Request for Proposal

Video-Based Security Enhancement (VISE – II)   PHASE-B

Indian Institute of Science (IISc)
Bangalore, 560012

DOMESTIC TENDER

We are proposing to expand the recently completed project **VISE -II PHASE A** to enhance the security of the Indian Institute of Science (IISc) campus by adding more cameras at various new locations. About 35-40 locations have been identified for the installation of cameras and referred as **VISE-II PHASE B.** This phase includes many locations in the main campus (including several road intersections), infrastructures such as electrical sub stations &telecom installations and Gymkhana. These surveillance installations are mainly outdoor video surveillance security camera systems.

Via this Request for Proposal (RFP), IISc is inviting prospective vendors to submit proposals for the supply, installation and testing of video surveillance system (including all components such as Internet Protocol (IP) cameras and accessories, networking, parts, labour and erection) within the campus as per the requirements given below. The vendor must complete execution of the project, covering the locations.

Since there are already installed video surveillance system(**VISE 1,VISE-IIPHASE A)**the proposed video surveillance system(**VISE –II PHASE B)** should be *fully compliant and compatible* in a manner to work seamlessly alongside existing surveillance systems. The proposed equipment should be standard compliant greater or at least equal to the existing installed systems. As for being compatible, this includes content viewing, recording, storage, retrieval, video management system and video analytics. The proposed solution should be demonstrated and the entire project must be executed in a scalable manner

A **TWO COVER** system must be followed: each vendor's commercial bid must be available in a separate sealed cover, which will be opened after the technical evaluation of the vendor's RFP. The entire project implementation will be considered as **Rate Contract** and the bidder must propose the components such as: (a) video cameras, (b) networked storage, (c) civil works including digging and laying of cables with appropriate termination (d) erection of cameras with required accessories (e) installation and configuration of network equipment (f) installation of power equipment - UPS, Batteries with safety components such as MCBs etc. These should appear as separate items with individual prices per unit to be mentioned in the commercial bid as in the case of any Rate Contract. The OEM support letters for warranty operation and maintenance personnel should be indicated and time to restore a camera location failure should be included. Camera and support equipment vendors who have their service centres in India will be preferred.

The technical bid must include all technical details of the implementation that will clearly illustrate the solution superiority. Also, the technical specification of various cameras specific to locations, network video recorder system, configuration options, the estimated performance of camera should be enclosed. The capability of the video management solution and it' ability to interwork with existing systems and appropriate technical documents/brochures should be provided. Quote as per BOM given in the RFP. In addition, the technical bid should also consist of a masked price bid; however including price information in the technical bid may lead to the bid being summarily rejected by the technical committee.

The technical committee will evaluate the technical bids of all vendors; after the evaluation, the commercial bids of technically short-listed vendors will be opened.

Bidder's Eligibility Criteria: Vendors who respond to this RFP should be well versed with security video camera installation, networking, storage, and operation. The technical bid should clearly demarcate the responsibilities between the bidder and the OEM. Complete details supported by proof of the same have to be submitted with the bid.

- The bidder must have a minimum annual financial turnover of Rs 50 lakhs in the last 3 years.

- The bidder should have installed and commissioned at least one site with 50 or more IP cameras majority being out door mounted including networking, storage, and management. They should have good experience in laying both OFC and power cables underground. The bidder should include the authorization letters from the OEM. Copy of purchase orders and work completion reports to be attached.

- The bidder (along with their OEM) should be in a position to demonstrate their competence and capability, as a team, to deliver all the services expected during the contract period..**The bidder should have local office in Bangalore for technical support and service**. Number of field Engineers employed in the local support centre should be mentioned.

- The proposed surveillance equipment should have all the necessary certifications mentioned in the detailed specifications of this document.
- Data sheets of all the equipments should be attached.

Those bidders who do not comply with all the eligibility criteria terms mentioned above, will not be qualified for technical presentation and demo of their products.

EMD & Security Deposit:

The Earnest Money Deposit (EMD) of Rs 2 lakhs refundable without interest should be necessarily accompanied along with technical bid of the agency in the form of **Demand Draft drawn in favor of Registrar, Indian Institute of Science payable at Bangalore**(MSME Registered vendors and startups are exempted). The bids not accompanied by EMD will be summarily rejected. If the selected agency fails to take up the work within 15 days from the date of awarding the work, the EMD shall be forfeited without giving any further notice and the award of work will be terminated.

