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REQUEST FOR INFORMATION (RFI):

RFI 01-2025

RFI FOR THE DEVELOPMENT OF AN AUTOMATED SPECTRUM MANAGEMENT SYSTEM (ASMS) FOR THE INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA

CLOSING DATE: 22 AUGUST 2025 AT 11H00

1. INTRODUCTION

1.1 The Independent Communications Authority of South Africa ("the Authority" or "ICASA") seeks comprehensive information from qualified service providers concerning the development and implementation of an Automated Spectrum Management System (ASMS).

1.2 This system is intended to enhance ICASA's capacity to manage the radio frequency spectrum in an efficient manner. The objective of this Request for Information (RFI) is to collect detailed insights regarding available solutions, industry best practices, potential strategies for implementation, and a proposed sustainable value chain cost model to ensure operational efficiency.

2. BACKGROUND

2.1 ICASA is preparing to initiate the procurement process for an automated spectrum management system designed to enhance its capability to efficiently manage the radio frequency spectrum in a manner that serves the public interest. This advanced system is envisioned to integrate a variety of technical and administrative tools essential for comprehensive spectrum management.

2.2 Specifically, the automated spectrum management system will streamline the licensing process for the radio frequency spectrum, ensuring that it operates smoothly and transparently. Furthermore, it will facilitate thorough spectrum planning, enabling the assessment and allocation of frequencies based on demand and usage patterns.

2.3 In addition to licensing and planning, the system will incorporate robust monitoring capabilities to track spectrum usage, ensuring compliance with regulatory standards. It will also enable efficient spectrum authorisation processes, including type approval for new devices and technologies that utilise the spectrum. Overall, this system aims to create a seamless and practical framework for the management of radio frequencies, ultimately benefiting all stakeholders involved.

3. OBJECTIVES

3.1 The main objective of this RFI is to obtain comprehensive insights regarding solutions available for the effective implementation of an ASMS and the associated commercial models in the market. Moreover, to establish the availability of the prospective vendors in the market and their capabilities.

4. INFORMATION REQUESTED

4.1 Interested vendors are hereby requested to provide a comprehensive submission on the following:

4.1.1 Understand the array of available solutions and technologies in relation to the ASMS. The Authority has outlined its radio frequency spectrum management framework and detailed how the ASMS will support this framework, as outlined in sections 5 and 6 of this document, respectively.

4.1.2 The information concerning implementation timelines, costs, and best practices of the ASMS.

4.1.3 The regulatory and security requirements.

4.1.4 The support provided and the implementation processes of potential service providers.

4.1.5 Identify potential third-party enhancements associated with the marketplace solution.

4.1.6 Provide the name and system specifications of the readily available ASMS that can fulfil our specified requirements outlined in Section 6, along with their associated modules, integration levels with the applicants' portal, coordination systems, and financial systems, as well as the credibility of the proposed system, including the number of regulators utilising the system and their experiences.

4.1.7 The system capacity and database management structure.

4.1.8 The limitations of existing systems available in the market.

4.1.9 Attain a clear understanding of the commercial models proposed by potential service providers.

4.1.10 To propose innovative commercial models that may introduce added value derived from the electronic marketplace, thereby benefiting the broader ecosystem. Furthermore, please specify any third-party entities involved in such proposed models.

4.1.11 The company information required includes:

4.1.11.1 A detailed company profile and historical background.

4.1.11.2 An account of experience pertaining to the development, implementation, or deployment of systems similar to those required.

