Independent Communications Authority of South Africa

The state of the ICT sector report in South Africa

2019

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1 INTRODUCTION

This is the fourth State of Information Communication Technology (ICT) sector report produced by the Independent Communication Authority of South Africa (ICASA). The report has been published annually since 2015.

Aim

The report presents the performance and developments in the ICT sector, focusing on three areas regulated by ICASA, namely: telecommunications, broadcasting and postal services.

ICASA has the mandate to ensure the effective functioning of the electronic communication, broadcasting and postal services as spelled out in the Electronic Communications Act No.36 of 2005 (ECA), the Broadcasting Act No.4 of 1999 (Broadcasting Act) and the Postal Services Act No.124 of 1998 (Postal Services Act). In addition, ICASA is empowered by the Independent Communications Authority of South Africa Act No.13 of 2000 (ICASA Act). Within this mandate, the Authority's responsibility includes the collection of information and statistics on the ICT sector so as to monitor, report and ensure that regulations are fact-based.

The report is also aimed at providing up to date information to enable other interested parties to make informed decisions on the ICT sector.

Methodology

ICASA has authority to request data from licensees in terms of section 4(3)(g) of the ICASA Act. The Authority uses questionnaires customized for Electronic Communication Services (ECS) and Electronic Communication Network Services (ECNS), television and radio broadcasters and postal service licensees to collect data on ICT indicators. The questionnaires cover data over a 12-month period ending on the 30th September each year, unless otherwise specified. For confidentiality reasons, the information gathered is aggregated to conceal stakeholder-specific information.

Data collected is then used by the Authority to produce the State of the ICT Sector report that is published on its website. The report also features data from secondary sources, such as Statistics South Africa (StatsSA).

In the compilation of this report, a total of ninety-six (96) Electronic Communication Services (ECS) and Electronic Communication Network Services (ECNS) licensees responses were received (a combined increase of 14.3%), thirty-five (35) responses were from television and radio broadcasters (a combined increase of more than 45.8%) and three (3) responses were received from postal service licensees (the same number as in the previous reporting period).

Limitations

In terms of identified possible limitations to the Report that should be borne in mind when interpreting the information collected is that:

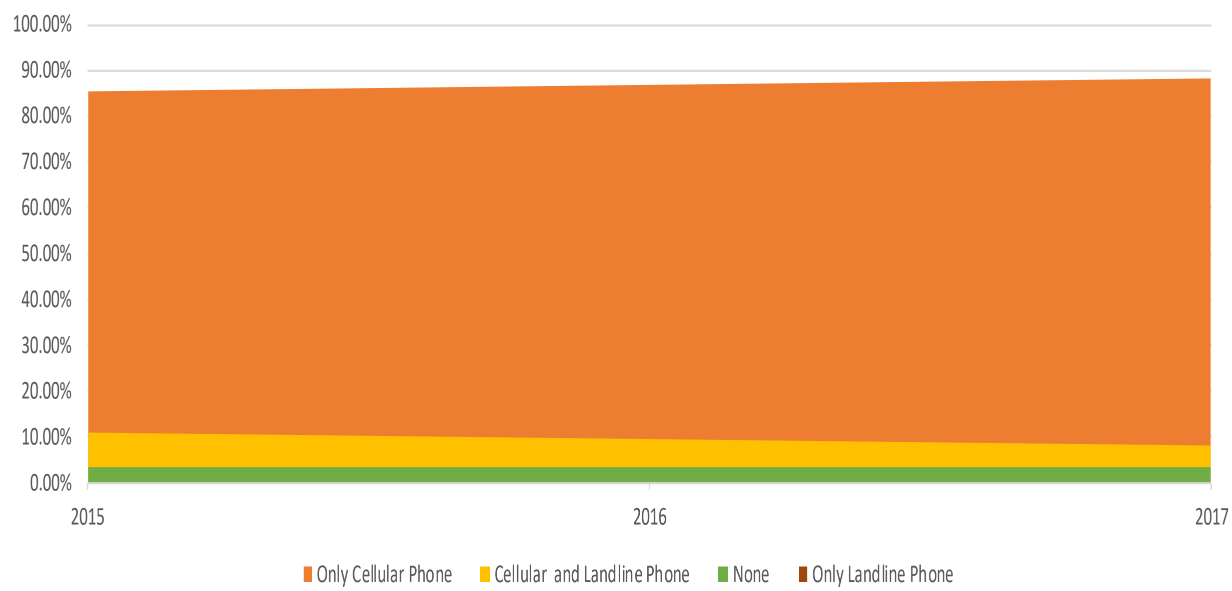
- the unreserved postal sector had a low response rate to the questionnaire; and
- the data contained in the Report is self-reported by licensees., which therefore requires a more rigorous data-validation process.

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

The State of ICT sector report is usually published one year ahead of StatsSA's *General Household Survey* ("GHS") on or by the 31st March annually in accordance with ICASA's Annual Performance Plan.

According to the GHS, the proportion of households who use only cellular phones as a means of communication steadily increased from 85.5% in 2015, to 87.0% in 2016 and reached 88.2% in 2017. This shows greater reliance on cellular phones by households. Households using both cellular phones and fixed (or landlines) reduced from 10.9% in 2015, to 9.4% in 2016 and 8.2% in 2017. A proportion of 0.1% was accounted for by households that use only landlines phones over the 3-year period. Households that have no access to neither a cellular nor a landline phone also remained constant at 3.5% over the same period.

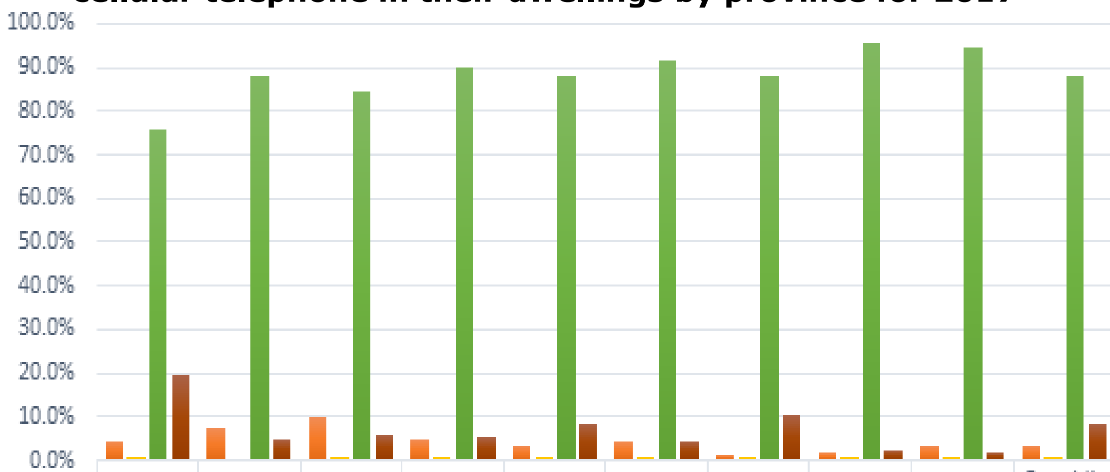
Graph 1: Proportion of Households who have a functional landline and/or cellular telephone in the Republic of South Africa for 2015 to 2017



Source: StatsSA GHS, 2015,2016 & 2017

In terms of the GHS, at a provincial level the proportion of Households with access to only cellular phones in 2017 was highest in Mpumalanga at 95.6% and lowest in the Western Cape at 75.9%. In the same year, the province with the highest proportion of Households with both cellular and landline phones was the Western Cape at 19.6% and the lowest was Limpopo at 1.8%. For Households with no access to neither a cellular phone nor a landline, the highest proportion was in Northern Cape at 10.0% and the lowest in Gauteng at 1.4%. At 0.1%, the proportion of Households accessing only a landline in 2017 was similar in the majority of the provinces, with only Eastern Cape reporting a 0.0%, and the Western Cape and KwaZulu-Natal sharing the top spot at a mere 0.2%.

Graph 2: Percentage of Households who have functional landline and cellular telephone in their dwellings by province for 2017



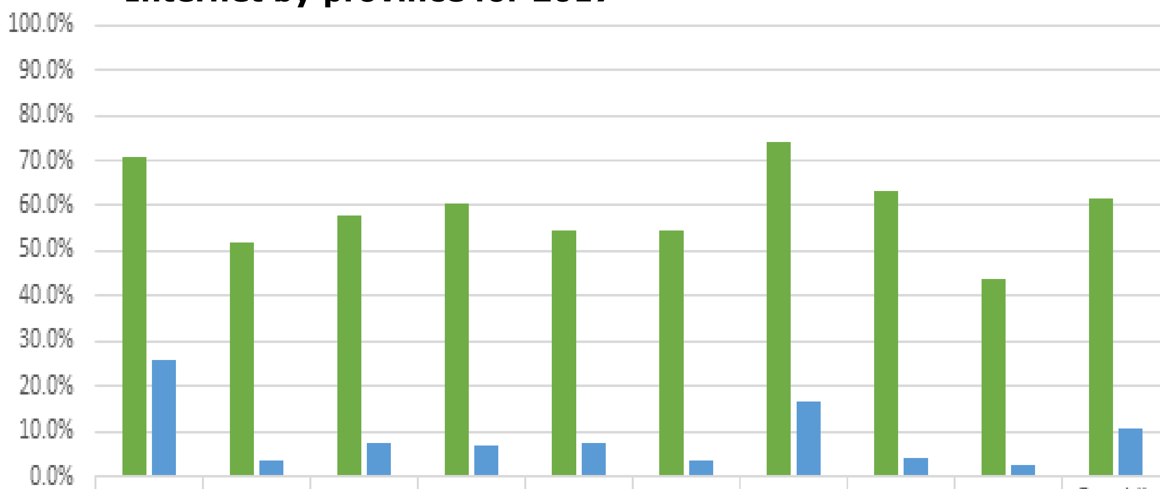
	Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu Natal	North West	Gauteng	Mpumala nga	Limpopo	Republic of South Africa
None	4.4%	7.1%	10.0%	4.6%	3.4%	4.3%	1.4%	1.8%	3.3%	3.5%
Only Landline	0.2%	0.0%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%
Only Cell	75.9%	88.1%	84.3%	90.2%	88.0%	91.3%	88.2%	95.6%	94.8%	88.2%
Cell and Landline	19.6%	4.8%	5.6%	5.1%	8.4%	4.3%	10.2%	2.5%	1.8%	8.2%

Source: StatsSA GHS, 2017

At the national level, the GHS reported that in 2017 the proportion of Households with access to Internet was at 61.8%. In terms of how access is defined, it means that at least one member in a Household could access the Internet either at home, workplace, place of study or Internet café.

At Provincial level, Gauteng was the Province with the highest proportion of Households with access to the Internet at 74.0%, followed by the Western Cape at 70.8%. The Province with the lowest access to the Internet was Limpopo at 43.6%.

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 2017



	Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu Natal	North West	Gauteng	Mpumalanga	Limpopo	Republic of South Africa
Anywhere	70.8%	51.8%	57.8%	60.6%	54.8%	54.8%	74.0%	63.3%	43.6%	61.8%
At home	25.7%	3.5%	7.4%	6.9%	7.1%	3.6%	16.5%	4.0%	2.2%	10.6%

Source: StatsSA GHS, 2017

In Table 1 below Internet access is further broken down in terms of place of access and geographical type (metropolitan, urban or rural) at both Provincial and National levels. In 2017, more than half (56.9%) of Households nationally had access to the Internet using mobile devices, with the majority of this access accounted for by Households living in metropolitan areas seating at 65%. Mobile devices are also the most used means of accessing the Internet by Households in rural areas nationally (39.6%) and this figure drops to 1.7% for rural Internet access at home.

Table 1: Households' access to the Internet by place of access, geotype and province, 2017

Place Internets accessed	Geotype	Province (per cent)									
		WC	EC	NC	FS	KZN	NW	GP	MP	LP	RSA
At home	Metro	31,3	5,9	NA	12,8	11,7	NA	16,8	NA	NA	17,4
	Urban	14,5	5,3	8,6	5,1	7,4	6,5	14,0	5,8	6,8	8,4
	Rural	12,8	0,6	3,8	1,6	1,7	0,8	12,2	2,6	0,8	1,7
	Total	25,7	3,5	7,4	6,9	7,1	3,6	16,5	4,0	2,2	10,6
At work	Metro	22,3	22,4	NA	13,8	21,3	NA	28,4	NA	NA	25,3
	Urban	19,4	11,9	17,6	11,7	20,3	11,8	25,1	11,5	17,7	16,6
	Rural	9,8	2,0	6,9	1,0	4,7	5,3	13,6	5,8	2,5	4,1
	Total	20,7	11,3	14,7	10,9	15,0	8,5	27,8	8,3	6,1	16,9
Using mobile devices	Metro	69,0	68,7	NA	67,6	55,1	NA	65,9	NA	NA	65,0
	Urban	51,5	56,4	58,5	57,5	62,0	62,7	71,0	73,1	53,3	61,5
	Rural	22,9	32,7	49,7	44,2	39,0	45,0	49,2	52,7	33,5	39,6
	Total	61,5	50,5	56,1	58,6	50,9	53,7	66,4	61,6	38,2	56,9
At Internet Cafes or education al facilities	Metro	12,0	13,9	NA	6,2	11,3	NA	21,5	NA	NA	17,2
	Urban	17,7	10,9	5,3	10,7	7,4	4,5	13,5	4,2	7,0	9,2
	Rural	4,0	1,3	1,6	5,7	5,7	6,5	2,2	6,4	3,5	4,5
	Total	13,2	7,8	4,3	8,7	8,3	5,5	20,4	5,4	4,3	11,5

Source: StatsSA GHS, 2017

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 2018.

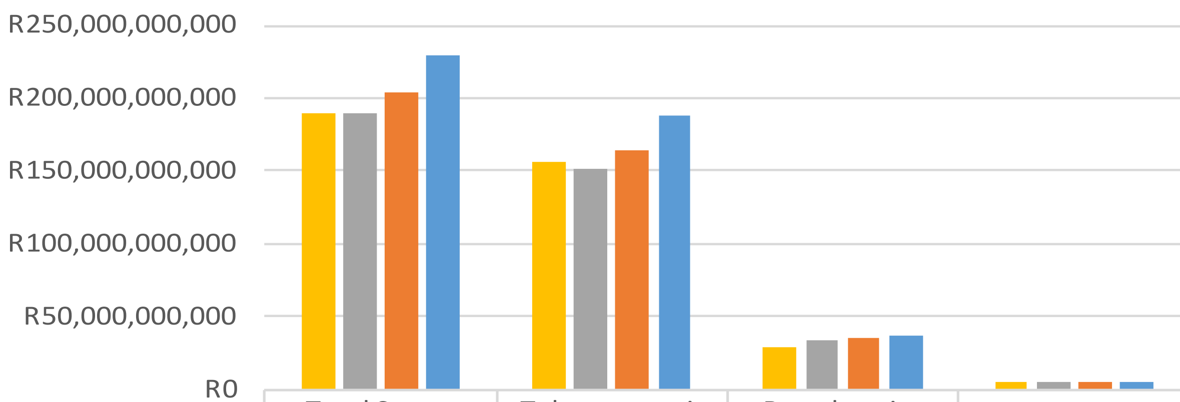
As mentioned, a total of ninety-six (96) ECS and ECNS licensee responses were received (a combined increase of 14.3%), thirty-five (35) responses were from television and radio broadcasters (a combined increase of more than 45.8%) and three (3) responses were received from postal service licensees (the same number as in the previous reporting period).

3.1 Revenue for the Three Sectors Regulated by ICASA

The revenue reported for the three sectors (telecommunications, broadcasting and postal) showed a positive growth of 12.2%, from R204 billion in 2017 to R229 billion in 2018. Telecommunication services revenue increased by 14.4% from R163 billion to R187 billion, broadcasting services revenue increased marginally by 3.7% from R35 billion to R36 billion and postal services revenue declined by 0.1% in 2018.

Over a 4-year period, the combined revenue for the three sectors increased by 6.5%. Over the same period, telecommunication services revenue increased by 6.4%, broadcasting services revenue increased by 8.8% and postal services revenue continued to show a declining trend, decreasing by 3.4%.

Graph 4: Total revenue of the 3 sectors, for the 12 months ending 30th September each year



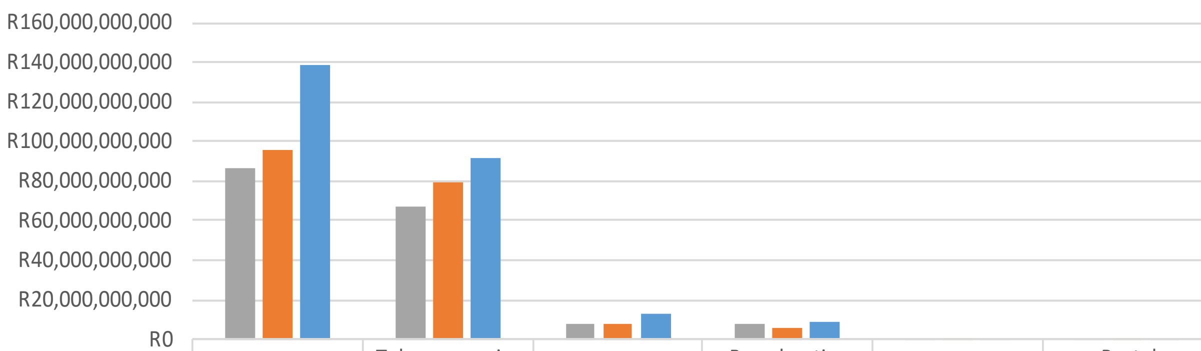
	Total Sector revenue	Telecommunication revenue	Broadcasting revenue	Postal revenue
2015	R189,727,239,1	R155,731,039,8	R28,688,718,29	R5,307,481,000
2016	R190,044,525,3	R151,569,024,0	R33,655,415,07	R4,820,086,160
2017	R204,386,608,2	R163,987,306,3	R35,606,415,28	R4,792,886,670
2018	R229,296,293,2	R187,587,374,8	R36,921,489,74	R4,787,428,702

Source: ICASA Electronic Telecommunications, Broadcasting and Postal Questionnaire

3.2 Procurement Spend from All Suppliers in All 3 Sectors

Total combined telecommunication services procurement spend from all suppliers was R138 billion in 2018, with R91 billion (65.9%) of that spent on suppliers on the basis of their B-BBEE rating level. Total combined broadcasting services procurement spend from all suppliers was R12 billion in 2018, with R9 billion (71%) of that spent on suppliers on the basis of their B-BBEE rating level. Total combined postal services procurement spend from all suppliers was R747 million in 2018, with R8 million (1%) of that spent on suppliers on the basis of their B-BBEE rating level.

Graph 5: 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
2016	R86,448,461,08	R67,548,274,26	R8,267,951,961	R8,018,052,763	R555,395,857	R555,395,857
2017	R95,898,396,43	R79,716,674,48	R8,133,329,927	R6,243,530,612	R817,935,346	R503,345,609
2018	R138,796,397,2	R91,387,499,39	R12,916,707,22	R9,164,201,658	R747,631,839	R8,523,706

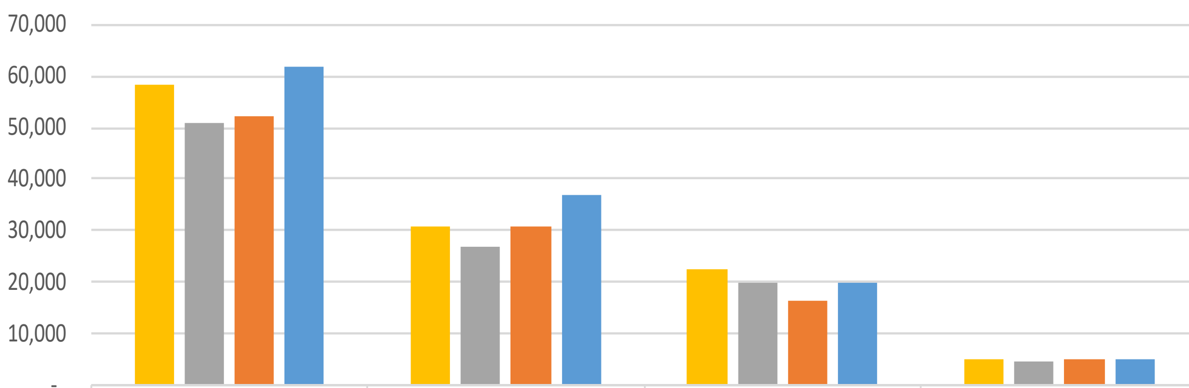
Source: ICASA Electronic Communications, Broadcasting and Postal Questionnaires, December 2018

3.3 Employment levels for the three sectors that ICASA regulates

Total overall employment numbers for the three sectors increased by 18.8%, from 51,993 in 2017 to 61,757 in 2018. Over the same period, employment changes in the specific sectors were as follows: telecommunications sector employment increased by 20%, postal sector employment also showed a double-digit increase of 21.9% and broadcasting sector employment increased marginally by 0.3%.

