

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
LIQUID PROPULSION SYSTEMS CENTRE (LPSC-B)  
BANGALORE**

**Tender for Supply and Installation of LED video wall system and AV systems for Director video conference facility LPSCB**

**Bids to be submitted online**

**Tender No.: LPSC-B/Liquid Propulsion Systems  
Centre, Bengaluru/LB202400007701 dated 13-06-2024**

## A. Tender Details

Tender No :	<b>LPSC-B/Liquid Propulsion Systems Centre,Bengaluru/LB202400007701</b>
Tender Date :	<b>13-06-2024</b>
Tender Classification:	<b>GOODS</b>
Purchase Entity :	<b>Liquid Propulsion Systems Centre,Bengaluru</b>
Centre :	<b>LIQUID PROPULSION SYSTEMS CENTRE (LPSC-B)</b>

## Supply and Installation of LED video wall system and AV systemsfor Director video conference facility LPSCB

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### A.1 Tender Schedule

Tender Publish Date :	<b>13-06-2024 17:00</b>
Bid Clarification Due Date :	<b>18-07-2024 14:00</b>
Bid Submission Start Date :	<b>26-06-2024 14:30</b>
Bid Submission Due Date :	<b>25-07-2024 14:00</b>
Bid Opening Date :	<b>25-07-2024 14:30</b>
Price Bid Opening Date :	<b>20-08-2024 14:00</b>

### A.2 Pre-bid Meeting Details

<b>Date :</b>	<b>26-06-2024 10:00</b>
<b>Place :</b>	<b>Refer Annexure-1C</b>
<b>Location :</b>	<b>Refer Annexure-1C</b>

**Centre :**

**LIQUID PROPULSION SYSTEMS CENTRE (LPSC-B),  
BANGALORE, KARNATAKA**

**1.1 A Pre-Bid Meeting is scheduled in online mode prior to the tender due date, so that all necessary clarifications requirements from Service Providers can be addressed.**

**Participation in online Pre-Bid Meeting is mandatory for all Service Providers.**

**Subsequent to online Pre-Bid meeting any clarification requirement from Service**

**Provider will not be considered. Offers from Vendors who have not participated in the online Pre-Bid Meeting will not be considered.**

**1.2. Any clarification on work/activities can be clarified during online Pre-Bid Meeting.**

**2. PROCEDURE FOR PARTICIPATION IN ONLINE PRE-BID MEETING:**

**2.1. The proposed online Pre-Bid meeting will be conducted through Bluejeans / cisco/app/web.**

**2.2. All the prospective Service Providers need to mail to LPSC(B) Purchase intimating their willingness to participate in the online Pre-Bid meeting along with Authorization letter for participation on enterprises letter head. The request for participating in the online Pre-Bid meeting can be sent to LPSCB Purchase up to two hours prior to the start of online Pre-Bid meeting.**

**2.3. Request received by Service Providers to participate in the online Pre-Bid meeting after the prescribed time (of two hours prior to the start of online Pre-Bid meeting) will not be considered.**

**2.4. LPSCB Purchase will authorize the Service Providers who have requested for participation in online Pre-Bid meeting by providing the link and login credentials through mail.**

**2.5. On receipt of link and login credentials for joining online Pre-Bid meeting, the Service Providers are requested to confirm the same to LPSC(B) purchase.**

**2.6. In case any Service Provider who requested for participation in online Pre-Bid meeting (two hours prior to the start of online Pre-Bid meeting) does not receive the link and login credentials through mail, they may kindly contact LPSC(B) Purchase Officer. The details of LPSC(B) Purchase Officer is furnished below:  
Mail; [purchase@lpscb.gov.in](mailto:purchase@lpscb.gov.in)  
Ph; 08025037140/141/171**

**2.7. The participating Service Providers should ensure that they are equipped with necessary AV conferencing equipment and stable network connection from their end during the conduct of online Pre-Bid Meeting. LPSC(B) will not be responsible for any issues faced by Service Providers during the conduct of online Pre-Bid Meeting**

**Details :**

## **B. Tender Attachments**

### **Technical Write-up/Drawings**

**Document : terms and conditions**

**Document : Technical specification**

**Document : scope of work**

**Document : compliance of specification format**

### **Instructions To Vendors**

#### **5. INSTRUCTION TO TENDERERS (PT)**

1. Bids will not be entertained after the due date and time.
2. EARNEST MONEY DEPOSIT NOT APPLICABLE
3. Head, Purchase and Stores, LPSC, Bangalore, reserves the right to accept or reject any bid in part or full without assigning any reason thereof.
4. Indian agents while quoting on behalf of their principals are requested to attach necessary authorization letter from their Principals in their bid.
5. Interested tenderers may, at their option, login to <https://eprocure.isro.gov.in> and submit your offers.
6. Request for the extension of the due date will not be considered.
7. TENDER FEE NOT APPLICABLE
8. The offer should be valid for a minimum period of 120 days from the date of opening.

#### **6. STANDARD TERMS AND CONDITIONS FOR PUBLIC TENDER(PT)**

##### **1. APPLICABLE LAW**

The Contract shall be governed by Indian Law for the time being in force and jurisdiction shall lie in the

Courts of India.

