
Radiological Society
of South Africa

# Request for Proposal:
# Radiology Exchange

# Contents

# 1 Introduction

## 1.1 Background

The Radiological Society of South Africa (RSSA) seeks to establish a radiology image and report-sharing exchange system that will enable the efficient and secure sharing of radiological images and reports among radiology practices throughout South Africa. This will be known as the RSSA Radiology Exchange but will be open to all radiology practices in South Africa, irrespective of RSSA membership. This initiative aims to enhance patient care, streamline workflows, provide seamless radiology results across the private sector, and prepare for future integrations with the public sector and National Health Insurance (NHI) plans. The concept is not dissimilar to the handling of radiology by the now, regrettably defunct CareConnect and the Health Information Exchange.

Therefore, the purpose of this RFP is to solicit proposals from qualified vendors to design, implement, and support a comprehensive radiology image and report-sharing exchange system that meets the requirements outlined herein.

## 1.2 Rationale

This initiative aims to address the evolving needs of healthcare delivery by focusing on key areas where improvements can greatly enhance both patient outcomes and operational efficiency.

**Improved Patient Outcomes**

A primary advantage of this initiative is its potential to enhance patient outcomes through comprehensive access to historical records. By enabling radiology providers to review complete and accurate information, clinical decisions can be made with greater confidence and precision.

**Operational Efficiency**

The exchange aims to streamline workflow by reducing the time and resources required to transfer and retrieve patient information between practices. This improvement in operational efficiency is expected to yield significant cost savings, notably by minimising the need for repeat imaging, which in turn reduces both financial costs and patient exposure to unnecessary radiation.

**Enhanced Collaboration**

Enhanced collaboration among healthcare providers is another critical benefit. The system will promote better coordination among radiologists, fostering a practice-independent team-based approach that will lead to improved treatment outcomes.

**Future-Proofing for NHI**

Looking forward, the radiology information exchange aligns with national healthcare goals by preparing the private sector for integration with the public sector and National Health Insurance (NHI) plans. It establishes a scalable infrastructure that supports universal healthcare coverage and can be expanded to include public sector integration.

### 1.3 Scope

This RFP covers the development, deployment, and maintenance of a radiology image and report-sharing exchange system, including software, hardware, and support services.

## 2 Objectives

The goal of this project is to improve the efficiency and effectiveness of radiological services by developing a solution that enhances interoperability, usability, security, compliance, and scalability.

**Interoperability**

The project seeks to facilitate the seamless sharing of radiological images and reports across diverse radiology practices. This objective emphasises enabling smooth and effective data exchange between different systems and practices, ensuring that all stakeholders can access and utilise radiological information effortlessly.

**Usability**

The objective is to streamline workflows by integrating with existing practice PACS and/or RIS systems. This integration will allow for seamless access, retrieval, and viewing of images and reports directly within the practice's native system, thereby enhancing efficiency and user experience.

**Security**

A key focus is to ensure high levels of data security and patient confidentiality. The system must be designed with robust security measures to protect sensitive patient information and adhere to best practices in safeguarding data against unauthorised access and breaches.

**Compliance**

The system must be developed in adherence to relevant regulations and standards, including the Protection of Personal Information Act (POPIA). Ensuring compliance with these standards is crucial for legal and regulatory adherence, as well as for maintaining high standards of practice.

**Scalability**

The design of the system should emphasise scalability, allowing it to accommodate future growth and advancements. This includes the capability to integrate with the public sector and National Health Insurance (NHI) plans as they evolve, ensuring the system remains relevant and functional over time.

# 3 Functional Requirements

The proposed solution must meet the following technical specifications:

## 3.1 Core Features

**Image and Report Sharing:** Facilitate the sharing of various radiological images and associated reports.

**Patient Matching and Indexing:** Ability to accurately match patients across various radiology practices based on demographic data and other relevant identifiers. Creation of a unique index for each patient to enable efficient querying and retrieval of associated images and reports from the indexed records. To provide users with immediate value, historical data from the last 5 years should be indexed accordingly.

**Integration with PACS:** Capability to integrate with existing PACS systems, ensuring seamless peer-to-peer data exchange between practices.

**Workflow Integration:** Integrate smoothly into existing radiology workflows without causing disruptions.

**Data Synchronisation and Accuracy:** Synchronise patient data to maintain accurate and up-to-date indexing. For references, approximately 5 million radiology procedures are performed each year.