Over a 4-year period total sector employment increased by 1.9%. Telecommunications increased by 6.2%, broadcasting employment increased by 0.2% and postal service employment still shows a decline in terms of growth as it decreased by 4.3% for the period of 4 years.

Graph 6: Total employment for the 3 sectors, as of 30th September each year



	Total Combined Employment in the 3 Sectors	Telecommunications Employment	Postal Employment	Broadcasting Employment
2015	58,411	30,951	22,671	4,789
2016	50,899	26,669	19,801	4,429
2017	51,993	30,881	16,312	4,800
2018	61,757	37,063	19,881	4,813

Source: ICASA Electronic Communications, Broadcasting and Postal Questionnaires 2018

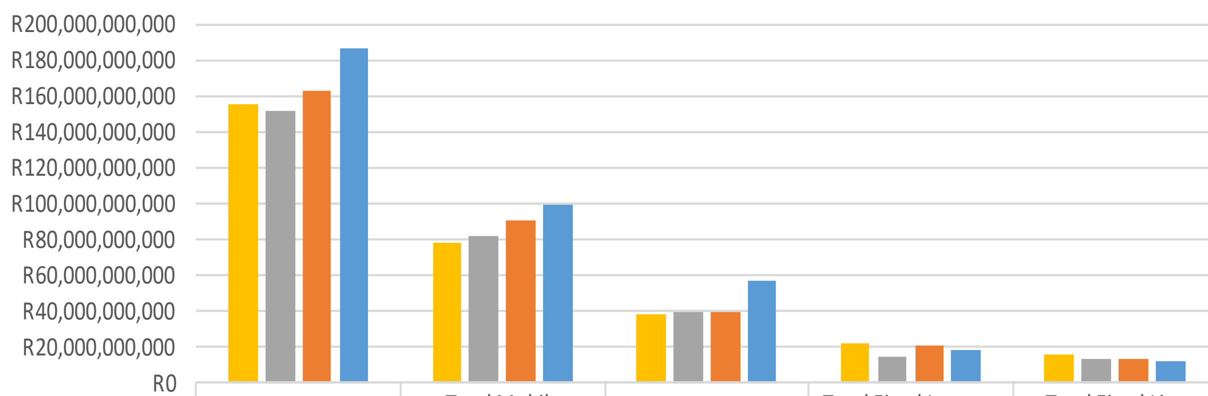
4 TELECOMMUNICATIONS SECTOR

4.1 Telecommunication Sector Revenues

The total telecommunication revenue increased by 14.4% in 2018. Total mobile services revenue increased by 9.7%. Total fixed internet and data revenue and total fixed line revenue decreased by 6.6% and 11.1% respectively in 2018.

There is an increase in revenue for the period of 4 years as indicated on the graph below, total telecommunications revenue increased by 6.4%, total mobile services revenue increased by 8.1% and total of any other revenue increased by 13.4%. However total fixed Internet and data revenue decreased by 4.7%.

Graph 7: Telecommunications revenue, for the 12 months ending 30th September each year



	Total Revenue	Total Mobile Services Revenue	Other Revenue	Total Fixed Internet and Data Revenue	Total Fixed Line Revenue
2015	R155,731,039,861	R78,838,681,356	R39,059,280,775	R22,023,113,787	R15,809,963,943
2016	R151,569,024,076	R82,209,711,759	R40,295,245,779	R15,327,779,522	R13,736,287,016
2017	R163,987,306,320	R90,737,963,135	R39,400,714,280	R20,432,607,468	R13,416,021,437
2018	R187,587,374,843	R99,569,265,222	R57,011,037,623	R19,078,304,740	R11,928,767,258

Source: ICASA Electronic Communications Questionnaire 2018

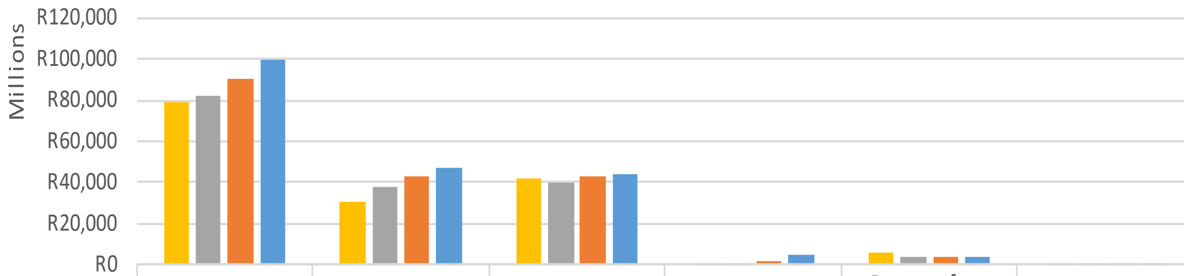
Note: Includes revenues from: telecommunication services earned from retail fixed-telephone, mobile-cellular, internet and data services offered by telecommunication operators (both network and virtual, including resellers) and interconnection, equipment sales and any other revenue

4.1.1 Total Mobile Services Revenue

The total mobile services revenue and revenue from mobile data services increased by 9.7% and 9% respectively in 2018. Revenue from other mobile services significantly increased by 282.8% in 2018. Revenue from outbound roaming decreased by 47.4% in 2018.

For the period of 4 years total mobile services revenue and revenue from mobile data services increased by 8.1% and 16% respectively. Revenue from outbound roaming decreased by 39.4% and revenue from other mobile services increased significantly by 103.3%.

Graph 8: Mobile services revenue for the 12 months, ending 30th September each year



	Total Mobile Services Revenue	Revenue from Mobile Data services	Revenue from Voice Services	Other Mobile Services Revenue	Revenue from Text and Multimedia Messaging Services	Revenue from Outbound Roaming
2015	R78,838,681,356	R30,216,263,601	R41,992,110,991	R546,158,563	R5,190,759,632	R893,388,568
2016	R82,209,711,759	R37,881,274,945	R39,498,579,909	R463,330,629	R3,910,993,637	R455,532,639
2017	R90,737,963,135	R43,190,853,863	R42,474,346,282	R1,198,304,773	R3,495,840,536	R378,617,682
2018	R99,569,265,222	R47,068,742,797	R43,756,195,020	R4,587,185,489	R3,957,858,068	R199,283,848

Source: ICASA Electronic Communications Questionnaire 2018

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.

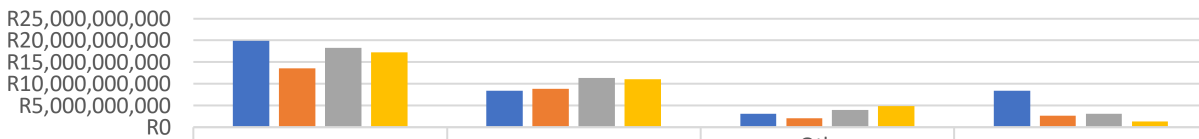
Note: Excludes equipment revenue and termination (interconnection) revenue and any other revenue categories e.g. other wholesale services.

4.1.2 Total Fixed Internet and Data Revenues

Total fixed internet and data revenue decreased by 5.9% from R18.3 billion in 2017 to R17.2 billion in 2018. Revenue from fixed (wired)-broadband services decreased by 2.7% respectively in 2018.

Revenue from fixed (wired)-broadband services increased significantly by 9.4% over the 4 years period.

Graph 9: Fixed internet revenue, 12 months ending 30th September 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 telecommunication services	Fixed Internet revenue (R)
2015	R19,841,397,388	R8,393,442,800	R3,055,425,191	R8,392,529,397
2016	R13,633,645,175	R8,888,078,923	R2,025,882,253	R2,719,683,999
2017	R18,281,570,760	R11,306,993,289	R3,943,395,318	R3,031,182,153
2018	R17,209,012,146	R11,003,085,498	R4,875,143,271	R1,330,783,377

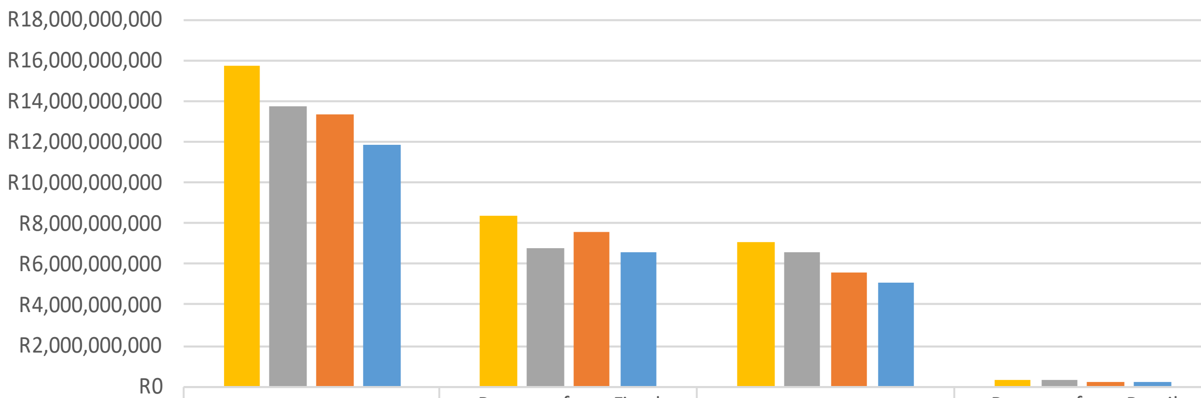
Source: ICASA Electronic Communications Questionnaire, December 2018

4.1.3 Total Fixed Line Revenue

The total fixed line revenue decreased by 11.1% from R13.7 billion in 2017 to R11.9 billion in 2018. Revenue from fixed-telephone subscription charges decreased 13.4% in 2018.

For the period of 4 years, the fixed line revenue shows decrease in all categories as shown on the graph below.

Graph 10: Total Fixed line revenue, 12 months ending 30th September each year



	Total Fixed Line Revenue	Revenue from Fixed Telephone Subscription Charges	Revenue from Fixed Telephone Calls	Revenue from Retail Fixed Telephone Services
2015	R15,809,963,943	R8,354,835,988	R7,104,611,411	R350,516,544
2016	R13,736,287,016	R6,832,868,171	R6,559,636,420	R343,782,425
2017	R13,416,021,437	R7,615,313,709	R5,595,498,449	R205,209,279
2018	R11,928,767,258	R6,595,737,290	R5,140,231,624	R192,798,344

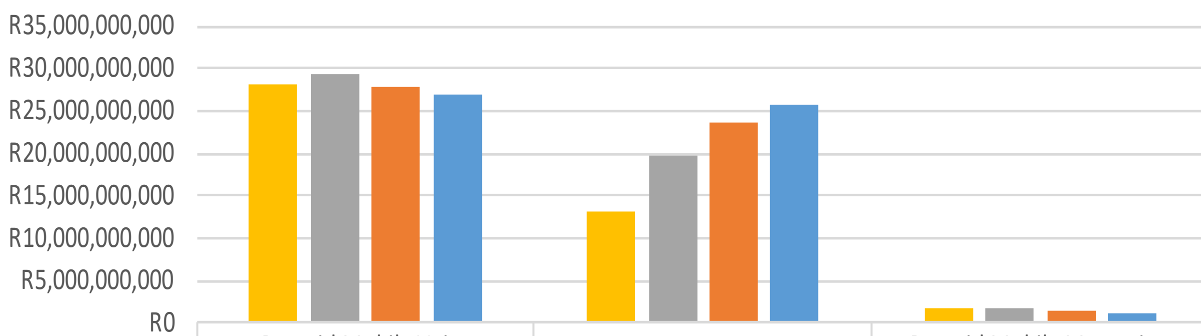
Source: ICASA Electronic Communications Questionnaire, December 2018

4.1.4 Prepaid Mobile Voice, Data and Messaging Revenue

In 2018 prepaid mobile data revenue increased by 8.5% whilst revenue from both prepaid mobile voice and messaging decreased by 2.9% and 22.4%, respectively.

Over the 4-year period revenue from prepaid mobile data increased significantly by 25.1%. Revenue from prepaid mobile voice and messaging decreased by 1,4% and 13.4%, respectively.

Graph 11: Prepaid mobile voice, data and messaging revenue for the 12 months ending on 30th September each year



	Prepaid Mobile Voice Revenue	Prepaid Mobile Data Revenue	Prepaid Mobile Messaging Revenue
2015	R28,214,729,224	R13,163,220,180	R1,589,242,304
2016	R29,404,161,623	R19,582,648,739	R1,596,794,034
2017	R27,821,766,556	R23,738,773,852	R1,328,612,859
2018	R27,025,173,332	R25,746,766,590	R1,030,798,979

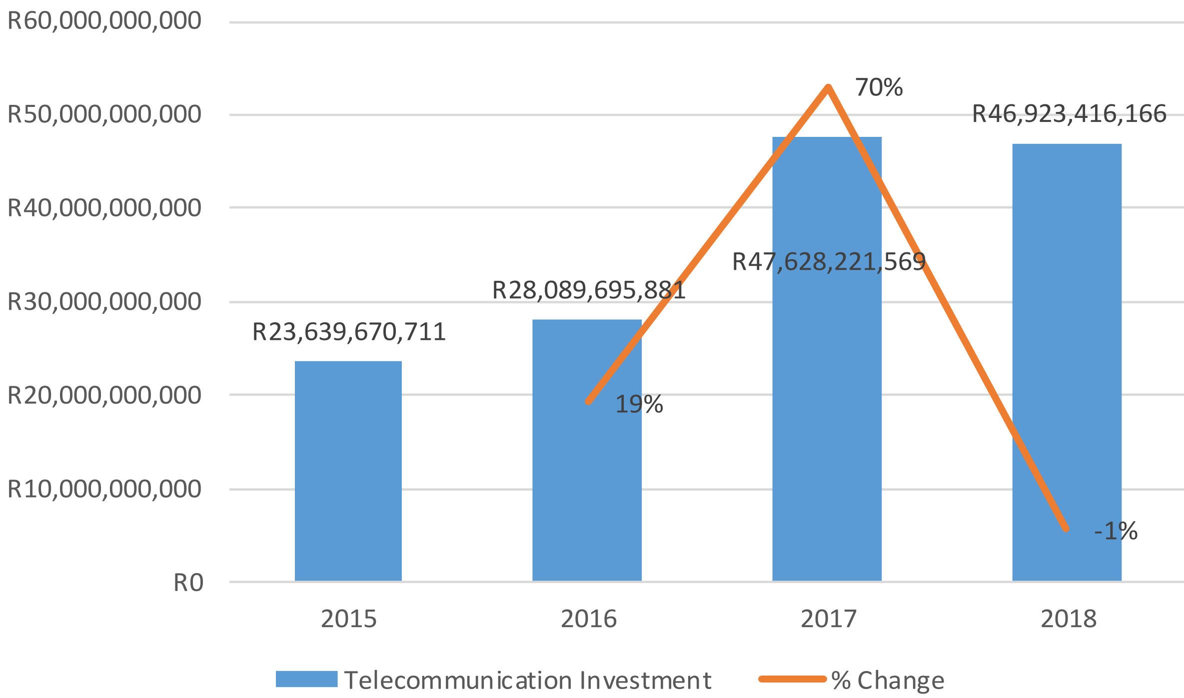
Source:ICASA Electronic Communications Questionnaire 2018

4.2 Total Telecommunication Investment

Total telecommunication investment decreased by 1% from R47.6 billion in 2017 to R46.9 billion in 2018.

Total telecommunication investment increased by 25.7% over the 4-year period from 2015 to 2018.

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



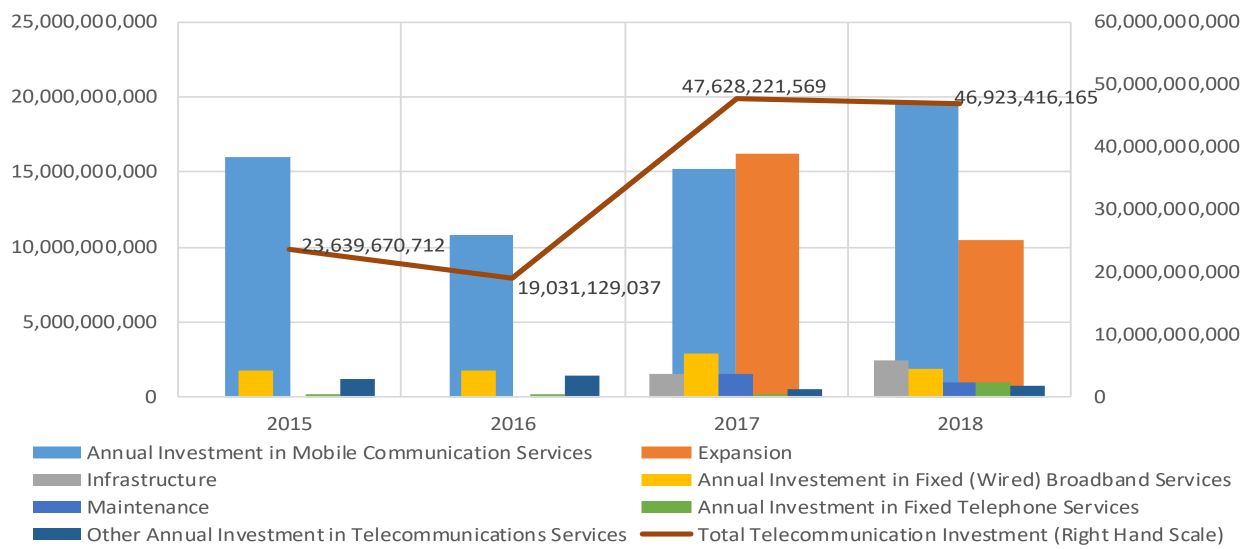
Source: ICASA Electronic Communications, Broadcasting and Postal Questionnaires 2018

4.2.1 Telecommunication Investment Breakdown

Total combined annual investment in the telecommunication sector slightly decreased by 1.5% from R47.6 billion in 2017 to R46.9 billion in 2018. The main contribution was from mobile communication services which increased by 28.5% from R15.2 billion in 2017 to R19.5 billion in 2018. Annual investment in fixed-telephone services experienced the highest growth (albeit from a low base), increasing by 363.2% from R480 million in 2017 to R2.2 billion in 2018. Investment in infrastructure increased by 56.9% to R5.9 billion. Other annual investments in telecommunication services increased by 41.1% in 2018. Areas that experienced declines in investments were fixed (wired)-broadband services (by 34.9%), maintenance (by 36.3%) and expansion (by 35.2%).

Over the 4-year period investment from Annual investment in fixed-telephone services increased by 83.1%, Annual investment in fixed (wired)-broadband services increased by 2.2%, Annual investment in mobile communication services increased by 6.9% and other annual investment in telecommunication services decreased by 15.3%.

