ACU/PS/AH&RC-823(1)/ 140 /2023-24 Date: 03 JAN 2024

TENDER NOTIFICATION

The Adichunchanagiri University invites **closed tenders** from eligible tenderers or bonafide licensed manufacturer or their authorised local supplier/dealer/distributor in the state of Karnataka for the procurement of the PACS for Department of Radiodiagnosis at AHRC as per section I & II.

1	Name of the work	Supply of the PACS for Department of Radiodiagnosis at Adichunchanagiri Hospital & Research Center, B.G. Nagara
2	Last date for tender submission	On or Before 18.01.2024 up to 05:00 PM

SECTION -I

Instruction to Tenderers

1. The Tenderer shall send quotes in 2 bid formats **(Technical and Financial bids sealed separately inside the main envelope for any or all list of items)** on professional business letterheads. The inner and outer sealed cover must bear the following identification
    1. Tender for .....[name of service | Contract]
    2. Tender Reference No.....[insert number]
    3. Address to "The Registrar, Adichunchanagiri University, B.G. Nagara -571448, Nagamangala (T), Mandya (D)"
    4. The tenderer who prefers to submit the tender through Post can dispatch the same through Registered Post / Speed Post or Courier so as to reach the above address on or before the due date and time specified in the Tender Notice. Tenders received after the due date and time, for what so ever reasons will not be considered and the authority, ACU BG-Nagara will not be liable or responsible for the same.
2. **Tender Currency:** Prices shall be quoted in Indian Rupees Only
3. **AMC/CMC (If any)** is subject to the Adichunchanagiri University's norms.
4. **Warranty:** As per the Standard, preferably 03 years
5. **Amendment of Tender Documents:** At any time prior to the deadline for submission of tenders, the University may, for any reason, whether at its own initiative or otherwise, modify the tender documents by amendment. Adichunchanagiri University

reserves all the rights to accept, reject, incorporate changes and re-tender without giving any reasons.

6. **Documents Comprising the Tender:** Shall attach Brochure, Certification of the product, Bank/account details, PAN, GSTIN, Good Standing Certificate and 02 Years of ITR declaration inside the envelope and company contact details with email ID on the main envelope cover for further correspondence.

7. **Tender Prices:** Prices indicated on the Price Schedule shall be entered separately I.e. the price of the goods, quoted (ex-works, ex-factory, ex-showroom, ex-warehouse, or off-the-shelf, as applicable), including all duties and sales and other taxes already paid or payable. Any Indian duties, sales and other taxes which will be payable on the goods if this Contract is awarded. Conditional tenders will not be considered.

8. **Validity of the Bid:** 90 Days from the last date of submission of bid

9. **Corrupt or Fraudulent practices:** The Adichunchanagiri University requires that the Tenderers, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy:

    1. will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

    2. will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a university contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a University contract.

10. **Process to be confidential:** Information relating to the examination, clarification, evaluation, and comparison of Tenders and recommendations for the award of a contract shall not be disclosed to Tenderers or any other persons not officially concerned with such process until the award to the successful Tenderer has been announced. Any effort by a Tenderer to influence the Employer's processing of Tenders or award decisions may result in the rejection of his Tender.

11. **Clarification of Tenders:** To assist in the examination, evaluation, and comparison of Tenders, the Employer may, at his discretion, ask any Tenderer for clarification of his Tender, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price or substance of the Tender shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the tenders.

12. **Delivery:** The successful BIDDER should commence the services as per tender document/Work or Purchase Order. For any queries/ assistance, please write to registrar@acu.edu.in or telephone to purchase section +91 -7406907357.

