

APPOINTMENT OF A SERVICE PROVIDER TO SUPPLY ICASA WITH THREE VEHICLE-MOUNTED MOBILE DIRECTION-FINDING (MDF) UNITS WITH ONE YEAR WARRANTY ON AN 80/20 PPPFA 2000, PREFERENTIAL PROCUREMENT REGULATION: 2022.

1 Purpose of the Submission

1.1 The purpose of this submission is to appoint a qualified service provider to supply three portable and, re-deployable radio frequency mobile direction-finding devices capable of detecting emissions from 10 MHz – 8 GHz.

1.2 The objective of the bid is to strengthen ICASA’s operational capacity in monitoring, detecting, and managing the radio frequency spectrum between 10 MHz and 8 GHz, thereby enhancing regulatory enforcement and spectrum compliance functions.

2 Background

1 The Authority requires portable radio frequency monitoring devices that are capable to be vehicle mounted for the purpose of conducting mobile

measurements in the frequency range of 10 MHz up to 8 GHz.

- 2 Through a need analysis process conducted by the Regions Division, it was determined the regional offices require the use of such devices.
- 3 The Authority intends to source through an open bid from eligible bidders, (Three) specialized, portable and vehicle-mounted, re-deployable direction-finding equipment capable of detecting emissions from 10 MHz up to 8 GHz.

3 Scope

The appointed service provider will be required to:

3.1 Supply three portable and, re-deployable radio frequency mobile direction-finding units capable of detecting emissions from 10 MHz-8 GHz.

3.2 Ensure all devices are fully functional, tested, calibrated, and compliant with the specifications contained in Annexure A, with performance verified prior to acceptance.

3.3 Provide all necessary accessories, documentation, calibration certificates, and operational manuals relevant to the supplied equipment.

3.4 Deliver the mobile direction-finding units and provide necessary training.

4 Warranty and Support

4.1 The equipment must carry a minimum three -year warranty covering defects or failures related to the components supplied or workmanship.

4.2 The service provider must provide software updates and remote technical support during the five-year period.

4.3 All supplied components must conform to applicable standards and

certification requirements for spectrum analysis instrumentation and be supported by OEM.

5 Delivery Period

5.1 The supplied devices must be completed and commissioned within the timeframe agreed upon in the Service Level Agreement (SLA).

5.2 ICASA will not be liable for any costs arising from the supplier’s delay or failure to deliver within the agreed schedule.

7 Briefing Session

No compulsory briefing session will be held. Bidders may submit written queries during the advertising period in line with ICASA’s SCM communication protocol.

8 Evaluation of the Bids

The bid will be advertised on the National Treasury eTender Portal and ICASA's website for a minimum of 21 calendar days, in accordance with the Preferential Procurement Regulations, 2022, applying the 80/20 preference point system.

Evaluation Stag

1. Stage 1 – Mandatory Requirements
2. Stage 2 – Functionality (Technical Evaluation)
3. Stage 3 – Price and Specific Goals (80/20 principle)

Only bidders who meet all mandatory requirements will proceed to the functionality evaluation stage.

Stage 1: Mandatory Requirements (Simplified)

Requirement	Evidence Required	Outcome
1. Legal and Technical Authorisation	A formal letter authorising the bidder to supply mobile direction-finding units, either from the OEM or as a certified distributor.	Compliant / non-compliant
2. Warranty Compliance	Warranty certificates confirmation from OEM/distributor showing the bidder can provide Warranties and support.	Compliant / non-compliant

Warranty Minimum Period

The supplier shall provide a minimum warranty period of three years from the date of commissioning and delivery acceptance.

During the warranty period, the supplier must:

- Repair or replace defective components at no additional cost.
- Cover parts, labour, and associated travel costs.
- Ensure that replacement items are new or manufacturer-approved equivalents.

Scope of Cover

The warranty shall cover:

- Manufacturing defects

- Faulty workmanship
- Software or firmware defects (where applicable)
- Failure under normal operating conditions

The warranty shall not exclude:

- Installation-related defects caused by the supplier
- Integration failures with specified compatible systems
- Recurring faults after previous repairs

Exclusions may include:

- User misuse or unauthorized modification
- Damage caused by accidents, fire, flooding, or power surges outside specification
- Consumable items unless defective upon delivery

Support Obligations

The supplier shall provide technical and operational support during the warranty period, including:

Response Times

- Major faults: response within 2 business day
- Minor faults: response within 4 business days

Support Services

- Telephone and email support during business hours
- Remote troubleshooting support
- On-site support where remote resolution is not possible
- Software updates and security patches (if applicable)

Maintenance

- Preventive maintenance in accordance with manufacturer recommendations
- Provision of spare parts availability for 5 years
- Escalation procedures for unresolved issues

Notes for BEC:

- Only bidders meeting both mandatory requirements will proceed to functionality evaluation.
- Mandatory requirements are pass/fail, not scored.

Stage 2: Functionality Evaluation

Bidders must obtain a minimum of 80 points to qualify for further evaluation.

Evaluation Criteria	Weight	Evidence Required	Scoring Description
1. Technical Conformity – Hardware & Software Compliance Bidder demonstrates that the mobile direction-finding units being supplied meet the technical specifications in Annexure A.	50	Two documents required: 1. Datasheet for each supplied device showing hardware specifications. 2. Certification from OEM confirming compliance with specifications.	5 – Fully compliant with all specifications; all two documents provided. 1 – non-compliant with all specifications.
2. Bidder must provide a clear, and practical training designed 10 persons.	10	Training plan for 10 Technical officers which shall cover the functionality of the units with practical hands-on sessions. The training shall be done on the actual units being supplied under this procurement process. Training plan must contain the following: 1.1 Training sessions must be conducted in Gauteng Province. 1.2 Training must be presented for a duration of three days. 1.3 Training schedule must clearly provide training objectives, with specific outcomes.	5 – Detailed training plan provided with all three stated requirements. 1-Training plan provided did not cover all three stated requirements.
3. Relevant Experience and References Bidder demonstrates relevant experience in supplying mobile direction-finding units supported by verifiable references.	40	1. Verifiable reference letters on official letterhead for each relevant project, including: • Scope of work • Dates of service • Contactable client details.	5 four or more reference letters: provided. 4 three reference letters provided. 3-two reference letters provided. 2-one reference letter.