Graph 13: Telecommunication investment breakdown, for the 12 months ending 30th September each year

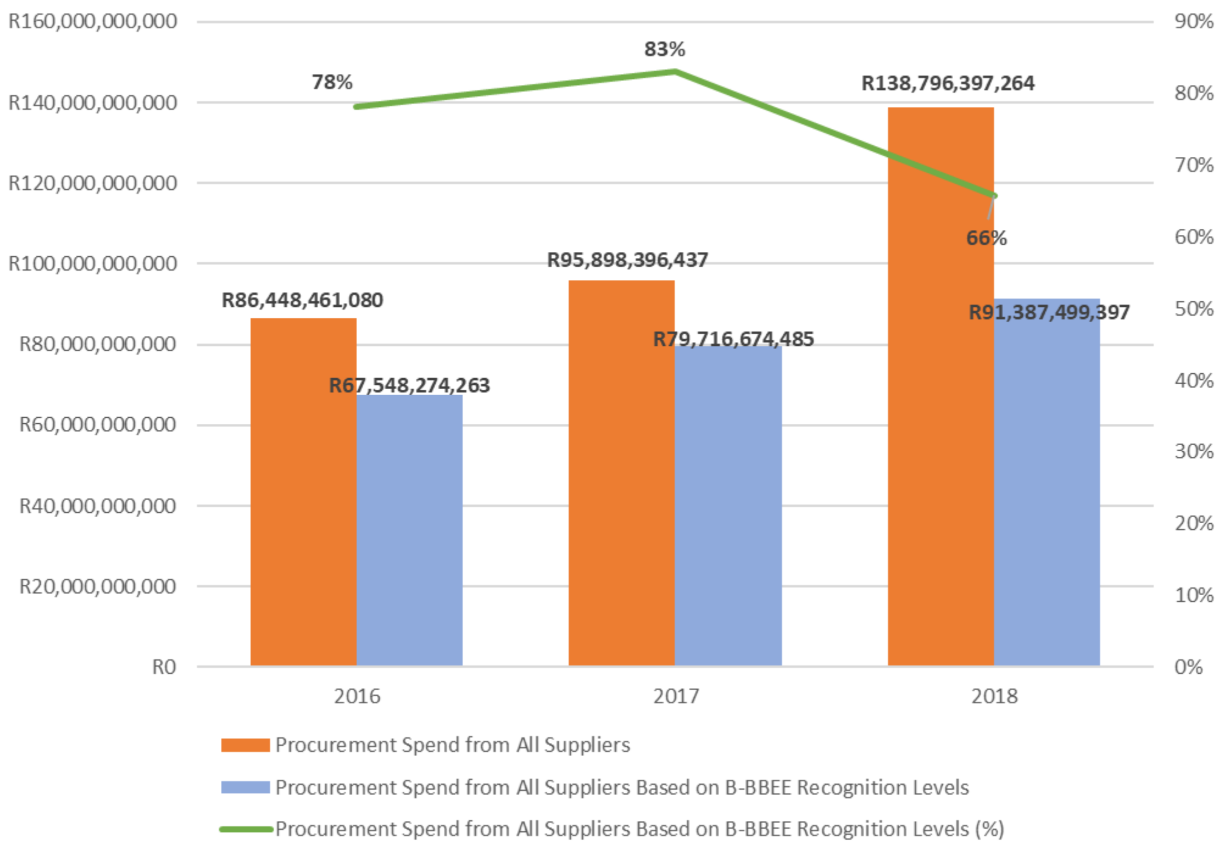


Source:ICASA Electronic Communications Questionnaire 2018

4.3 Telecommunication Procurement Spend from All Suppliers Based on B-BBEE Ranking

The proportion of telecommunication procurement spend from all suppliers based on the B-BBEE ranking levels was 78% in 2016, 83% in 2017 and 66% in 2018 of total procurement spend from all suppliers.

Graph 14: Telecommunication procurement spend from all suppliers based on the B-BBEE, for the 12-month period ending 30th September each year



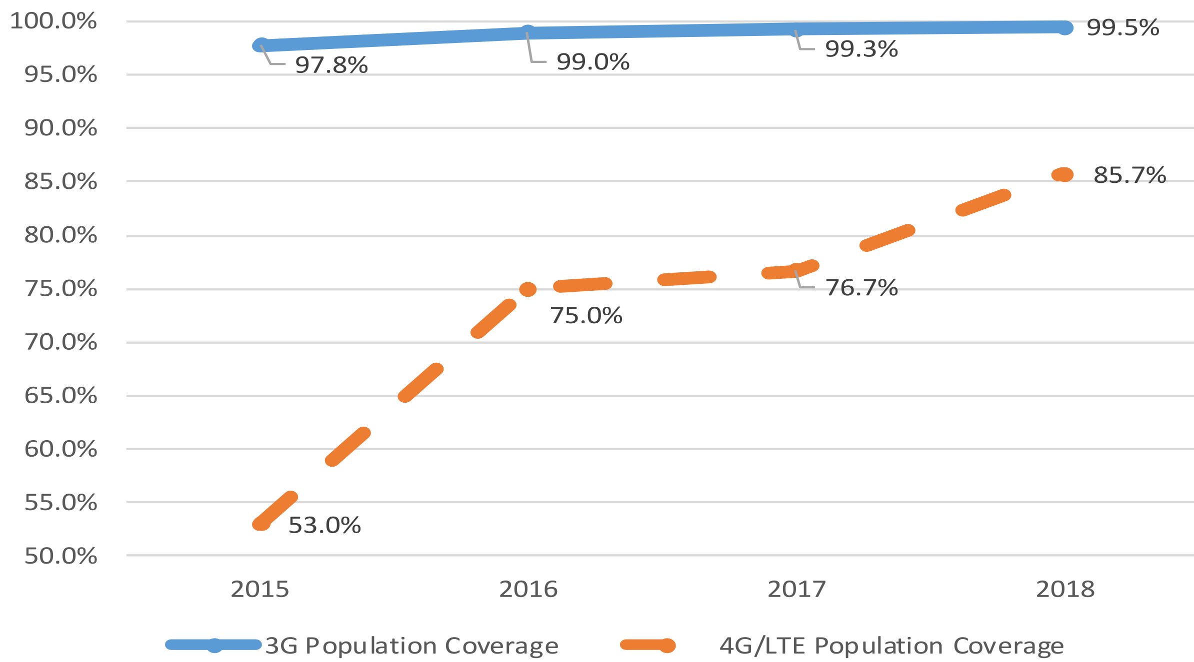
Source: ICASA Electronic Communications Questionnaire 2018

4.4 National Population Coverage

National population coverage for 3G remained stable at 99.5% in 2018.

National population coverage for 4G/LTE increased from 76.7% in 2017 to 85.7% in 2018.

Graph 15: National population coverage for 3G and 4G/LTE



Source: ICASA Electronic Communications Questionnaire 2018

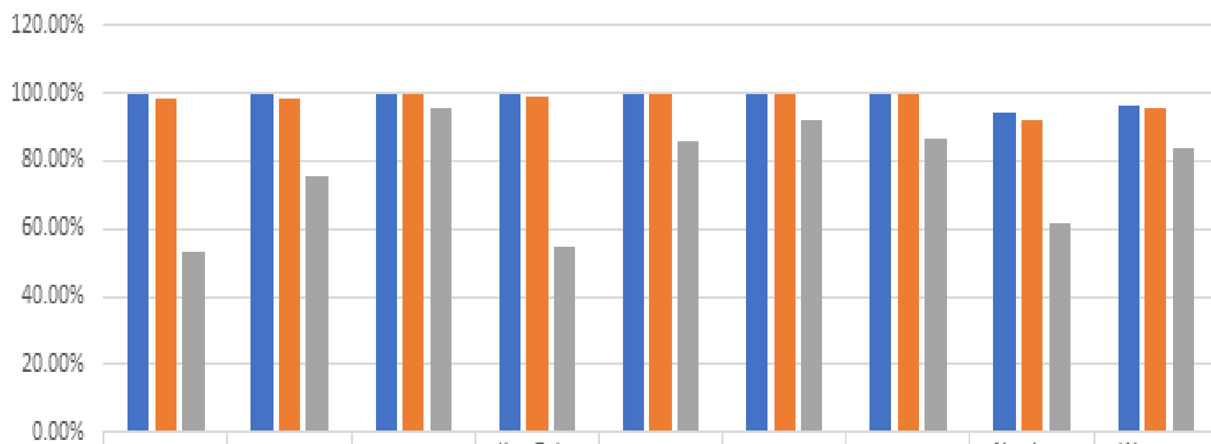
4.4.1 Rural Population Coverage

2G: Gauteng Province had 100% population coverage of 2G, while Northern Cape had the lowest coverage of 93.89% in 2018.

3G: Gauteng Province had 99.99% population coverage of 3G, whilst the Province with the lowest coverage of 3G was the Northern Cape at 92.24% in 2018.

LTE: Gauteng Province also had the highest population coverage of LTE at 95.74%, followed by Mpumalanga Province at 91.89%. The Province with the lowest LTE coverage was KwaZulu-Natal at 54.78% in 2018.

Graph 16: Rural Population Covered per province in 2018



	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	North West	Northern Cape	Western Cape
2G	99.51%	99.79%	100.00%	99.86%	99.91%	99.91%	99.98%	93.89%	96.50%
3G	98.30%	98.53%	99.99%	98.74%	99.51%	99.49%	99.50%	92.24%	95.24%
LTE	53.54%	75.63%	95.74%	54.78%	85.96%	91.89%	86.62%	61.35%	83.81%

Source: ICASA Electronic Communications Questionnaire 2018

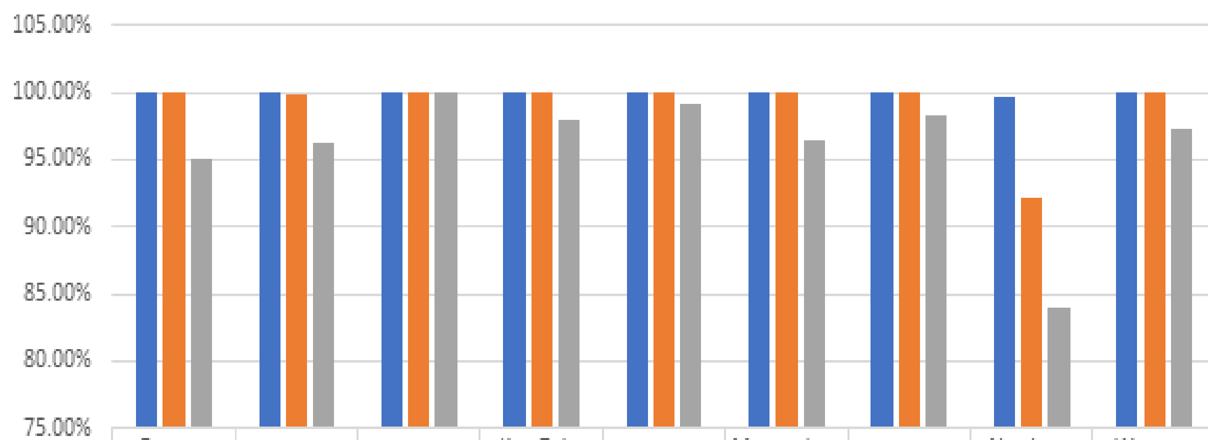
4.4.2 Urban Population Coverage

2G: Seven Provinces had a 100% 2G urban population coverage in 2018, namely Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga and the Northern West. Only the Northern Cape and the Western Cape had 2G urban population coverage just below 100% at 99.6% and 99.99%, respectively.

3G: Northern Cape Province had the lowest 3G urban population coverage at 92.24% in 2018, with the rest of the other Provinces at either 100% or very close to it.

LTE: Gauteng Province had the highest LTE urban population coverage at 99.92%, followed by Limpopo Province at 99.10%. The lowest Province was the Northern Cape at 84.05% in 2018.

Graph 17: Urban Population Covered per province in 2018



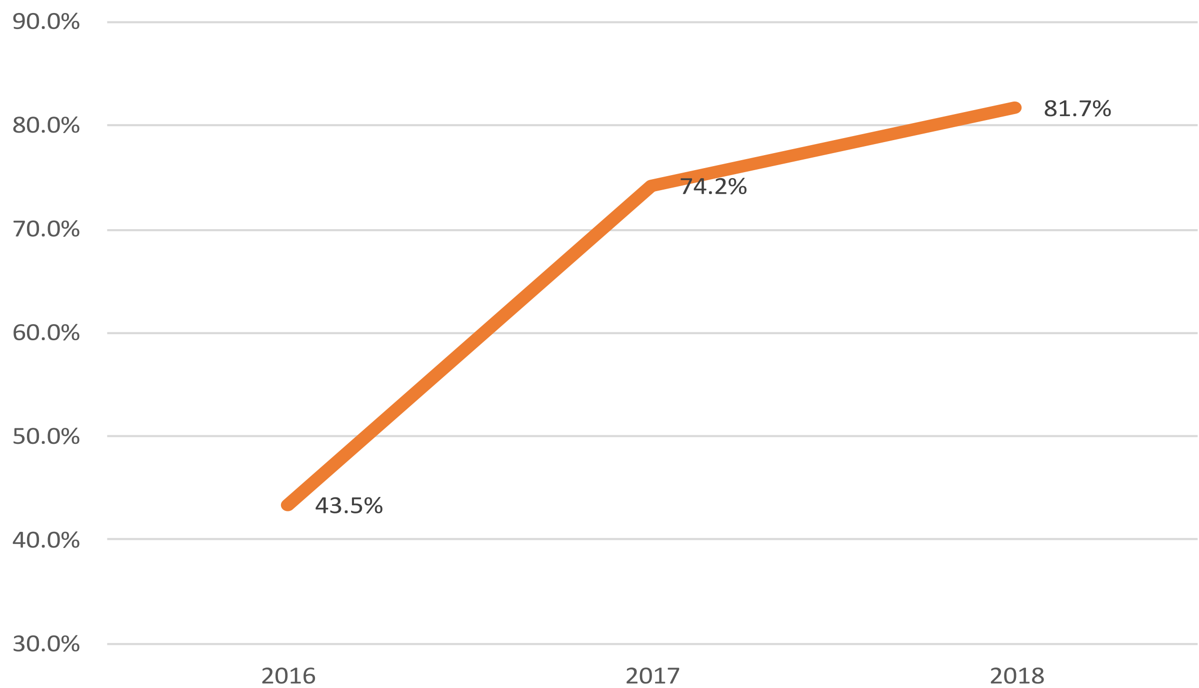
	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalang a	North West	Northern Cape	Western Cape
2G	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.60%	99.99%
3G	99.99%	99.91%	100.00%	100.00%	100.00%	99.99%	100.00%	92.24%	99.96%
LTE	95.01%	96.24%	99.92%	97.96%	99.10%	96.39%	98.25%	84.05%	97.20%

Source: ICASA Electronic Communications Questionnaire 2018

4.5 Smartphone Penetration

Smartphone[1] penetration in 2018 was nearly double that of 2016 at 81.72%.

Graph 18: Smartphone penetration, as at 30th September each year



Source:ICASA Electronic Communications Questionnaire.2018

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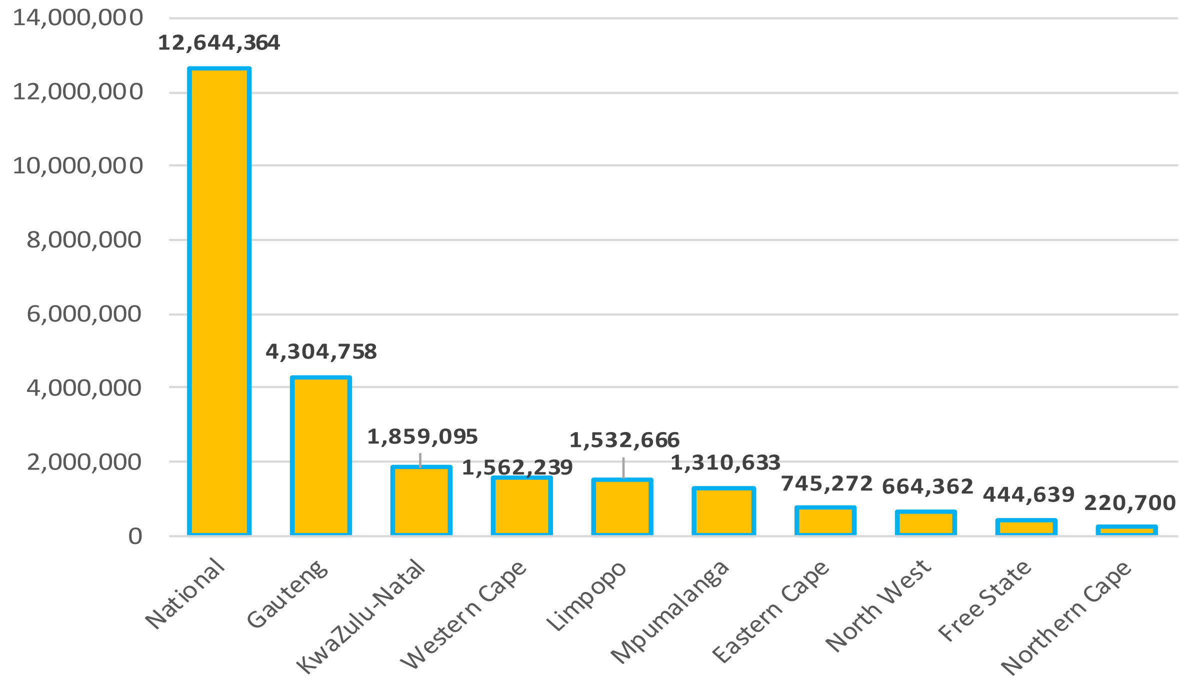
[1] *A smartphone is a mobile phone with advanced features: it has Wi-Fi connectivity, web browsing capabilities, a high-resolution touchscreen display and the ability to use apps. The majority use one of the following mobile operating systems: Android, Symbian, iOS, BlackBerry OS and Windows Mobile*

4.5.1 Total Number of LTE Devices

The LTE devices subscribers are 12,644,364 at national level. Gauteng has the highest LTE devices seating at 4,304,758 and the lowest is Northern Cape at 220,700 in 2018.

Graph 19: Total number of LTE Devices per Province in 2018



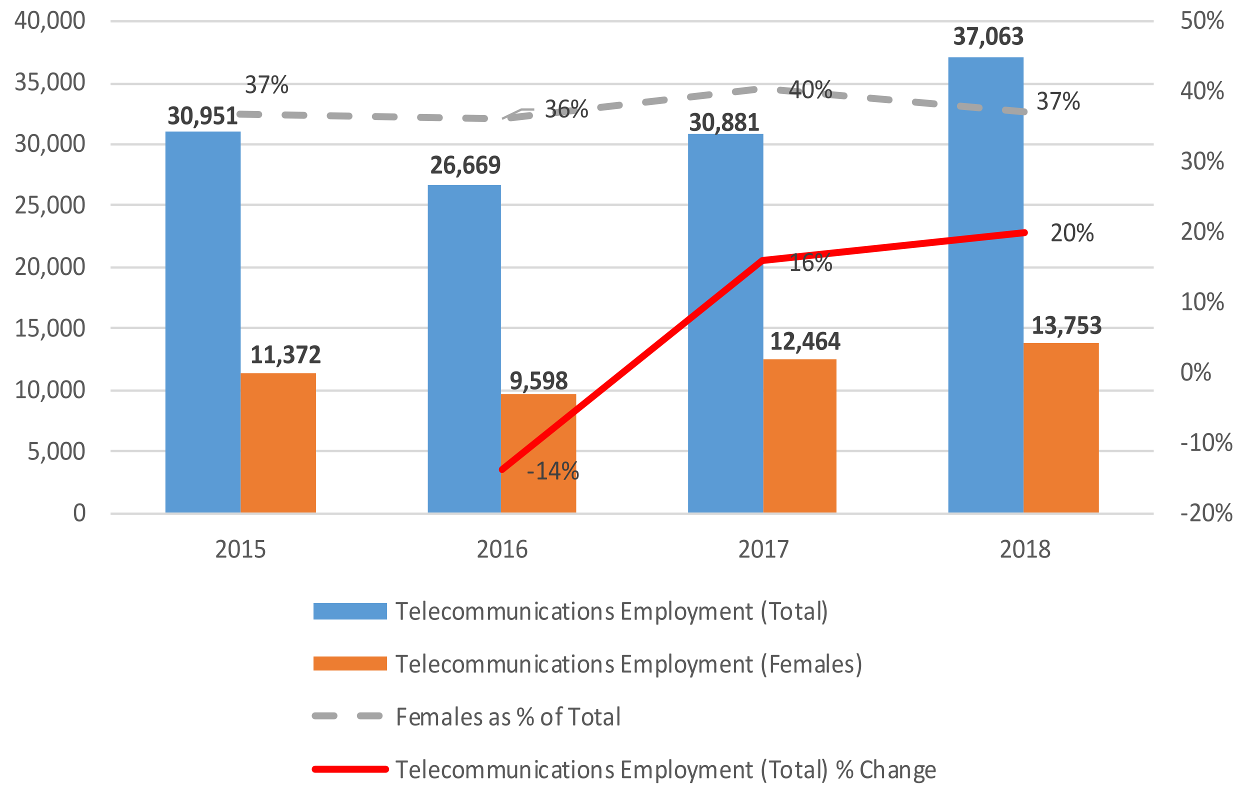
Source: ICASA Electronic Communications Questionnaire 2018

4.6 Persons Employed in the Telecommunications Sector

Total employment in the telecommunication sector increased by 20% from 30,881 in 2017 to 37,063 in 2018. Female employees as a proportion of the total decreased by 3 percentage points from 40% in 2017 to 37% in 2018.