13. **Penalty Clause:** Non-execution of supply order - For the reasons of failure to supply partially or completely within the stipulated time or any event of breach of contract. In case at any following stages

    1. For the delayed supply (3 days of grace period) - 5% deduction
    2. Quantity issues - 5% deduction
    3. Quality issues - 10% deduction

SECTION –II

TENDER SPECIFICATIONS FOR THE STATE OF THE ART PICTURE ARCHIVING AND COMMUNICATION SYSTEM & RADIOLOGY INFORMATION SYSTEM (FUSION RIS-PACS)

SOLUTION TO BE INSTALLED AT THE DEPARTMENT OF RADIODIAGNOSIS, AIMS, B.G.NAGARA

The PACS system should consist of a state of the art centralized server with storage of patient information and images for up to 5 years and unlimited annual study load with scope for further expansion in terms of storage, modality connectivity and number of clients. All the software upgrades should be included for the next 10 years.

The system should be able to connect DICOM modalities in the network, with the following DICOM functionality

- DICOM Send/Receive
- DICOM Query/Retrieve
- DICOM Print
- DICOM Get Work list (HIS/RIS)
- DICOM Study Split
- DICOM Storage Commitment
- DICOM MPPS (Modality Performed Procedure Step)
- Mobile viewer
- VNA Level 5.

The solution should provide a vendor neutral archive to store images from all modalities along with their meta-data (including source data).

The solution offered should have a central server-Hardware and Software with appropriate storage and Backup software's. The system should be able to acquire images from DICOM modalities like CT, MRI, Digital radiography, Computerized Radiography,

Ultrasonography, Mammography, Digital subtraction angiography and PET-CT and store on a central server.

The PACS System should be designed to have an Administrator who should be able to create users and provide necessary access, priorities and security. Also, the. System should provide web access of patient images over the internet to authorized users for tele reporting purposes.

Proposed solution should have no restrictions on connections of number of modalities, viewing stations and should be hardware and platform independent.

PACS Systems should have inbuilt storage architecture to keep multiple version of images (lossless and clinical) to support tele radiology in slow networks.

PACS should be HL7 and HIPAA compliant and should comply with IHE standards.

The proposed PACS should support various "Hanging or Display Protocols" depending on the type of exam displayed and it should automatically apply the appropriate display protocol to ease the work of the Radiologists and enhance their workflow and efficiency.

The PACS software should have a basic dashboard showing the department study status in a given hospital and should provide an easy way to query the same status from other hospitals where this PACS software is installed.

The system will create customized and dedicated work list for all users. It will also be possible to create DIOCM modality work list for remote modalities sending images into the PACS for reporting.

The PACS Viewer should support display of multiple images, series and study of the patient simultaneously, allow the user to change the image for either right/Mleft orientation, flip or rotate the image, magnify, pan, position, annotate on the images, do measurements like distance, adjust window width and level and should also be user configurable based on modality and should be organ specific. There should be provision to measure angle, HU value and volume even on MPR and 3D images.

PACS should come with HIS integration plugins as standard and PACS supplier should also be OEM supplier for advanced 3D and RIS.

The quoting company should have adequate experience in PACS business within in India / abroad. The company needs to provide details and references sites for the following:

- Installed the same product at least in hospitals of 1000+ beds globally.
- Have prior experience in integrating hospitals/ diagnostic centres on a single PACS network.
- Incorporation certificate and balance sheets for the last 3 years. This is to ensure that the company can take up the task of digitization for hospital.

Exams, Folders, Work lists, and Queries

The system shall allow dynamically updated work lists to be created by the system administrator for a specific user. For the purpose of this RFP, a work list is any database query, which returns a list of exams or patients. Dynamically updated means that as exams change status in such a way as to change the contents of a work list, the work list is automatically refreshed within a specific time. The requirement for dynamic updating can be satisfied by periodic polling of the database with a frequency defined by a parameter which is configurable by the system administrator.

A work list entry for an exam shall include at least the patient name and ID, examination procedure, exam date and time, report status, modality, number of images, referring doctor, age & sex.

The system shall support work list which display a list of exams based on queries of:

- Patient name
- Patient ID
- Accession number
- Modality
- Report status
- Study date
- Between a range of dates
- Marked studies
- AE title
- Institution name

Work lists shall be generated and stored centrally to the PACS network so that a user, logged on to any workstation, may access any work list from the network and display exams selected from this work list to his/her current workstation location.