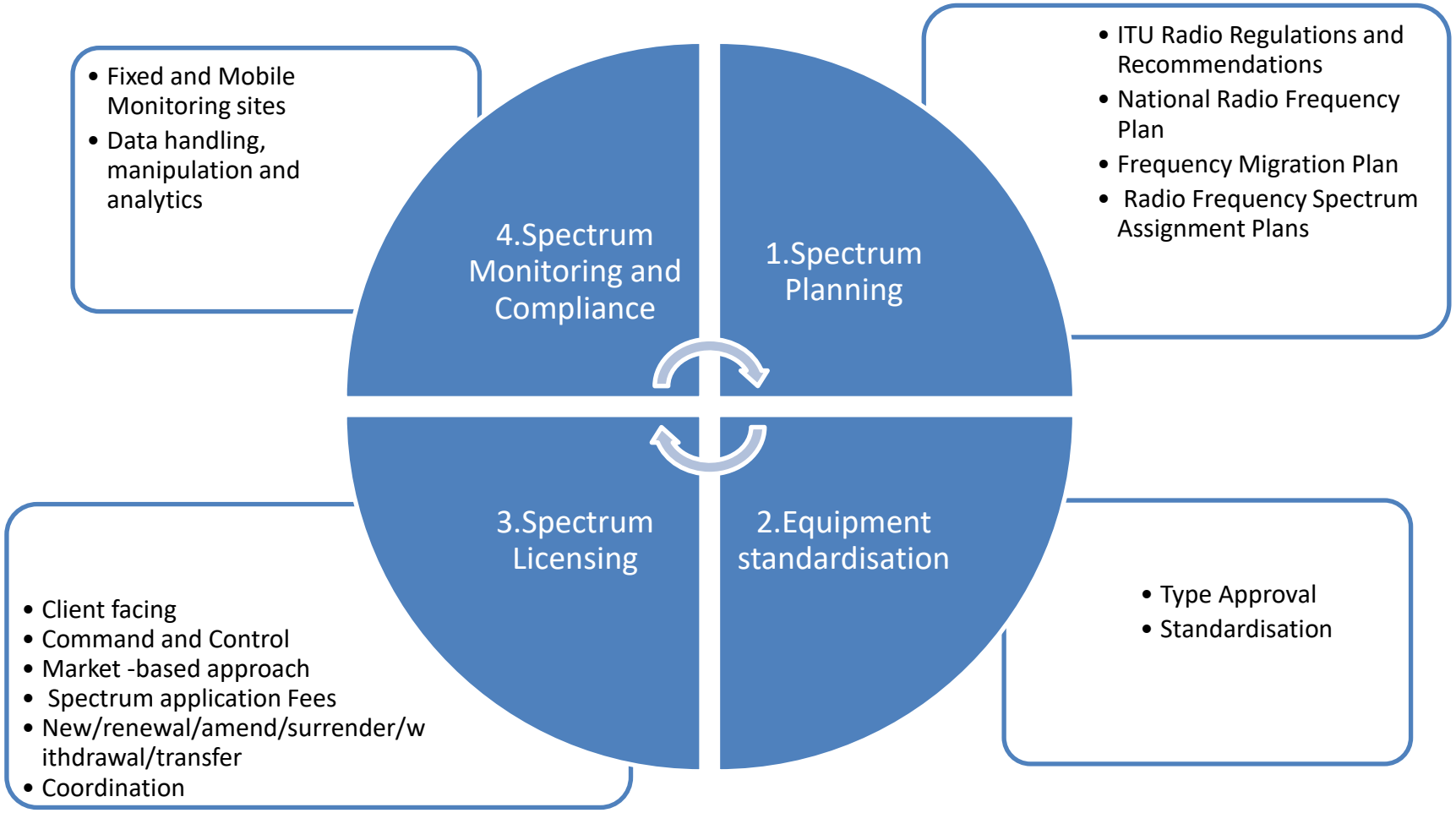
4.1.11.3 Identification of key clients and relevant case studies that align with this RFI.

4.1.11.4 An outline of pricing models and cost estimates associated with the development of the core system.

4.1.11.5 Proposed costs associated with maintenance services.

4.1.11.6 A breakdown of any additional costs, including but not limited to those for development, customisation, support, and training.

5. ICASA'S SPECTRUM MANAGEMENT FRAMEWORK



6. SYSTEM DESCRIPTION ALIGNED TO THE SPECTRUM MANAGEMENT FRAMEWORK

Component of the Radio Frequency Spectrum Management	Application	Requirements	Integration
1. Spectrum Planning	The spectrum planning is about availing the spectrum to the various services with consideration of supply and demand from the users' perspective. It entails participating in the regional and international studies of various bands, particularly the ITU, and contributing based on your country's needs to ensure spectrum allocation is harmonised globally.	ITU Radio Regulations and Recommendations: • National Radio Frequency Plan • Frequency Migration Plan • Radio Frequency Spectrum Assignment Plans The system is required to be capable of pulling the ITU Radio Regulations (Table of allocations and Footnotes) and allow formulation of the National Radio Frequency Plan with its associated footnotes. The system should be able to provide all stakeholders access to the approved and current NRFP through Electronic Frequency Information Services (EFIS). Moreover, the envisaged system should be able to accept the approved frequency migration plan and radio frequency spectrum assignment plans as input. The system should enable compatibility studies, including in-band and adjacent band comparisons.	The system should be integrated with the Spectrum licensing component as follows: - Attach the ITU-R Recommendation applicable to each spectrum band - Attach the rules of assignment, including moratoria, drawn from the Radio Frequency Spectrum Assignment Plan applicable to a spectrum band - Flag the expected migration of services drawn from the Frequency Migration Plan The system should be integrated with the Spectrum monitoring and compliance component as follows: - Draw from data related to spectrum utilisation and performance of spectrum bands
COMPONENT EFFICIENCY:			

IT: Browser-based solution FINANCE: N/A DECISION MAKING: N/A FLEXIBILITY: Accommodate changes after every World Radiocommunication Conference OUTPUT: Compatibility Studies REPORTING: Visual representation of the Spectrum Plan (EFIS)			
2.Equipment Standardisation	This component entails developing radio technical standards and equipment type approval based on the approved standards. It is essential for the operation of the radio systems to prevent interference and ensure that radio systems perform as designed within the allocated spectrum bands.	The system should be able to receive type approval applications, orders for type approval stickers and issue type approval certificates. Applications and orders received from applicants will be subjected to a workflow process towards approval, wherein each step value is added.	The system should feed the type-approved equipment to the Spectrum licensing component. The system should integrate to ICASA's financial (billing) system to generate invoices based on the services and price calculated in Equipment Standardisation module
COMPONENT EFFICIENCY: **GUI:** Both the applicant and the Authority's portal would be required. **IT:** Web-based; Bandwidth capacity to cope with volumes of applications concurrently. Ability to load large files as supporting documentation **FINANCE:** Facilitate the payment of application fees and ensure that type approval certificates are issued once payment is received. Include ability to make electronic payments. **DECISION MAKING:** Follow the prescribed workflow for approval purposes **FLEXIBILITY:** Application fees adjustments on an annual basis **OUTPUT:** Type approval certificates, stickers and rejection letters **REPORTING:** Number of applications received, number of type approval certificates issued and rejected, performance reports on the internal workflow. Detailed (downloadable) file of all applications within selected periods			