2. As far as implementation of public procurement policy (Preference to make in India) Order, 2017 is concerned, the Office Orders vide No. P-45021/2/2017-B.E-II dt. 15.06.2017, which is partially modified by Order No. P-45021/2/2017-PP(BE-II) dt. 28.05.2018, Order No.P-45021/2/2017-PP(BE-II)dt. 29.05.2019, Order No. P- 45021/2/2017-PP (BE-II) dt 04.06.2020 and Order No.P-45021/2/2017-PP (BE-II) dt 16.09.2020 and subsequent Amendments issued by the Department for Promotion of Industries and Internal Trade, Ministry of Commerce and Industry and Internal Trade, Ministry of Commerce and Industry regarding Class-I/Class-II local suppliers, Purchase preference, verification of local contents etc shall be applicable to this tender. Therefore, bidders may ensure compliance of the same while submitting tenders.

### 3. Bank Details

You shall provide your bank details such as IFSC code, IBAN No. , SWIFT etc along with your offer which shall be not be changed till completion of supply/service.

### 4. Custom Duty Concession Certificate:

LPSC is providing concession certificate towards the of payment of Customs Duty vide As per the Customs Notification No. 50/2017, Sl. No. 539(b)-CUSTOMS Dated 30.06.2017 & Amendment No: 5/2018, Sl No.539(A) - CUSTOMS Dated: 25/01/2018.

### 5. FORCE MAJEURE

Neither LPSC, Bangalore nor Supplier/ Contractor, shall be considered in default of the performance of their obligations under this Purchase Order if such performance is prevented or delayed for any causes beyond the reasonable control of the parties to the Order getting affected, such as Acts of God, war, riots, civil, commotion, illegal strikes, legal lock-outs, epidemics, fire accidents, floods, earthquakes, proclamation or regulation or ordinance of any Government thereof, provided notice in writing of any such cause with necessary proof that the obligation under the Purchase Order is hereby affected or prevented or delayed is given within 14 days from the happening of the event. As soon as the cause of force majeure has ceased to exist, the party of the actual delay that has occurred due to such force majeure condition.

### 6. Instruction to Foreign Suppliers:-

a)Our normal payment term is SIGHT DRAFT, Please confirm acceptance in your offer, if you insist for L/C, and all bank charges shall be to your account. Confirm acceptance.

b)Confirm whether any Export clearance is required and for which End User Certificate is to be provided by us, in case of an Order on you. (Enclose format for EUC, if applicable)

c)Warranty/Guarantee applicable for the item shall be mentioned in your offer

d)Special Certification for packing Material: as per Plant Quarantine (Regulation of Import into India) Order 2003, Articles packed with packing material of plant origin viz., hay, straw, wood shavings, wood chips, saw dust, wood waste, wooden pallets, Dunn age Mats, wooden packages, coir pith, pear or sphagnum moss etc., will be allowed entry by Customs only with a Phytosanitary Certificate. In case if a Purchase Order, if you propose to us any of the above material for packing such a certificate issued by your local Plant Quarantine Authority shall be furnished.

e)The tenders received from Indian agents on behalf of their foreign Principals/OEMs (in cases where the Principals/OEMs also submit their tenders simultaneously for the same item/product in the same tender) the same will be not be considered.f) In case two or more tenders are received from an Indian agent on behalf of more than one foreign Principal/OEM, in the same tender for the same item/product will not be considered. (In either case an Indian agent cannot represent more than on principal against the same tender)

g)If an agent submits Bid on behalf of the Principal/OEM the same agent shall not submit a bid on behalf of another Principal/OEM in this tender for the same Item/Product. (In either case an Indian agent cannot represent more than on principal against the same tender)

h)In case the quote is on Indian Rupee (High Sea Sale), the price shall include GST and duties if any, Department will provide concessional certificates. If the item quote is of USA / France / Germany / Japan/Italy and etc. make, please quote for all-inclusive price since we prefer to get the item on FOR destination basis.

#### 7. Instruction to Indigenous Suppliers:

a)Our Normal payment terms are 100% within 30 days after receipt and acceptance of the item at our site. Please confirm acceptance in your quotation.

b)Please specify GST percentage, if any, in your offer.

(i) Please refer SI No: 1 of Government Of India, Ministry Of Finance, Notification Number 47/2017 Integrated Tax (rate) dated: 14/11/2017, the applicable percentage of GST is 5% only for the supply of Goods (Procurement). Necessary Certificate will be issued later.

(ii) Please refer SI. No: 1 of Government Of Karnataka, Finance Secretariat, Notification Number 45/2017 FD 48 CSL 2017, BENGALURU, dated: 14/11/2017, the applicable percentage of GST is 5% only for the supply of Goods (Procurement). Necessary Certificate will be issued later.

(iii) In case of service (i.e. Installation, commissioning & testing and AMC, etc. ), GST @18% extra.

(iv) GST is not applicable for imported items.

#### 8. JURISDICTION

The court of Bangalore only shall have jurisdiction to deal with and decide any legal matter or dispute whatsoever arising out of this in case PO/contract.

## 9. Liquidated Damages:

If you fail to deliver the ordered items satisfactorily within the time specified or any extension thereof, Liquidated Damage @ 0.5%(zero point five percent) of the order value or part thereof the un-delivered items for each calendar weeks of delay shall be recovered from your bill. However total Liquidated Damage shall not exceed 10% (ten percent) of the order value.