Work list should be customizable for each user and allow the user to display their own set of columns. User should also be able to setup his page size and dual monitor support.

The workstation shall allow the user, with a single click, to sort the studies on any of the columns displayed in the work list.

Offered system should utilize a data locking methodology, if several concurrent users access images i.e. Concurrent users will get reading access to images & no reporting except by 1st user is allowed.

All exams shall be accessible from every workstation, limited only by security mechanisms.

Old exams should be automatically displayed in the image viewer along with history & report. User should be able to load up to 4 priors of any modality for comparison

A mechanism shall be provided to permit a user with proper privileges to select images or exams for inclusion into one or more manually-created folders for teaching and research purposes.

It shall provide a mechanism to lock a study to prevent deletion of that study by another user.

It shall provide a mechanising to attach a message from one user to another to every study.

The Work list shall display STAT request by easily identifiable color codes.

Should be possible to merge 2 studies together should be possible to split a study into two.

Should support scanning of paper/reports and conversion to DICOM series.

The Work list shall display the studies which have been locked or printed with some indication.

It should be possible to add a keyword to a study and then search & retrieve a list of studies based on that keyword.

It should be possible to search report content for any user definable keyword and get a list of reports with such keywords.

Reports:

The workstation shall allow creation of reports based on user selectable templates

The workstation shall allow pre-configured header/footer in the report

The report window shall be opened separately and multiple such windows can be opened

The report shall allow insertion of key images for printing in user selectable format

The report shall automatically display the patient demographics from the DICOM header

The workstation shall allow a user with the proper privileges to display the report for any reported exam without requiring the display of its associated images.

The administrative status of any report (e.g., approved or not approved) shall be indicated when the report is displayed.

The system shall allow creation of multiple templates according to user/modality/organ

The system shall support capture and attachment of audio file by the radiologist user for reporting

The system shall allow the transcriptionist to review the audio and transcribe the report and submit it for approval of the radiologist

The report shall support all standard formatting functions available in MS Word

Report text search engine should be available

PACS should support email/SMS/Whatsapp of reports automatically on finalization.

PACS should support speech recognition using dragon software

Image Annotation:

The workstation shall provide tools allowing the user to position and orient multiple instances of text and graphics (lines, arrowheads, rectangle, freehand and circles) for image annotation.

The Workstation shall provide tool for automatic labeling of intervertebral space and vertebrae (Spine Labeling)

It shall be possible to edit or delete the annotations if required at a later date

It shall be possible to print the annotations on film if required

It shall be possible to change the color, size and font of the annotations and set them as default.

Image identification

The workstation shall display along with each image at least the following patient data, where appropriate for the image and modality:

- Patient name
- Patient ID
- Exam date and time
- Image orientation
- kVp
- mAs
- Pulse sequence
- Slice position
- Image or slice number
- Referring physician
- Institution Name
- Equipment Model

All the above shall have configurable position for display on any corner of image and user can set it in default position.

The workstation shall allow the user to toggle the display of image identification text on and off. The workstation shall provide a selected function to display the entire contents of the DICOM header for a image.

Utility Functions:

During the execution of a time-consuming function, the workstation shall working. Indicate that the system is working

The workstation shall provide a function to allow the user to protect selected images from deletion.

The workstation shall provide a function to allow the user to mark interesting studies and search them.

Should support a user-friendly admin user interface

User creation and different rights assignment should be available

Remote administration of workplaces and PACS servers should be possible

Should be possible to store the client configuration data centrally

IT Dashboard which provides DICOM information of major activities like number of users logged in, study status, Services status should be available

Statistical reports must be possible to be produced based on different criterion like TAT, Study volumes, radiologist TAT, CD Written, Films printed etc.

Should be possible to export the MIS reports to MS Excel

System should support roaming user profiles (After logon, the user-specific settings are loaded independently on the workplace).

