

# भारतीय प्रबंध संस्थान इंदौर

## INDIAN INSTITUTE OF MANAGEMENT INDORE

प्रबंध शिखर, राऊ-पीथमपुर रोड, इंदौर - 453 556

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Tender No: IIMI/2019-20/17



सिद्धिमूलं प्रबन्धनम्  
भा. प्र. सं. इन्दौर  
IIM INDORE

Date: July 05, 2019

### NOTICE INVITING TENDER FOR WI-FI IMPLEMENTATION (PHASE-II) AT IIM INDORE CAMPUS

(E-PROCUREMENT MODE ONLY)

भारतीय प्रबंध संस्थान इंदौर (आईआईएम इंदौर) दो बोली प्रणालियों में निम्नलिखित मदों के लिए प्रतिष्ठित ओईएम / अधिकृत वितरकों / अधिकृत विक्रेताओं से ऑनलाइन बोली (ई- टेंडर) आमंत्रित करता है।

Indian Institute of Management Indore (IIM Indore) invites online bids (e-tender) in two bids systems from reputed OEM / authorized distributors / authorized dealers for the following:

निविदा का संक्षिप्त विवरण Brief Details of Tender:

सेवा का विवरण Work Description	निविदा की अनुमानित कीमत Estimated Cost of Tender	अग्रिम जमा EMD	निविदा फीस सभी टैक्स मिलाकर Tender Fee (Inclusive of all taxes)
Wi-Fi Implementation (Phase II) at IIM Indore Campus	₹77,00,000/-	₹1,60,000/-	₹1,500/-

निविदा दस्तावेज <http://eprocure.gov.in/eprocure/app> से डाउनलोड किया जा सकता है और केवल इसी पोर्टल के माध्यम से ऑनलाइन जमा किये जाने की अंतिम तिथि और समय तक प्रस्तुत किया जाना चाहिए।

The Tender Document can be downloaded from Central Public Procurement (CPP) Portal <http://eprocure.gov.in/eprocure/app> and bid is to be submitted online only through the same portal up to the last date and time of submission of tender.

निविदा की महत्वपूर्ण तिथियाँ Critical Dates of Tender:

क्रमांक S. No.	विवरण Particulars	दिनांक Date	समय Time
01	निविदा के ऑनलाइन प्रकाशन / डाउनलोड की तिथि एवं समय Date & Time of Online Publication/Download of Tender	05-07-2019	1730 Hrs.
02	बोली जमा करने की प्रारंभ तिथि एवं समय Bid Submission Start Date & Time	05-07-2019	1730 Hrs.
03	बोली जमा करने की अंतिम तिथि एवं समय Bid Submission Close Date & Time	29-07-2019	1500 Hrs.
04	अग्रिम जमा राशि और निविदा शुल्क जमा करने की अंतिम तिथि एवं समय Closing date & time for Submission of EMD & Tender Fee	29-07-2019	1500 Hrs.
05	तकनीकी बोलियों का खोला जाना Opening of Technical Bids	30-07-2019	1500 Hrs.

**विषय सूची**  
**TABLE OF CONTENTS**

<b>S.No.</b>	<b>Description</b>	<b>Page no.</b>
01	आईआईएम इंदौर के बारे में ABOUT IIM INDORE	3
02	मौजूदा आईटी आधारिक संरचना EXISTING IT INFRASTRUCTURE	3
03	तकनीकी विनिर्देश TECHNICAL SPECIFICATION	3-12
04	निविदा शुल्क एवं बयाना जमा विवरण TENDER FEE & EARNEST MONEY DEPOSIT DETAILS	12-13
05	पात्रता मानदंड ELIGIBILITY CRITERIA	13-14
06	वित्तीय बोली विवरण FINANCIAL BID DETAILS	14
07	समय सारणी TIME SCHEDULE	15
08	निविदा की उपलब्धता AVAILABILITY OF TENDER	15
09	बोली वैधता BID VALIDITY PERIOD	15
10	बोली प्रस्तुत करना BID SUBMISSION	15-17
11	बोली का खोला जाना BID OPENING	17
12	बोली का मूल्यांकन BID EVALUATION	17
13	भुगतान की शर्तें PAYMENT TERMS	17-18
14	गुणवत्ता और मात्रा की वारंटी WARRANTY OF QUALITY AND QUANTITY	18
15	जुर्माना खंड PENALTY CLAUSE	18
16	कार्य निष्पादन सुरक्षा विवरण PERFORMANCE SECURITY DETAILS	18-19
17	आपूर्ति, स्थापना, परीक्षण और प्रवर्तन कार्यक्रम SUPPLY, INSTALLATION, TESTING & COMMISSIONING SCHEDULE	19
18	नियम और शर्तें TERMS AND CONDITIONS	19-23
19	अनुलग्नक-I ANNEXURE – I	24
20	अनुलग्नक -II ANNEXURE – II	25
21	अनुलग्नक -III ANNEXURE – III	26
22	अनुलग्नक -IV ANNEXURE – IV	27
23	अनुलग्नक -V ANNEXURE – V	28-36
24	अनुलग्नक -VI ANNEXURE – VI	37

## 1. ABOUT IIM INDORE

Indian Institute of Management Indore is an institution of national importance under the Indian Institutes of Management Act, 2017.

## 2. EXISTING IT INFRASTRUCTURE

IIM Indore has campus wide state-of-the-art information technology tools that are designed to meet the computing and communication needs of the Institute. IIM Indore has a network of more than 4000 Nodes. This network has 10 Gigabit fiber backbone connectivity to all the building and blocks. All the hostels, Faculty Blocks, Administrative Block, Classrooms, MDP, Library, Seminar Hall, Sports Complex etc. are connected through fiber backbone. Every hostel room has a dedicated LAN connection. The Network has two number of Cisco core switch 6807 XL in HA mode, Cisco 3850 distribution switches and Cisco 2960 edge switches to provide network connectivity to users. Cisco Wi-Fi controller 5520, Cisco 1852i, 1562i APs to cater the Wi-Fi services in the campus. Institute has 1 GBPS internet link from NIC under the National Knowledge Network project and 450 MBPS from BSNL.

## 3. SCOPE OF WORK

### 3.1 A. Supply, Installation, testing, commissioning of the following items:

S.No.	Item	Qty
1.	24 Port Network Switch	05
2.	8 Port Network Switch	05
3.	Indoor Wi-Fi Access Point	94
4.	Outdoor Wi-Fi Access Point	26
5.	Wireless Controller	01
6.	Transceivers	10
7.	Required cabling / Passive work to install the above mentioned items. Please also include 10 no. of OEM power adapter for Indoor AP.	-

### B. Installation, testing, commissioning of New Indoor / Outdoor AP(s) on the following location

Table - A

S. No.	Location	Indoor	Outdoor
1	SR01	4	1
2	SR02	4	1
3	SR03	4	1
4	SR04	4	1
5	SR05	4	1
6	SR06	4	1
7	SR07	4	1
8	SR08	4	1
9	SR09	4	1
10	SR10	4	1
11	SR11	5	1
12	SR12	5	1
13	SR13	5	1

14	SR14	5	1
15	SR 15	5	2
16	SR 16	5	2
17	SR 17	5	2
18	SR 18	5	2
19	ER-3	5	-
20	ER-4	-	2
21	Mess-2	1	
21	Spare	8	2
	<b>Total</b>	<b>94</b>	<b>26</b>

**C. The following items to be removed and reinstalled to other locations mentioned in Table –C.**

**Table - B**

S.No.	Location	Existing* AP to be removed	
		Indoor	Outdoor
1	SR01	2	1
2	SR02	2	-
3	SR03	2	-
4	SR04	2	-
5	SR05	2	-
6	SR06	2	1
7	SR07	2	-
8	SR08	2	-
9	SR09	2	1
10	SR10	2	1
11	SR11	3	1
12	SR12	3	-
13	SR13	3	-
14	SR14	3	-
15	SR15	3	1
16	SR16	3	1
17	SR17	3	1
18	SR18	3	
19	Mess-2	1	
20	ER-3	3	
21	ER-4	-	2
	<b>Total</b>	<b>48</b>	<b>10</b>

**D. The above mentioned Indoor/outdoor APs to be installed in the following location:  
Table - C**

S. No.	Location	Existing Installed AP	Relocation of Indoor AP from hostel	Relocation of Outdoor AP from Hostel
1	ER 1	7	4	2
2	ER 2	6	4	3
3	D Block	-	12	-
4	E Block	-	12	1
5	Library	3	1	1
6	FPM	3	3	
7	ER -3	3		
8	SR-15	3		
9	SR-16	3		
10	SR-17	3		
11	SR-18	3		
12	New Placement Office	-	2	-
13	Gate No. 1	-		1
14	New faculty offices - Block J	-	2	-
15	Standby	-	8	2
	<b>Total</b>	<b>34</b>	<b>48</b>	<b>10</b>

Note - Bidder has to relocate / adjust all the APs on the above mentioned location to provide the maximum Wi-Fi coverage in the building and also supply all the passive material whatever is required to complete the installation.

