



भारतीय प्रौद्योगिकीसंस्थानमद्रासचेन्ने 600 036  
**INDIAN INSTITUTE OF TECHNOLOGY MADRAS Chennai**  
**600 036**



भंडार एवं क्रय अनुभाग  
**STORES & PURCHASE SECTION**

**Email: adstores@iitm.ac.in**

दूरभाष: (044) 2257 8285 / 8286 / 8287 / 8288 फ़ैक्स: (044) 2257 8292  
Telephone : (044) 2257 8285/8286/8287/8288 FAX: (044)  
2257 8292  
GSTIN: 33AAAI3615G1Z6

**G. Chitrapavai**  
**Deputy Registrar (Stores & Purchase)**

**Dated : 05.07.2019**

**Tender No. IITM/SPS /CCE/VC Studios /007/2019-20**

**Due Date: 25.07.2019**  
**before 03.00 pm**

Dear Sirs,

On behalf of the Indian Institute of Technology Madras, Tenders are invited for the

## Supply and installation of “Multi-Point Control Unit- MCU”

Confirming to the specifications enclosed.

Tender Documents may be downloaded from Central Public Procurement Portal <https://etenders.gov.in/eprocure/app> Aspiring Bidders who have not enrolled / registered in e-procurement should enroll / register before participating through the website <https://etenders.gov.in/eprocure/app>. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at “**Help for contractors**”. [Special Instructions to the Contractors/Bidders for the e-submission of the bids online through this e-procurement Portal”].

Tenderers can access tender documents on the website (For searching in the NIC site, kindly go to Tender Search option and type ‘IIT’. Thereafter, Click on “GO” button to view all IIT Madras tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website <https://etenders.gov.in/eprocure/app> as per the schedule attached.

**No manual bids will be accepted.** All quotations both Technical bid and price bid should be submitted in the E-procurement portal.

1	<b>LAST DATE for receipt of Tender</b>	<b>:</b>	<b>25.07.2019 before 03.00 p.m</b>
	<b>Date &amp; Time of opening of Tender</b>	<b>:</b>	<b>26.07.2019 before 04.00 p.m</b>
	<b>Pre bid meeting :</b>		<b>Date and time : 15.07.2019 @ 04.00 pm</b> <b>Venue : 2rd floor, Conference Room, Administration Building, IIT Madras</b> Doubts if any on the specifications, tender conditions etc. may be raised and get clarified during the pre-bid meeting for the above tender
			As per the directives of Department of Expenditure, this tender document has been published on the Central Public Procurement Portal URL: <a href="https://etenders.gov.in/eprocure/app">https://etenders.gov.in/eprocure/app</a>

<b>A</b>	<b>Submission of Tender</b>	<p>: The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.</p> <p>More information useful for submitting online bids on the CPP Portal may be obtained at: <a href="https://etenders.gov.in/eprocure/app">https://etenders.gov.in/eprocure/app</a></p> <p>Both Technical Bid &amp; Price Bid should be submitted separately in online CPP portal as per the specified format only. Right is reserved to ignore any tender which fails to comply with the above instructions.</p> <p><b>No manual bid submission is entertained.</b></p>
<b>B</b>	<b>Instructions for online bid submission</b>	<p>: <b>REGISTRATION</b></p> <ul style="list-style-type: none"> <li>i. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal <u>URL:https://etenders.gov.in/eprocure/app</u> by clicking on “Online Bidder Enrollment”. Enrolment on the CPP Portal is free of charge.</li> <li>ii. As part of the enrolment process, the bidders will be required to choose a unique user name and assign a password for their accounts.</li> <li>iii. 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.</li> <li>iv. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.)</li> <li>v. <a href="https://etenders.gov.in/eprocure/app?component=%24DirectLink&amp;page=DSCInfo&amp;service=direct&amp;session=T">https://etenders.gov.in/eprocure/app?component=%24DirectLink&amp;page=DSCInfo&amp;service=direct&amp;session=T</a> with their profile.</li> <li>vi. 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.</li> <li>vii. Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / eToken.</li> </ul>
<b>Guidelines, Terms and Conditions of Tender</b>		
<b>C</b>	<b>Searching for tender documents</b>	<p>: i. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.</p>