The agency shall pay a security deposit of 10% of the contract value or a performance guarantee for a similar amount in lieu thereof from one of the scheduled banks before the commencement of work. Institute shall be entitled to adjust or appropriate the said security deposit or the proceeds of the guarantee towards loss or damage caused by the agency or its employees or the amount of value of shortage or breakage or damage in the items/furniture/fixtures etc., entrusted or caused to other assets of the Institute by the agency or its employees or against any other liability of the agency. The security deposit shall not carry any interest and will be refunded on completion of the warranty period.

EVALUATION METHODOLOGY

1. The bids received from the bidders will be evaluated by the Technical Committee constituted by the Institute.
2. The evaluation process to identify the successful bidder based on a technical evaluation details of which are mentioned subsequently in this document.

3. **Evaluation of Technical bids**.
    3.1. In the first stage only the technical bids are evaluated. For demonstrating solution superiority, IISc will make available an enter/exit Gate with moderately heavy vehicular and people movement. The prospective vendor should bring their camera which they have offered and have it mounted at that particular gate .Each vendor shall provide to the committee one day light (12 Noon till about 2 PM) video clip of about 30 seconds as well as one late evening video clip (20-00 Hrs - 22-30 Hrs) of about 30 seconds. All other mandatory conditions stipulated elsewhere in the document must be adhered to and failure of the same will result in disqualification of the bid. The IISc committee's decision in the evaluation of solution superiority is final.

GENERAL INSTRUCTIONS

1. **The quote should be in INR currency**. **Two cover system to be followed. Cover A shall contain all technical documents and BOM with qty only. Make/brand and models of all items to be mentioned.**
2. **Cover B shall contain the BOM,QTY and PRICING. Make/brand and models of all items to be mentioned**.
3. The validity of the technical and commercial offers must be at least 3 months from the final date of response to the RFP.
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4. For site visits, vendors are requested to contact the Senior Security Officer, IISc
5. All offered items should be from reputed manufacturers well proven and established in the CCTV surveillance industry (ISO 9000 certified) and should not be an EOL (End of Line) product.
6. **Warranty:** A minimum of 3 years (5 years is desirable).The bidder should also specify AMC/CMC costs for the next 2 years (as a percentage of the total cost of the project).
7. **Performance Guarantee:** Successful vendor will be expected to provide performance guarantee of 10% of contract value. The letter to IISc should contain details on the steps the firm will undertake to guarantee a near zero down time of *all* equipment.
8. For any clarifications, vendors are requested to contact the office of **the DIGITS**, Indian Institute of Science, Bangalore 566012 by email **office.digits@iisc.ac.in.**

 After site visit, vendors are requested to send their email id details to the digits office email id. Prebid queries will be online and invites will be sent to the vendor's email id.

9. The successful bidder would be determined based on L1 for the quantity indicated in the commercial. In all cases, the billing will be done as per actual. IISc reserves the right to change the required quantity. As a Rate Contract, the bidder is required to keep the price valid for 12 months from the date of finalization of this tender.

10. The purchase order on the successful bidder will specify the release of payments. There will be 4 releases; in a phased manner. The first instalment (30% of the PO value) will be made soon after the delivery of all material. The second instalment (50%) may be released 4 weeks after commissioning of camera and storage equipment at the specified locations. The third (15%) instalment will be released by IISc only after 8 months of successful completion and monitoring of all video streams at all camera locations . Finally, the fourth (5%) instalment will be released after the warranty period.

11. During the warranty period, the successful bidder should provide an undertaking to maintain all camera and storage equipment in the event of their malfunctioning. This includes dismounting of cameras from the site, replacement of cameras at the site, replacing storage disks and hardware, interfacing with OEMs, service and delivery handling.