### 3.2 Technical Specification

#### A. 24 Port Network Switch - Required Qty. 05

Sr. No.	Requirements
<b>24 Port Switch - 5 No.</b>	
<b>1. Switch Architecture and Performance</b>	
1.1	Switch should have minimum 160Gbps Switching capacity or bandwidth with a dedicated stacking port and switch should have PoE+ capabilities with min. 350 watts of power budget
	Switch must support VCS or VSS or equivalent architecture by which two separate switches can be combined in a single switch fabric and managed as single switch
1.2	
1.3	Switch should support IPv4 and IPv6 switching in hardware from day 1

1.4	Shall support RPS
1.5	Operating Temperature should be between 0 to 45 Degree Centigrade
<b>2. Required Port Densities</b>	
2.1	Switch should have minimum 24x 10/100/1000 Base T upto minimum additional 2 X 1/10 G-SFP/SFP+ ports with populated uplink fiber modules
2.2	Should be Stackable with support of minimum 80G stacking performance per switch and stacking ports shall be additional to ports required above; all module and accessories required for stacking shall be given on day 1
<b>3. Layer 2 features</b>	
3.1	802. 1Q VLAN on all ports with support for 4000 concurrent VLANs.
3.2	Support for minimum 16 K MAC addresses
3.3	Must support Layer2 or 3 Ping and Layer 2 or 3 Traceroute for connectivity and Fault Management and Must support multicast Traceroute or equivalent feature
3.4	Should support SNMP and syslog Notification for MAC addition, deletion and movement across ports
3.5	Should support multisession Mirroring with minimum 4 session
3.6	Should support Private VLAN
<b>4. Quality of Service (QoS) Features</b>	
4.1	switch should support TWAMP or IP SLA TWAMP Responder or equivalent functionalities
4.2	Should support Diffserv –RFC 2474, RFC 2475 RFC 2597 and RFC 2598 and RFC 2598
4.3	Switch should support eight hardware queues per port.
4.4	Switch should support Auto Smartports Macro or equivalent that provide automatic configuration profiles as devices connect to the switch port, allowing auto-detection and plug and play of the device onto the network
<b>5. Security Features</b>	
5.1	Switch should be scalable to support minimum 500 Hardware ACLs
5.2	switch should support Kerberos or integrated solution
<b>6. Management Features</b>	
6.1	Should support RS232 or OOB Ethernet management port and USB or External Compact Flash slot or equivalent memory slot
6.2	Should support scheduled archiving / uploading of configuration and system log to a central server

6.3	Switch shall be able to do dynamic actions based on scripting using system events through CLI or centralized network
6.4	switch should support Call Home or equivalent feature to proactively notify OEM TAC with support logs / tech support data in case of technical faults (functionalities support accepted with Centralized NMS)
	Switch should be able to do Role based Access Control and Roles shall also be configurable through NMS and NAC centrally for all wired and wireless products
6.5	Should be manageable by SSH,RMON, SNMP and HTTP/s
<b>7.OEM</b>	
7.1	The OEM should be among the top 10 entities in the business of wired and wireless LAN infrastructure (Asia Pacific or Worldwide), as evidenced in the two most recent reports published by Gartner/IDC/Forrester, as on the date of publication of the NIT. (provide supporting documentation in this regard)
7.2	Switch be covered with onsite warranty with direct replacement from OEM depot in India
7.3	OEM should have toll free number in India for Technical Assistance and support calls

#### **B. 8 Port Network Switch Required Qty. 05**

	Access Switches - 8x10/100/1000 PoE Ethernet Ports with 2x1G Copper and 2x1G SFP uplink ports	
<b>S. No.</b>	<b>Required Minimum Specification</b>	
1	<b>General Features</b>	The switch should support a minimum of 8 x 10/100/1000 Gigabit POE Ethernet Ports.
2		The switch should support a minimum of 2 x 1G copper and 2 x 1G SFP port with populated Uplinks moduls
3	<b>Performance and Scalability</b>	The switch should support Forwarding bandwidth of 12 Gbps
4		The switch should have Packet Forwarding Rate of 17 Mpps
5		The switch should support 4000 VLAN IDs
6	<b>Standards</b>	The switch should support IEEE 802.1D Spanning Tree Protocol
7		The switch should support IEEE 802.1p
8		The switch should support IEEE 802.1Q Trunking
9		The switch should support IEEE 802.1s Multiple Spanning Tree (MSTP)
10		The switch should support IEEE 802.1w Rapid Spanning Tree (RSTP)
11		The switch should support IEEE 802.1x
12		The switch should support IEEE 802.1ab (LLDP)

13		The switch should support IEEE 802.3ad Link Aggregation Control Protocol (LACP)
14	<b>Environmental</b>	Reduction of Hazardous Substances (ROHS)
15	<b>Other</b>	The switch to be supplied with necessary rack mount kit

**C. Indoor Access Point Required Qty. 94**

S. No.	Item
1.1	Access Points proposed must include radios for 2.4 GHz and 5 GHz with 802.11ac Wave 2 standard with four external antenna
1.2	Must have a robust design for durability, without visible vents
1.3	Must include dual band antennas to support both the 2.4GHz and 5GHz operations simultaneously
1.4	Must have up to 6 dbi gain on external antenna on (2.4 ghz and 5.0 ghz)
1.5	It is preferred to have required memory and CPU in the access point.
1.6	High-speed spectrum intelligence across 20-, 40-, and 80- MHz-wide channels to combat performance problems due to wireless interference
2	<b>802.11AC</b>
2	Must support 4x4 multiple-input multiple-output (MIMO) with four spatial streams on 5 GHz and 3X3 with three spatial streams on 2.4 Ghz
2.1	Must support simultaneous 802.11n on both the 2.4 GHz and 5 GHz radios.
2.2	Must support 802.11ac Wave 2 on the integrated 5-GHz radio
2.3	Must support data rates up to 450Mbps on 802.11n and 1.7 Gbps on 802.11ac
2.4	Must support minimum upto 22 dbm of transmit power in both 2.4Ghz and 5Ghz radios.
3	<b>R F</b>
3.1	The Wireless AP should have the technology to improve downlink performance to all mobile devices including one-, two-, and three spatial stream devices on 802.11n and 802.11ac.
3.2	Must support AP enforce load-balance between 2.4Ghz and 5Ghz band.
3.3	Must incorporate radio resource management for power, channel, coverage hole detection and performance optimization
3.4	Must have -95 to -100 dB or better Receiver Sensitivity.
3.5	Must support Proactive Key Caching and/or other methods for Fast Secure Roaming.
4	<b>Roaming</b>
4.1	Must support Management Frame Protection.
5	<b>Security</b>



5.1	Should support locally-significant certificates on the APs using a Public Key Infrastructure (PKI).
5.2	Should support Rogue Detection and Containment for both radio
5.3	Access Points must support a distributed encryption/decryption model.
6	<b>Encryption</b>
6.1	Access Points must support CAPWAP Standard or equivalent
6.2	Must support the ability to serve clients and monitor the RF environment.
7	<b>Monitoring</b>
7.1	AP model proposed must be able to be both a client-serving AP and a monitor-only AP for Intrusion Prevention services.
8	<b>Flexibility</b>
8.1	Must be plenum-rated (UL2043).
8.2	Must support 16 WLANs per AP for SSID deployment flexibility.
8.3	Must continue serving clients when WAN link to controller is
	back up again, should not reboot before joining
8.4	Must support Controller-based and standalone(autonomous) deployments
8.5	Should support Local authentication at the AP level in case of WAN outage
8.6	Must support telnet and/or SSH login to APs directly for troubleshooting flexibility.
9	<b>Operational</b>
9.1	Must support Power over Ethernet, local power (DC Power), and power injectors.
10	<b>Power</b>
10.1	Must operate at 3x3 or higher with 802.3af PoE is the source of power
10.2	802.11e and WMM
11	<b>Quality of Service</b>
11.1	Wi-Fi Alliance Certification
11.2	Must support Reliable Multicast to Unicast conversion to maintain video quality at AP level
11.3	Must support QoS and Video Call Admission Control capabilities.
11.4	Access Point should 802.11 DFS certified
11.5	An access point must include a standard OEM provided Mounting brackets for mounting on Ceiling or Roof top.