		<ul style="list-style-type: none"> <li>ii. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective <b>“My Tender”</b> folder. This would enable the CPP Portal to intimate the bidders through SMS / email in case there is any corrigendum issued to the tender document.</li> <li>iii. The bidder should make a note of the <b>unique Tender ID</b> assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.</li> </ul>
<b>D</b>	<b>Preparation of bids</b>	<ul style="list-style-type: none"> <li>i. Bidder should take into account any corrigendum published on the tender document before submitting their bids.</li> <li>ii. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.</li> <li>iii. Bidder, in advance, should prepare the bid documents to be submitted as indicated in the tender document / schedule and generally shall be in PDF / XLS formats as the case may be. Bid documents may be scanned with 100 dpi with black and white option.</li> <li>iv. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, GSTIN Details, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use <b>“My Documents”</b> area available to them to upload such documents. These documents may be directly submitted from the <b>“My Documents”</b> area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.</li> </ul>
<b>E</b>	<b>Submission of bids</b>	<ul style="list-style-type: none"> <li>i. Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission date and time. Bidder will be responsible for any delay due to other issues.</li> <li>ii. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.</li> <li>iii. Bidder has to transfer the EMD as applicable by online mode only. The EMD should be transferred on or before the closure date and time of the tender. If the EMD is not transferred before the closure date and time, the tender will be summarily rejected. The EMD transferred to IIT Madras (as per IIT Madras Account details given in Clause 1(I)) and the proof of transfer has to be submitted in the bid. Otherwise, the tender will be summarily rejected.</li> <li>iv. A standard BOQ format has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. Bidders are</li> </ul>

			<p>required to download the BOQ file, open it and complete the detail with their respective financial quotes and other details (such as name of the bidder). If the BOQ file is found to be modified by the bidder, the bid will be rejected.</p> <p>v. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.</p> <p>vi. The <b>Tender Inviting Authority (TIA)</b> will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders due to local issues.</p> <p>vii. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.</p> <p>viii. Upon the successful and timely submission of bids, the portal will give a successful bid submission message &amp; a bid summary will be displayed with the bid no. and the date &amp; time of submission of the bid with all other relevant details.</p> <p>ix. Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.</p>
<b>F</b>	<b>Assistance to bidders</b>	:	<p>i. Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.</p> <p>ii. Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is [0120-4200462, 0120-4001002, 0120-4001005]</p>
<b>G</b>	<b>General Instructions to the Bidders</b>	:	<p>i. The tenders will be received online through portal <a href="https://etenders.gov.in/eprocure/app">https://etenders.gov.in/eprocure/app</a>. In the Technical Bids, the bidders are required to upload all the documents in pdf format.</p> <p>ii. Possession of a Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card/e-token in the company's name is a prerequisite for registration and participating in the bid submission activities through <a href="https://etenders.gov.in/eprocure/app">https://etenders.gov.in/eprocure/app</a></p> <p>iii. Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site <a href="https://etenders.gov.in/eprocure/app">https://etenders.gov.in/eprocure/app</a> under the "Information about DSC".</p>
<b>H</b>	<b>Opening of the tender</b>	:	<p>The online bid will be opened by a committee duly constituted for this purpose. Online bids (complete in all respect) will be opened as mentioned at "Annexure: Schedule". Bid received without EMD details (if present) will be rejected straight way. The technical bid will be opened online first and it will be examined by a technical committee (as per the eligibility criteria, specification and requirement). The financial offer/bid will be opened only for the offer/bid which technically meets all requirements as per the specification.</p>

I	<b>Earnest Money Deposit (EMD)</b>	:	<p>i. <b>EMD for Rs. 60,000/- should be transferred to the following bank account by NEFT/RTGS on or before 25.07.2019 before 03.00 pm.</b></p> <p>Name : Registrar IIT Madras  Bank : State Bank of India  Account No. : 10620824305  Branch : IIT MADRAS  IFSC : SBIN0001055</p> <p>ii. Performance guarantee @ 5% of the item value quoted has to be submitted by way of DD/ bank guarantee <b>by the successful bidder only.</b></p> <p>iii. The EMD will be returned to unsuccessful tenderer only after the tenders are finalized.</p> <p>iv. The EMD should not send through DD.</p>
J	<b>Marking on Technical Bid</b>	:	<p>i. The technical Specification for this tender is given in <b>Annexure A</b>. The tenderer shall go through the specification and submit the technical bid in <b>Annexure B</b>.</p> <p>ii. The Technical bid should be submitted in the proforma given as per <b>Annexure B in pdf format only through online (e-tender). No manual submission of bid is entertained.</b></p> <p>iii. All technical bid pages should have the page-wise <b>heading as “Technical Bid” and page no.</b> in all pages with seal and signature of authorized signatory. The total no. of pages should be mentioned at the last page of the documents.</p> <p>iv. The technical bid should consist of all technical details along with catalogue/brochure and other technical, commercial terms and conditions.</p>
K	<b>Marking on Price Bid</b>	:	<p>i. Price bid should be submitted in the prescribed proforma as per BOQ in XLS format as per <b>Annexure C</b> through e-tender only. <b>No manual submission of bid is entertained.</b></p> <p>ii. <b>The price bid should clearly indicate the item-wise list of the hardware items, software items &amp; licenses and their validity period which are mentioned in the technical bid. The price bid should also clearly indicate the total price of all the above items.</b></p>
<p><b>2 Preparation of Tender:</b></p> <p>a) You should quote your product as per our specification requirements by mentioning our requirements and your offer side by side and the rate should be in total as per our requirements. We will not make any calculation if you have mentioned the rates of items separately.</p> <p>b) The offer/bids should be submitted through online only in two bid system i.e. Technical Bid and Price Bid separately.</p> <p>c) The online technical bid will be first opened and evaluated. In the primary screening, technical bid of only those who satisfy the <b>Vendor Eligibility Criteria and technical evaluations</b> as per <b>ANNEXURE – A</b> will be evaluated and those who qualify in both will alone be called for demonstration. The Price bid of only those bidders whose vendor eligibility criteria, technical bid and demonstration are found to be qualified alone will be opened by the Committee.</p>			