Over the 4-year period telecommunications sector total employment increased by 6.2%. Over the same period the number of female employees increased by 6.5%.

Graph 20: Persons employed in the telecommunications sector, as of the 30th September each year

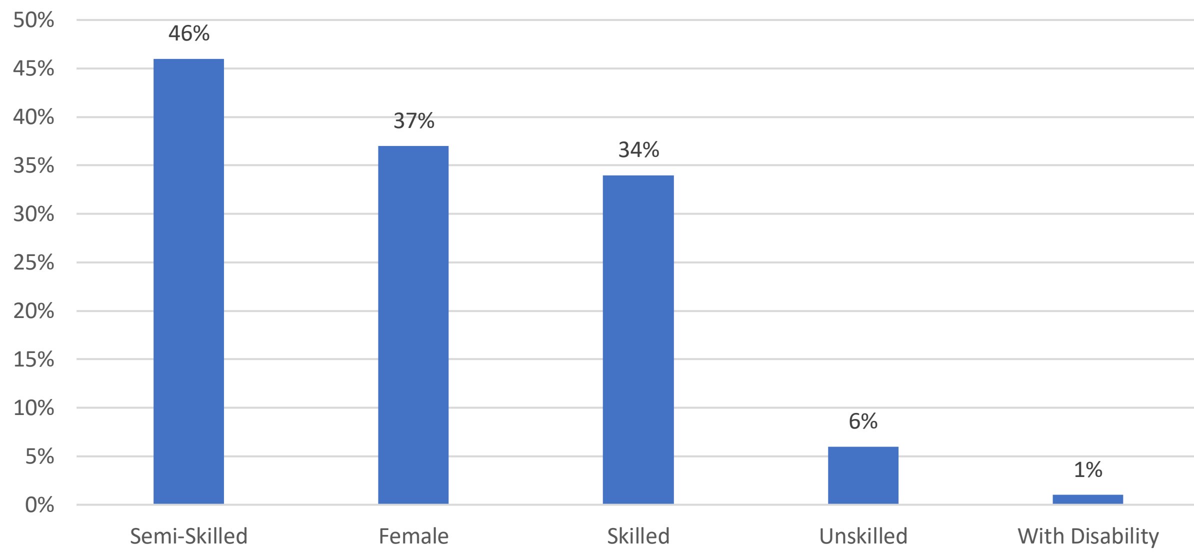


Source: ICASA Electronic Communications Questionnaire 2018

4.7 Persons employed in the telecommunications sector breakdown

Telecommunication employment breakdown per gender, skills and disabilities in 2018. The majority of employees in the telecommunication sector are semi-skilled at 46% of total employees, 34% are skilled and 6% are unskilled. Employees with disabilities constitute 1%.

Graph 21: Persons employed in the telecommunications sector breakdown in 2018

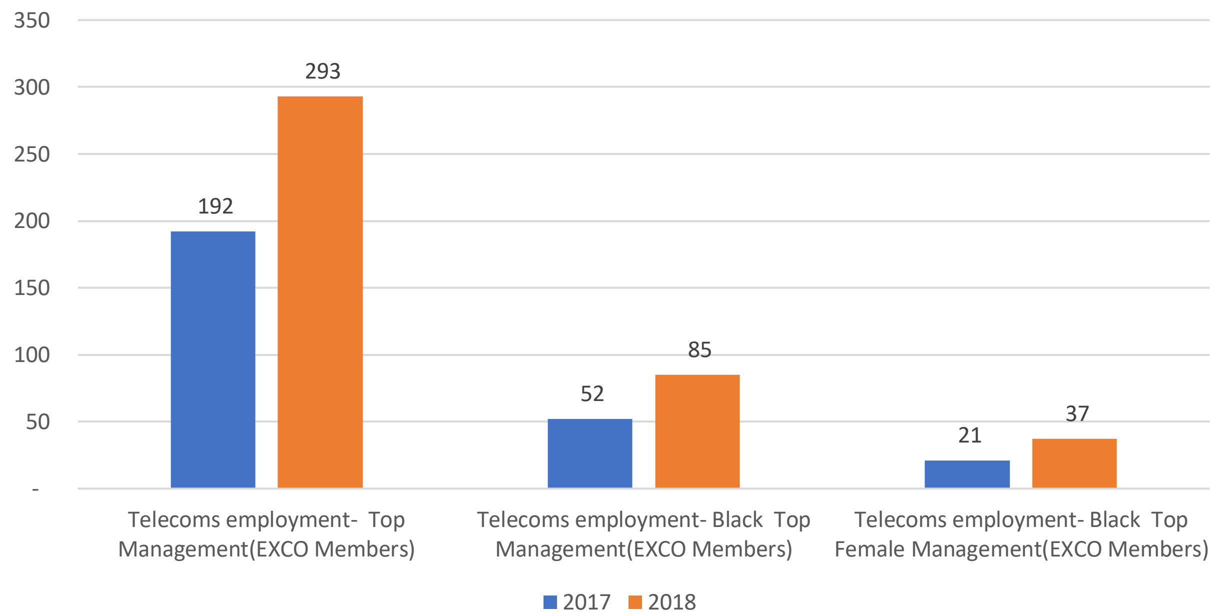


Source: ICASA Electronic Communications Questionnaire 2018

4.8 Black Economic Empowerment Measures

Top Management (EXCO Members) in the telecommunication sector increased by 52.6% from 192 in 2017 to 293 in 2018. Of this, Black Top Management (EXCO Members) increased by 63.5% from 52 in 2017 to 85 in 2018. Black Females in Top Management (EXCO Members) increased by 76.2% from 21 in 2017 to 37 in 2018.

Graph 22: Telecommunication Black Economic Empowerment Measures, for the 12-month period ending 30th September each year



Source: ICASA Electronic Communications Questionnaire 2018

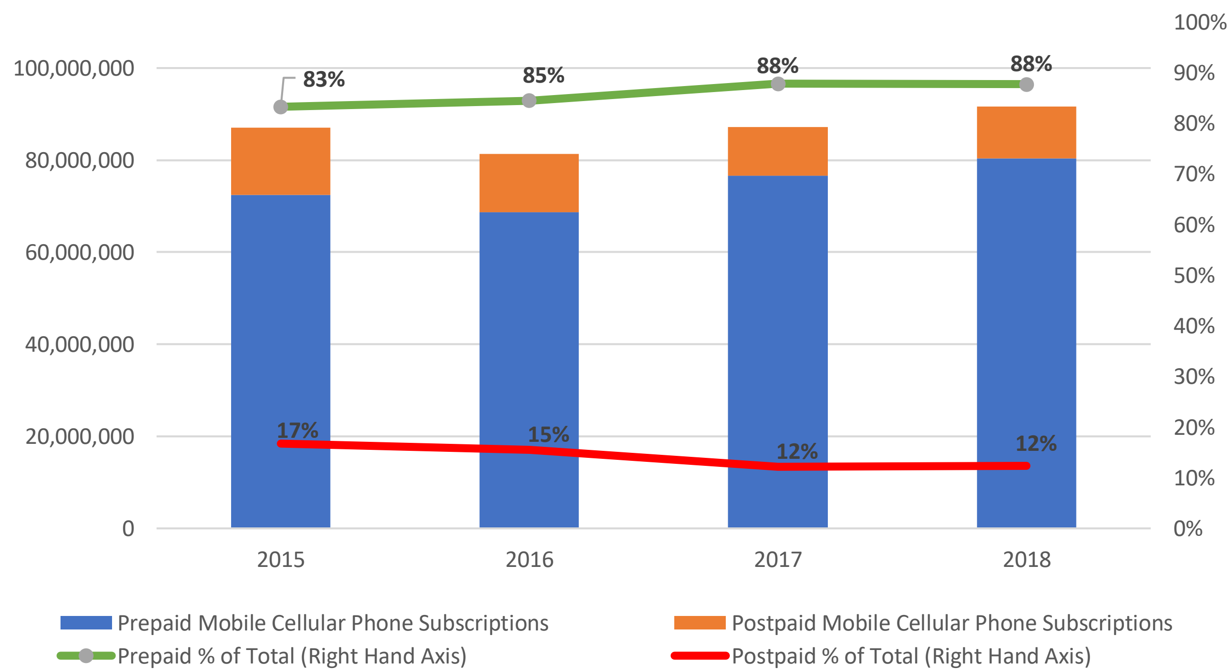
4.9 Telecommunications Subscriptions

4.9.1 Mobile Cellular Phone Voice Subscriptions

Total mobile cellular phone voice subscriptions increased by 5.2% from 87.2 million in 2017 to 91.7 million in 2018. Of this total, 88% (80.4 million) was prepaid subscriptions and 12% (11.2 million) was post-paid subscriptions in 2018.

Total mobile cellular phone voice subscriptions slightly increased by 1.8%, prepaid mobile cellular subscriptions slightly increased by 3.6%, and post-paid mobile cellular subscriptions decreased by 8.2% over the 4-year period.

Graph 23: Prepaid and post-paid mobile cellular voice subscriptions, as at 30th September each year



Source:ICASA Electronic Communications Questionnaire 2018

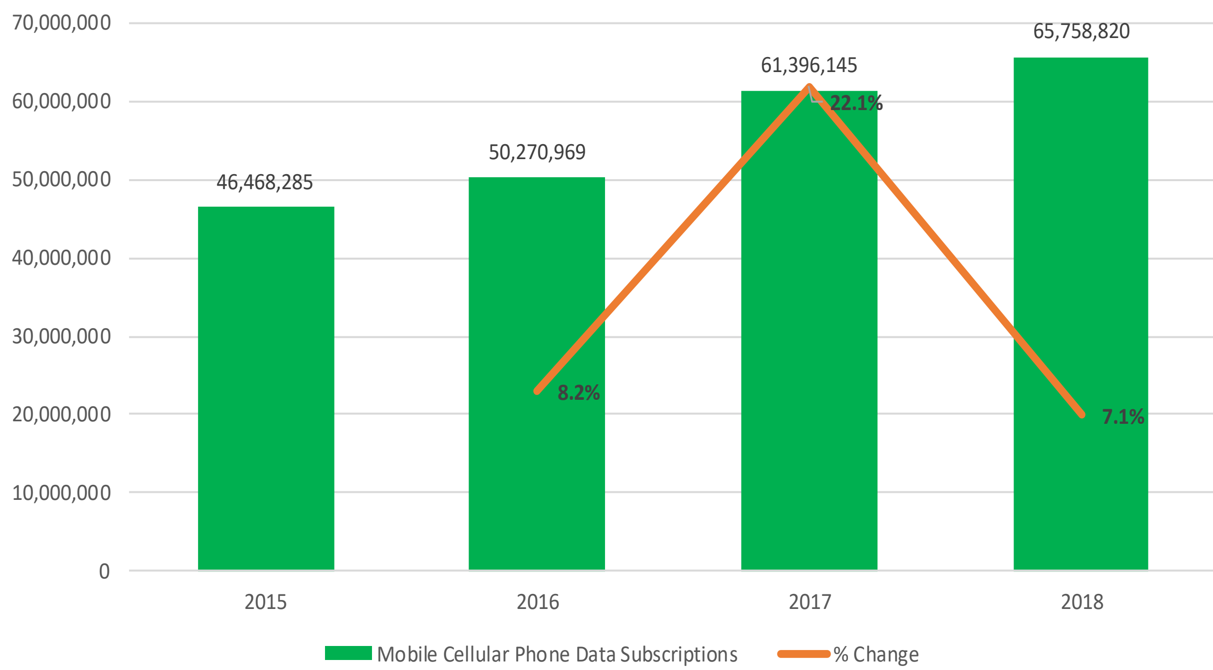
Note: The definition of prepaid subscribers is adopted from the ITU definition of 3-month active subscribers. Some South African operators do not have this metric available but rather count SIMs that have not been disconnected within a 90-day window implying that the number may be overstated according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

4.9.2 Mobile Cellular Phone Data Subscriptions

Mobile cellular data subscriptions increased by 7.1% from 61.4 million in 2017 to 65.8 million in 2018.

Over a 4-year period from 2015 to 2018, mobile data subscriptions increased by 12.3%.

Graph 24: Mobile cellular phone data subscriptions, as at 30th September each year



Source: ICASA Electronic Communications Questionnaire 2018

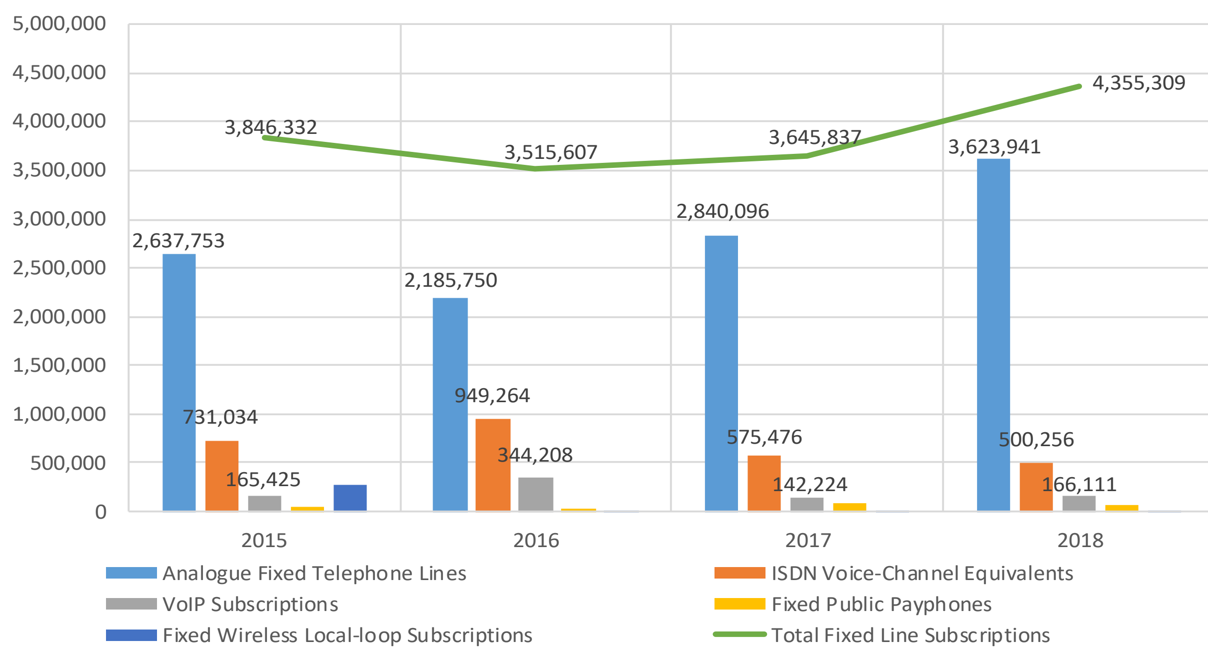
Note: All LTE connections are included in 'mobile'. There is room for the definition of 'mobile broadband subscriptions' to be improved in subsequent reports, noting that it was not possible to accurately distinguish between handset data usage and mobile data usage on other devices, or alternatively 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.

4.9.3 Fixed Line Voice Subscriptions

The total number of fixed line subscriptions increased by 19.5% from 3.6 million in 2017 to 4.3 million in 2018. In 2018, analogue fixed-telephone lines increased by 27.6%, ISDN voice-channel equivalents decreased by 13.1%, VoIP subscriptions increased by 16.8%, fixed public payphones significantly decreased by 26.1% and fixed wireless local loop subscriptions also significantly decreased by 27.6%.

Over the 4-year period, the total number of fixed line subscriptions increased by 4.2%, analogue fixed-telephone lines increased by 11.2%, ISDN voice-channel equivalents decreased by 11.9%, VoIP subscriptions and Fixed public payphone increased by 12.4% over a 4-year period. Fixed wireless local loop subscriptions decreased by 77% over the 4-year period.

Graph 25: Fixed line subscriptions, as at 30th September each year



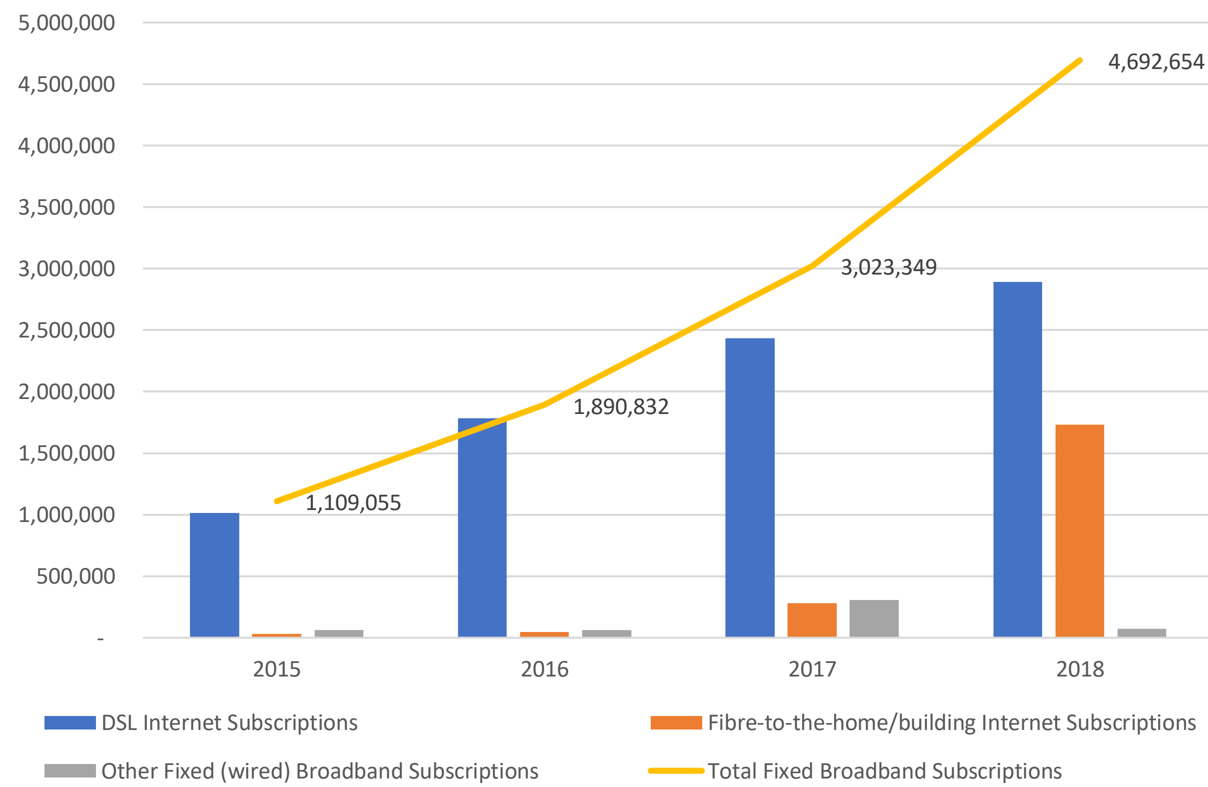
Source: ICASA Electronic Communications Questionnaire, December 2018

4.9.4 Fixed Line Broadband Subscriptions

Total fixed broadband subscriptions increased by 55.2% from 3 million in 2017 to 4.7 million in 2018. This jump in subscriptions was mainly as a result of significant increase in DSL and FTTH/B subscriptions, which grew at 18.8% and 517.7% respectively.

