



Invitation for Expression of Interest (EOI)

Title	Multi-slice CT System for Mass Lung Health Screening Program in Karachi, Pakistan		
Ref #	IRDG/EOI/2210-01	Contact details (EOI-related queries)	procurement@ird.global
Issuance Date	October 14, 2022	Submission Deadline	November 7, 2022

Background:

IRD is a global health delivery and research network working in over 15 countries. IRD Global is the headquarter based in Singapore and has country affiliate offices in Bangladesh, Indonesia, Nigeria, Pakistan, Philippines, South Africa, United Arab Emirates, Vietnam, and Zimbabwe. For more information, visit www.ird.global.

IRD Global is seeking expressions of interest from potential suppliers of a CT scan system along with image storage solutions for its site in Karachi, Pakistan. This EOI is the first stage of the procurement process to identify a potential list of suppliers, their range of solutions, and prices for the required equipment. We will not be making any procurement decisions as a result of this EOI. IRD Global shall initiate an open competition through a formal Request for Proposal (RFP) with complete terms and conditions at a later stage.

Interested suppliers should respond to this EOI as outlined in the specifications document. Any products and/or services under this EOI have a tentative delivery date in Q2 2023.

EOI Acceptance Criteria:

1. The quoted equipment can be from any manufacturer/country; provided it is accredited with an international accrediting organization and meets internationally accepted quality standards which must be clearly mentioned in suppliers' submissions.
2. The participating suppliers must:
 - a. quote their current models with proven past performance nationally and internationally.
 - b. be able to demonstrate the capability of providing the required services by possessing adequate available resources; including trained personnel, facilities, access, spare parts, order processing and delivery capabilities, equipment, systems, organization structure, operation controls, quality control and other

related factors. The supplier should be familiar with the latest trends in technology especially in areas of equipment requested.

- c. have installed at least 3 units of a similar range in Low and Middle-Income Countries (LMIC).
3. IRD reserves the right to inspect the workshop facilities of the supplier or their authorized agent at any time to ascertain technical delivery capability. Suppliers with inadequate facilities will not be considered.

Scope of Work:

EOIs are invited for a cost-effective, high quality, and high-performance multi-slice CT scanner with dual-head contrast injector to meet mass lung health screening needs in Karachi, Pakistan. We expect a 32-slice scanner would be adequate to support IRD's mass lung health screening needs; however, suppliers may also propose a higher range CT scanner. We require:

1. Complete hardware of multi-slice CT scanner capable of conducting at least 25-30 screenings each day.
2. The hardware of the multi-slice CT Scanner should be delivered, installed and commissioned at the site in Karachi, Pakistan. The price quoted should be on CNF as well as DDP basis.
3. DICOM storage for images (local and/or online).
4. Installation and commissioning of these equipment with related services.
5. While we will retain services of a local architect and contractor for site design and preparation as per the requirements of the selected equipment, the relevant supplier will be required to furnish shop drawings as required by the architect based on our final site layout and design.

Requirements, Terms and Conditions, and Submission Details:

The detailed description and specifications of products and / or services, warranty and maintenance, terms and conditions, conditions of participation in the EOI, and information on how to submit your queries and responses are available in the detailed EOI below.

Specifications and Terms of EOI

1. Hardware Equipment:

- a. **Requirement:**
 - i. **Purpose:** Multi-slice CT System for the Mass Lung Health Screening.
 - ii. **Quantity:** One (1) Unit
 - iii. **Port of Delivery:** Karachi, Pakistan. The price quoted should be on CNF as well as DDP basis.
- b. **Desired Specification:** Following requirements are based on a 32-slice CT scanner. Suppliers are allowed to propose a higher slice scanner if they can demonstrate that it will provide better value for money.

Specification	Requirement
Gentry	<ol style="list-style-type: none"> a. Bore size: Minimum 75cm. b. Rotation Speed: Minimum time for generating 32-slices per 360-degree rotation? c. Minimum scan length of the table: Minimum 100 cm. d. Gentry tilt preferable digital - 30 to + 30 degrees.
X-ray Generator	<p>The generator should be 50 KW or more, high frequency type and should have selectable KV and mA ranges.</p> <p>Please separately state KV and mA selectable ranges and the suitable combinations.</p>
Detectors	Should be an ultrafast solid state/ceramic detector, compatible with multi slice CT Scanner. State low contrast detectability at contrast difference; a better specs resolution will be preferred and Spatial Resolution of 18lp/cm at 0% MTF or more.
Slice thickness / Collimation	Multiple selectable slice thickness options; please state your product's specs.
X-Ray Tube	<ol style="list-style-type: none"> a. Actual anode heat storage capacity should be at least 3.5 MHU (Mega Heat Unit) or more. b. Maximum cooling rate 700 KHU per minute or above. c. Focal spot (IEC standard): 0.8 x 0.7 mm or less for small and 1.4 x 1.2 mm for large focal spot
Cooling System	Preferably air-cooled system.
Table	<ol style="list-style-type: none"> a. Motorized table with a weight bearing capability of 200 kg or more.

