Western Cape Government
Health
FOR YOU

SUPPLY CHAIN MANAGEMENT – GROOTE SCHUUR HOSPITAL

REFERENCE: RFI1/2024

ENQUIRIES: SYLVIA DHAYALAN-NAIR / ETTIENE ROMAN

COVER LETTER

REQUEST FOR INFORMATION

YOU ARE HEREBY INVITED TO SUBMIT RESPONSES TO THIS REQUEST FOR INFORMATION (RFI) FOR REQUIREMENTS OF GROOTE SCHUUR HOSPITAL, DEPARTMENT OF HEALTH & WELLNESS WESTERN CAPE GOVERNMENT

BID NUMBER: RFI1/2024 **CLOSING DATE: 21 NOVEMBER 2024** **CLOSING TIME: 11H00**

THE PROVISION, PLACEMENT, TRAINING AND SUPPORT OF AN INTEGRATED AUTOMATED CT BRAIN IMAGING SOFTWARE SOLUTION WITH ADVANCED CAPABILITIES FOR USE IN THE DIAGNOSIS AND TREATMENT OF TIME-SENSITIVE ACUTE STROKES, INCLUSIVE OF A FULL MAINTENANCE AND SUPPORT AGREEMENT TO GROOTE SCHUUR HOSPITAL (HUB) AND REFERRING HOSPITALS (SPOKE) FOR A CONTRACT PERIOD OF FIVE (5) YEARS DURING WHICH THE CONTRACT MAY BE DISSOLVED SUBJECT TO SUPPLIER PERFORMANCE AND DEPARTMENTAL PRESCRIPTS, AT THE SOLE DISCRETION OF THE DEPARTMENT, WITH THE OPTION TO EXTEND FOR THREE (3) YEARS.

THIS SPECIFICATION WILL INCLUDE SUPPLY, DELIVERY, INSTALLATION, DEMONSTRATION, COMMISSIONING, TRAINING, SUPPORT AND MAINTENANCE OF THIS INTEGRATED SOLUTION AT GSH AND REFERRAL HEALTHCARE FACILITIES. THIS SOLUTION SHALL INCLUDE A FULL MAINTENANCE AND SUPPORT AGREEMENT TO THE INSTITUTION FOR THE FULL CONTRACT PERIOD.

RESPONSES MAY BE POSTED OR EMAILED TO: **ETTIENE ROMAN (Ettiene.Roman@westerncape.gov.za), PROCUREMENT (BID OFFICE), FIRST FLOOR F46, ROOM 53, OLD MAIN BUILDING, GROOTE SCHUUR HOSPITAL, OBSERVATORY 7925**

OR

DEPOSITED IN THE BID BOX SITUATED IN: **THE FOYER, MAIN ENTRANCE, OLD MAIN BUILDING, GROOTE SCHUUR HOSPITAL, OBSERVATORY 7925**

If you know of any corrupt, fraudulent, or collusive actions in the Institution, please report it by calling the National Hotline 0800 701 701.

Please note the following important information and requirements:

Bidders should ensure that the **response** is delivered timeously to the correct address. If the information is late, it will not be accepted for consideration. Should uncertainty exist regarding the location of the Institution's bid box, bidders are advised to refrain from soliciting the advice of the Security Personnel on duty and to rather contact **Sylvia Dhayalan-Nair (Tel: 021 404 2067) or Ettiene Roman (Tel: 021 404 2345)** for assistance. The bid box is generally open 24 hours a day, 7 days a week.

All **responses** must be submitted on the official forms – (not to be re-typed) and only **originally signed documents** will be considered. **Failure to complete and sign the bidding documents, certificates, questionnaires and specification forms in all respects, will invalidate the response.**

All **responses** must be accompanied by a letter signed by the bidder, authorizing the Institution, in name, instead of the bidder, to confirm with third parties the accuracy of any information submitted as part of this **response**.

DEPUTY DIRECTOR: FINANCE /SUPPLY CHAIN MANAGEMENT

DATE:

MR C FRANK

13 NOV 2024

ACTING DIRECTOR: FINANCE

If you know of any corrupt, fraudulent, or collusive actions in the Institution, please report it by calling the National Hotline 0800 701 701.

SPECIAL CONDITIONS OF CONTRACT

THIS RESPONSE IS DUE AT ON 21 NOVEMBER 2024

1. SCOPE 1.1. The provision, placement, training and support of an integrated automated CT brain imaging software solution with advanced capabilities for use in the diagnosis and treatment of time-sensitive acute strokes, inclusive of a full maintenance and support agreement to Groote Schuur Hospital (hub) and referring hospitals (spoke) for a contract period of five (5) years during which the contract may be dissolved subject to supplier performance and departmental prescripts, at the sole discretion of the department, with the option to extend for three (3) years. 1.2. Inclusive of brain NCCT, CTA, CT-perfusion, Large Vessel Occlusion (LVO) and intracranial haemorrhage (ICH) detection and workflow co-ordination platform. 1.3. Inclusive of a full maintenance and support agreement to GSH including referral hospitals for a contract period of five (5) years, with an option to extend for three (3) years, subject to supplier performance and department prescripts, at the sole discretion of the department. 1.4. Expansion of the project to other Healthcare facilities in a hub and spoke solution design with same terms and conditions. **2. DELIVERY LOCATIONS** 2.1. Goods **are required for delivery to the Direct Issue Store, A-floor, A22 of Groote Schuur Hospital, an** institution under the control of the Western Cape Department of Health & Wellness, in such quantities as specified in the bid specification/pricing schedule. **3. DELIVERY AND DOCUMENTS (GCC PAR. 10.1 AND 10.2)** 3.1. The successful bidder is to ensure the supply, delivery, installation, demonstration, commissioning, training, support, and maintenance of the offered solution on site within four (4) – six (6) weeks after awarding of the bid. Failure to adhere to this timeframe will result in the implementation of the penalty provisions as provided for in GCC Par. 22. **4. PRICES (GCC Par. 17)** 4.1. The integrated solution for tertiary (hub) and referral (spoke) hospitals shall include a full maintenance and support agreement for the full contract period of five (5) years, with the option to extend for a period of three (3) years. The contract may be dissolved	**BIDDERS RESPONSE.** **COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)**

at any point, subject to supplier performance **as referenced in 7.9** under **Support and maintenance (maintainability)** and at the sole discretion of the department.

5. PAYMENT

5.1. In the interest of security and expeditious payment, it is the policy of the institution to effect payment by electronic funds transfer (EFT) as far as possible. If a successful bidder is not yet a regular participant in Groote Schuur Hospital's contracts and has not been registered already, the supplier will be required to furnish Groote Schuur Hospital with its banking details for the systems in operation (Logis, BAS, Syspro) in order to be registered. Successful bidders must ensure, therefore, that their banking details are provided to the institution on request where necessary.

5.2. Payment shall be 30 days from receipt of invoice.

5.3. Payment Conditions (GCC Par. 16.1)

Payment in full will be made when the designated Hospital Official confirms in writing that the contract conditions have been complied with and that handover in good working order has been received.

5.4 Payment Currency (GCC Par. 16.4)

Payment will only be made in Rands in the Republic of South Africa.

6. NEGOTIATIONS

6.1 The institution reserves the right to enter negotiations with bidders (before the contract is concluded) and contractors (after the contract is concluded) regarding the current five (5) year contract period with the option to extend.

6.2 The institution reserves the right to negotiate additional functionality pertaining to the services provided.

6.3 The institution reserves the right to extend similar functionality to other healthcare facilities through negotiation. The specific terms and conditions will be determined as needed.

7. SERVICES AND PERFORMANCE METRICS

7.1 The successful Bidder is responsible for providing a full managed service contract covering the supply, delivery, installation, commissioning, testing, training, and maintaining the solution environments.

7.2 The successful Bidder is responsible for the high availability of 99.5 % or as agreed in a signed maintenance agreement with determined scheduled and unscheduled downtime with associated penalties.

