

# Tender Documents Procurement & Installation of Surveillance System NUTECH/SCM/Surveillance Systems-2019/TD-055

## NATIONAL UNIVERSITY OF TECHNOLOGY

#### **TENDER NOTICE**

## National University of Technology (NUTECH) NUTECH/SCM/Surveillance System-2019/TD-055

Sealed bids (Single Stage – Two Envelope) are invited from Government / FBR registered firms for procurement & installation of Surveillance System at NUTECH.

- Tender documents containing terms & conditions and detailed specifications of items can be downloaded from NUTECH website "https://nutech.edu.pk" w.e.f 19 April 2019.
- 2. Quotations shall be submitted as per requirements of the tender documents.
- 3. Bidders will be required to submit bank draft / PO equal to 5% of quoted value as Bid Bond in favor of National University of Technology (NUTECH).
- 4. Sealed bids with detailed specifications should reach on the following address latest by **1100 hours on 06 May 2019.** Late submission will not be entertained.
- 5. Bids will be opened at **1130 hours** on **06 May 2019 at SCM Office**.
- 6. Project is to be completed in 60 days from the date of award of contract.
- 7. Submit Rs 1500/- as Tender Fee in favor of NUTECH HBL Account: **NUTECH Tendering and Contracts:** 5037-7000210755. Please attach bank receipt with technical offer. Offers will not be entertained without payment of processing fee.

Deputy Director (Supply Chain Management)
NATIONAL UNIVERSITY OF TECHNOLOGY (NUTECH), UPROAD, SECI-12
ISLAMABAD

Tel: 0092-51-5476768, Ext: 178

## NATIONAL UNIVERSITY OF TECHNOLOGY

#### **SUPPLY CHAIN MANAGEMENT OFFICE**

### **INVITATION TO TENDER**

- 1. NUTECH desires to procure the list of item(s) / Store(s) as per AnnexureA. Interested bidders are requested to send their bids through courier or deliver at NUTECH under Single Stage Two Envelop Procedure (two sealed envelopes placed together in third sealed envelope), marked clearly, "Technical Offer" & "Commercial Offer", respectively to the undersigned, latest by or before above mentioned due date. If due to any unforeseen circumstances, NUTECH establishment remains closed, then the last date of submission will be extended to next working day.
- 2. Note that Technical Offer should contain only Annexes-A & B duly filled in (supported with relevant technical literature / details / catalogues etc) and receipt of tender processing fee. Commercial Offer will contain Annexure-C and bid bond (dully marked and placed in separate envelop). Ensure that no space is left blank in the annexes.
- 3. Following must be noted:
  - a. 2 x copies of technical offer are to be provided.
  - b. Annexes A, B and C must be signed and stamped. Attach only relevant literature.
  - c. Complete all document as per given format. Do not use your format or letter head. Offer may be rejected if given format is not followed.
  - d. Validity of offer will be 90 days.
  - e. Delivery & installation period will be 60 days from the date of award of contract.
  - f. The firm should provide point to point acceptance of each clause of IT and special instructions attached with IT.
  - g. Firm will render a certificate with technical offer that firm is neither defaulter nor blacklisted by any Government / semi Government organization directly or indirectly.
  - h. Tender(s) must be accompanied with a Bid Bond in agreement of

faithful compliance of the conditions of Contract / Purchase Order. This amount will be equivalent to 5% of the total quoted value. In case of non-acceptance of any offer, the Bid Bond will be returned to the bidder by fastest possible means. The Bid Bond amount submitted by the successful bidder will however be refunded on effective completion of Contract / Purchase Order. (The Bid Bond will be forfeited in case of default by the bidder from his commitments made through his offer). Submission of Bid Bond is mandatory; otherwise your offer will be rejected.

- 1 year comprehensive warranty against 2% bank guarantee will be required from the successful bidders from the date of commissioning.
- j. Rates should be quoted on Free Delivery basis at NUTECH Islamabad.
- 4. NUTECH reserves the right to accept or reject any or all tenders as a whole or in part without assigning any reason whatsoever. The decision in this regard will be firm, final and binding on all bidders.