For the period of 4-years, fixed broadband subscriptions increased significantly by 61.7%. Over the same period, DSL Internet subscriptions increased significantly by 41.9%, fibre-to-the-home/building Internet subscriptions increased by 278.8%, and other fixed (wired) broadband subscriptions increased by 3%.

Graph 26: Fixed broadband subscriptions, as at 30th September each year



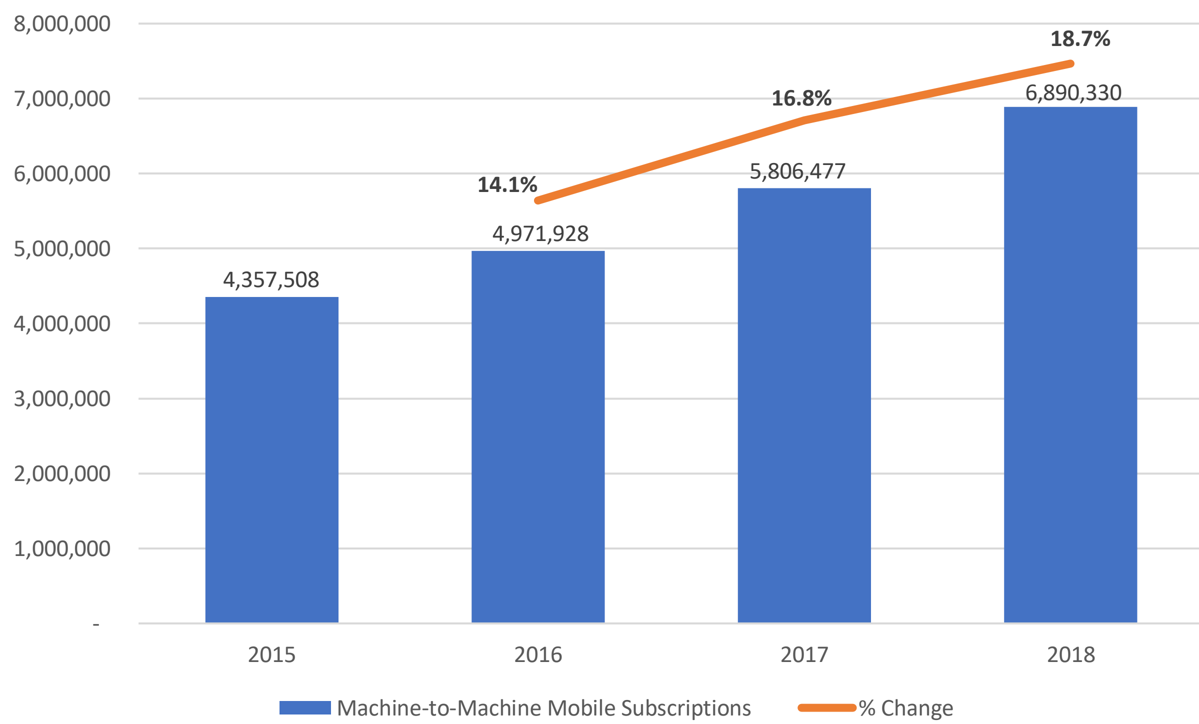
Source:ICASA Electronic Communications Questionnaire 2018

4.9.5 Machine-to-Machine (M2M) Mobile Subscriptions

M2M mobile-network subscriptions increased by 18.7% from 5.8 million in 2017 to 6.9 million in 2018.

For over a period of 4 years, M2M mobile-network subscriptions increased by 16.5%.

Graph 27: M2M mobile-network subscriptions, as at 30th September each year



Source:ICASA Electronic Communications Questionnaire 2018

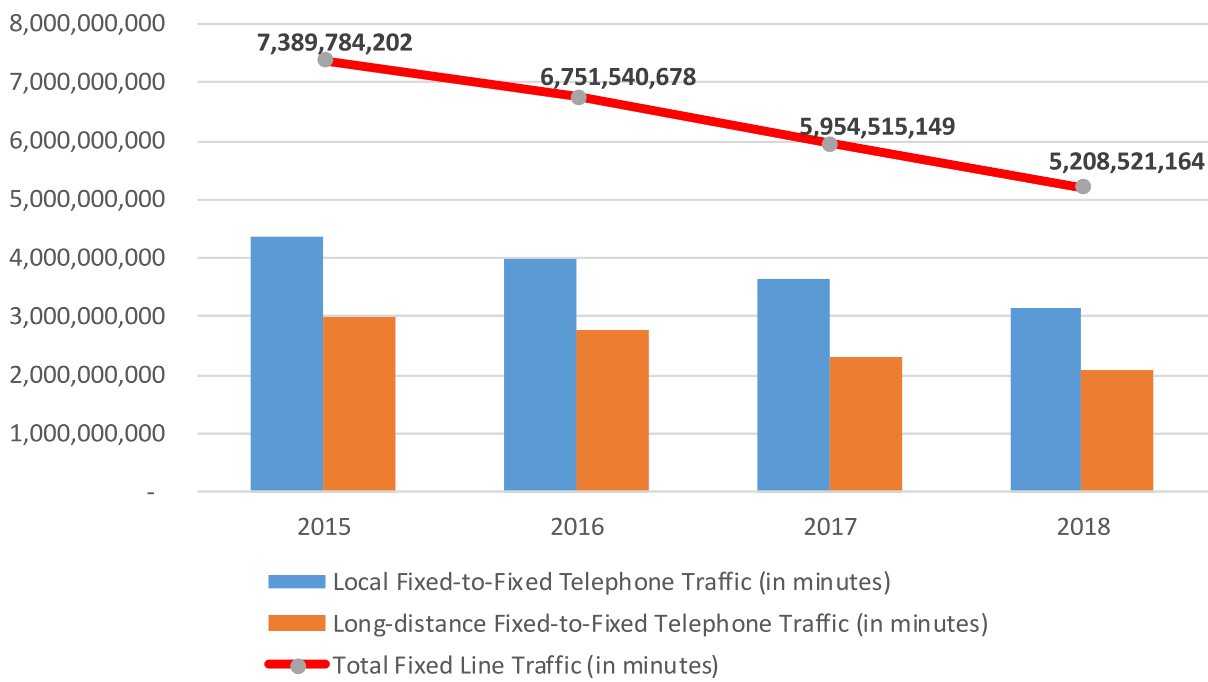
4.10 Network Traffic

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

4.10.1 Fixed Line Traffic

Total fixed line traffic (local and long distance) decreased by 12.5% from 5.9 billion minutes in 2017 to 5.2 billion minutes in 2018. The volume of fixed line traffic has consistently declined over the 4-year period.

Graph 28: Fixed line traffic, in minutes, for the 12-month period ending 30th September each year



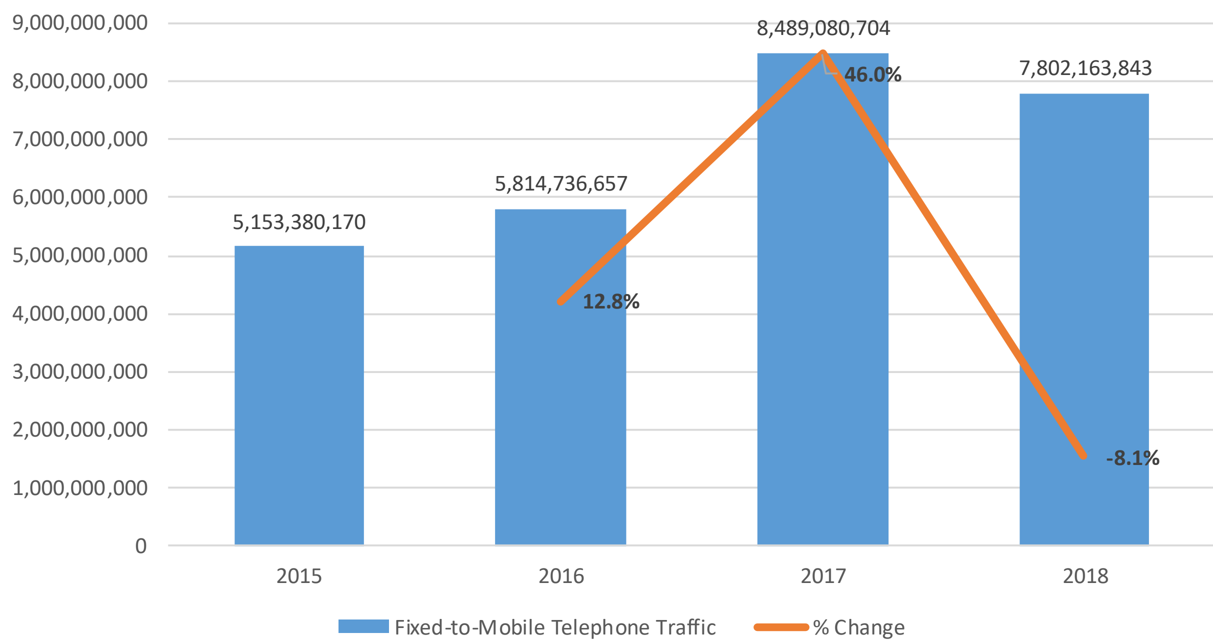
Source: ICASA Electronic Communications Questionnaire 2018

4.10.2 Fixed-to-Mobile Telephone Traffic

Fixed-to-mobile telephone call traffic decreased by 8.1% in 2018.

The increase was 23% over a period of 4 years.

Graph 29: Fixed-to-mobile telephone traffic minutes, for the 12-month period ending 30th September each year



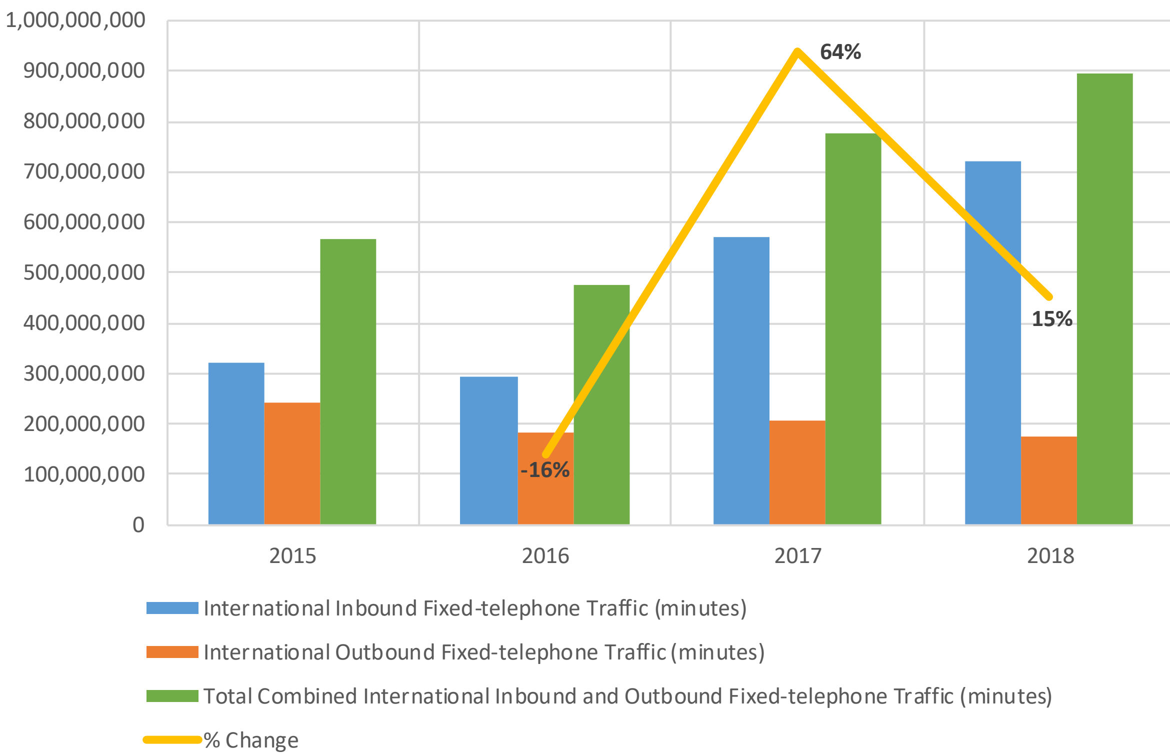
Source: ICASA Electronic Communications Questionnaire 2018

4.10.3 International Inbound and Outbound Fixed Telephone Traffic

The total combined international inbound and outbound fixed-telephone call traffic increased by 15% from 777 million minutes in 2017 to 895 million minutes in 2018. International inbound fixed-telephone calls increased by 26% and outbound calls decreased by 15% in 2018 respectively.

Over at least the past 4 years the total combined international fixed-telephone traffic has trended upwards, mainly as a result of strong inbound traffic.

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

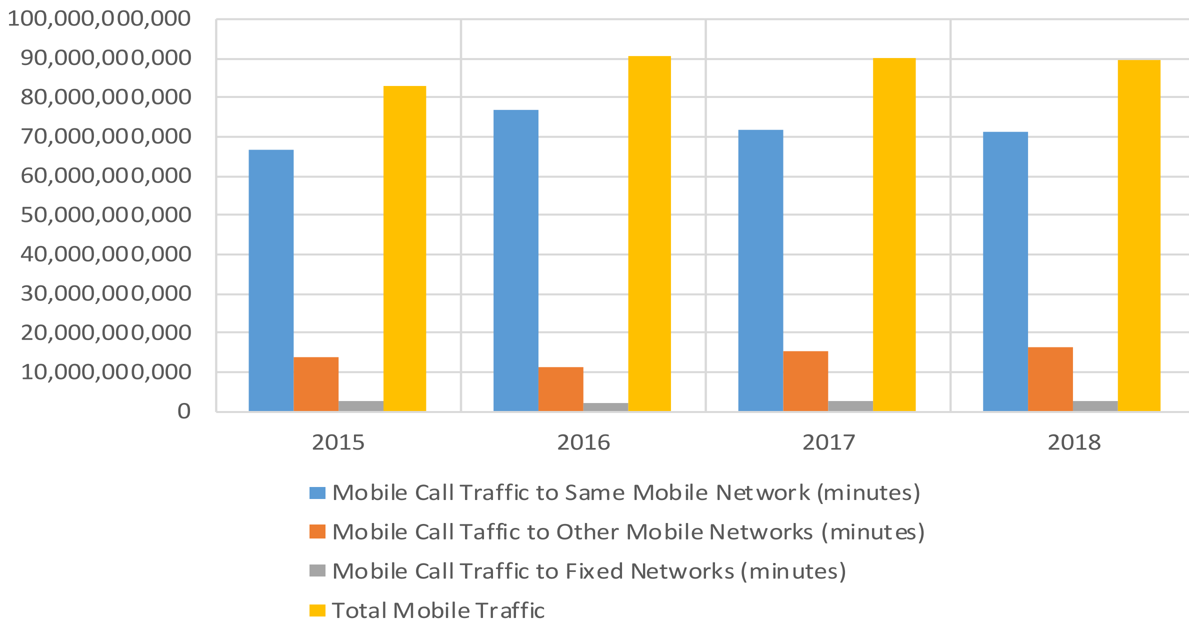


Source: ICASA Electronic Communications Questionnaire

4.10.4 Mobile Cellular Phone Voice Traffic

After a slight increase in the total voice mobile cellular phone traffic in 2016, the volumes have remained stable at roughly 90 billion minutes. On-net calls to the same network have remained dominant at around 71 billion minutes, with off-net call volumes to other mobile networks a far second at around 16 billion minutes and mobile voice calls to fixed line networks remaining low throughout the period.

Graph 31: Mobile voice traffic in minutes for the 12-month period ending 30th September each year

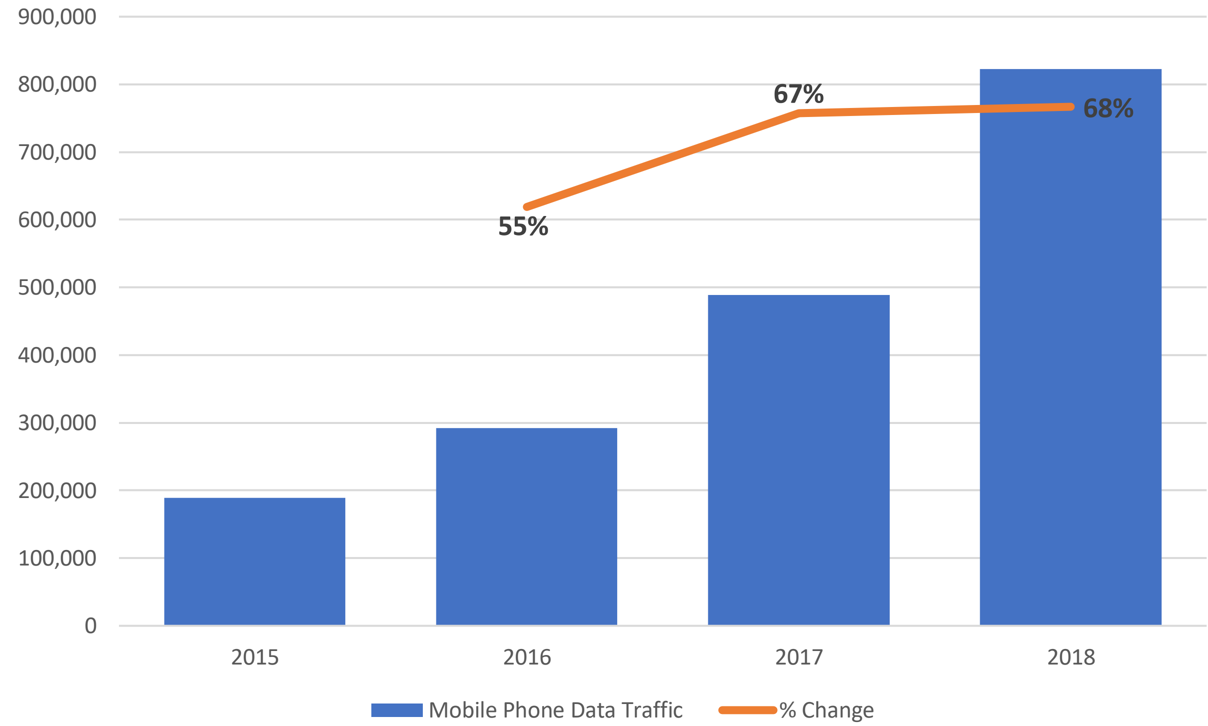


Source: ICASA Electronic Communications Questionnaire 2018

4.10.5 Mobile Cellular Phone Data Traffic

Mobile data traffic in terabytes has shown strong growth over the period under review, increasing by 55% in 2016, 67% in 2017 and 68% in 2018.[2]

Graph 32: Mobile data traffic in terabytes for the 12-month period ending 30th September each year



Source: ICASA Electronic Communications Questionnaire 2018

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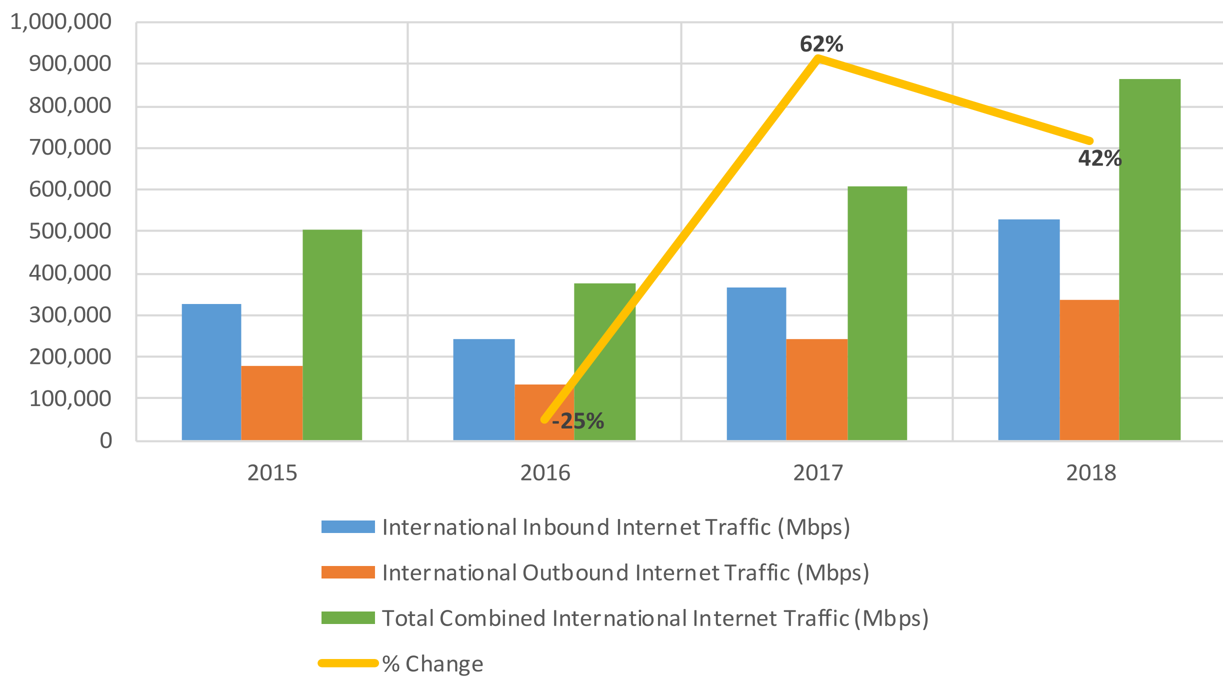
[2] *Mobile data traffic (within the country) refers to data traffic originated within the country from mobile networks. Download and upload traffic should be added up and reported together. Traffic should be measured at the end-user access point. Wholesale and walled-garden traffic should be excluded. The traffic should be reported in terabytes.*

4.11 International Internet Bandwidth Capacity in Megabytes per second (Mbps)

Total international internet bandwidth (Mbps) capacity increased by 41.6% from 2017 to 2018. Bandwidth for international outgoing and incoming internet increased by 37.6% and 44.3% between 2017 and 2018, respectively.

