



**CENTRE FOR DEVELOPMENT OF IMAGING TECHNOLOGY (C-DIT)**

Chitranjali Hills, Thiruvallam, Thiruvananthapuram-27  
Phone: 0471-2380910, 912 Fax: 0471- 2380681

No. C-DIT/SID-KSFE/18-19/T083A

Date: 10.10.2019

**TENDER NOTICE**

**SUPPLY AND INSTALLATION IP BASED SURVEILLANCE SYSTEM WITH NVR**

Sealed tenders are invited for the supply and installation of IP Camera, Network Video Recorder & PoE Switch. The envelopes containing the tender should bear the superscription “*Tender for the supply and installation of IP Based surveillance system*“ and should be addressed to The Registrar, Centre for Development of Imaging Technology (C-DIT), Chitranjali Hills, Thiruvallam, Thiruvananthapuram 695027. Intending tenderers may submit the tenders on their own papers by post/hand. Last date for receipt of tenders is **24.10. 2019, 3.00 PM**. Late tenders will not be accepted. The tenders will be opened at **3.30 PM on 24.10.2019** in C-DIT office in the presence of the tenderers or their authorized representatives who may be present at that time. Details of the requirements and the conditions governing the supply can be downloaded from our website [www.cdit.org](http://www.cdit.org)

Thiruvananthapuram

10.10.2019

Sd/-

REGISTRAR



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**TENDER FOR**  
**SUPPLY AND INSTALLATION OF IP BASED SURVEILLANCE SYSTEM**

**Requirement:**

SL.NO	ITEM	QUANTITY
1	IP DOME CAMERA	18
2	NVR-32 CHANNEL IP	1
3	MANAGEABLE 24 PORT PoE SWITCH	1
4	4 TB HDD	4
5	32" LED FULL HD MONITOR	1
6	HIGH END PC- i7, 8GB RAM,1 TB HDD,1 GB GRAPHICS CARD	1
7	HDMI CABLE 10M LONG 1	1

**SPECIFICATION**

**1. IP DOME CAMERA 18 Nos**

Parameter	Specification
Image Sensor	1/2.8" or 2 Mp Progressive Scan CMOS
Min. Illumination	Colour: 0.01 Lux @ (F1.2), 0 Lux with IR On
Shutter time	1/3 s to 1/100,000 s
Slow shutter	Support
Lens	2.8 mm fixed
Camera Adjustment Range	Pan: 0° to 360°, tilt: 0° to 90°, rotate: 0° to 360°
Day& Night Switching	IR cut filter with auto switch
IR Range	Up to 30m
WDR	True WDR> 90 DB
Digital noise reduction	Yes, 3D DNR
Focus	Fixed
Video Compression	H.265+ , H.265, H.264+

Parameter	Specification
Max. Image Resolution	1080p / 1080p or higher with H.265
Frame Rate	30 - 60fps
Image Enhancement	Back Light Compensation, 3D Digital Noise Reduction, High Light Compensation
Image Settings	Web browser or client software adjustable Rotate Mode, Saturation, Brightness, Contrast and Sharpness
Region of Interest	Yes, should support ROI
Privacy Mask	Yes, upto 4 areas
Day/Night Switch	Day/Night/Auto/Schedule
On-board storage	Built-in Micro SD/SDHC/SDXC slot with pre-installed 64Gb local storage or higher and Automatic Network Replenishment (ANR) <b>(Should support 128 Gb SD/SDHC/SDXC) Built-in Micro SD/SDHC/SDXC slot with pre-installed 64Gb local storage or higher and Automatic Network Replenishment (ANR)</b>
Network Storage	NVR
Alarm Trigger	Motion detection, video tampering alarm, network disconnected, IP address conflict, illegal login, HDD full, HDD error
Protocols	IPV4/IPV6, TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, ONVIF, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, CGI, PSIA, ISAPI
General Features	Anti-Flicker, Mirror, Password protection, Privacy Mask, Watermark, IP address filtering
Communication Interface	1 RJ45 10M / 100M/ 1000M Ethernet interface
Behavior Analysis	Line crossing detection, Intrusion detection
	<b>Line Crossing Detection:</b> Cross a pre-defined virtual line
	<b>Intrusion Detection:</b> Enter and loiter in a pre-defined virtual region
IP Rating	Minimum <b>IP 65</b> or better
Power Supply	12 VDC $\pm$ 25%, <b>PoE</b> (802.3af Class3)
Power Consumption	12 VDC $\pm$ 25%, 5W
	<b>PoE</b> (802.3af, class 3), 6.5W
Warranty	3 years comprehensive warranty (which includes Onsite Support, Parts & Labour)