10. Offers received through fax or email or unsigned will not be considered.

## 11. Offer Validity

Your offer shall be valid for 120 days from the date due date of tender opening. In case you offer validity is less than 120 days, the said offer is liable for rejection which may please be noted.

## 12. Performance Bank Guarantee (PBG) :

You have to submit a PBG from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper for 3% of the order value towards the performance of the system at the time of supply valid till the completion of warranty period plus 60 days (as claim period) as per the format provided by the Department. OR 3% of the order value shall be with held till the completion of Warranty Period plus 60 days.

13. Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs. Such MSEs shall produce documentary proof of registration as per provisions of the Policy ie: registration with District Industries Centre (DIC) or Khadi and Village Industries Commission (KVIC) or Khadi and Industries Board (KVIB) or Coir Board or National Small Industries Commission (NSIC) or Directorate of Handicrafts and Handlooms or Udyog Aadhar Memorandum or any other body specified by Ministry of MSME.

## 14. Purchase / Price preference to MSEs (Not applicable to foreign Suppliers/Vendors)

Purchase/Price preference will be applicable to the product reservation admissible to the Micro and Small Enterprises. Purchase/Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs formulated under the Micro, Small and Medium Enterprises Development Act, 2006. The participating MSEs in a tender, quoting price within the band of L-1 + 15% may also be allowed to supply a portion of the requirement by bringing down their price to the L-1 price, in a situation where L-1 price is from someone other than an MSE. Such MSEs may be allowed to supply upto 20% of the total tendered value. In case of more than one such eligible MSE, the supply will be shared equally.

15. Security Deposit cum Performance Bank Guarantee (SD cum PBG):In case, if parties are unable to provide two separate BGs, i.e., one for SD and one for PBG, they can submit a combined BG for SD cum PBG from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper within 10 days of receipt of

order for 3% of order value valid till the completion of total contractual obligation (i.e., supply period + warranty period + 60 days) as per the format provided by the Department.

16. Security Deposit (SD) :

You have to furnish a Bank Guarantee from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper for 3% of the order value within 10 days of receipt of order towards the faithful execution of the order valid till the completion of the scope of work as per order plus sixty days(as claim period). (This will be returned to you immediately on execution of the order satisfactorily as per order terms. In case of non-performance / poor performance, the amount will be forfeited).

17. Warranty:-

Warranty for the offered item shall be from the date of installation/acceptance of the item at our site for a minimum period of one year or as specified in the tender document.



## C. Bid Templates

### C.1 Technical Bid - Supply and Installation of LED video wall system and AV systems for Director video conference facility LPSCB

#### 1. Video Wall Display

##### Item specifications for Video Wall Display

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Pixel pitch	1.25 mm	Yes / No / Explain		
2	Pixel matrix (Width x Height)	2880 x 1080 or better	Yes / No / Explain		
3	Display dimensions (Width x Height)	3600 mm x 1350 mm or +/-5%	Yes / No / Explain		
4	Pixel configuration	3 in 1 configuration or 4 in 1 configuration	Yes / No / Explain		
5	LED Packaging	SMD or COB or Flip-Chip or latest	Yes / No / Explain		
6	LED Life time	1,00,000 hours (with 50% Brightness) or higher	Yes / No / Explain		
7	Aspect ratio	8:3	Yes / No / Explain		
8	Brightness	600 nits or better	Yes / No / Explain		
9	Contrast ratio	10000:1 or better	Yes / No / Explain		
10	Viewing angle	140 x 140 or better	Yes / No / Explain		
11	Display colours	14 bit or better	Yes / No / Explain		
12	Refresh rate	3840 Hz or better	Yes / No / Explain		
13	HDR support (HDR 10 or HDR 10+ or Higher)	Yes	Yes / No / Explain		
14	Cabinet material	Die-cast Aluminium	Yes / No / Explain		

15	Service access	Front	Yes / No / Explain		
16	IP rating	IP20 or better	Yes / No / Explain		
17	Mounting type	Floor mounting - proper structure to be installed	Yes / No / Explain		
18	Power input	100-240 V AC	Yes / No / Explain		
19	Operating temperature	0 to 40 degree Celsius	Yes / No / Explain		
20	Operating humidity	20% to 75%	Yes / No / Explain		
21	Run time	24 * 7	Yes / No / Explain		
22	Included the 10% additional video wall panels as spare	Yes	Yes / No / Explain		
23	Certifications / Regulatory	CE, FCC class A including EMC / EMI compliance, UL, RoHS Or Indian equivalent certifications for the above like BIS, ISO certifications, if available.	Yes / No / Explain		

## 2. LED wall Controller processor

### Item specifications for LED wall Controller

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	Input	4 nos. or more (including HDMI 2.0 – 3 nos)	Yes / No / Explain		
2	Output (Gigabit Ethernet)	16 nos. or higher as per requirement	Yes / No / Explain		
3	Control port (Ethernet)	1 no. or more	Yes / No / Explain		
4	HDCP Support	Yes	Yes / No / Explain		
5	Input resolution Supported	3840 x 2160 @60 Hz or better	Yes / No / Explain		