Annexure A: Technical Specification

Background

Background

The Authority is mandated to locate all sources of radio frequency interference and therefore require three (3) specialized, portable and re-deployable direction-finding equipment capable of detecting emissions from 10 MHz up to 8 GHz. The units must be designed for both vehicle mounting and tripod/portable deployment so that ICASA teams can easily operate wherever needed and depending on various requirements/situations.

The operational requirements of the systems shall be designed to allow efficient removal and installation, facilitating mounting on different vehicles as operational requirements dictate. Given the operational requirements, deployment locations may vary; therefore, the system must be capable of being dismantled and packed into rugged transport cases for shipment to other provincial offices for use or storage. Most interference incidents reported to the Authority fell within the 10 MHz to 8 GHz range but not limited to.

ICASA requires a complete, operational solution comprising three (3) radio direction-finding systems.

		COMPLY	
1. General Specification		YES	NO
	1. The equipment must come with a ruggedized transportable casing.		
	2. Ruggedized portable receiver device		
	3. Dimensions of Receiver are not to exceed 400mm x 250mm x 10mm. Bidder to state the size and weight in the offer.		
	4. Operating Temperature Range: 0°C to + 45°C.		
	5. Operating Humidity 10% - 90% @ 30°C non-condensing		
2. DF Receiver / Analyzer that is compatible with DF unit and Antenna		YES	NO
	Receiver Frequency range:10 MHz - 8GHz No gaps		
	RF input 50 Ω N-Type or SMA connector or suitable connector adaptor supplied to connect to SMA or N-Type		
	Full Spectrum and Spectrogram, including a real-time analysis display on an integral colour screen.		
	Real-time analysis specifications		
	At least 40 MHz Real-Time Bandwidth		
	Integrated Screen requirements		
	TFT/LCD/OLED or similar Integrated Colour display		
	Intensity and contrast adjustment required		
	Display size must be at least 120mm measured diagonally across		

	Panorama Scan. High-speed FFT scan across user-selectable scan range.		
	Field strength measurement to be on display and in dBuV/m.		
	Average, min hold and max hold analysis.		
	IF spectrum display ranges from 1kHz to 40 MHz		
	Demodulation modes to include AM, FM, PULSE, I/Q, LSB, ISB and CW.		
	Demodulation Bandwidths of 150/300/600Hz and 1/2/5/10/20/50/100/200/500 kHz is required		
	User selectable input attenuation up to 30 dB, in steps of 1 dB		
	The demodulation of audio to be selectable from internal speaker and supplied headphones. (selectable)		
	Weight of each receiver unit must not exceed <u>4kg</u>		
	Internal storage for recording of measurement data is required		
	Battery life better than 3 Hours on full charge		
	12V Vehicle charger /Adapter must be provided for each receiver unit supplied		
	Integrated GPS with External antenna connection		
	Soft carry case for each receiver to be provided.		
			COMPLY
	3. Vehicle and tripod-mounted Direction Finder Unit / Antenna:	YES	NO
	Re-deployable, Roof-Mounted/tripod-mounted, Direction-Finding Antenna system without the need for re-calibration.		
	Roof-mounted DF Antenna range 10 MHz – 8 GHz		
	Bidder to state if antenna array is provided in a single or multiple units		
	Correlative Interferometer or Watson-Watt method of Direction Finding		
	Better than 2° accuracy over entire frequency range		
	DF sensitivity, better than 10uV/m over entire frequency range		
	Pulse detection – better than 20 ms pulse duration detection.		
	Digital compass is required		
	Overall size of the antenna must be as compact as possible and must not exceed the overall measurements of 350mm x 350mm. This is to allow for vehicle access in limited areas and limit damage to antennas in overgrown areas.		
	4. Software requirements	COMPLY	
		YES	NO
	Direction-finding software must be compatible with the latest Windows Operating System.		
	Radio Direction Finder (RDF) system must be usable with Open-Source Maps		
	PC/ Laptop must be able to control the receiver and DF unit via LAN TCP/ IP 10BaseT Interface.		
	2 (off) x 2m LAN cables to be provided		

	Software must perform at least the following functions.		
	Line of bearing (LOB)		
	LOB on Map overlay		
	Geographic North or vehicle direction indication		
	Recording of audio signals		
	Prediction of signal source based on multiple LOBs using a heat map or similar display		
	Recording of measured data and report generator		
	Field strength directly in dBuV/m (antenna factor data must be provided).		
	Recording and displaying GPS data		
	Recording and displaying electronic compass data		

4. Testing of the equipment

This is only applicable to the successful service provider, i.e. final acceptance: Testing must be done after the supply of mobile direction-finding units. Final acceptance will include testing functionality of the devices and will be done in accordance with the standard test procedures and representatives of ICASA and the bidder will sign all acceptance forms.

ICASA Delivery Details

Equipment to be delivered to ICASA REGIONS & CA DIVISION

Attention : Sphesihle Zungu, Division, Assistant

Tel +27 12 568 3803

350 Witch-hazel Avenue; Eco Point Office Park

Eco Park, Centurion