## 2. NETWORK VIDEO RECORDER (NVR) 1 No

Parameter	Specification
Operating System	Embedded LINUX
IP Camera Input	32 channel (All Third-party network cameras supported)

<b>Parameter</b>	<b>Specification</b>
<b>Two-way Talk</b>	1 channel Input, 1 channel Output, RCA
<b>Display Interface</b>	1 HDMI, 1 VGA, 1 TV
<b>Live View</b>	Yes
<b>Video Resolution</b>	1024×768, 1280×720, 1280×1024, 1920×1080
<b>Display Split</b>	1/4/8/9/16/25
<b>OSD</b>	Camera title, Time, Video loss, Camera lock, Motion detection, Recording
<b>Compression</b>	H.265, H.264+
<b>Recording Resolution</b>	12 Mp, 6Mp, 5Mp, 3 Mp, 2Mp, 1080P, 720P etc.
<b>Bandwidth</b>	incoming -256Mbps outgoing-256Mbps
<b>Record Mode</b>	Auto, Manual, Scheduled (Regular(Continuous), Motion Detection), Stop
<b>Trigger Events</b>	Recording, PTZ, Tour, Video Push, Snapshot, Email, Screen tips
<b>Motion Detection</b>	Yes, supports
<b>Video Loss</b>	Yes, supports
<b>Camera Blank</b>	Yes, supports
<b>Search Mode</b>	Time/Date, Alarm, MD & Exact search (accurate to second), Smart search
<b>Playback Function</b>	Play, Pause, Stop, Rewind, Fast play, Slow play, Next file, Previous file, Next camera, Previous camera, Full screen, Repeat, Shuffle, Backup selection, Digital zoom
<b>Backup Mode</b>	USB Device / eSATA Device / Network
<b>Ethernet</b>	1 RJ-45 port (10/100/1000Mbps)
<b>Protocols</b>	HTTP, TCP/IP, IPv4/IPv6, UPNP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPOE, DDNS, FTP, Alarm Server, ONVIF
<b>Maximum User Access</b>	20 users
<b>Smart Phone</b>	iOS, Android
<b>Internal HDD</b>	Minimum 4 SATA ports, each supports 4TB ( 4 x 4 TB Hard disks must be installed and configured)
<b>External HDD</b>	1 eSATA port
<b>External Interface ports</b>	Minimum 3 USB (2 x 2.0 and 1 x 3.0), RS 232 (For PC Communication), RS485 (for PTZ control), RJ45
<b>Power Supply</b>	AC 100V~240V, 50/60 Hz
<b>Working Environment</b>	-10°C ~+55°C / 10%~90%RH / 86~106kpa
<b>Certification</b>	CE, FCC, RoHS

Parameter	Specification
**	<b>Separate costing should be provided if Hard disks are installed as an accessory that not included with the NVR itself. Refer BoQ</b>
Warranty	3 years comprehensive warranty (which includes Onsite Support, Parts & Labour)

### 3. SMART MANAGEABLE 24 PORT PoE SWITCH 1No

Parameter	Specification
	<ul style="list-style-type: none"> <li>* 24-port 1000Base-T Gigabit PoE Smart Managed Switch</li> <li>* 4 dedicated SFP ports</li> <li>* 24 PoE+ Ports - 384W PoE budget</li> </ul>
PoE Ports	24 IEEE 802.3at PoE+ Ports, providing up to 30W of DC power through each port
Bandwidth	56 Gbps
Acoustic noise (ANSIS10.12)	31.8 dBA
Worst case, all ports used, line-rate traffic, max PoE	483.5W
	Performance Specification Forwarding modes • Store-and-forward 4 Priority queues Priority queuing • Weighted Round Robin (WRR) MAC Address database size • 8,000 media access control (MAC) addresses Addressing 48-bit MAC address 1K Multicast groups 32 Static Routes 15 Routed VLANs 1024 ARP Cache entries 8K DHCP snooping bindings 1024 DHCP static entries 480 rules shared for MAC, IP and IPv6 ACLs Packet size of 9k for Jumbo frame support Network Security • IEEE 802.1x • Guest VLAN • RADIUS based VLAN assignment via .1x • MAC-based .1x • Network Storm Protection • Broadcast, Unicast, Multicast Protection L2 Services - VLANs • IEEE 802.1Q VLAN Tagging • Video VLAN • Voice VLAN - Based on phones OUI bytes (internal database, or user maintained) or protocols (SIP, H323 and SCCP)
	L2 Services - Availability • IEEE 802.3ad - LAGs LACP ( (8 LAGS with max. of 8 members in each LAG)) • Broadcast Storm Control • IEEE 802.3x (Full Duplex and flow control) • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1w Rapid Spanning Tree • IEEE 802.1s Multiple Spanning Tree L2 Services - Multicast Filtering • IGMP Snooping (v1, v2 and v3) • MLD Snooping Support (v1 and v2) • IGMP Snooping queriers • Block unknown Multicast L3 Services - DHCP • DHCP Client • DHCP Snooping L3 Services - IPv4 Routing • Static Routing • VLAN Routing Network Monitoring and Discovery Services • 802.1ab LLDP • SNMP V1, V2, V3 • RMON 1,2,3,9