DD (Supply Chain Management)

## **Technical Specifications**

## NUTECH/SCM/Surveillance System-2019/TD-055

| Ser         | Itama                            | Description   | Country           | A/U | Qty | Bidder<br>Compliance |     | Tech Scrutiny to be done by user |           |
|-------------|----------------------------------|---|-------------------|-----|-----|----------------------|-----|----------------------------------|-----------|
| Sei         | Items                            | Description   | Origin            | A/U | Req | Yes                  | No  | Accepted                         | Rejected  |
|             |                                  |   | J                 |     |     |                      | 110 | Reason of                        | Rejection |
| <u>Impo</u> | rt Items                         |   | T                 |     |     |                      |     |                                  |           |
| 1.          | Indoor<br>Surveillance<br>Camera | Fixed IR Dome Camera, IP, 4.0 Mega Pixel, 1/3" 4 mega pixel Progressive scan, fixed lens 2.8 mm AF, max resolution 2592 x 1520mm, Codec H-265+, 25 fps, day & night (ICR), IP-66, Smart IR minimum 30 meter, Digital Defog, mounting bracket, all fixing and mounting accessories.  | European /<br>USA | No  | 158 |                      |     |                                  |           |
| 2.          | Elevator Camera                  | Fixed IR Wireless Network Dome Cameras, Wifi enabled wireless camera for elevator, 2 Mega Pixel, IR IP mini dome, 1/2.7" Progressive Scan CMOS, 3.6mm lens, 1080P @30fps, IR range 10-15 meter, Day and night vision with all required accessories & materials.   | European /<br>USA | No  | 7   |                      |     |                                  |           |
| 3.          | Auditorium<br>Camera             | Motorized zoom PTZ cameras, IP PTZ, 4 Mega Pixel, 1/3" 4 mega pixel Progressive scan, Motorized Zoom lens 2.8 to 12mm, Triple Stream, ROI, Max resolution 2592 x 1520mm, Codec H-265+, 25 fps, day & night (ICR), Motion detection, Crossing line, Face Detection, Defocus, People counting, IK10, IP-66, Smart IR minimum 50 meter, HLC, Digital | European /<br>USA | No  | 5   |                      |     |                                  |           |

|    |                                   | Defog, WDR, including mounting bracket & all    |            |     |    |  |  |
|----|-----------------------------------|---|------------|-----|----|--|--|
|    |                                   |   |            |     |    |  |  |
|    |                                   | fixing and mounting accessories.                |            |     |    |  |  |
|    |                                   | Outdoor PTZ Camera, IP – PTZ, 4 Mega Pixel,     |            |     |    |  |  |
|    |                                   | 150 meter IR, Codec H-265+/MPEG-4/JPEG,         |            |     |    |  |  |
|    |                                   | H-264 Multi Stream:2, JPEG Multi Stream:6,      |            |     |    |  |  |
|    | Outdoor                           | Advance VBR: AVBR (1.80), Max resolution        | European / |     |    |  |  |
| 4. | Surveillance                      | 16:9 = 1280 x 720 & 4:3 = 1280 x 960 with 30    | USA        | NI- | 14 |  |  |
|    | Camera                            | fps, day & night (ICR), ABF, Lens f:3.1 to 10   |            | No  |    |  |  |
|    |                                   | mm, Optical Zoom 30x, IK10, IP-67 including     |            |     |    |  |  |
|    |                                   | mounting bracket & all fixing and mounting      |            |     |    |  |  |
|    |                                   | accessories.                                    |            |     |    |  |  |
|    |                                   | Bullet Camera, IP - Bullet, 4 Mega Pixel,       |            |     |    |  |  |
|    | Outdoor<br>Surveillance<br>Camera | minimum 80 meter IR, Codec H-265+/MPEG-         |            |     |    |  |  |
|    |                                   | 4/JPEG, H-264 Multi Stream:2, JPEG Multi        |            |     |    |  |  |
|    |                                   | Stream: 6, Advance VBR: AVBR (1.80), Max        | European / |     | 86 |  |  |
| 5. |                                   | resolution 16:9 = 1280 x 720 & 4:3 = 1280 x     | USA        | No  | 00 |  |  |
|    |                                   | 960 with 30 fps, day night (ICR), ABF, Optical  |            | 140 |    |  |  |
|    |                                   | Zoom 30x, IP-67 including mounting bracket      |            |     |    |  |  |
|    |                                   | & all fixing and mounting accessories.          |            |     |    |  |  |
|    |                                   | Network Video Recorder, 32 Cameras, Real        |            |     |    |  |  |
|    |                                   | Time View 32 Channel, Quad Core Embedded        |            |     |    |  |  |
|    |                                   | Processor, embedded Linux, incoming bandwidth   |            |     |    |  |  |
|    |                                   | 320 Mbps, Support Encoding H-265+,              |            |     |    |  |  |
|    |                                   | Independent output VGA, HDMI1 & HDMI2, Up to    |            |     |    |  |  |
|    |                                   | 4K 12MP Resolution, ONVIF Profile, 1 Channel    |            |     |    |  |  |
|    | NIV/D 22 Channel                  | CVBS output, OSD, Rate Control VBR / CBR, Max   | European / |     | 10 |  |  |
| 6. | NVR 32 Channel                    | Recording@30 FPS, HDD 6 SATA Ports Support 8    | USA        | No  | 10 |  |  |
|    |                                   | TB on each port, Recording Modes (Manual,       |            |     |    |  |  |
|    |                                   | Scheduled, Event Pre / Post, Emergency), VMD    |            |     |    |  |  |
|    | S (I                              | Search, Network 1 x RJ-45 Ports, Trigger events |            |     |    |  |  |
|    |                                   | (Recording, Alarm Out, PTZ, Tour, Video Push,   | ,          |     |    |  |  |
|    |                                   | Email, FTP, Snap Shot, Buzzer & Snap Tips)      |            |     |    |  |  |
|    |                                   | Embedded Server Supported, Power 220 Volt AC    |            |     |    |  |  |