For the 4-year period, total international internet bandwidth capacity increased by 19.7%. Bandwidth for international outgoing and incoming internet increased by 23.7% and 17.5%, respectively.

Graph 33: International internet bandwidth Megabytes per second (Mbps) for the 12-month period ending 30th September each year

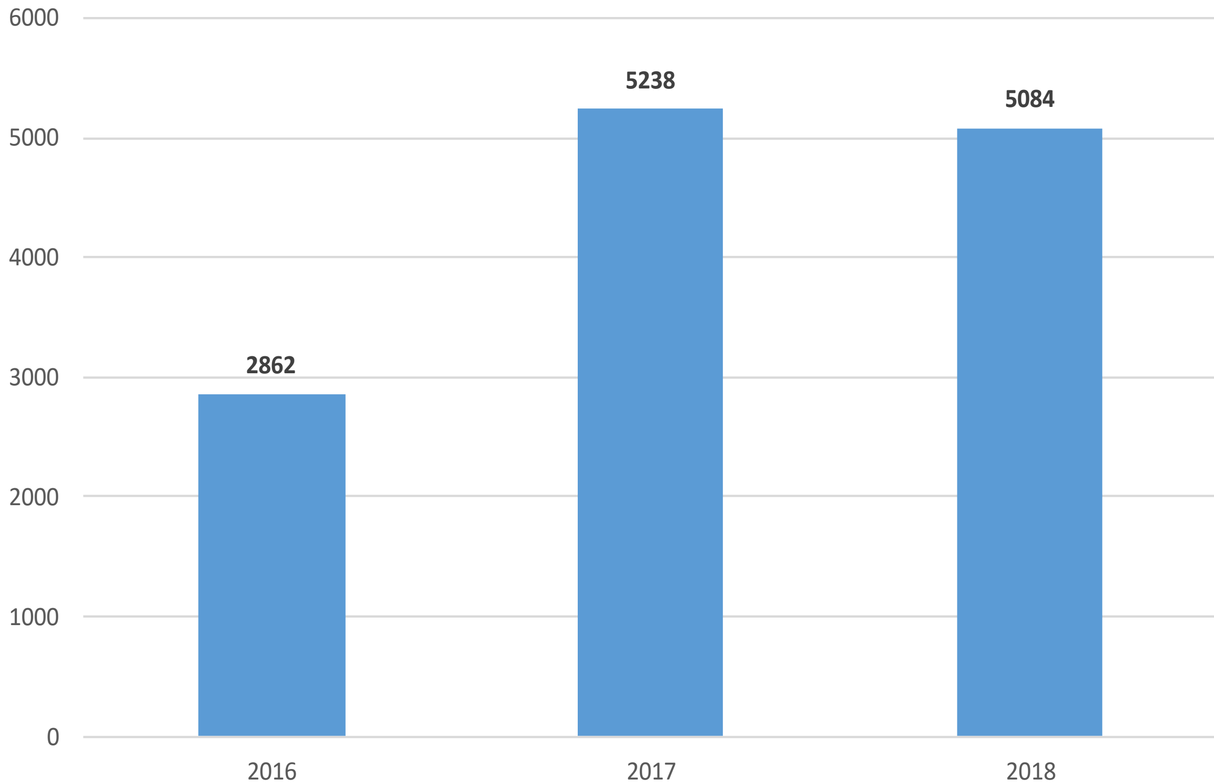


Source: ICASA Electronic Communications Questionnaire 2018

4.12 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 5,084 in 2018.

Graph 34: Number of schools connected to the internet as at 2018



Source: ICASA Electronic Communications Questionnaire

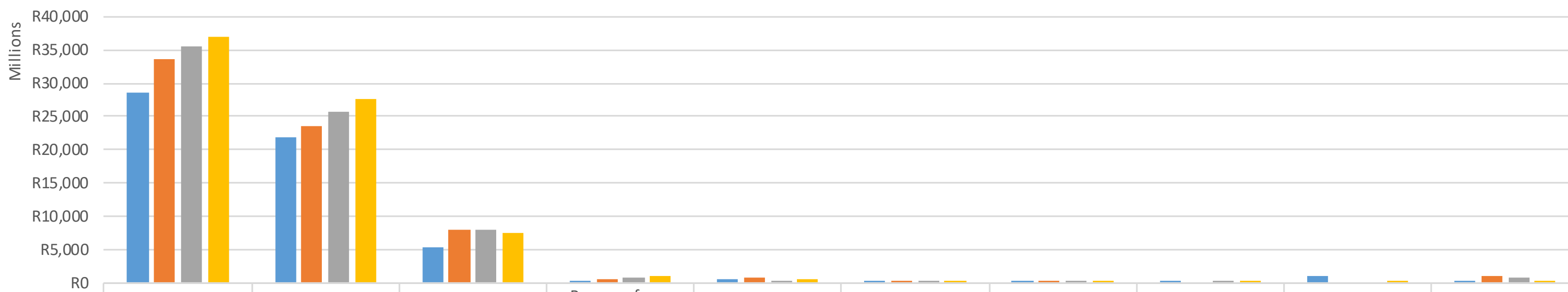
5 BROADCASTING SECTOR

5.1 Broadcasting Revenue

Total broadcasting services revenue increased by 3.7% from over R35 billion to over R36 billion from 2017 to 2018 respectively. Revenue from advertising decreased by 8.2%, from subscriptions it increased by 7.2% and from other sources it decreased by 65.9% between 2017 and 2018.

Over the 4-year period total revenue from broadcasting services increased by 8.8%. Revenue from advertising increased by 11% and from subscriptions it increased by 8.2%.

Graph 35: TV and Radio broadcasting revenues for the 12-month period



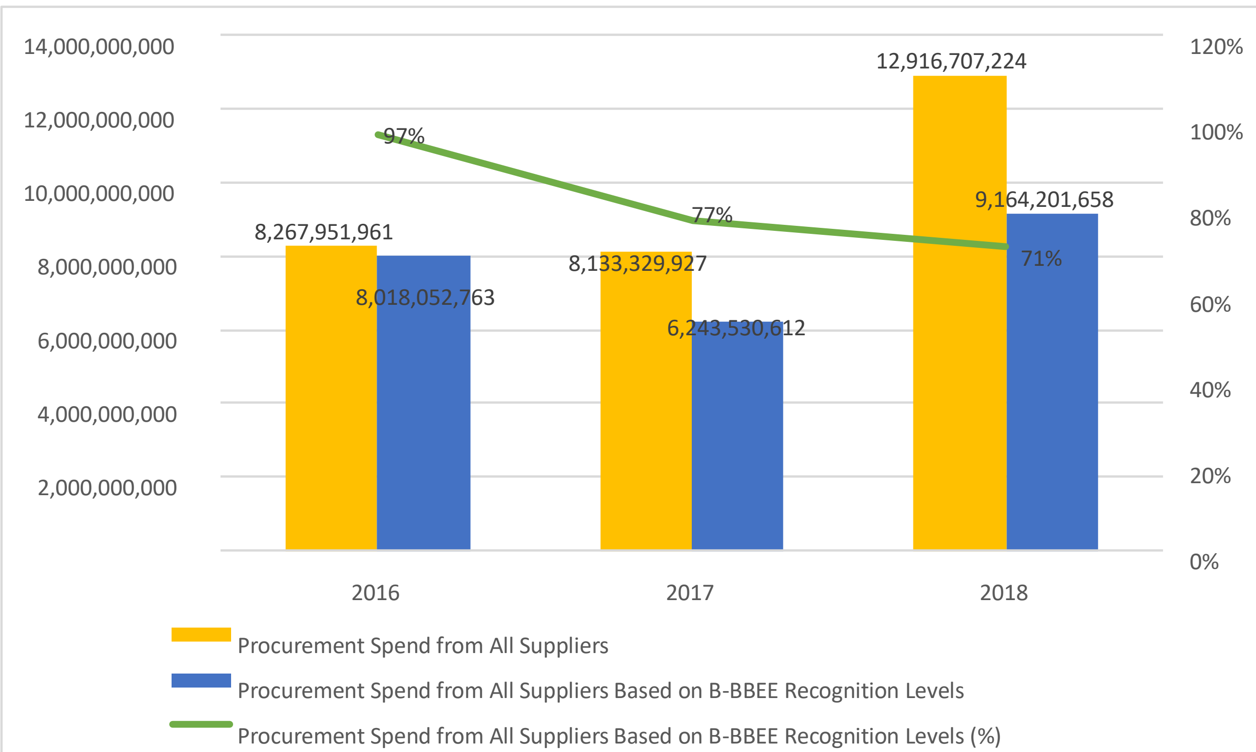
	Total revenue	Broadcasting Subscriptions Revenue	Broadcasting Advertising Revenue	Revenue from Broadcasting Promotions (with flighting code).	Revenue from sponsorhips	Revenue from infomercials	Revenue from Government or State grant	Revenue from donations	Revenue from membership fees	Total of any other revenue
2015	R28,688,718,290	R21,788,645,350	R5,384,344,985	R216,000	R531,363,207	R1,988,000	R59,843,068	R2,164,250	R919,417,900	R735,530
2016	R33,655,415,072	R23,584,825,897	R7,860,473,603	R535,015,544	R680,926,353	R69,854,929	R6,557,651	R3,746	R10,000	R917,747,350
2017	R35,606,415,286	R25,773,619,194	R8,020,046,840	R660,208,406	R272,913,790	R16,434,074	R23,351,477	R10,783,817	R4,600	R829,053,088
2018	R36,921,489,746	R27,622,475,742	R7,364,895,390	R992,582,404	R525,969,858	R22,002,230	R101,264,960	R7,052,479	R2,678,215	R282,568,469

Source:ICASA Broadcasters Questionnaire, December 2018 (data includes radio broadcastig*

5.2 Broadcasting Black Economic Empowerment Measures

The proportion of procurement spend from suppliers based on their B-BBEE ranking as a percentage of total spend from all suppliers was 97% in 2016, 77% in 2017 and 71% in 2018. This shows a gradual decline over the three-year period.

Graph 36: Broadcasting sector procurement spend from all suppliers based on B-BBEE, for the 12-month period ending 30th September

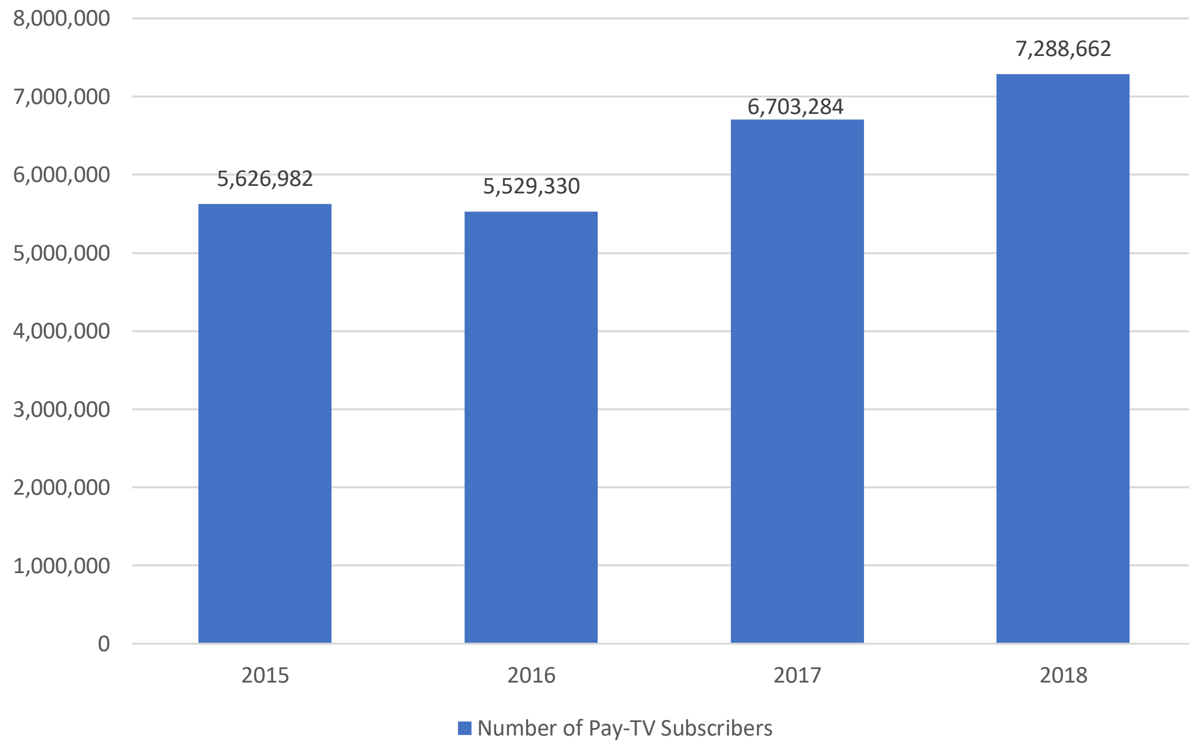


Source:ICASA Broadcasters Questionnaire, December 2018

5.3 Number of Pay TV Subscribers

The total number of Pay TV subscriptions increased by 8.7%, from 6.7 million in 2017 to 7.2 million in 2018.

Graph 37: Number of Pay TV subscribers as of 30th September each year

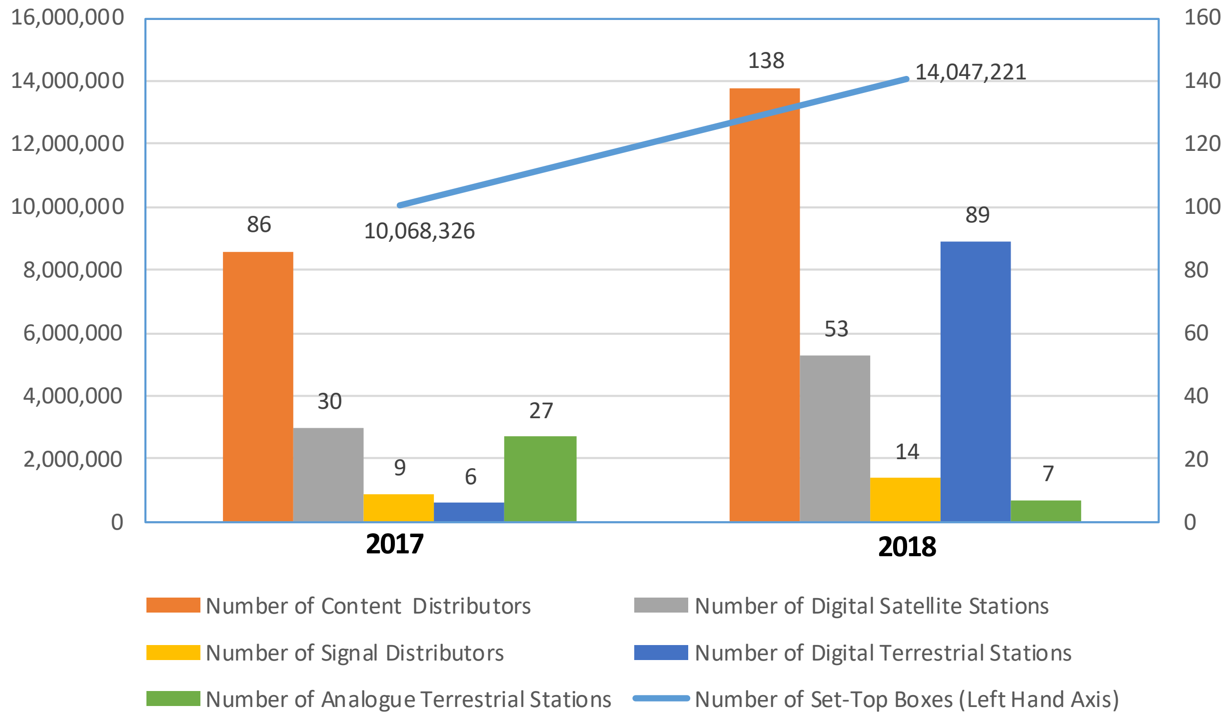


Source:ICASA Broadcasters Questionnaire, December 2018

5.4 Total Number of Television Stations and Distributors

Content distributors increased by 60.5% from 86 in 2017 to 138 in 2018. The number of digital satellite stations increased by 76.6% from 30 in 2017 to 53 in 2018. Signal distributors increased by 55.5% from 9 in 2017 to 14 in 2018. Digital terrestrial stations increased by a staggering 1383% from 6 in 2017 to 89 in 2018. Analogue terrestrial stations decreased by 74.1% from 27 in 2017 to 7 in 2018. The number of set-top boxes increased by 39.5% from around 10 million in 2017 to just over 14 million in 2018.

Graph 38: Total Number of Television Stations and Distributors as of 30th September each year



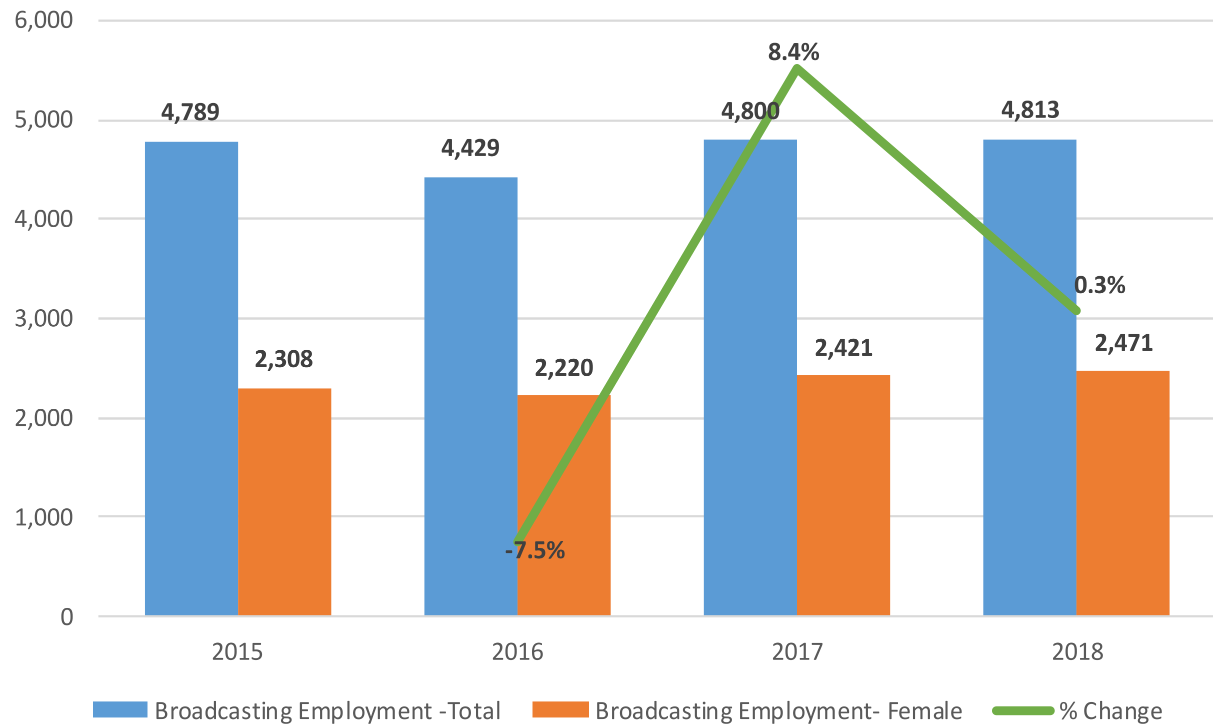
Source:ICASA Broadcasters Questionnaire, December 2018

5.5 Broadcasting Sector Employment

The total number of people employed in the broadcasting sector increased by 0.3% from 4,800 in 2017 to 4,813 in 2018. Female employees constituted 51.3% (2,471) of the total in 2018.