6	Pixel capacity	2880 (H) x 1080 (V) or better	Yes / No / Explain		
7	Licensing	All software and firmware licenses must be perpetual and must be operational from Day 1.	Yes / No / Explain		
8	Mount	19 inch rack mountable	Yes / No / Explain		
9	Power input	100-240 V AC	Yes / No / Explain		
10	Operating temperature	0 to 40 degree Celsius	Yes / No / Explain		
11	Operating humidity	20% to 75%	Yes / No / Explain		
12	The LED controller unit should be compatible with the LED cabinet/tiles	Yes	Yes / No / Explain		
13	Required Pre-set Layout	yes	Yes / No / Explain		

### 3. MICROPHONES

#### Item specifications for MICROPHONES

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Type	16-Element Digital Array, one channel of AEC per microphone	Yes / No / Explain		
2	Acoustic principle	Omnidirectional with 360 degree coverage	Yes / No / Explain		
3	Pickup pattern	Beamformed polar pattern without any lobe aiming or room mapping.	Yes / No / Explain		
4	Sensitivity	> 70dB or better	Yes / No / Explain		
5	Frequency response	±3 dB or better at 150hz to 16kHz	Yes / No / Explain		
6	Sound pressure level	105 dB or better	Yes / No / Explain		

7	Power	PoE Powered (IEEE 802.3at Class 3) The allowed distance between the Microphone and the PoE Power source shall be min 50 feet (~15 Meters)	Yes / No / Explain		
8	LED indicator	Yes. When connected by a PoE amplifier there shall be power indication LED (Green/Yellow/Red)	Yes / No / Explain		
9	Microphone modes	Toggle on/off push to mute push to talk. The mic shall have minimum 4 mute/unmute buttons to mute or unmute an individual or a group of microphones in the room.	Yes / No / Explain		
10	Accessories	Suitable mounting accessories shall be supplied.	Yes / No / Explain		
11	Software platform	open architecture based intuitive software that allows integration with the DSP, Amplifiers, USB interface and Control Interface	Yes / No / Explain		
12	Connectivity	connectivity with an extension microphone over Ethernet/twisted pair (cat 5/6 as per device requirements) cable	Yes / No / Explain		

#### 4. AVB/ Dante Expansion Beam-tracking Table top Microphone

##### Item specifications for AVB/ Dante Expansion Beam-tracking Table top Microphone

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	Type	16-Element Digital Array, one channel of AEC per microphone	Yes / No / Explain		
2	Acoustic principle	Omnidirectional with 360 degree coverage	Yes / No / Explain		

3	Pickup pattern	Beamformed polar pattern without any lobe aiming or room mapping.	Yes / No / Explain		
4	Sensitivity	> 70dB or better	Yes / No / Explain		
5	Frequency response	±3 dB or better at 150hz to 16kHz	Yes / No / Explain		
6	Sound pressure level	105 dB or better	Yes / No / Explain		
7	Power	PoE Powered (IEEE 802.3at Class 3) The allowed distance between the Microphone and the PoE Power source shall be min 50 feet (~15 Meters)	Yes / No / Explain		
8	LED indicator	Yes. When connected by a PoE amplifier there shall be power indication LED (Green/Yellow/Red)	Yes / No / Explain		
9	Microphone modes	Toggle on/off push to mute push to talk. The mic shall have minimum 4 mute/unmute buttons to mute or unmute an individual or a group of microphones in the room.	Yes / No / Explain		
10	Accessories	Suitable mounting accessories shall be supplied.	Yes / No / Explain		
11	Software platform	open architecture based intuitive software that allows integration with the DSP, Amplifiers, USB interface and Control Interface	Yes / No / Explain		
12	Connectivity	connectivity with an extension microphone over Ethernet/twisted pair (cat 5/6 as per device requirements) cable	Yes / No / Explain		

## 5. In-Ceiling Indoor Coaxial Loudspeaker with mounting Kit

### Item specifications for In-Ceiling Indoor Coaxial Loudspeaker with mounting Kit

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	System Type	6.5 inches Two-way full range	Yes / No / Explain		
2	Coverage Angle	130 degree conical or better	Yes / No / Explain		
3	Nominal impedance	8 Ohms	Yes / No / Explain		
4	Power rating (Continuous/RMS)	60W or better	Yes / No / Explain		
5	Sensitivity (1w,1m)	85 dB or better	Yes / No / Explain		
6	Maximum sound pressure level	110dB or better	Yes / No / Explain		
7	connectivity	RJ45	Yes / No / Explain		

## 6. PoE Amplifier 4 channel with mounting kit

### Item specifications for PoE Amplifier 4 channel with mounting kit

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Type	Four-channel PoE+ (IEEE 802.3at Class 4)	Yes / No / Explain		
2	Frequency response	(100Hz-15kHz) $\pm$ 1dB	Yes / No / Explain		
3	Signal to Noise ratio	90dB or better	Yes / No / Explain		
4	Output power (8 ohm)	30W	Yes / No / Explain		
5	Output power (4 ohm)	50W	Yes / No / Explain		
6	100 V High impedance mode	Yes	Yes / No / Explain		