**Access Control:** User access controls and authentication mechanisms. Restriction of any bulk image or report requests.

**Audit Trails:** Maintain detailed logs of all access to images and reports.

## 3.2 Security

**Data Encryption:** Encryption of data both during transmission and while stored.

**Network Security:** Protection of the network from unauthorised access and attacks.

**Compliance:** Adherence to local and international data protection regulations, including South African laws and GDPR if applicable.

**Backup and Recovery:** Regular backups and a disaster recovery plan.

### 3.3 Performance

**Scalability:** Ability to handle increasing volumes of images, reports and users, with potential for future integration with the public sector.

**Speed:** Efficient image and report upload or indexing, querying, and retrieval with minimal latency.

### 3.4 Support and Maintenance

**Technical Support:** Offer support services to ensure system stability.

**Updates:** Regular system updates to maintain performance and security.

## 4 Technical Requirements

### 4.1 Architecture

**Cloud-based vs. On-premises:** Specify if the solution should be cloud-based or on-premises, including pros and cons.

**Technology Stack:** Details on preferred technology stack. To ensure compatibility with all PMA vendors in South Africa, the technology used must be PMA-neutral, facilitating seamless integration across various systems.

**Data Storage:** A detailed description of the data being stored and its designated locations, such as the radiology exchange environment or radiology practice infrastructure. It is important to note that the RSSA prefers the images to be stored within the respective radiology practice infrastructure. This approach aims to minimise the radiology exchange data storage requirements as much as possible and avoid duplication of storage.

### 4.2 Integration with Practice Systems

**Standards Compliance:** Ensure compatibility with DICOM (Digital Imaging and Communications in Medicine) and HL7 (Health Level Seven) standards for integration with PACS systems.

**APIs:** Provide APIs for integration with practice systems, including data exchange protocols and methods.

**Custom Integration:** Ability to accommodate custom integrations with various PACS systems currently in use across different practices.

# 5 Submission Requirements

Vendors are encouraged to submit multiple proposals if they wish to present different solutions. Each proposal must include the following:

## 5.1 Vendor Information

**Company Profile:** An overview of the vendor's experience, team composition, qualifications, and expertise.

**References:** Case studies or references from similar projects, especially those involving integration with radiology systems.

**Conflict of Interest:** Disclosure of any potential conflicts of interest.

## 5.2 Technical Proposal

**Solution Overview:** A detailed description of the proposed solution, including architecture and technology.

**Implementation Plan:** A project timeline with milestones and deliverables, specifying responsible individuals and the resources required for each task.

**Pros, Cons, and Challenges:** A summary of the advantages and disadvantages of the proposed solution, and any perceived challenges that may need to be addressed.

**Additional Functionality:** Specify any additional functionality that

## 5.3 Financial Proposal

**Cost Breakdown:** A detailed breakdown of costs, including once-off costs, transaction (volume) related costs, and ongoing support. It is acknowledged that various pricing models may be applicable to this project. Therefore, it is crucial for the RSSA to have a clear and comprehensive understanding of the cost breakdown and payment structure.

**Payment Terms:** Proposed schedule and terms of payment.

## 5.4 Legal and Contractual

**Contract Terms:** Draft terms and conditions, including service level agreements (SLAs).

# 6 Evaluation Criteria

Proposals will be evaluated based on:

## 6.1 Technical Evaluation

**Functionality:** How well the proposal meets the functional requirements.

**Technical Approach:** Innovation and effectiveness of the proposed technical solution.

**Compliance:** Adherence to security and regulatory requirements.

## 6.2 Financial Evaluation

**Cost Effectiveness:** Total cost of ownership and value for money.

**Financial Stability:** Vendor's financial stability and capacity to deliver.

## 6.3 Vendor Experience

**Track Record:** Previous experience in implementing similar systems.

**Customer Feedback:** Feedback from existing customers.

# 7 Terms and Conditions

All submitted proposals must remain valid for a period of 120 days.

The RSSA reserves the right to accept or reject any or all proposals without assigning any reason.

All costs associated with proposal preparation and submission will be borne by the vendor.

# 8 Submission Instructions

Please submit your proposal to tvrooyen@rssa.co.za by 31 October 2024.

For any inquiries or further information, please contact:

Name: Tinus van Rooyen

Email: tvrooyen@rssa.co.za