**D. Outdoor Access Point****Required Qty 26**

Sr. No.	Specification
1	Outdoor 802.11ac AP should have dual radios to support 2.4 GHz and 5 GHz concurrent users with 802.11 a/b/g/n/ac wave 1 capability. AP must support 3x3 MIMO with 3 spatial streams
2	Should be ready for both pole or wall mount. Required mounting accessories to be provided.
3	Should have RJ-45 auto-sensing 10/100/1000 Mbps PoE(802.3af/at) port and a console port.
4	Should be Wi-Fi alliance certified for interoperability with all IEEE 802.11a/b/g/n/ac client devices.
5	Should have IP67 compliant with operating temperature in the range of 0°C to 55°C.
6	Should support up to 16 SSID/VSC profiles per radio and each profile shall be independently configurable for authentication, encryption, VLANs, and QoS levels.
7	Should support simultaneous detection & prevention of wireless threats on 2.4GHz & 5GHz frequency bands.
8	Should provide L2 wireless client isolation
9	Should support auto-selection of RF channel and transmit power
10	Should support SNMP, CLI, and web-based management
11	Should support packet capture for Ethernet and IEEE 802.11
12	Should support data rates up to 300 Mbps
13	Should support either of wireless operation modes: client access, local mesh, or packet capture
14	Should support self-healing, self-optimizing local mesh extending network availability to areas without an Ethernet
15	Should support both centrally controlled mode (configured and updated via wireless controller) and autonomous mode (without controller) which is software selectable
16	Should support L2 and L3 controller discovery
17	Should be able to support PoE, DC powering option
18	Should be able to support Band select
19	Access points should have antitheft mechanism. Each AP should be equipped with steel wire mesh enclosure with minimal impact on Wi-Fi performance
20	Should be able to support Mesh functionality
21	Must support minimum of 30 dbm of EIRP in both 2.4Ghz and 5Ghz radios. And should follow the local regulatory Norms. Beamforming gain will not be considered in calculating EIRP.
22	Including OEM Power adaptor

**E. Wireless Controller****Required Qty. 01**

S. No.	Item
1	The controller shall have 10 Gb x 2 ports
2	The controller shall support 400 access points without hardware change
3	Shall support 10,000 users from day one and shall support 150 AP License from day 1
4	Shall support 1+1, N+1, N+N redundancy models
	Management Features
5	Shall support spectrum analysis from day one - to detect and mitigate non Wi-Fi interference.
6	Controller/Solution should have basic device profiling capabilities.
7	Shall support band navigation/band select functionality
8	Shall support VLAN pooling which ensures assignment of VLANs to SSID.
9	Shall support AP grouping to enables an admin to easily apply AP-based or radio-based configurations to all the AP that are in the same group.
10	Controller should support deep packet inspection for all user traffic across Layer 4-7 network to analyses information about applications usage, peak network usage times for all access points from day one in a central and local switching mode. Shall support integrated system of detection for wireless intrusion from day one.
11	Wireless Controller should support Rogue AP classification, detection & containment
12	WLC should have standard WIPS signatures. Wireless centralized management system should be integrated with our existing Network access control.
	Performance features
13	Shall support layer 3 roaming and fast roaming
14	Shall support client load balancing based on sessions and traffic load
15	Shall support bandwidth limiting per SSID
	LAN Management
16	Should have Configuration and policy management
17	Should have Performance monitoring
18	Should have Reporting and analytics
19	Should have Security monitoring
20	Should have Troubleshooting feature
21	Should have Web-Based Interface
22	Should have Network Discovery
23	Should have Detailed AP Status
24	Should have Station Troubleshooting
25	Should have Policy Configuration
26	Should have Security Monitoring
27	Should have 802.11 Packet Capture
28	Should have Device Identification
29	Should have Reporting tool
30	Should have AP and Radio Status
31	Should have Rogue & Threat Overview
32	Should have Most Recent Alarms
33	Should have Station Information

34	It should be possible to drill down to individual AP station(s) for troubleshooting and proactive station monitoring, alerting on errors, rates, signal levels
35	It should be possible to Assign and configure newly discovered Wireless APs with default or pre-selected policies & Configuration templates applied to individual or AP groups
36	Solution should support Layer 2 and Layer 3 roaming
37	It should be possible to locate function in map showing station location & Use signal from multiple APs for location identification & should also display station/rogue details
38	Wireless Solution should support techniques for automation of configuration and service provisioning & also simplify adds, moves, and changes of authenticated and authorized network endpoints
39	Supports complete AAA authentication, including 802.1x, as primary or backup to a centralized AAA server
40	WMS Software should be installable on an VM environment or appliance
41	Solution should support Troubleshooting tools, packet capture and reports to resolve connectivity and performance issues
42	Allows automated deployment of new software image to one or more APs, or groups of APs for centralized management through controller
43	Customizable view listing security events by type, detected by APs, with time detected, mac address of device and SSID
44	Web access (https) for configuration, SNMP v1, v2c, v3
45	Syslog support for system monitoring

#### F. Transceiver

Optical Transceiver – 1/10G Base SR – Module <b>Required Qty 10</b>
Generic Requirements
Bidder should provide a transceivers meeting the following requirements as a minimum:
Transceiver shall support Multimode 1 Gbps communication
Must be from the same OEM for switching solution
Operating Temperature: 0° C to +40° C (32° F to 104° F)
Operating Humidity: 10% to 93% non-condensing

**Note** - Interested bidder may visit the campus with prior appointment with IT Department ([itdept@iimidr.ac.in](mailto:itdept@iimidr.ac.in) ,0731-2439641/640) to understand the full requirement of the tender.

#### 4. TENDER FEE & EARNEST MONEY DEPOSIT DETAILS

- a) **Tender Fee of ₹1,500/- (Rupees One Thousand Five Hundred only)** inclusive of all taxes should be submitted through NEFT or RTGS or Bank Transfer or Direct Credit in favour of Indian Institute of Management Indore.
- b) **EMD of ₹1,60,000/- (Rupees One Lakh Sixty Thousand only)** should be submitted through NEFT or RTGS or Bank Transfer or Direct Credit in favour of Indian Institute of Management Indore.

- c) Micro and Small Enterprises (MSEs) firms as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or the firms registered with the Central Purchase Organization or the concerned Ministry or Department or Startups as recognized by Department of Industrial Policy & Promotion (DIPP) for **all these items only**, are exempted from Tender fee/EMD. However, they have to enclose valid self-attested registration certificate(s) along with the tender to this effect.
- d) **The bidders who seeks exemption from Tender fee/EMD as per clause no. 3(c) above, if they withdraw or modify their bids during the period of validity, or if they are awarded the contract and they fail to sign the contract, or to submit a performance security before the deadline defined in the request for bids document, they will be suspended for the period of three years or as decided by the competent authority from being eligible to submit bids for contracts with the entity that invited the bids.**
- e) EMD of all unsuccessful bidders will be returned after finalization of the tender. EMD of the successful bidder will be returned only after receipt of Security Deposit towards Performance Guarantee as per Sl. No. 16 (a) and its verification from the concerned issuing authority.
- f) In case of successful tenderer, the EMD may be adjusted towards the Performance Security deposit on request.
- g) The amount of EMD is liable to be forfeited, if the tenderer withdraws from the offer after submission of the tender or after the acceptance of the offer and fails to remit the Performance Security Deposit.
- h) No interest will be paid on the EMD / Performance Security deposited / remitted.