## 7. Audio Digital Signal Processor

### Item specifications for Audio Digital Signal Processor

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	Analog inputs	12 Mic/line level inputs with AEC	Yes / No / Explain		
2	Analog outputs	8 Mic/line level outputs	Yes / No / Explain		
3	Noise cancellation	Yes	Yes / No / Explain		
4	Frequency response	20Hz to 20kHz	Yes / No / Explain		
5	RS-232 serial port	Yes	Yes / No / Explain		
6	RJ45 ethernet port	Yes	Yes / No / Explain		
7	Network audio port (AVB/Dante/BLUlink or equivalent)	Yes	Yes / No / Explain		
8	USB audio support	Yes	Yes / No / Explain		
9	One or more DSP units/expanders of the same OEM may be cascaded to support 24 mic / line inputs and 16 mic / line level outputs.	Yes	Yes / No / Explain		

## 8. NETWORK SWITCH

### Item specifications for NETWORK SWITCH

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	No Of Ports	Minimum Twenty-Four (24) ports supporting PoE+ (IEEE 802.3at Class 4) power but the selection of the number of port shall be purely based on the requirements of the conference room under configuration	Yes / No / Explain		
2	Features	The network box / switch shall support fault reporting and device monitoring capabilities	Yes / No / Explain		

3	Control Port	One (1) control port for Fault reporting and device monitoring (can be non-PoE)	Yes / No / Explain		
4	Speed	The connector type shall be RJ 45 with the connection speeds of 100Mbps/1Gbps	Yes / No / Explain		
5	Protocol support	<p>The network box shall support at least following protocols:</p> <p>IEEE 802.1, 802.1at : Stream Reservation Protocol (SRP), 802.1w, 802.1AS : Timing and Synchronization for Time-Sensitive Applications (gPTP), 802.1Q 802.1BA : Audio Video Bridging Systems, 802.1Qav : Forwarding and Queuing for Time-Sensitive Streams (FQTSS), 802.3ab, 802.3af, 803.3u Discovery, Formats, and Synchronization</p> <p>IEEE 1722: Encapsulations for various media formats and synchronization mechanisms. (Borrows definitions from FireWire)</p> <p>IEEE 1722.1: Device Discovery, Enumeration, Connection Management, and Control Protocol for AVB devices</p> <p>IEEE 1733: Similar to 1722 and 1722.1, but for Layer 3 networks. Expansion of RTP.</p>	Yes / No / Explain		



6	PoE Power	The total PoE Power budget shall be calculated based on the requirements and accordingly the power budget for the network box shall be selected (min. 120 Watts)	Yes / No / Explain		
7	Media Stream	It shall support a minimum number of 100 media streams	Yes / No / Explain		

## 9. PoE Dante/AVB/USB expander with Bluetooth wireless technology

### Item specifications for PoE Dante/AVB/USB expander with Bluetooth wireless technology

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Numbers of channels of configurable USB audio	8	Yes / No / Explain		
2	USB Bit Depth:	16-bit / 24-bit	Yes / No / Explain		
3	USB Sample Rate:	48kHz	Yes / No / Explain		
4	Bluetooth wireless technology	Yes	Yes / No / Explain		
5	LED indicators for power and wireless status	Yes	Yes / No / Explain		
6	Network Connection:	RJ-45 with Ethernet cable	Yes / No / Explain		
7	Indicators:	Power Indicator & Wireless Indicator	Yes / No / Explain		
8	Bluetooth Wireless Technology:	Version: 4.2 Class 2, Mode: Bluetooth Classic,	Yes / No / Explain		
9	Supported Profiles:	Hands-Free Profile 1.7 (HFP) Advanced Audio Distribution Profile 1.3 (A2DP)	Yes / No / Explain		
10	Supported Codecs:	mSBC (16 kHz), SBC (48 kHz), AAC (48 kHz), aptX (48 kHz)	Yes / No / Explain		
11	Maximum Transmit Power:	6.43 dBm (EIRP),	Yes / No / Explain		

12	USB support	2.0/3.0	Yes / No / Explain		
13	Wireless Range:	Up to 30 m	Yes / No / Explain		
14	Power:	PoE (IEEE 802.3at Class 2, 7W)	Yes / No / Explain		

## 10. HDMI Matrix Switcher 8x8

### Item specifications for HDMI Matrix Switcher

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Inputs	8 HDMI	Yes / No / Explain		
2	Outputs	8 HDMI	Yes / No / Explain		
3	Resolution	4K@60HZ (4:4:4)	Yes / No / Explain		
4	Video	HDMI support deep colour, 3D, ARC, up to 7.1 uncompressed audio channels as specified in HDMI 2.0. Content protection HDCP 2.2	Yes / No / Explain		
5	Maximum Data Rate	17 Gbps or better	Yes / No / Explain		
6	EDID management & DDC	Yes	Yes / No / Explain		
7	RJ-45 Ethernet port	Yes	Yes / No / Explain		
8	RS-232 Port	Yes	Yes / No / Explain		
9	Audio de – embedder	Yes	Yes / No / Explain		
10	Features	Rack mount	Yes / No / Explain		
11	Input / Output Selection facility	Front Button	Yes / No / Explain		
12	Input / Output selected indication display	Yes	Yes / No / Explain		

