



आईएसओ 9001-2015 पलन
AN ISO 9001-2015 PORT

MORMUGAO PORT AUTHORITY
ENGINEERING MECHANICAL DEPARTMENT

ELECTRICAL HEADLAND SECTION

NOTICE INVITING BUDGETORY OFFERS

Name of Work	NAME OF WORK "Supply and Installation of wireless bridge network for CCTV Surveillance System at Port's Operational Areas".
Date of submission of budgetary quotation	On or Before 30/09/2022 at 11.00 Hrs.
Address for communication:	Executive Engineer (E-HL), Mechanical Engineering Department, Mormugao Port Authority, Electrical Section, 1st Floor, Admin. Building, Headland Sada, Goa - 403804
Contact Details	Phone : (0832) 2594241/15/42 Email : xene.mgpt@gmail.com
Website	www.mptgoa.gov.in

EXECUTIVE ENGINEER (E-HL)
MORMUGAO PORT AUTHORITY



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CME/XEN(E-HL)/M-22/2022/

.07.2022

Sub: "Supply and Installation of wireless bridge network for CCTV surveillance system of Port's Operational Areas".

Ref: Budgetary Quotation No. CME/XEN(E-HL)/M-22/03

Mormugao Port Authority intends to carry out Supply and installation of wireless bridge network for CCTV surveillance system of Port's Operational areas, with a warranty period of 02 years followed by 3 years Comprehensive Maintenance Contract.

As such, kindly furnish the budgetary quotation for the same. Scope of work enclosed as Schedule - 'A' and Price Schedule enclosed as Schedule - 'A1'.

Your budgetary quotation should reach to this office on 30.09.2022.

Thanking you,

Yours sincerely,

EXECUTIVE ENGINEER (E-HL)

TECHNICAL SPECIFICATION

1.0 GENERAL

Mormugao Port Authority proposes to entrust Supply installation testing and commissioning of wireless bridge network for CCTV surveillance system at Port's Operational areas. The proposed system will comprise of supply and installation of two wireless pairs, two lattice tower structures that are required to be erected on two different building structures and other associated devices.

2.0 SCOPE OF WORK

1. The Port's operational area has in total 21 CCTV cameras, which are currently connected to Control Room located in Administrative Office through OFC network. It is planned to install two pairs of wireless network bridges to transmit the said camera feeds instead of wired connectivity through OFC. The distance between the wireless units is aerially 5 to 6 kms. away from Central Control Room which is located on the first floor of Administrative Building. Also, the arrangement should be able to handle Port's Operational data in case of OFC failure in terms of data capability and system compatibility.
2. The bidder is required to supply, installation, testing and commissioning of two pairs of wireless bridges. Also, 02 nos. lattice towers of 9 mtrs. height to be erected on terrace of Gate No. 9 and Old Receiving Building, suitable for installing wireless units. One pair is required to be installed in between Gate No. 9 and Old Receiving Building. While the pair will be between Old receiving building and Administrative Office Building.
3. Supply and laying CAT 6 armored network Cable, power cable, OFC and PVC heavy duty conduit pipes.
4. The contractor should provide a guarantee of two years for the complete system involved in the work. After successful completion of the guarantee period the Comprehensive Maintenance Contract for the following 03 years will be awarded to the party as per the rates quoted in Part B of Schedule A1. The contractor should



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carryout rectification of all faults, and shall attend within 24 hrs. and set right the same. Beyond which, penalty will be deducted as the system will affect functioning of large number of cameras. The contractor has to furnish escalation matrix to be contacted in case of faults during the currency of the guarantee period.

5. All labours, materials, tools plants, machinery, equipments and any other things required for execution and maintenance of work shall be arranged by the contractor at his own cost.

6. Restraining Publicity of Official Secrets, Drawings, Photos

The contractor is bound by the obligation of secrecy under the Indian Official Secrets Act, 1923 (during entire currency of the contract).

7. The Contractor shall provide valid police verification of the staff employed by him for installation and during currency of the warranty and CMC period.

Note: The bidder shall carry out the above complete work as per rules and other relevant standard. The scope of work is not restricted, If, any additional material or accessories is felt necessary, the contractor full fills the complete system as per rule and relevant standard on the offered rate.