7.3 The successful Bidder is responsible for all costs and work associated with Integration with the WCGHW applications.

7.4 The Bidder must disclose all 3rd party back-to-back agreements involved in this Bid. This may include but not be limited to MOUs, joint venture contracts, and OSM/OEM agreements.

7.5 A condition of the contract shall allow the WCGHW to amend the contract to other responsible parties to the bid in the cases where the performance of 3rd parties does not meet the contractual requirements, the Bidder goes insolvent during the contract, the primary agreement with the OSM/OEM fails or is deemed to be null and void.

7.6 The successful Bidder is responsible for all licensing costs of the solution.

7.7 The successful bidder shall offer the same terms and conditions to other hub and spoke facilities.

7.7.1 Additional functionality not stipulated under the additional options (10.1) shall be negotiated.

7.7.2 Any deviation from the scope of this bid will be negotiated and will incur additional costs.

8. PERFORMANCE SECURITY (GCC Par. 7.1 + 7.4)

8.1 No performance security amount is specified or required to be paid to the purchaser.

9. INSURANCE (GCC Par. 11.1)

9.1 The ownership of the goods and responsibility for safekeeping thereof remains the responsibility of the supplier until the equipment are handed over in good working order to the designated official in the hospital.

10. TRANSPORTATION (GCC Par. 12.1)

10.1. An all-inclusive delivered to point of use price is required.

11. WARRANTY (GCC Par. 15)

11.1 Warranty period **(GCC Par. 15.2)**

11.1.1 The warranty shall remain valid for 12 months after the solution has been handed over to the designated hospital official.

11.1.2. Bidder to indicate warranty and period.

12. SETTLEMENT OF DISPUTES (GCC Par. 27)

12.1 **Mediation Proceedings (GCC Par.27.1)**

12.1.1 The mediation shall be informal. The Head: Western Cape Department of Health and Wellness shall have the absolute discretion to determine the procedure to be followed.

13. **APPLICABLE LAW (GCC Par. 30)**

13.1 The contract shall be determined in accordance with South African laws.

14. **CONTACT DETAILS**

14.1 Please provide the particulars of the contact person responsible for all queries related to this RFI, and to whom all correspondence can be directed:

Name: .....

Designation: .....

Telephone no with area code: ..... Fax no: .....

Cellphone no: .....

Email address: .....

14.2 Enquiries may be directed to the bid administrator, tel no **(021) 404 2345;** or e-mail **Ettiene.Roman@westerncape.gov.za**

Enquiries may be directed to the bid administrator, tel no **(021) 404 2067;** or e-mail **Sylvia.Dhayalan-Nair@westerncape.gov.za**

ADDITIONAL CONDITIONS OF CONTRACT

		BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
1.	**Contract period**	
1.1	The provision, placement, training and support of an integrated automated CT brain imaging software with advanced capabilities for use in the diagnosis and treatment of time-sensitive acute strokes, to tertiary (hub) and referral (spoke) hospitals for a contract period of five (5) years, with an option to extend for three (3) years.	
1.2	Inclusive of a full maintenance and support agreement.	
1.3	Cloud Hosting costs to be inclusive of the solution.	
1.4	Hybrid hosting costs to be inclusive of the solution.	
1.5	Hardware costs, where applicable, to be inclusive of the solution	
1.6	The Microsoft licensing suite, where applicable, to be inclusive of the solution	

PROVINCIAL GOVERNMENT OF
GROOTE SCHUUR HOSPITAL

SPECIFICATION

The provision, placement, training and support of an integrated automated CT brain imaging software solution with advanced capabilities for use in the diagnosis and treatment of time-sensitive acute strokes, inclusive of a full maintenance and support agreement to Groote Schuur Hospital (hub) and referring hospitals (spoke) for a contract period of five (5) years during which the contract may be dissolved subject to supplier performance and departmental prescripts, at the sole discretion of the department, with the option to extend for three (3) years.

1. INTRODUCTION

Groote Schuur Hospital (GSH) aims to acquire the provision, placement, training and support of an integrated automated brain CT imaging software solution to improve the diagnosis and treatment of time-sensitive acute strokes, whether ischemic or hemorrhagic. Using cloud-based, deep learning algorithms, the software must have advanced capabilities in the diagnosis of acute stroke including NCCT, CTA, CTP, detection of Large Vessel Occlusions (LVO) and intracranial haemorrhage (ICH). In addition, the software should provide simultaneous, real-time notification to the stroke team of urgent neurovascular conditions, with access outputs to mobile and other end-user devices.

2. BACKGROUND

The global lifetime risk of stroke in adults is significant, and it is a leading cause of disability. Early intervention is crucial to reduce disability and mortality rates. GSH has a specialized acute stroke team offering 24/7 acute recanalization treatments for acute ischemic strokes. Selecting appropriate patients for early intervention relies on optimal brain imaging. The proposed software utilizes AI and deep learning algorithms, significantly improving the accuracy and speed of patient selection for treatment. It can detect core-penumbra mismatch, occluded vessels, and brain haemorrhages, aiding in the selection of suitable patients for intravenous thrombolysis and mechanical thrombectomy or early triage for surgery. The benefits of such software and the impact on the outcomes for stroke patients at our institution will be significant.

3. SCOPE

The provision, placement, training and support of an integrated automated CT brain imaging software solution with advanced capabilities for use in the diagnosis and treatment of time-sensitive acute strokes, inclusive of a full maintenance and support agreement to tertiary (hub) and referral (spoke) hospitals for a full contract period of five (5) years, The specifications will include Supply, Delivery, Installation, Demonstration, Commissioning, Training, Support and Maintenance of this integrated solution at the tertiary (hub) and referral (spoke) hospitals. The solution shall include a full maintenance and support agreement with the tertiary (hub) and referral (spoke) hospitals for the full contract period of five (5) years, with an option to extend for three (3) years.

4. ACRONYMS AND ABBREVIATIONS

AI	Artificial Intelligence
AO	Accounting Officer
BYOD	Bring your own device
CT SCAN	Computed Tomography scan
CDSS	Clinical Decision Support System
CTA	Computed tomography angiography
CTP	Computer tomography perfusion scan
CeI	Centre for e-Innovation
DICOM	Digital Imaging and Communications in Medicine
DMWL	DICOM Modality worklist
DOHW	Department of Health and Wellness
EHR	Electronic Health Record
EXEC	Executive Committee
GSH	Groote Schuur Hospital
HIS	Hospital Information System
HL7	Health Level 7
HOD	Head of Department
ICT	Information Communication Technology
IT	Information Technology
LAN	Local Area Network
LVO	Large Vessel Occlusion
MRI	Magnetic Resonance Imaging
MIP	Maximum Intensity Projection
MPR	Multiplanar reconstruction
NCCT	Non-Contrast Computed tomography scan
OEM	Original Equipment Manufacturer
PACS	Picture Archiving Communications System
PHCIS	Primary Health Care Information System
PHDC	Provisional Health Data Centre
PMI	Patient Master Index
POPIA	Protection of Personal Information Act
RIS	Radiology Information System
SCM	Supply Chain Management
SITA	State Information Technology Agency
SLA	Service Level Agreement