## **5. ELIGIBILITY CRITERIA:**

### **5.1 OID (Other Important Documents)**

OID viz. Firm Incorporation Certificate, PAN details, GST details are to be provided.

### **5.2 Statutory Documents:**

- a) The Bidder should give self-declaration certificate for acceptance of all terms & conditions of tender documents. A duly completed certificate to this effect is to be submitted as per the Annexure-I.
- b) The firm should be neither blacklisted by any Government Dept., nor is any criminal case registered / pending against the firm or its owner / partners anywhere in India. A duly completed certificate to this effect is to be submitted as per Annexure-II.
- c) The company should attach list of Purchase Order / Work Order where the similar\* type of work executed during the last seven financial years from the date of publication of tender as detailed below

- (I) Three similar works of 40% of the estimated cost **OR**
- (II) Two similar works of 50% of the estimated cost **OR**
- (III) One similar work 80% of the estimated cost

The details of the same along with supporting document are to be submitted as per the Annexure-III.

\* Similar project means supply, installation and commissioning of active component of LAN or Supply, installation and commissioning of controller based Wi-Fi network. Supply and/or installation of just the passive components of LAN/Wi-Fi will not be considered.

- d) Out of above, at least one single order of 100 or more controller based wireless access points or Network size  $\geq 1000$  nodes where vendor has supplied wireless controllers based wi-fi access points layer2/3 network switches. Project completion certificate with all details should be attached.
- e) Bidder should have **OEM's authorization Certificate** to participate in this tender. Authorization letter from OEM clearly mentioning the bidders name is to be attached.
- f) The bidder should assure that the OEM should also provide Hardware and software support for the next 5 years from the date of installation for all the proposed items to be supplied for this tender. A duly completed certificate from the OEM to this effect is to be submitted.
- g) All Software updates and upgrades of Switches, Wireless controller and Indoor / Outdoor access points shall be provided during the entire 3 years warranty period at no extra cost. The installation of the updates will be done by vendor. The bidder shall give commitment letter in this regard.
- h) The Annual Turnover should be at least 30% of the estimated cost during each of the previous three financial years (2015-16 to 2017-18) or (2016-17 to 2018-19). Copies of duly signed trading and profit & loss accounts / CA Certificate are to be submitted as per the Annexure-IV.

### 5.3 Technical Criteria

Bidders should comply the scope of work in all respect, No deviations are acceptable. The detailed format is attached at Annexure-V. The bidder is to complete the same in all respect and submit accordingly.

## 6. FINANCIAL BID DETAILS

Financial bid i.e. BOQ given with tender to be uploaded after filling all relevant information. The priced BOQ should be uploaded strictly as per the Annexure-VII failing which the offer is liable for rejection. Kindly quote your offer on FOR IIM INDORE (inclusive of all taxes and charges).

**Vendor should quote prices in BOQ only, offers indicating rates anywhere else shall be liable for rejection.**

## 7. TIME SCHEDULE

S. No.	Particulars	Date	Time
01	Date of Online Publication/Download of Tender	05-07-2019	1730 Hrs.
02	Bid Submission Start Date	05-07-2019	1730 Hrs.
03	Bid Submission Close Date	29-07-2019	1500 Hrs.
04	Closing Date & Time for Submission of EMD & Tender Fee	29-07-2019	1500 Hrs.
05	Opening of Technical Bids	30-07-2019	1500 Hrs.
06	Opening of Financial Bids	To be intimated later	

## 8. AVAILABILITY OF TENDER

The tender document can be downloaded from <http://eprocure.gov.in/eprocure/app> and Institute website <https://www.iimidr.ac.in/tenders/> and be submitted only through <http://eprocure.gov.in/eprocure/app>.

## 9. BID VALIDITY PERIOD

The bid will remain valid for 120 days from the date of opening as prescribed by IIM Indore. A bid valid for a shorter period shall be rejected, being non-responsive.

## 10. BID SUBMISSION

### 10.1 Instruction to Bidder

Bidders are required to enrol on the e-Procurement module of the **Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>)** by clicking on the link "Online Bidder Enrolment" on the CPP Portal. **The registration is completely free of charge.**

Possession of a valid Class II/III DSC in the form of smart card / e-token is a prerequisite for registration and participating in the bid submission activities. DSCs can be obtained from the authorised certifying agencies recognized by CCA India (e.g. Sify/TCS/nCode/eMudhra etc).

Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.

Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.

The Bidders are required to log in to the site through the secured log-in by entering their respective user ID / password and the password of the DSC.

The CPP portal also has user manuals with detailed guidelines on enrollment and participation in the online bidding process. The user manuals can be downloaded for reference.

Any queries related to process of online bid submission or queries related to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The **Toll Free** contact numbers for the helpdesk are 1800 3070 2232, 7878007972 and 7878007973.

## 10.2 Online Bid Submission Procedure

**OID:** The file should be saved in a PDF version and should comprise of the following items:

1. [Packet-1](#): Duly Completed Scanned PDF of PAN Card.
2. [Packet-2](#): Duly Completed Scanned PDF of Registration Certificate Details.
3. [Packet-3](#): Duly Completed Scanned PDF of GSTIN.

**Cover-1:** The file should be saved in a PDF version and should comprise of the following items:

1. [Packet-1](#): Duly Completed Scanned PDF copy of Annexure-I with transaction details for Tender Fee & EMD.
2. [Packet-2](#) : Duly Completed Scanned PDF copy of Annexure-II
3. [Packet-3](#): Duly Completed Scanned PDF copy of Annexure-III with supporting Documents.
4. [Packet-4](#): Duly Completed Scanned PDF copy as mentioned in clause 4.2 (d).
5. [Packet-5](#): Duly Completed Scanned PDF copy as mentioned in clause 4.2 (e).
6. [Packet-6](#): Duly Completed Scanned PDF copy as mentioned in clause 4.2 (f).
7. [Packet-7](#): Duly Completed Scanned PDF copy as mentioned in clause 4.2 (g).
8. [Packet-8](#): Duly Completed Scanned PDF copy of Annexure-IV with supporting Documents.
9. [Packet-9](#): Duly Completed Scanned PDF copy of Annexure-V.
10. [Packet-10](#): Duly Completed Scanned PDF copy of Annexure-VI.

**Cover-2:** The BOQ should be downloaded from the website and should comprise of the following items.

1. [Packet-1](#): Financial Bid in XLS version Filled with all relevant information.

## 10.3 Online Submission of Tender Fee & Earnest Money Deposit (EMD)

It is also required to submit Tender Fee & EMD through NEFT or RTGS or Bank Transfer or Direct Credit at the following account before 29-07-2019 at 1500 hrs.

Name of beneficiary: Indian Institute of Management Indore

Address: Rau-Pithampur Road, Indore-453556, M.P.

Account No.: 53018623445

Name of the Bank: State Bank of India



## 11. BID OPENING

- a) Technical Bids will be opened 30-07-2019 at 1500 Hrs.
- b) Financial Bids of the eligible bidders will be opened on a later date. The date and time for opening of Financial Bids will be announced later.
- a) **Bids should be summarily rejected, if tender is submitted other than through online or original EMD & tender fee are not submitted within stipulated date / time.**

## 12. BID EVALUATION

- a) The System integrator must demonstrate the interoperability, capability, features, satisfactory performance, user authentication and required integration of new Wi-Fi access points and controller with the existing network setup in front of the committee after the technical bid, failing which the offer will be liable for rejection.
- b) The bidder will be called to demonstrate the features and interoperability of the offered devices with our existing setup at IIM Indore campus. The bidder should be ready with all the offered devices to demonstrate its function in front of committee. The demonstration date will be informed by the Institute.
- c) If bidder fails to demonstrate above mentioned feature/interoperability in the given time then it will not be considered as technically qualified.
- d) Technical committee of IIM Indore may ask bidder to provide certified test result of device(s) or document proof for the offered device capacity and its claimed features, if bidder fails to provide these documents/proof then the entire offered solution / system will not be considered as technically qualified.
- e) Based on results of the Technical evaluation, IIM Indore evaluates the Commercial Bid of those Bidders who qualify in the Technical evaluation as per eligibility criteria, demonstration of the offered products by the bidder and test result of device (if required) etc. The Commercial Bid with the lowest price will be the highest evaluated bid.