2.1. STANDARDS and CODES

The wireless network bridges shall comply with ONVIF standards and shall be UL/CE and FCC Certified evidence of which is to be provided. Each wireless bridges shall be supplied along with accessories like mounting GI Fixture with suitable base for Grouting.

2.2. TECHNICAL SPECIFICATIONS:

2.2.1 WIRELESS TRANSMITTERS & RECEIVERS

The PTZ Cameras installed in various locations has to be viewed at the Centralized Video Surveillance System (CVSS), Commandant / CISF office as per the details given below.

Data rate	1Gbps
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Type	Capable of Point to point and Point to Multipoint connectivity
Frequency Range	5 Ghz and above (free operating frequency range)
Range	15Km. (expandable upto 25kms)
Channel width	5MHz / 10 MHz / 20MHz / 40 MHz
Modulation	MIMO-OFDM (64-QAM or higher) with Forward Error Correction (FEC)
Transmit power range	20 dBm and above
Powering Method	POE
Ingress Protection	IP67 by default without any adaptation
Operating Temperature	10 deg to 55 deg for outdoor use
Wind survival	150 km/hr
Encryption	128 bit AES
Firmware/Software Upgrades and Patches	The Bidder is required to install the Wireless Equipment with the latest firmware/software upgrades and latest security patches meant for fixing software glitches, vulnerabilities, functional enhancements etc. <u>Further, the Bidder is required to install firmware/software upgrades as well as apply latest patches as and when released by the OEM</u> for fixing software glitches, vulnerabilities or functional enhancements during the warranty period of two years.
Product/Equipment Life	The Bidder should ensure that the Equipment to be supplied should not be declared as “End of Life” by the respective OEM as on the date of submission of the Tender.
Certifications	UL/CE and FCC Certified ETA Approval (EQUIPMENT TYPE APPROVAL) issued by the Wireless Planning & Coordination Wing (WPC Wing).

All the RF Equipment's supplied shall have ETA Approval issued by the WPC and a copy of the ETA (EQUIPMENT TYPE APPROVAL) indicating the make and model of the proposed TRANSCEIVER shall be furnished.

- Note: 1) The wireless system supplied with one point to multipoint radio systems. All the necessary Hardware /Software shall be supplied. The Contractor should enclose MAF certification for the make offered. Bids without the MAF certificate will be considered as invalid.
- 2) All the video footages of the CCTV cameras to be connected at CCTV Control Room as described at 2.0.1 and 2.0.2.
- 3) The Bidders shall enclose ETA approval from WPC indicating the make & model of the RF equipment offered for Point to Multi Point system (Both

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Base & Subscriber units). The Equipment without the approval of ETA from WPC will NOT be accepted.

In case Direct Line of Sight is NOT there or lost during the currency of the contract the Contractor shall add suitable Galvanized MS Structural Towers / Repeaters of suitable height after carrying out the survey of the site at their own cost and arrive the number of towers / Repeaters required if any. No extra cost shall be borne by the Port.

The Tenderer Shall Supply, Install and Commission all the materials required for mounting the TRANSCEIVER like MS Towers.

2.2.2 SURGE PROTECTORS.

MAX Dc supply	60V DC-650mA
Nominal discharge: Line/ Line	<500A @8/20 micro seconds
Nominal discharge: Line/ Ground	2000A @8/20 micro seconds
Ingress Protection	IP65
certification	UL/CE

2.2.3 LATTICE TOWER:

The tower shall be 3 legged lattice self-supported safety tower. It shall be fabricated with hot dip galvanized with painting to withstand the saline and very high humid atmosphere and the civil foundation shall be as per IS standard according to the tower size. The tower shall have safety casing and landing, Lightning arrestor and earthpit.