|     |                                | (30 Watts), storage for 30 days recording, Support |                   |     |      |  |  |
|-----|--------------------------------|--|-------------------|-----|------|--|--|
|     |                                | Raid 5/6, Embedded OS, Data Encryption,            |                   |     |      |  |  |
|     |                                | Complete in all Respect.                           |                   |     |      |  |  |
|     |                                | PTZ Controller, PTZ Keyboard Controller,           |                   |     |      |  |  |
|     |                                | Electro mechanical, 3-Axis, Vector Solving         |                   |     |      |  |  |
|     |                                | with Twisting, Auto Scan, Preset Position,         |                   |     |      |  |  |
|     |                                | Auto Pan, Auto Tour, Pattern Control,              | F                 |     |      |  |  |
| 7.  | PTZ Controller                 | Connectivity RJ-45, RS-232, RS-485, RS-422,        | European /<br>USA |     | 5    |  |  |
|     |                                | USB, Communication mode direct & Network,          |                   | No  |      |  |  |
|     |                                | 16 x PTZ Cameras Integration, LCD display          |                   |     |      |  |  |
|     |                                | 75.2mm x 33.85mm, Power consumption 5              |                   |     |      |  |  |
|     |                                | watt, working temperature -10 to +55 C.            |                   |     |      |  |  |
|     |                                | Layer-2 PoE Switch 24P, 24 10/100/1000             |                   |     |      |  |  |
|     |                                | Gigabit PoE Ports and 2 Gigabit Combo              |                   |     |      |  |  |
|     | PoE Plus Switch<br>24P + 2 SFP | RJ45/SFP Ports with 4 x SFP (1G) modules,          | European /        |     | 2    |  |  |
| 8.  |                                | Supports 802.3af and 802.3at, 370W PoE             | USA               | No  | _    |  |  |
|     |                                | Budget, IEEE 802.3az compliant (Energy             |                   |     |      |  |  |
|     |                                | Efficient Ethernet).                               |                   |     |      |  |  |
|     | PoE Plus Switch                | Layer-2 PoE Switch 8P, 8-Port Gigabit PoE          | European /        |     |      |  |  |
| 9.  | 8P + 2 SFP                     | Switch and 2 Gigabit SFP ports with 4 x SFP        | USA               | No  | 10   |  |  |
|     | 01 1 2 311                     | (1G) modules, minimum 140W PoE Budget.             |                   | No  |      |  |  |
|     |                                | Single Mode Fiber, 12 Core, 1G to 10G              |                   |     |      |  |  |
|     |                                | Supported, attenuation at 1310 nm < 0.35           | European /        |     |      |  |  |
| 10. | Fiber Cable                    | dB/km and at 1550 nm < 0.21 dB/km, Tensile         | USA               | М   | 1300 |  |  |
|     |                                | Strength 3000N, Crush strength 2500N,              |                   | IVI |      |  |  |
|     |                                | Operating temperature -10 to +70 C.                |                   |     |      |  |  |
| 11. | ODF                            | 12 Port ODF fully loaded, including splicing of    | European /        |     | 6    |  |  |
| 11. | ODF                            | fiber  | USA               | No  |      |  |  |
| 4.2 |                                | Cisco or Equivalent for connectivity of            | European /        |     | 12   |  |  |
| 12. | Wifi Routers                   | wireless cameras in elevator.                      | USA               | No  | 12   |  |  |