Settings should be saved in a central repository

Should define user groups according to the departmental structures

User administration possible should be without programming skills

Should provide complete audit trail of activities in the system.

Image Archive

The system shall provide sufficient storage capacity to provide direct rapid access to 60 months of image production in online archive with provision for further up gradation.

Secondary archive should store 5 years data and must retrieve automatically without manual intervention

Should be Vendor Neutral Archive (VNA 5)

The system shall not store any image in the storage system with non-reversible compression. (Lossy compression)

The system shall make exams available for retrieval by workstations.

The storage system shall tolerate the failure of a single disk drive without loss of data.

The storage system shall remain operational in the event of the failure of a single disk drive.

The storage system shall remain operational during the service required to correct a failed disk drive.

The storage system shall support the storage and retrieval of all SOP classes needed to accommodate the present modalities. It shall support Explicit as well as Implicit Value Representation as part of its Syntax and store Explicit VR as its default transfer syntax.

The system shall provide a DICOM interface to which DICOM-compliant external devices may connect. External devices are devices not supplied with the system and include but are not limited to image review workstations, image printers and modalities.

The system shall include a DICOM Query/Retrieve SCP which is based on the Patient and Study Root Information model and which provides query responses for all studies, series, and images stored in either the Storage System and/or the Archive System.

The system shall include a DICOM Modality work list Management SCP.

The system shall include a DICOM Storage Commitment SCP which accepts storage commitment by the modalities.

The bidder shall provide with the proposal the Conformance Statements covering all DICOM services of the system for each individual component.

The external DICOM interface shall support storage of ultrasound images using the Ultrasound Storage SOP Class.

The system shall provide DICOM Support for ultrasound.

Image library function for research and marking interesting cases must be available

Teleradiology module for accessing images and reporting from remote locations should be available.

There should be provision to load JPEF images / TIFF images/ BITMAP images to the system to be printed on film.

Exam Display, Arrangement and Image Processing

The workstation shall have the capability to display CT and MRI scout images with the slice position lines overlaid on the image. User shall have the option of displaying all lines or only 1 line specific to one image

Rapid sequential paging through images of an exam displayable on a single monitor shall be provided.

Should display indication of printed studies

Should display indication of finalized studies

Should be possible to give keywords to any images and search on those later

If multiple image series are viewed, it shall be possible to page through the series independently.

The workstation shall support arranging groups of images into a stack (with only the top image visible) and displaying them sequentially forward or backward.

The workstation shall support Thumbnail view providing a quick glance at the series within a study.

The workstation shall support image display based on Acquisition time, Table position and Instance number of CT images

The workstation shall support linking two or three image stacks and moving through them synchronously so that the same anatomic position or image sequence position is displayed in each stack.

The Workstation shall provide for full screen image display and paging in this full screen window.

A cine function with a user selectable, variable frame rate of at least 1 to 30 frames per second shall be provided.

The cine function shall support user selectable continuous display, reverse playing and true size display of images.

The user shall be able to extract frames from the cine file and save it as individual image.

The workstation shall display all images of a cine file in user selectable display format in one keystroke/mouse click

The workstation shall provide dynamic window width and level through the entire image grayscale dataset.

The window width and level function shall be applicable to a single image, selected images or all images

Window width and level values shall be displayed on the image in real time

Display of the inverse grayscale of any image shall be supported.

The system shall provide unlimited user-configurable window width and level defaults for each user.

Window width and level defaults shall be user-, modality- and organ-specific.

A rapid method to select among default window width and level values shall be provided. The intent of this requirement is to allow the user to jump between, for example, bone windows and soft tissue windows in CT using function keys.

If an image is received from a modality along with a window width and level for viewing, the window width and level parameters shall be used for the initial display on the workstation.

If an image is displayed for which no window width and level is available, the workstation shall select a set of values, which at least make the image visible as a starting point for subsequent manual changes.

Ability to load different studies of different patients, side by side for comparison

System should provide a quick filter function for one click search of studies (Weekly, Daily, and Monthly)

Predefined modality-specific display layouts

The workstation shall allow user to convert image/series/study from DICOM to JPEG/BMP format for local storage.