## 11. Network-based Control Pad(Type-1)

## Item specifications for Network-based Control Pad(Type-1)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	User Interface:	Capacitive touch LCD Screen	Yes / No / Explain		
2	Numbers of buttons on the LCD interface	12	Yes / No / Explain		
3	Display Type:	High-Contrast Capacitive Touch LCD	Yes / No / Explain		
4	Status Indicator:	RGB LED bar with adjustable brightness	Yes / No / Explain		
5	Network Connection:	RJ-45 with Ethernet cable (Cat 5e and above)	Yes / No / Explain		
6	Power	PoE (IEEE 802.3at Class 3, 15W)	Yes / No / Explain		

## 12. Wireless Presentation System

### Item specifications for Wireless Presentation System

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Maximum number of simultaneous sources on screen	2 or more	Yes / No / Explain		
2	Wireless standards	802.11 b/g/n	Yes / No / Explain		
3	Wireless frequency (GHz)	Both 2.4 & 5	Yes / No / Explain		
4	No. of HDMI output ports	1 or more	Yes / No / Explain		
5	No. of USB ports	2 or more	Yes / No / Explain		
6	No. of RJ45 ports	1 or more	Yes / No / Explain		
7	Power requirements	12V DC	Yes / No / Explain		
8	Power adaptor	A power adaptor which converts 230V AC power input to 12V DC should also be provided.	Yes / No / Explain		

### 13. DISTRIBUTION AMPLIFIER

#### Item specifications for DISTRIBUTION AMPLIFIER

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Inputs	1 HDMI: on female HDMI Connector	Yes / No / Explain		
2	Outputs	4 HDMI: on female HDMI Connectors	Yes / No / Explain		
3	Resolution	4K@60HZ (4:4:4)	Yes / No / Explain		
4	Video	HDMI Support Deep Colour,3D,up to 7.1 Uncompressed Audio channel as specified in HDMI 2.0.Content Protection HDCP 2.2	Yes / No / Explain		
5	EDID management & HDR	YES	Yes / No / Explain		
6	RS-232 Port	YES	Yes / No / Explain		
7	Features	Rack mount	Yes / No / Explain		
8	Indication LEDS	OUTPUTS 1 to 8, ACTIVE input and power ON LEDs	Yes / No / Explain		
9	Maximum Data Rate	17 Gbps or better	Yes / No / Explain		

### 14. LED Monitor

#### Item specifications for LED Monitor

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Technology	IPS/VA LED Backlit	Yes / No / Explain		
2	Screen Size (Diagonal)	27 inches or more	Yes / No / Explain		
3	Resolution (Pixels)	1920 x 1080 or better	Yes / No / Explain		
4	Aspect Ratio	16:9	Yes / No / Explain		

5	Brightness Nits	250 or better	Yes / No / Explain		
6	Viewing Angle	178:178	Yes / No / Explain		
7	HDMI port	1 or more	Yes / No / Explain		
8	Display port	1 or more	Yes / No / Explain		
9	Height adjustable & Tilttable floor mount stand	Yes	Yes / No / Explain		

## 15. USB Switch

### Item specifications for USB Switch

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Computer connections	2	Yes / No / Explain		
2	Port selection	External control switch	Yes / No / Explain		
3	Connector (Computer)	2 X USB Type B Female	Yes / No / Explain		
4	Connector (Device)	1 X USB Type A Female	Yes / No / Explain		
5	LED indicators	yes	Yes / No / Explain		
6	Data rate	5 Gbps or better	Yes / No / Explain		

## 16. Display Port (Male) to HDMI (Female) Adapter / Adapter cable -

### Item specifications for Display Port (Male) to HDMI (Female) Adapter / Adapter cable -

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Input - Display port (Male)	1 or more	Yes / No / Explain		
2	Output - HDMI port (Female)	1 or more	Yes / No / Explain		
3	Supported Resolution	4K @60Hz (4:4:4)	Yes / No / Explain		

## 17. USB Type-C (Male) to HDMI (Female) Adapter / Adapter cable

### Item specifications for USB Type-C (Male) to HDMI (Female) Adapter / Adapter cable

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Input	One USB Type-C (Male)	Yes / No / Explain		
2	Output	One HDMI (Female)	Yes / No / Explain		
3	Supported Resolution	4K @60Hz (4:4:4)	Yes / No / Explain		

## 18. Mini Display Port (Male) to HDMI (Female) Adapter / Adapter cable

### Item specifications for Mini Display Port (Male) to HDMI (Female) Adapter / Adapter cable

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Input	One Mini-Display port (Male)	Yes / No / Explain		
2	Output	One HDMI (Female)	Yes / No / Explain		
3	Supported Resolution	4K @60Hz (4:4:4)	Yes / No / Explain		

## 19. CABLES- cables and accessories

### Item specifications for CABLES

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	cables , connectors , convertors , consumables and other accessories which are necessary to meet the requirements specified in the 'Scope of work' should be provided by the supplier.	yes	Yes / No / Explain		

## 20. INSTALLATION CHARGES

**Item specifications for INSTALLATION CHARGES**

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Transport, Handling, Installation, Commissioning & Training etc charges for the above deliverables	YES	Yes / No / Explain		

**21. SUPPORT SERVICES- operational support charges during 3 year warranty period****Item specifications for SUPPORT SERVICES**