| 13.  | LED Screens                  | Color Monitors, 46"/48"/49" 4K UHD Minimum 500 nits, ruggedized monitor for prolonged 24/7 operations, 20 meter HDMI cables.  | Samsung<br>/ Sony | No   | 20   |   |  |
|------|------------------------------|---|-------------------|------|------|---|--|
| Loca | al Items                     |   |                   | T    | T T  | T |  |
| 14.  | Metallic Panel               | 16 gage, powder coated black, for mounting 16 x monitors (48 inches) with open space for cabling and control of monitors from behind along with a sliding ladder fixed at the back of wooden panel.   |                   | No   | 1    |   |  |
| 15.  | Outdoor DBs                  | L/H hinged front door, with 3-point locking swing handle keyed EMKA EK333, Full height 19" mounting verticals, SS 4003, 2 x breather plugs in side panels, Gland plate in base of each bay for cable access, Designed to meet IP55, Powder coated |                   | No   | 4    |   |  |
| 16.  | Cat6 UTP Cable<br>Roll       | Cat6 UTP 24AWG Solid Cable - 305M/Roll  |                   | Roll | 40   |   |  |
| 17.  | Face Plates                  | Dual shutter face plate with one I/O and local back box   |                   | No   | 70   |   |  |
| 18.  | Optical Fiber<br>Patch Cords | SC-LC optical fiber patch cords 3 meter long  |                   | No   | 10   |   |  |
| 19.  | Network Nodes                | Cable laying in ceiling or duct and termination of network nodes.   |                   | No   | 170  |   |  |
| 20.  | Pole L-shaped                | 5 feet Vertical and 5 / 2.5 Feet Horizontal Arm, 2" Radius 16 Gage.   |                   | No   | 20   |   |  |
| 21.  | HDPE Pipe                    | 1" Inner diameter with bends and other fittings and accessories   |                   | М    | 1000 |   |  |
| 22.  | PVC Pipe                     | 0.75 " Inner diameter with bends and other fittings and accessories   |                   | М    | 700  |   |  |

| 23. | Duct       | 16 x 25  | 1 | No  | 80  |  |  |
|-----|------------|--|---|-----|-----|--|--|
| 24. | Connectors | Good quality RJ45 Connectors for cat6  | 1 | No  | 400 |  |  |
| 25. | Testing    | Testing & Commissioning of complete System with shop drawings & Fluke test Reports |   | Job | 1   |  |  |

## **Special Instructions - Surveillance Systems**

| Des | cription                       |  | Bidde | er |                    | Tech Scruti | ny to be don | e by User            |
|-----|--------------------------------|--|-------|----|--------------------|-------------|--------------|----------------------|
|     | ·                              |  | Yes   | No | Alternate<br>Offer | Accepted    | Rejected     | Reasons of Rejection |
| 1.  | Op Training                    | Training of NUTECH IT Support Staff  |       |    |                    |             |              |                      |
| 2.  | Installation and Commissioning | <ul> <li>a. Commissioning of the equipment (Software &amp; Hardware) will be carried out by OEM rep at his own cost and risk at designated place at NUTECH.</li> <li>b. Special requirements must be specified in offer by supplier.</li> </ul>  |       |    |                    |             |              |                      |
| 3.  | Support Services               | <ul> <li>a. 24x7x365 Support Services including public holidays</li> <li>b. Suppliers to have in-country spares/Technical support &amp; ensure spares &amp; technical support/Assistance for 3 years. Software upgrade support must be provided free of cost for 3 years with renewed license at every upgrade.</li> </ul>                                 |       |    |                    |             |              |                      |
| 4.  | Standard &                     | Bidder must submit specification compliance in   |       |    |                    |             |              |                      |
|     | Compliance                     | their bids. Non-compliance (if any) against the product specification and general terms & conditions of the tender will lead to the disgualification of the bidder.  |       |    |                    |             |              |                      |
| 5 . | Warranty<br>Period             | <ul> <li>a. 1 Years Comprehensive warranty of all items from the date of commissioning.</li> <li>b. 2 Years SLA (without parts) from end date of warranty period.</li> <li>c. A Warranty sticker is to be pasted on each item by the supplier/ OEM highlighting name of Firm, Contract No and Date, Description of Store and warranty validity.</li> </ul> |       |    |                    |             |              |                      |
| 6.  | Training Notes                 | Supplier will provide a set of handouts for training on operation and maintenance of the   |       |    |                    |             |              |                      |

