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APPOINTMENT OF A SERVICE PROVIDER TO UPGRADE, MAINTAIN GIS SOFTWARE AND DEVELOP GIS APPLICATIONS FOR BROADBAND INFRASTRUCTURE MAPPING FOR A PERIOD OF TWELVE (12) MONTHS WITH SUPPORT AND SOFTWARE LICENSE MAINTENANCE FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

1   Purpose of the Submission

1. Appointment of a service provider to upgrade, maintain GIS software and develop GIS applications for Broadband Infrastructure Mapping for a period of twelve (12) months with support and software license maintenance for a period of thirty-six (36) months.

2. The bid will be advertised for a period of 21 calendar days in the e-tender portal, and ICASA's website.

2   Background

2.1   ICASA is mandated to regulate the ICT sector and to ensure universal access to Broadband Services in South Africa.

2.2   Broadband is defined as the transmission of wide bandwidth data over a high-speed internet connection using a wireless or a fixed network. It is usually referred to as a highspeed internet connectivity.

2.3   The Authority intends to source through an open bid from qualified bidders, Service provider to; upgrade and maintain, augment software capabilities and develop GIS applications.

2.4 Broadband infrastructure mapping refers to an interactive online mapping application that aggregates and visualizes various dimensions of quality of service (QoS) delivered by broadband networks (fixed and mobile). This includes the mapping of electronic communication networks and associated facilities.

2.5 The Authority is currently using ESRI's ArcGIS Suite of Software.

3 Scope

The scope of work entails the following deliverables:

3.1 **Increase existing Software licenses**

ICASA seeks to acquire additional GIS Software licenses for GIS mapping and analysis.

a. 1x Desktop Licenses

b. 6x On Premise Portal user seat licenses

c. 5x Mobile Data Collection Survey User Licenses

See detailed list of existing licenses provided in Appendix A.

3.2 **Web Online Dashboards Design and Implementation**

3.2.1 Build an interactive Dashboard to display the State of the ICT Sector reports with all collected variables for the past 5 financial years.

3.2.2 Build an interactive Dashboard to track Broadband infrastructure rollout and gaps for South Africa for Mobile and Fixed Broadband Services.

3.2.3 Build an interactive Dashboard showing all annual Quality of Service (QoS) Benchmarking Measurement results for the past 5 financial year.

3.3 **Application, Software Support and Licensing**

3.3.1 The Supplier shall have an online system reporting faults and complaints.

3.3.2 All support for software or maintenance required for the proper functioning of the software and applications shall be valid for a minimum of three (3) years after acceptance.

3.3.3 The Supplier shall provide licenses, software upgrades, and installation of software patches for at least three (3) years from the date of installation of the solution at no additional cost to the Authority.

3.3.4   The Supplier must state the manufacturer's Original Equipment Manufacturer (OEM) end of support and end-of-life where applicable, which shall be at least 3 years from the date of installation.

3.3.5   The Supplier shall provide proof that they have support from the (OEM) regarding the availability of technical staff to conduct onsite support visit.

3.3.6   The Supplier must provide a Service Level Agreement (SLA) indicating turnaround time in providing support services.

3.4   Spatial Data

The Supplier must provide the following data:

3.4.1   South Africa Socio Economic Data (Latest National Census data 2022).

3.4.2   South Africa Points of Interest (2022).

3.4.3   South Africa Building footprints (2022).

3.5   Product Manuals and Technical description

3.5.1   Manuals on the proposed applications that guides on how to deploy and customise similar applications, conduct troubleshooting, and basic service maintenance of the system must be provided in soft and hard copy at the time of delivery of the applications and must be in English.

3.5.2   Technical architecture of the application (e.g., workflow and system architecture) of the proposed solution must be included in the response to this bid.

3.6   Mandatory Requirements

3.6.1   The Supplier shall provide written proof that they are a registered OEM distributor or author (Must include Licenses, Software upgrades, and Installation of software patches) which must be valid for the duration of the project.

3.6.2   The Supplier must have a local presence (Proof of South African address not older than 3 months) including offices in South Africa with technical support staff to provide level 1 troubleshooting and support.

3.6.3   The Supplier must allocate a minimum of 3 dedicated resources throughout the duration of the project.

1.13. **Training**

1.13.1.   Within the context of this procurement, the supplier shall provide full training to a maximum of 15 ICASA employees.

