

NOTICE INVITING BUDGETORY OFFERS

Name of Work	"SITC of 1 nos. x- ray baggage scanner complete with all accessories for the use of cruise terminal at MPA with five years CAMC after the guarantee period " .
Date of submission of budgetary quotation	On or Before 20/01/2023 at 15:00 Hrs.
Address for communication:	Executive Engineer (E-HR), 2nd floor, Mechanical Engineering Department, Mormugao Port Authority, Admin. Building, Headland sada Vasco-de-Gama Goa - 403804
Contact Details	Phone : (0832) 2594207, 2594577 Email : mohamed.shaik@mptgoa.gov.in
Website	www.mptgoa.gov.in

EXECUTIVE ENGINEER (E-HR)
MORMUGAO PORT AUTHORITY

Sub: "SITC of 1 nos. x- ray baggage scanner complete with all accessories for the use of cruise terminal at MPA with five years CAMC after the guarantee period " .

Ref: Budgetary Quotation No. CME/XEN (E-HR)/ 22/H-12/B4

Mormugao Port Authority intends to carryout work of "Supply, Installation, Testing and Commissioning of 1 nos. x- ray baggage scanner complete with all accessories for the use of cruise terminal at MPA with five years Comprehensive Annual Maintenance Contract after the guarantee period".

As such, it is requested to kindly furnish budgetary quotation for the same (Scope of work, technical specifications are enclosed at Annexure-I and Price Schedule enclosed at Annexure- II).

Your budgetary quotation should reach to this office on or before **20/01/2023 at 15:00 Hrs.**

Thanking you,

Yours sincerely,

EXECUTIVE ENGINEER (E-HR)

Annexure-I

TECHNICAL SPECIFICATION

Bid should be complete and covering the entire scope of work and should conform to the technical specifications indicated in the bid documents. Incomplete and non-conforming bids will be rejected outright.

1. SCOPE OF WORK

The scope of work broadly involves Supply, Installation, Testing and Commissioning (SITC) of 1 Nos. X- Ray Baggage Scanner complete with all accessories for the use of Cruise Terminal at Mormugao Port Authority with 5 years Comprehensive Annual Maintenance Contract (CAMC) after the guarantee period.

1. SCOPE OF WORK

Part-A:

Supply, installation, testing and commissioning of Highly Reliable & Rugged X-Ray Baggage Scanner complete with all accessories.

Part B: COMPREHENSIVE MAINTENANCE CONTRACT

The Tenderer shall quote for maintaining the entire system for the period of five years and shall enter into comprehensive annual maintenance contract for this period which shall include replacing of all the spares.

Note : The CAMC shall include all spares required for maintaining the X-Ray Baggage Scanner during the guarantee period.

2. DETAILED TECHNICAL SPECIFICATION

2.1. X-RAY BAGGAGE SCANNER

Sl. No.	Specifications
1.	Minimum Tunnel size-100 cm(width) x 100 cm(Height) or better
2.	Material structure should be in SS
3.	Conveyor belt speed should be between 0.18 to 0.3 meter per second. Conveyor movement shall be Bi-directional.
4.	All machine should operate on 230 VAC, 50Hz power supply and should be able to withstand voltage fluctuations in the range of 170 to 260 VAC, Single phase.
5.	Conveyor capacity - 200 kg or more
6.	Through put should be 200 bags per hour or more
7.	Sensors > 1000 diodes, L-shaped detector (Folded array type), in case of defective diode arrays, scanning should be disabled and error message should be displayed on the screen.
8.	X-Ray Voltage: 160 KV -185 KV
9.	X-Ray Source-/Generator -it should be capable to operate smoothly for a period of at least six years.
10.	Duty Cycle: 100%
11.	The X-ray beam divergence should be such that the complete image at maximum size of bag is displayed without corner cuts.
12.	The radiation level should not exceed accepted health standard (0.1 m R/hr at a distance of 5 cm from external housing, certified by AERB.
13.	The operating temperature should be 0°C to 40°C
14.	Storage temperature should be 0°C to 70°C
15.	Humidity: 90 % non-condensing
16.	Resolution: The Machine should be able to display single uninsulated tune copper wire of 42-SWG or 38-SWG. All penetration and resolution condition should be met without pressing any functional key and should be online.
17.	Penetration should be 35mm thickness of steel or more
18.	Continuous electronic zoom facility should be available to magnify the chosen area of an image eight times (8X) or more. Image feature shall be keyboard controllable.
19.	Video Display- 18.5" or better LCD monitor, SVGA high resolution, low radiation, flicker free, resolution of at least 1280 X 1024, 24 bit color real time processing.
20.	The machine should have features of Multi energy X-ray imaging facility