|     |                                 | equipment   |  |  |  |
|-----|---------------------------------|---|--|--|--|
| 7.  |                                 | equipment  100% Physical inspection of store will be carried out before commissioning of the equipment for following details  a. For physical damage, scratches and deformity.  b. Accessories/ Components as per contractual Specifications  c. Technical manuals (Operation manual, user guide).  d. OEM certificate and verifiable documents by the supplier that store has been procured from the certified source and is factory new and from latest production.  Brand name and country origin. |  |  |  |
| 8.  |                                 | Operational/ Maintenance manual Qty 01 with Equipment and additional Qty 02 for record purpose and should consist of following sections  a. Equipment Description/ Operation (1) Specifications (2) Description (3) Operation b. Servicing (1) Maintenance Schedule (2) Removal/ Installation procedure c. Trouble Shooting guide   |  |  |  |
| 9.  | Improvement and Safety Measures | Any improvement and safety measures suggested by NUTECH during commissioning are to be resolved by the supplier manufacturer at no extra cost.  |  |  |  |
| 10. | Liability of<br>Supplier        | a. OEM certificate of authorized dealership.<br>Supplier is to provide original OEM certificate<br>of subject equipment bought directly from the<br>manufacturer and being an authorized<br>dealer.   |  |  |  |

|     |               | b. In Case the equipment supplied is not        |
|-----|---------------|---|
|     |               | compatible with specifications, the supplier    |
|     |               | will be obliged to call his representatives at  |
|     |               | his own cost for consultation and corrective    |
|     |               | action  |
| 11. | Special Notes | a. Additional requirements for the              |
|     | •             | maintenance of equipment (if any) must be       |
|     |               | intimated by the supplier in technical offer.   |
|     |               | b. Supplier must provide the list of            |
|     |               | organizations using same equipment in           |
|     |               | Pakistan (if any).                              |
|     |               | c. Equipment must be a standard product of      |
|     |               | OEM available at web address of OEM.            |
|     |               |   |
|     |               | d. In case of premature failure of the          |
|     |               | equipment, OEM has to replace / rectify the     |
|     |               | item free of cost. Required transportation      |
|     |               | charges would be borne by the supplier.         |
|     |               | e. Interested parties can carry out site survey |
|     |               | f. Pre bid meeting will be conducted at         |
|     |               | NUTECH (29-04-2019) after 10 days of            |
|     |               | tender Publishing.                              |
|     |               | g. Contract will be awarded on Package deal     |
|     |               | basis.  |
|     |               |   |
|     |               | h. Manufacturer Authorization Form (MAF) in     |
|     |               | the name of NUTECH University by the            |
|     |               | Principal / OEM must be provided                |
|     |               | (Mandatory).                                    |
|     |               | <u>inational.</u>                               |

| Firm Name   |
|-------------|
| Signature   |
| Name        |
| Designation |

## **TECHNICAL OFFER**

## NUTECH/SCM/Surveillance System-2019/TD-055

Designation:

## Please fill in the following essential parameters: Validity of Offer: Days (Should not be less than 90 days) 1. Delivery Period: \_\_\_\_ Days (After Placement of order) 3. Country of Origin: 4. Warranty / Guarantee: Months (from the date of final acceptance of the stores) General GST No: (Please enclose copy) NTN / CNIC: (if exempted, please provide valid exemption certificate) **Payment Terms**: 1. 50 % advance payment (Against valid bank Guarantee) 2. 50% Payment after delivery, installation / commissioning, user satisfaction certificate **Details of Payment Recipient** Name / Title: (1) (2) Address: Signature: Official Seal: Name:

# FINANCIAL OFFER NUTECH/SCM/Surveillance System-2019/TD-055

| Ser  | Items                             | Description   | A/U  | Qty | Unit Price<br>(Rs)<br>(With all<br>Taxes | Total<br>Price<br>(Rs) |
|------|-----------------------------------|---|------|-----|--|------------------------|
| Impo | ort Items                         |   |      |     |  |                        |
| 1.   | Indoor<br>Surveillance<br>Camera  | Fixed IR Dome Camera, IP, 4.0 Mega Pixel, 1/3" 4 mega pixel Progressive scan, fixed lens 2.8 mm AF, max resolution 2592 x 1520mm, Codec H-265+, 25 fps, day & night (ICR), IP-66, Smart IR minimum 30 meter, Digital Defog, mounting bracket, all fixing and mounting accessories.  | Nos. | 158 |  |                        |
| 2    | Elevator<br>Camera                | Fixed IR Wireless Network Dome Cameras, Wifi enabled wireless camera for elevator, 2 Mega Pixel, IR IP mini dome, 1/2.7" Progressive Scan CMOS, 3.6mm lens, 1080P @30fps, IR range 10-15 meter, Day and night vision with all required accessories & materials.   | No.  | 7   |  |                        |
| 3.   | Auditorium<br>Camera              | Motorized zoom PTZ cameras, IP PTZ, 4 Mega Pixel, 1/3" 4 mega pixel Progressive scan, Motorized Zoom lens 2.8 to 12mm, Triple Stream, ROI, Max resolution 2592 x 1520mm, Codec H-265+, 25 fps, day & night (ICR), Motion detection, Crossing line, Face Detection, Defocus, People counting, IK10, IP-66, Smart IR minimum 50 meter, HLC, Digital Defog, WDR, including mounting bracket & all fixing and mounting accessories. | No.  | 5   |  |                        |
| 4.   | Outdoor<br>Surveillance<br>Camera | Outdoor PTZ Camera, IP — PTZ, 4 Mega Pixel, 150 meter IR, Codec H-265+/MPEG-4/JPEG, H-264 Multi Stream:2, JPEG Multi Stream:6, Advance VBR: AVBR (1.80), Max resolution 16:9 = 1280 x 720 & 4:3 = 1280 x 960 with 30 fps, day & night (ICR), ABF, Lens f:3.1 to 10 mm, Optical Zoom 30x, IK10, IP-67 including mounting bracket & all fixing and mounting accessories.  | No.  | 14  |  |                        |
| 5.   | Outdoor<br>Surveillance<br>Camera | Bullet Camera, IP — Bullet, 4 Mega Pixel, minimum 80 meter IR, Codec H-265+/MPEG-4/JPEG, H-264 Multi Stream:2, JPEG Multi Stream: 6, Advance VBR: AVBR (1.80), Max resolution 16:9 = 1280 x 720 & 4:3 = 1280 x 960 with 30 fps, day night (ICR), ABF, Optical Zoom 30x, IP-67 including mounting bracket & all fixing and mounting accessories.   | No   | 86  |  |                        |