1.13.2.   The training shall cover the functionality and maintenance of the system with practical hands-on sessions.

1.13.3.   The Supplier must provide training materials and handover documents.

1.14. **Monitoring progress on the assignment**

1.14.1.   The Project Leader shall do the ongoing management of the Service Level Agreement (SLA) in accordance with the contract.

1.14.2.   The Supplier shall provide a checklist of items listed in section 2 which will be signed by both parties after delivery of software licenses and application.

1.14.3.   A full functional test shall be conducted on the system after installation to confirm that it meets the requirements specified by The Authority.

4	Duration of Support and Maintenance for the GIS System

The Supplier must provide the maintenance, software upgrade and develop Online Dashboard applications for the duration of three (3) years, commencing on the signing of the contract.

6	Briefing Session

There will be a non-compulsory virtual briefing session online.

7	Evaluation of the Bids

7.1   The received bids will be evaluated on the 80/20 procurement principle as per the Supply Chain Management Policy and the relevant Treasury Regulations:

   7.1.1   Submission of the required documents

   7.1.2   Functionality, and

   7.1.3   price/BBBEE

7.2   Only bidders who meet the cut-off score of 80 points out of 100 points for functionality will be considered further for price evaluation.

Bids will be evaluated for functionality in line with the following criteria

Table 1 Evaluation criteria

A. Functionality: Prequalification criteria	Weight	Grading
1. Completeness of project plan covering the entire scope of work as defined in Section 2. The Service Provider must provide a detailed project plan showing the following: (1) Work breakdown structure, (2) Milestones, (3) Timing, (4) Resources, (5) Project risks management with a mitigation plan, and (6) Quality control management.	**30**	5 = Project plan covers all 6 requirements. 4 = Project plan covers any 5 of the requirements. 3 = Project plan covers any 4 of the requirements. 2 = Project plan covers any 3 of the requirements. 1 = Project plan covers less than 3 of the requirements or no submission.

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2. **a. Online Dashboard Application Development plan** (Must include: 1. User Need Analysis 2. Data Audit 3. Data Manipulation and Conversion 4. Application Design 5. Testing and Commissioning) **b. Acceptance Test plan** (Must Include User Acceptance Test Cases). **c. System Security Plan.** (Outlining data handling practices) **d. Provide Delivery plan** (i.e., delivery schedule) Must Outline all project execution steps from start to finish.	**40**	5 = Online Dashboard Application Plan, Acceptance Test plan, System Security plan, and Project Delivery plan. 1= Provided three plans or less or did not provide any plan.

3. Provide contactable and signed reference letters with company letterheads from companies where the proposed or similar software and applications was deployed and maintained.	**15**	5 = Provide more than three (>3) testimonial reference letters. 4 = Provide three (3) testimonial reference letters. 3 = Provide two (2) testimonial reference letters. 2 = Provide one (1) testimonial reference letter 1 = No submission of testimonial reference letters.
4. Provide skills transfer plan for twenty (15) ICASA staff members with timeframes. **A skills transfer plan covering the following skills area:** **Hands-on training on.** **(a) Dashboard Application Developments & Configuration,** **(b) Data Analysis processing,** **(c) Support and maintenance procedures**	**15**	5 = A skills transfer plan covering all the above; Online Dashboard Application, Data Analysis, Support and maintenance procedures. 1 = Incomplete Skill transfer plan or No Skills transfer plan provided.
TOTAL FOR FUNCTIONAL PRE-QUALIFICATION CRITERIA.	**100**	

APPENDIX A: DETAILED TECHNICAL SPECIFICATIONS

## 1 A.1. EXISTING SOFTWARE LICENSES

SOFTWARE ITEMS	QUANTITY
ArcGIS Desktop Basic Single Use Primary	01
ArcGIS Desktop Standard Concurrent Use Primary	01
ArcGIS Server Standard Enterprise	01
ArcGIS Server Standard Enterprise Staging	01
ArcGIS Online Creator Term License	05
ArcGIS Enterprise Creator Term License	02
Socio Economic Data (Census: Latest)	01
South Africa Point of Interest (POI)	01