Over a 4-year period, the employment levels have remained the same.

Graph 39: People employed in the broadcasting sector, as at the 30th September each year

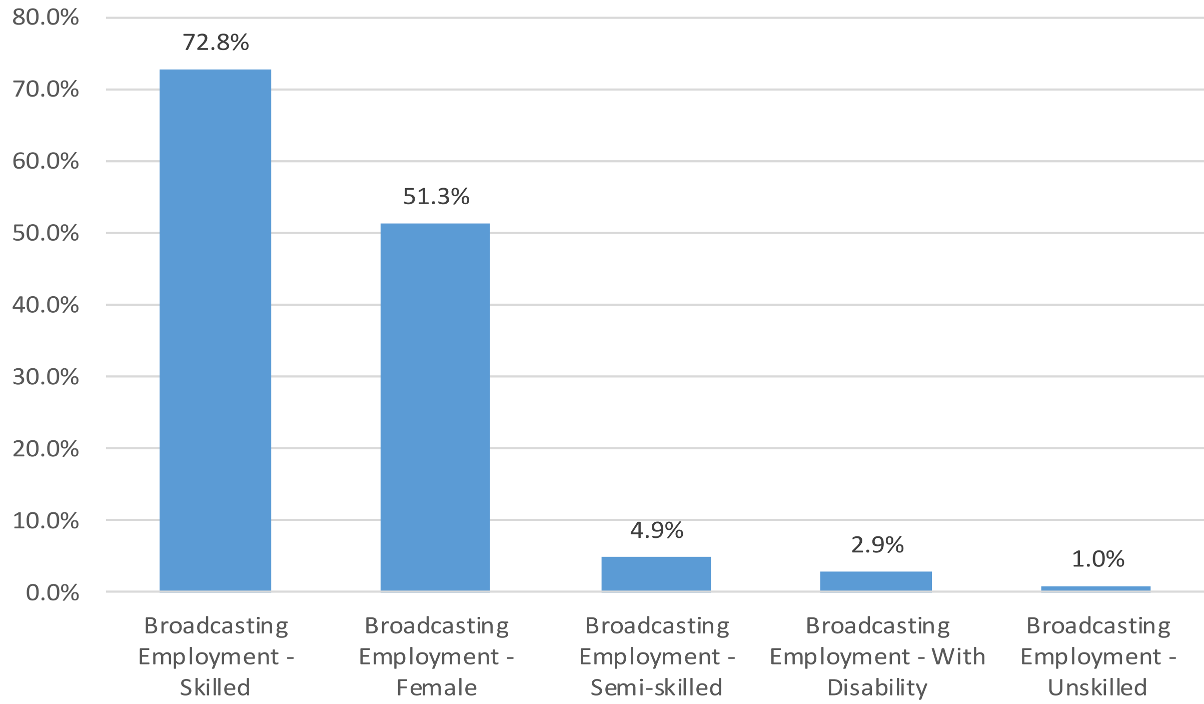


Source:ICASA Broadcasters Questionnaire, December 2018

5.5.1 Persons employed in the broadcasting sector breakdown

In 2018, the broadcasting sector employed 72.8% skilled people, 51.3% were female, 4.9% were semi-skilled, 2.9% were workers with disabilities and 1% were unskilled.

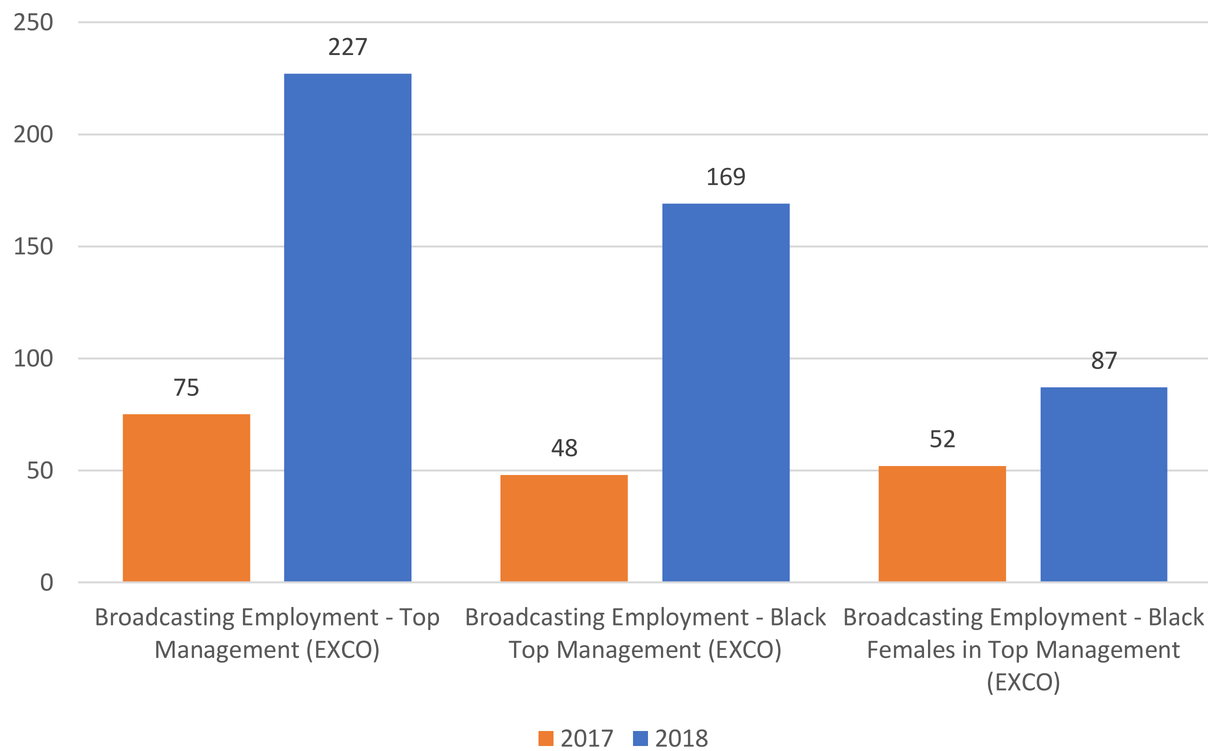
Graph 40: Persons employed in the broadcasting sector breakdown in 2018



5.5.2 Proportion of Black People in Top Management in the Broadcasting Sector

In the 2018, a total of 227 people occupied top management (EXCO) positions in the broadcasting sector. Of this number, 74.4% (169) were black people and 38.3% (87) were black females.

Graph 41: Broadcasting Black Economic Empowerment Measures, for the 12-month period ending 30th September each year

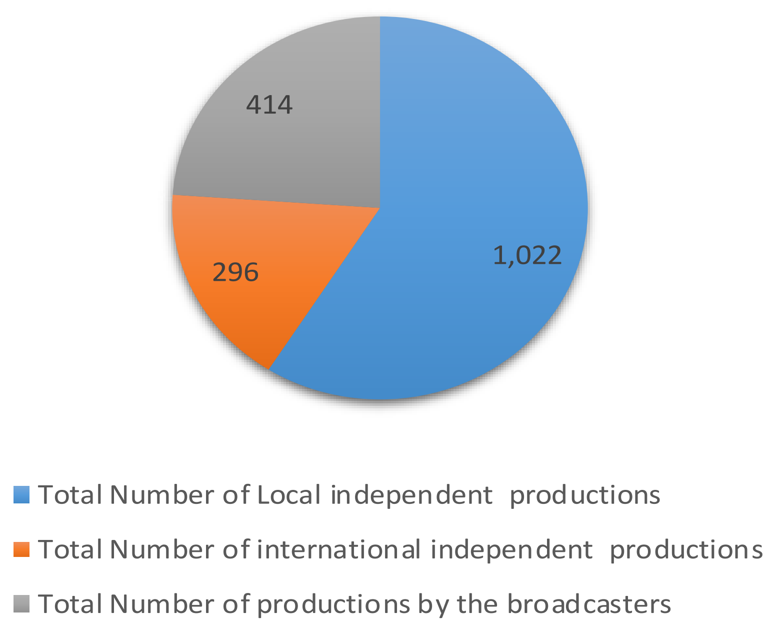


Source: ICASA Broadcasters Questionnaire, December 2018

5.6 Television Productions

In 2018 the number productions by local independent producers was 1,022, from international independent producers it was 296 and productions by the broadcasters themselves stood at 414.

Graph 42: Number of television productions, for the year 2018



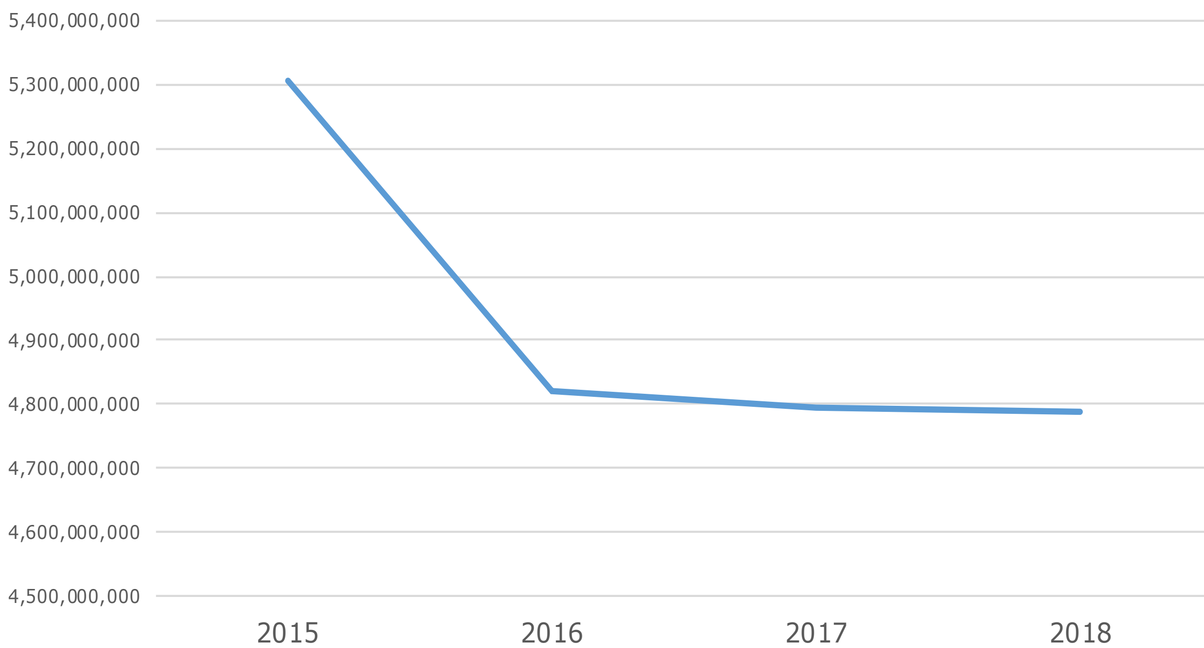
Source:ICASA Broadcasters Questionnaire, December 2018

6 POSTAL SERVICES SECTOR

6.1 Postal Sector Revenue

After a sharp decline by 9.2% to just over R4.8 billion in 2016, the postal sector revenue has stabilised at just below that level for both 2017 and 2018.

Graph 43: Postal sector revenue, 12-month period ending 30th September each year

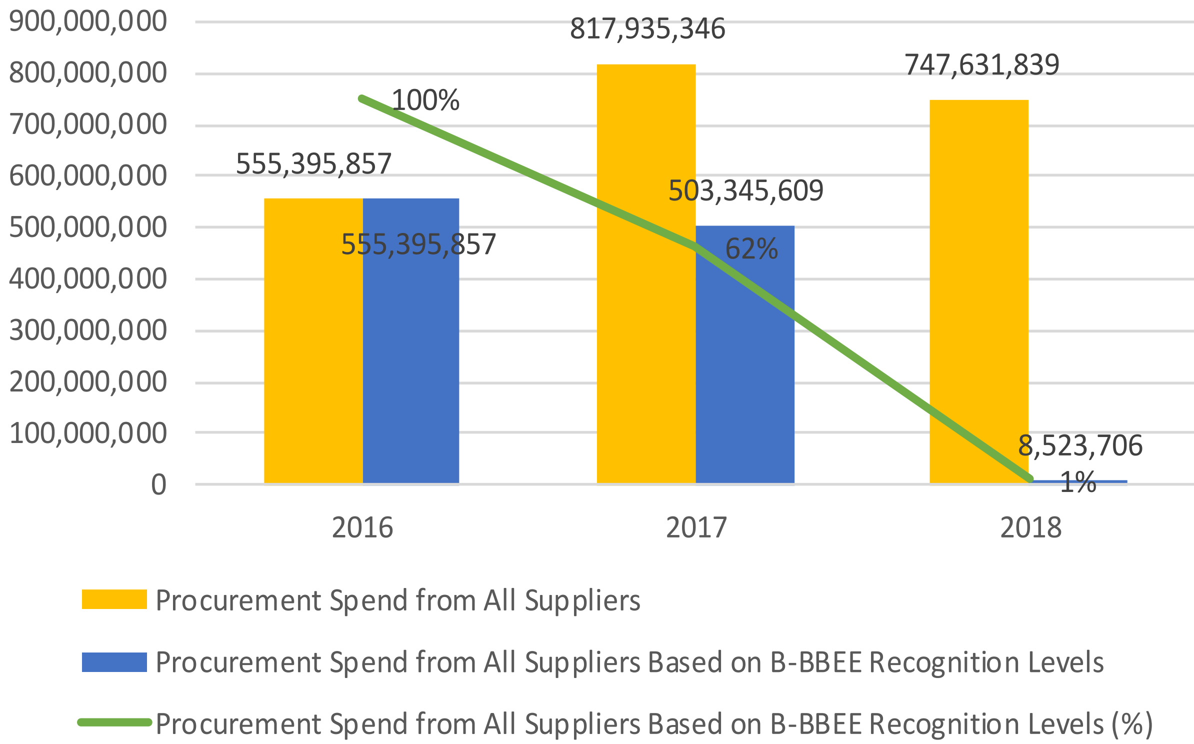


Source:ICASA Postal Questionnaire, December 2018
we had low response rate from unreserved postal sector

6.2 Postal Sector Black Economic Empowerment Measures

The proportion of the postal sector procurement spend based on suppliers' B-BBEE ranking as a percentage of overall spend from all suppliers represented 100% in 2016, 62% in 2017 and only 1% in 2018.

Graph 44: Postal sector procurement spend from suppliers based on the B-BBEE Procurement Recognition Levels, for the 12-month period ending 30th September each year

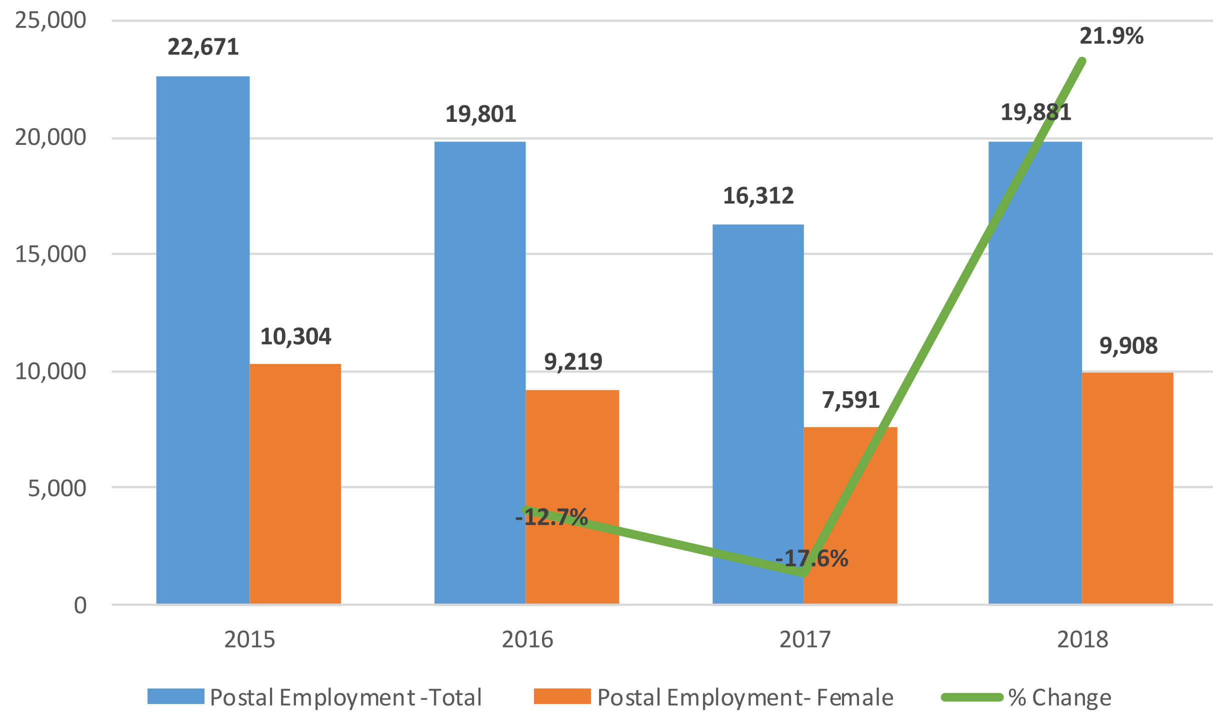


Source: ICASA Postal Questionnaire, December 2018
we had low response rate from unreserved postal sector

6.3 Postal Service Sector Employment

Total employment in the postal sector increased by 21.9% in 2018. Female employment constituted 49.8% (9,908) of the total.