3	<p><b>Signing of Tender:</b></p> <p>The Tender is liable to be rejected if complete information is not given therein or if the particulars and date (if any) asked for in the schedule to the Tender are not fully filled in or not duly signed/authenticated. Specific attention is drawn to the delivery dates and terms and conditions enclosed herewith. <b>Each page of the bids required to be signed and bears the official seal of the tenderers.</b></p> <p>If the application is made by a firm in partnership, it shall be signed (with seal) by all the partners of the firm above their full typewritten names and current addresses or alternatively by a partner holding power of attorney for the firm in which case a certified copy of the power of attorney shall accompany the application. A certified copy of the partnership deed along with current addresses of all the partners of the firm shall also accompany the application.</p> <p>If a limited company or a corporation makes the application, it shall be signed by a duly authorized person holding power of attorney for signing the application, in which case a certified copy of the power of attorney shall accompany the application. Such limited company or corporation may be required to furnish satisfactory evidence of its existence. The applicant shall also furnish a copy of the Memorandum of Articles of association duly attested by a Public notary.</p>
4	<p><b>Period for which the offer will remain open:</b></p> <ul style="list-style-type: none"> <li>i. Firms tendering should note the period for which it is desired that their offers should remain open for acceptance. If the firms are unable to keep their offers open for the specified period they should specifically state the period for which their offers are being provided, however, the day up to which the offer is to remain open being declared closed holiday for the Indian Institute of Technology Madras, the offer shall remain open for acceptance till the next working day.</li> <li>ii. Quotations qualified by such vague and indefinite expressions such as 'subject to immediate acceptance', 'subject to prior sale' will not be considered.</li> <li>iii. The Tender shall remain open for acceptance/validity till: <b>120 days from the date of opening of the tender</b></li> </ul>
5	<p><b>Prices:</b></p> <ul style="list-style-type: none"> <li>i. The prices quoted must be net in INR only as per the technical specification mentioned in Annexure A and must include all packing, delivery and installation charges and other statutory levies. <b>The prices quoted by the Tenderer should be inclusive of GST and other statutory levies</b> (and should be clearly stated to be so) which will be paid by the Purchaser/if legally leviable at the rate ruling on the date of supply as specified in the Acceptance of Tender. <b>The percentage of tax etc. included in the price should be indicated in clear terms. If the inclusive price is not given, we will treat your offered rate as inclusive rate and comparison be made with others.</b> If at the time of comparison of your offer without taxes etc. is happen to be lowest, you are bound to supply as per the offered rate, i.e. without taxes etc.</li> <li>ii. <b>Discount, if any, should be indicated prominently.</b></li> </ul>
6	<p><b>No Advance Payment will be made for Indigenous purchase.</b></p> <p><b>Import Payment:</b> Normally for more than USD 2001, payment will be made by Letter of Credit only. 90% payment will be made initially by Letter of Credit and balance 10% will be paid only after satisfactory installation and commissioning on the same LC. <b>Demurrage charges (if any) will be deducted from the balance 10%.</b> Initial opening of Letter of Credit charges will be borne by us. If any amendment is requested for, the charges for the amendment will be borne by the supplier only. Hence, care should be taken in all respects before opening of Letter of Credit.</p>
7	<p><b>Terms and conditions :</b></p> <p>Failure to comply with any of the instructions stated in this document or offering unsatisfactory explanations for noncompliance will likely to lead to rejection of offers.</p>
8	<p><b>Bid evaluation and Award of Contract :</b></p> <ul style="list-style-type: none"> <li>(i) The technical bid of the tenderers will be opened first and the vendor eligibility criteria and technical documents submitted in support of technical bid will be evaluated.</li> </ul>