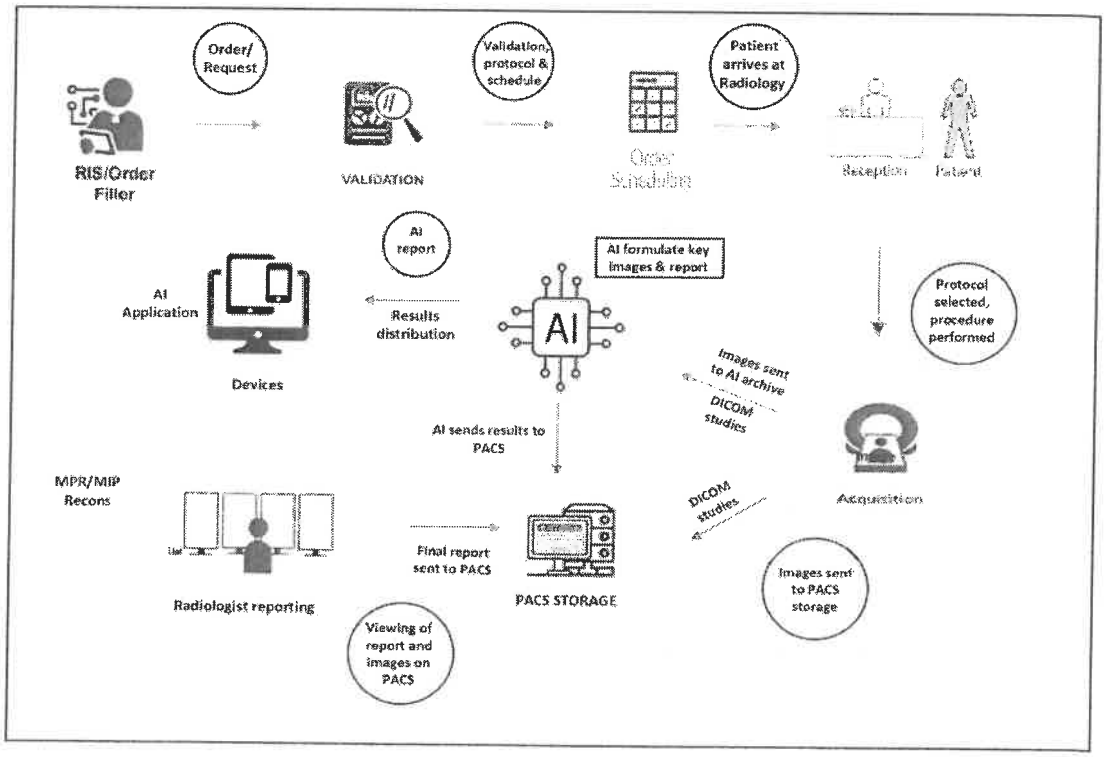
SMA	Service management agreement
TCP/IP	Transmission Control Protocol/Internet Protocol.
UAT	User Acceptance Testing
UID	Unique identifier
VPNRA	Virtual Private Network Remote Access
WAN	Wide Area Network
WCBD	Western Cape Bidding document
WCG	Western Cape Government
WCGHW	Western Cape Government of Health and Wellness

1.1. TERMINOLOGY

HYBRID	A Hybrid cloud is a cloud computing environment which uses a mix of on-premises, private cloud and public cloud services that allows for computing resources to be moved between the environments, and data and application portability

5. PROPOSAL WORKFLOW ENVIRONMENT

We require an automated brain CT imaging software at Groote Schuur Hospital (tertiary hub) for use in treating time-sensitive acute strokes, for which highly effective treatments are available. This software would automate the detection and quantification of acute ischemic strokes, exclude the presence of brain hemorrhage, detect large vessel arterial occlusions, and provide a communication platform for rapid alerting of on-call neurovascular team members.



CURRENT GSH CLINICAL WORKFLOW

GSH Clinical Workflow Requirement	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
The vendor's imaging solution must integrate with the existing operational clinical/radiological business processes that include but is not limited to the following workflows.	
Order Entry in the RIS	
Procedure validation and Scheduling	
Arrival	
Image Acquisition	
Modality archive- PACS	
Radiologist reporting	
Radiology Results distribution	
Modality/PACS archive - AI solution	
AI processing (model training) and Validation	
AI Results distribution (application)	
Radiologist validation of the AI results (application)	

Order Entry in the RIS

	Requirement	Description	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
1.	HIS integration to RIS and PACS - PMI	PMI patient information transferred from HIS to PACS/RIS via international healthcare standards: HL7 messaging standard.	
2.	HL7 messaging standard	Seamless Transfer of patient information with defined fields using the HI7 standard (no manual entry)	
3.	Radiology request for a procedure	Electronic radiology request for specialized procedures requiring validation by radiologist	
4.	Clinical indication for stroke protocol	It is compulsory for the Clinician to provide relevant clinical information pertaining to the requested procedure	

Procedure validation and Scheduling

	Requirement	Description	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
1.	Validation – for specialized procedures	All specialized radiology procedures require validation before the procedure can take place	
2.	Radiology Protocoling	Specialized radiology procedures require specific exam protocoling	
3.	Stroke AI protocoling	A dedicated stroke protocol will be defined for the AI Solution (Collaborative)	
4.	Emergency scheduling	The procedure is Immediate and has the highest priority – within 24 hours of approval	
5.	Priority scheduling	The procedure is prioritized within 48 hours of approval	
6.	Elective is for non-urgent procedures	The procedure is prioritized within seven (7) days	
7.	Stroke protocol	Window period for stroke patients to be done it needs to be scheduled within the defined parameters/priorities	

Arrival

	Requirement	Description	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
1.	HIS attendance	Attendance in HIS, appointment, attend and dispose functions are done/completed	
2.	RIS arrival	Attendance in RIS, arrives the patient	
3.	RIS starting of procedure	Radiographer starts the patient on RIS which triggers the patient worklist on the modality (MPPR)	

Image Acquisition

	Requirement	Description	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
1.	PMI - DMWL	Modality makes a DMWL Query. The PMI is a DICOM tag or element that contains information about the patient, such as their name, patient ID, date of birth, and other demographic data. It is a crucial part of a DICOM file header and ensures proper identification and organization of patient-related data in images.	

2.	AI stroke protocol parameters	The relevant protocol is initiated with the appropriate parameter's setup on the modality	
3.	Acquisition of images, patient undergoing procedure	Patient is positioned, and the modality captures the images.	
4.	Modality automated MPR reconstructions	Automated MPR reconstructions are performed using specialized medical imaging software	
5.	Integration between the CT modality, PACS, and AI archive solution.	Simultaneously with PACS storage, the CT images are sent to an AI archive solution. The integration ensures that the AI system can access and process the images for analysis	
6.	AI trigger? Brain CTA/ defined stroke protocol/	Redefined protocol aligned to AI requirements.	
7.	Archive of images	Images are archived to PACS storage and the AI archive	

Modality archive- PACS

	Requirement	**Description**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
1.	DICOM send	Using the DICOM protocol, the CT scanner initiates a connection with the designated PACS server. The server's details, such as IP address and port, are configured in the scanner.	
2.	DICOM store	DICOM C-Store (Storage) is the counterpart on the PACS side, which receives and stores the incoming DICOM images from the modality. This ensures that the received images are properly organized, indexed, and securely stored within the PACS archive	
3.	DICOM send from modality	The modality sends the DICOM images to the PACS server/archive through the established connection, and the PACS receives and stores them	
4.	DICOM store from modality	The received DICOM images are securely stored within the PACS archive, often organized by patient, study, and series. The PACS system indexes the stored	

		images for easy retrieval by authorized users/clinicians	

Radiologist reporting and Results distribution

	Requirement	Description	BIDDERS RESPONSE: COMPLIANT/NON-COMPLIANT. A TICK (ii) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
1.	Radiology reporting: consultant and registrar, consultant workflow	The radiologist accesses the PACS system, where the CT brain images are stored. They use specialized PACS viewer software to review the images, examining them for abnormalities, lesions, or any other relevant findings	
2.	Image annotation	During the review process, the radiologist may annotate the images with markers, measurements, and textual notes to highlight specific areas of interest or concern.	
3.	Radiology Report	Using dedicated reporting tools within the PACS or a radiology reporting system, the radiologist generates a detailed radiology report. This report typically includes the following elements Patient demographics and identification, clinical history and reason for the CT scan (provided by the referring clinician). Detailed description and interpretation of the CT brain images, including any abnormalities or significant findings. Recommendations or suggestions for further diagnostic tests or follow-up. Conclusions and impressions.	
4.	Link of report to images	The radiologist ensures that the report is appropriately linked to the specific CT images, ensuring a clear and accurate correlation between the findings and the images.	
5.	Integration with RIS	Once the radiology report is finalized, it is integrated with the RIS and linked to the patients current and previous images and report	

Modality/PACS archive - AI solution

	Requirement	Description	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
1.	DICOM send to AI	DICOM Send, allows a modality or a PACS system to send DICOM images and associated data to the AI archive solution. This ensures the secure and standardized transmission of images to the AI archive for further analysis and storage	
2.	DICOM store to AI	Upon receiving the DICOM data from the modality, the AI archive solution stores the images and associated data in a standard healthcare format (DICOM\HL7). The received Study Instance UID is linked with the with the data\ images (UID to maintain the integrity of the study). This ensures that the study is correctly identified and linked to the RIS order.	
3.	Healthcare standard/ Healthcare normative standards	The AI archive solution must support DICOM communication and storage to receive and process DICOM images. The DICOM C-Store service on the modality sends the DICOM images and data to the AI archive solution. The AI solution must be compliant with the normative healthcare standards.	