APPENDIX B: SAMPLE QOS DASHBOARD
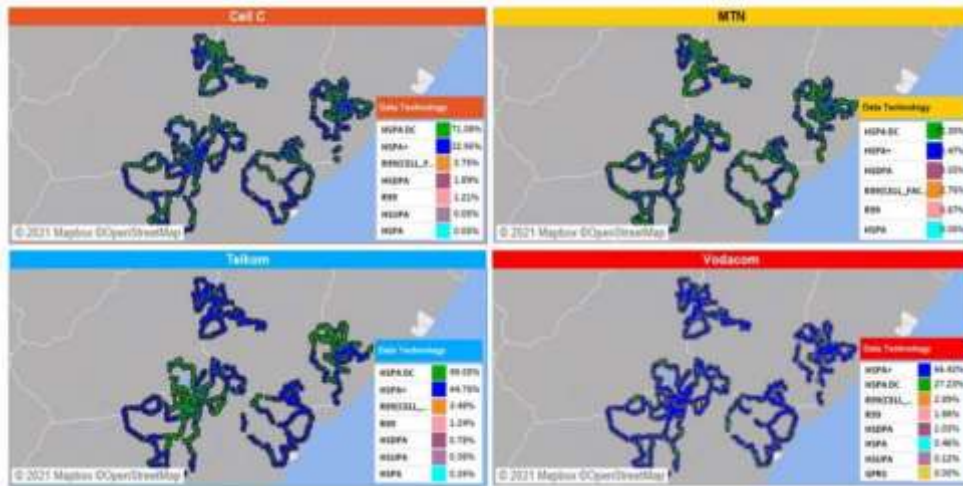
File Transfer	Cell C	MTN	Telkom	Vodacom
HTTP DL Throughput - Avg [Mbps]	5.92	20.71	10.12	13.95
FTP DL Throughput - Avg [Mbps]	2.08	7.0	6.18	6.68
FTP UL Throughput - Avg [Mbps]	2.6	7.35	5.52	4.79

> MTN led in Average HTTP Download throughput followed by Vodacom, Telkom and then Cell C in descending order

> MTN led in Average FTP download throughput followed by Vodacom, Telkom and Cell C in descending order.

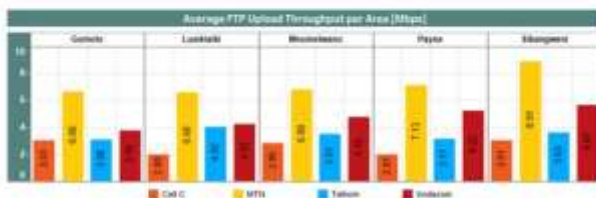> MTN led in Average FTP upload throughput followed by Vodacom, Cell C and Telkom in a descending order.
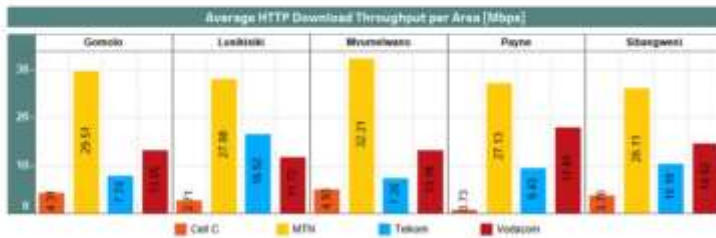
> MTN achieved the highest results for the average HTTP download throughput in all five tested areas (Gomolo, Lusikisiki, Mvumelwano, Payne and Sibangweni). Cell C had the lowest average HTTP download throughput for 4G Preferred data tests in all tested areas.

