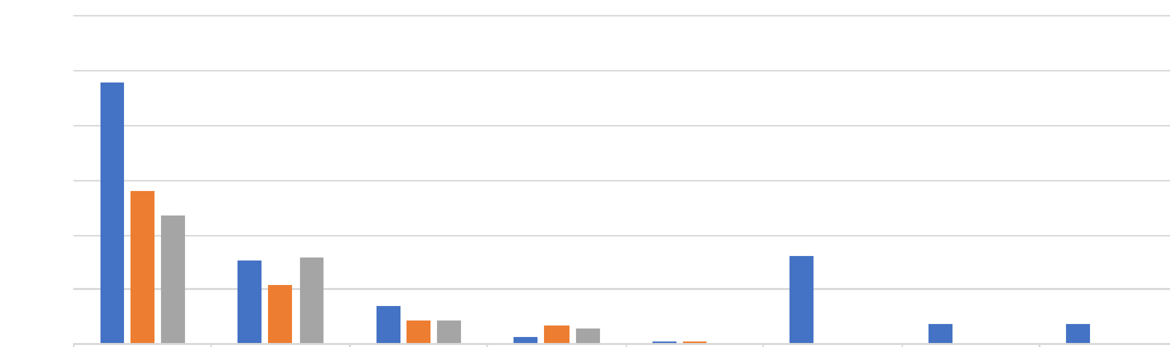
Source: ICASA Electronic Communications, Broadcasting and Postal Questionnaires
2017 include infrastructure, expansion and maintenance

4.7 Telecommunication investment breakdown

Annually: Annual investment in fixed-telephone services increased by 11.6%, Annual investment in fixed (wired)-broadband services increased by 61.0%, Annual investment in mobile communication services increased by 41.4% and Other annual investment in telecommunication services decreased by 63.1% in 2017.

Compound annual growth rate (CAGR): Over the 3-year period investment from Annual investment in fixed-telephone services increased by 15.1%, Annual investment in fixed (wired)-broadband services increased by 28.0%, Annual investment in mobile communication services decreased by 2.5% and Other annual investment in telecommunication services decreased by 34.3%.

Graph 14: Telecommunication investment breakdown, for the 12 months ending 30th September each year



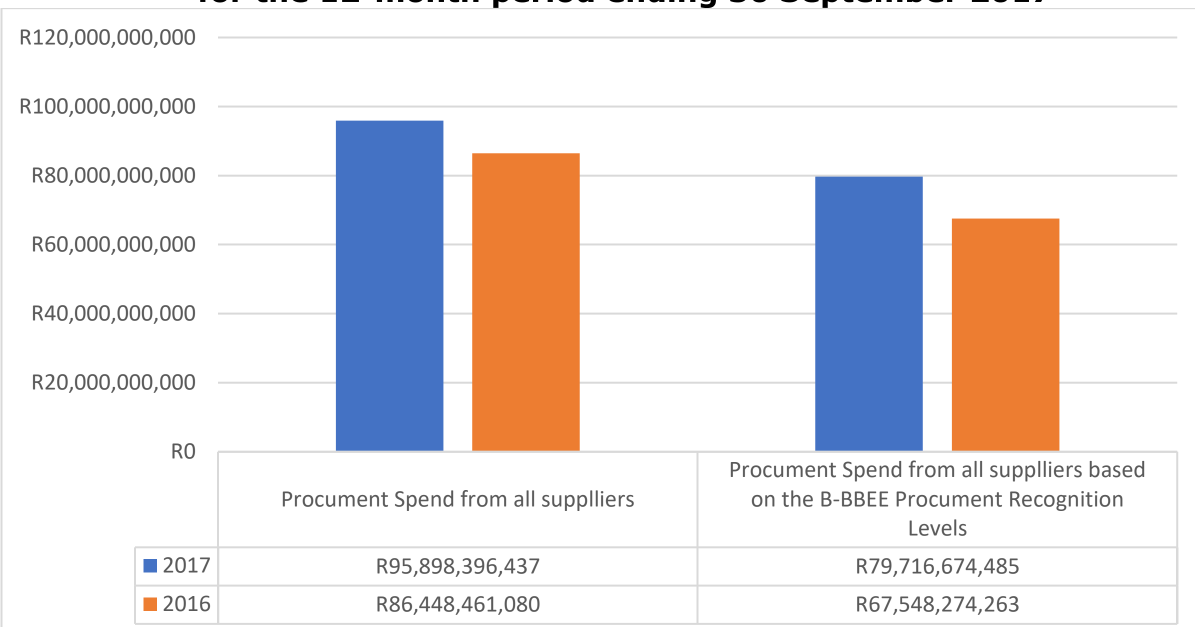
	Total telecommunication investment	Annual investment in mobile communication services	Annual investment in fixed (wired)-broadband services	Other annual investment in telecommunication services	Annual investment in fixed-telephone services	Expansion	Infrastructure	Maintenance
2017	R47,628,221,569	R15,237,727,593	R7,002,587,357	R1,285,335,724	R480,671,041	R16,176,231,342	R3,770,800,407	R3,674,868,105
2016	R28,089,695,881	R10,773,379,404	R4,348,617,012	R3,478,418,766	R430,713,855	R0	R0	R0
2015	R23,639,670,711	R16,023,808,303	R4,271,046,025	R2,982,137,563	R362,678,821	R0	R0	R0

Source: ICASA Electronic Communications Questionnaire

4.8 Procurement spend from all suppliers based on the B-BBEE

Procurement spend from all suppliers based on the B-BBEE ranking levels represented 78.1% in 2016 and 83.1% in 2017 of total procurement spend from all suppliers.

Graph 15: Procurement Spend from all suppliers based on the B-BBEE, for the 12-month period ending 30 September 2017



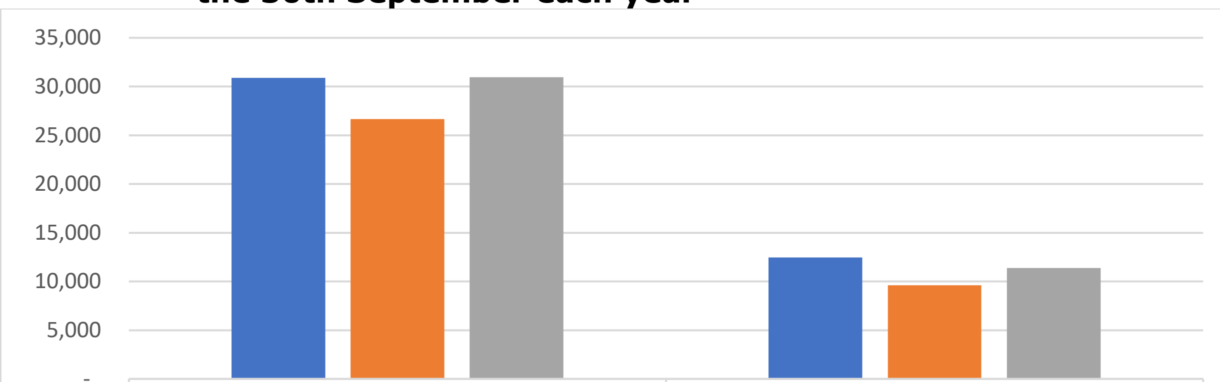
Source: ICASA Electronic Communications Questionnaire

4.9 Persons employed in the telecommunications sector

Total employment in telecoms and female employment increased significantly by 15.8% and 29.9% in 2017, respectively.

Compound annual growth rate (CAGR): Over the 3-year period the telecommunications employment sector decreased by 0.1%, and female employment of increased by 4.7% over the same period. The employment growth in the telecommunication sector is very slow when compared to the revenue generated and the usage of the services in the country.

Graph 16: Persons employed in the telecommunications sector, as of the 30th September each year



	Telecoms employment	Telecoms employment- Female
2017	30,881	12,464
2016	26,669	9,598
2015	30,951	11,372

Source: ICASA Electronic Communications Questionnaire

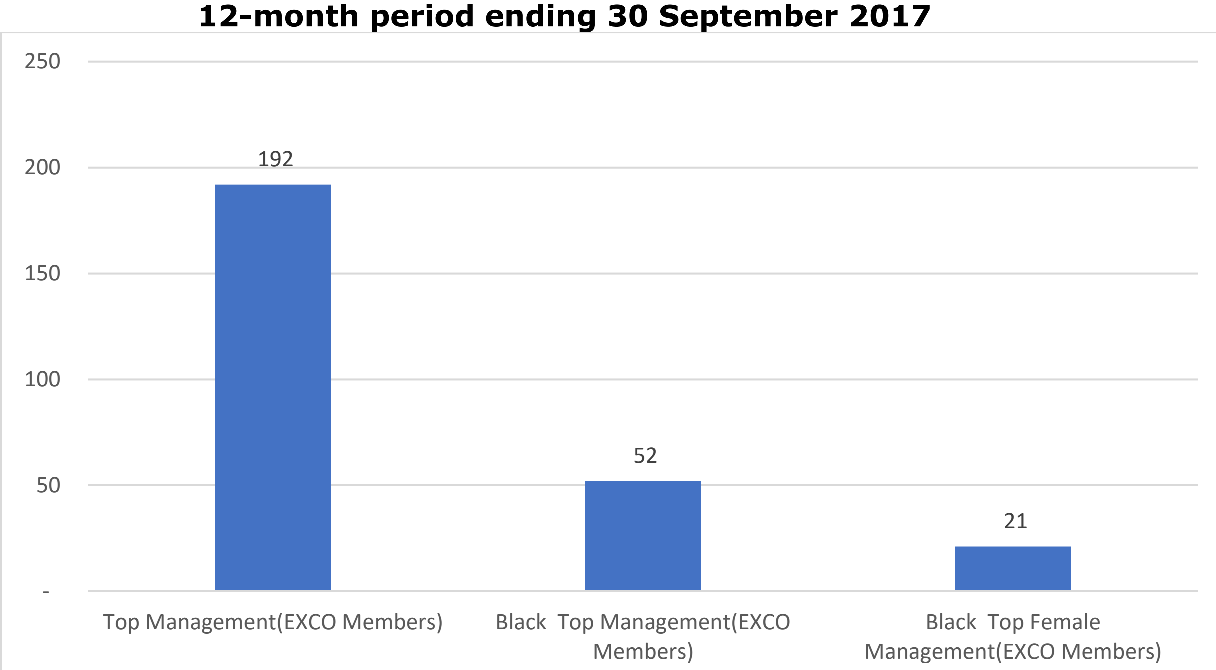
4.10 Black Economic Empowerment Measures

This section presents the progress made towards black employment, top management positions filled by females and other previously disadvantaged groups in the ICT sector.

4.10.1 Telecoms Black Economic Empowerment Measures

Blacks filled 27.1% of top management (EXCO) positions in the ICT Sector. Only 11.0% of top management positions were filled by black females in 2017.

Graph 17: Telecoms Black Economic Empowerment Measures, for the 12-month period ending 30 September 2017



Source: ICASA Electronic Communications Questionnaire

4.11 Telecommunications subscriptions

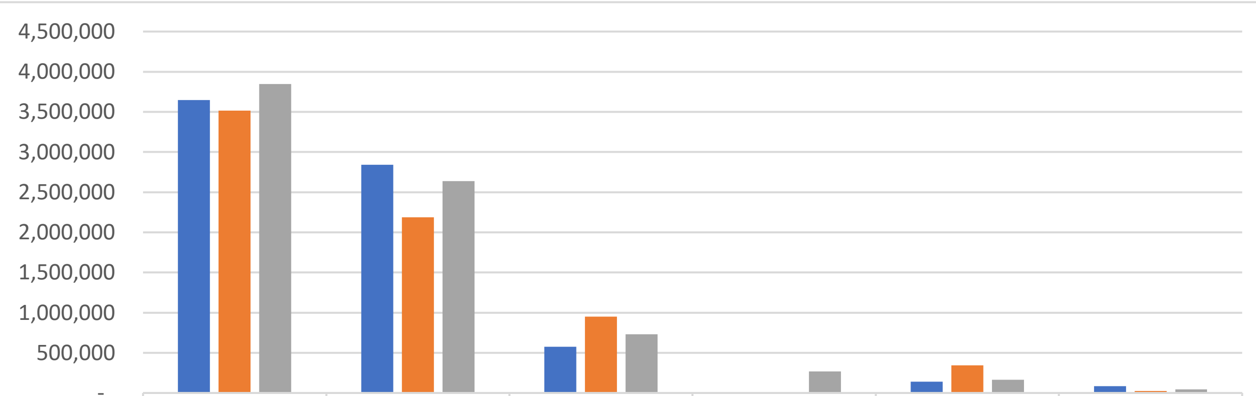
This section of the report covers subscriptions for fixed and mobile voice, and subscriptions for fixed broadband and mobile data.

4.11.1 Fixed line subscriptions

Annually: The total number of fixed line subscriptions increased by 3.7%. The analogue fixed-telephone lines and fixed public payphone increased by 30.0% and 216.1% respectively in 2017. Fixed line subscriptions take another turn as VoIP subscriptions, fixed wireless local loop subscriptions and ISDN voice-channel equivalent significantly decreased by 58.7%, 54.8% and 39.4 in 2017.

Compound annual growth rate (CAGR): The total number of fixed line subscriptions decreased by 2.6% over a 3-year period. The main cause of this decrease was due to fixed wireless local loop subscriptions declining by 87.0% over the 3-year period.

Graph 18: Fixed line subscriptions, as at 30 September each year



	Fixed line subscriptions	Analogue fixed-telephone lines	ISDN voice-channel equivalents	Fixed wireless local loop subscriptions	VoIP subscriptions	Fixed public payphone
2017	3,645,837	2,840,096	575,476	4,507	142,224	83,534
2016	3,515,607	2,185,750	949,264	9,961	344,208	26,424
2015	3,846,332	2,637,753	731,034	268,454	165,425	43,666

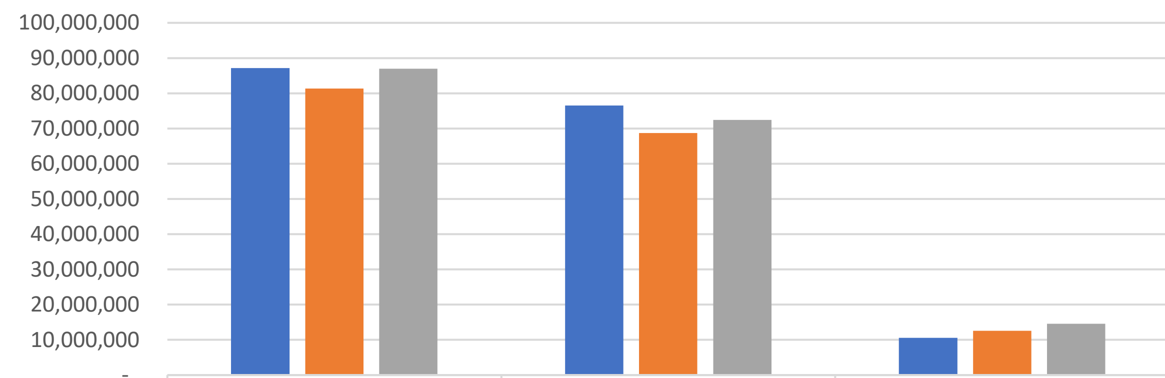
Source: ICASA Electronic Communications Questionnaire, December

4.11.2 Mobile cellular subscriptions

Annually: Total mobile cellular subscriptions increased by 7.2% from 2016 to 2017. The subscriptions for prepaid mobile services increased by 11.4% and for post-paid mobile services decreased by 15.8% for the period under review.

Compound annual growth rate (CAGR): Total mobile cellular subscriptions slightly increased by 0.1%, prepaid mobile cellular subscriptions slightly increased by 2.8%, and post-paid mobile cellular subscriptions decreased by 14.7% over the 3-year period.

Graph 19: Prepaid and post-paid mobile cellular subscriptions, as at 30 September each year



	Total Mobile cellular subscriptions	Prepaid mobile-cellular telephone subscriptions	Postpaid mobile-cellular telephone subscriptions
2017	87,153,108	76,546,031	10,607,077
2016	81,314,463	68,710,864	12,603,599
2015	86,985,183	72,423,365	14,561,818

Source: ICASA Electronic Communications Questionnaire

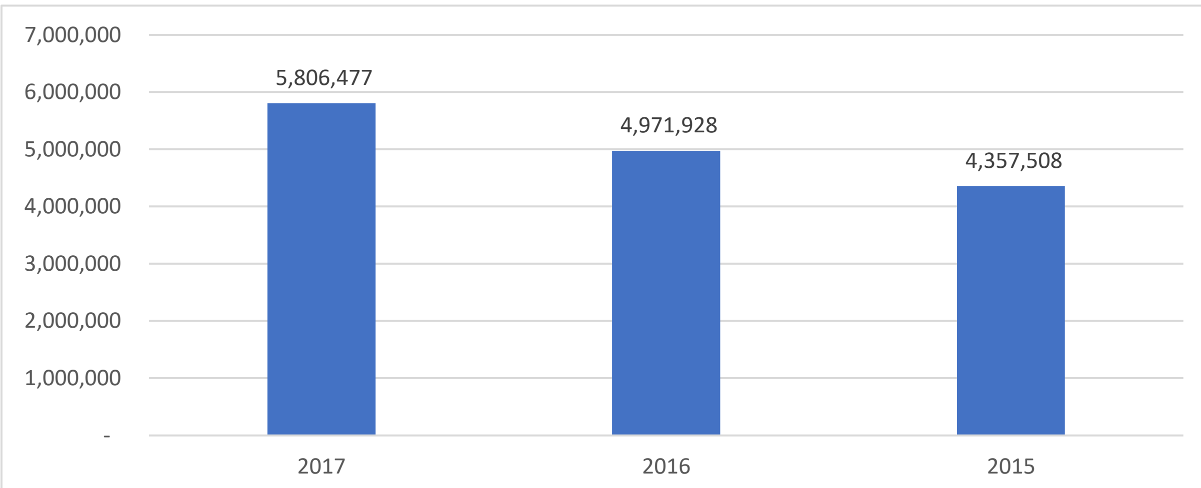
Note: The definition of prepaid subscribers is adopted from the ITU definition of 3-month active subscribers. Some South African operators do not have this metric available but rather count SIMs that have not been disconnected within a 90-day window implying that the number may be overstated according to the strict definition. Top up bundles and machine-to-machine subscriptions were included in post-paid mobile cellular subscriptions.