3.Spectrum Licensing	Spectrum licensing involves assigning specific portions of the spectrum to users under specific conditions. Spectrum licensing can lead to harmful radio frequency interference if it does not follow the groundwork laid by the planning and equipment standardisation components.	The system should be able to receive radio frequency spectrum applications (New/ renewal/ amend/ surrender/ withdrawal/ transfer/ trial/ sharing), registrations of call signs and space segments leading to the issuance of the call signs, authorisations, radio frequency spectrum licences, or rejection letters. The system should allow technical studies relating to coverage and radio frequency interference. This should include using Digital Terrain Model, Hierarchical administrative database(s), various propagation models, frequency assignments, exclusion zones, spectrum coordination, and updating the BR-IFIC. Applications received will be subjected to a workflow process towards approval, wherein value is added at each step. The workflows vary with different types of radio communication services. The system should be able to reveal the ITU-R Recommendation applicable to each spectrum band considered during application processing. The system should highlight the rules of assignment, including moratoria, drawn from the Radio Frequency Spectrum Assignment Plan applicable to a spectrum band, and flag the expected migration of services drawn from the Frequency Migration Plan. The system should be able to take input of the service licences.	Interface with: BR-IFIC and MIFR; Google Earth and HCM4a The system should be integrated with the Spectrum monitoring and compliance component as follows: - Provide the approved records of the Radio Frequency Spectrum Licences, attached with technical specifications and coverage predictions. - The system should integrate to ICASA's financial (billing) system to generate invoices based on the services and price calculated in Spectrum Licensing module.

		The system should be able to facilitate the recording of assignments on the MIFR and read from the BR-IFIC.	
COMPONENT EFFICIENCY: **GUI:** Both the applicant and the authority's portal would be required. **IT:** Web-based; Bandwidth capacity to cope with volumes of applications concurrently **FINANCE:** Facilitate the payment of application and licence fees **DECISION MAKING:** Follow the prescribed workflows for approval purposes **FLEXIBILITY:** Application and licence fee adjustments on an annual basis; Workflow adjustments **OUTPUT:** Authorisations, radio frequency spectrum licences, or rejection letters **REPORTING:** Number of applications received, number of authorisations, radio frequency spectrum licences, or rejection letters, performance reports on the internal workflows. Detailed (downloadable) file of all applications, renewals and cancellations within selected time periods			
4.Spectrum Monitoring and Compliance	It involves monitoring the use of the assigned radio frequency spectrum and putting in place measures to control the misuse and illegal use of spectrum. Furthermore, the usage of the assigned frequencies is an essential basis for the spectrum planning component as it	The system should be capable of mining data on spectrum utilization from fixed monitoring sites while also accommodating mobile monitoring activities. Additionally, the system must possess the intelligence to compare or correlate the utilization of radio frequency	The system should be integrated with spectrum licensing component by feeding the spectrum utilisation of various bands.

	provides the performance of each band in accordance with the service attached to it as per the national radio frequency plan and ITU Radio Regulations.	spectrum bands with the licenses issued for those specific bands. This component should be able to retrieve location-based information regarding poor and good performance, spectrum congestion, and flag any illegal use of radio frequency spectrum across various bands.	
COMPONENT EFFICIENCY: IT: Integration of with the monitoring systems. Web-based access to retrieve reports and data analysis. FINANCE: N/A DECISION MAKING: N/A FLEXIBILITY: Able to allow data manipulation to produce the relevant needed information. OUTPUT: Reports REPORTING: Flexible to produce report whenever required.			

7. Evaluation and next steps

Responses to this RFI will be evaluated based on the vendor's experience, the comprehensiveness of the solution, alignment with ICASA's requirements, and overall feasibility. Selected vendors may be invited to participate in a subsequent Request for Proposal (RFP) process.

8. Disclaimer

8.1 This RFI is for information-gathering purposes only and does not constitute a solicitation or contractual obligation by ICASA.

8.2 ICASA reserves the right to change or cancel the RFI at any time without any prior notice. Whilst the intent of ICASA is to compare vendor responses and conduct market research on "the development and deployment of ASMS system", ICASA makes no obligation or undertakings in any way to:

8.2.1 Go out on a tender;
8.2.2 Accept any Request for Information received from vendors;
8.2.3 Include vendors responding to this Request for Information in any future tender invitation; or
8.2.4 Any other commitment to suppliers whatsoever, including any intention to form a contract with any supplier for "proposing the development and deployment of the ASMS system.