4G Preferred FTP Test Results

> MTN achieved the highest results for average FTP Download throughput in all five tested areas (Gomolo, Lusikisiki, Mvumelwano, Payne and Sibangweni). Cell C achieved the lowest throughput in all tested areas.
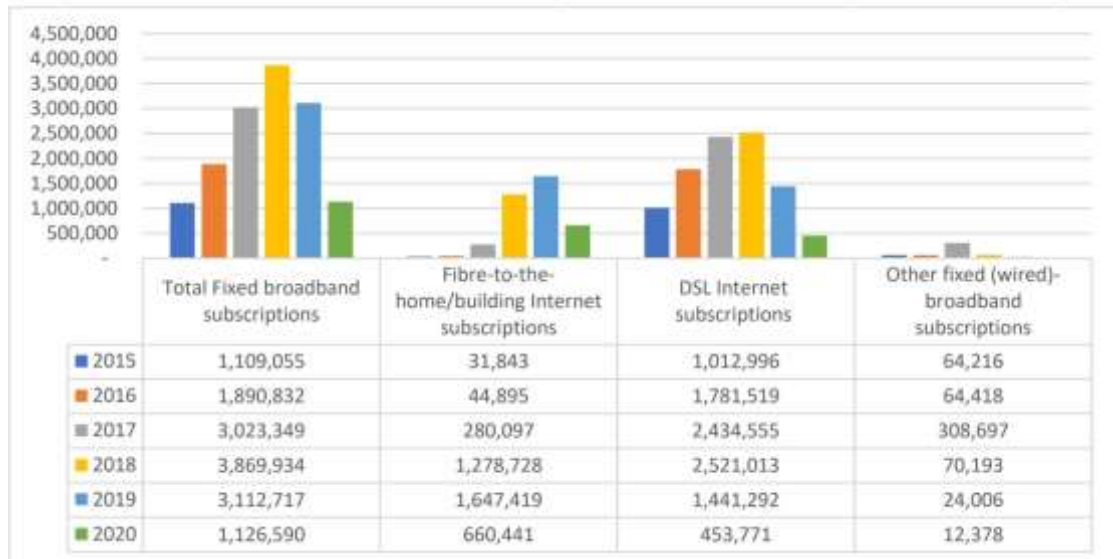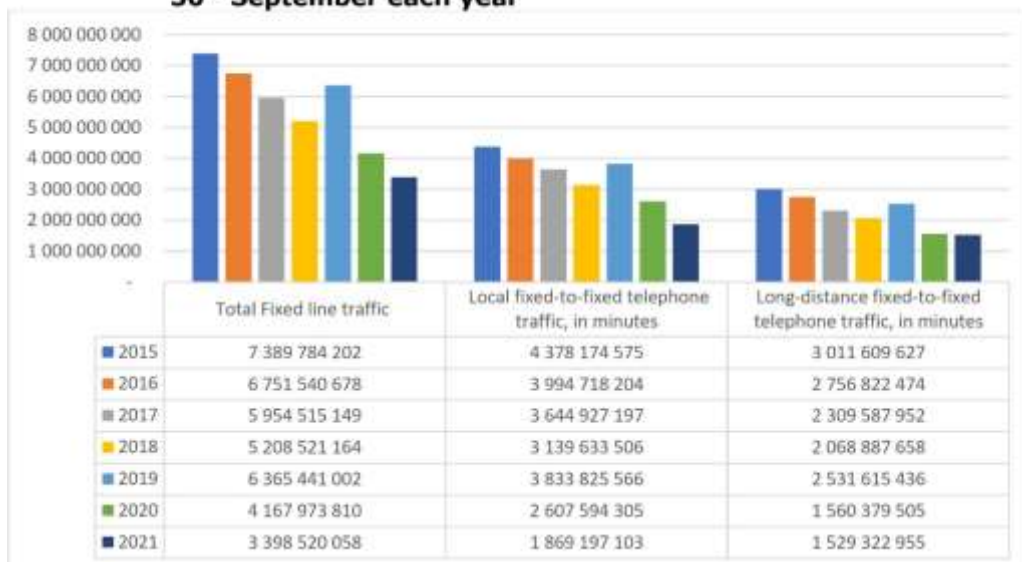

> MTN achieved the highest results for average FTP Upload throughput in all 5 tested areas (Gomolo, Lusikisiki, Mvumelwano, Payne and Sibangweni). Cell C achieved the lowest throughput in all the tested areas.

APPENDIX B: SAMPLE STATE OF ICT SECTOR REPORT DASHBOARD

	Total Fixed broadband subscriptions	Fibre-to-the-home/building Internet subscriptions	DSL Internet subscriptions	Other fixed (wired)-broadband subscriptions
■ 2015	1,109,055	31,843	1,012,996	64,216
■ 2016	1,890,832	44,895	1,781,519	64,418
■ 2017	3,023,349	280,097	2,434,555	308,697
■ 2018	3,869,934	1,278,728	2,521,013	70,193
■ 2019	3,112,717	1,647,419	1,441,292	24,006
■ 2020	1,126,590	660,441	453,771	12,378

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

	Total Fixed line traffic	Local fixed-to-fixed telephone traffic, in minutes	Long-distance fixed-to-fixed telephone traffic, in minutes
■ 2015	7 389 784 202	4 378 174 575	3 011 609 627
■ 2016	6 751 540 678	3 994 718 204	2 756 822 474
■ 2017	5 954 515 149	3 644 927 197	2 309 587 952
■ 2018	5 208 521 164	3 139 633 506	2 068 887 658
■ 2019	6 365 441 002	3 833 825 566	2 531 615 436
■ 2020	4 167 973 810	2 607 594 305	1 560 379 505
■ 2021	3 398 520 058	1 869 197 103	1 529 322 955

Graph 39: TV and Radio broadcasting revenues for the 12-month period