4.11.3 Machine to machine (M2M) mobile-network subscriptions

M2M mobile-network subscriptions increased by 16.8% in 2017.

Looking over a period of 3 years, M2M mobile-network subscriptions increased by 15.4%.

Graph 20: M2M mobile-network subscriptions, as at 30 September each year



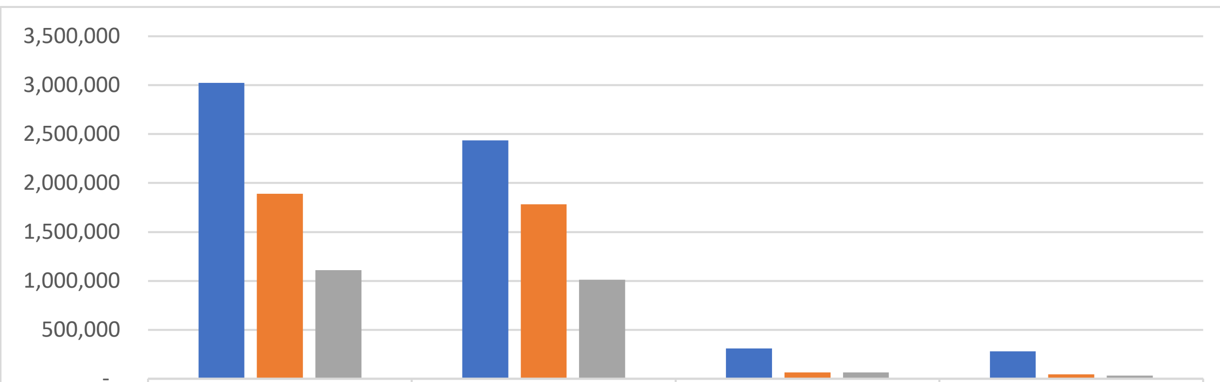
Source: ICASA Electronic Communications Questionnaire

4.11.4 Fixed broadband subscriptions

Annually: Fixed broadband subscriptions increased by 59.9% in 2017. DSL Internet subscriptions increased by 36.7%, however fibre-to-the-home/building Internet subscriptions and other fixed (wired) broadband subscriptions saw a substantial increase of 523.9% and 379.2% in 2017, respectively.

Compound annual growth rate (CAGR): For the 3-year period from 2015 to 2017 fixed broadband subscriptions increased significantly by 65.1%. Over the same period, DSL Internet subscriptions increased significantly by 55.0%, fibre-to-the-home/building Internet subscriptions increased by 196.6%, and other fixed (wired) broadband subscriptions increased by 119.3%.

Graph 21: Fixed broadband subscriptions, as at 30 September each year



	Fixed broadband subscriptions	DSL Internet subscriptions	Other fixed (wired)-broadband subscriptions	Fibre-to-the-home/building Internet subscriptions
2017	3,023,349	2,434,555	308,697	280,097
2016	1,890,832	1,781,519	64,418	44,895
2015	1,109,055	1,012,996	64,216	31,843

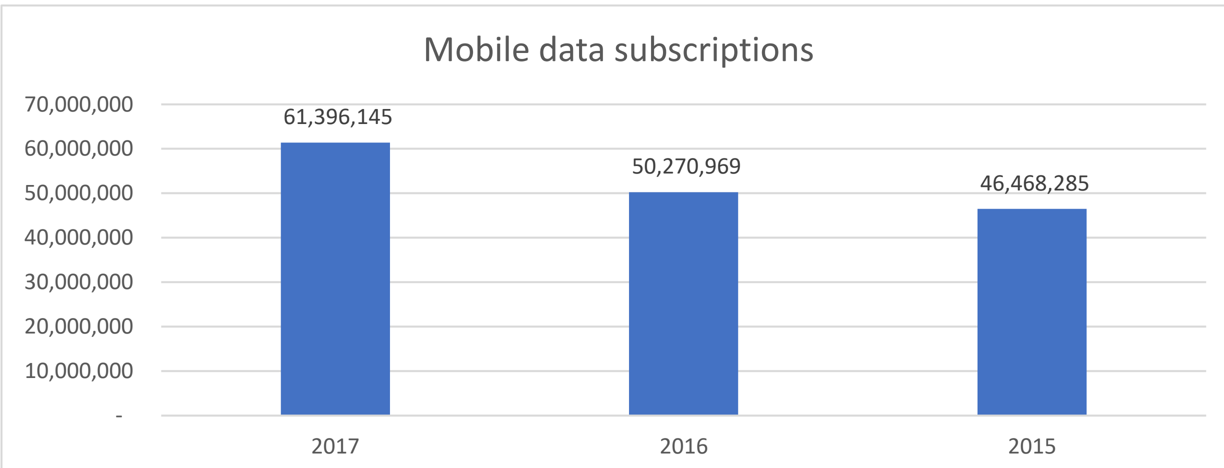
Source: ICASA Electronic Communications Questionnaire

4.11.5 Mobile data subscriptions

Mobile data subscriptions increased by 22.1% between 2016 and 2017.

Over a 3-year period from 2015 to 2017 the mobile data subscriptions increased by 14.9%.

Graph 22: Mobile data subscriptions as at 30 September each year



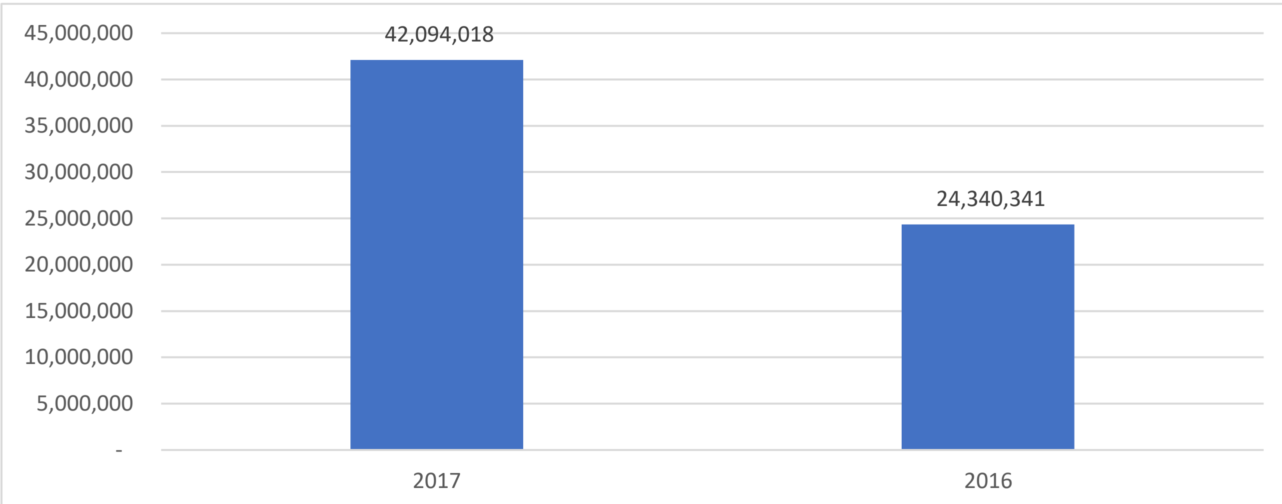
Source: ICASA Electronic Communications Questionnaire

Note: All LTE connections are included in 'mobile'. There is room for the definition of 'mobile broadband subscriptions' to be improved in subsequent reports, noting that it was not possible to accurately distinguish between handset data usage and mobile data usage on other devices, or alternatively to distinguish SIMs used for both voice and data from SIMs dedicated to data usage. It was also necessary to count total internet subscriptions rather than 'broadband' subscriptions, as it was not possible to accurately break out 'narrowband' internet, albeit this is now a small minority of total internet subscriptions. 'Wireless broadband' number may be incomplete in respect of some players, especially those operating in unlicensed spectrum bands.

4.11.6 Smart phone subscriptions

Smart phone[1] subscriptions significantly increased by 72.9% from 2016 to 2017.

Graph 23: Smart phone subscriptions, as at 30 September 2017



Source: ICASA Electronic Communications Questionnaire.2017

A smartphone is a mobile phone with advanced features: it has WiFi connectivity, web browsing capabilities, a high-resolution touchscreen display and the ability to use apps. The majority use one of the following mobile operating systems: Android, Symbian, iOS, BlackBerry OS and Windows Mobile

[1] Apart from making phone calls, the majority of existing smartphones at present can natively provide navigation through GPS and google maps, take pictures, play music, schedule appointments and keep unlimited contacts. Through the installation of apps, the possibilities of smartphone use become virtually limitless.

4.12 Network traffic

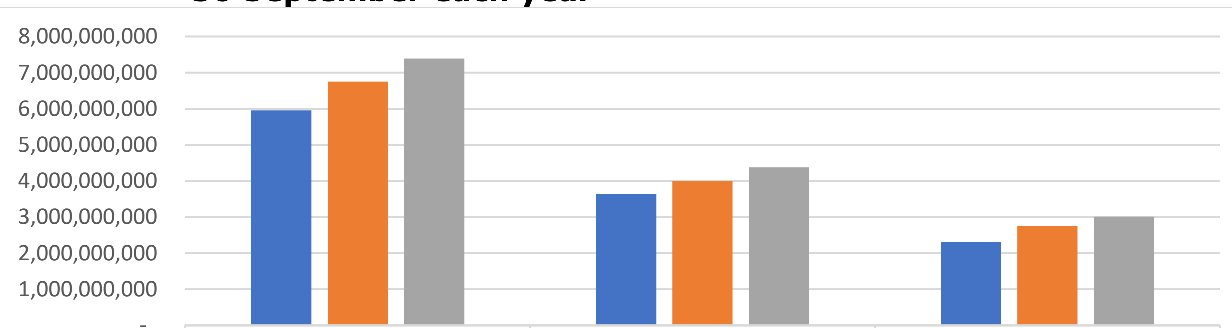
This section highlights the usage of operator networks in terms of traffic volumes in minutes.

4.12.1 Fixed line traffic

Annually: Fixed line traffic decreased by 11.8%, local fixed-to-fixed telephone traffic decreased by 8.8% and long-distance fixed-to-fixed telephone traffic decreased by 16.2% between 2016 and 2017.

Compound annual growth rate (CAGR): Over a 3-year period fixed line traffic decreased by 10.2%, local fixed-to-fixed telephone traffic decrease by 8.8 % and long-distance fixed-to-fixed telephone traffic decreased by 12.4%.

Graph 24: Fixed line traffic, in minutes, for the 12-month period ending 30 September each year



	Fixed line traffic	Local fixed-to-fixed telephone traffic, in minutes	Long-distance fixed-to-fixed telephone traffic, in minutes
2017	5,954,515,149	3,644,927,197	2,309,587,952
2016	6,751,540,678	3,994,718,204	2,756,822,474
2015	7,389,784,202	4,378,174,575	3,011,609,627

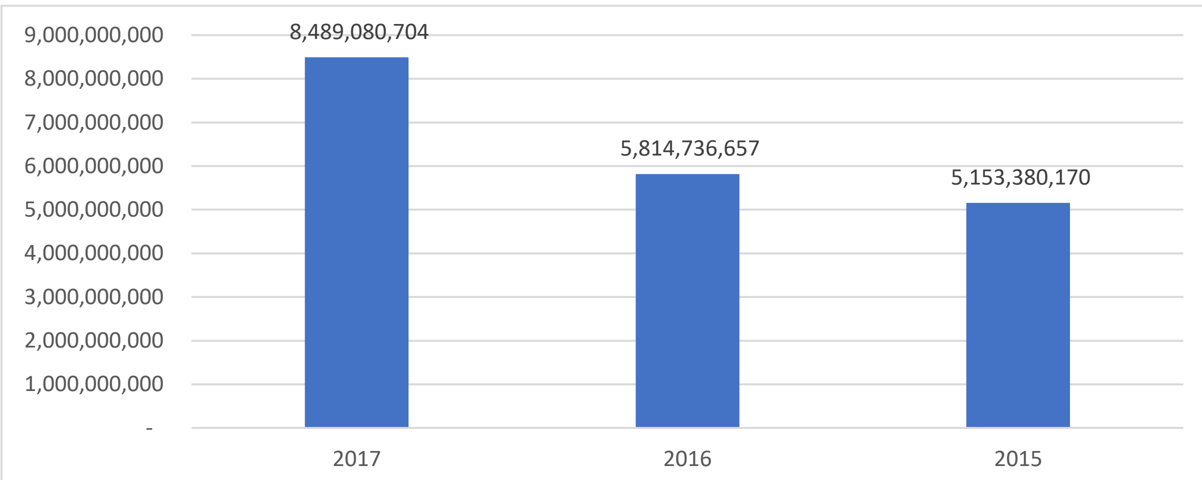
Source: ICASA Electronic Communications Questionnaire

4.12.2 Fixed-to-mobile telephone traffic

Fixed-to-mobile telephone traffic increased significantly by 46.0% in 2017.

The increase was 28.3% over a period of 3 years.

Graph 25: Fixed-to-mobile telephone traffic, for the 12-month period ending 30 September each year



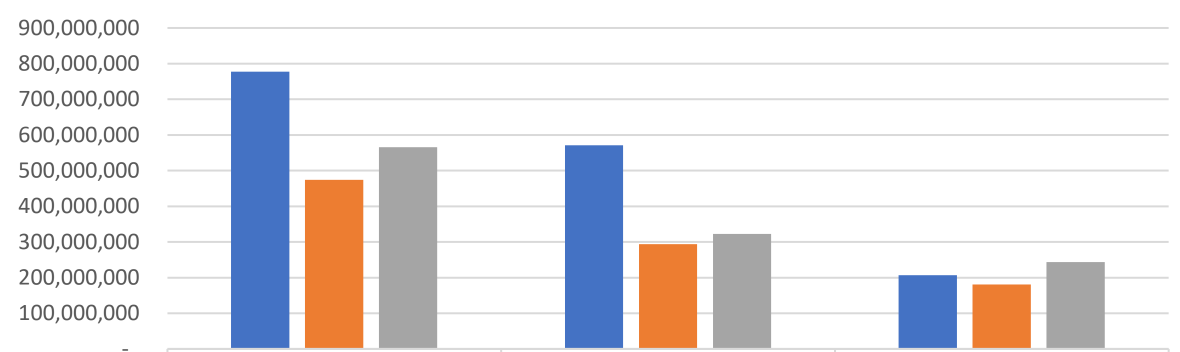
Source: ICASA Electronic Communications Questionnaire

4.12.3 International incoming and outgoing fixed telephone traffic

Annually: Combined international incoming and outgoing fixed-telephone traffic increased significantly by 64.0% between 2016 and 2017. Individually international incoming and outgoing fixed-telephone traffic increased by 94.5% and 14.4% for the same period, respectively.

Compound annual growth rate (CAGR): Over 3 years the combined international incoming and outgoing fixed-telephone traffic increased by 17.2%. International incoming fixed-telephone traffic increased by 33.1%. However, international outgoing fixed-telephone traffic decreased by 7.9%.

Graph 26: International fixed line traffic in minutes (million) for the 12-month period ending 30 September each year



	International incoming and outgoing fixed-telephone traffic	International incoming fixed-telephone traffic, in minutes	International outgoing fixed-telephone traffic, in minutes
2017	777,492,971	570,913,603	206,579,369
2016	474,138,140	293,591,561	180,546,579
2015	565,700,990	322,372,375	243,328,615

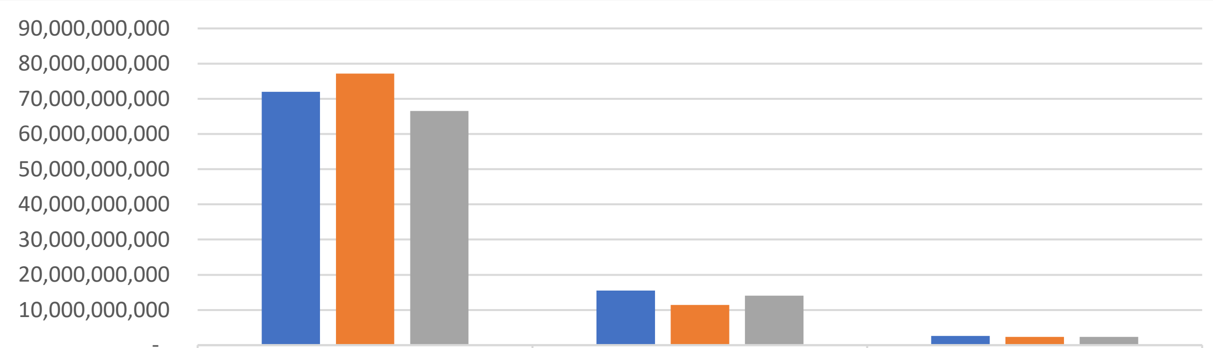
Source: ICASA Electronic Communications Questionnaire

4.12.4 Mobile voice traffic

Annually: Outgoing mobile traffic to the same mobile network (on-net) decreased by 6.7%, mobile traffic to other mobile networks (off-net) increased significantly by 35.7% and traffic from mobile to fixed networks increased by 13.4% between 2016 and 2017.

Compound annual growth rate (CAGR): Outgoing mobile traffic to the same mobile network (on-net) increased by 4.0% over a 3-year period. In the same period mobile traffic to other mobile networks (off-net) increased by 5.3% and traffic from mobile to fixed networks increased by 5.7%.