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Resident operational support to be made available for facility operations and maintenance on day-to-day basis during 3 year warranty period at LPSCB .	yes	Yes / No / Explain		

**22. AMC CHARGES-Comprehensive SMC charges after Warranty period- for 3 years****Item specifications for AMC CHARGES**

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Breakdown maintenance of LED video wall and associated AV systems.	Unlimited	Yes / No / Explain		
2	Preventive maintenance	once in three months	Yes / No / Explain		

**23. SUPPORT SERVICES - operational support charges after warranty period- for 3 years****Item specifications for SUPPORT SERVICES**

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	Resident operational support to be made available for facility operations and maintenance on day-to-day basis after 3 year warranty period at LPSCB	yes	Yes / No / Explain		
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### Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Warranty	3 Years	Yes / No / Explain		
2	Comprehensive SMC	3 Years beyond 3 years warranty	Yes / No / Explain		
3	Operational services support	6 years	Yes / No / Explain		

### Supporting Documents required from Vendor

**1. sample format annexure- 1A & 1B towards comprehensive AMC charges and operational cost for 4th, 5th & 6th year (Price Bid Related)**

**2. data sheets and catalogs from OEM highlighting the quoted specification**

**3. terms and conditions**

**4. scope of work**

**5. certificate from OEM**

**6. Compliance of specification as provided in the indent**

5 additional documents can be uploaded by the vendor



## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	Onsite supply. After supply to be installed at LPSC Bengaluru.	Yes / No / Explain	
2	This is a Two Part Tender. Do not mention price element in 1st part of Techno Commercial Bid. If any Price element mentioned in technical bid, your offer will not be considered.	Yes / No / Explain	
3	GST: Kindly mention exact percentage of GST (HSN Code, if applicable) IGST@5% concessional rate for supply of Goods: IGST concessional rate @ 5% is applicable for the following goods mentioned under Sl. No. 243B as per Department of Revenue Notification No. 07/2018: "Scientific and technical instruments, apparatus, equipment, accessories, parts, components, spares, tools, mock ups and modules, raw material and consumables required for Launch Vehicles and Satellites and Payloads" Kindly mention the nature of Goods.	Yes / No / Explain	
4	P & F charges (if applicable)	Yes / No / Explain	
5	Delivery Terms : In case of Indigenous Supplier : LPSC, BANGALORE. OR In case of Foreign Suppliers: EX-WORKS / FOB /FCA	Yes / No / Explain	
6	Payment Term: - 100% payment shall be made through RTGS within 30 days of receipt and acceptance of the items at our site.	Yes / No / Explain	
7	Delivery Period (Please mention in specifics Delivery schedule as per specifications)	Yes / No / Explain	
8	Warranty : Warranty for the offered item shall be from the date of installation/acceptance of the item at our site for a minimum period of 3 years as specified in the tender document. Warranty certificate shall be provided along with supply.	Yes / No / Explain	

9	Performance Bank Guarantee (PBG) : You have to submit a PBG from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper for 3% of the order value towards the performance of the system at the time of supply valid till the completion of warranty period plus 60 days (as claim period) as per the format provided by the Department. OR 3% of the order value shall be with held till the completion of Warranty Period plus 60 days.	Yes / No / Explain	
10	Security Deposit (SD) : You have to furnish a Bank Guarantee from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper for 3% of the order value within 10 days of receipt of order towards the faithful execution of the order valid till the completion of the scope of work as per order plus sixty days(as claim period). (This will be returned to you immediately on execution of the order satisfactorily as per order terms. In case of non-performance / poor performance, the amount will be forfeited).	Yes / No / Explain	
11	Security Deposit cum Performance Bank Guarantee (SD cum PBG):In case, if parties are unable to provide two separate BGs i.e. one for SD and one for PBG, they can submit a combined BG for SD cum PBG from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper within 10 days of receipt of order for 3% of order value valid till the completion of total contractual obligation (i.e. supply period plus warranty period plus 60 days) as per the format provided by the Department.	Yes / No / Explain	
12	Freight charges : If any, mentioned as EXTRA OR INCLUDED in your quote, please mention the percentage in Vendor Terms.	Yes / No / Explain	
13	Installation Charges: If any, mentioned as EXTRA OR INCLUDED in your quote, please mention the percentage in Vendor Terms.	Yes / No / Explain	
14	Insurance : Being a Government of India Department, Insurance is not required at our cost. Please ensure the safe delivery of the ordered item with proper AIR / SEA / ROAD worthy packing.	Yes / No / Explain	