## 13. PAYMENT TERMS

- a) No advance payment will be made in any case. Bills in Duplicate should be sent and the payment shall be released generally within 30 days, only after it is ensured that the items / quality of the items supplied are to the entire satisfaction of IIM Indore and completed the entire work within the stipulated delivery schedule. If any item is found defective, or not of the desired quality etc., the same should be replaced by the firm(s) immediately for which no extra payment shall be made.
- b) No part payment will be made against the part supply. In case of the undelivered items till due date of supply and installation, the penalty of 10% of the cost of undelivered item

will be imposed and deducted from the bill of the item supplied or recovered from the security deposit.

#### **14. WARRANTY OF QUALITY AND QUANTITY**

- a) The tenderer shall give warranty for all the supplied items (**36 month onsite warranty**), conforming to the specified design and there are no defects in the process of manufacturing, packaging, transportation, delivery and installation.
- b) The Vendor has to warrant that the Goods supplied under this NIT are new, genuine, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. This **warranty shall remain valid for a period of a minimum 36 months with next business day onsite service support and advance replacement** after the Goods or any portion there of as the case may be, have been delivered, installed, commissioned and date of acceptance by IIM Indore.
- c) IIM Indore shall promptly notify the vendor in writing/email/telephonically of any claims arising under this warranty. Upon receipt of such notice, the vendor shall, within 24 hours and with all reasonable time, repair or replace the defective Goods or parts thereof, without cost to IIM Indore. If the Vendor, having been notified, fails to remedy the defect(s) within the period specified in above, IIM Indore may proceed to take such remedial action as may be necessary, at the vendor's risk and expenses and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

#### **15. PENALTY CLAUSE**

As Time is the essence of an order, the date of delivery should be strictly adhered to, otherwise the delivery in full or in part may not be accepted and penalty for late delivery & Installation will be imposed @ 0.5% (Half Percent) per week subject to a maximum of 10% of the total value of supply order.

#### **16. PERFORMANCE SECURITY DETAILS**

- a) The successful tenderer will have to deposit the performance security valid for 63 Months in the form of DD/TDR/FDR/Bank Guarantee @ 10% of the total value of order at the earliest. No interest will be paid by IIM Indore on the deposit.
- b) Performance Security will be refunded to the supplier, after it duly performs and completes the contract/warranty period in all respect.
- c) Performance Security will be forfeited if the firm fails to perform/abide by any of the terms or conditions of the contract.
- d) In case, the firm fails to provide the required services within specified delivery period, the same services will be obtained from open market and the difference of cost, if any, will be recovered from Performance Security or from pending bill(s) of the defaulting firm

or from both in case the recoverable amount exceeds the amount of Performance Security.

- e) In case of non-receipt of Security Deposit within the stipulated time, EMD will be converted into Security Deposit and the balance amount will be recovered from the bill submitted for the payment.

## **17. SUPPLY, INSTALLATION, TESTING & COMMISSIONING SCHEDULE**

The successful bidder should complete the work **within 60 days** at IIM Indore from the date of issue of the order. In case of any damage found, the item(s) should be replaced **within 15 days** at IIM Indore. The bidder has to make its own arrangement regarding unloading, transportation and shifting of the items.

## **18. TERMS AND CONDITIONS**

### **18.1 Termination for Insolvency**

The IIM Indore may at any time terminate the Contract by giving a written notice to the awarding firm, without compensation to the firm, if the firm becomes bankrupt or otherwise insolvent as declared by the competent Court, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the department.

The courts of Indore alone will have the jurisdiction to try any matter, dispute or reference between the parties arising out of this purchase. It is specifically agreed that no court outside and other than Indore Court shall have jurisdiction in the matter

### **18.2 Force Majeure**

- a) Should any force majeure circumstances arise, each of the contracting parties be excused for the non-fulfillment or for the delayed fulfillment of any of its contractual obligations, if the affected party within 15 days of its occurrence informs in a written form the other party.
- b) Force Majeure shall mean fire, flood, natural disaster or other acts such as war, turmoil, sabotage, explosions, epidemics, quarantine restriction, strikes, and lockouts i.e. beyond the control of either party.

### **18.3. Arbitration & Jurisdiction**

- a) That in case of any dispute between party of first part and the party of other part arising out of or in relation to the agreement, the dispute shall be referred to arbitration of a sole arbitration to be appointed by the Director, IIM Indore. The award of the said arbitrator shall be binding on both parties.
- b) The courts at Indore shall have the exclusive jurisdiction to try all disputes, if any, arising out of this agreement between the parties.

#### **18.4. Technical Terms & Condition**

- a) The new Wi-Fi devices/controller should have seamless integration with the existing setup and we should be able to perform monitoring activities for the new Wi-Fi devices preferably using the existing network management software Cisco Prime 3.1.
- b) The OEM should be among the top 10 entities in the business of wired and wireless LAN infrastructure (Asia Pacific or Worldwide) in latest Gartner magic quadrant report. All the offered devices (24 port and 8 port switch, Wireless controller, Indoor AP, Outdoor AP and Transceivers, Power adapter) should be from single OEM only.
- c) The new wireless controller should provide the central user management features and should be compatible with existing Cisco Identity Service Engine and Windows Active directory services. Please note that presently all the users are being managed with the existing Windows AD and Cisco ISE.
- d) The System integrator must provide the specification, catalogue etc. of the bidding items properly. Test certificates from the OEM and warranty cards must be provided with each and every item to be supplied.
- e) Manufacturer's / Company's name, its trademark should be mentioned in the Tender and illustrative leaflets giving technical particulars etc. should be attached along with the technical specification.
- f) The offered devices/solution should be Scalable, Secure, Robust, Advanced, State of Art, flexible, easy to deploy, reliable and should support distributed architecture along with 3rd party integrations.
- g) Bidder shall be responsible for providing all the licenses required for the function of all the delivered items.
- h) IIM Indore reserves the right the change the quantity (increase/decrease) of any item as per our requirements.
- i) The Bidder has to warrants that the Goods supplied under this NIT are new, genuine, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. This warranty shall remain valid for a period of a minimum 36 months with advance replacement and next business day service support after the Goods or any portion there of as the case may be, have been delivered, installed, commissioned and date of acceptance by IIM Indore.
- j) System Integrator / bidders should only participate in the NIT who are capable to execute the entire work within 60 days after receiving the order from IIM Indore.

- k) The overall solution (Wi-Fi solution, Network switch etc.) provided by System Integrator/ bidder should be fully compatible with the existing network/switches/devices of IIM Indore as mentioned in this NIT.
- l) The bidder will also be responsible to integrate the offered equipment with existing LAN system of IIM Indore and ensure interoperability of the entire system.
- m) System Integrator/Bidder shall be responsible for supply, installation, configuration, Integration, maintenance and operationalization of the offered solutions and items as per IIMI requirement. Bidder will also be responsible for the functioning and testing of offered devices as per the NIT requirements.
- n) System Integrator/Bidder must deliver, install and configure whatever is required to ensure proper functioning of all proposed hardware and software. Whether mentioned in the NIT or not and whether mention in his quotation or not in order to Guaranty the proper function of the solution as mentioned in the NIT. It will be completely sole and full responsibility of the Bidder/System Integrator.
- o) If any type cable or cabling work is required to support installation/functioning of all device(s) then bidder has to complete all the required cabling work (including supply of fiber, cat6 cable, fiber patch cord, Pole for outdoor AP, any other accessories) at his own cost. The cabling must be properly pulled, terminated tested and labeled as requested by IIMI. Cabling solution must include trunks, pipes, cable trays, patch panel, patch cord etc. Supply of all cable(including fiber/cat6 patch cords etc.), cable laying accessories including PVC pipes/channels/HDPE pipes, supporting structures, clamps, identification tags, cable route markers etc. which are required for laying of cables. Minor civil works such as chipping / cutting of floors for making grooves, making holes/opening through walls, ceiling or floors, drilling of holes through steel structures and frames, grouting of frames, hooks on walls/ceiling, digging etc. required for execution of work. After erection, surface shall be made good by plastering / painting to their original shape and finish.
- p) The materials shall be moved to the respective place of work within the campus by the bidder only.
- q) The Bidder must have highly qualified engineers with qualifications in the WLAN field and experience working with university campuses. Installation must be performed by an OEM certified engineer to ensure proper installation.
- r) All the offered equipment must be properly labeled as required by IIM Indore.
- s) Delivered Solution must be tested and commissioned as per OEM delivered procedures before handing over the project completion. Any hardware equipment's or software's required for implementing those testing and commissioning procedures is the sole and full responsibilities of the Bidder.
- t) Bidder has to provide complete project documentation with network drawings / configuration etc. of all the installed and configured items to IIM Indore Officials.