Graph 27: Mobile traffic in minutes for the 12-month period ending 30 September each year



	Outgoing mobile traffic to same mobile network	Mobile to other mobile networks	Mobile to fixed
2017	71,972,646,746	15,546,124,433	2,626,362,349
2016	77,143,274,980	11,456,090,048	2,316,828,295
2015	66,555,109,330	14,019,244,196	2,349,483,562

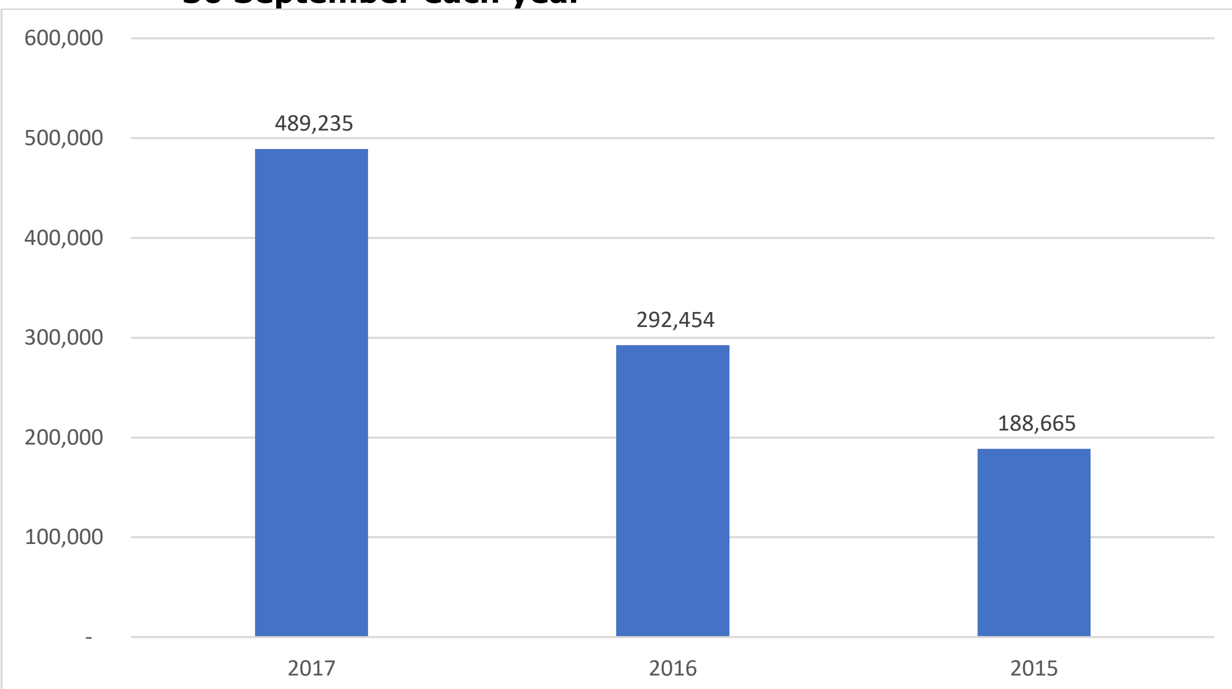
Source: ICASA Electronic Communications Questionnaire

4.12.5 Mobile data traffic

Mobile data traffic increased significantly by 67.3% from 2016 to 2017.

Over the 3-year period mobile data traffic increased by 61.0%

Graph 28: Mobile data traffic in minutes for the 12-month period ending 30 September each year



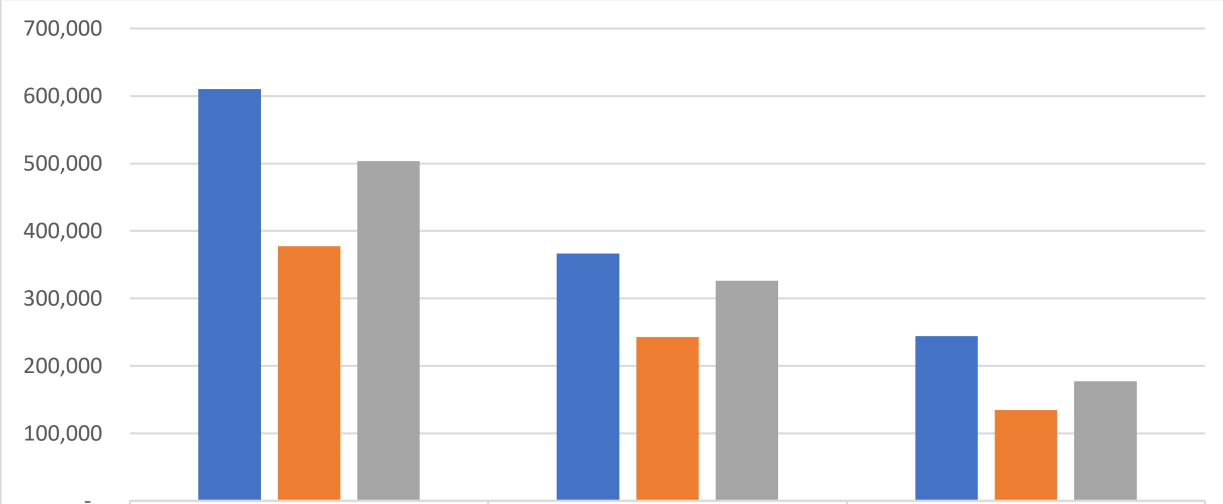
Source: ICASA Electronic Communications Questionnaire

4.13 International internet bandwidth (Mbps) capacity

Annually: Total international internet bandwidth (Mbps) capacity increased by 61.7% from 2016 to 2017. Bandwidth for international outgoing and incoming internet increased by 81.2% and 50.9% between 2016 and 2017, respectively.

Compound annual growth rate (CAGR): For the 3-year period, total international internet bandwidth capacity increased by 10.1%. Bandwidth for international outgoing and incoming internet increased by 17.3% and 6.0%, respectively.

Graph 29: International internet bandwidth for the 12-month period ending 30 September each year



	International Internet bandwidth (Mbps) capacity	International incoming Internet bandwidth	International outgoing Internet bandwidth
2017	610,400	366,394	244,006
2016	377,559	242,869	134,690
2015	503,599	326,212	177,386

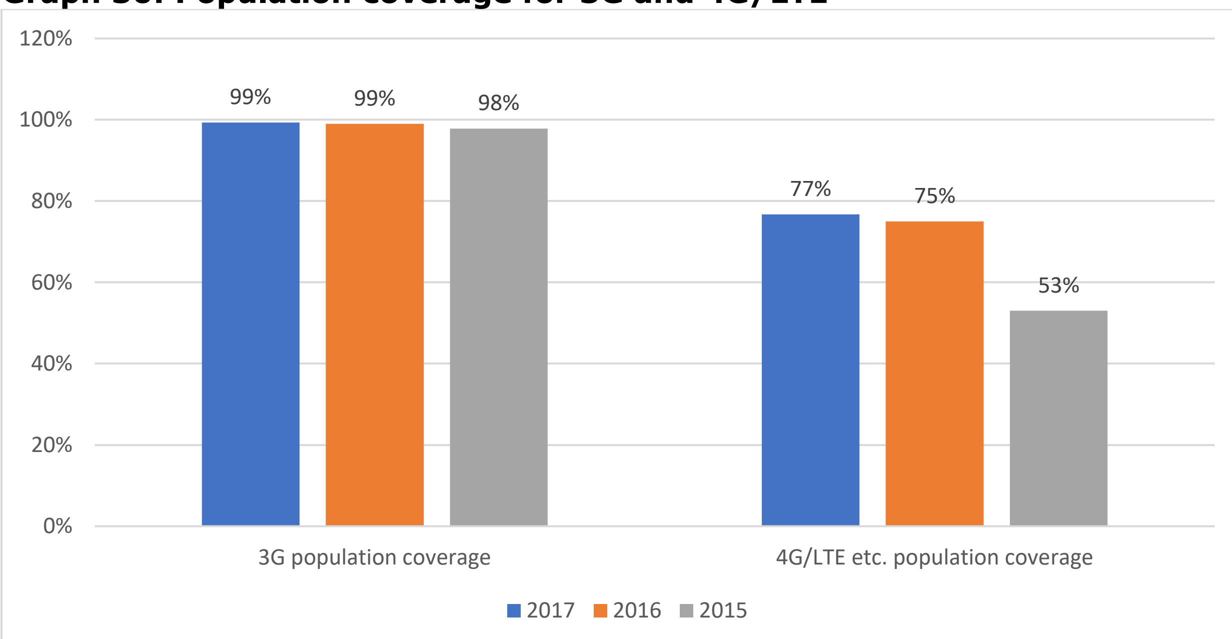
Source: ICASA Electronic Communications Questionnaire

4.14 Population coverage

Coverage for 3G remained stable at 99% of the population between 2016 and 2017 (it was 98% in 2015).

Coverage for 4G/LTE increased from 75% to 77% of the population for the same period (it was 53% in 2015).

Graph 30: Population coverage for 3G and 4G/LTE

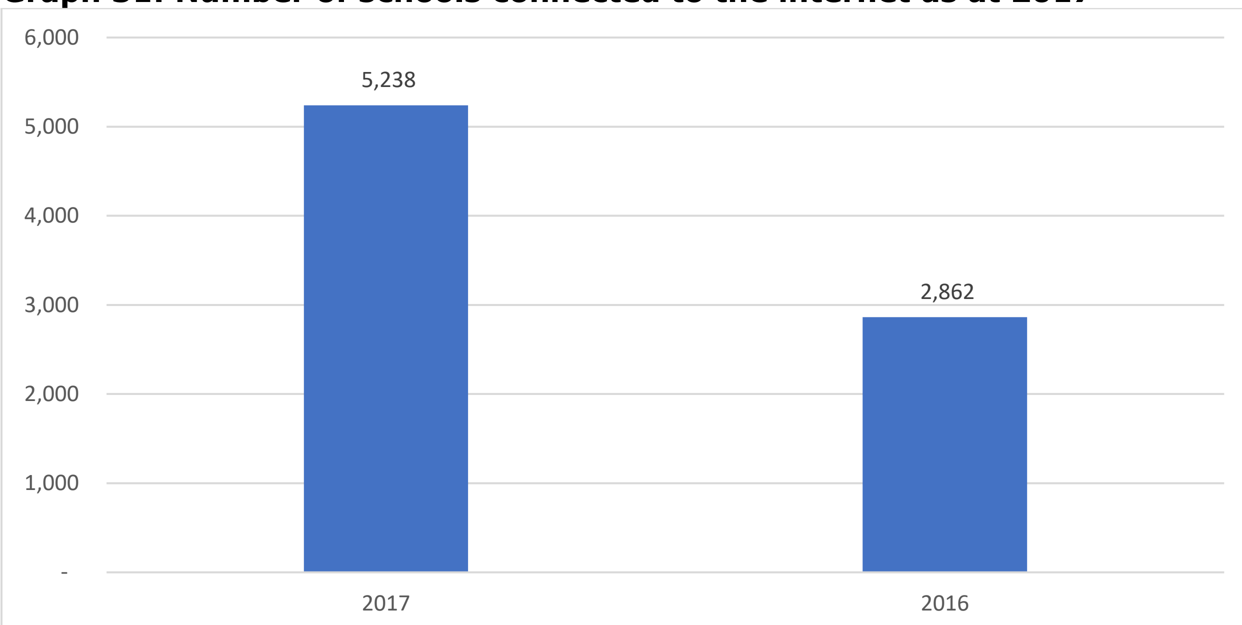


Source: ICASA Electronic Communications Questionnaire

4.15 Number of schools connected based on obligations imposed by ICASA

The total number of schools connected to the internet based on universal service obligations imposed by ICASA was 2862 in 2016 and 5238 in 2017.

Graph 31: Number of schools connected to the internet as at 2017



Source: ICASA Electronic Communications Questionnaire

5 BROADCASTING

5.1 Broadcasting revenues

Annually: Total broadcasting services revenue increased by 5.8% from just over R33 billion to over R35 billion from 2016 to 2017. Revenue from advertising increased by 2.0%, from subscriptions it increased by 9.3% and from other sources it decreased by 9.7% between 2016 and 2017.

Compound annual growth rate (CAGR): Over the 3-year period total revenue from broadcasting services increased by 11.4%. Revenue from advertising increased by 22.0% and from subscriptions it increased by 8.8%.

Graph 32: TV and Radio broadcasting revenues for the 12-month period

	Total broadcasting services revenue	Broadcasting Subscriptions Revenue	Broadcasting Advertising Revenue	Total of any other revenue	Revenue from Broadcasting Promotions (with flighting code).	Revenue from sponsorhips	Revenue from Government or State grant	Revenue from donations	Revenue from infomercials	Revenue from membership fees
2017	R35,606,415,286	R25,773,619,194	R8,020,046,840	R829,053,088	R660,208,406	R272,913,790	R23,351,477	R10,783,817	R16,434,074	R4,600
2016	R33,655,415,072	R23,584,825,897	R7,860,473,603	R917,747,350	R535,015,544	R680,926,353	R6,557,651	R3,746	R69,854,929	R10,000
2015	R28,688,718,290	R21,788,645,350	R5,384,344,985	R735,530	R216,000	R531,363,207	R59,843,068	R2,164,250	R1,988,000	R919,417,900

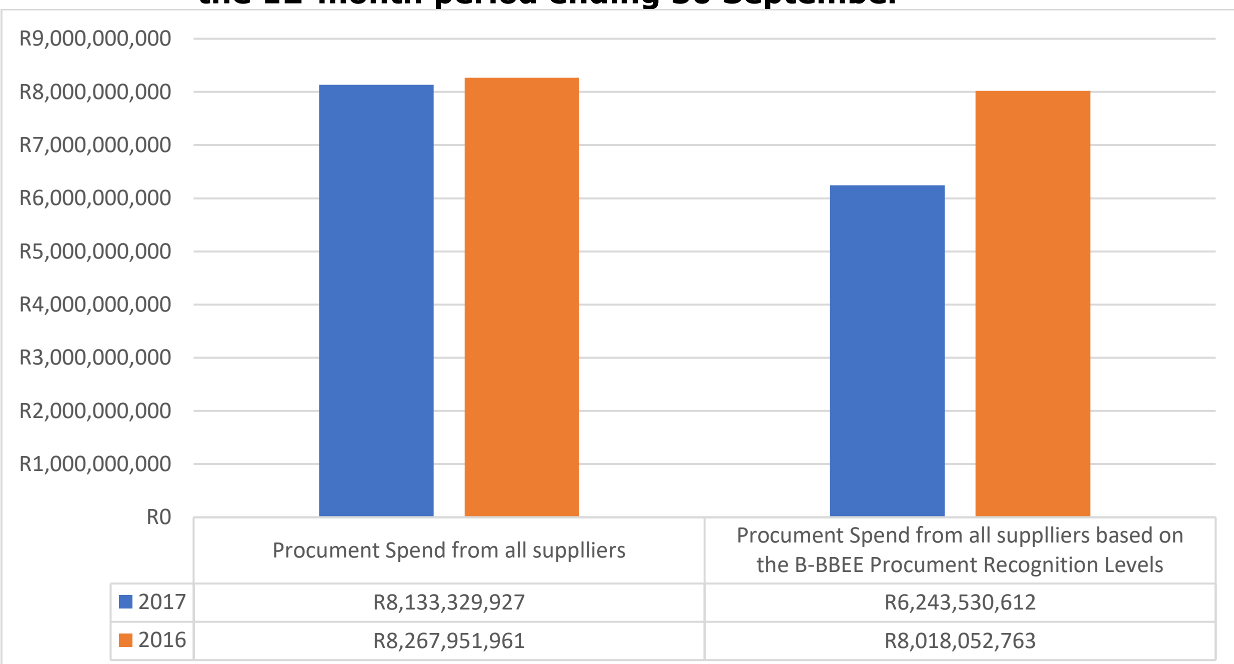
Source:ICASA Broadcasters Questionnaire, December

** data includes radio broadcasting**

5.2 Broadcasting Black Economic Empowerment Measures

In 2017 the proportion of procurement spend based on the B-BBEE Procurement Recognition Levels was 76.8% of spend from all suppliers. This was a decline from 2016's proportion of 97.0%. In absolute terms, procurement spend based on B-BBEE Procurement Recognition Levels declined from R8 billion in 2016 to R6 billion in 2017.

Graph 33: Procurement spend from all suppliers based on B-BBEE, for the 12-month period ending 30 September



	Procument Spend from all supplliers	Procument Spend from all supplliers based on the B-BBEE Procument Recognition Levels
2017	R8,133,329,927	R6,243,530,612
2016	R8,267,951,961	R8,018,052,763

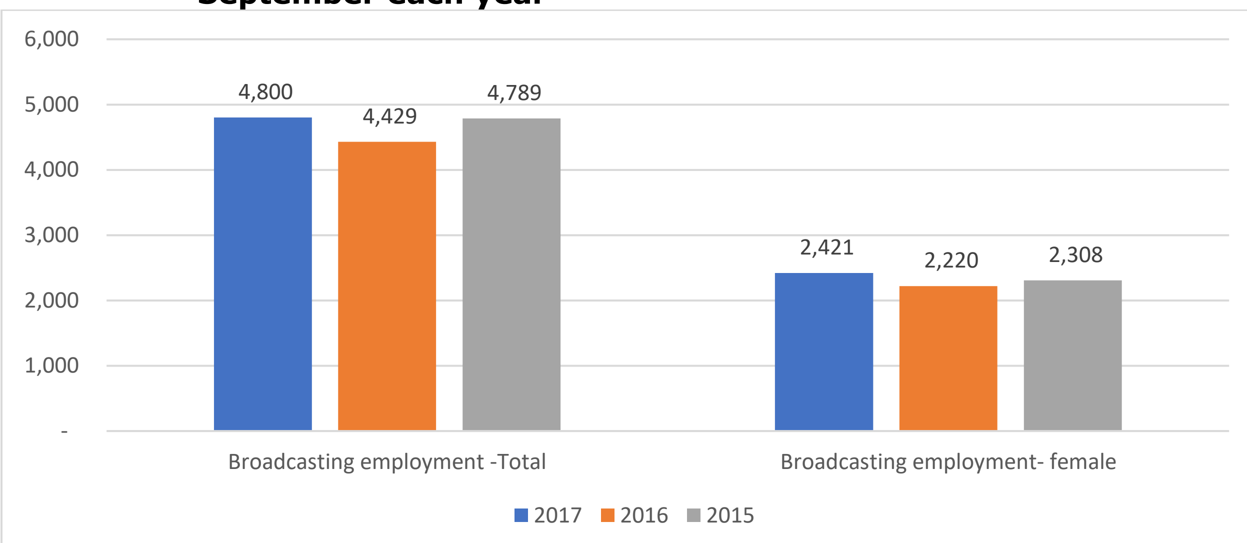
Source: ICASA Broadcasters Questionnaire, December

5.3 Television and Radio broadcasting employment

The total number of people employed in the broadcasting sector increased by 8.4% and female employed in the broadcasting also increase by 9.1% in 2017.

