science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

SANSA
SOUTH AFRICAN NATIONAL
SPACE AGENCY

Request for Information (RFI) for Spectrum Analyser System for Remote Radio Frequency Monitoring Applications

Date of issue: 24 January 2024

Response deadline: 7 February 2024 at 11:00am

1. Introduction

SANSA is seeking information from potential suppliers regarding the procurement of a complete spectrum analyser system for remote Radio Frequency monitoring applications. This system will require a high-performance spectrum analyser, a low-noise amplifier (LNA), a high-gain directional antenna with a rotatable reflector dish, and comprehensive technical and after-sales support.

2. System Requirements

2.1 Functional Specifications:

****Frequency Range:** Up to 35 GHz (including VHF, UHF, L, S, C, X, Ku, and Ka-bands)

Measurement Capabilities: Full range coverage for signal strength, noise floor, harmonics, occupied bandwidth, and other relevant parameters.

****Sensitivity:** Support for signals down to -221 dBW/Hz on X-band and Ka-band.

Remote Monitoring: 24/7 remote access and control capabilities via a dedicated software interface.

Antenna Control: Rotatable reflector dish with 360-degree azimuthal coverage for comprehensive signal tracking.

Interface Compatibility: Seamless integration with the spectrum analyser and remote software interface.

Environmental Requirements: Weatherproof and rugged construction suitable for outdoor deployment.

** Very High Importance

2.2 Technical Specifications:

Spectrum Analyzer: Frequency range up to 35GHz, Portable with built-in display, Build-in high gain low noise amplifier and including all software licence functionalities.

LNA's: Multiple LNA to cover the full range of Satellite Frequencies (L, S, C, X, Ku, and Ka-Band)

Antenna System: Manually or automatically adjustable directional antenna for the detection of RF signals and for field strength measurements in azimuth and elevation. Wide frequency range. Easy to transport and deploy. Active LNA that can select of horizontal, vertical, left-hand, or right-hand circular polarization. Additionally, A second Handheld Directional Antenna covering all the Satellite Frequencies (L, S, C, X, Ku, and Ka-Band) for interference hunting purpose.

Remote Software Interface: Software interface for remote monitoring and test scheduling, control of antenna direction and spectrum analyser, and basic data analysis and be able to export the spectrum data.

2.3 Additional Requirements:

Interference Hunting Capability: The system should be adaptable to integrate a portable directional antenna for targeted interference-hunting applications. The portable directional antenna must also be supplied.

Accessories: Include all necessary accessories for transport, deployment, and protection of the equipment during operation.

Technical and After-Sales Support: Training, remote troubleshooting, and spare parts availability guaranteed for at least 5 years.

Warranty and Calibration: 3-year warranty period for the complete system and calibration service for 3 years for the spectrum analyser system.

3. RFI Documentation Deliverables

Please provide a detailed cost breakdown for the proposed system, including:

1. Equipment costs for the spectrum analyser, LNA, antenna system, remote software interface, and all accessories.
2. Technical and after-sales support costs for installation, training, warranty, and calibration.
3. Estimated delivery time from order placement to system delivery.
4. Any additional costs associated with transportation, insurance, or other relevant factors.
5. Any additional suggestions on how to future proof the system is welcome.

SANSA deeply appreciates the participation of all vendors in this RFI process. We encourage you to submit comprehensive responses outlining your proposed solutions and capabilities. Based on the information received, we will further refine our requirements and issue a formal RFQ inviting bidders to submit competitive bids.

4. Submission dates and contact details.

Vendors are kindly requested to provide their responses to this RFI to SANSA by no later than **7 February 2024 at 11:00am.**

Submissions can be made in person at the SANSA offices located at

Farm 502JQ,

Space Operations Office,

Hartebeesthoek site,

Westrand District

Or electronically to **spaceops-scm@sansa.org.za**

Thank you for your time and interest in this project. We look forward to hearing from you.

5. Vendor responses

Vendors must prepare their responses using the following format.

5.1 Company Information

5.1.1 Vendor Contact Details
Registered Company Name Company Registration Number VAT Registration Number Registered Address Trading Address Main Telephone Number Website Address
5.1.2 Vendor Background
Abridged History Description of Company's primary line of business
5.1.3 Vendor Offering
Respond to the key factors for consideration about the solution presented within this document.