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	where materials of different atomic number will be displayed in different colors to distinguish between organic and inorganic materials. With this method, to distinguish high-density organic materials including explosives, machines should have variable color or material stripping to facilitate the operator to monitor images of organic materials for close scrutiny. All suspicious items (Explosive, High density, material narcotics) should be displayed in one mode and should be online and dangerous items should be displayed in one mode and that should be online
21.	The machine must comply with requirements of health and safety regulations with regard to mechanical, electrical and radiation hazard. Before installation of the machine the supplier should furnish relevant certificate from Atomic Energy Regulatory Board of India regarding radiation safety. The company manufacturing the equipment should have ISO certificate for manufacturing and servicing of X-ray screening machines.
22.	Film safety: - Guaranteed safety for high-speed films up to ISO1600. The machines should be film safe, In other words photographic films must not be damaged due to X-ray examination.
23.	Machine should be properly sealed from all the sides for pest proof. Dust proof cover is to be provided for covering when system is not in use.
24.	Facility for variable contrast must be incorporated to allow enhancement lighter and darker portion of the image
25.	The machine should be so designed that software enhancement can be easily implemented to take care of new technique in image processing and pattern recognition.
26.	Full diagnostic built in test facility. All models should have software controlled diagnosis report facility and system should give printout if printer is connected.
27.	All software features of machine should be online and password protected.
28.	Machine should be capable of recovering 15 or more images.
29.	It should have the capability of archiving 2000 or more images with date & time.
30.	Control desk with security housing and locking provision should be available. The operator personal identification number can be entered the keyboard along with generation of log.
31.	Facility of image enhancement should be available.
32.	Equipment should have online recording facility and images should be able to be recorded in CD R/W or /and USB and the recorded images viewable on standalone PC.
33.	Lead impregnated safety screens should be available at either ends of the

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	tunnel. This should be covered by relevant AERB certificate. Idle rollers to be provided at either ends of the tunnel to facilitate placing of baggage at input and output.
34.	All software features should be controlled from the key board and mouse machine. Keyboard function should be user friendly to enable/disable the software features system should not be rebooted.
35.	If the machine fails to penetrate a particular item than both the alarm and video should be generated to notify the operator
36.	The threat Image projection (TIP) system software to be incorporated in all X-ray BIS operation as details given under TIPS features.
37.	Copy of all software including X-ray software with recovery CD must be provided
38.	Operational training - operating staff has to provide free training.
39.	Operating & service manual shall be provided with each machine.
40.	Other feature a) Edge & Variable edge enhancement. b) inverse video c) Set up time not more than 10 minutes. d) Pseudo colour e) Date and time display
41.	Minimum Computer Configuration: 1.CPU: should be deliver the output to meet the specifications mentioned as above. 2. Hard Disk Drive: 500 GB 7200 rpm serial ATA HDD or better. 3. Mouse: Optical 4.Ports : 6USB (with at least 2 in front),1 serial port,1 parallel por,1PS/2 keyboard and 1 PS2 mouse Port for microphone and headphone in front. 5 CD-R/RW Drive: DVD writer 6. Networking facility: 10/100/1000 on board integrated network Port with remote booting facility remote system installation, remote wake up, out of band management using any standard management software.
42.	UPS:- 3 KVA or better online with back-up time of half hour to whole system.
TIPS Features	
01	Threat Image Projection (TIP) software facility shall be incorporated in the X-ray machines to assist supervisors in testing the operator alertness and training X-ray screener to improve their ability in identifying specific threat