	<p>Network Traffic • Access Control Lists (ACLs) L2 / L3 / L4 • IP-based ACLs (IPv4 and IPv6) • MAC-based ACL • TCP/UDP-based ACL • MAC lockdown • MAC lockdown by the number of MACs • IEEE 802.1x Radius Port Access Authentication • Port Security • DHCP Snooping • PoE Timer Quality of Service (QoS) • Access Lists • L2 MAC, L3 IP and L4 Port ACLs • Ingress rate limiting • Egress rate limiting • Support for IPv6 fields • DiffServ QoS • IEEE 802.1p COS • Dst MAC and IP • IPv4 and v6 DSCP • IPv4 and v6 TOS • WRR (Weighted Round Robin) • Strict Priority queue technology • Auto-VoIP Yes, based on protocols (SIP, H323 and SCCP) or on OUI bytes (default database and user-based OUIs) in the phone source MAC address • Auto Video • Port Mirroring</p>
	<p>• Password management • Configurable Management VLAN • Admin access control via Radius and TACACS+ • Web-based graphical user interface (GUI) • Smart Control Center (SCC) for multi-switch management • IPv6 management • Dual Software (firmware) image • Dual Configuration file • SNMP client over UDP port 123 • SNMP v1/v2 • SNMP v3 with multiple IP addresses • RMON 1,2,3,9 • Port Mirroring • Many to One Port Mirroring • Cable Test utility • SSL/HTTPS and TLS v1.0 for web-based access • TFTP/HTTP File transfers (uploads, downloads) • HTTP Download (firmware) • Syslog (RFC 3164)</p>
	<p>LEDs Per port • Speed, Link, Activity Per device • Power, Fan and PoE Power Status Environmental Conditions Operating Temperature • 32° to 122°F (0° to 50°C) Storage Temperature • 4° to 158°F (-20° to 70°C) Altitude • 10,000ft (3,000m) maximum Humidity • 95% maximum relative humidity, noncondensing</p>
	<p>Electromagnetic Emissions and Immunity Certifications • CE mark, commercial • FCC Part 15 Class A, VCCI Class A • Class A EN 55022 (CISPR 22) Class A • Class A C-Tick • EN 50082-1 • EN 55024 • CCC Safety Certifications • CE mark, commercial • CSA certified (CSA 22.2 #950) • UL listed (UL 1950)/cUL IEC 950/EN 60950</p>
<b>Warranty</b>	<p>3 years comprehensive warranty (which includes Onsite Support, Parts &amp; Labour)</p>

## **GENERAL TERMS AND CONDITIONS**

1. This Tender is invited for the "**supply and installation of IP Based surveillance system**" for one of the projects taken up by C-DIT

**2. ELIGIBILITY CRITERIA OF TENDERER**

To qualify for award of the work, the intending bidder must be an OEM authorized dealer / supplier of the quoted items with prior experience in supplying same or similar equipment at least

two clients in the last two years with total executed order quantity of 25 nos or more in the last 3 years