- u) Bidder has to arrange 3 full days onsite training from concern OEM to IIM Indore Officials for entire installed system for day to day operations and maintenance.
- v) Institute may change the relocation and deployment of wi-fi devices based on the requirement and suitability.
- w) The bidder may inspect and understand the network at IIM Indore campus prior to bidding. They may visit the campus and understand the overall requirement and scope of work with prior appointment to IT Department of IIM Indore. on Ph. 07312439641/640, Email – [itdept@iimidr.ac.in](mailto:itdept@iimidr.ac.in)
- x) The bidder has to depute one qualified experienced residence engineer at IIM Indore campus for a period of one month after completion of the successful installation. The residence engineer will report to IT Dept. of IIM Indore.

#### **18.5. Other Conditions**

- a) The work shall be awarded to that party, whose rates are found genuine, lowest & capable to work at IIM Indore. The rates should be inclusive of all taxes. The Institute holds the right to reject any/all the bid(s) without assigning any reason.
- b) Canvassing in connection with the tenders is strictly prohibited and tenders submitted by the tenderers who resort to canvassing will be liable to rejection. Any bribe, commission or advantage offered or promised by or on behalf of the tenderer to any officer or staff of IIM Indore shall block his/ her tender from being considered. Canvassing on the part or on behalf of the tenderer will also make his tender liable to rejection.
- a) In case the bidders/successful bidder(s) are found in breach of any condition(s) at any stage of the tender, Earnest Money/Performance Security shall be forfeited.
- b) The firm (s), whose contract has been terminated by IIM Indore due to unsatisfactory performance, will not be eligible to participate in this tender.
- c) The bidder has to upload the relevant & readable files only as indicated in the tender documents. In case of any irrelevant or non-readable files, the bid may be rejected.**
- d) IIM Indore reserves the right to accept or reject any or all the tenders in part or in full or may cancel the tender, without assigning any reason thereof.
- e) IIM Indore reserves the right to relax / amend / withdraw any of the terms and conditions contained in the Tender Document without assigning any reason thereof. Any inquiry after submission of the quotation will not be entertained.
- f) IIM Indore reserves the right to modify/change/delete/add any further terms and conditions prior to issue of purchase order.
- g) IIM Indore reserves the right to increase / decrease upto 25% of the quantities prior to issue of purchase order.

- h) IIM Indore reserves the right to place repeat order upto 100% of the quantities within a period of 12 months from the date of successful completion of purchase order at the same rates and terms subject to the condition that there is no downward trend in prices.
- i) In case the bidders/successful bidder(s) are found in breach of any condition(s) at any stage of the tender, Earnest Money/Performance Security shall be forfeited.
- j) False declaration/documents will be in breach of the Code of Integrity under Rule 175(1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.
- k) Conditional tenders will not be considered in any case.
- l) In case of doubt in material, the expenditure on testing of equipment will be borne by the tenderer.
- m) Institute reserve the right to increase/decrease the order quantity at any period of times.
- n) IIM Indore shall not be responsible for any transaction delay i.e. non-receipt of the EMD & Tender Fee amount.
- o) Tender fees will not be refunded if the bidder does not submit the online bid on CPP portal by due date and time
- p) The bidder should quote for all the items and quantity mentioned above, as part bidding is not allowed. Tender with part bids will be rejected.**
- q) IIM Indore may issue amendment/corrigendum to tender documents before due date of submission of bid. Any amendment/corrigendum to the tender document if any, issued by IIM Indore will be posted on CPP Portal. For the bidders, submitting bids on downloaded tender document, it is 'bidders' responsibility to check for any amendment/corrigendum on the website of IIM Indore or check for the same CPP Portal before submitting their duly completed bids.**

## ANNEXURE – I

### Undertaking

To  
**Officer (Stores and Purchase)**  
Indian Institute of Management Indore  
Prabandh Shikhar,  
Rau – Pithampur Road  
Indore

Tender No. IIMI/2019-20/17 dated 05-07-2019  
(Notice Inviting Tender for Wi-Fi Implementation (Phase II) at IIM Indore Campus)

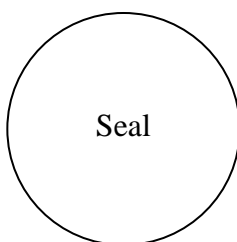
Sir,

1. I /we hereby submit our tender for Wi-Fi Implementation (Phase II) at IIM Indore Campus along with other required documents.
2. I/ We enclosed herewith the following in favour of Indian Institute of Management Indore towards EMD & Tender Fee.

Particular	Amount	Payment Details (UTR No.)	Payment Date
Tender Fee (Including Tax)	₹1,500/-		
EMD	₹1,60,000/-		

3. I / We hereby reconfirm and declare that I / We have carefully read, understood & complying the above referred tender document including instructions, terms & conditions, scope of work, schedule of quantities and all the contents stated therein. I / We also confirm that the rates quoted by me / us are inclusive of all taxes, duties etc., applicable as on date.
4. I /we have gone through all terms and conditions of the tender document before submitting the same.

**Date:**



**Authorized Signatory**

**Name:**

**Place:**

**Designation:**

**Contact No.:**



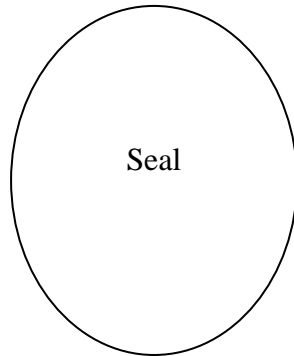
**ANNEXURE – II**

**CERTIFICATE  
(to be provided on letter head of the firm)**

I hereby certify that the above firm neither blacklisted by any Central/State Government/Public Undertaking/Institute nor is any criminal case registered / pending against the firm or its owner / partners anywhere in India.

I also certify that the above information is true and correct in any every respect and in any case at a later date it is found that any details provided above are incorrect, any contract given to the above firm may be summarily terminated and the firm blacklisted.

**Date:**



**Place:**

**Authorized Signatory**

**Name:**

**Designation:**

**Contact No.:**

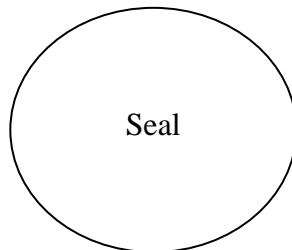
**ANNEXURE – III**

**Work Order Details:**

S. No.	Evaluation Criteria	Name of the Client	Order No. & Date	Amount
	List of Purchase Order / Work Order where the similar type of Work executed by you during the last seven financial years from the date of publication of tender			
1	Three similar works of 40% of the estimated value OR	1.		
		2.		
		3.		
2	Two similar works of 50% of the estimated value OR	1.		
		2.		
3	One similar work of 80% of the estimated	1.		