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	object. The System should create a threat object and the same will be superimposed on monitor screen while a bag is being screened. To acknowledge that the operator has seen the false object, operator must press the control key that will cause the computer generated threat object to disappear from X-rayed bag image on the VDU screen. Each operator's action shall be recorded in the hard disk of the computer for the auditing purpose by the supervisor or authorized person.
	Design of the system
02	TIP software should be compatible with other X-ray technologies such as automatic reject unit. Dual X-ray screen technologies, automatic threat recognition system etc. All x-ray image functions must be available at the same time along with the TIP.
	IMAGE LIBRARY
03	The image library should have an image library containing at least 100 explosive devices, 100 Knives and 100 firearms of various sizes, shapes, locations and orientations. However the system should have facility to expand the library to incorporate additional images by user without assistance of manufacture.
04	The image library should contain images of threats at different orientation both plan and end on orientation should be used. Although these will be assigned different file names and references, it must be possible to cross-reference these as the same threat. All threat image Projection images must be realistic, representative and non-distinguishable from real threat items.
	TIME INTERVAL
05	Programming facility should be available to project threat images in different intervals. The time period for threat images as well as image mix in percentage shall be user programmable e.g software shall select 40% images of explosive devices, 35% of fire arms & 25% knives or random etc.
06	Once the screener has responded to identify the computer generated threat image, it should remain on the screen for predefined user programmatic feedback message shall be visible to the screener
	SYSTEM ADMINISTRATION
07	The threat image projection facility shall have details of user database such as Department name, screener name, organization, user ID number, level of access such as screener, Administrator, Maintenance schedule and password etc.
08	Access to start up menu should be restricted only to the authorized individuals. A login procedure by means of "Password" or "Security Key" could achieve restricted access to each of the comment. The log-in procedure should not take longer than 20 seconds. The system should

	have facility to bypass the TIP facility, if programmed so by the system administrator. It is to be ensured that the TIP Software shall not be hindrance to normal function of the X-ray machine
09	When the operator log-in or logs-out message should be displayed on X-ray BIS VDU Screen to confirm that he/she has been correctly logged-in or logged-out
	FEEDBACK REPORT
10	The threat image projection should be capable of giving feedback "HIT, MISS or FALSE ALARM" message. No message will be presented if a screener correctly passed as clear bag
11	A "HIT" message to be presented when a screener has correctly identified Threat Image Protection. A "MISS" message shall be presented when screener fails to identify the TIP image. A"FALSE ALARM" message shall be given when screener incorrectly indicates TIP image when in fact no TIP is present. The feedback should clearly indicates in a screen that a TIP object has been missed/no TIP object was present. Information should be recorded in database
12	Different color coding shall be used for feedback to the screener. It is recommended that color code "Red for MISS" Green for "HIT" and yellow to False Alarm or interrupt be used.
14	The system shall automatically prepare the daily log of events for each shift and for each screener performance. TIP log shall include particulars of Name of screener, Time & date of threat image, whether threat image was successfully identified or missed.
15	The report on threat image projection system should have date and time (From-to--) as per requirement, Screener particulars and decision/outcome i.e MISS, HIT or False Alarm in percentage as well in absolute numbers, number of bags screened, categories such as explosive devices knife or weapon, etc.
16	As a standard practice, daily/weekly/monthly report shall be retrieved. Report shall be retrievable for any given time and period, as per command.
17	All data should be stored on the system for a minimum of two months after it has been downloaded. No individual regardless of access rights to the threat image projection components would delete or amend any of threat image projection data or time i.e. threat image projection data on the actual X-ray machine will be read only file.