	<p>(ii) The bidder(s) who have qualified in both vendor eligibility criteria and technical submission will alone be called for demonstration.</p> <p>(iii) Demonstration will be a part of technical bid and the bid(s) of the tenderers who have qualified on vendor eligibility criteria, technical evaluation and demonstration will alone be considered for opening of price bid</p> <p>(iv) The L1 among the technically qualified tenderers will be awarded with the contract.</p>
<b>9</b>	<p><b>Right of Acceptance:</b> IIT MADRAS reserves the right to reject the whole or any part of the Tender without assigning any reason or to accept them in part or full.</p>
<b>10</b>	<p><b>Communication of Acceptance:</b> Acceptance by the Purchaser will be communicated by Post, if required, and the Company's acceptance communicated to us formally in writing.</p>
<b>11</b>	<p><b>Warranty: Warranty should be in clear terms. Indicate price change (if any) for extra year warranty in percentage. Type of warranty without indication of commercial terms should also be mentioned in the technical bid.</b></p> <p><b>1.0. Onsite Warranty:</b> The Supplier should confirm that the Products supplied under the tender are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Tender.</p> <p><b>Warranty for the supplied product should remain valid for a minimum period of 36 months after installation. In case of failure in functionality of the supplied equipment the warranty should ensure that alternate equipment is made available by the supplier at no cost within one working day of notification if the existing supplied equipment requires warehouse service.</b></p> <p><b>In addition upon receipt of registering a complaint, the Supplier should with all reasonable speed, repair or replace the defective Product or parts thereof, without any additional costs within 7days of notification.</b></p> <p><b>2.0. Installation:</b> The equipment has to be installed or commissioned by the successful bidder within 20 days from the date of receipt of the item at site of IIT Madras.</p>
<b>12</b>	<p><b>Delivery Period:</b> The bidder should indicate clearly the time required for delivery of the item. In case there is any deviation in the delivery schedule, liquidated damages clause will be enforced or penalty for the delayed supply period will be levied.</p> <p><b>Non delivery of items</b> will lead to cancellation of Purchase Order without any notice. In addition, action may be taken for removing them from our mailing list.</p>
<b>13</b>	<p><b>Delivery: The item should be delivery to CCE Office, IIT Madras, Chennai-36.</b></p>
<b>14</b>	<p>In terms of Rule 173 (iv) of General Financial Rules, 2017 the bidder shall be at liberty to question the bidding conditions, bidding process and/or rejection of its bid.</p>
<b>15</b>	<p><b>Conditions of contract:</b> Tenderer should quote on the basis of the conditions referred to in Para of the invitation to tender and tender papers. In case these terms and conditions are not acceptable to the tenderer, he should specifically state the deviation(s) there from in the body of the tender.</p>
<b>16</b>	<p><b>Transit Insurance:</b> The Purchaser will not pay separately for Transit Insurance.</p>
<b>17</b>	<p><b>Tenderer shall submit along with his Tender:</b> Name and full address of the Banker and their swift code and PAN No. and GSTIN number.</p>
<b>18</b>	<p><b>GUARANTEE:</b> The tenderer has to declare that the goods sold to the buyer under this contract shall be of the best quality and workmanship and shall be strictly in accordance with the specifications. Tenderer should indicate the period for which the said goods/articles would continue to confirm to the specifications.</p>
<b>19</b>	<p><b>Jurisdiction:</b> All questions, disputes, or differences arising under, out of or in connection with the contract, if concluded, shall be subject to the exclusive jurisdiction at the place from which the acceptance of Tender is issued.</p>