AI processing and validation

	Requirement	Description	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
1.	Image processing and analysis	The AI archive solution can integrate with AI algorithms and tools, allowing for the seamless execution of AI-based analysis on stored medical images.	
2.	Model capabilities	Machine learning/ Deep learning/ AI Capabilities models and AI algorithms relevant to neurovascular disorders for image analysis, feature	

		extraction and accuracy.	
3.	Stroke Classification and Localization	AI/machine learning and deep learning will analysis the data and process the data. This involves the identification and localization of the stroke with pattern recognition	
4.	Results presentation (key image and report)	Based on the analysis, the AI system generates key reports and images that include AI-detected findings, measurements, and other relevant information. These reports may highlight potential issues or areas of concern.	
5.	Validation by clinician specialist	The specialist clinician assesses the model performance and outcomes of the processed report and images for accuracy, classification, and treatment.	
6.	Additional functionality/tools of the AI solution	MIP, MPR and 3D capabilities with advanced visualization tools and neurovascular capabilities	
7.	Alerts and notification	Alerts and notification mechanisms of critical findings or changes in stroke risks.	
8.	Integration with PACS System	The processed image and report will be sent to PACS. The UID links with the original study in PACS (without creating a new study/exception)	
9.	Validation by the radiologist	Radiologist consultant validates the report and images against the original report that was generated by the AI solution.	
10.	Quality Assurance and control	Monitoring and evaluation that both reports are aligned. Their review serves as a quality control measure to ensure that the AI's findings are accurate and aligned with clinical results	
11.	Clinical Decision-Making	The validated radiology report serves as a crucial resource for the referring clinician and the broader healthcare team. It informs clinical decision-making, treatment planning, and patient management for the specialist	

		clinician.	

AI Results distribution

	Requirement	Description	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
1.	Send and store	AI key images and reports sends to PACS. The UID/accession number must be retained for reconciliation	
2.	Interoperability	Integration the AI solution into the clinical workflows via the international healthcare standards/healthcare normative standards	
3.	Patients study (images and reports)	Unique identifies to maintain the integrity of the study. These identifiers should be generated at the time of order entry and remain consistent throughout the workflow.	
4.	Must link to RIS order that is created in PACS – via accession number Patient and Study Identifiers	Generate unique accession numbers for each imaging study at the time of the request. These accession numbers should serve as unique identifiers for each study, allowing the study to maintain its integrity	
5.	Cross-Reference Database	Maintain a cross-reference database that links accession numbers, unique patient identifiers, and study identifiers between the RIS, AI archive solution, and PACS. This database should be regularly updated to reflect changes and updates in patient information.	
6.	Specialist clinicians access the AI application	Clinicians must have authorized access to view patient results on the AI application.	
7.	User Interface and Visualization	Must be user-friendly, intuitive, and advanced visualization tools should be provided. It should allow easy navigation through the images, display overlays, provide interactive measurement tools, and enable side-by-side comparisons for efficient analysis.	
8.	User Authentication	User authentication methods, such as username and password, two-factor authentication (2FA), or biometric authentication, to ensure that only	

		authorized clinicians can access patient data.	
9.	Access control	Define access control policies to restrict data access based on the clinician's role and responsibilities. Clinicians should only have access to data relevant to their patients and specialties.	

6. TECHNICAL AND FUNCTIONAL REQUIREMENTS

6.1.	GENERAL DESCRIPTION	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
6.1.1	This specification establishes the need for automated brain CT imaging software for Groote Schuur Hospital for use in the diagnosis and treatment of acute strokes, for which highly effective treatments are available. The Solution must be compatible and must integrate with the following solutions: 1. Picture Archiving Communication System (PACS) 2. Radiology Information System (RIS) 3. Computer Tomography (CT) 4. Hospital Information Systems (HIS) (Attached is the Philips and Agfa PACS RIS Dicom and HL7 conformance statements: **Reference (Annexures A-F)** (Attached are the CT conformance statements: **Reference Annexure Q)**	
6.1.2	It will be advantages if the solution can integrate with other modalities/devices, systems not mentioned in 6.1.1. State if this is possible.	
6.2.	**Company Profile**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
6.2.1	**Bidders' certification and affiliation requirement**	
6.2.1.2	State the full South African registered name of the company providing the proposed automated AI neurovascular imaging solution.	
6.2.1.3	State the full name of the OSM and/or OEM company providing the proposed automated AI neurovascular imaging solution.	
6.2.1.4	The Bidder shall provide details of the contractual obligations between the different companies and legal entities involved in supplying the solution as	

	part of this bid.	
6.2.1.5	The Bidder shall provide a list of names and contact details of the principal person from each of the different companies and legal entities involved in supplying solutions as part of this bid.	
	Product Solution details	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
6.2.2.1	State the name of the manufacturer.	
6.2.2.2	State the name of the product solution offered.	
6.2.2.3	State the software version	
6.2.2.4	State the operating system/s of the proposed product solution.	
6.2.3	**Bidder's project resources and project-related experience**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
6.2.3.1	Provide details of Bidder infrastructure and resources within South Africa and specifically the Western Cape including addresses, contact telephone numbers of branch offices and designation of full-time permanent staff including date of appointment.	
6.2.3.2	The Bidder must have established, qualified, and experienced employees, based in South Africa, who cover the following skill sets for this project. • Project Management • ITC Technical Engineer • Clinical Application Specialist • Integration Engineer • Support Engineers	
6.2.3.3	The Bidder's South African and Western Cape infrastructure and resources shall facilitate every phase of the proposed project, including delivery, installation, commissioning, configuration, training, maintenance and support of users and equipment.	
6.2.3.4	The Bidder and all parties must state years of proven experience in implementation and continuous support of all components of the solution proposed.	
6.2.3.5	The Bidder's support call centre shall offer 24-hour / 7 days a week service. State if the support call centre/structure supports 24-hour / 7 days a week service and a brief description of how this service works.	
6.2.3.6	Should the Bidder be providing any services or products for this bid through a joint venture, memorandum of understanding, sub-contractor agreement or similar, the Bidder must disclose these legal relationships in	

	this bid and provide a certified copy of these agreements.	
6.3.	**ICT Requirements**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
6.3.1.	**Compliance and Architecture**	
6.3.1.1.	The solution must comply with our WCG ICT standards, Healthcare normative standards, policies, processes, and procedures. **Reference Annexures G-O**	
6.3.1.2.	The solution shall comply with security standards, protocols, policies, processes, and procedures. (Provide documents as referenced in 9.2) **Reference Annexures G-O**	
6.3.1.3.	The bidder must comply and provide the completed Cloud Security Alliance (CSA) Self-Assessment Questionnaire. (Provide documents as referenced in 9.2) **Reference Annexures G-O**	
6.3.1.4.	The solution/bidder must comply with the Microsoft suite of software as per **WCG standards (Reference Annexure J)** The WCG **utilize** the full suite of **Microsoft software.** **(Any deviation to the WCG standards requires a change control process for approval)**	
6.3.1.5.	The cost for any additional Microsoft licensing is part of the scope for this bid. **(As per Additional Conditions of Contract 2.6)**	
6.3.1.6.	To include in the offer proof that they are the accredited supplier by the original equipment manufacturer and that the OEM undertakes to supply expertise, training, and support to maintain the equipment	
6.3.1.7.	State and describe your Solution architecture? **Provide detailed drawings and explanations.**	
6.3.1.8.	The solution must include the architecture to support real-time processing of ischemic strokes, intracerebral haemorrhage and large vessel occlusions, allowing for prompt and accurate diagnostic results.	
6.3.1.9	State if your Solution offering is PaaS; SaaS; IaaS or a combination? If you comply, **be specific and as detailed as possible to indicate what will be hosted in the cloud or on premise?** Who is the provider of the cloud hosting?	
6.3.1.10	The Cloud service provider must be compliant with the ICT WCG hosting requirements. (The WCG preferred service provider is Microsoft Azure.)	
6.3.1.11.	The Cloud services must provide a high performance and high availability	