15	Validity of Offer : (a) The validity of the offers should be 120 days from the date of opening of the tenders. NOTE : Tenders validity period shorter than offer validity mentioned above will not be considered for evaluation.	Yes / No / Explain	
16	Arbitration: In the event of dispute or difference arising out of or in connection with this purchase order/contract, which cannot be resolved through amicable settlement by mutual consultation, the same shall be settled under the Rules of Arbitration & Conciliation act 1996 under the Indian statute only, whose decision shall be final and binding on both the parties.	Yes / No / Explain	
17	Jurisdiction: The Courts in and around the City of Bangalore alone shall have jurisdiction to deal with and decide any matter or dispute whatsoever arising out of this agreement including those arising under the Arbitration Act.	Yes / No / Explain	
18	Force Majeure: Neither LPSC, Bangalore nor party shall be considered in default of the performance of their obligations under this Purchase Order if such performance is prevented or delayed for any causes beyond the reasonable control of the parties to the order getting affected, such as Acts of God, war, riots, civil commotion, illegal strikes, legal lock-outs, epidemics, fire accidents of any Government thereof, provided notice in writing of any such cause with necessary proof that the obligation under the Purchase Order is hereby affected or prevented or delayed is given within 14 days from the happening of the event. As soon as the cause of force majeure has ceased to exist, the party whose ability to perform his obligation has been affected shall notify the other party of the actual delay that has occurred due to such force majeure condition.	Yes / No / Explain	
19	Address, contact details like Telephone Number, Fax, e-mail etc., on which order to be placed.	Yes / No / Explain	
20	Details of Principal:Address, contact details like Telephone Number, Fax, e-mail etc., (if applicable)	Yes / No / Explain	

21	You shall provide suppliers bank details such as name of the bank, IFSC code, IBAN Number, SWIFT etc., along with your offer which shall be not be changed till completion of payment.	Yes / No / Explain	
22	Offers received through fax or email or unsigned will not be considered.	Yes / No / Explain	
23	Any other terms shall be mentioned in Vendor Terms column.	Yes / No / Explain	
24	Purchase/Preference to MSEs: Purchase/Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs formulated under the Micro, Small & Medium Enterprises Development Act 2006. Necessary authenticated documentary evidences shall be submitted along with your offer. NOTE: This is not applicable for foreign Suppliers.	Yes / No / Explain	
25	Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs. Such MSEs shall produce documentary proof of registration as per provisions of the Policy ie: registration with District Industries Centre (DIC) or Khadi and Village Industries Commission (KVIC) or Khadi and Industries Board (KVIB) or Coir Board or National Small Industries Commission (NSIC) or Directorate of Handicrafts and Handlooms or Udyog Aadhar Memorandum or any other body specified by Ministry of MSME.	Yes / No / Explain	

26	As far as implementation of public procurement policy (Preference to make in India) Order, 2017 is concerned, the Office Orders vide No. P-45021/2/2017-B.E-II dt. 15.06.2017, which is partially modified by Order No. P-45021/2/2017-PP(BE-II) dt. 28.05.2018, Order No.P-45021/2/2017-PP(BE-II)dt. 29.05.2019, Order No. P-45021/2/2017-PP (BE-II) dt 04.06.2020 and Order No.P-45021/2/2017-PP (BE-II) dt 16.09.2020 and subsequent Amendments issued by the Department for Promotion of Industries and Internal Trade, Ministry of Commerce and Industry and Internal Trade, Ministry of Commerce and Industry regarding Class-I/Class-II local suppliers, Purchase preference, verification of local contents etc shall be applicable to this tender. Therefore, bidders may ensure compliance of the same while submitting tenders.	Yes / No / Explain	
27	Kindly provide self declaration for Local Content in Percentage as per public procurement policy (Preference to make in India) Order, 2017.	Yes / No / Explain	

### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	Video Wall Display	1.00 Nos.		-		
2	LED wall Controller processor	1.00 Nos.		-		
3	MICROPHONES	3.00 Nos.		-		
4	AVB/ Dante Expansion Beam-tracking Table top Microphone	3.00 Nos.		-		
5	In-Ceiling Indoor Coaxial Loudspeaker with mounting Kit	6.00 Nos.		-		

6	PoE Amplifier 4 channel with mounting kit	1.00 Nos.		-		
7	Audio Digital Signal Processor	1.00 Nos.		-		
8	NETWORK SWITCH	2.00 Nos.		-		
9	PoE Dante/AVB/U SB expander with Bluetooth wireless technology	2.00 Nos.		-		
10	HDMI Matrix Switcher 8x8	1.00 Nos.		-		
11	Network- based Control Pad(Type-1)	1.00 Nos.		-		
12	Wireless Presentation System	1.00 Nos.		-		
13	DISTRIBUTI ON AMPLIFIER	2.00 Nos.		-		
14	LED Monitor	1.00 Nos.		-		
15	USB Switch	2.00 Nos.		-		
16	Display Port (Male) to HDMI (Female) Adapter / Adapter cable -	5.00 Nos.		-		
17	USB Type-C (Male) to HDMI (Female) Adapter / Adapter cable	5.00 Nos.		-		
18	Mini Display Port (Male) to HDMI (Female) Adapter / Adapter cable	5.00 Nos.		-		
19	CABLES- cables and accessories	1.00 Lot		-		

20	INSTALLATION CHARGES	1.00 Lot		-		
21	SUPPORT SERVICES- operational support charges during 3 year warranty period	1.00 Lot		-		
22	AMC CHARGES- Comprehensive SMC charges after Warranty period- for 3 years	1.00 Lot		-		
23	SUPPORT SERVICES - operational support charges after warranty period- for 3 years	1.00 Lot		-		

**Common charges (Applicable for all items)**

<b>Installation &amp; Configuration</b>	
<b>Other Costs, if any (Value)</b>	
<b>Taxes, if any (Percentage)</b>	