20	<p><b>Force Majeure:</b> The Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.</p> <ul style="list-style-type: none"> <li>• For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.</li> <li>• If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.</li> </ul>
21	<p><b>Risk Purchase Clause:</b> In event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from the other source on the total risk of the supplier under risk purchase clause</p>
22	<p><b>Vendor Eligibility Criteria:</b> The bidder shall furnish a covering page indicating item wise compliance to all the Prequalification criteria. Bidder Prequalification Criteria are as given below:</p> <ol style="list-style-type: none"> <li>1. The bidder should be an OEM or authorized dealer of an OEM. If the bidder is a dealer, necessary authorization letter from the concerned OEM in this regard should be submitted.</li> <li>2. The OEM should have sold atleast five MCUs in the last three financial years with the same or better configuration of the product which is offered now in the current tender. Copy of the purchase order issued in the name of OEM should be submitted for the above sales.</li> <li>3. The local partner/supplier/dealer should have experience of having sold and installed at least <b>three on premises (Hardware based) standalone MCUs of any configuration</b> in the last five financial years. Copies of Purchase order/work order, Installation report should be submitted. Clear indication of the make and model should be given in the above mentioned documents.</li> <li>4. The bidder should provide service support in Chennai and should have registered office in south India. Proof of registered office should be provided.</li> </ol>
23	<p><b>Deviations:</b> Any deviations in terms of payment terms, delivery period, warranty etc should be mentioned clearly with suitable justification by the vendor in a separate sheet under the heading '<b>Deviations</b>'. This sheet should be included in the technical proposal. If no deviations are mentioned, then it will be assumed that the vendor has accepted entirety as mentioned in the tender document and is bound to deliver the same.</p>
24	<p><b>Demonstration:</b> Only the bidders who qualify in eligibility criteria and the technical submission (technical Bid) as per the technical requirement of the tender alone will be called for demonstration and should provide a fully integrated demo of the equipment (same make and model) that is being offered and also show the capability of their equipment to integrate and function as required with our existing VC systems. If the bidder fails to provide successful demo as required or fails to participate in the demo, the technical bid of that bidder(s) will be rejected/disqualified for technical noncompliance. (Please refer Annexure - F) The Date and venue for the demo will be intimated. Time slots for each bidder will be given to provide the demonstration. The following only will be provided for the demo:</p> <ol style="list-style-type: none"> <li>1. Space</li> <li>2. Stable internet connectivity with dedicated public IP address</li> <li>3. UPS socket</li> </ol>

Yours Faithfully,

sd/-  
Deputy Registrar  
(Stores & Purchase Section)



## **ACKNOWLEDGEMENT**

It is hereby acknowledged that I/We have gone through all the points listed under “Specification, Guidelines, Terms and Conditions” of tender document. I/We totally understand the terms and conditions and agree to abide by the same.

**SIGNATURE OF TENDERER ALONG WITH  
SEAL OF THE COMPANY WITH DATE**

# ANNEXURE A

## TECHNICAL SPECIFICATIONS

### Specification of the Multi-point Control Unit (MCU):

TECHNICAL SPECIFICATIONS	
<b>I. MCU System Specifications</b>	
1.	The MCU should be dedicated <b>standalone hardware equipment</b> . The hardware and all required software should be supplied and supported by the bidder from day one.
2.	The entire hardware to support the required capacity and specifications should be supplied as one unit.
3.	The MCU should support 30 calls (ports) at Full HD 1080p30fps (transmit and receive) at <b>4 Mbps per port or more</b> .The Same MCU should be capable of working(transmit and receive) with a resolution of <b>720p 30fps</b> under which condition it should support 60 calls (ports) and 120 calls (ports) in <b>SD</b> . Option should be available to increase the number of calls (ports) up to 40 under Full HD (1080p30fps) resolution at a later stage with no additional hardware but only a software upgrade. These calls (ports) should also be able to support equivalent SD ports based on their resolution. It should be possible to run 15 simultaneous meetings using these 30 ports at 1080p 30fps (if upgraded 40 ports) in any combination. For example @1080p (as per current requirement): Eg 1: 10 calls in conf 1 and 10 calls in conf 2 and 10 calls in conf 3 simultaneously Eg 2: 5 simultaneous conferences each with 6 calls Eg 3: 10 simultaneous conferences each with 3 calls Eg 4: 30 Calls in Single conference
4.	The MCU should support flexible resource allocation so that if SD calls (ports) join in a conference then it should consume a SD port and not a HD 720p or 1080p port.
5.	The Proposed MCU should be able to combine Full HD, HD 720p and SD in the same conference without degrading the full HD resolution.
6.	The MCU should support calls from room based video conferencing endpoints, desktops, laptops, ipads present on the internal and external networks of the IIT <b>Madras</b> . The MCU should interoperate with endpoints and MCUs of all OEMs.
<b>II. Video and Content Standards</b>	
7.	It must be possible to see at least 16 sites simultaneously in a single layout on the <b>display</b> . The MCU should support a minimum of 10 such preset layouts.
8.	<ul style="list-style-type: none"> <li>• The MCU should Support H.323 and SIP standards for communication in all the ports (calls).</li> <li>• The MCU should support H.261, H.263, H.263+/ H.263++, H.264, and H.264 SVC/H.264 High Profile.</li> <li>• The MCU should support H.239 and BFCP Protocols for content sharing over H.323 and SIP calls to up to 1080p30 resolution.</li> <li>• The MCU should support encryption in SIP and H.323 modes.</li> <li>• The MCU should be able to integrate with call control system using SIP and H.323.</li> </ul>
<b>III. Audio standard and features</b>	
9.	Audio 1.G.711,G.722,64 kbps MPEG 4 and /or G.722.1 2.Echo cancellation 3.Automation noise suppression 4. Automatic gain control. 5.Adaptive post filtering and standard based packet loss recovery
<b>IV. IP Protocols</b>	