	AI solution, ensuring continuous access and availability of the platform for Clinicians and other stakeholders. An inclusive SLA with cloud service providers should guarantee a high level of uptime is maintained with uninterrupted service.	
6.3.1.12.	Real-time monitoring capabilities for the cloud service are required, allowing for continuous monitoring of performance, availability, and security. This enables proactive identification and resolution of any issues that may arise.	
6.3.1.13.	The cloud solution should be scalable to handle varying workloads, ensure that the solution can accommodate increased demand without compromising performance.	
6.3.1.14.	The cloud solution should offer robust encryption, access controls, and data protection mechanisms	
6.3.1.15.	The cloud should be HIPAA and POPIA compliant if dealing with patient data.	
6.3.1.16.	The cloud solution shall have a disaster recovery in place like a backup and replication to ensure data availability in case of system failures. State how this will be done. Provide details.	
6.3.1.17.	The cloud solution should be able to maintain data integrity and accessibility.	
6.3.1.18.	The cloud solution and hosting shall comply with the relevant ICT standards, policy and processes.	
6.3.1.19.	The cloud solution should have documentation, training resources and customer support to assist in the deployment, management, and troubleshooting.	
6.3.1.20.	The cloud provider's network should ensure fast and reliable data and comply with the WCG network requirements.	
6.3.1.21.	The cloud solution should be able to integrate seamlessly with the existing hospital WCG network.	
6.3.1.22.	The solution should be able to provide APIs and integration capabilities to connect with modalities and clinical systems, PACS, RIS HIS and other hospital devices where applicable	
6.3.1.23.	The solution must ensure a robust and high-speed network infrastructure to handle the transfer of large medical imaging files and AI processing data.	
6.3.1.24.	The solution must implement strong encryption protocols and security measures to protect sensitive patient data during transmission, storage, and processing.	
6.3.1.25.	The solution must provide scalable and secure cloud-based or physical storage solutions to store medical images and reports, AI models, and processed data while adhering to relevant data protection regulations.	

6.3.1.26.	The storage solutions for the transactions as ref in 6.3.1.23 must be replicated / backup offsite for operational requirements. The WCG Microsoft suite platform storage is limited to 30 days. The WCG medico-legal requirements for imaging data is minimum 5 years.	
6.3.1.27.	State how the solution will implement load balancing mechanisms to distribute AI processing tasks across the solutions platform to ensure optimal performance and business continuity.	
6.3.1.28.	State how the solution will integrate monitoring tools and analytics to track system performance, usage patterns, and potential bottlenecks for continuous improvement. State any additional analytics or monitoring tools.	
6.3.1.29.	All networking hardware will be connected to a SITA WAN or WCDOHW LAN. (This is part of ICT compliance requirements.)	
6.3.1.30.	The WCG network infrastructure standard is CISCO and uses TCP/IP as its internet protocol. (This is part of ICT compliance requirements)	
6.3.1.31.	Networking Hardware must be CISCO compliant.	
6.3.1.32.	The Internet protocol must be TCP/IP compliant.	
6.3.1.33.	The solution must be accessible via a central access point using a LAN/WAN and VPNRA connection.	
6.3.1.34.	The bidder must make use of the WCG secure remote access using VPNRA. Direct access from private network to WCG LAN and WAN is via VPNRA.	
6.3.1.35.	State the solution network architecture to enable performance high availability and redundancy. Note compliance is needed for private to government connectivity.	
6.3.1.36.	Architecture redundancy must be part of the solution to ensure uninterrupted connectivity.	
6.3.1.37.	State your network requirements for the proposed solution. What are your optimal network requirements for high performance of large data sets? Provide as much detail as possible.	
6.3.1.38.	The solution must fully integrate and communicate with the existing equipment on the hospital network and comply with our WCG ICT standards.	
6.3.1.39.	The solution should be accessible to users on the WCG network.	
6.3.1.40.	The solution shall be accessible on the open web to ensure that it is accessible inside and outside of the WCG network. (The WCG will provide processes to align with the accessibility requirements. Compliance with ICT standards and security policy).	

6.3.1.41.	State if your solution offers offline capabilities to provide continuity of service. Provide details of how this will take place should the LAN/WAN connectivity be lost and when restored, how the system will synchronize and update data accordingly.	
6.3.1.42.	The bidder shall configure the network connectivity during installation in collaboration with GSH CeI department. (Attach Detailed reply)	
6.3.1.43.	WCG CeI shall provide the bidder with the relevant IP addresses, computer names/Host names, AE titles and AE ports for connectivity (Attach Detailed reply) (Compliance to ICT policy is required)	
6.3.1.44.	The bidder shall train the WCG CeI dedicated team to configure network connections to allow for future changes to the network. (Attach Detailed reply)	
6.3.1.45.	All proposed networking installations shall comply with the requirements of the WCG CeI and shall be approved by them before installation may commence. **(Change control processes will be required)**	
6.3.1.46.	The bidder must provide a reliable fail-over solution to ensure a 24/7 service in the event of the loss of WAN or Internet connectivity. The vendor must indicate how this will be achieved	
6.3.1.47.	If your solution does not provide cloud hosting capabilities The on-prem solution will have the central server housed in the main Server room and/or the Backup server room in accordance with CeI policy. State your solution architecture if physical servers and software are provided.	
6.3.1.48.	The bidder must provide a reliable failover solution to ensure a 24/7 service in the event of the loss of WAN or internet connectivity. The vendor must indicate how this will be achieved	
6.3.1.49.	The WCDOHW will be responsible for the preparation of the hospital server room/s best suited to our business needs. Collaboration and compliance are required.	
6.3.1.50.	The Solution shall be Web-Based Application: The solution must be a web-based application accessible through DOHW & compliant Web browsers (Microsoft Edge, Chrome, Firefox). This ensures compatibility across different devices and operating systems and allows users to access the solution securely from any location with internet connectivity. Compliance with ICT standards and processes is required.	
6.3.1.51.	The service provider must comply with ICT policy and procedure by adhering to change controls when adding new applications/solutions onto the WCG network and introducing new applications by complying with EARB.	

6.3.1.52.	The server archive shall be of sufficient capacity for the duration of the contract period to store all information and images generated at the healthcare facilities.	
6.3.1.53.	Integration costs to multiple devices and systems will be inclusive of the solution.	
6.3.1.54.	The bidder shall state their security software to prevent malware attacks. Bidder to provide details.	
6.3.1.55.	The solution hardware and software must be able to operate on the WCG network. (ICT standards and policy compliance of hardware and software is required.)	
6.3.1.56.	The server archive shall be of sufficient capacity for the duration of the contract to store all information and images generated.	
6.3.1.57.	There must be redundancy in the solution, so that even in the event of network, and server failure the data will still be preserved and accessible for patient care. Provide details on your solutions redundancy. Provide your solution BCP and DRP. Include backups and any form of redundancy.	
6.4	**Interoperability standards and frameworks**	**BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)**
6.4.1.	The AI solution must comply with international Healthcare standards like DICOM, HL7, IHE, ISO etc.	
6.4.2.	The AI solution must comply with the South African Healthcare normative standards. (Refer to Annexure G-O)	
6.4.3.	The bidder shall comply with the HL7 v2. x & FHIR standard. State as much detail as possible.	
6.4.4.	The solution must provide interoperability interfaces that facilitate the secure exchange of data and imaging with other systems and devices in real-time, using the HL7 V2.x standard. Provide evidence in the form of: • HL7 integration document detailing what versions of HL7 V2.x the system support. • HL7 integration document identifying the various inbound and outbound HL7 V2.x message types supported. • HL7 integration document identifying the various segments and data fields supported. • HL7 integration document identifying the various HL7 V2.x trigger points supported.	