Time of performing the study should be displayed on all the images.

Advanced 3D visualization tools supporting following applications:

3D advance visualization tools should be fully integrated for usage from any workstation where PACS supplied is accessible

It should be possible to save back 3D images to PACS.

Workflow and user interface should be consistent across both 3D and PACS applications.

it should include clinical applications like automatic vessel segmentation and analysis algorithm, one-click measurement tools and exceptional masking segmentations. Color coding of the segmented structures for analysis should be provided.

Advanced visualization & analysis tools like:

30 & 4D Viewing, switching among cross section display types (axial, sagittal, coronal , etc.), comparing 3D images, displays cine play, slicing, Fusion Viewer.

System should be able to display cine loops of images acquired on ultrasound/ Doppler / cardiac MRI.

Combination of data taken widely as multiple series of images and creates compound image.

CT and MR should be displayed with a virtual transducer to allow either free analysis or centesis simulation. Target Areas including heart and upper and lower abdominals.

The solution should be capable to support 3D/2D fusion i.e. superimposing of two 3D intra/inner modality images for Reference reading. MPR reading, overlay or blending should be configurable, automatic rigid registration, manual rigid registration by translation and rotation, fusion of 2D or 3D images, saving of fusion images as DICOM file, allowing organ extraction and removal, allowing object extraction and removal for editing.

Applications like MPR (multiplanar reformation), CPR (Curved planar reformation), Shaded surface display (SSD), Volume rendering (VRT), Maximum intensity projection (MIP), Minimum intensity projection (min IP) should be available.

Advanced 3D package should comprise of Premium Radiology Package.

The solution should also include special applications like

- MIP, MPR, 3D,
- Auto bone removal, gantry removal,
- Segmentation,
- Volumetric measurement,
- CT Perfusion, MR Perfusion,
- Magnetic resonance spectroscopy (MRS),
- DSA & DTI
- Vessel analysis

There should be a provision for Artificial intelligence (Al) tool similar to computed aided detection (CAD) to draw the attention of the radiologist towards missing lesions(optional).

General requirements:

The solution should provide 2 image grade monitors of 24" or higher with 4Mp or higher resolution, one with single head and other with dual head.

The PACS room space will be designated by the radiology department. The room should be with 2 medical grade diagnostic monitors with workstations and 2 computers, each one connected to the report printers for printing the reports.

However, the peripheral connections to the department of medicine, surgery, casualty, orthopaedics and ICU may have user name & password login for viewing.

The remote/ teleporting provisions during emergency / night duties should be with username and pass Word login.

The necessary LAN cabling and networking should be performed by the PACS solution company itself.

All the 2 PACS Workstations should be connected to 2 high end computers of Intel i7 processor latest generation, 16GB RAM, 1TB SSD hard disc for typing and reporting purposes.

Storage of 40TB is required.

All the systems should be connected to Film printers of the department for film printing.

All the systems should have DVD /CD writing facility.

There should be provision to load the outside CD/ DVDs to the PACS solution for viewing and analysis.

RIS- SPECIFICATIONS:

*Generates patient work list based on data provided by HIS/ Manual entry.

*Centralized system for scheduling patient appointment

ADHAR/ PAN Card/ PASSPORT /VOTER ID link to generate permanent RIS number of the patient for future use (Optional).

In case of emergencies, the patient registration should be possible without these IDs but requirement for link to ID proof within next 48 hrs.

*Support DICOM modality work list to different modalities available in hospital

*Auto registration of patients in modalities using MWL

*Reporting Tools

*Image viewer URL is passed to HIS which enables physician to view radiology Images, radiology reports

*Complete Web Based Reporting

*Patient registration module (Manual)

*DICOM MWL (DICOM MWL SCP)

*Scheduling of patient appointments

*Easily incorporate existing report templates in RIS

*Quick Search based on Patient Name, Patient ID, etc.