3. The bidders will be responsible for effecting supply to the entire satisfaction of the undersigned or his authorized representatives. In case any defect in the item supplied is noticed, such item will be rejected at the risk and cost of the Supplier.
4. Bidder shall invariably be accompanied by manufacturer's catalogues and leaflets giving full specifications. Technical particulars and other details of the items offered, 'brand make' and complete specification should be mentioned in the tender. In the absence of full details and technical specification the tenders for the items will be rejected.
5. The undersigned reserve himself the rights of accepting the whole or any part of the tender and the bidder shall be bound to supply the accepted item at the rates quoted. C-DIT reserve the right to split the quantity of items to be supplied among one or more bidders, at the sole discretion
6. No advance payment will be made against supplies.
7. The rate quoted by the bidder shall be inclusive of the transportation charges and installation charges at site. Rates quoted by the bidder shall be valid for a period of six months from the date of opening of the tender.
8. Delivery period shall be specifically indicated in the tender and strictly adhered to. Unless otherwise agreed by C-DIT, the supply shall be arranged within **15 days** on receipt of the firm order. Any delay in the delivery period after the supply order is placed may result in cancellation of the supply order or payment of liquidated damages @ 1/2% per day subject to a maximum of 10% of contract price
9. The rate should be quoted for the unit shown in the list and tenders which do not indicate this essential information will not be considered.
- 10. There is no separate bid form. The supplier shall submit the price offers in their own paper**
11. The rate quoted for material shall be firm and no enhancement will be allowed under any circumstances.
12. The Supplier/ Contractor shall provide on-site comprehensive warranty of **one year** for the products from the date of supply. Bidder shall also give extended warranty for additional two years for which AMC rate should be indicated in the price proposal separately
13. If the bidder furnishes wrong and/or misleading data, statement(s) etc. about technical acceptability of the goods and services offered by it, its tender will be liable to be ignored and rejected in addition to other remedies available to the purchaser in this regard.
14. After Sales Service: The bidder should have after sales service centre in the state, preferably in Thiruvananthapuram. Complaints should be attended properly, maximum within 24 hrs. The service should be provided directly by bidder's trained personal.

15. All items offered shall conform in all respects to the relevant Indian standard Specification with up to date amendments wherever applicable.
16. Any dispute / differences between the parties arising out of and in connection with the contract shall be settled amicably by mutual negotiations. Unresolved disputes/ differences, if any, shall be settled by Arbitration and the arbitration proceedings shall be conducted at Thiruvananthapuram (India) in English language, under the Indian Arbitration and Conciliation Act(Amended), 2015. Unsettled disputes will be referred to courts and courts in Thiruvananthapuram/ Kerala will have exclusive jurisdiction over the same.
17. C-DIT reserve the right to cancel any or all tenders without assigning any reasons whatsoever
18. Performance Bank Guarantee (PBG)/ Security Deposit: The successful bidder shall submit Contract Performance Guarantee for 5% of the value of contract either in the form of Demand Draft or a bank guarantee from a scheduled bank at no extra cost in a Performa prescribed by C-DIT. The PBG shall be valid for period of twelve months from the date of supply of equipment at C-DIT.
19. PAYMENT TERMS

The following terms of payment shall be applicable for the contract

  - a) 90% payment against successful supply and installation of the Equipment.
  - b) 10% to be released after one month from the date of supply against submission of the security bound/bank guarantee
20. Agreement: The Successful bidder within 7 days of getting confirmed purchase order has to enter an agreement with C-DIT in Rs.200 worth non judicial stamp paper, to ensure warranty and after sales support during the warranty period.
21. Authority: The authority for the acceptance of the tenders rests exclusively with the C-DIT. The C-DIT does not undertake to accept the lowest or any particular tender or to assign any reason whatsoever for the rejection of any tender.
22. **The last date for submission of tender 24.10.2019 3.00 PM.**  
**The tender will be opened on the same day at 3.30 PM**
23. At any time prior to the deadline for submission of tenders, the C-DIT may, for any reason deemed fit by it, modify/amend the tender documents by issuing suitable amendment(s)/ corrigendum's to it. Corrigendum to this tender shall be published in the site [www.cdit.org](http://www.cdit.org). Prospective bidders are advised to regularly visit the website: [www.cdit.org](http://www.cdit.org) to keep track of corrigendum, if any.



24. In case of doubt:

If the bidder has any doubt on technical specifications or on terms & conditions stipulated above, please contact Smt. Jeena K Subash, in Mobile Number: 9895078280

Sd/  
REGISTRAR, C-DIT  
Dated 10.10.2019

**PROFORMA OF "AGREEMENT"**

(To be executed on non-Judicial Stamp Paper)

This Agreement made this. day of ..... Two thousand and ..... Between Centre for Development of Imaging Technology, a Society, registered under the Travancore-Cochin Literary, Scientific and Charitable Societies Registration Act XII of 1955, having its registered Office at Chitranjali Hills, Thiruvallom, Trivandrum 695 027 (hereinafter referred to as "C-DIT" which expression shall include its administrators, successors, executors and assigns) of the one part and ..... a company/firm incorporated under the..... having its registered Office at ..... (hereinafter referred to as the "Contractor" or ..... "X" ..... (brief name of contracting Co.) ..... (which expression shall include its administrators, successors, executors and permitted assigns) of the other part.