6.4.5.	The solution should support an inbound and outbound HL7 v2.x interface.	
6.4.6.	The HL7 V2.x interfaces shall support the creation of multiple channels depending on the system's interoperability requirements.	
6.4.7.	The solution shall support an inbound and outbound HL7 FHIR interface.	
6.4.8.	State the HL7 FHIR version currently supported by the proposed solution.	
6.4.9.	The HL7 integration of various messaging types will be included in the scope of the bid. Provide as much detail as possible with sample messages.	
6.4.10.	**DICOM conformance**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
6.4.10.1.	The bidder shall provide a DICOM interface for various DICOM services. Provide as much detail as possible.	
6.4.10.2.	The bidder shall comply with the latest DICOM standard. State as much detail as possible.	
6.4.10.3.	The bidder shall comply with the following DICOM standards. Specify as much detail as possible. • DICOM Storage • DICOM Storage Commitment • DICOM Modality Worklist • DICOM Modality Performed Procedure Step • DICOM Query / Retrieve • DICOM Print	
6.4.10.4.	Provide the latest DICOM conformance statement for the proposed solution.	
6.4.10.5.	Provide the latest DICOM conformance statement for any other product, or system using DICOM and included in the proposed solution.	
6.4.10.6.	Provide detailed DICOM tags that would be used for the integration to the Systems indicated in 6.1.1	
6.4.11.	**Integrating Healthcare Enterprise (IHE)**	
6.4.11.1.	The bidder shall support the IHE latest standard.	
6.4.11.2.	The bidder shall provide the IHE integration statement for the solution. Attach detailed reply	
6.4.12.	**Compliance**	
6.4.12.1.	The bidder shall comply with the ISO standards and frameworks for the solution. Provide details of compliance.	

6.4.12.2.	The solution must comply with POPI (2013) Act - Protection of Personal Information Act, 2013	
6.4.12.3.	The solution must comply with SAHPRA – South African Health Products Regulatory Authority. The bidder must be registered with SAHPRA as a health products supplier. **SAHPRA (SOUTH AFRICAN HEALTH PRODUCTS REGULATORY AUTHORITY) REGISTRATION:** A valid certified copy of SAHPRA certificate as a manufacturer, distributor, or wholesaler of medical devices and IVD's must be included in your bid documents. A Valid Medicines Control Council certificate may also be considered. Failure to complete and submit the above documents will invalidate your bid. The contact number of SAHPRA is 012 395 9473 (Andrea Julsing) and e-mail address is: andrea.julsing@sahpra.org.za. Should you need to download application forms, please visit https://www.sahpra.org.za. Proof of application for registration will NOT be accepted, only a VALID SAHPRA or MCC certificate may be accepted.	
6.4.12.4.	The solution must comply with Healthcare Normative standards and framework requirements: Standards Framework for Interoperability in eHealth, as well as the standards referenced in the Framework (National Health Act: National 2021 Normative Standards Framework for Interoperability in Digital Health)	
6.4.12.5.	The Bidder shall comply with the latest Minimum interoperability standards (MIOS)	
6.4.12.6.	The Bidder shall comply with IEC International standards applicable to the solution.	
6.4.12.7.	The Bidder shall comply with International CE and FDA Certification or other if this is an international provided solution. International certification must be provided.	
7.	**Non-functional requirements**	**BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)**
7.1	**Software and applications**	
7.1.1.	The solution must have a user-friendly interface, must have display overlays, navigation tools, measurements tools and advanced visualization tools. The interface should allow radiologists and clinicians to interact visualize the results and interpret the findings easily. Design considerations should prioritize ease of use, scalability, and customization options. State	

	all the tools and capabilities that your solution offers.	
7.1.2.	The solution must be a web-based application. Provide details of the solution distribution model and architecture.	
7.1.3.	The solution software and hardware solution must be compatible with the WCG ICT requirements standards and protocols allowing for smooth deployment and integration.	
7.2	**Security and user access**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
7.2.1.	The solution must provide authentication access to view the key images and report. State your authentication methods.	
7.2.2.	The solution must have Role-Based Access Control (RBAC): Utilize RBAC to assign specific roles, functions and permissions to users based on their responsibilities and job functions e.g., view only rights, administration rights, user rights. Regularly review and update user roles and permissions.	
7.2.3.	Define your access control policies based on the roles and the responsibilities of the clinicians/specialist clinician.	
7.2.4.	The user shall have the ability to log on to the Solution. State how this will be achieved.	
7.2.5.	User authentication shall occur at least via a unique user ID and password.	
7.2.6.	After a user defined period of inactivity, the solution will automatically log off the user. (Attach Detailed reply)	
7.2.7.	The username will be connected to the full name of the user credentials. (Attach Detailed reply)	
7.2.8.	The full name of the user shall be used to populate the DICOM tag clinicians' Name (0008,1070) (Attach Detailed reply)	
7.3	**Operating solution and components**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
7.3.1.	State the operating system that the solution is compatible with? (Note the ICT standards compliance)	
7.3.2.	How does your solution accommodate increasing volumes of data sets? Provide details regarding scalability?	

7.3.3.	State the performance optimization techniques or algorithms that the solution implements to enhance efficiency and accuracy.	
7.3.4.	State how the solution maintains optimal performance.	
7.3.5.	State any techniques or processes that the solution utilises to produce real-time imaging processing and analysis.	
7.3.6.	State how the solution transmits data securely and how encryption protocols are maintained.	
7.3.7.	State how the solutions privacy regulations of accessing data is maintained.	
7.3.8.	Is the solution compliant with all the healthcare data privacy regulation?	
7.3.9.	Define access control measures to prevent unauthorized access to the solution.	
7.4	**Audit Trails**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ii) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
7.4.1.	The solution must have an audit trial of the users' actions and activity. Define how the solution incorporates an audit trail system to record and track user activities and data access for the purposes of compliance and security	
7.4.2.	The audit trail should record timestamps, user identities, and detailed information about the actions performed.	
7.4.3.	State how user management is controlled and managed. Provide how an audit trail can be achieved.	
7.5	**Business continuity plan (BCP) disaster recovery plan (DRP) and back up**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ii) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
7.5.1.	A business continuity plan (BCP) and disaster recovery plan (DCP) shall be provided (where relevant) that ensures the safety, recoverability of data, and defines the documented downtime procedures for the solution in the event of unforeseen losses. Provide details on your solutions redundancy and availability options together with BCP / DRP documentation.	
7.5.2.	The Solution must have failover mechanisms. State the solutions failover mechanisms and redundancy configurations that are in place to prevent service disruptions in case of hardware or software failures?	