*Complete reporting workflow

*Reporting Roles like Senior or Junior Dr's & much more can be configured

*User wise reporting access privilege

*Stats reads highlighted and automatically take priority - emergency reporting

*Complete MIS reporting

*Email & SMS Alerts (Gateways to be provided by customer)

*Customized reporting formats

*Unique ID Generation for each report

*Patient Comments (Search based on Patient comments)

*Dose monitoring (Usage of contrast on patients. Manual Entering)

*Accounting Package (Invoice Generation)

*HIS Integration

*PACS Integration

*Attach/Scan patient document

*Print reports with watermarks for unfinalized reports

*Color Coded Reporting Status

*Dashboard

The PACS- RIS system should be functional through out the day and all the days of the week. In cases of breakdown, the system should be within repaired within 1hr for software problems and 24hrs for hardware problems.

Hardware

1. **Main PACS App/DB Server – Tower Server**

- PACS Server –
- Intel Xeon Silver Processor,
- 128 GB RAM,
- 4 X 960 GB SSD on Raid 0,1,
- Dual Power Supply,
- Microsoft Windows Server OS 2022,
- 3 Years Warranty.

2. **NAS Storage (Backup Storage)**

NAS Storage of 40 TB, usable on Raid 5, - 3Years Warranty

3. **Radiologist Workstation –Single head**

Workstation:

- Intel core i7,
- 960 GB SDD,
- 16 GBRAM,
- 2GB Nvidia Graphics Card,
- 19-inch Square Monitor,
- **24-inch 4MP or more Medical Grade diagnostic single head Monitor with MedicalQA.**
- 3 Years Warranty.

4. **Radiologist Workstation with dual head and advanced 3D**

Advanced 3D application with

- MIP, MPR,3D,

- Auto bone removal, gantry removal,
- Segmentation, Volumetric measurement,
- CT Perfusion, MR Perfusion,
- Magnetic resonance spectroscopy (MRS),
- Virtual endoscopy/endoview
- DSA & DTI
- Vessel analysis
- All with standard three year warranty.

Workstation:

- Intel core i7,
- 960 GB SDD,
- 16 GB RAM,
- 4 GB Nvidia Graphics Card,
- 19-inch Square Monitor,
- **24-inch 4MP OR MORE , dual head Medical Grade diagnostic Monitor with Medical QA.**
- 3 Years Warranty.

5. Physician Systems-6 nos

- I5 Processor Latest Generation
- 8gb Ram
- 512gb Ssd
- Win 11 Os
- 24" Ips Monitor With Keyboard And Mouse.
- 3 Years Warranty

Summary:

PACS System should be upgradeable to be configured with Hospital Information System (HIS) VaHL7Message Protocol, and integration package for the same should be quoted as optional along with Radiology Information System (RIS).

All RIS- PACS system applications should be modifiable as per the departmental needs.

PACS requirements (Department of Radio diagnosis)

1. Software

Sl NO	Description	Quantity
	Core License:	**1**
1.	PACS Application/Database Server Core License @ Hospital campus, Unlimited Dicom connectivity within hospital campus.	01