| 6.  | NVR 32<br>Channel              | Network Video Recorder, 32 Cameras, Real Time View 32 Channel, Quad Core Embedded Processor, embedded Linux, incoming bandwidth 320 Mbps, Support Encoding H-265+, Independent output VGA, HDMI1 & HDMI2, Up to 4K 12MP Resolution, ONVIF Profile, 1 Channel CVBS output, OSD, Rate Control VBR / CBR, Max Recording@30 FPS, HDD 6 SATA Ports Support 8 TB on each port, Recording Modes (Manual, Scheduled, Event Pre / Post, Emergency), VMD Search, Network 1 x RJ-45 Ports, Trigger events (Recording, Alarm Out, PTZ, Tour, Video Push, Email, FTP, Snap Shot, Buzzer & Snap Tips) Embedded Server Supported, Power 220 Volt AC (30 Watts), storage for 30 days recording, Support Raid 5/6, Embedded OS, Data Encryption, Complete in all Respect. | No  | 10    |  |
|-----|--------------------------------|--|-----|-------|--|
| 7.  | PTZ Controller                 | PTZ Controller, PTZ Keyboard Controller, Electro mechanical, 3-Axis, Vector Solving with Twisting, Auto Scan, Preset Position, Auto Pan, Auto Tour, Pattern Control, Connectivity RJ-45, RS-232, RS-485, RS-422, USB, Communication mode direct & Network, 16 x PTZ Cameras Integration, LCD display 75.2mm x 33.85mm, Power consumption 5 watt, working temperature -10 to +55 C.   | No. | 5     |  |
| 8.  | PoE Plus Switch<br>24P + 2 SFP | Layer-2 PoE Switch 24P, 24 10/100/1000 Gigabit PoE Ports and 2 Gigabit Combo RJ45/SFP Ports with 4 x SFP (1G) modules, Supports 802.3af and 802.3at, 370W PoE Budget, IEEE 802.3az compliant (Energy Efficient Ethernet).  | No. | 2     |  |
| 9.  | PoE Plus Switch<br>8P + 2 SFP  | Layer-2 PoE Switch 8P, 8-Port Gigabit PoE Switch and 2 Gigabit SFP ports with 4 x SFP (1G) modules, minimum 140W PoE Budget.   | No. | 10    |  |
| 10. | Fiber Cable                    | Single Mode Fiber, 12 Core, 1G to 10G Supported, attenuation at 1310 nm < 0.35 dB/km and at 1550 nm < 0.21 dB/km, Tensile Strength 3000N, Crush strength 2500N, Operating temperature -10 to +70 C.  | No. | 1300m |  |
| 11. | ODF                            | 12 Port ODF fully loaded, including splicing of fiber  | No. | 6     |  |
| 12. | Wifi Routers                   | Cisco or Equivalent for connectivity of wireless cameras in elevator.  | No. | 12    |  |
| 13. | LED Screens                    | Color Monitors, 46"/48"/49" 4K UHD Minimum 500 nits, ruggedized monitor for prolonged 24/7 operations, 20 meter HDMI cables.   | No. | 20    |  |
| 14. | Metallic Panel                 | 16 gage, powder coated black, for mounting 16 x monitors (48 inches) with open space for cabling and control of monitors from behind along with a sliding ladder fixed at the back of wooden panel.  | No. | 1     |  |
| 15. | Outdoor DBs                    | L/H hinged front door, with 3-point locking swing handle keyed EMKA EK333, Full height 19" mounting verticals, SS 4003, 2 x breather plugs in side panels, Gland plate in base of each bay for cable access, Designed to meet IP55, Powder coated  | No. | 4     |  |

| 16. | Cat6 UTP Cable<br>Roll    | Cat6 UTP 24AWG Solid Cable - 305M/Roll   | No. | 40    |   |  |
|-----|---------------------------|--|-----|-------|---|--|
| 17. | Face Plates               | Dual shutter face plate with one I/O and local back box                            | No. | 70    |   |  |
| 18. | Optical Fiber Patch Cords | SC-LC optical fiber patch cords 3 meter long                                       | No. | 10    |   |  |
| 19. | <b>Network Nodes</b>      | Cable laying in ceiling or duct and termination of network nodes.                  | No. | 170   |   |  |
| 20. | Pole L-shaped             | 5 feet Vertical and 5 / 2.5 Feet Horizontal Arm, 2" Radius 16 Gage.                | No  | 20    |   |  |
| 21. | HDPE Pipe                 | 1" Inner diameter with bends and other fittings and accessories                    | No. | 1000m |   |  |
| 22. | PVC Pipe                  | 0.75 "Inner diameter with bends and other fittings and accessories                 | No. | 700m  |   |  |
| 23. | Duct                      | 16 x 25  | No. | 80    |   |  |
| 24. | Connectors                | Good quality RJ45 Connectors for cat6  | No. | 400   |   |  |
| 25. | Testing                   | Testing & Commissioning of complete System with shop drawings & Fluke test Reports | Job | 1     | _ |  |
|     |                           | Total  |     |       |   |  |

| Bid Bond Ref      |   |
|-------------------|---|
| Total Gross Value | _ |
| Total Taxes       |   |
| Net Total         |   |

Technical offer without showing its value). Exposure of bid bond value in

Technical offer may result in bid rejection.

| Firm Name   |  |
|-------------|--|
| Signature   |  |
| Name        |  |
| Designation |  |
| _           |  |

<sup>\*</sup>Custom duty is to be quoted separately.

<sup>\*\*</sup>Bid Bond to be attached with Annex C. Copy of Bid Bond is attached with