- a) Height : 9000 mm
- b) Bottom : 600 mm x 600 mm x 600 mm
- c) Pipe size : GI 48.0 x 3.25 mm THK

Roof Top Details:

- a) Roof level in weathering coats.
- d) Anchor fastener fixing drilling holes – 6 Nos.
- e) Anchor fastener dia 12 mm fixing for concrete depth 3 inch.
- f) Base bottom flat size 40 x 6 = 180 mm
- g) Shuttering four side
- h) Concrete mixing 1:2:4

Ground Base Details:

- a) Earth work 900 mm x 900 mm x 900 mm



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- b) PCC Concrete 1:4:8
- c) Mass Concrete mixing 1:2:4

2.2.4 Supply and laying of CAT-6 cable

Supply and Laying of CAT-6 UTP weather proof cable for outdoor cameras (CCTVs), CAT 6 UTP Cable Transmission frequency of 250 MHz (Minimum).

2.2.5 Supply and laying of PVC pipe

Supply and Laying of PVC pipe of suitable size to be fixed on wall (including with saddle, Gitti at sufficient distance with junction box, bend etc.). Cost is inclusive the laying cost fiber, CAT-6, Power cable in PVC pipe.

2.2.6 Supply and Laying of Power cable

Supply and Laying of 3 core, 1.5 sq. mm copper conductor power cable (ISI approved). The contractor shall provide 1 no. 5A switch & socket assembly for powering the wireless units which is also included in the scope.

2.2.7 MISCELLANEOUS ITEMS

Miscellaneous items, like saddles, fitting materials, switch, sockets, screws, nuts, fasteners, jointers, sealants or any other materials as felt necessary accessories, to run the system should be included in quote.

3.0 INSTALLATION & COMMISSIONING

- a) The Contractor shall carry the work as per the Price Schedule.
- b) The Contractor shall commence erection of equipment immediately after receipt of the equipment and complete the work to the satisfaction of the Engineer In-charge or his representative. Necessary scaffolding as and how required and safety measures for entire erection and during the accuracy of contract shall be provided by the contractor at no extra costs.
- c) The work should be carried out with utmost safety precaution with minimum possible disruption of existing camera feeds.
- d) The installation of the various equipment's shall be carried as per the site conditions and as directed and agreed by the EIC. The Contractor shall carry out the works in co-ordination with the on-going CMC Contractor for CCTV Cameras.

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4.0 PAYMENT TERMS:

Payment shall be released on furnishing Performance BG and Signing of the Agreement by the Bidder as per the following terms:

- i) 70% of payment shall be released against supply of materials at site in good condition.
- ii) 20% of payment shall be released against successful installation, testing and commissioning of the work.
- iii) Balance 10% of the payment will be released after taking over of the complete work.

NOTE: The payment will be released within 15 days for running bills/30 days for final bills from the date of receipt of undisputed bills in duplicate and with all other supporting documents.

5.0 SECURITY DEPOSIT

15% of the total contract value will be kept as Security Deposit from the retention amount and will be returned after completion of CAMC period by deducting applicable penalty.

6.0 PENALTY CLAUSE

6.1 Non-functioning of the system will have to be attended within 24 hours of reporting of the fault, failing which an amount of Rs.1000/- per day will be deducted for first 7 days and beyond the period of 7 days, an amount of Rs.1500/- per day will be deducted as penalty from the amount retained by the Port.

7.0 COMPREHENSIVE MAINTENANCE CONTRACT:

1. a) **Contract Period:** The contractor shall provide 03-year Comprehensive Maintenance Contract for the equipment's installed from the date of completion of 02 year guarantee period. The maintenance during CMC shall include repairs/replacement of all defective components of the system including the wireless units.

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- b) **Terms of Payment:** On satisfactory completion of monthly servicing and on certification by the EIC, Quarterly payment will be recommended on pro-rata basis on production of pre-receipted bill in the Port format. The Contractor shall furnish their Bank details/Account No. and PAN in order to effect payment thro' ECS.
- c) **Security Deposit for CMC:** The Security deposit paid by the successful Tenderer will be kept as Security Deposit for the Comprehensive maintenance contract for a period of 03 years and the same will be refunded after successful completion of 03 years CMC period.
- d) **Penalty Clause (For CMC)**

The contractor shall complete the required maintenance work as and when directed by Port Officials. Non-functioning of the system will have to be attended within 24 hours of reporting of the fault, failing which an amount of Rs.1,000/- per day will be deducted for first 7 days and beyond the period of 7 days, an amount of Rs.1,500/- per day will be deducted as penalty from the amount retained by the Port.