WHEREAS C-DIT has invited bids for ..... (briefly describe scope of ..... the ..... (work) as per its specification Ref. No. ....

AND WHEREAS..... "X" ..... had participated in the above referred bidding vide their proposal No. .... dated ..... and C-DIT accepted their aforesaid proposal and awarded the contract to "X" ..... on terms and conditions contained in its letter of Indent/Purchase Order No. .... dated ..... And the documents referred to therein, which have been accepted by ..... "X" ..... resulting into a "Contract"

NOW THEREFORE THIS DEED WITNESSETH AS UNDER :-

Article 1.0 AWARD OF CONTRACT

C-DIT has awarded the contract to ..... "X" ..... for the work of ..... on the terms and conditions contained in its letter of Indent/Purchase Order No. .... dated ..... and the documents referred to therein. The award has taken effect from. ....i.e. .... the date of issue of the aforesaid Letter. The terms &

expressions used in this Agreement shall have the same meaning as are assigned to them in the “Contract Documents” referred to in the succeeding Article.

Article 2.0 CONTRACT DOCUMENTS

The Contract shall be performed strictly as per the terms and conditions stipulated herein and in the following documents attached herewith (hereinafter referred to as “Contract Documents”).

Article 3.0 CONDITIONS & CONVENANTS

The scope of Contract, Consideration, Terms of payment, price Adjustment, Taxes wherever applicable, Insurance, liquidated Damages, performance, Guarantee and all other terms and conditions are contained in C-DIT’s Purchase Order No. .... dated ..... read in conjunction with other aforesaid Contract documents. The Contract shall be only performed by the Contractor strictly and faithfully in accordance with the terms of the Agreement.

The scope of work shall also include supply and installation of all such items which are not specifically mentioned in the contract Documents, but which are needed for successful, efficient, safe & reliable operation of the equipment unless otherwise specifically excluded in the specifications under “exclusions” or Purchase Order.

TIME SCHEDULE: Time is the essence of the contract and schedules shall be strictly adhered to. “X” shall perform the work in accordance with the agreed schedule as given in letter of Indent/Purchase Order.

The Contractor guarantees that the equipment package under the contract shall meet the ratings and performance parameters, as stipulated in the Technical Specifications (Volume II) and in the event of any deficiencies found in the requisite performance figures, the C-DIT may at its option reject the equipment package or alternatively accept it on the terms and conditions and subject to levy of the liquidated damages in terms of Contract Documents. The amount of liquidated damages so leviable shall be in accordance with the Contract Documents and without any limitation.

It is further agreed by the Contractor that the Contract performance Guarantee shall in no way be construed to limit or restrict the C-DIT’s right to recover the damages/compensation due to short-fall in the equipment performance figures as stated in Para 3.4 above or under any other clause of the Agreement. The amount of damages/Compensation shall be recoverable either by way of deduction from the contract price, contract performance guarantee and/or otherwise.

The Contract performance Guarantee furnished by the Contractor is irrevocable and un-conditional and the C-DIT shall have the powers to invoke it notwithstanding any dispute or difference between the C-DIT and the contractor pending before any court, tribunal, arbitrator or any other authority.

This Agreement constitutes full and complete understanding between the parties and terms of the presents. It shall supersede all prior correspondence to the extent of inconsistency of repugnancy to the terms and conditions contained in the Agreement. Any modification of the Agreement shall be effected only by a written instrument signed by the authorized representatives of both the parties.

#### Article 4.0 SETTLEMENTS OF DISPUTES

It is specifically agreed by and between the parties that all the differences or disputes arising out of the Agreement or touching the subject matter of the Agreement shall be decided by process of settlement & Arbitration as specified in clauses and provisions of the Arbitration and Conciliation Act 1996 and Kerala Courts alone shall have exclusive jurisdiction over the same.

#### NOTICE OF DEFAULT

Notice of default given by either party to the other party under the Agreement shall be in writing and shall be deemed to have been duly and properly served upon the parties here to if delivered through official email or by registered post with acknowledgement due addressed to the signatories

IN WITNESS WHEREOF, the parties through their duly authorized representatives have executed these presents (execution where of has been approved by the competent authorities of both the parties) on the day, month and year first above mentioned at Trivandrum.

WITNESS

C-DIT

1. ....

(Signature)

(Name)

2. ....

(Designation)

(Seal)

1. ....

(Contractors signature)

(Designation)

(Seal)