**Note: Supporting documents (purchase order/work order) are to be attached along with the Annexure-III.**

Date:



Place:

Authorized Signatory

Name:

Designation:

Contact No.:

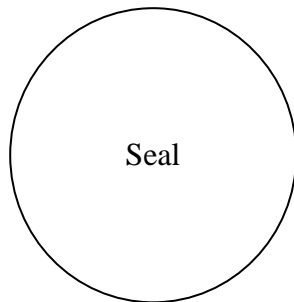
**ANNEXURE – IV**

**Annual Turnover Details:**

<b>Evaluation Criteria</b>		
<b>Bidder's Annual Turnover for last three financial years</b>  2016-17 to 2018-19  OR  2015-16 to 2017-18	<b>Financial Year</b>	<b>Turnover in Rs.</b>
	<b>2018-19</b>	
	<b>2017-18</b>	
	<b>2016-17</b>	
	<b>2015-16</b>	

**Note: Supporting Documents (Copies of duly signed trading and profit & loss accounts / CA Certificate) are to be attached along with the Annexure-IV.**

Date:



Place:

Authorized Signatory:

Name:

Designation:

Contact No.:

**ANNEXURE – V**

**TECHNICAL BID**

**A. 24 Port Network Switch - Required Qty. 05**

**Offered Make** ..... **Offered Model** .....

Sr. No.	Requirements	Complied	If No, Remark
		(Y/N)	
<b>1. Switch Architecture and Performance</b>			
1.1	Switch should have minimum 160Gbps Switching capacity or bandwidth with a dedicated stacking port and switch should have PoE+ capabilities with min. 350 watts of power budget		
1.2	Switch must support VCS or VSS or equivalent architecture by which two separate switches can be combined in a single switch fabric and managed as single switch		
1.3	Switch should support IPv4 and IPv6 switching in hardware from day 1		
1.4	Shall support RPS		
1.5	Operating Temperature should be between 0 to 45 Degree Centigrade		
<b>2. Required Port Densities</b>			
2.1	Switch should have minimum 24x 10/100/1000 Base T upto minimum additional 2 X 1/10 G-SFP/SFP+ ports with populated uplink fiber modules		
2.2	Should be Stackable with support of minimum 80G stacking performance per switch and stacking ports shall be additional to ports required above; all module and accessories required for stacking shall be given on day 1		
<b>3. Layer 2 features</b>			
3.1	802. 1Q VLAN on all ports with support for 4000 concurrent		
3.2	Support for minimum 16 K MAC addresses		
3.3	Must support Layer2 or 3 Ping and Layer 2 or 3 Traceroute for connectivity and Fault Management and Must support multicast Traceroute or equivalent feature		
3.4	Should support SNMP and syslog Notification for MAC addition, deletion and movement across ports		
3.5	Should support multisession Mirroring with minimum 4 session		
3.6	Should support Private VLAN		
<b>4. Quality of Service (QoS) Features</b>			
4.1	switch should support TWAMP or IP SLA TWAMP Responder or equivalent functionalities		
4.2	Should support Diffserv –RFC 2474, RFC 2475 RFC 2597 and RFC 2598 and RFC 2598		

4.3	Switch should support eight hardware queues per port.		
4.4	Switch should support Auto Smartports Macro or equivalent that provide automatic configuration profiles as devices connect to the switch port, allowing auto-detection and plug and play of the device onto the network		
<b>5. Security Features</b>			
5.1	Switch should be scalable to support minimum 500 Hardware		
5.2	switch should support Kerberos or integrated solution		
<b>6. Management Features</b>			
6.1	Should support RS232 or OOB Ethernet management port and USB or External Compact Flash slot or equivalent memory slot		
6.2	Should support scheduled archiving / uploading of configuration and system log to a central server		
6.3	Switch shall be able to do dynamic actions based on scripting using system events through CLI or centralized network		
6.4	switch should support Call Home or equivalent feature to proactively notify OEM TAC with support logs / tech support data in case of technical faults (functionalities support accepted with Centralized NMS)		
6.5	Switch should be able to do Role based Access Control and Roles shall also be configurable through NMS and NAC centrally for all wired and wireless products		
6.5	Should be manageable by SSH,RMON, SNMP and HTTP/s		
<b>7.OEM</b>			
7.1	The OEM should be among the top 10 entities in the business of wired and wireless LAN infrastructure (Asia Pacific or Worldwide), as evidenced in the two most recent reports published by Gartner/IDC/Forrester, as on the date of publication of the NIT. (provide supporting documentation in this regard)		
7.2	Switch be covered with onsite warranty with direct replacement from OEM depot in India		
7.3	OEM should have toll free number in India for Technical Assistance and support calls		

**B. 8 Port Network Switch Required Qty. 05**

**Offered Make** ..... **Offered Model** .....

		Access Switches - 8x10/100/1000 PoE Ethernet Ports with 2x1G Copper and 2x1G SFP uplink ports	
<b>S. No.</b>	<b>Required Minimum Specification</b>	<b>Compliance (Yes/ No)</b>	<b>Remarks</b>
1	<b>General Features</b>	The switch should support a minimum of 8 x 10/100/1000 Gigabit POE Ethernet Ports.	
2		The switch should support a minimum of 2 x 1G copper and 2 x 1G SFP port with populated Uplinks modules	
3	<b>Performance and Scalability</b>	The switch should support Forwarding bandwidth of 12 Gbps	
4		The switch should have Packet Forwarding Rate of 17 Mpps	
5		The switch should support 4000 VLAN IDs	
6	<b>Standards</b>	The switch should support IEEE 802.1D Spanning Tree Protocol	
7		The switch should support IEEE 802.1p	
8		The switch should support IEEE 802.1Q Trunking	
9		The switch should support IEEE 802.1s Multiple Spanning Tree (MSTP)	
10		The switch should support IEEE 802.1w Rapid Spanning Tree (RSTP)	
11		The switch should support IEEE 802.1x	
12		The switch should support IEEE 802.1ab (LLDP)	
13		The switch should support IEEE 802.3ad Link Aggregation Control Protocol (LACP)	
14	<b>Environmental</b>	Reduction of Hazardous Substances (ROHS) 6	
15	<b>Other</b>	The switch to be supplied with necessary rack mount kit	

**C. Indoor Access Point**

**Required Qty. 94**

**Offered Make** ..... **Offered Model** .....

<b>S.No.</b>	<b>Item</b>	<b>Complied (Y/N)</b>	<b>If No, Remark</b>
1.1	Access Points proposed must include radios for 2.4 GHz and 5 GHz with 802.11ac Wave 2 standard with four external antenna		
1.2	Must have a robust design for durability, without visible vents		
1.3	Must include dual band antennas to support both the 2.4GHz and 5GHz operations simultaneously		
1.4	Must have up to 6 dbi gain on external antenna on (2.4 ghz and 5.0 ghz)		
1.5	It is preferred to have required memory and CPU in the access point.		
1.6	High-speed spectrum intelligence across 20-, 40-, and 80-MHz-wide channels to combat performance problems due to wireless interference		
<b>2</b>	<b>802.11AC</b>		
2	Must support 4x4 multiple-input multiple-output (MIMO) with		
	four spatial streams on 5 GHz and 3X3 with three spatial streams on 2.4 Ghz		
2.1	Must support simultaneous 802.11n on both the 2.4 GHz and 5 GHz radios.		
2.2	Must support 802.11ac Wave 2 on the integrated 5-GHz radio		
2.3	Must support data rates up to 450Mbps on 802.11n and 1.7 Gbps on 802.11ac		
2.4	Must support minimum upto 22 dbm of transmit power in both 2.4Ghz and 5Ghz radios.		
<b>3</b>	<b>RF</b>		
3.1	The Wireless AP should have the technology to improve downlink performance to all mobile devices including one-, two-		
	, and three spatial stream devices on 802.11n and 802.11ac.		
3.2	Must support AP enforce load-balance between 2.4Ghz and 5Ghz band.		

3.3	Must incorporate radio resource management for power, channel, coverage hole detection and performance optimization		
3.4	Must have -95 to -100 dB or better Receiver Sensitivity.		
3.5	Must support Proactive Key Caching and/or other methods for Fast Secure Roaming.		
<b>4</b>	<b>Roaming</b>		
4.1	Must support Management Frame Protection.		
<b>5</b>	<b>Security</b>		
5.1	Should support locally-significant certificates on the APs using a Public Key Infrastructure (PKI).		
5.2	Should support Rogue Detection and Containment for both radio		
5.3	Access Points must support a distributed encryption/decryption model.		
<b>6</b>	<b>Encryption</b>		
6.1	Access Points must support CAPWAP Standard or equivalent		
6.2	Must support the ability to serve clients and monitor the RF environment.		
<b>7</b>	<b>Monitoring</b>		
7.1	AP model proposed must be able to be both a client-serving AP and a monitor-only AP for Intrusion Prevention services.		
<b>8</b>	<b>Flexibility</b>		
8.1	Must be plenum-rated (UL2043).		
8.2	Must support 16 WLANs per AP for SSID deployment flexibility.		
8.3	Must continue serving clients when WAN link to controller is back up again, should not reboot before joining		
8.4	Must support Controller-based and standalone(autonomous) deployments		
8.5	Should support Local authentication at the AP level in case of WAN outage		
8.6	Must support telnet and/or SSH login to APs directly for troubleshooting flexibility.		
<b>9</b>	<b>Operational</b>		
9.1	Must support Power over Ethernet, local power (DC Power), and power injectors.		
<b>10</b>	<b>Power</b>		
10.1	Must operate at 3x3 or higher with 802.3af PoE is the source of power		



10.2	802.11e and WMM		
<b>11</b>	<b>Quality of Service</b>		
11.1	Wi-Fi Alliance Certification		
11.2	Must support Reliable Multicast to Unicast conversion to maintain video quality at AP level		
11.3	Must support QoS and Video Call Admission Control capabilities.		
11.4	Access Point should 802.11 DFS certified		
11.5	An access point must include a standard OEM provided Mounting brackets for mounting on Ceiling or Roof top.		