10.	<ul style="list-style-type: none"> <li>The MCU must have 2 dedicated full duplex manual and auto sensing Ethernet interfaces for diverse IP communication and also should support up to 1000 Mbps on each.</li> <li>Dedicated USB connection for maintenance and upgrade.</li> <li>The MCU should support Internet protocol versions IPv4 and IPv6, whenever relevant Hardware upgrades are done at a later stage it should be supported by all the Hardware of the MCU.</li> </ul>
11.	The MCU should support Intranet and Internet in all the above mentioned ports (calls). All the required hardware should be supplied from day one and cloud based solutions will not be accepted.
<b>V. MCU Features</b>	
12.	Video conference devices and it's MAC addresses should not be registered with the MCU for any operation
13.	The MCU should accept far end calls and work with all features as required even if the host ( IIT Madras) is not connected. IIT Madras (Host) should be able to come out of a conference involving far end locations after initiating the same without disturbing the same and reconnect whenever required.
14.	The MCU should support scheduling of conferences
15.	The MCU should support Dial-In and Dial-out feature in all the above mentioned ports (calls).
16.	The MCU should support 16:9 and 4:3 aspect ratio.
17.	The MCU should support a mix of resolutions in both voice Activated mode and continuous presence mode.
18.	The MCU should support NAT configured public IP address for Dial – In and Dial – Out

**Special Terms & Conditions:**

- All the hardware and software licenses that are provided along with the equipment should be clearly specified in the technical bid along with their validity which should be up to the life of the equipment in the **format given in Table - 3**. No additional licenses/hardware should be required to meet the specifications given in the tender for the entire life of the equipment.
- The commercial bid should clearly indicate item wise list of the hardware items and software items. The items wise list mentioned for hardware and software licenses in technical bid should be clearly given in price bid as line items. No items should be combined.**
- Network requirements details (of ports, TCP, UDP etc) should be provided along with the technical bid without which the bid will not be considered for next level.**
- Templates/formats that are created on your own will be summarily rejected. Only the provided template/formats have to be used in your bids.**
- Do not quote for any optional items or additional items.

## Annexure – B

### Vendor eligibility criteria and Technical bid submission format

Table - 1

VENDOR ELIGIBILITY CRITERIA				
S.No.	Description	Comply Yes/ No.	Page No. of the document	Remarks
1.	The bidder should be an OEM or authorized dealer of an OEM. If the bidder is a dealer, necessary authorization letter from the concerned OEM in this regard should be submitted.			
2.	The OEM should have sold at least five MCUs in the last three financial years with the same or better configuration of the product which is offered now in the current tender. Copy of the purchase order issued in the name of OEM should be submitted for the above sales.			
3.	The local partner/supplier/dealer should have experience of having sold and installed at least <b>three on premises (Hardware based) standalone MCUs of any configuration</b> in the last five financial years. Copies of Purchase order/work order, Installation report should be submitted. Clear indication of the make and model should be given in the above mentioned documents.			
4.	The bidder should provide service support in Chennai and should have registered office in south India. Proof of registered office should be provided.			

## Technical Bid Submission format

**Table – 2**

**(This should be signed by both the OEM and the Vendor)**

Technical Specification compliance statement				
S.No.	Technical Specification	Compliance Yes/ No.	Page No. of the necessary supporting document	Remarks (If any to be filled by the vendor)
<b>I. MCU system Capacity</b>				
1.	The MCU should be dedicated <b>standalone hardware equipment</b> . The hardware and all required software should be supplied and supported by the bidder from day one.			
2.	The entire hardware to support the required capacity and specifications should be supplied as one unit.			
3.	The MCU should support 30 calls (ports) at Full HD 1080p30fps (transmit and receive) at <b>4 Mbps per port or more</b> .The Same MCU should be capable of working(transmit and receive) with a resolution of <b>720p 30fps</b> under which condition it should support 60 calls (ports) and 120 calls (ports) in <b>SD</b> . Option should be available to increase the number of calls (ports) up to 40 under Full HD (1080p30fps) resolution at a later stage with no additional hardware but only a software upgrade. These calls (ports) should also be able to support equivalent SD ports based on their resolution. It should be possible to run 15 simultaneous meetings using these 30 ports at 1080p 30fps (if upgraded 40 ports) in any combination. For example @1080p (as per current requirement): Eg 1: 10 calls in conf 1 and 10 calls in conf 2 and 10 calls in conf 3 simultaneously Eg 2: 5 simultaneous conferences each with 6 calls Eg 3: 10 simultaneous conferences each with 3 calls Eg 4: 30 Calls in Single conference			
4.	The MCU should support flexible resource allocation so that if SD calls (ports) join in a conference then it should consume a SD port and not a HD 720p or 1080p port.			
5.	The Proposed MCU should be able to combine Full HD, HD 720p and SD in the same conference without degrading the full HD resolution.			
6.	The MCU should support calls from room based video conferencing endpoints, desktops, laptops, ipads present on the internal and external networks of the IIT <b>Madras</b> . The MCU should interoperate with endpoints and MCUs of all OEMs.			
<b>II. Video and Content Standards</b>				
7.	It must be possible to see at least 16 sites simultaneously in a single layout on the <b>display</b> . The MCU should support a minimum of 10 such preset layouts.			
8.	<ul style="list-style-type: none"> <li>• The MCU should Support H.323 and SIP standards for communication in all the ports (calls).</li> <li>• The MCU should support H.261, H.263, H.263+/ H.263++, H.264, and H.264 SVC/H.264 High Profile.</li> </ul>			