2.2. INSTALLATION AND COMMISSIONING:

The X-Ray Baggage Scanner shall be installed using necessary instruments and tools which are to be supplied by the contractor at the location pointed out by MPA Engineer. The special tools instruments needed for regular servicing / maintenance working shall be supplied free of cost by the contractor. All the materials required for the installation and commissioning at site including the material for civil works will be supplied by the Contractor.

3. Special care be taken to prevent any damage to the MPA property during installation and commissioning. The system as also the sub system shall be elegant pleasing in appearance and if necessary suitably painted to withstand saline atmosphere prevailing in the Port premises. The equipment shall be tested for satisfactory performance and the essential parameters shall be highlighted for periodic testing and services.

All the equipment shall be Guaranteed for a period of 12 months (inclusive of replacement of all spares at free of cost) from the date of receipt and acceptance of the equipment by the Trust Engineer.

4. COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT:

a) CONTRACT PERIOD:

The Comprehensive AMC order will be issued after Successful completion of the one year Guarantee period. Based on the performance of the First year Annual maintenance Contract, the CAMC order will be renewed every year till Five years as per the price quoted by the Tenderer. During CAMC, the contractor has to replace all the required spares/ update software free of cost without additional burden to Port.

Periodical maintenance shall be carried out once in 2 months and unlimited breakdown maintenance as and when informed by Mormugao Port Authority.

MINIMUM ELIGIBILITY CRITERIA

- 6.1 The Bidder shall have successfully carry out the SITC of X ray baggage scanner for last 7 (Seven) years ending last day of month previous to the one in which quotations are invited.

5. SPECIAL TERMS AND CONDITIONS

- i. The Contractor shall commence and complete the work as per the BOQ and technical specifications.
- ii. The Contractor shall complete the work in all respect to the satisfaction of the Engineer-In-Charge or his representative.

6. OTHER TERMS AND CONDITIONS

- i. The firm should engage skilled service personnel with the relevant required tools and instruments for commissioning the subject work.
- ii. The Contractor personnel engaged in the work shall follow all safety, security and General Rules enforced by Mormugao Port Authority (MPA) and the firm only shall be responsible for the same.
- iii. MPA will not be responsible for any loss or damage of the men / materials / tools / plants engaged by the firm during the work at site / transportation.
- iv. Necessary entry passes shall be obtained by the firm at their own cost with the approval of Port Officials.
- v. Necessary electrical power supply required for testing will be provided by MPA at free of cost at nearest possible point.

PRICE SCHEDULE (BILL OF QUANTITIES)

PART - A

Sr No	Description	Unit	Qty.	Unit Rate in (Rs.)		Amount in (Rs.)
				In fig.	In words	
1.	Supply, installation, testing and commissioning of X-Ray Baggage Scanner complete with all accessories as detailed in the Technical Specification – Annexure-I					
	(i) Supply	No.	1			
	(ii) Installation, Testing & Commissioning.	No.	1			
TOTAL OF 'PART – A'						

(In Words Rupees _____
_____ only)

PART - B

Sr. No.	Description of work	Unit	Qty.	Rate per Unit (Rs.)		Amount (Rs.)
				In figure	In words	
1.	Comprehensive Annual Maintenance Contract					
a.	1 st year CAMC	LS	1			
b.	2 nd year CAMC	LS	1			
c.	3 rd year CAMC	LS	1			
d.	4 th year CAMC	LS	1			
e.	5 th year CAMC	LS	1			
TOTAL AMOUNT 'PART B'						
NET TOTAL = TOTAL OF [(PART A) + (PART B)]						

(In _____ Words
Rupees _____
_____ only)

Note: a) Tenders without quote for 5 years Comprehensive AMC will be treated as incomplete and will not be considered for evaluation.

b) The offered rates shall be inclusive of all taxes and duties except GST which will be paid as extra as applicable. However, any new tax will be imposed by State/Central Govt. and same will be reimbursed on producing documentary proof.

C) L1 will be selected on NET total A+B.