Over the 3-year period the increases were 0.1% for total employment by broadcasting sector and female employed by broadcasting sector increased by 2.4%.

Graph 34: People employed in TV & Radio broadcasting, as at the 30th September each year



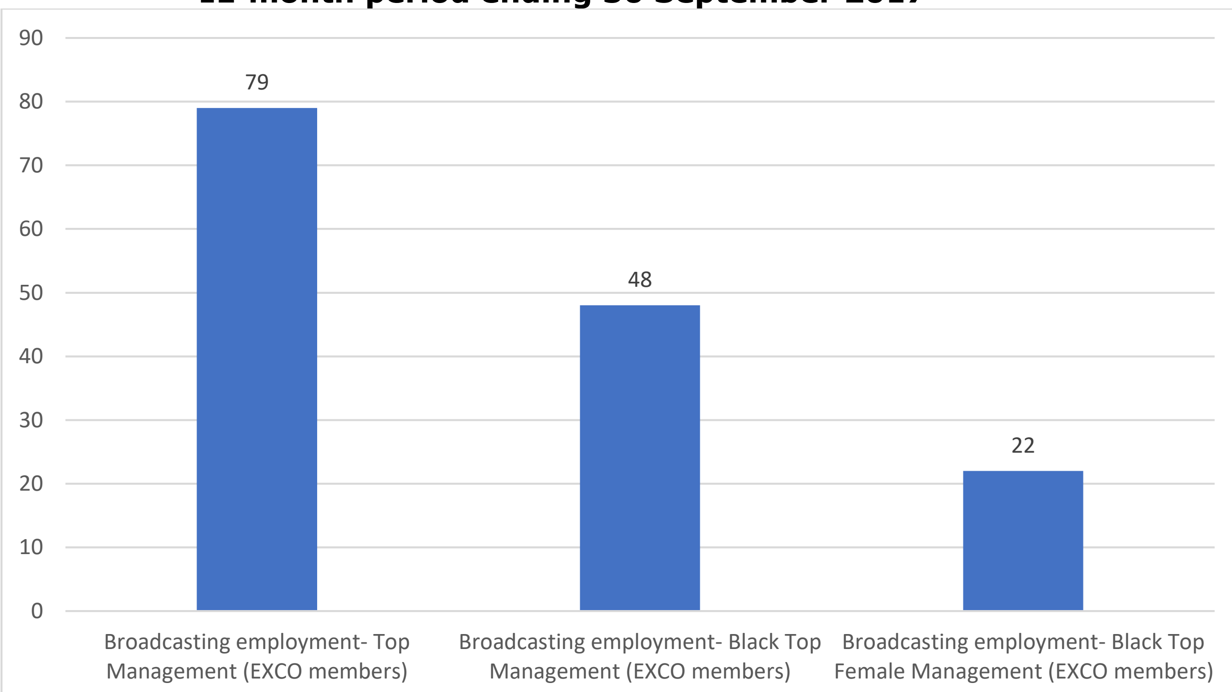
Source: ICASA Broadcasters Questionnaire, December

* *data includes radio broadcasting**

5.4 Proportion of Blacks in top management of the broadcasting sector

Black top management (EXCO Members) was at 60.6% and Black females at top management at 27.8% in 2017, respectively.

Graph 35: Broadcasting Black Economic Empowerment Measures, for the 12-month period ending 30 September 2017

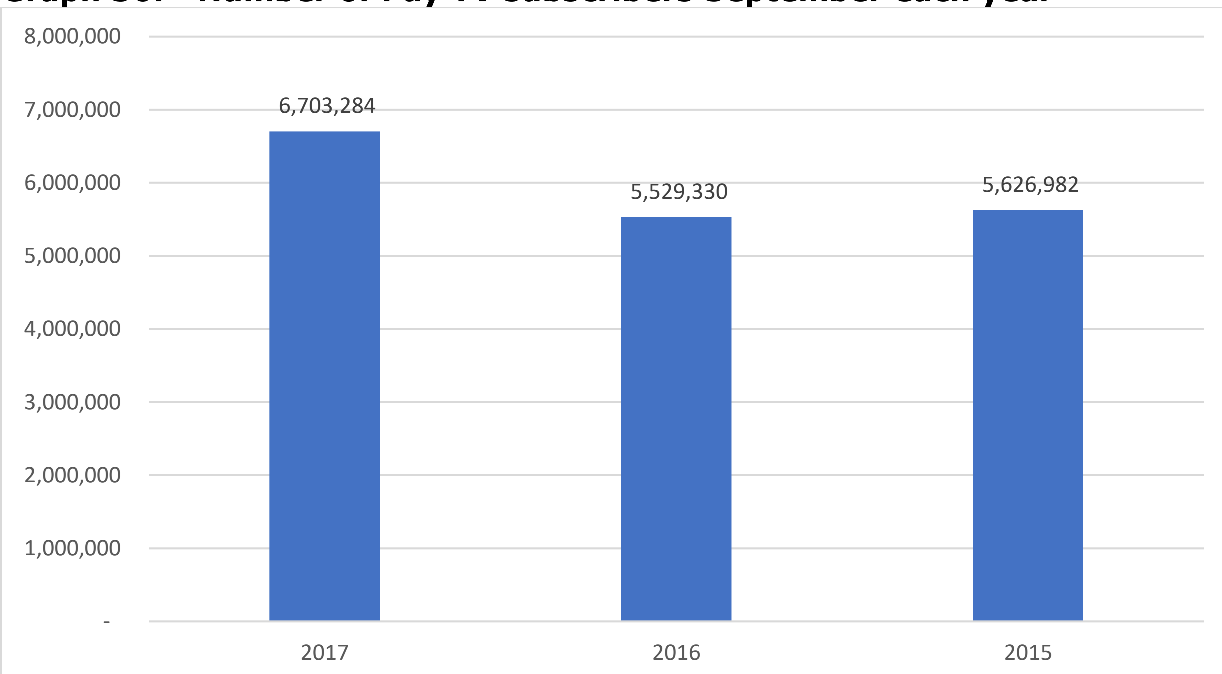


Source: ICASA Broadcasters Questionnaire, December

5.5 Number of Pay TV subscribers

The total number of Pay TV subscribers increased by 21.2% from over 5 million in 2016 to just below 7 million in 2017.

Graph 36: Number of Pay TV subscribers September each year



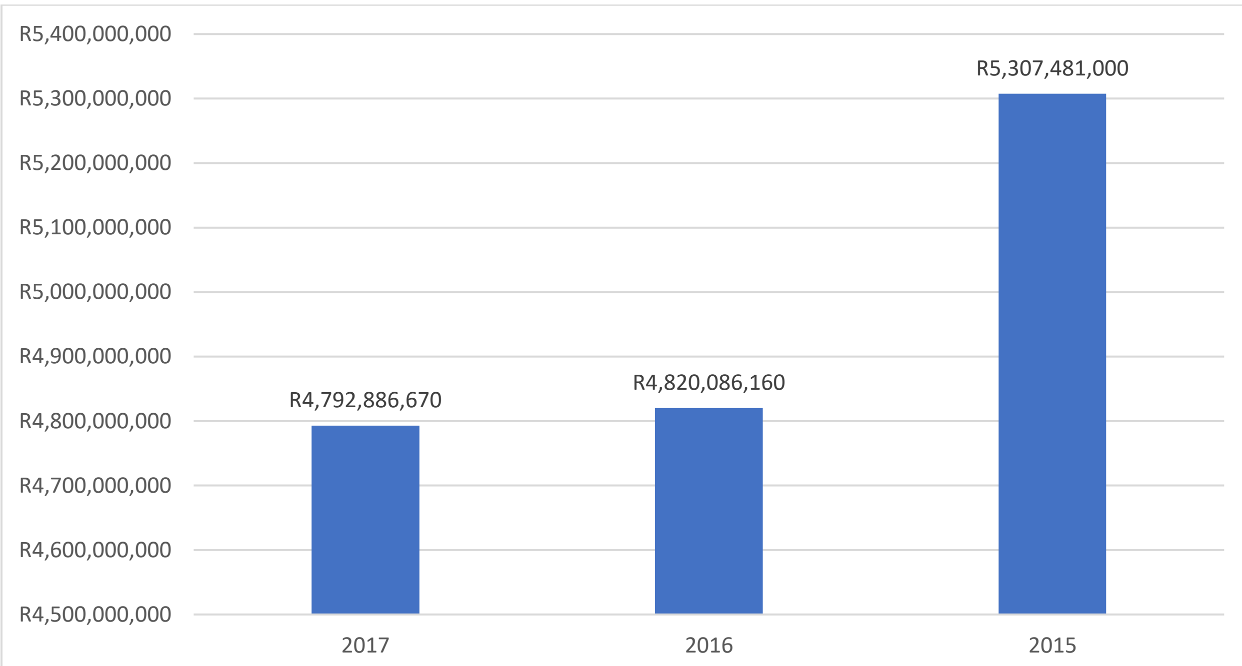
Source: ICASA Broadcasters Questionnaire, December

6 POSTAL SERVICES

6.1 Postal sector revenue

Postal sector revenue slightly decreased by 0.6% from 2016 to 2017. Over 3 years, postal revenue decreased by 5.0%.

Graph 37: Postal sector distribution of revenue, 12-month period ending September each year

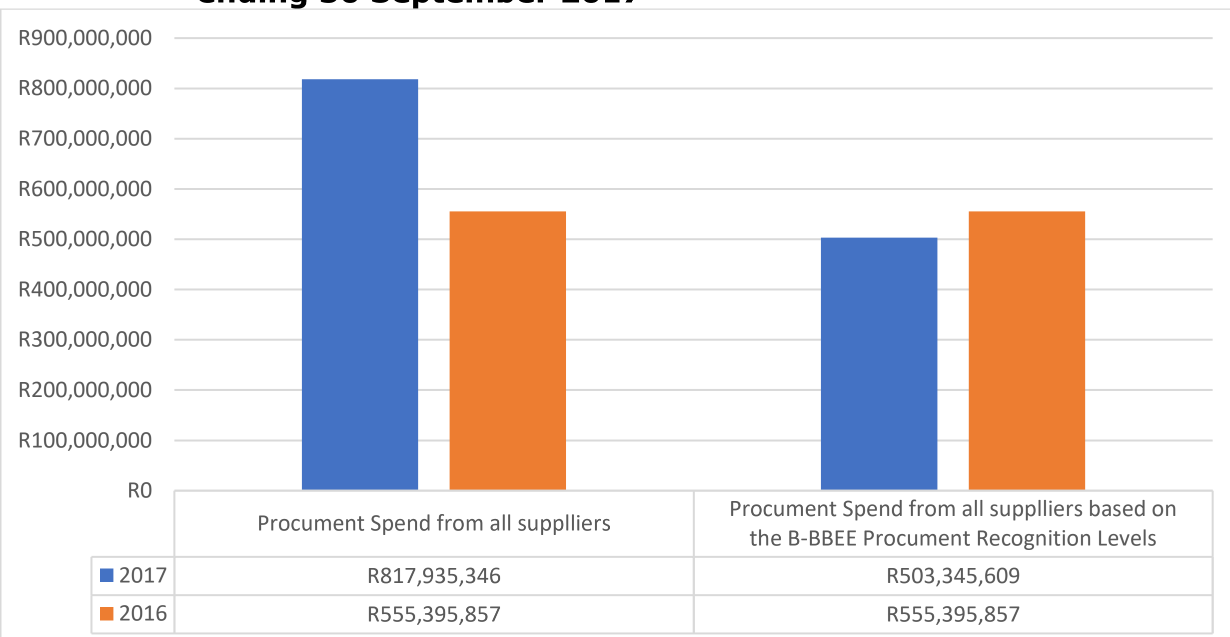


Source: ICASA Postal Questionnaire, December
data includes courier companies

6.2 Postal sector Black Economic Empowerment Measures

In 2016 the procurement spend based on the B-BBEE Procurement Recognition Levels formed 100.0% of procurement spend from all suppliers. However, this figure decreased to 61.5% in 2017.

Graph 38: Procurement spend from all suppliers based on the B-BBEE Procurement Recognition Levels, for the 12-month period ending 30 September 2017



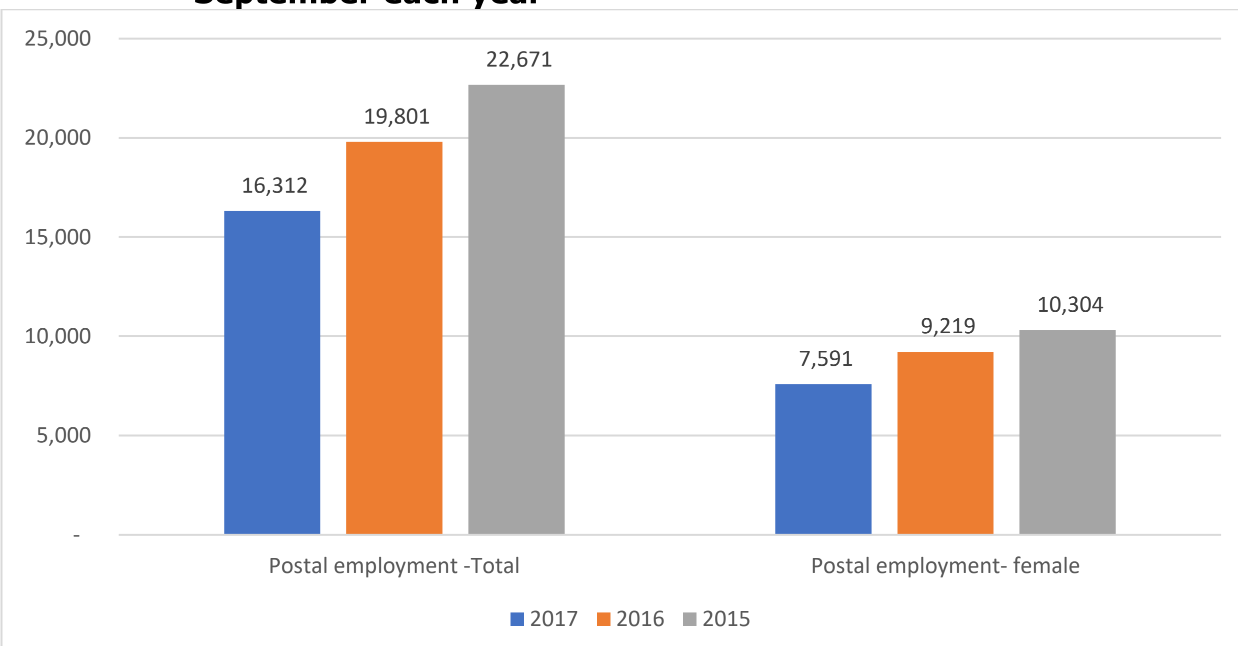
Source: ICASA Postal Questionnaire, December
data includes courier companies

6.3 Postal service sector employment

Total employment in the postal sector decreased by 17.6% between 2016 and 2017. Female employment in the sector decreased by 17.7% in the same period.

Over 3 years the postal sector employment decreased by 15.2% and that of females decreased 14.2%.