12. All letters, correspondences & quotes should be addressed to **CHAIRMAN, DIGITS,INDIAN INSTITUTE OF SCIENCE, BANGALORE-560012**

CHRONOLOGY OF EVENTS

Site Visit**:** 10.00 AM- 1.00 PM , 2.00 -5.00 PM   **Report to Main Security Office (ATM Gate**)

17th & 18th March 2021

Prebid Meeting (online) 2.30 – 3.15 PM   **22nd March**

Deadline for submission of Techno-Commercial offers**:**   **6th, April**

Technical Evaluation, Presentations, POC by vendors: **15th, April**

Short listing technically qualified vendors :   **20th ,April**

Opening commercial bids: **23rd ,April**

Negotiation and final selection**:**   **26th,April**

VISE PHASE B CAMERA LOCATIONS

1. AIR STRIP NEAR AERO SPACE BLDG
2. NIAS HOUSING JUNCTION
3. AEROSPACE TO AIRSTRIP JUNCTION
4. AEROSPACE BACK SIDE GATE
5. NIAS /IISC GATE TOWARDS D GATE
6. BIOLOGICAL SCIENCE ENTRANCE
7. NANO SCIENCE ENTRANCE
8. PRAKRUTHI TO CSA JUNCTION
9. EE DEPT TO PUMPHOUSE ROAD JUNCTION
10. NIAS TO NEW FACULTY JUNCTION
11. CVH-NIAS JUNCTION
12. JANATA BAZAR TO NEW FACULTY QTRS JUNCTION
13. DIRECTOR'S BUNGALOW
14. NEW JANATA BAZAAR COMPLEX
15. JANATA BAZAR TO E TYPE QRTRS
16. NEW SUPERMARKET BEHIND SIDE
17. SIGNAL PROCESSING ENTRANCE AND TO QTRS JN
18. JNC GUEST HOUSE JUNCTION
19. NEW F&A ROAD JUNCTION

20. D GATE TO FACULTY CLUB JN
21. FACULTY CLUB TO NISARGA JUNCTION
22. GYMKHANA MAIN GATE & ENTRANCE
23. KR BLOCK ENTRANCE
24. PD BLOCK ENTRANCE
25. P BLOCK ENTRANCE
26. GYMKHANA SCHOOL GATE ENTRANCE
27. MBU/IPC JUNCTION
28. OLD CCMD BLDG JUNCTION
29. BSNL TO MAIN BLDG JUNCTION
30. CDS JUNCTION
31. GUEST HOUSE SWIMMING POOL JUNCTION
32. LIBRARY JUNCTION
33. XEROX CENTRE TO MAIN BLDG JUNCTION
34. R- BLOCK BOY'S HOSTEL GATE
35. MUSS POWER STATION FUEL TANK
36 MUSS DG ROOM
37. SUB STATION SS01
38. SUB STATION SS02
39. SUB STATION SS03
40. SUB STATION SS04
41. SUB STATION SS05
42. SUB STATION SS06

BILL OF MATERIALS FOR ALL LOCATIONS, VISE 2 PHASE B

	QTY
1.Out door bullet camera - Varifocal Lens- 2.8-12mm	70 nos
2.Indoor Camera - 2.8mm Fixed Lens ,Dome	06 nos
3.Mountings/brackets for outdoor & indoor cameras	76 nos
4. 32GB SD cards Class 10	76 nos
5. 64 Channel NVR	01 no
6. 10TB,2.5-inch SATA HDD Enterprise version	05 nos

7. 16 Channel NVR   01 no

8. 8TB,2.5-inch SATA HDD Enterprise version   01 no

9. 55-inch, 4K LED display Monitor   01 no

10. UPS Online 1 KVA 1 hr backup time with SMF batteries   31 nos

11. 3 mtr height ,76mm dia GI pole with arm of 50 cm length for mounting
    cameras   26 nos

12. Outdoor 6 Core Single Mode OFC ,make (AMP/MOLEX/COMMSCOPE)
                                                                       7000 mtrs

13. 2-inch ISI marked HDPE pipe   3000 mtrs

14. CAT-6 UTP Cable, make MOLEX/AMP/COMMSCOPE   1500 mtrs

15. 25mm PVC conduit (1.4-1.7mm thickness)   3000 mtrs

16. Single Mode Pigtails with LC Connector,
MOLEX/AMP/COMMSCOPE   234 nos

17. Compact 8 UTP port & 1/2 SFP Port, POE Layer-2 Manageable
Enterprise switch, make Cisco or Juniper   31 nos

18. Single Mode 1G Transceiver (SFP), make Cisco/Juniper   49 nos

19. LC-LC, 1-Meter Duplex Patch Cord,
MOLEX/AMP/COMMSCOPE   30 nos

20. 3-Meter Cat-6 UTP Patch Cord, make MOLEX/AMP/COMMSCOPE
MOLEX/AMP/COMMSCOPE   20 nos