Specification	Requirement
	<ul style="list-style-type: none"> b. Scannable range 0 to 1570 mm or above c. Horizontal speed 1 to 100 mm per second d. Vertical travel range 450 to 1000 mm or less e. Floating tabletop f. Carbon/fiber table top with foot pedal and push buttons on both sides g. State standard accessories provided along with unit especially for chest scans
Computer	<ul style="list-style-type: none"> a. System architecture and operating system must be based on the latest technology. b. Multitasking and parallel processing CPU system with 32GB or more memory size c. Hard drive capacity should be 450GB or more. d. Storage capacity should be 250,000 or more. e. DICOM-3 compatible f. Access to raw data files and images should be available. g. Image zoom, pan, evaluation, measurement, and annotation facilities should be present. h. Image reconstruction of 15-images per second or faster. i. Real time MPR/ Multiplanar Reformatting. j. Appropriate maximum storage device e.g., cloud; also, DVD/CRD/MOD rewritable storage device to accommodate patient's request/copy. k. Compatible keyboard. l. RAM memory 16GB m. System disc at least 500 GB n. Data disc 2TB
Operator Console	<ul style="list-style-type: none"> a. High resolution flicker free LCD / TFT 23" or more color monitors with 1920 x 1080 or better display matrix, keyboard and mouse control should be provided. Intercom for patient monitoring and instructions should be available. b. Contrast media synchronization software. c. Advanced iterative dose reduction for dose management controls to automatically optimize radiation dose for every procedure with integrated tools to achieve the highest quality images. d. Metal artifact reduction software technique to reduce metallic artifact, improving visualization of implants, supporting bone and the adjacent soft tissues for a clearer and more confident diagnosis.
CT Angiography	<p>Pulmonary CT Angiography software should be available on console and workstation.</p>

Specification	Requirement
3-D Image Reconstruction	Software should be available in the main console on the console and workstation.
Software (state-of-the-art) on console and workstation	<ul style="list-style-type: none"> a. Lung analysis Software. b. Vessel Analysis software.
Accessories with system	<ul style="list-style-type: none"> a. Patient observation and monitoring camera (CCTV). b. Real Time Multi-Planar Reconstruction Facility. c. Infant cradle, axial head folders, security straps, arm rest, table cushion, phantoms, and phantom petitioners. d. Dual head automatic CT injector system should be provided. e. Separate DICOM compatible workstation (from manufacturer of CT System) for Doctor's office providing facilities for image viewing, analysis, and reporting with a 23" or more LCD/TFT color monitor. It should have software for the quantitative evaluation of lung tissues, 3-D volume and surface rendering and vessel stenosis analysis software. f. Lead glass 3 x 2 Feet. g. Immobilizer for Pediatric patients. h. The system should be DICOM compatible and functionally ready. It should be able to send, receive, query / retrieve, print and store the images. i. Color iodine overlay maps for detection of tumors and to detect low perfusion iodine take-up in Lungs and for diagnosis of pulmonary embolisms. j. Patient remote reporting complete system (optional to IRD).
Laser imaging system	<ul style="list-style-type: none"> a. For 14" x 17" film, documentation with dry laser processing.
UPS for the entire CT Scan System	<ul style="list-style-type: none"> a. Backup time: 10 Minutes b. Wave shape: Pure sine wave
Backup Power	<ul style="list-style-type: none"> a. Generator Backup Generator for use during power failure/ fluctuations/ disruptions. and

Specification	Requirement
	<p>b. Solar Panel Alternate to UPS and Generator: Please specify appropriate hybrid solar panel system with battery requirements to meet daytime scanning.</p> <p>Note: Please also provide details of the Solar panel which is only possible if there is adequate available on the rooftop to install panels. Otherwise, we will continue with generator and UPS.</p>
Training	<p>Please specify application training details for:</p> <ul style="list-style-type: none"> a. Radiologist(s) b. Radiographers <p>Please provide details of application training:</p> <ul style="list-style-type: none"> a. Number of trainings c. Duration d. Location
Warranty	<ul style="list-style-type: none"> a. Comprehensive warranty for the entire system. b. Hardware solutions must be designed for a minimum 10 years of working life, excluding CT tube and must be covered by a comprehensive warranty for at least 3 years. c. Uptime of equipment must be at least 95%. d. The response time to any breakdown should not be more than 4 hours. e. At least one factory-trained engineer should be available locally to provide technical support at any time. f. The supplier must have an inventory of spares available locally in a reasonable quantity. g. The offered solutions should be in compliance with prevalent requirements of relevant regulatory organizations. h. Complete details of the post warranty contract along with spare parts and no change in response time. i. FOC confirmation of field modifications during and post warranty contracts.