Graph 39: Persons employed in SA Post Office, by gender, as of 30th September each year



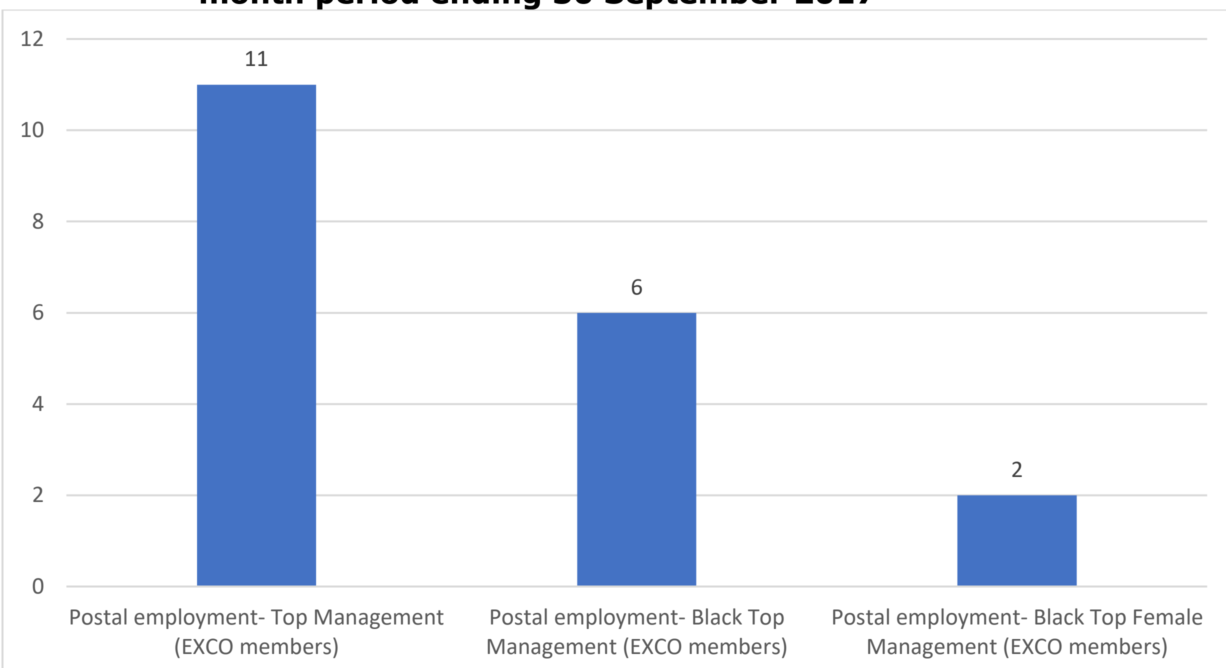
Source: ICASA Postal Questionnaire, December

data includes courier companies

6.4 Postal service sector Black Economic Empowerment Measures

Black Top Management (EXCO Members) was 54.6% in 2017. The proportion of Black females in top management was 18.2%.

Graph 40: Postal sector Black Economic Empowerment Measures, for the 12-month period ending 30 September 2017



Source: ICASA Postal Questionnaire, December
data includes courier companies

7 INTERNATIONAL BENCHMARKS FOR SOUTH AFRICA

It is insightful to track South Africa's progress in ICT compared to other countries to have a better understanding of how it is performing internationally. Two approaches are used to carry out this analysis. The first reviews South Africa's rankings in popular digital indexes. The second compares South Africa's key ICT indicators to other countries.

According to the International Telecommunication Union ("ITU"), there was relatively little movement in regional rankings of the ICT development index ("IDI") in 2016 and 2017. At the top of the distribution, Seychelles moved from fourth to second position, at the expense of South Africa and Cape Verde, while Gabon moved above Ghana, from seventh to sixth. The biggest gain in the regional rankings was by Uganda, which moved from position 24 to position 20.

7.1 South Africa's IDI ranking

IDI comprises of the following sub-indices:

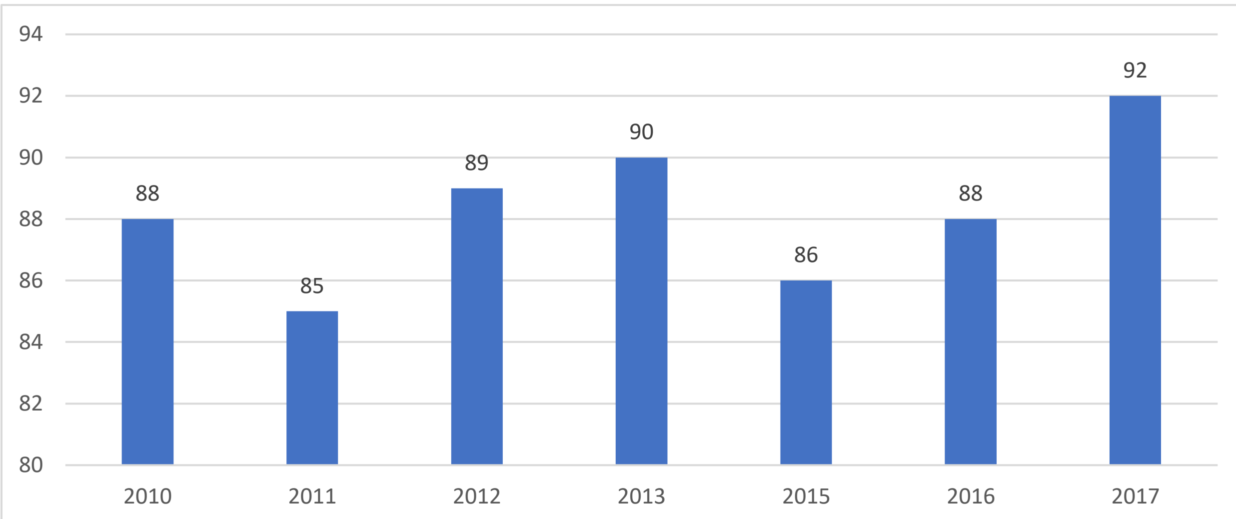
- ICT Access (fixed telephone subscriptions per 100 inhabitants, mobile/cellular subscriptions per hundred inhabitants, international internet bandwidth per internet users, percentage of households with a computer and percentage of households with internet access);

- ICT Use (Percentage of individuals using the internet, fixed-broadband internet subscribers per hundred inhabitants and active mobile-broadband subscriptions per hundred inhabitants); and

- ICT Skills (Mean years of schooling, secondary gross enrolment ratio and tertiary gross enrolment ratio).

South Africa’s overall global ranking on the IDI regressed for the second time to position 92 in 2017, having lost 2 spots in 2016 to be at position 88 (from position 86 in 2015).

Graph 41: South Africa’s IDI ranking

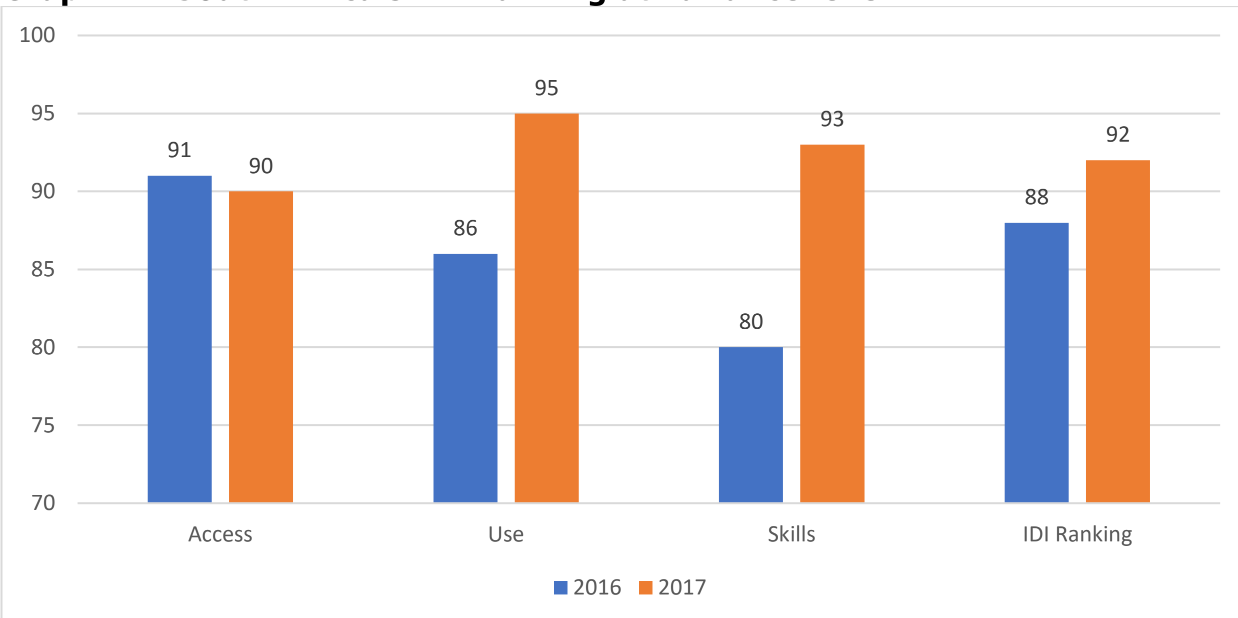


Source: ITU IDI 2010-2017

2017 ranking has been recalculated by ITU

Our ranking was affected by Skills, in 2016 was on 88 and in 2017 was at 93.

Graph 42: South Africa's IDI ranking at variance level



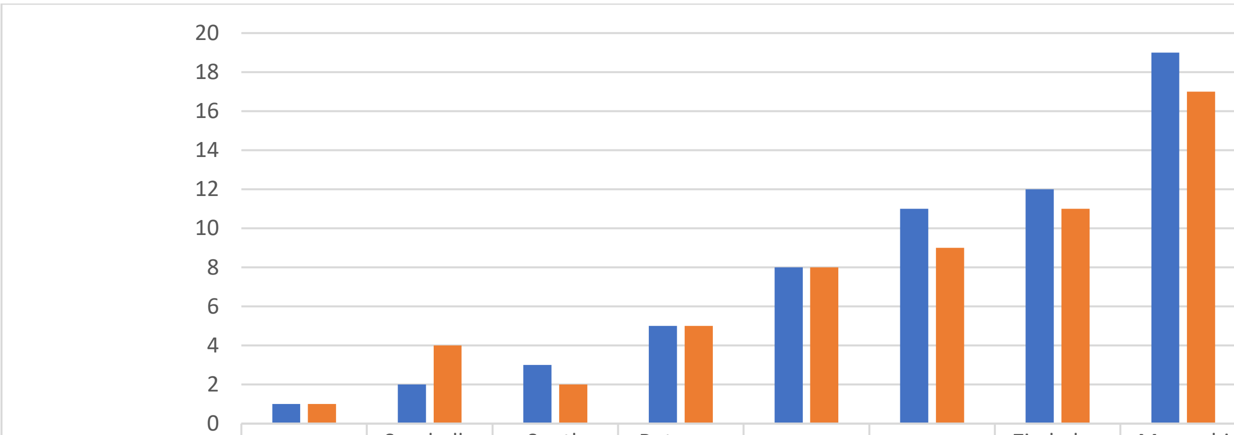
Source: ITU IDI 2016-2017

Breakdown of IDI ranking which include Access, Use and Skills and produce the IDI ranking.

7.2 African IDI rankings

Comparing South Africa to some of its neighbouring African counterparts, its ranking regressed from position 2 in 2016 to position 3 in 2017.

Graph 43: South Africa's IDI ranking compared to other neighbouring countries



	Mauritius	Seychelles	South Africa	Botswana	Namibia	Lesotho	Zimbabwe	Mozambique
2017 Africa rank	1	2	3	5	8	11	12	19
2016 African rank	1	4	2	5	8	9	11	17

Source: ITU IDI 2010-2017

2017 ranking has been recalculated by ITU

7.4 Comparison with other countries

A group of countries has been selected to benchmark South Africa's ICT performance. This includes the other "BRICS" countries (Brazil, Russia, India and China), neighbouring countries that had adequate data (Botswana, Namibia and Zimbabwe) and upper-middle-income peers (Malaysia, Mauritius and Peru). Comparisons are based on the core indicators on ICT infrastructure and access and usage by individuals and households as contained in the report titled Partnership on Measuring ICT for Development published by the United Nations ("UN").

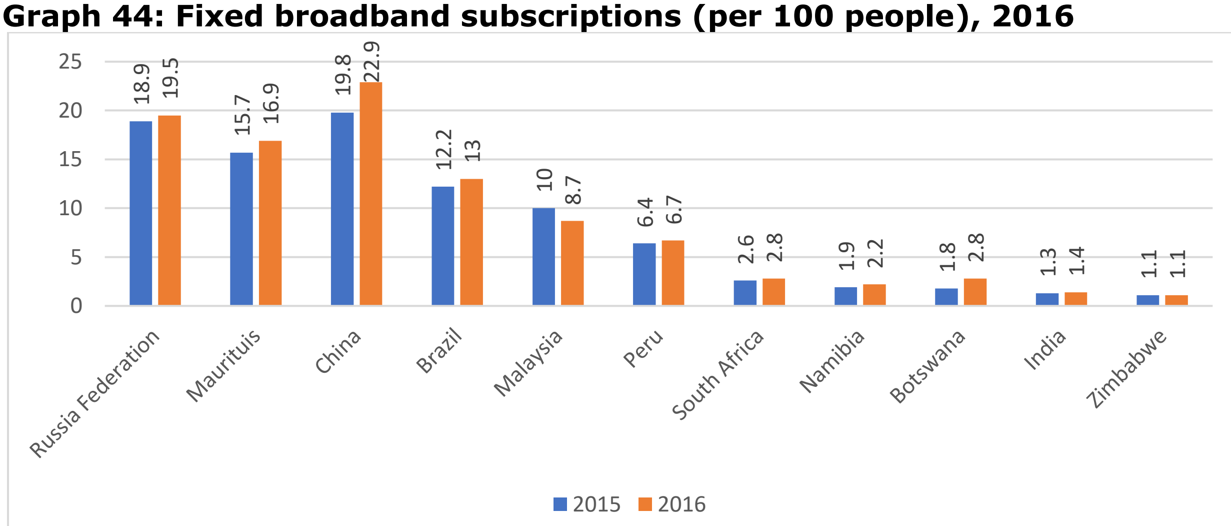
Please note that the information contained below is from various sources and the figures for South Africa may differ to those compiled by ICASA.

7.4.1 Fixed broadband subscriptions

The publication of the State of ICT sector report is a year ahead of ITU. ICASA's publication is done 31 March every year as part of our Annual Performance Plans.

South Africa's fixed broadband subscriptions per 100 people increased from 2.6 in 2015 to 2.8 in 2016.

Graph 44: Fixed broadband subscriptions (per 100 people), 2016

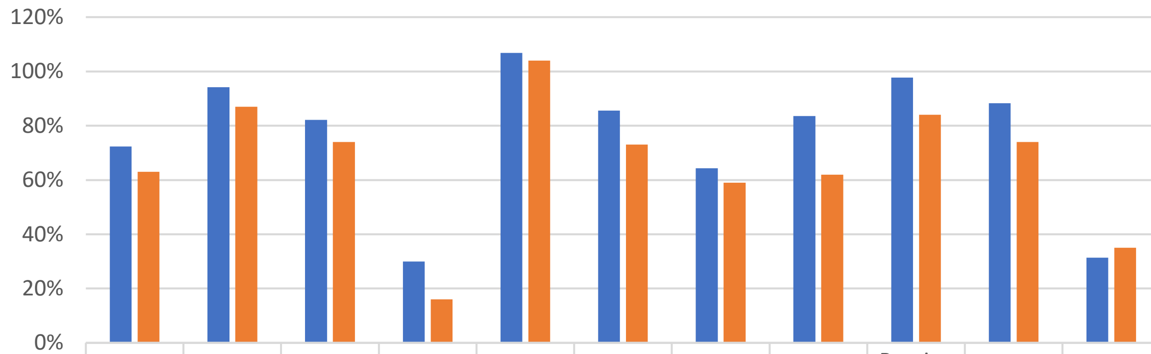


Source: ITU

7.4.2 Mobile broadband subscriptions

Mobile broadband subscriptions per 100 people increased from 74% to 88% from 2016 to 2017.

Graph 45: Mobile broadband subscriptions (per 100 people), 2017



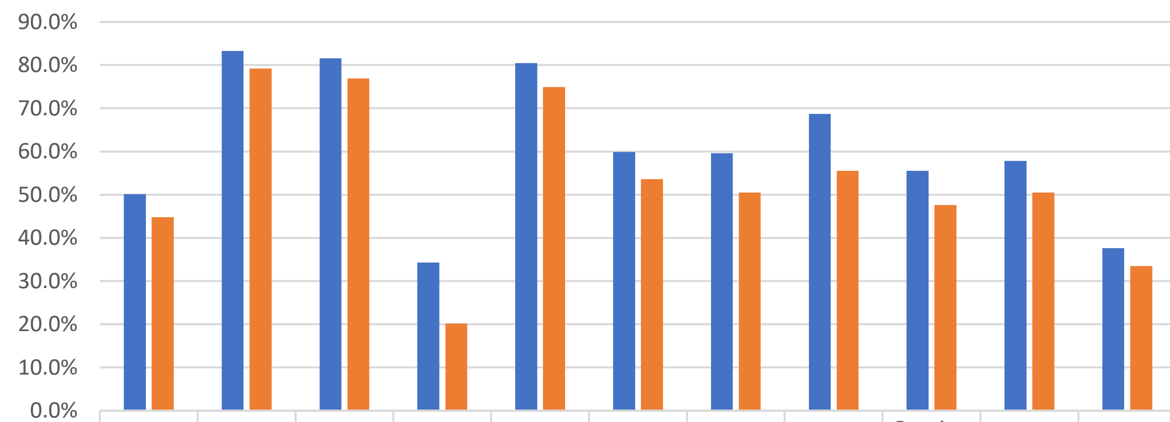
	Botswana	Brazil	China	India	Malaysia	Mauritius	Namibia	Peru	Russian Federation	South Africa	Zimbabwe
2017	72%	94%	82%	30%	107%	86%	64%	84%	98%	88%	31%
2016	63%	87%	74%	16%	104%	73%	59%	62%	84%	74%	35%

Source: GSMA Intelligence

7.4.3 Mobile broadband subscriptions excluding cellular M2M

Mobile broadband subscriptions excluding cellular M2M increased from 50.5% to 57.8 from 2016 to 2017.

Graph 46: Mobile broadband subscriptions excluding cellular M2M (per 100 people), 2017



	Botswana	Brazil	China	India	Malaysia	Mauritius	Namibia	Peru	Russian Federation	South Africa	Zimbabwe
2017	50.2%	83.3%	81.6%	34.3%	80.4%	59.9%	59.6%	68.7%	55.5%	57.8%	37.6%
2016	44.8%	79.2%	76.9%	20.2%	74.9%	53.6%	50.5%	55.5%	47.6%	50.5%	33.5%

Source: GSMA Intelligence

8 CONCLUSION

The following highlights are worth noting:

- The high response rate for 2017 has not affected the increase in figures, for example, leading companies' contribution to revenue in both 2016 and 2017 was 99% and 97%, respectively. Leading companies' investment spend made up 100% and 94% in 2016 and 2017, respectively.