21. Compact 6 port LIU with LC type connector, make
MOLEX/AMP/COMMSCOPE   46 nos

22. 5 Amps Power Socket with Box   19 nos

23.IP66 Compliant pole mountable box to accommodate UPS, compact network switch, LIU and electrical socket
Recommended Dimensions 600mm x 650mm x 350mm
with door lock   31 nos

24.6U Wall Mountable Network Rack to accommodate Switches, make Netrack/Rittal   04 nos

25.1-MeterCat-6UTP PatchCord,make   30 nos
AMP/MOLEX/COMMSCOPE

26.RJ-45 Connector,make AMP/MOLEX/COMMSCOPE   300 nos

27.15 AMPS 3 pin top   36 nos

28. Installation and Commissioning charges   LUMPSUM

WARRANTY FOR ALL DEVICES AND EQUIPMENTS   3 YEARS

TRENCHING WORKS

Trenching Works - HDD 3 feet depth trenching and laying
of HDPE pipe.   250 mtrs

Trenching Works - Manual digging 1 feet wide and 1.5feet deep
1 feet wide and 1.5feet deep   2500 mtrs

NOTE: The trench shall be closed back with appropriate
Soil material after laying the pipe .In case of road cutting, they should
be covered back with concrete.

COMPREHENSIVE MAINTENANCE

Comprehensive Annual Maintenance Contract - Charges for Year 4

Comprehensive Annual Maintenance Contract - Charges for Year 5

TECHNICAL SPECIFICATIONS

BULLET CAMERAS:

Sensor: 1/2.8 " progressive CMOS sensor or better

Resolution: 4MP or better

Electronic Shutter speed: Auto/Manual   1/3 s to 1/100000s

Minimum Illumination :   0.01lux or better @F1.4 colour 0 Lux IR ON

S/N Ratio: better than 50db

Lens :   Motorised, Focal Length 2.8mm – 12 mm or better

Optical Zoom: 5x or better

Max Aperture: F1.4

Video Compression: H.264/H.265 ,MJPEG

Number of streams: 3

Bit rate control :   VBR/CBR

Bit rate: Selectable from 128 Kbps to 9 Mbps or better

Frame Rate: Selectable from 5 fps to 25 fps

Day/Night function: Auto(IR cut filter) colour, B/W

IR Range: 40- 50 mtrs with smart IR feature to be supported

BLC Mode: BLC/HLC/WDR

White Balance: Auto/Manual/Natural/outdoor/indoor

Gain Control :   AGC (ON/OFF)

WDR: DIGITAL, 120 dB or better

Noise Reduction: 3D DNR

Digital Zoom: 14x or better

Network: Ethernet RJ 45 100/1000 Base-T

Protocols support:
HTTP,HTTPs,TCP,ARP,RTSP,RTP,UDP,SMTP,FTP,DHCP,DNS,DDNS,PPPoE
        IPv4/6,QoS,UPnP,NTP,Multicast,ICMP,IGMP,SNMP

Interoperability: ONVIF,PSIA,CGI

Streaming: Multicast/Unicast

Network storage :   NAS (NFS) ANR,built in micro SD upto 128GB

Web Viewer: IE,Chrome,Firefox, Safari

Certifications: BIS, CE, IP67, FCC Part-15 Subpart B, ONVIF S & G, IK10, UL

Audio: Audio IN 1, Audio OUT 1 Two-way Audio Supported
Audio Compression G.726 and G.711

Power: 12VDC, PoE, IEEE 803.af

Environmental: Operating conditions -10 deg C to 50deg C, humidity less than 95%

 Enclosure: IP67, Vandal /tamper proof

CAMERAS FOR SUB STATIONS (INDOOR)

DOME

Sensor: 1/2.8 " progressive CMOS sensor or better

Resolution: 4MP or better

Electronic Shutter speed: Auto/Manual   1/3 s to 1/100000s

Minimum Illumination :   0.01 lux or better @F1.4 colour 0 Lux IR ON

S/N Ratio: better than 50db

Lens :   Fixed, 2.8mm
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Max Aperture: F1.4