Graph 45: Persons employed in Post Service Sector, by gender, as of 30th September each year



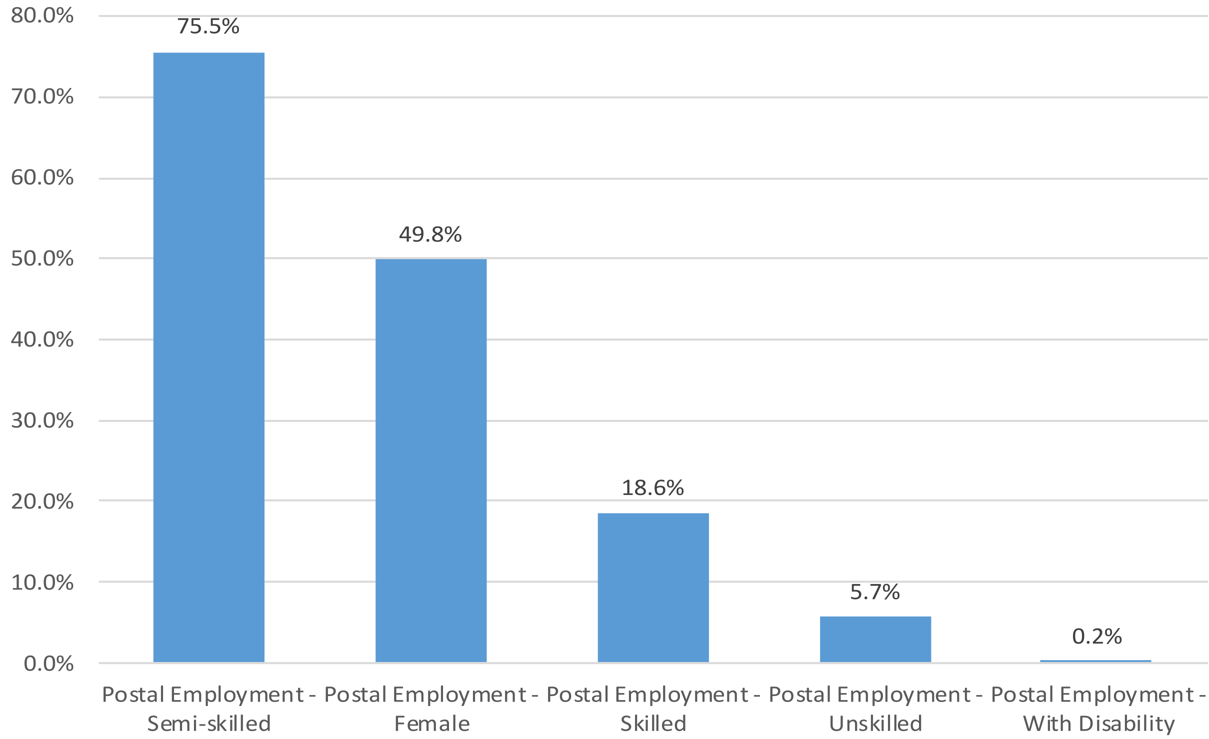
Source: ICASA Postal Questionnaire, December

we had low response rate from unreserved postal sector

6.4 Persons employed in the postal sector breakdown

In 2018, the postal sector employed 75.5% semi-skilled people, 49.8% were female, 18.6% were skilled, 5.7% workers were unskilled and 0.2% were people with disabilities.

Graph 46: Persons employed in the postal sector breakdown in 2018

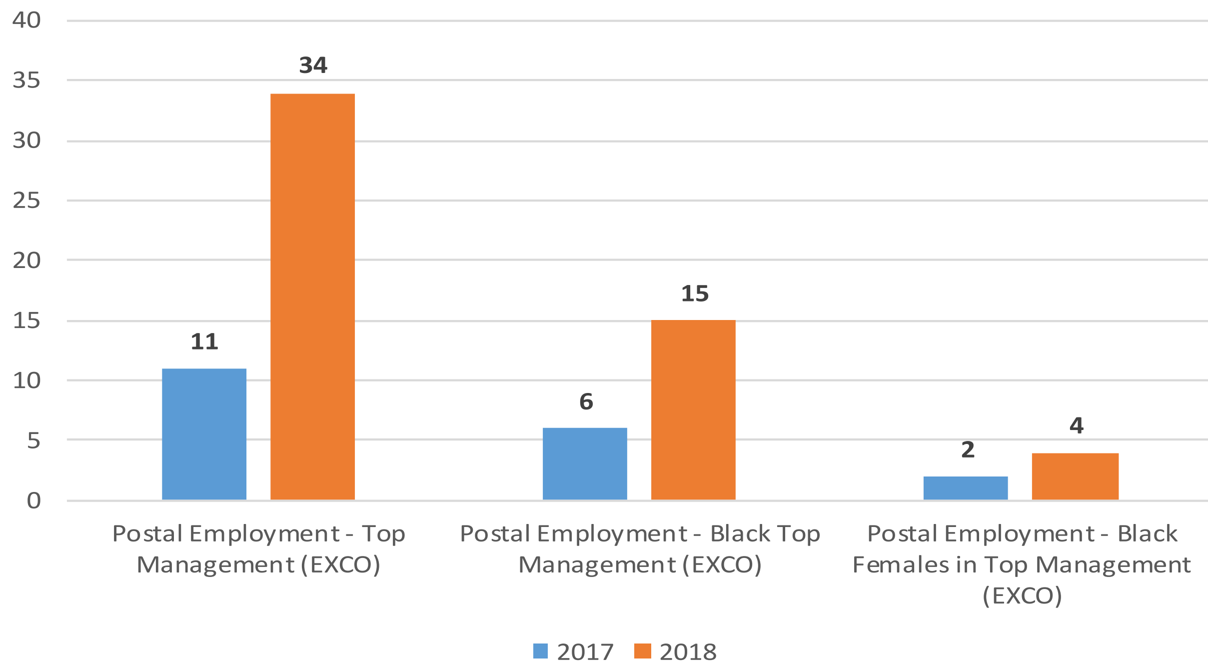


Source: ICASA Postal Questionnaire, December

6.5 Postal service sector Black Economic Empowerment Measures

In 2018, a total of 34 people occupied top management (EXCO) positions in the postal sector. Of this number, 44.1% (15) were black people and 11.8% (4) were black females.

Graph 47: Postal sector Black Economic Empowerment Measures, for the 12-month period ending 30th September each year



Source: ICASA Postal Questionnaire, December 2018
we had low response rate from unreserved postal sector

7 CONCLUSION

The following highlights are worth noting:

- The revenue reported for the three sectors (telecommunications, broadcasting and postal) experienced a positive growth of 12.2%, from R204 billion to R229 billion in 2018. Telecommunications sector reported a revenue of R187 billion (an increase of 14.4%) and broadcasting revenue increased to R36 billion (an increase of 3.7%). The postal sector experienced a decline in revenue by 0.1% in 2018.

- Total overall employment numbers for the three sectors increased by 18.8%, from 51,993 in 2017 to 61,757 in 2018. Over the same period, employment changes in the specific sectors were as follows: telecommunications sector employment increased by 20%, postal sector employment also showed a double-digit increase of 21.9% and broadcasting sector employment increased marginally by 0.3%.
- Prepaid revenue mobile data increased by 8.5% whilst both prepaid revenue from mobile voice and messaging decreased by 2.9% and 22.4% in 2018, respectively.

- Total telecommunication investment in 2018 decreased by 1.5%.

- National Population coverage for 3G remained stable at 99% in 2018 and National population coverage for 4G/LTE increased from 76.7% in 2017 to 85.7% in 2018.
- Smartphone penetration in 2018 is at 81.72%.
- The LTE devices subscribers are 12,644,364 at national level. Gauteng has the highest LTE devices seating at 4,304,758 and the lowest is Northern Cape at 220,700 in 2018.

- The total number of Pay TV subscribers increased by 8.7% from over 6 million in 2017 to just above 7 million in 2018.

- Numbers of set top boxes and number of content distributors increased by 39.5% and 60.5% respectively in 2018. Number of Analogue Terrestrial Stations decreased by 74.1% in 2018.

- In 2018 the number productions by local independent producers was 1,022, from international independent producers it was 296 and productions by the broadcasters themselves stood at 414.

- After a sharp decline by 9.2% to just over R4.8 billion in 2016, the postal sector revenue has stabilised at just below that level for both 2017 and 2018.

APPENDICES

Appendix 1: ICASA questionnaire respondents, December 2018

ICASA questionnaire respondents, December, 2018	
Electronic Communications Licensees	
1	ASK Internet Technologies CC
2	Greystone Trading 1107
3	Megasurf Wireless Internet
4	River Broadband (Pty) Ltd
5	BSS Digital / BSS Connect
6	China Telecom South Africa (Pty) Ltd
7	F N communication cc
8	Bethnet cc ta CompInsure
9	Tellumat (Pty) Ltd
10	Level 3 Communications South Africa (PTY) LTD
11	Crazyweb Tech cc
12	SMSPORTAL (PTY) LTD
13	AT&T South Africa (Proprietary) Limited
14	UWBA
15	Afrihost SP Pty Ltd
16	Imply IT (PTY) Ltd
17	Internet Uncapped CC
18	Edelnet
19	Petprops 36 cc ta Compumission
20	Wispernet (Pty) Ltd
21	DARK FIBRE AFRICA PROPRIETARY LIMITED
22	Metro Fibre Networx Pty Ltd
23	Marion Technology (Pty) Ltd
24	BitCo Telecoms (Pty) Ltd
25	Bluesky
26	Internet Solutions Digital Pty Ltd trading as MWEB
27	Equation Business Solutions

28	Mzanzi Lisetta Media & Printing (Pty) Ltd
29	Vodacom (Pty) Ltd
30	Seagle Telecom (PTY) Ltd
31	JSDAAV ZA Telecoms (Pty) Ltd
32	Fusion Voice & Data (Pty) Ltd
33	ASAP Advertising Services And Promotions (Pty) Ltd
34	Axxess DSL (Pty) LTD
35	ISPACE (PTY) LTD
36	Electronic Communications Services
37	Kibo Connect (Pty) Ltd
38	GVSC Communications SA (Pty) Ltd
39	Dube TradePort Corporation
40	Bundu NetworX (Pty) Ltd
41	Amobia Communications (Pty) Ltd
42	Cell C Limited
43	Sybaweb(Pty)Ltd
44	Liquid Telecommunications South Africa
45	Voys Telecom SA
46	Vox Telecommunications (Pty) Ltd
47	2M Internet Solutions
48	NCW (PTY) LTD
49	Dimension Data
50	Borwood Communications (Pty) Ltd
51	Mobile Telephone Networks (PTY) LTD
52	Telkom SA SOC Limited
53	Platformity cc
54	Hero Telecoms (Pty) Ltd
55	Heinrich Heunis
56	ION Consulting (Pty) Ltd
57	Comsol Netwoks

58	Future Perfect Corporation CC TA Vanilla
59	Wireless Associate Service Provider CC
60	XLink Communications (Pty Ltd
61	Vumatel (Pty) Ltd
62	LINKAFRICA (PTY) LTD
63	Connection Telecom (Pty) Ltd
64	Saicom Voice Services (Pty) Ltd
65	Olive Tree Technologies
66	NCWNETONLINE PTY LTD
67	Stuart Bodill t/a IT.Net
68	Sonic Computers & WiFI CC
69	Elu Investments Limited
70	GAMSol (Pty) Ltd
71	Touchnet Tellecomunications CC
72	OCULUSIP
73	Rain Networks (Pty) Ltd
74	Cutman Bush Net
75	CWNET
76	Letaba Wireless Internet
77	Interexcel World Connection (PTY) LTD
78	Kliq (Pty) Ltd
79	Lasernet Pty Ltd
80	KA RONA TRADING 594CC
81	Simigenix (Pty) Ltd
82	Lanlink Networking (Pty) Ltd
83	InterActive Systems Designs (Pty) Ltd
84	Zululand Wireless Network CC
85	Newwave Communications(Pty) LTD.
86	ZA GAS CK
87	SiFi net

88	Udy Net
89	Netwide Internet
90	IP Labs Communications (Pty) Ltd
91	Wicotel CC
92	J Stemmet ta Csi Boland
93	Frisbee Trade and Investment 1071 CC
94	DAVO CORP CC
95	saifu online (PTY) LDT
96	Orange Business Service PTY (LTD)
Broadcaster Licensees	
1	WITBANK FM
2	100.5FM Radio Laeveld
3	whale coast fm
4	1 Nation FM
5	Faith Broadcasting Terrestrial
6	VUWANI COMMUNITY RADIO STATION
7	PRETORIA FM NPO
8	Ngqushwa FM
9	UMOYA COMMUNICATIONS (PTY) LTD
10	Bokone-Bophirima FM
11	Deukom (Pty) Ltd
12	Witzenberg Radio
13	CHRISTELIKE RADIO DIENSTE TA RADIO TYGERBERG
14	Tshwane FM
15	RADIO RIPPEL FM STEREO NPC ta GrootFM
16	Wild Coast FM 98.6
17	Univen Community Radio 99.8
18	SABC Radio
19	SABC TV
20	Modiri fm

21	Lekoa Multimedia and Communications Development Centre
22	e.tv
23	SA jonisi youth radio
24	Starsat (On Digital Media (Pty) Ltd)
25	Bush Radio 89.5FM
26	Highway Christian Outreach Association ta Highwayradio
27	702
28	947
29	Cape Talk
30	KFM
31	Impact Radio
32	Magic 828 (Pty) Ltd
33	PERRON 95.1 FM
34	MultiChoice (Pty) Ltd
35	CAPE TOWN RADIO (PTY) LTD
Postal	
1	Royale International
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 2017 -30th September 2018. 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 SECTOR 2018	
Total revenue	**R187,587,374,843**
Total telecommunication services revenue	**R130,576,337,221**
Total fixed line revenue	**R31,007,071,998**
Total fixed line revenue	**R11,928,767,258**
Revenue from retail fixed-telephone services	R192,798,344
Revenue from fixed-telephone subscription charges	R6,595,737,290
Revenue from fixed-telephone calls	R5,140,231,624
Total Fixed Internet and data revenue	**R19,078,304,740**
Fixed Internet revenue (R)	R1,330,783,377
Revenue from fixed (wired)-broadband services	R11,003,085,498
Other wireless-broadband services revenue	R1,869,292,594
Other telecommunication services revenue, including leased lines revenue and fixed value-added telecommunication services	R4,875,143,271
Total mobile services revenue (Rm)	**R99,569,265,222**
Revenue from voice services	R43,756,195,020
Revenue from outbound roaming (R)	R199,283,848
Revenue from mobile data services	R47,068,742,797
Revenue from text and multimedia messaging services	R3,957,858,068
Prepaid revenue mobile voice	R27,025,173,332
Prepaid revenue mobile data	R25,746,766,590
Prepaid revenue mobile messaging	R1,030,798,979
Other mobile services revenue	R4,587,185,489
Total of any other revenue	**R57,011,037,623**
Interconnection revenues	R4,638,851,531
Equipment revenue	R26,852,422,767
Any other revenue	R25,519,763,324
Total telecommunication investment	**R46,923,416,166**
Annual investment in fixed-telephone services	R2,226,456,703
Annual investment in fixed (wired)-broadband services	R4,559,607,770

Annual investment in mobile communication services	R19,584,646,672
Infrastructure	R5,916,132,762
Expansion	R10,482,529,163
Maintenance	R2,341,073,325
Other annual investment in telecommunication services	R1,812,969,770
Fixed line subscriptions	**4,355,309**
Analogue fixed-telephone lines	3,623,941
VoIP subscriptions	166,111
Fixed wireless local loop subscriptions	3,262
ISDN voice-channel equivalents	500,256
Fixed public payphone	61,739
Mobile cellular subscriptions	**91,707,731**
Prepaid mobile-cellular telephone subscriptions	80,436,209
Postpaid mobile-cellular telephone subscriptions	11,271,522
M2M mobile-network subscriptions	6,890,330
Fixed broadband subscriptions	**7,471,829**
DSL Internet subscriptions	5,671,401
Fibre-to-the-home/building Internet subscriptions	1,730,235
Other fixed (wired)-broadband subscriptions	70,193
Wireless-broadband subscriptions	**11,216,541**
Satellite broadband subscriptions	618,910
Terrestrial fixed wireless broadband subscriptions	10,597,631
Active mobile broadband subscriptions	**77,575,287**
Standard mobile-broadband subscriptions	37,424,618
Dedicated mobile-broadband subscriptions	40,150,669
Mobile data users	65,758,820
Fixed line traffic	**5,208,521,164**
Local fixed-to-fixed telephone traffic, in minutes	3,139,633,506
Long-distance fixed-to-fixed telephone traffic, in minutes	2,068,887,658
Fixed-to-mobile telephone traffic	7,802,163,843
International incoming and outgoing fixed-telephone traffic	**895,870,765**
International outgoing fixed-telephone traffic, in minutes	175,435,294
International incoming fixed-telephone traffic, in minutes	720,435,470
Total national mobile traffic	**89,762,226,157**
Outgoing mobile traffic to same mobile network	71,253,123,796
Mobile to other mobile networks	16,140,258,526
Mobile to fixed	2,368,843,835
International outgoing from mobile	1,058,420,226
International incoming to mobile	681,094,706
SMS traffic	19,130,807,205
SMS international traffic	176,963,180
Mobile data traffic	822,749
3G population coverage	99.50%

4G/LTE etc. population coverage	85.70%
International outgoing Internet bandwidth	335,776
International incoming Internet bandwidth	528,788
Smartphone subscriptions	46,904,835
Telecommunication employment -Total	37,063
Telecommunication employment- female	13,753
Telecoms employment- Top Management(EXCO Members)	293
Telecoms employment- Black Top Management(EXCO Members)	85
Telecoms employment- Black Top Female Management(EXCO Members)	37
Procument Spend from all supplliers	R138,796,397,264
Procument Spend from all supplliers based on the B-BBEE Procument Recognition Levels	R91,387,499,397
Number of Schools connected based on obligations imposed by ICASA	5,084

BROADCASTING SECTOR 2018	
Total revenue	**R36,921,489,746**
Total broadcasting services revenue	**R36,638,921,277**
Broadcasting Advertising Revenue	**R7,364,895,390**
Broadcasting Subscriptions Revenue	**R27,622,475,742**
Revenue from Broadcasting Promotions (with flighting code).	**R992,582,404**
Revenue from sponsorhips	**R525,969,858**
Revenue from Government or State grant	**R101,264,960**
Revenue from donations	**R7,052,479**
Revenue from infomercials	**R22,002,230**
Revenue from membership fees	**R2,678,215**
Total of any other revenue	**R282,568,469**
Program expenditure	**R11,167,348,066**
Subscriber and registered viewership numbers	**7,289,074**
Number of Pay TV subscribers	7,288,662
Number of registered non-Pay TV viewers	412
Broadcasting employment -Total	4,813
Broadcasting employment- female	2,471
Broadcasting employment- Top Management (EXCO members)	227
Broadcasting employment- Black Top Management (EXCO members)	169
Broadcasting employment- Black Top Female Management (EXCO members)	87
Procument Spend from all supplliers	**R12,916,707,224**
Procument Spend from all supplliers based on the B-BBEE Procument Recognition Levels	**R9,164,201,658**
Total Number of Television (stations and distributors)	14,047,522
Number of Digital Satelite Stations	53

Number of Digital Terrestial Stations	89
Number of Analogue Terrestial Stations	7
Number of Signal Distributors	14
Number of set-top boxes	14,047,221
Number of Content Distributors	138
Total Number of Radio Stations	392
Public (community) Radio	56
Commercial (private) Radio	50
Number of transmission sites for Public (community) radio	187
Number of transmission sites for Commercial (private) radio	99
Total Number of Local independent productions	1,022
Total Number of international independent productions	296
Total Number of productions by the broadcasters	414

POSTAL SERVICE SECTOR 2018	
Total SAPO revenue	**R4,787,428,702**
Postbank revenue	**R233,639,000**
Postbank interest revenue	**R457,256,000**
Retail products revenue	**R10,838,000**
Services rendered - Postal	**R3,059,452,000**
Services rendered - Agency and money transfer	**R524,017,000**
Services rendered - Courier	**R395,984,499**
Total of any other revenue	**R106,242,203**
Points of presence	25
Postal employment -Total	19,881
Postal employment- female	9,908
Postal employment- Top Management (EXCO members)	34
Postal employment- Black Top Management (EXCO members)	15
Postal employment- Black Top Female Management (EXCO members)	4
Procument Spend from all supplliers	**R747,631,839**
Procument Spend from all supplliers based on the B-BBEE Procument Recognition Levels	**R8,523,706**

	RURAL			URBAN		
	2G	3G	LTE	2G	3G	LTE
Eastern Cape	99.51%	98.30%	53.54%	100.00%	99.99%	95.01%
Free State	99.79%	98.53%	75.63%	100.00%	99.91%	96.24%
Gauteng	100.00%	99.99%	95.74%	100.00%	100.00%	99.92%
KwaZulu-Natal	99.86%	98.74%	54.78%	100.00%	100.00%	97.96%
Limpopo	99.91%	99.51%	85.96%	100.00%	100.00%	99.10%
Mpumalanga	99.91%	99.49%	91.89%	100.00%	99.99%	96.39%
North West	99.98%	99.50%	86.62%	100.00%	100.00%	98.25%
Northern Cape	93.89%	92.24%	61.35%	99.60%	92.24%	84.05%
Western Cape	96.50%	95.24%	83.81%	99.99%	99.96%	97.20%

Source:ICASA Telecommunications, TV Broadcasting and Postal Questionnaires, December 2018