	<ul style="list-style-type: none"> <li>The MCU should support H.239 and BFCP Protocols for content sharing over H.323 and SIP calls to up to 1080p30 resolution.</li> <li>The MCU should support encryption in SIP and H.323 modes.</li> <li>The MCU should be able to integrate with call control system using SIP and H.323.</li> </ul>			
<b>III. Audio standard and features</b>				
9.	<p>Audio</p> <ol style="list-style-type: none"> <li>G.711,G.722,64 kbps MPEG 4 and /or G.722.1</li> <li>Echo cancellation</li> <li>Automation noise suppression</li> <li>Automatic gain control.</li> <li>Adaptive post filtering and standard based packet loss recovery</li> </ol>			
<b>IV. IP Protocols</b>				
10.	<ul style="list-style-type: none"> <li>The MCU must have 2 dedicated full duplex manual and auto sensing Ethernet interfaces for diverse IP communication and also should support up to 1000 Mbps on each.</li> <li>Dedicated USB connection for maintenance and upgrade.</li> <li>The MCU should support Internet protocol versions IPv4 and IPv6, whenever relevant Hardware upgrades are done at a later stage it should be supported by all the Hardware of the MCU.</li> </ul>			
11.	The MCU should support Intranet and Internet in all the above mentioned ports (calls). All the required hardware should be supplied from day one and cloud based solutions will not be accepted.			
<b>V. MCU Features</b>				
12.	Video conference devices and it's MAC addresses should not be registered with the MCU for any operation			
13.	The MCU should accept far end calls and work with all features as required even if the host ( IIT Madras) is not connected. IIT Madras (Host) should be able to come out of a conference involving far end locations after initiating the same without disturbing the same and reconnect whenever required.			
14.	The MCU should support scheduling of conferences			
15.	The MCU should support Dial-In and Dial-out feature in all the above mentioned ports (calls).			
16.	The MCU should support 16:9 and 4:3 aspect ratio.			
17.	The MCU should support a mix of resolutions in both voice Activated mode and continuous presence mode.			
18.	The MCU should support NAT configured public IP address for Dial – In and Dial – Out			
19.	Technical datasheet in original of the proposed equipment with make and model should be submitted.			
20.	Annexure – D and Annexure – E should be filled by the OEM and the vendor respectively and should be submitted along with the technical bid with the signature.			

Signature of the OEM with seal

Signature of the Vendor with seal

**Technical Bid Submission format**

**Table – 3**

**List of Hardware/Software items**

All the hardware and software licenses that are provided along with the equipment should be clearly specified in the technical bid along with their validity which should be up to the life of the equipment in the **format given in Table - 3**. No additional licenses/hardware should be required to meet the specifications given in the tender for the entire life of the equipment.

S.No	Name of Hardware/Software item	Whether License is required? (Yes/No)	Validity period of the License