Video Compression: H.264/H.265, MJPEG

Number of streams: 3

Bit rate control :   VBR/CBR

Bit rate: Selectable from 128 Kbps to 9 Mbps or better

Frame Rate: Selectable from 5 fps to 25 fps

Day/Night function: Auto(IR cut filter) colour, B/W

IR Range: 20- 30mtrs with smart IR feature to be supported

BLC Mode: BLC/HLC/WDR

WDR :   DIGITAL, 120 dB or better

White Balance: Auto/Manual/Natural/outdoor/indoor

Gain Control :   AGC (ON/OFF)

Noise Reduction: 3D DNR

Network: Ethernet RJ 45 100/1000 Base-T

Protocols support:
HTTP,HTTPs,TCP,ARP,RTSP,RTP,UDP,SMTP,FTP,DHCP,DNS,DDNS,PPPoE

                                  IPv4/6,QoS,UPnP,NTP,Multicast,ICMP,IGMP,SNMP

Interoperability: ONVIF,PSIA,CGI

Streaming: Multicast/Unicast

Network storage :   NAS (NFS) Micro SD upto 128GB SD card

Web Viewer: IE,Chrome,Firefox, Safari

Certifications: BIS, CE, , FCC Part-15 Subpart B, ONVIF S & G, IK10, UL

Power: 12VDC,PoE, IEEE 803.af

Environmental: Operating conditions -10degC to 50 deg C, Vandal proof

NETWORK VIDEO RECORDER (NVR) - 1

IP Video inputs: 64 Channels

Maximum input bandwidth: 320 Mbps or better

Recording Resolution: Up to 5 Megapixels or better

No of Hard disk bays: 8 (SATA drives) Max, capacity per bay up to
10TB

Video compression formats : H.264,H.265,MJPEG
to be supported for recording

Compliance :   All type of ONVIF cameras to be supported

ANR function: Yes, to be supported
Video outputs: 1 HDMI, 1 VGA

HDMI output resolution:

4K (3840 × 2160)/30Hz, 2K (2560 × 1440)/60Hz, 1920 × 1080/60Hz,
1600 × 1200/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz

VGA output resolution:
1920 × 1080/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60H

Audio Input :   1 channel RCA interface

Network interface: 2x RJ45 100/1000 Mbps Ethernet ports

USB interface: 2x USB 2.00 in the front panel
                                           1x USB 3.00 in the rear panel

Serial interface: RS 232, RS-485, Keyboard

Power :   200-240 Volts AC, 50 Hz

Operating Temperature: - 10 degC to 55 degC

Chasis: 19 inches Rack mountable, 2U

Minimum Functions to be supported: Record, Search,Playback, (playback at
different speeds 2x,4x,8x) rewind,fast forward,export video etc.

NETWORK VIDEO RECORDER (NVR) - 2

IP Video inputs: 16 Channels

Maximum input bandwidth: 80 Mbps or better

Recording Resolution: Up to 5 Megapixels or better

No of Hard disk bays: 4 (SATA drives) Max, capacity per bay
up to 10TB

Video compression formats   :   H.264,H.265,MJPEG
to be supported for recording

Compliance :   All type of ONVIF cameras to be supported

ANR function: Yes, to be supported

Video outputs: 1 HDMI (MIN) ,1 VGA

HDMI output resolution:

4K (3840 × 2160)/30Hz, 2K (2560 × 1440)/60Hz, 1920 × 1080/60Hz,
1600 × 1200/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz

VGA output resolution:
1920 × 1080/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60H

Audio Input :   1 channel RCA interface

Network interface: 1x RJ45 100/1000 Mbps Ethernet ports

USB interface: 2x USB 2.00 in the front panel
                                  1x USB 3.00 in the rear panel

Serial interface: RS 232, RS-485, Keyboard

Power :   200-240 Volts AC, 50 Hz

Operating Temperature: - 10 degC to 55 degC

Chasis: Rack mountable

Minimum Functions to be supported: Record, Search,Playback, (playback at different speeds 2x,4x,8x),rewind, fast forward, export video etc.

LED DISPLAY MONITOR

Resolution :   4K , 3840 x 2160
 Display   :   LED
Size :   55 inches diagonal
Aspect Ratio: 16:9
Brightness (typ.)   400 cd/m2 or better

Contrast Ratio   1300:1 or better

HDMI Ports   Minimum 2

USB Ports   Minimum 2

Speakers: Built in with typically 12-16 watts power output

Power: 230 V AC 50 Hz

Operating environment   0 Deg to 40 Deg C

Mounting   Wall mounting

Application :   CCTV control room operation (24x7x365)