7.5.3.	The guaranteed uptime percentage is 99.5%. If this percentage is not met, please specify the actual uptime percentage	
7.5.4.	State the measures and redundancies that are in place to minimize downtime and ensure high availability and business continuity.	
7.5.5.	State the solutions processes and actions for incident response when unexpected downtime occurs. Provide as much detail as possible.	
7.5.6.	The solution should offer 24/7 technical support to address and resolve any downtime incidents. State how technical support functions and how a 24-hr technical support will be maintained.	
7.6	**Licensing**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
7.6.1.	The software licensing structure should cover all components, functionalities and Microsoft platforms of the solution. This includes modules, add-ons, integrations, and any other associated features. Each component should be clearly defined and included in the licensing agreement to avoid any ambiguity. **State your licensing structure.**	
7.6.2.	The solution should offer unlimited or a large amount of user license. Specify the solutions flexibility to accommodate a substantial number of user licenses. State any restrictions on the maximum number of users that can be supported?	
7.7	**Training**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
7.7.1.	The service provider should provide comprehensive training programmes facilitated by experts. These individuals should have in-depth knowledge of the solution and its functionalities.	
7.7.2.	The Bidder shall provide comprehensive training at each facility as per hub and spoke solution design.	
7.7.3.	The service provider should provide training programs for all identified user groups.	
7.7.4.	The training provided should be conducted on the actual deployed solution to familiarize users with the solution's interface, functionality, and specific configuration relevant to their environment.	

7.7.5.	The bidder must offer refresher training sessions to reinforce users' knowledge and skills over time. When the solution upgrades or new features are introduced, the vendor should provide specific training to ensure users are up to date and proficient in utilizing the latest solution capabilities.	
7.7.6.	The bidder should offer a comprehensive range of training programmes and materials, catering to the diverse learning needs of users and varying formats. This should include in person training, virtual training sessions, e-learning modules, video tutorials, user manuals, and reference guides. The additional materials and context-sensitive help within the interface to assist users in understanding the system's functionality and troubleshooting common issues.	
7.7.7.	In consultation with the Bidder, the end user shall provide suitable training venues to comprehensively cover training at the respective facilities	
7.8	**Testing**	**BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ii) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)**
7.8.1.	The Bidder shall provide integration testing before implementation: Validate the integration of the AI solution with other healthcare system to ensure that data exchange, interoperability, and different workflows function correctly and seamlessly across these systems. Test interfaces, message formats, data mapping, and the synchronization of patient data.	
7.8.2.	The Bidder shall provide usability testing and workflow before implementation: Test the usability and user-friendliness of the AI solution from the perspective of clinicians and other end users. Test the solution's interface, navigation and overall user experience to ensure ease of use and efficient workflows.	
7.8.3.	The Bidder shall allow for performance testing: Evaluate the performance of the AI solution under expected workloads and user loads. Test the solution's response times, transaction processing speeds, and scalability to ensure that it can handle concurrent user activity and large volumes of data without performance degradation	
7.8.4.	The Bidder shall allow for compatibility testing: Test if the AI solution is compatible with different operating systems, web browsers, and mobile devices commonly used by clinicians. Ensure that the solution functions correctly and displays properly across different resolutions platforms, and screen sizes.	

7.8.5.	The Bidder shall provide UAT scripts for User Acceptance Testing (UAT) or Quality Control (QC): Involve end users, such as healthcare providers, in UAT or QC to ensure that the AI solution meets their needs and expectations. Obtain feedback on solution usability, workflows, and overall satisfaction to address any user concerns or suggestions.	
7.8.6.	The Bidder shall provide for BCP & DRP testing: Test the full BCP and DRP workflow to ensure seamless transition and functionality in the event of a solution failure or disruption. Validate the solution's ability to recover data, restore operations, and maintain data integrity during and after a disaster scenario.	
7.8.7.	The bidder shall make provision for any additional UAT testing as required by the end user.	
7.9	**Support and maintenance (maintainability)**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
7.9.1.	The bidder shall maintain and support the entire solution covering all components of hardware and software supplied for this contract period from 30 days after the agreed "Go-live "date and for the entire contract period. This includes providing timely assistance, troubleshooting, and resolving any issues that may arise during the operation of the solution.	
7.9.2.	The bidder shall ensure that all software components, including the operating system and database software, is maintained at the latest version throughout the contract period. The SLA/SMA/S&M should cover all necessary upgrades, updates, hotfixes, and patches released during the contract period.	
7.9.3.	The bidder shall be responsible for the optimal performance of the solution for the contract period. The performance uptime requirement is 99.5%. If your solution cannot offer 99.5%, State what your solution uptime offers?	
8	**Software functionality**	
8.1	**Order entry in the RIS**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
8.1.1.	Seamless integration between the HIS, RIS, and PACS, facilitating the smooth transfer of patient data, orders, and images between these systems.	

8.1.2.	The HIS integration to PACS/RIS uses the patient master index (PMI) from the HIS	
8.1.3.	The order entry takes place in the RIS.	
8.1.4.	The HIS RIS/PACS makes use of the HL7 messaging standard	
8.1.5.	The radiologist validates the procedure according to the clinical indications	
8.2	**Procedure validation and Scheduling**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
8.2.1.	Specialized radiology procedures require specific exam justification and protocoling	
8.2.2.	Dedicated stroke protocol will be defined for the AI Solution	
8.2.3.	The procedure is given a priority status dependent on the clinical indication or request. Urgent is given the highest priority. This is defined by the radiologist	
8.2.4.	The priority status is made up on priority P1, P2 and P3: P1: Urgent/ emergency P2: Within 48hours P3: Elective	
8.2.5.	Scheduling will be done according to stroke protocol defined by parameters and priorities.	
8.2.6.	HIS fulfils the following functions, appointment attendance, and disposal by the clerk	
8.2.7.	The patient is arrived in the RIS by Clerk or radiographer.	
8.2.8.	The Clerk or the Radiographer triggers the Dicom Modality Worklist.	
8.3	**Image Acquisition**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
8.3.1.	The Modality receives/enables the Dicom Modality Worklist Query.	
8.3.2.	The relevant defined stroke protocol is initiated on the modality	
8.3.3.	The modality captures and stores the study images	
8.3.4.	Automated MPR reconstructions are performed using specialized medical imaging software. State if your solution can do MPR (Part of the imaging modality software)	

8.3.5.	Defined stroke protocol images are sent to two destinations namely the PACS and AI archive solution.	
8.3.6.	The DICOM standard is used to transfer images to the storage archive.	
8.3.7.	The HL7 standard is used to transfer patient information linked to the associated images in the archive	
8.4	**AI solution**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
8.4.1.	The AI archive solution must support DICOM communication and storage to receive and process DICOM images.	
8.4.2.	The AI solution must support the HL7 messaging to receive and process patient information	
8.4.3.	The AI solution must be compliant with the normative healthcare standards. **Please refer to Annexure J**	
8.4.4.	The AI solution must maintain the integrity of the received study through a unique identifier that is mapped to the RIS order and PACS. This can be the accession number or the study unique identifier: State how the solution will make provision for this.	
8.4.5.	For the AI stroke imaging solution, the vendor must detail the AI model architecture designed for neurovascular conditions, specifically targeting ischemic strokes, intracerebral haemorrhage and large vessel occlusions. Provide the specifications of your AI model architectures	
9.	**Data Source**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
9.1	The AI Solution must be able to do analysis of medical imaging data. State how the AI based analysis is done?	
9.2	The solution must be able to receive all medical imaging data: State the different types of medical imaging data the solution can process.	
9.3	The solution must receive relevant patient demographics and clinical information, state how the solution will provide other data resources	
9.4	The solution must manage pre-processing of data. State how your solution will manage pre-processing of the data source.	
9.5	State how your solution will identify, predict and diagnose ischemic strokes, intracerebral haemorrhage and large vessel occlusions	
9.6	The vendor shall specify their algorithms and tools for Image processing and analysis.	