2. Condition of Participation

- a. This EOI is not an offer and should not be considered a commitment.
- b. Participating suppliers shall bear all the costs associated with the preparation and submission of the EOI, and IRD will, in no case, be responsible or liable for any of these costs, regardless of the outcome of the process.
- c. Participating suppliers are required to examine all instructions, terms, and conditions in this document. Failure to furnish the information, as required, and consequent rejection of the submission on that basis will, in every respect, be at the individual supplier's risk and cost.
- d. EOI submissions will be evaluated based on price, conformance to the equipment requirements, equipment features, specifications, performance, reliability, supplier experience, warranty terms, service capabilities, user training, and support services, financial cost, and overall responsiveness to this EOI.
- e. Supplier must state delivery time of system after issuance of purchase order.
- f. The supplier should be OEM or its authorized agent and must be well established where the deliveries/services are required.
- g. In case the participating supplier is an authorized agent, they should have complete authorization for maintenance, warranty, and spare parts from the OEM.
- h. Where any third party items are provided by the supplier, complete details (brand, model, specification etc.) of the third party items must be shared with IRD for approval. The supplier shall assume all responsibility in case of any delay in installation or future repair and maintenance by a third party.
- i. Shortlisted suppliers may be issued a formal Request for Proposal (RFP), inviting their technical and commercial proposals at a later stage.
- j. The EOI, as well as any correspondence, must be submitted in English.
- k. IRD reserves the right to accept or reject any or all EOI submission letters and to annul the procurement process without assigning any reason or having to owe any explanation whatsoever at any time before the award of Contract, thereby incurring no liability to the affected supplier or any obligation to inform the affected supplier.

3. EOI Submission Documents:

The suppliers must provide the following information/documents in their submissions:

- a. Supplier's profile with the number of years in the business, including:
 - i. Number of same / similar systems installed in Low and Middle-Income Countries (LMIC).
 - ii. Uptime percentage.
 - iii. X-ray tube and detector warranty.
- b. Full technical details of the products & services offered.
- c. Global Geographical reach.
- d. A list of references for similar services offered and completely performed within the last 5 years, preferably in LMICs. This list will be accompanied by the client's identification with their contact details, and a copy of the good performance certificate delivered at the completion of the contract for delivery, installation, commissioning, training and/or maintenance.
- e. Pricing in United States Dollars (USD), with detailed breakdown
- f. Overview of Quality and Data Management System
- g. Written confirmation that the company is in good standing with all Tax, Government and relevant Regulatory bodies including an overview of experience and track record with regulatory and ethics submissions and processes in the countries where suppliers have worked.
- h. Full disclosure of all legal disputes and claims.
- i. Overview of compliance with ICH-GCP, and the track record.
- j. An authorization letter to authorize IRD and its authorized representatives to conduct any inquiries or investigations to verify the statements, documents, and information submitted in connection with this application, and to seek clarification from your bankers and clients regarding any financial and technical aspects.
- k. Participating suppliers are expected to exercise their best professional independent judgment requirements of this EOI to ascertain whether additional clarification is necessary or desirable before responding.
- l. Additionally, kindly recommend CT suite space requirement in feet. Suite should be able to accommodate:
 - i. Complete CT System
 - ii. Operator's console room
 - iii. Other associated gadgets
 - iv. UPS
 - v. Injector
 - vi. Storage space for storing accessories and line
 - vii. Environmental conditions (temperature & humidity) required for the CT room and operator's console room
- m. Expectations/support from end-users before and during the installation and commissioning phase.

4. Submission Details:

- a. Interested suppliers should email their submissions only to the designated email address: procurement@ird.global. Submissions must include the complete details indicated above, clearly stating which one or more required products or services their response includes. The subject of the email should indicate the EOI reference number IRDG/EOI/2210-01.
- b. The submission deadline is **11 pm Singapore Standard Time on November 7, 2022.**
- c. Interested suppliers must send their queries via email to procurement@ird.global by October 30, 2022. IRD Global will aim to respond to queries within 3 working days.
- d. IRD Global will review all submissions and may request further clarifications or additional information from suppliers. IRD Global shall initiate an open competition through a formal Request for Proposal (RFP) with complete terms and conditions at a later stage.