**Signature of the OEM with seal**

**Signature of the Vendor with seal**

## SCHEDULE

Name of Organization	Indian Institute of Technology Madras
Tender Type (Open/Limited/EOI/Auction/Single)	OPEN
Tender Category (Services/Goods/works)	Goods/Services
Type/Form of Contract (Work/Supply/ Auction/ Service/ Buy/ Empanelment/ Sell)	Supply
Product Category (Civil Works/Electrical Works/Fleet Management/ Computer Systems)	Supply of Multi-Point Control Unit- MCU
Source of Fund (Institute/Project)	IIT Madras
Is Multi Currency Allowed	No
Date of Issue/Publishing	05.07.2019
Pre – bid Meeting Date and Time	15.07.2019 at 04.00 pm
Last Date and Time for Uploading of Bids	25.07.2019 before 03.00 pm
Date and Time of Opening of Technical Bid	26.07.2019 at 04.00 pm
EMD	Rs.60,000 /-
No. of Covers (1/2/3/4)	2
Bid Validity days (180/120/90/60/30)	120 Days
Address for Communication	The Chairman, Centre for Continuing Education, 3 <sup>rd</sup> Floor, IC & SR Building, Indian Institute of Technology Madras, Chennai – 600 036
Contact No.	For Queries : 044- 22574900, 4904, 5903.
Email Address	<a href="mailto:adstores@iitm.ac.in">adstores@iitm.ac.in</a> ; <a href="mailto:cceoffice@iitm.ac.in">cceoffice@iitm.ac.in</a>



**Annexure – D**

**OEM CERTIFICATION FORM**

Tender No:..... Dated:.....

We are Original Equipment Manufacturers (OEM) of ..... (Name of the company)

Ms. ....(Name of the vendor) is one of our Distributors/Dealers/Resellers/Partners (tick one) for the Multipoint Control Unit (MCU) being quoted and is participating in the above mentioned tender by offering our product model.....(Name of the product with model number).

We being the OEM of the above product, fully take responsibility to provide service and all support required for the full functioning of the MCU offered in this tender until the warranty period is complete.

Name and Signature of the authorized signatory of OEM along

With seal of the company with Date :

## Annexure – E

### **Functionality of Multi-point Control Unit (MCU)**

Tender No:..... Dated:.....

#### Declaration

Vendor Name:

OEM Name:

This is to certify that the proposed MCU model.....(Make and model) will satisfy the specification and requirements as per the tender with the following details:

1. The MCU will support 30 calls @ 1080p as given in the below examples.

Eg 1: 10calls in conf 1 and 10 calls in conf 2 and 10 calls in conf 3

Simultaneously

Eg 2: 5 simultaneous conferences each with 6 calls

Eg 3: 10 simultaneous conferences each with 3 calls.

Eg 4: 30 Calls in Single conference.

2. Video conference device or it's MAC address will not be registered with the proposed MCU for any operation
3. The MCU will accept far end calls and work with all features as required even if the host ( IIT Madras) is not connected
4. The MCU will support calls from room based video conferencing endpoints, desktops, laptops, ipads present on the internal & external network of the IIT Madras. The MCU should interoperate with endpoints of all standards based OEMs
5. The MCU will Support H.323 and SIP standards in a single conference for all the ports (calls)
6. The MCU will support internet and intranet in all the ports (calls) as per the specification.

Signature of the OEM with seal and date

Signature of the Vendor with seal and date

## Annexure – F

### Demonstration Requirements

1. Does it support 30 calls @1080p, 60 calls @720p & 120 calls @480p?
2. Does it support SIP & H.323 in a single conference?
3. Does it support Internet & Intranet calls in a single conference?
4. Does it support calls from Desktop, laptop and mobile phones using software?
5. Does it support Dial - In and Dial - Out in a single conference?
6. Is it possible to view 16 sites in a single layout?
7. Does it work with the NAT configured public IP address?
8. Does it support Voice activated mode and Continuous presence mode?
9. Whether we need to register a VC device's name or IP address or MAC address with the MCU or any server to perform dial in and dial out functions?
10. Is it possible to use the 30 ports (calls) @1080p in 15 simultaneous meetings (as per the example given in the tender document)?
11. Using your MCU how do we find ports (calls) usage in a conference?
12. What are all the network requirements to configure the MCU, dial in, dial out and web control of the MCU?
13. Do you use fixed user or host based licenses used for simultaneous conferences?
14. Using your MCU how do you create 15 different meetings?

Name and signature of the Bidder

Name and signature of the OEM

## Annexure – C

### BOQ

#### PRICE BID FORMAT

<b>Tender No.</b>	<b>IITM/SPS /CCE/VC Studios /007/2019-20</b>
<b>Name of the Item</b>	<b>Multi Conference Unit (MCU)</b>
<b>Name of the Bidder</b>	

<b>Sl.No.</b>	<b>Description</b>	<b>Qty</b>	<b>Unit Cost</b>	<b>GST</b>	<b>Total cost (INR)</b>
1.	Multi-point Control Unit (MCU)	1 No.			
<b>Packing, forwarding and other charges whichever applicable</b>					
<b>Total Amount</b>					

**Note:-**

The price bid should clearly indicate the item-wise list of the hardware items, software items & licenses and their validity period which are mentioned in the technical bid. The price bid should also clearly indicate the line item price of all the items and also the total price.