- The total revenue reported for the three sectors that ICASA regulates increased by 9.1% in 2017 (it increased by 3.5% in 2016).

- Telecommunications and broadcasting revenue increased by 10.2% and 5.8% in 2017, respectively. However, postal revenue decreased by 0.6%.

- Total number of Pay TV subscriptions increased by 21.2% in 2017.

- Total number of employees for the three sectors that ICASA regulates decreased significantly by 14.4% in 2017.

- The population coverage of 4G/LTE services significantly increased from 75% in 2016 to 77% in 2017.

- South Africa's overall 2017 ranking on the International Telecommunication Union's ("ITU") *ICT Development Index ("IDI")* has decreased to position 92.

- Mobile broadband subscriptions per 100 people increased to 88% in 2016.

- Procurement spend from all suppliers based on the B-BBEE Procurement Recognition Levels contribution was 100.0% in 2016 and 61.5% in 2017 in the postal service sector.

APPENDICES

Appendix 1: ICASA questionnaire respondents, December 2017

ICASA questionnaire respondents, December, 2017	
Electronic Communications Licensees	
1	ISW van Zyl
2	CWNET
3	Olivetree Technologies
4	China Telecom South Africa (Pty) Ltd
5	Zululand Wireless Network
6	Kliq (PTY) Ltd
7	Professional information Technology
8	Megasurf Wireless Internet cc
9	Wicotel CC
10	Simigenix (Pty) Ltd
11	ASK Internet Technologies
12	Tribal zone Telecommunications (PTY) Ltd
13	The Computer Hut
14	IP Labs Communications (Pty) Ltd
15	ZA GAS CK
16	J Stemmet ta CSI Boland
17	Bethnet cc T/a CompInsure
18	Satcomms
19	Interexcel World Connection (Pty) Ltd
20	NCWNETONLINE PTY LTD
21	Dark Fibre Africa (Pty) Ltd
22	Mzanzi Lisetta Media & Printing (Pty) Ltd
23	TRUE TECHNOLOGIES cc
24	UNDERBERG COMPUTER SERVICES CC
25	SafriCloud (PTY) LTD
26	W-CONNECT (PTY) LTD
27	Telkomsa.net
28	Equation Business Solutions
29	AT&T South Africa (Proprietary) Limited
30	MKC NETWORKS CC

31	Comsol Networks (Pty) Ltd
32	crazyweb
33	Border Internet PTY LTD
34	LocalSpot ISP
35	SiFi Net
36	UDY Net
37	Fusion Wireless (Pty) Ltd t/a Sonic Telecoms
38	Internet Solutions, the division of Dimension Data
39	Cell C Limited
40	Orange Business Services South Africa (Pty) Ltd
41	Samarlink CC
42	Davocorp CC T/A Davo Corporation
43	ORBCOMM South Africa Pty. Ltd.
44	NYS Group
45	River Broadband (Pty) Ltd
46	KA RONA TRADING 594 CC
47	Internet Solutions (MWEB) a Division of Dimension Data Pty Ltd
48	Imply IT (Pty) Ltd
49	ZAFIBRE (PTY) Ltd
50	Mobile Telephone Network (Pty) Limited
51	Netwide Internet Services
52	Internet Uncapped cc
53	InterActive Systems Designs (Pty) Ltd
54	Cutman Bush Net
55	Letaba Wireless Internet
56	WIRELESS PROFESSIONELE NETWERKE
57	AIRBAND HIGH SPEED INTERNET
58	LA ROCHELLE IT SOLUTIONS (PTY) LTD
59	CLOUDCONNECT NETWORKS (PTY) LTD
60	WISH NETWORKS (PTY) LTD
61	Wivox Technologies
62	ICLIX (Pty) Ltd
63	BunduMaX CC

64	Liquid Telecoms SA
65	SMS PORTAL (PTY) LTD
66	Afrihost SP Pty Ltd
67	VUMATEL (PTY) LTD
68	BITCO TELECOMS (PTY) LTD (FORMERLY ROSE COURTZ TRADING (PTY) LTD T/A BITCO)
69	Newwave Communications(Pty) LTD.
70	Vox Telecommunications (Pty) Ltd
71	Hitec Sure CC
72	Telkom SA SOC Limited
73	Future Perfect Corporation CC T/A Vanilla
74	MARINUS ROBERT ALING T/A MD WIRELESS
75	Dube TradePort Corporation
76	CenturyLink
77	LASERNET PTY LTD
78	LINKINC TELECOMMUNICATIONS (PTY) LTD
79	Vodacom (Pty) Ltd
80	Lanlink Networking
81	Crystal Web (Pty) Ltd
82	Voys Telecom SA (Pty) Ltd
83	Rain Networks (Pty) Ltd
84	ISPACE (PTY) LTD
Broadcaster Licensees	
1	rkp FM
2	Radio Laeveld 100.5FM
3	Pretoria FM MSW
4	Radio Perron FM Central
5	Umoya Commnunications (Pty)Ltd t/a Algoa FM
6	Noponi Rural Development "Ngqushwa fm 99.5"
7	Impact Radio
8	Deukom (Pty) Ltd
9	Wild Coast FM 98.6
10	Myriver.com
11	diepslootfm

12	mascom fm
13	Cape Talk FM
14	K FM
15	702 Radio
16	947
17	SABC TV
18	SABC Radio
19	Magic 828AM Radio
20	Whale Coast FM
21	CAPE TOWN RADIO (PTY) LTD
22	Starsat (On Digital Media (Pty) Ltd)
23	e.tv
24	MULTICHOICE
Postal	
1	royale africa
2	fastway Couriers
3	Post Office South Africa

Appendix 2: Definitions of Telecommunications categories

Definitions of Telecommunications categories
Telecommunications sector
The telecommunications sector comprises fixed and mobile telecommunications services as well as the provision of Internet access.
Total telecommunication investment
Total annual investment in telecommunication services, also referred to as annual capital expenditure, refers to the investment during the financial year in telecommunication services (including fixed, mobile and Internet services) for acquiring or upgrading property and networks. Property includes tangible assets such as plant, intellectual and non-tangible assets such as computer software. The indicator is a measure of investment in telecommunication infrastructure in the country, and includes expenditure on initial installations and additions to existing installations where the usage is expected to be over an extended period of time. It excludes expenditure on research and development (R&D), annual fees for operating licences and the use of radio spectrum, and investment in telecommunication software or equipment for internal use.
Annual investment in fixed-telephone services
Refers to investment in fixed-telephone services for acquiring and upgrading property and networks within the country. This refers to annual investment in assets related to fixed-telephone networks and the provision of services.
Annual investment in fixed (wired) broadband services
Refers to investment in fixed (wired)-broadband services for acquiring and upgrading property and networks within the country. This refers to annual investment in assets related to fixed (wired)-broadband networks and the provision of services.
Annual investment in mobile communication services
Refers to investment in mobile services for acquiring and upgrading property and networks within the country. It should include investments made for mobile-broadband services. This refers to annual investment in assets related

to mobile communication networks and the provision of services. It should include investment in mobile-broadband networks.
Other annual investment in telecommunication services
Refers to investment in other telecommunication services, such as fixed wireless-broadband, satellite and leased lines.
Total telecommunications revenue
The aggregated revenue includes the total telecommunications services revenue and any other revenue.
Total telecommunication services revenue
The sum of revenue from all telecommunication services (in local currency at current prices). Revenue from all telecommunication services refers to revenue earned from retail fixed-telephone, mobile-cellular, Internet and data services offered by telecommunication operators (both network and virtual, including resellers) offering services within the country during the financial year under review. It includes retail revenues earned from the transmission of TV signals, but excludes revenues from TV content creation. Exclude: (i) wholesale revenues (e.g. termination rates), (ii) revenues from device sales and rents, (iii) VAT and excise taxes. Any deviation from the definition should be specified in a note, including clarifications on what TV revenues are included/excluded (e.g. IPTV, cable TV, pay satellite and free-to-air TV).
Total fixed line services revenue
This aggregate value is defined as the sum of Fixed line voice revenue, Fixed (wired) internet revenue, Other fixed (wireless) broadband revenue and Other fixed telecommunications services revenue as defined below.
Total fixed line voice revenue
Sum of revenue from retail fixed-telephone services refers to revenue received for the connection (installation) of fixed-telephone services, revenue from recurring charges for subscription to the PSTN and revenue from fixed-telephone calls.
Revenue from fixed-telephone connection charges

Revenue from fixed-telephone connection charges refers to retail revenue received for connection (installation) of fixed- telephone services. This may include charges for transfer or cessation of services.
Revenue from fixed-telephone subscription charges
Revenue from fixed-telephone subscription charges refers to revenue from recurring charges for subscriptions to the PSTN, including Internet access if it cannot be separated from fixed-telephone.
Revenue from fixed-telephone calls
Revenue from fixed-telephone calls refers to retail fixed-telephone revenue received from charges for local, national long-distance and international calls.
Fixed (wired) internet revenue
Revenue from fixed (wired) Internet services refers to retail revenue received from the provision of fixed (wired) Internet services such as subscriptions, traffic and data communication. It excludes the provision of access lines used to connect to fixed (wired) Internet (such as fixed-telephone lines used to access DSL connections). This includes revenue from fixed (wired)-broadband services (previously a separate indicator under ITU code i7311_fb, but for reporting purposes here counted together with any small residual narrowband internet revenue in a single indicator, viz. fixed wired internet).
Other (wireless) broadband services revenue
Revenue from other wireless-broadband services refers to the retail revenue received from the provision of high-speed (at least 256 Kbit/s) data connectivity and related services over a wireless infrastructure other than mobile cellular, such as satellite or terrestrial fixed wireless broadband infrastructures.
Other fixed telecommunication services revenue, including leased lines revenue and fixed value-added telecommunication services
Revenue from leased lines refers to retail revenue received from the provision of leased lines.
Revenue from fixed value-added telecommunication services refers to the retail revenue generated by the telecommunication service sector for fixed value-added

telecommunication services, such as call forwarding, itemized billing, conference calls and voice-message services.
Value-added means additional services beyond the basic telephone service line rental and calls
Other telecommunication revenue refers to any other retail telecommunication services revenue received but not accounted for elsewhere.
Total mobile services revenue (retail)
Revenue from mobile networks refers to retail revenue earned from the provision of mobile-cellular communication services, including all voice, SMS and data (narrowband and broadband) services offered by mobile operators offering services within the country during the financial year under review. Revenues from value added services (e.g. premium SMS) should be included. Data reported should exclude: (i) wholesale revenues (e.g. termination rates), (ii) revenues from device sales and rents, (iii) VAT and excise taxes.
Revenue from mobile voice services
Refers to all mobile-cellular retail revenue from the provision of voice services. It includes voice revenues from national and international calls, but excludes revenues from roaming services.
Revenue from outbound mobile cellular roaming
Refers to all mobile-cellular retail roaming revenue from own subscribers roaming abroad. It does not cover foreign mobile subscribers roaming into the country and international calls originating or terminating on the country's mobile networks.
Revenue from mobile data services
Refers to revenue from the provision of non-voice services including messaging (other than SME and MMs), data and Internet services, including M2M/telemetry. It excludes other mobile-cellular services and wireless Internet access services not relating to mobile networks (e.g. satellite or terrestrial fixed wireless technologies).
Revenue from text and multimedia messaging services
Refers to revenue from text messaging and multimedia messaging (SMS and MMS). Some countries may account for this in different ways. For example, some mobile plans include free SMS or MMS that are liable to be classified as voice revenue rather

than mobile-messaging revenue. The treatment of premium messages – where users pay an additional amount over the regular messaging rate – can vary among operators, since they typically share the revenue with a premium-service provider. Operators may also include revenue from international messaging in other categories. The preference is to include all revenue earned by the operator from the provision of messaging services to retail customers.
Other mobile services revenue
Any other mobile revenue, like banking
Total of any other revenue
Sum of interconnection revenue, equipment sale revenue and any other revenue
Interconnection revenues
Revenues from terminating voice and messaging traffic coming from outside the operator's own network
Equipment revenue
Revenues from equipment sales
Any other revenue
Any other revenue which could include: wholesale revenues, excluding voice termination (interconnection); IT type services; revenue of a capital nature. E.g. sale of assets or a business.
Telecommunications employment
Persons employed in full-time equivalents
Persons employed in full-time equivalents refers to the total number of persons, in full-time equivalent (FTE) units, employed by telecommunication operators in the country for the provision of telecommunication services, including fixed-telephone, mobile-cellular, Internet and data services. This indicator excludes staff working in broadcasting businesses that offer only traditional broadcasting services. Part-time staff should be expressed in terms of full-time staff equivalents (FTE).
Telecoms employment- female
Persons employed by all telecommunication operators, female should be expressed in terms of full-time staff equivalents.
Telecommunication Subscriptions

Fixed-telephone subscriptions
Fixed-telephone subscriptions refers to the sum of active analogue fixed- telephone lines, voice-over-IP (VoIP) subscriptions, fixed wireless local loop (WLL) subscriptions, ISDN voice-channel equivalents and fixed public payphones. This indicator was previously called Main telephone lines in operation.
Analogue fixed-telephone lines
Analogue fixed-telephone lines refers to the number of active lines connecting subscribers' terminal equipment to the PSTN and which have a dedicated port in the telephone-exchange equipment. It includes all postpaid lines and those prepaid lines that have registered an activity in the past three months. This term is synonymous with the terms 'main station' and 'direct exchange line' (DEL) that are commonly used in telecommunication documents.
VoIP subscriptions
VoIP subscriptions refers to the number of voice-over-Internet protocol (VoIP) fixed-line subscriptions. It is also known as voice over broadband (VoB), and includes VoIP subscriptions through fixed wireless, DSL, cable, fibre optic and other fixed-broadband Internet platforms that provide fixed telephony using IP. It excludes software-based VoIP applications (e.g. VoIP with Skype using computer-to-computer or computer-to-telephone). Those VoIP subscriptions that do not imply a recurrent monthly fee should only be counted if they have generated inbound or outbound traffic within the past three months.
Fixed wireless local loop subscriptions
Fixed wireless local loop (WLL) subscriptions refers to subscriptions provided by licensed fixed-line telephone operators that provide 'last-mile' access to the subscriber using radio technology and where the subscriber's terminal equipment is either stationary or limited in its range of use.
ISDN voice-channel equivalents
ISDN voice-channel equivalents refers to the sum of basic-rate and primary-rate voice-channel equivalents (B-channel equivalents). Basic-rate voice-channel equivalents is the number of basic-rate ISDN subscriptions multiplied by 2, and primary-rate voice-channel equivalents is the number of primary-rate ISDN subscriptions multiplied by 23 or 30, depending on the standard implemented.

Fixed public payphones
Fixed public payphones refers to payphones that are available to the public using the fixed network.
Mobile cellular subscriptions
Mobile-cellular telephone subscriptions, by postpaid and prepaid Mobile-cellular telephone subscriptions refers to the number of subscriptions to a public mobile-telephone service that provide access to the PSTN using cellular technology.
Prepaid mobile-cellular telephone subscriptions
Refers to the total number of mobile-cellular telephone subscriptions that use prepaid refills. These are subscriptions where, instead of paying an ongoing monthly fee, users purchase blocks of usage time. Although the definition of prepaid subscribers from the ITU definition is 3 month active subscribers (those used at least once in the last three months for making or receiving a call or carrying out a non-voice activity such as sending or reading an SMS or accessing the Internet), some South African operators do not have this metric available but rather count SIMs that have not been disconnected within a 90 day window, reporting, implying that the number may be overstated according to the strict definition. The indicator applies to all mobile-cellular subscriptions that offer voice communications. It excludes subscriptions via data cards or USB modems, subscriptions to public mobile data services, private trunked mobile radio, telepoint, radio paging and telemetry services.
Postpaid mobile-cellular telephone subscriptions
Refers to the total number of mobile-cellular subscriptions, including top up bundles, where subscribers are billed after their use of mobile services, at the end of each month. The postpaid service is provided on the basis of a prior arrangement with a mobile- cellular operator. Typically, the subscriber’s contract specifies a limit or allowance of minutes, text messages, etc. The subscriber will be billed at a flat rate for any usage equal to or less than that allowance. Any usage above that limit incurs extra charges. Theoretically, a subscriber in this situation has no limit on use of mobile services and, as a consequence, unlimited credit. M2M mobile-network subscriptions are included in postpaid subscriptions
M2M mobile-network subscriptions

M2M subscriptions is a subset of postpaid mobile cellular subscriptions and refers to the number of mobile-cellular machine- to-machine subscriptions that are assigned for use in machines and devices (cars, smart meters, consumer electronics) for the exchange of data between networked devices, and are not part of a consumer subscription. For instance, SIM-cards in personal navigation devices, smart meters, trains and automobiles should be included. Mobile dongles and tablet subscriptions should be excluded.
Internet and data subscriptions
Fixed broadband subscriptions
Fixed-broadband subscriptions refers to fixed subscriptions to high-speed access to the public Internet (a TCP/IP connection), at downstream speeds equal to, or greater than, 256 Kbit/s. This includes cable modem, DSL, fibre-to-the-home/building, other fixed (wired)-broadband subscriptions, satellite broadband and terrestrial fixed wireless broadband. This total is measured irrespective of the method of payment. It excludes subscriptions that have access to data communications (including the Internet) via mobile-cellular networks. It should include fixed WiMAX and any other fixed wireless technologies. It includes both residential subscriptions and subscriptions for organizations.
DSL Internet subscriptions
Refers to the number of Internet subscriptions using digital subscriber line (DSL) services to access the Internet, at downstream speeds greater than or equal to 256 Kbit/s. DSL is a technology for bringing high-bandwidth information to homes and small businesses over ordinary copper telephone lines. It should exclude very high-speed digital subscriber line (VDSL) subscriptions if these are provided using fibre directly to the premises.
Fibre-to-the-home/building Internet subscriptions
Refers to the number of Internet subscriptions using fibre-to-the-home or fibre-to-the-building, at downstream speeds equal to, or greater than, 256 Kbit/s. This should include subscriptions where fibre goes directly to the subscriber’s premises or fibre-to-the-building subscriptions that terminate no more than 2 metres from an external wall of the building. Fibre-to-the-cabinet and fibre-to-the-node are excluded.