9.7	State how the solution will analyse and process the data.	
9.8	The vendor shall specify the Machine learning/ Deep learning/ AI Capabilities relevant to strokes and vessel occlusions for image analysis, feature extraction and accuracy.	
9.9	State how the solution will perform pattern recognition for ischemic strokes, intracerebral haemorrhage and large vessel occlusions strokes and vessel occlusions	
9.10	State how the solution will process images in real time	
9.11	State how the solution will predict, interpret and make recommendations based on the data processed.	
9.12	State the tools and visualization features that will aid in the interpretation and recommendations	
9.13	State if your solution does automated diagnostic assessments. Provide details as to how automated diagnostic assessments will be done with your solution.	
9.14	The solution must be able to integrate with various clinical workflows and systems such as the HIS, RIS, PACS, CDSS and PHDC.	
9.15	State how the solution will be able to manage continuous learning and updating.	
9.16	State how the solution will improve its diagnostics and predictive capabilities.	
9.17	The solution must be able to have Alerting and Notification abilities and must be configurable to critical findings and or changes in stroke risk. Please state your notification abilities.	
9.18	State the solutions analytics capabilities.	
9.19	State the solutions reporting capabilities.	
9.20	The solution shall be able to export the generated report. Indicate the various export formats. State if your solution can export and the various formats	
9.21	The solution shall be able to create key images and reports with findings, measurements, and other relevant information. State your solutions reporting methods and report types	
9.22	State the solutions advanced visualization tools and MIP, MPR and 3D capabilities.	
9.23	The solution shall be able to provide neurological functionality tools applicable to neurovascular conditions. State any additional tools not mentioned for neurovascular conditions.	

9.24	State the solutions AI-based care coordination platform: The following shall form part of the AI-based care coordination platform. Co-ordinated real-time communication platform alerting clinical team Receive AI alerts of suspected disease within minutes View fast, high-resolution 3D imaging on portable mobile devices Collaborate with entire care team.	
9.25	The Solution shall have functionality to detect large vessel occlusions. The following shall form part of the large vessel occlusion detection: Automatically detects and triages suspected large vessel occlusions (LVO) Proven to reduce time to reperfusion treatments Registered for use with regulatory authorities such as FDA for this indication. Future requirements: MRI LVO detection (not mandatory now)	
9.26	The solution shall be able to automatically detect the triages suspected large vessels occlusion and proven to reduce time to reperfusion treatments. Provide your solutions' capabilities to automatically detect and triage suspected large vessel occlusions (LVO) Provide evidence that demonstrates its effectiveness in reducing the time to reperfusion treatments.	
9.27	State if your solution can provide Computed Tomography perfusion The Following shall form part of the Computed tomography perfusion requirements. Automatically analyses CTP images of the brain with quantified colour-coded perfusion maps AI-powered motion artefact correction Registered for use with regulatory authorities such as FDA for this indication Future requirements: 1. Automated Alberta Stroke Project Early Computed Tomogram Scan Score (ASPECTS) calculation 2. MRI perfusion study capabilities	
9.28	The solution shall be able to incorporate AI-powered motion artefact correction. State how this will work, and what benefits does it offer in terms of improving image quality and accuracy.	
9.29	State how the solution will automatically detect ischemic strokes, intracerebral haemorrhage and large vessel occlusions. Future capabilities: Quantification of ICH	
9.30	Subdural haemorrhage (optional but highly preferable) Early, accurate detection of subdural haemorrhages Automatically detects suspected subdural haemorrhage in NCCT scans.	

9.31	Cerebral aneurysm (optional) Automatically detects suspected cerebral aneurysms in computed tomography angiography (CTA)	
9.32	The solution shall send the key images and reports to PACS in a DICOM standard or acceptable format.	
9.33	The solution must maintain the integrity of the received study through a unique identifier that is mapped to the RIS order and PACS. State how this will be achieved to prevent exceptions (reconciliation)	
9.34	The solution must enable the specialist clinician to assess and validate the outcomes of the processed report and images for accuracy, classification, and treatment.	
9.35	State any other additional functionality that your solution offers.	
9.36	The solution must enable the Radiologist consultant to validate the key images and report against the original report in PACS.	
9.37	The solution must enable an automated response when the radiologists' validation takes place. State how your solution will offer this functionality?	
9.38	The solution must register the radiologist response of alignment or discrepancy. State how your solution will offer this functionality of a discrepancy report?	
10.	**ADDITIONAL OPTIONS:**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply) **(Comply/ not comply)**
10.1	State any additional options to be offered: • Software packages • Software features • Software functionality • Additional integrations • Future requirements	
11.	**SUPPORTING INFORMATION**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and supporting documents if comply. (Comply/ not comply)
11.1	Descriptive literature, pamphlets and brochures and technical data sheets and /or video applicable to the offer (i.e., all components of system) must accompany the Bid	
12.	**DOCUMENTATION**	BIDDERS RESPONSE. COMPLIANT/NON-COMPLIANT. A TICK (ü) IS NOT ACCEPTABLE. Please provide evidence and

		supporting documents if comply. (Comply/ not comply)
12.1	The bidder shall provide any additional documentation to support the solution that is required to fulfil national regulations to comply with all Health and Safety standards.	
12.2	The bidder shall provide the following security documentation as indicated in the ICT requirements. • SOC 2 Type 2 Report or SOCOTEC certificate. • ISO 27017 Certification. • ISO 27018 if hosting personally identifiable information in the cloud. • Cloud Security Alliance (CSA) Self-Assessment Questionnaire	
13.	**ANNEXURES**	
13.1	**Philips PACS & RIS** **Annexure A:** DICOM_Conformance_Statement_IntelliSpace_PACS_4.4.551.0  DICOM_Conformance _Statement_IntelliSpac  XIRIS DICOM Conformance Statem  HA1667 - Vue PACS 12.2.8 - DICOM Confc **Annexure B**: HL7  2012-05 - HL7 Conformance Statem  XIRIS 8 0 1 - XMPE HL7 Specifications.pdf  Vue PACS 12.2.8 - HL7 Interface Specific **Annexure C**: IHE  IHE_Integration_State ment_IntelliSpace_PAC  XIRIS IHE Statement.pdf	
13.2	**Agfa PACS & RIS** **Annexure D:** Enterprise_Imaging_8.1.x_DICOM_Conformance_Statement  001531_Enterprise_Im aging_8.1.x_DICOM_C **Annexure E:** 001569_Enterprise_Imaging_8.1.2_SPx_HL7_Conformance_Statement  001569_Enterprise_Im aging_8.1.2_SPx_HL7_(	

If you know of any corrupt, fraudulent, or collusive actions in the Institution, please report it by calling the National Hotline 0800 701 701.

	Annexure F: 001532_Enterprise_Imaging_8.1.x_IHE_Integration_Statement  001532_Enterprise_Im aging_8.1.x_IHE_Integr	
13.3	**WCG ICT standards, policies, processes, and procedures.** **Annexure G**: Anti-virus standard  Anti-Virus Standard.pdf **Annexure H:** Network security standard  Network Security Standard.pdf **Annexure I:** Enterprise Information Security policy  WCG Enterprise Information Security P **Annexure J:** WCG ICT standards v 9.4, Microsoft Software Procurement  WCG ICT Standards v9.8 (Aug 2024).pdf  NATIONAL HEALTH ACT, 2003 (ACT NO 6  WCG Enterprise Architecture Board (E/  Additional Microsoft Software Procuremen **Annexure K:** Information Security framework and Architecture Principles  WCG Information Security Framework V  Signed - WCG Enterprise Architectur **Annexure L:** Logical access management policy and user account management  WCG Logical Access Management Policy 1  IT User Account Management Policy.p **Annexure M:** Network security policy and Cloud Computing Strategy  WCG Network Security Policy 15 Dec  WCG Cloud Computing Strategy.p	

	Annexure N: Privacy and data protection policy and data backup and restore  WCG Privacy and Data Protection Policy  Ce-I Data Backup and Restore Policy.pdf **Annexure O:** Third party security policy  WCG Third Party Security Policy 15 Dec	
13.4	**Annexure P: MIOS and Business requirements specifications**  MIOS V6.0 Framework.pdf  WCG Business Requirement Specifica	
13.5	**CT modality** **Annexure Q: DICOM**  DICOM Conformance Statement_ Incisive CT  DICOM Conformance Statement syngo-CT-S  DICOM CONFORMANCE STA **Annexure R: IHE**  IHE Integration Statement_Incisive CT **Annexure S: WCG Product List**  WCG Product Catalogue - Septembe	