	Dicom Modality License	
2.	Dicom Modality License –(CR-1,DR-1,USG-1,CT-1,MR-1)	05
	General: Viewing	
3.	Viewing Licenses for Clinicians / Physicians	10
4.	Viewing Licenses for Technicians	05
5.	Zero Footprint Viewer Mobile/Tab Viewing Licenses	05
	General: Add on Licenses	
6.	Studies/Procedure/Images archival Licenses	01
7.	CD/DVD Writing Licenses including Blu Ray & Robotic CD Writing	01
8.	Document Scanning Licenses	01
9.	DICOM Print Licenses(standard)	Unlimited
10.	DICOM Push Licenses	Unlimited
11.	DICOM Query / Retrieve Licenses	Unlimited
12.	Modality Work list SCP/SCU Licenses	10
13.	Email/Fax/SMS Alerts (Gateways required)	Unlimited
	General: Management	
14	MIS & Analytics Reports	To be Included
	For Radiologist	
15	**Radiologist Workstation Licenses**	5 or above
16	**Teleradiology licenses**	5 or above
17	MIP/MPR/VR, remote reporting license including Mobile	05
18	Teleradiology Licenses	05
19	Reporting Module with embedded MS Word/HTML	To be Included
20	Key Image on Reports facility	To be Included
21	Digital Signature Module	To be Included
22	Audio Dictation Module	To be Included
23	Voice Recognition Integration Module	To be Included
24	Add Audio & Text Notes (Also available for other users)	Unlimited
	Special Modules for Radiologist	
25	Image library & CME module Licenses	Unlimited
26	Data Mining Licenses (Report Keyword Search Engine)	Unlimited
27	Peer Review Module	To be Included
28	Critical Results Alert Module	To be Included
29	Study Link Sharing, Via(Email,SMS,Web Whatsapp)	
	Archiving	
30	Archiving module License-VNA level 5	To be Included

	Third Party Integration: (Appropriate Licenses Needs to be procured)	
31	**Bidirectional Integration** with HIS/EMR (HL7 or Non HL7)	To be Included
32	Implementation Services	ONSITE
33	Training Services	ONSITE
34	Warranty, Maintenance & free Upgrades	ONE Year

1	Dicom Data import, export, special medical college edition with standard three year warranty.	1 License

1	Advanced 3D Software Application includes • MIP, MPR, 3D, • Auto bone removal, gantry removal, • Segmentation, Volumetric measurement, • CT Perfusion, MR Perfusion, • Magnetic resonance spectroscopy (MRS), • Virtual endoscopy/endoview • DSA & DTI • Vessel analysis • DTI with standard three year warranty.	1 System/ Workstation based License

2. Hardware

Sl NO	Description	Quantity
1	**Main PACS App/DB Server – Tower Server**	
	• PACS Server – • Intel Xeon Silver Processor, • 128 GB RAM, • 4 X 960 GB SSD on Raid 0,1, • Dual Power Supply, • Microsoft Windows Server OS 2022, • 3 Years Warranty.	1 No
2	**NAS Storage (Backup Storage)**	1 No
	NAS Storage of 40 TB, usable on Raid 5, - 3Years Warranty	
3	**Radiologist Workstation –Single head**	1 No

	Workstation: • Intel core i7, • 960 GB SDD, • 16 GB RAM, • 2GB Nvidia Graphics Card, • 19-inch Square Monitor, • **24-inch 4MP or more Medical Grade diagnostic single head monitor with Medical QA.** • 3 Years Warranty.	
4	**Radiologist Workstation with dual head and advanced 3D**	1 No
	Advanced 3D application with • MIP, MPR, 3D, • Auto bone removal, gantry removal, • Segmentation, Volumetric measurement, • CT Perfusion, MR Perfusion, • Magnetic resonance spectroscopy (MRS), • Virtual endoscopy/endoview • DSA & DTI • Vessel analysis • All with standard three year warranty. **Workstation**: • Intel core i7, • 960 GB SDD, • 16 GB RAM, • 4 GB Nvidia Graphics Card, • 19-inch Square Monitor, • **24-inch 4MP OR MORE, dual head Medical Grade diagnostic Monitor with Medical QA.** • 3 Years Warranty.	
5	**Physician Systems** • I5 Processor Latest Generation • 8gb Ram • 512gb Ssd • Win 11 Os • 24" Ips Monitor With Keyboard And Mouse. • 3 Years Warranty	6 No

Note:

1 All systems should be supplied with UPS and minimum back up of 30mins in order to prevent hardisk damage.
2 High speed internet facility for the server and radiology workstations.
3 Adequate LAN coverage for consultant and radiology departments.
4 The DICOM module should have necessary plug-ins for compatibility of equipment's of all the manufacturers in the market.
5 CMC will be charged according to our institution norms.

8/11/24

Head of Procurement
Adichunchanagiri University
B G Nagara -571448