Other fixed (wired) broadband subscriptions
Refers to Internet subscriptions using other fixed (wired) broadband technologies to access the Internet (other than DSL, cable modem, and fibre), at downstream speeds equal to, or greater than, 256 Kbit/s. This includes technologies such as ethernet LAN, and broadband-over-powerline (BPL) communications. Ethernet LAN subscriptions refer to subscriptions using IEEE 802.3 technology. BPL subscriptions refer to subscriptions using broadband-over-powerline services. Users of temporary broadband access (e.g. roaming between PWLAN hotspots), users of WiMAX and those with Internet access via mobile-cellular networks are excluded.
Wireless broadband subscriptions
Wireless-broadband subscriptions refers to the sum of satellite broadband, terrestrial fixed wireless broadband and active mobile-broadband subscriptions to the public Internet. The indicator does not cover fixed (wired) broadband or Wi-Fi subscriptions.
Satellite broadband subscriptions
Satellite broadband subscriptions refers to the number of satellite Internet subscriptions with an advertised download speed of at least 256 Kbit/s. It refers to the retail subscription technology and not the backbone technology.
Terrestrial fixed wireless broadband subscriptions
Terrestrial fixed wireless broadband subscriptions refers to the number of terrestrial fixed wireless Internet subscriptions with an advertised download speed of at least 256 Kbit/s. This includes fixed WiMAX and fixed wireless subscriptions, but excludes occasional users at hotspots and Wi-Fi hotspot subscribers. It also excludes mobile-broadband subscriptions where users can access a service throughout the country wherever coverage is available."
Mobile data subscriptions
Number of prepaid and postpaid mobile subscriptions that were used to access the Internet the last 3 months, regardless of speed.

Traffic
Fixed line voice traffic

This aggregated value is the sum of Fixed line traffic (i.e. fixed-to-fixed) and all other fixed line originated traffic (Fixed to mobile and International outgoing).
Fixed line traffic
Refers to domestic fixed-to-fixed telephone traffic, in minutes. Domestic fixed-to-fixed telephone traffic refers to completed local and domestic long-distance fixed-telephone voice traffic. The indicator should be reported as the number of minutes of traffic during the reference quarter. This exclude minutes used for dial-up Internet access.
Local fixed-to-fixed telephone traffic, in minutes
Refers to effective (completed) fixed-telephone line voice traffic exchanged within the local charging area in which the calling station is situated. This is the area within which one subscriber can call another on payment of the local charge (if applicable). This is reported in the number of minutes, which should exclude minutes used for dial-up Internet access.
Long-distance fixed-to-fixed telephone traffic, in minutes
Refers to effective (completed) fixed national long-distance telephone voice traffic exchanged with a station outside the local charging area in which the calling station is situated. This is reported as the number of minutes of traffic. It excludes local calls, calls to mobile networks, calls abroad, and calls to special service numbers such as ISPs for Internet dial-up.
Fixed-to-mobile telephone traffic
Refers to total traffic from all fixed-telephone networks to all mobile-cellular networks within the country.
International incoming and outgoing fixed-telephone traffic
Refers to the sum of international incoming and outgoing fixed-telephone voice traffic.
International outgoing fixed-telephone traffic, in minutes
Refers to effective (completed) fixed-telephone voice traffic originating in a given country to destinations outside that country. This should include traffic to mobile phones outside the country. This is reported in number of minutes of traffic. It excludes calls originating in other countries. It should include VoIP traffic.

International incoming fixed-telephone traffic, in minutes
Refers to effective (completed) fixed-telephone voice traffic originating outside the country with a destination inside the country, irrespective of whether the call was from a fixed or mobile subscriber. It excludes minutes of calls terminating in other countries, but includes VoIP traffic
Mobile voice traffic
This aggregated value is the sum of Total national mobile traffic, as defined below, and International outgoing from mobile.
Total national mobile traffic
Domestic mobile-telephone traffic refers to the total number of minutes of calls made by mobile subscribers within a country (including minutes to fixed-telephone and minutes to mobile-phone subscribers).
Outgoing mobile traffic to same mobile network
Refers to the number of minutes of calls made by mobile subscribers to the same mobile network (within the country). This refers to the number of minutes originating on mobile networks and terminating on the same mobile network (on-net). It does not cover minutes of calls from mobile to fixed or mobile to other mobile networks.
Mobile to other mobile networks
Outgoing mobile traffic to other mobile networks, in minutes refers to the number of minutes of calls made by mobile subscribers to other mobile networks (within the country). The indicator refers to the number of minutes originating on mobile networks and terminating on different domestic mobile networks (off-net). It does not cover minutes of calls from mobile to fixed or mobile to the same mobile networks.
Outgoing mobile traffic to fixed networks
Refers to the number of minutes of calls made from mobile-cellular networks to fixed-line telephone networks within the country. The indicator refers to the number of minutes originating on mobile networks and terminating on fixed-line telephone networks within the country.
International outgoing from mobile

Outgoing mobile traffic to international refers to the number of mobile minutes originating in a country to any destinations outside that country.
Incoming international traffic to mobile network
Refers to the number of incoming minutes (fixed and mobile) received by mobile networks originating in another country.
Mobile data traffic
Mobile data traffic (within the country) refers to data traffic originated within the country from mobile networks. Download and upload traffic should be added up and reported together. Traffic should be measured at the end-user access point. Wholesale and walled-garden traffic should be excluded. The traffic should be reported in terabytes.
SMS traffic
SMS sent refers to the total number of mobile short-message service (SMS) messages sent, both to national and international destinations. This should exclude messages sent from computers to mobile handsets or to other computers.
SMS international traffic
SMS international refers to the total number of mobile short-message service (SMS) messages sent to international destinations. This should exclude messages sent from computers to mobile handsets or to other computers.
Population coverage
3G population coverage
Percentage of the population covered by at a 3G mobile network refers to the percentage of inhabitants that are within range of a 3G mobile-cellular signal, irrespective of whether or not they are subscribers. This is calculated by dividing the number of inhabitants that are covered by a 3G mobile-cellular signal by the total population and multiplying by 100.
4G/LTE etc. population coverage
Percentage of the population covered by a 4G/LTE mobile network refers to the percentage of inhabitants that are within range of a 4G/LTE mobile-cellular signal, irrespective of whether or not they are subscribers. This is calculated by dividing

the number of inhabitants that are covered by a 4G/LTE mobile-cellular signal by the total population and multiplying by 100. Note that all LTE variants are included.
Internet bandwidth
International Internet bandwidth
International outgoing Internet bandwidth
Refers to the total outgoing used capacity of international Internet bandwidth, in Mbit/s. This is measured as the sum of outgoing (uplink) capacity of all Internet exchanges offering international bandwidth.
International incoming Internet bandwidth
Refers to the total incoming used capacity of international Internet bandwidth, in Mbit/s. This is measured as the sum of incoming (downlink) capacity of all Internet exchanges offering international bandwidth.
Smartphone subscriptions
A smartphone is a mobile phone with advanced features: it has WiFi connectivity, web browsing, capabilities, a high-resolution touchscreen display and the ability to use apps. The majority use one of the following mobile operating systems: Android, Symbian, iOS, Blackberry OS and Windows Mobile.
Fixed postpaid local telephone services prices
Installation fee for residential telephone service
Installation fee for residential telephone service refers to the one-off charge involved in applying for a basic residential postpaid fixed-telephone service. Taxes should be included. If not included, it should be specified in a note including the applicable tax rate.
Monthly subscription for residential telephone service
Monthly subscription for residential telephone service refers to the recurring fixed charge for subscribing to a residential postpaid fixed-telephone service. The charge should cover the rental of the line but not the rental of the terminal (e.g. telephone set). If the rental charge includes any allowance for free or reduced rate call units, this should be indicated in the note. Taxes should be included. If not included, it should be specified in a note including the applicable tax rate.
Price of a three-minute local call to a fixed-telephone line, peak rate

Price of a three-minute local call (peak-rate) to a fixed-telephone line refers to the price of a three-minute peak local call from a residential fixed-telephone line, including any call set-up charges, within the same exchange area using the subscriber's own terminal (i.e. not from a public telephone). Taxes should be included. If not included, it should be specified in a note including the applicable tax rate.
Price of a three-minute local call to a fixed-telephone line, off-peak rate
Price of a three-minute local call to a fixed-telephone line refers to the price of a three-minute off-peak local call from a residential fixed-telephone line, including any call set-up charges, within the same exchange area using the subscriber's own terminal (i.e. not from a public telephone). Taxes should be included. If not included, it should be specified in a note including the applicable tax rate.
Mobile-cellular prepaid prices
Mobile-cellular prepaid-price of a one-minute local call (peak, on-net)
Refers to the price per minute of a peak prepaid call from a mobile-cellular telephone with a prepaid subscription to another subscriber in the same network. Taxes should be included. If not included, it should be specified in a note including the applicable tax rate.
Mobile-cellular prepaid-price of a one-minute local call (off-peak, on-net)
Refers to the price per minute of a prepaid call from a mobile-cellular telephone with a prepaid subscription made to the same mobile-cellular network during off-peak time. Off-peak refers to the cheapest rate before mid-night. If the only off-peak period is after mid-night, the peak price should be used. Taxes should be included. If not included, it should be specified in a note including the applicable tax rate.
Mobile-cellular prepaid-price of SMS (on-net)
Mobile-cellular prepaid – price of SMS refers to the price of sending a short-message service (SMS) message from a mobile-cellular telephone with a prepaid subscription to a mobile-cellular number of the same network (on-net). Taxes should be included. If not included, it should be specified in a note including the applicable tax rate.
ICT Sector Black Economic Empowerment Measures

Telecoms employment -Black Top Management
Persons employed by all telecommunication operators, Black Top Management, should be expressed in terms of full-time staff equivalents. This should include Exco and other Executives.
Procurement Spend from all suppliers
Total spend on all goods and services procured by an Entity.
Procurement Spend from all suppliers based on the B-BBEE Procurement Recognition Levels
Total spend on all goods and services procured by an Entity based on the B-BBEE Procurement Recognition Levels.
Number of Schools connected based on obligations imposed by ICASA
Total number of Schools connected based on obligations imposed by ICASA to operators.

Total fixed line voice revenue
Sum of revenue from retail fixed-telephone services refers to revenue received for the connection (installation) of fixed-telephone services, revenue from recurring charges for subscription to the PSTN and revenue from fixed-telephone calls.
Revenue from fixed-telephone connection charges
Revenue from fixed-telephone connection charges refers to retail revenue received for connection (installation) of fixed- telephone services. This may include charges for transfer or cessation of services.
Revenue from fixed-telephone subscription charges
Revenue from fixed-telephone subscription charges refers to revenue from recurring charges for subscriptions to the PSTN, including Internet access if it cannot be separated from fixed-telephone.
Revenue from fixed-telephone calls
Revenue from fixed-telephone calls refers to retail fixed-telephone revenue received from charges for local, national long-distance and international calls.
Fixed (wired) internet revenue

Revenue from fixed (wired) Internet services refers to retail revenue received from the provision of fixed (wired) Internet services such as subscriptions, traffic and data communication. It excludes the provision of access lines used to connect to fixed (wired) Internet (such as fixed-telephone lines used to access DSL connections). This includes revenue from fixed (wired)-broadband services (previously a separate indicator under ITU code i7311_fb, but for reporting purposes here counted together with any small residual narrowband internet revenue in a single indicator, viz. fixed wired internet).
Other (wireless) broadband services revenue
Revenue from other wireless-broadband services refers to the retail revenue received from the provision of high-speed (at least 256 Kbit/s) data connectivity and related services over a wireless infrastructure other than mobile cellular, such as satellite or terrestrial fixed wireless broadband infrastructures.
Other fixed telecommunication services revenue, including leased lines revenue and fixed value-added telecommunication services
Revenue from leased lines refers to retail revenue received from the provision of leased lines.
Revenue from fixed value-added telecommunication services refers to the retail revenue generated by the telecommunication service sector for fixed value-added telecommunication services, such as call forwarding, itemized billing, conference calls and voice-message services.
Value-added means additional services beyond the basic telephone service line rental and calls
Other telecommunication revenue refers to any other retail telecommunication services revenue received but not accounted for elsewhere.
Total mobile services revenue (retail)
Revenue from mobile networks refers to retail revenue earned from the provision of mobile-cellular communication services, including all voice, SMS and data (narrowband and broadband) services offered by mobile operators offering services within the country during the financial year under review. Revenues from value added services (e.g. premium SMS) should be included. Data reported should

exclude: (i) wholesale revenues (e.g. termination rates), (ii) revenues from device sales and rents, (iii) VAT and excise taxes.
Revenue from mobile voice services
Refers to all mobile-cellular retail revenue from the provision of voice services. It includes voice revenues from national and international calls, but excludes revenues from roaming services.

Revenue from outbound mobile cellular roaming
Refers to all mobile-cellular retail roaming revenue from own subscribers roaming abroad. It does not cover foreign mobile subscribers roaming into the country and international calls originating or terminating on the country's mobile networks.
Revenue from mobile data services
Refers to revenue from the provision of non-voice services including messaging (other than SME and MMs), data and Internet services, including M2M/telemetry. It excludes other mobile-cellular services and wireless Internet access services not relating to mobile networks (e.g. satellite or terrestrial fixed wireless technologies).
Revenue from text and multimedia messaging services
Refers to revenue from text messaging and multimedia messaging (SMS and MMS). Some countries may account for this in different ways. For example, some mobile plans include free SMS or MMS that are liable to be classified as voice revenue rather than mobile-messaging revenue. The treatment of premium messages – where users pay an additional amount over the regular messaging rate – can vary among operators, since they typically share the revenue with a premium-service provider. Operators may also include revenue from international messaging in other categories. The preference is to include all revenue earned by the operator from the provision of messaging services to retail customers.
Other mobile services revenue
Any other mobile revenue, like banking
Total of any other revenue
Sum of interconnection revenue, equipment sale revenue and any other revenue

Interconnection revenues
Revenues from terminating voice and messaging traffic coming from outside the operator's own network
Equipment revenue
Revenues from equipment sales
Any other revenue
Any other revenue which could include: wholesale revenues, excluding voice termination (interconnection); IT type services; revenue of a capital nature. E.g. sale of assets or a business.
Telecommunications employment
Persons employed in full-time equivalents
Persons employed in full-time equivalents refers to the total number of persons, in full-time equivalent (FTE) units, employed by telecommunication operators in the country for the provision of telecommunication services, including fixed-telephone, mobile-cellular, Internet and data services. This indicator excludes staff working in broadcasting businesses that offer only traditional broadcasting services. Part-time staff should be expressed in terms of full-time staff equivalents (FTE).
Telecoms employment- female
Persons employed by all telecommunication operators, female should be expressed in terms of full-time staff equivalents.
Telecommunication Subscriptions
Fixed-telephone subscriptions
Fixed-telephone subscriptions refers to the sum of active analogue fixed-telephone lines, voice-over-IP (VoIP) subscriptions, fixed wireless local loop (WLL) subscriptions, ISDN voice-channel equivalents and fixed public payphones. This indicator was previously called Main telephone lines in operation.
Analogue fixed-telephone lines
Analogue fixed-telephone lines refers to the number of active lines connecting subscribers' terminal equipment to the PSTN and which have a dedicated port in the telephone-exchange equipment. It includes all postpaid lines and those

prepaid lines that have registered an activity in the past three months. This term is synonymous with the terms 'main station' and 'direct exchange line' (DEL) that are commonly used in telecommunication documents.
VoIP subscriptions
VoIP subscriptions refers to the number of voice-over-Internet protocol (VoIP) fixed-line subscriptions. It is also known as voice over broadband (VoB), and includes VoIP subscriptions through fixed wireless, DSL, cable, fibre optic and other fixed-broadband Internet platforms that provide fixed telephony using IP. It excludes software-based VoIP applications (e.g. VoIP with Skype using computer-to-computer or computer-to-telephone). Those VoIP subscriptions that do not imply a recurrent monthly fee should only be counted if they have generated inbound or outbound traffic within the past three months.
Fixed wireless local loop subscriptions
Fixed wireless local loop (WLL) subscriptions refers to subscriptions provided by licensed fixed-line telephone operators that provide 'last-mile' access to the subscriber using radio technology and where the subscriber's terminal equipment is either stationary or limited in its range of use.
ISDN voice-channel equivalents
ISDN voice-channel equivalents refers to the sum of basic-rate and primary-rate voice-channel equivalents (B-channel equivalents). Basic-rate voice-channel equivalents is the number of basic-rate ISDN subscriptions multiplied by 2, and primary-rate voice-channel equivalents is the number of primary-rate ISDN subscriptions multiplied by 23 or 30, depending on the standard implemented.
Fixed public payphones
Fixed public payphones refers to payphones that are available to the public using the fixed network.
Mobile cellular subscriptions
Mobile-cellular telephone subscriptions, by postpaid and prepaid Mobile-cellular telephone subscriptions refers to the number of subscriptions to a public mobile-telephone service that provide access to the PSTN using cellular technology.
Prepaid mobile-cellular telephone subscriptions