**D. Outdoor Access Point Required Qty 26**

**Offered Make** ..... **Offered Model** .....

Sr. No.	Specification	Complied (Y/N)	If No, Remark
1	Outdoor 802.11ac AP should have dual radios to support 2.4 GHz and 5 GHz concurrent users with 802.11 a/b/g/n/ac wave 1 capability. AP must support 3x3 MIMO with 3 spatial streams		
2	Should be ready for both pole or wall mount. Required mounting accessories to be provided.		
3	Should have RJ-45 auto-sensing 10/100/1000 Mbps PoE(802.3af/at) port and a console port.		
4	Should be Wi-Fi alliance certified for interoperability with all IEEE 802.11a/b/g/n/ac client devices.		
5	Should have IP67 compliant with operating temperature in the range of 0°C to 55°C.		
6	Should support up to 16 SSID/VSC profiles per radio and each profile shall be independently configurable for authentication,		
7	Should support simultaneous detection & prevention of wireless threats on 2.4GHz & 5GHz frequency bands.		
8	Should provide L2 wireless client isolation		
9	Should support auto-selection of RF channel and transmit		
10	Should support SNMP, CLI, and web-based management		
11	Should support packet capture for Ethernet and IEEE 802.11		
12	Should support data rates up to 300 Mbps		
13	Should support either of wireless operation modes: client access, local mesh, or packet capture		
14	Should support self-healing, self-optimizing local mesh		

	extending network availability to areas without an Ethernet		
15	Should support both centrally controlled mode (configured and updated via wireless controller) and autonomous mode (without		
16	Should support L2 and L3 controller discovery		
17	Should be able to support PoE, DC powering option		
18	Should be able to support Band select		
19	Access points should have antitheft mechanism. Each AP should be equipped with steel wire mesh enclosure with		
20	Should be able to support Mesh functionality		
21	Must support minimum of 30 dbm of EIRP in both 2.4Ghz and 5Ghz radios. And should follow the local regulatory Norms. Beamforming gain will not be considered in calculating EIRP.		
22	Including OEM Power adaptor		

**E. Wireless Controller Required Qty. 01**

**Offered Make** ..... **Offered Model** .....

S. No.	Items	Complied (Y/N)	If No, Remark
1	The controller shall have 10 Gb x 2 ports		
2	The controller shall support 400 access points without		
3	Shall support 10,000 users from day one and shall support 150 AP License from day 1		
4	Shall support 1+1, N+1, N+N redundancy models		
	<b>Management Features</b>		
5	Shall support spectrum analysis from day one - to detect and mitigate non Wi-Fi interference.		
6	Controller/Solution should have basic device profiling capabilities.		
7	Shall support band navigation/band select functionality		
8	Shall support VLAN pooling which ensures assignment of VLANs to SSID.		
9	Shall support AP grouping to enables an admin to easily apply AP-based or radio-based configurations to all the AP that are in the same group.		
10	Controller should support deep packet inspection for all user traffic across Layer 4-7 network to analyses information about applications usage, peak network usage times for all access points from day one in a central and local switching mode. Shall support integrated system of detection for wireless intrusion from day one.		

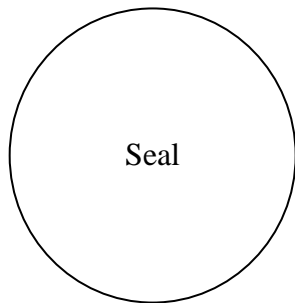
11	Wireless Controller should support Rogue AP classification, <u>detection &amp; containment</u>		
12	WLC should have standard WIPS signatures. Wireless centralized management system should be integrated with our existing Network access control.		
	<b>Performance features</b>		
13	Shall support layer 3 roaming and fast roaming		
14	Shall support client load balancing based on sessions and traffic load		
15	Shall support bandwidth limiting per SSID		
	<b>LAN Management</b>		
16	Should have Configuration and policy management		
17	Should have Performance monitoring		
18	Should have Reporting and analytics		
19	Should have Security monitoring		
20	Should have Troubleshooting feature		
21	Should have Web-Based Interface		
22	Should have Network Discovery		
23	Should have Detailed AP Status		
24	Should have Station Troubleshooting		
25	Should have Policy Configuration		
26	Should have Security Monitoring		
27	Should have 802.11 Packet Capture		
28	Should have Device Identification		
29	Should have Reporting tool		
30	Should have AP and Radio Status		
31	Should have Rogue & Threat Overview		
32	Should have Most Recent Alarms		
33	Should have Station Information		
34	It should be possible to drill down to individual AP station(s) for troubleshooting and proactive station monitoring, alerting on errors, rates, signal levels		
35	It should be possible to Assign and configure newly discovered Wireless APs with default or pre-selected policies & Configuration templates applied to individual or AP groups		
36	Solution should support Layer 2 and Layer 3 roaming		
37	It should be possible to locate function in map showing station location & Use signal from multiple APs for location identification & should also display station/rogue details		
38	Wireless Solution should support techniques for automation of configuration and service provisioning & also simplify adds, moves, and changes of authenticated and authorized network endpoints		
39	Supports complete AAA authentication, including 802.1x, as primary or backup to a centralized AAA server		
40	WMS Software should be installable on an VM environment or appliance		

41	Solution should support Troubleshooting tools, packet capture and reports to resolve connectivity and performance		
42	Allows automated deployment of new software image to one or more APs, or groups of APs for centralized management through controller		
43	Customizable view listing security events by type, detected by APs, with time detected, mac address of device and SSID		
44	Web access (https) for configuration, SNMP v1, v2c, v3		
45	Syslog support for system monitoring		

**F. Transceiver**

<b>Optical Transceiver – 1/10G Base SR – Module Required Qty 10</b>		
<b>Offered Make</b> ..... <b>Offered Model</b> .....		
<b>Generic Requirements</b>	<b>Complie</b>	<b>If No,</b>
	<b>(Y/N)</b>	<b>Remark</b>
Bidder should provide a transceivers meeting the following requirements as a minimum:		
Transceiver shall support Multimode 1 Gbps communication		
Must be from the same OEM for switching solution		
Operating Temperature: 0° C to +40° C (32° F to 104° F)		
Operating Humidity: 10% to 93% non-condensing		

Date:



Place:

Authorized Signatory:

Name:

Designation:

Contact No.:

**ANNEXURE –VI****COMPANY DETAILS**

<b>Name of the Party</b>		
<b>Date of Incorporation / Establishment</b>		
<b>PAN Number</b>		
<b>GST Registration Number</b>		
<b>Bank Details</b>	<b>Account Number</b>	
	<b>IFS Code</b>	
	<b>Bank Name</b>	
	<b>Branch Name</b>	
<b>Office Address for Postal Communication</b>		
<b>Authorized Signatory Details</b>	<b>Name</b>	
	<b>Designation</b>	
	<b>Email</b>	
	<b>Phone</b>	
<b>Details of Contact other than Authorized Signatory</b>	<b>Name</b>	
	<b>Designation</b>	
	<b>Email</b>	
	<b>Phone</b>	

**Signature and Seal of the Tenderer:**

**Name in Block Letter:**

**Designation:**

**Contact no.**

**Date:**