8.0 OTHER TERMS AND CONDITIONS

- i) The contractor is advised to visit the site and get acquainted regarding the nature of the work involved at site conditions before quoting the offer.
- ii) The Bidder is required to provide escalation matrix with contact details along with the Tender Documents and also required to update it as when required during the warranty period of two years and CMC period of 3 years thereafter.
- iii) The Technical Specification "Schedule-A" and Schedule of Prices & Quantities "Schedule-A1" to be read in conjunction to ensure the actual works involved.
- iv) Entire system should be handed over to Port in working condition after completion of CAMC period.
- v) The contractor should attend the faults within 24 hours and complete the same on the receipt of intimation from Engineer in-charge.
- vi) The contractor should engage skilled service personnel with the relevant required tools and instruments for attending the faults and commissioning the same.



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- vii) The contractor has to abide by all physical Safety/Security as well as Cyber Safety/Security requirements and General Rules enforced by Mormugao Port Authority from time to time for which the contractor shall be responsible & accountable.
- viii) No labour, Materials, Testing Equipment, Transport etc. will be provided by MPA throughout the duration of warranty period of two years.
- ix) The Port will not be responsible for any loss or damage to materials/ tools / plants engaged by the contractor during the work at site/transportation.
- x) The contractor should indicate the GST No.
- xi) No advance payment will be made.
- xii) Final payment will only be made as against the firm should handed over the entire system with good working condition.
- xiii) Necessary entry passes shall be obtained by the contractor at their own cost with the approval of Port Officials.
- xiv) Power Supply will be provided free by the Port. However, the contractor should make his own arrangements to take power supply from the nearest source of supply.
- xv) For any clarifications, the firm may contact the 'Executive Engineer at 1st floor of the Administrative Office, Ph.0832-2594241/4215



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SCHEDULE 'A1'

SCHEDULE OF PRICES AND QUANTITIES

PRICE SCHEDULE

Part – A

Sl. No	Description of work	Unit	Qty.	Rate/Unit (Rs.)		GST %	Amount (Rs.)
				In figure	In words		
1.	Supply, Installation, testing and commissioning of Wireless Radios along with PoE Units as per technical specification at Schedule-A						
	a) Supply	No.	4				
	b) Installation, testing and commissioning	No.	4				
2.	Supply, Installation, testing and commissioning of Surge Protectors for Wireless Radio as per technical specification at Schedule-A						
	a) Supply	No.	4				
	b) Installation, testing and commissioning	No.	4				
3.	Supply, Installation, testing and commissioning of 9 meter lattice Tower with Self climbing ladder as per technical specification at Schedule-A						
	a) Supply	Set	2				
	b) Installation, testing and commissioning	Set	2				
4.	Supply and laying of CAT 6 armoured Network Cable as per technical specification at Schedule-A						
	a) Supply	Mtr.	305				



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	b) Laying	Mtr.	305					
5.	Supply and laying of PVC heavy duty conduit pipes as per technical specification at Schedule-A							
	a) Supply	Mtr.	160					
	b) Laying	Mtr.	160					
6.	Supply & laying of power cable.							
	a) Supply	Mtr.	100					
	b) Laying	Mtr.	100					
7.	Testing and commissioning of the complete system.	LS	1					
TOTAL AMOUNT 'PART A'								



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Part B

Sr. No.	Description of work	Unit	Qty	Rate/Unit		GST %	Amount (Rs.)
				In figure	In words		
1.	Comprehensive Maintenance Contract (CMC) with full responsibility of carrying out repair and supply of required original spare parts to keep the wireless system in fully operational condition for a period of 3 years, after expiry of two year Guarantee period.						
a.	1 st year CMC	LS	1				
b.	2 nd year CMC	LS	1				
c.	3 rd year CMC	LS	1				
TOTAL AMOUNT 'PART B'							
GRAND TOTAL AMOUNT (PART A + PART B)							

(In Words Rupees _____ only exclusive of all taxes and duties)

Note: The rates quoted shall be inclusive of transportation, lodging and boarding, but exclusive of GST. Applicable GST shall be paid extra as applicable.

Date :

Signature & Seal of the Bidder

Place :