Refers to the total number of mobile-cellular telephone subscriptions that use prepaid refills. These are subscriptions where, instead of paying an ongoing monthly fee, users purchase blocks of usage time. Although the definition of prepaid subscribers from the ITU definition is 3 month active subscribers (those used at least once in the last three months for making or receiving a call or carrying out a non-voice activity such as sending or reading an SMS or accessing the Internet), some South African operators do not have this metric available but rather count SIMs that have not been disconnected within a 90 day window, reporting, implying that the number may be overstated according to the strict definition. The indicator applies to all mobile-cellular subscriptions that offer voice communications. It excludes subscriptions via data cards or USB modems, subscriptions to public mobile data services, private trunked mobile radio, telepoint, radio paging and telemetry services.
Postpaid mobile-cellular telephone subscriptions
Refers to the total number of mobile-cellular subscriptions, including top up bundles, where subscribers are billed after their use of mobile services, at the end of each month. The postpaid service is provided on the basis of a prior arrangement with a mobile- cellular operator. Typically, the subscriber's contract specifies a limit or allowance of minutes, text messages, etc. The subscriber will be billed at a flat rate for any usage equal to or less than that allowance. Any usage above that limit incurs extra charges. Theoretically, a subscriber in this situation has no limit on use of mobile services and, as a consequence, unlimited credit. M2M mobile-network subscriptions are included in postpaid subscriptions
M2M mobile-network subscriptions
M2M subscriptions is a subset of postpaid mobile cellular subscriptions and refers to the number of mobile-cellular machine- to-machine subscriptions that are assigned for use in machines and devices (cars, smart meters, consumer electronics) for the exchange of data between networked devices, and are not part of a consumer subscription. For instance, SIM-cards in personal navigation devices, smart meters, trains and automobiles should be included. Mobile dongles and tablet subscriptions should be excluded.
Internet and data subscriptions

Fixed broadband subscriptions
Fixed-broadband subscriptions refers to fixed subscriptions to high-speed access to the public Internet (a TCP/IP connection), at downstream speeds equal to, or greater than, 256 Kbit/s. This includes cable modem, DSL, fibre-to-the-home/building, other fixed (wired)-broadband subscriptions, satellite broadband and terrestrial fixed wireless broadband. This total is measured irrespective of the method of payment. It excludes subscriptions that have access to data communications (including the Internet) via mobile-cellular networks. It should include fixed WiMAX and any other fixed wireless technologies. It includes both residential subscriptions and subscriptions for organizations.
DSL Internet subscriptions
Refers to the number of Internet subscriptions using digital subscriber line (DSL) services to access the Internet, at downstream speeds greater than or equal to 256 Kbit/s. DSL is a technology for bringing high-bandwidth information to homes and small businesses over ordinary copper telephone lines. It should exclude very high-speed digital subscriber line (VDSL) subscriptions if these are provided using fibre directly to the premises.
Fibre-to-the-home/building Internet subscriptions
Refers to the number of Internet subscriptions using fibre-to-the-home or fibre-to-the-building, at downstream speeds equal to, or greater than, 256 Kbit/s. This should include subscriptions where fibre goes directly to the subscriber's premises or fibre-to-the-building subscriptions that terminate no more than 2 metres from an external wall of the building. Fibre-to-the-cabinet and fibre-to-the-node are excluded.
Other fixed (wired) broadband subscriptions
Refers to Internet subscriptions using other fixed (wired) broadband technologies to access the Internet (other than DSL, cable modem, and fibre), at downstream speeds equal to, or greater than, 256 Kbit/s. This includes technologies such as ethernet LAN, and broadband-over-powerline (BPL) communications. Ethernet LAN subscriptions refer to subscriptions using IEEE 802.3 technology. BPL subscriptions refer to subscriptions using broadband-over-powerline services. Users of temporary broadband access (e.g. roaming between PWLAN hotspots),

users of WiMAX and those with Internet access via mobile-cellular networks are excluded.
Wireless broadband subscriptions
Wireless-broadband subscriptions refers to the sum of satellite broadband, terrestrial fixed wireless broadband and active mobile-broadband subscriptions to the public Internet. The indicator does not cover fixed (wired) broadband or Wi-Fi subscriptions.
Satellite broadband subscriptions
Satellite broadband subscriptions refers to the number of satellite Internet subscriptions with an advertised download speed of at least 256 Kbit/s. It refers to the retail subscription technology and not the backbone technology.
Terrestrial fixed wireless broadband subscriptions
Terrestrial fixed wireless broadband subscriptions refers to the number of terrestrial fixed wireless Internet subscriptions with an advertised download speed of at least 256 Kbit/s. This includes fixed WiMAX and fixed wireless subscriptions, but excludes occasional users at hotspots and Wi-Fi hotspot subscribers. It also excludes mobile-broadband subscriptions where users can access a service throughout the country wherever coverage is available."
Mobile data subscriptions
Number of prepaid and postpaid mobile subscriptions that were used to access the Internet the last 3 months, regardless of speed.

Traffic
Fixed line voice traffic
This aggregated value is the sum of Fixed line traffic (i.e. fixed-to-fixed) and all other fixed line originated traffic (Fixed to mobile and International outgoing).
Fixed line traffic
Refers to domestic fixed-to-fixed telephone traffic, in minutes. Domestic fixed-to-fixed telephone traffic refers to completed local and domestic long-distance fixed-telephone voice traffic. The indicator should be reported as the number of minutes

of traffic during the reference quarter. This exclude minutes used for dial-up Internet access.
Local fixed-to-fixed telephone traffic, in minutes
Refers to effective (completed) fixed-telephone line voice traffic exchanged within the local charging area in which the calling station is situated. This is the area within which one subscriber can call another on payment of the local charge (if applicable). This is reported in the number of minutes, which should exclude minutes used for dial-up Internet access.
Long-distance fixed-to-fixed telephone traffic, in minutes
Refers to effective (completed) fixed national long-distance telephone voice traffic exchanged with a station outside the local charging area in which the calling station is situated. This is reported as the number of minutes of traffic. It excludes local calls, calls to mobile networks, calls abroad, and calls to special service numbers such as ISPs for Internet dial-up.
Fixed-to-mobile telephone traffic
Refers to total traffic from all fixed-telephone networks to all mobile-cellular networks within the country.
International incoming and outgoing fixed-telephone traffic
Refers to the sum of international incoming and outgoing fixed-telephone voice traffic.
International outgoing fixed-telephone traffic, in minutes
Refers to effective (completed) fixed-telephone voice traffic originating in a given country to destinations outside that country. This should include traffic to mobile phones outside the country. This is reported in number of minutes of traffic. It excludes calls originating in other countries. It should include VoIP traffic.
International incoming fixed-telephone traffic, in minutes
Refers to effective (completed) fixed-telephone voice traffic originating outside the country with a destination inside the country, irrespective of whether the call was from a fixed or mobile subscriber. It excludes minutes of calls terminating in other countries, but includes VoIP traffic
Mobile voice traffic

This aggregated value is the sum of Total national mobile traffic, as defined below, and International outgoing from mobile.
Total national mobile traffic
Domestic mobile-telephone traffic refers to the total number of minutes of calls made by mobile subscribers within a country (including minutes to fixed-telephone and minutes to mobile-phone subscribers).
Outgoing mobile traffic to same mobile network
Refers to the number of minutes of calls made by mobile subscribers to the same mobile network (within the country). This refers to the number of minutes originating on mobile networks and terminating on the same mobile network (on-net). It does not cover minutes of calls from mobile to fixed or mobile to other mobile networks.
Mobile to other mobile networks
Outgoing mobile traffic to other mobile networks, in minutes refers to the number of minutes of calls made by mobile subscribers to other mobile networks (within the country). The indicator refers to the number of minutes originating on mobile networks and terminating on different domestic mobile networks (off-net). It does not cover minutes of calls from mobile to fixed or mobile to the same mobile networks.
Outgoing mobile traffic to fixed networks
Refers to the number of minutes of calls made from mobile-cellular networks to fixed-line telephone networks within the country. The indicator refers to the number of minutes originating on mobile networks and terminating on fixed-line telephone networks within the country.
International outgoing from mobile
Outgoing mobile traffic to international refers to the number of mobile minutes originating in a country to any destinations outside that country.
Incoming international traffic to mobile network
Refers to the number of incoming minutes (fixed and mobile) received by mobile networks originating in another country.
Mobile data traffic

Mobile data traffic (within the country) refers to data traffic originated within the country from mobile networks. Download and upload traffic should be added up and reported together. Traffic should be measured at the end-user access point. Wholesale and walled-garden traffic should be excluded. The traffic should be reported in terabytes.
Population coverage
3G population coverage
Percentage of the population covered by at a 3G mobile network refers to the percentage of inhabitants that are within range of a 3G mobile-cellular signal, irrespective of whether or not they are subscribers. This is calculated by dividing the number of inhabitants that are covered by a 3G mobile-cellular signal by the total population and multiplying by 100.
4G/LTE etc. population coverage
Percentage of the population covered by a 4G/LTE mobile network refers to the percentage of inhabitants that are within range of a 4G/LTE mobile-cellular signal, irrespective of whether or not they are subscribers. This is calculated by dividing the number of inhabitants that are covered by a 4G/LTE mobile-cellular signal by the total population and multiplying by 100. Note that all LTE variants are included.
Internet bandwidth
International Internet bandwidth
International outgoing Internet bandwidth
Refers to the total outgoing used capacity of international Internet bandwidth, in Mbit/s. This is measured as the sum of outgoing (uplink) capacity of all Internet exchanges offering international bandwidth.
International incoming Internet bandwidth
Refers to the total incoming used capacity of international Internet bandwidth, in Mbit/s. This is measured as the sum of incoming (downlink) capacity of all Internet exchanges offering international bandwidth.

Appendix 3: Aggregated data from ICASA questionnaires

The table below lists the aggregated figures from the three ICASA questionnaires to the electronic communications licensees, the TV broadcasting licensees and the SA Post Office, for the period of 1 October 2016 -30th September 2017. For definitions please refer to the Appendix 2 above, and for more clarification please refer to the notes accompanying the associated figures in the report.

Telecommunication	
Total revenue	**R163,987,306,320**
Total telecommunication services revenue	**R124,586,592,041**
Total fixed line revenue	**R33,848,628,906**
Total fixed line revenue	**R13,416,021,437**
Revenue from retail fixed-telephone services	R205,209,279
Revenue from fixed-telephone subscription charges	R7,615,313,709
Revenue from fixed-telephone calls	R5,595,498,449
Total Fixed Internet and data revenue	**R20,432,607,468**
Fixed Internet revenue (R)	R3,031,182,153
Revenue from fixed (wired)-broadband services	R11,306,993,289
Other wireless-broadband services revenue	R2,151,036,708
Other telecommunication services revenue, including leased lines revenue and fixed value-added telecommunication services	R3,943,395,318
Total mobile services revenue (Rm)	**R90,737,963,135**
Revenue from voice services	R42,474,346,282
Revenue from outbound roaming (R)	R378,617,682
Revenue from mobile data services	R43,190,853,863
Revenue from text and multimedia messaging services	R3,495,840,536
Prepaid revenue mobile voice	R27,821,766,556
Prepaid revenue mobile data	R23,738,773,852
Prepaid revenue mobile messaging	R1,328,612,859
Other mobile services revenue	R1,198,304,773
Total of any other revenue	**R39,400,714,280**
Interconnection revenues	R5,070,261,260
Equipment revenue	R26,253,554,543
Any other revenue	R8,076,898,476
Total telecommunication investment	**R47,628,221,569**
Annual investment in fixed-telephone services	R480,671,041
Annual investment in fixed (wired)-broadband services	R7,002,587,357
Annual investment in mobile communication services	R15,237,727,593
Infrastructure	R3,770,800,407

Expansion	R16,176,231,342
Maintenance	R3,674,868,105
Other annual investment in telecommunication services	R1,285,335,724
Telecoms employment -Total	30,881
Telecoms employment- female	12,464
Highlights subscription and take-up of ICT services	
Fixed line subscriptions	**3,645,837**
Analogue fixed-telephone lines	2,840,096
VoIP subscriptions	142,224
Fixed wireless local loop subscriptions	4,507
ISDN voice-channel equivalents	575,476
Fixed public payphone	83,534
Mobile cellular subscriptions	**87,153,108**
Prepaid mobile-cellular telephone subscriptions	76,546,031
Postpaid mobile-cellular telephone subscriptions	10,607,077
M2M mobile-network subscriptions	5,806,477
Fixed broadband subscriptions	**3,023,349**
DSL Internet subscriptions	2,434,555
Fibre-to-the-home/building Internet subscriptions	280,097
Other fixed (wired)-broadband subscriptions	308,697
Wireless-broadband subscriptions	**115,951**
Satellite broadband subscriptions	31,363
Terrestrial fixed wireless broadband subscriptions	84,588
Active mobile broadband subscriptions	**40,988,394**
Standard mobile-broadband subscriptions	16,621,405

Dedicated mobile-broadband subscriptions	24,366,989
Mobile data users	61,396,145
Highlights usage of ICT networks in terms of traffic	
Fixed line traffic	**5,954,515,149**
Local fixed-to-fixed telephone traffic, in minutes	3,644,927,197
Long-distance fixed-to-fixed telephone traffic, in minutes	2,309,587,952
Fixed-to-mobile telephone traffic	8,489,080,704
International incoming and outgoing fixed-telephone traffic	**777,492,971**
International outgoing fixed-telephone traffic, in minutes	206,579,369
International incoming fixed-telephone traffic, in minutes	570,913,603
Total national mobile traffic	**90,145,133,528**
Outgoing mobile traffic to same mobile network	71,972,646,746
Mobile to other mobile networks	15,546,124,433
Mobile to fixed	2,626,362,349
International outgoing from mobile	1,163,674,401
International incoming to mobile	724,661,410
SMS traffic	13,092,472,233
SMS international traffic	90,885,816
Mobile data traffic	489,235
3G population coverage	99.30%
4G/LTE etc. population coverage	76.70%
International Internet bandwidth (Mbps) capacity	**610,400**
International outgoing Internet bandwidth	244,006
International incoming Internet bandwidth	366,394
Smartphone subscriptions	

Smartphone subscriptions	42,094,018
Fixed postpaid local telephone service prices	
Installation fee for residential telephone service	R60,953,179
Monthly subscription for residential telephone service	R2,121,557,385
Price of a three-minute local call to a fixed-telephone line, peak rate	R3.00
Price of a three-minute local call to a fixed-telephone line, off-peak rate	R3.00
Mobile-cellular prepaid prices	
Mobile-cellular prepaid – price of a one-minute local call (peak, on-net)	R0.79
Mobile-cellular prepaid – price of a one-minute local call (off-peak, on-net)	R0.79
Mobile-cellular prepaid – price of SMS (on-net)	R0.50
ICT Sector Black Economic Empowerment Measures	
Telecoms employment- Top Management (EXCO Members)	192
Telecoms employment- Black Top Management (EXCO Members)	52
Telecoms employment- Black Top Female Management (EXCO Members)	21
Procurement Spend from all suppliers	R95,898,396,437
Procurement Spend from all suppliers based on the B-BBEE Procurement Recognition Levels	R79,716,674,485
Number of Schools connected based on obligations imposed by ICASA	5,238

TV Broadcasting	
Total revenue	**R35,606,415,286**
Total broadcasting services revenue	**R34,777,362,198**
Broadcasting Advertising Revenue	**R8,020,046,840**
Broadcasting Subscriptions Revenue	**R25,773,619,194**
Revenue from Broadcasting Promotions (with flighting code).	**R660,208,406**
Revenue from sponsorships	**R272,913,790**
Revenue from Government or State grant	**R23,351,477**
Revenue from donations	**R10,783,817**
Revenue from infomercials	**R16,434,074**
Revenue from membership fees	**R4,600**
Balancing figure below	
Total of any other revenue	**R829,053,088**
Itemized expenditure	**R2,847,558,687**
Program expenditure	**R2,847,558,687**
Subscription and take-up of services	
Subscriber and registered viewership numbers	**6,703,316**
Number of Pay TV subscribers	6,703,284

Number of registered non-Pay TV viewers	32
ICT Sector Economic Empowerment Measures	
Broadcasting employment -Total	4,800
Broadcasting employment- female	2,421
Broadcasting employment- Top Management (EXCO members)	79
Broadcasting employment- Black Top Management (EXCO members)	48
Broadcasting employment- Black Top Female Management (EXCO members)	22
Procurement Spend from all suppliers	**R8,133,329,927**
Procurement Spend from all suppliers based on the B-BBEE Procurement Recognition Levels	**R6,243,530,612**
2017 New Indicators	
Total Number of Television (stations and distributors)	10,068,484
Number of Digital Satellite Stations	30
Number of Digital Terrestrial Stations	6
Number of Analogue Terrestrial Stations	27
Number of Signal Distributors	9
Number of set-top boxes	10,068,326
Number of Content Distributors	86
Total Number of Radio Stations	113
Public (community) Radio	23
Commercial (private) Radio	23
Number of transmission sites for Public (community) radio	10
Number of transmission sites for Commercial (private) radio	57
Investment	**R24,215,880**
Infrastructure	**R21,667,826**
Expansion	**R1,585,565**
Maintenance	**R691,634**
Others	**R270,855**

Postal Service	
Total SAPO revenue	**R4,792,886,670**
Postbank revenue	**R211,392,000**
Postbank interest revenue	**R433,590,000**
Retail products revenue	**R16,670,000**
Services rendered - Postal	**R3,209,162,000**
Services rendered - Agency and money transfer	**R489,105,000**
Services rendered - Courier	**R384,569,670**
Balancing figure below	
Total of any other revenue	**R48,398,000**
Other information	
Points of presence	25
Postal employment -Total	16,312
Postal employment- female	7,591 7,591
Postal employment- Top Management (EXCO members)	11
Postal employment- Black Top Management (EXCO members)	6
Postal employment- Black Top Female Management (EXCO members)	2
Procurement Spend from all suppliers	**R817,935,346**
Procurement Spend from all suppliers based on the B-BBEE Procurement Recognition Levels	**R503,345,609**

Source: ICASA Telecommunications, TV Broadcasting and Postal Questionnaires, December 2017