

#### संस्कृति विभाग, उत्तराखण्ड

### ई-निविदा सूचना

संस्कृति विभाग उत्तराखण्ड द्वारा स्वामी नारायण घाट, गंगा रिसोर्ट मुनिकीरेती, ऋषिकेष में एल०ई०डी० स्क्रीन, ऑडियो वीडियो सिस्टम स्थापित किये जाने हेतु पंजीकृत इच्छुक निविदादाताओं से ऑनलाईन निविदाएं आमंत्रित की जाती है। सम्बन्धित निविदाताओं के पास डिजिटल हस्ताक्षर सर्टिफिकेट तथा ई—प्रोक्योरमेन्ट पोर्टल https://uktenders.gov.in में पंजीकृत होना अनिवार्य है।

निविदा संख्या— सं0नि0उ० / दो-3(A.c.acti) / 2019-20, दिनांक **६दिसम्बर**, 2019 प्रोजेक्ट की अनुमानित लागत-: Rs. 1,42,00,000/-(रू० एक करोड़ बयालीस लाख) सामग्री का विवरण -

- Video Streaming High Resolution LED Screens (Screen Size 18.90Ft \*9.45ft) with Installation
- Content Management Server, Management PC with Software with Installation
- Complete Audio PA System with Installation
- 4 Video System (Camera Setup with Recording and Live Streaming) with Installation

4	video System (Camera Setup with Recording and Live Streaming	s) with installation
क्र.सं०	विवरण	निर्धारित तिथि
01	वेबसाइट <u>www.uktender.gov.in</u> पर निविदा प्रकाशित होने की तिथि	6दिसम्बर, 2019
02	निविदा प्रपत्र डाउनलोड / उपलब्ध होने की प्रारंभिक तिथि	07 दिसम्बर, 2019 प्रातः 09.00 बजे
03	निविदा ऑनलाईन जमा करने की प्रारंभिक तिथि एवं समय	07 दिसम्बर, 2019 सांय 04.00 बजे
04	निविदा ऑनलाईन जमा करने की अंतिम तिथि एवं समय	20दिसम्बर, 2019 सांय 05.00 बजे
05	हार्ड कापी में तकनीकी बिड निम्न दस्तावेजों के साथ कार्यालय में उपलब्ध करवाने की अंतिम तिथि—	20दिसम्बर, 2019 सांय 05.00 बजे
	1—निविदा प्रपत्र शुल्क जी०एस०टी० सहित — रू० 2,596=00 (निदेशक, संस्कृति निदेशालय उत्तराखण्ड, देहरादून के नाम पर देय होगी)	
	2—अर्नेस्ट मनी (ई०एम0डी०)— रू० 2,84,000=00 (निदेशक, संस्कृति निदेशालय उत्तराखण्ड, देहरादून के नाम पर देय होगी)	
06	तकनीकी बिड खोले जाने की तिथि व समय	21दिसम्बर, 2019 सांय 03.00 बजे
07	वित्तीय बिड खोले जाने की तिथि व समय	निविदा समिति के निर्णयानुसार

निविदा प्रपत्र के डाउनलोड एवं अन्य जानकारी हेतु कृपया ई—प्रोक्योरमेन्ट पोर्टलhttps://uktenders.gov.inदेखें तथा अन्य जानकारी हेतु दूरभाष न0 0135—2712595 पर सम्पर्क करें।

निदेशक, संस्कृति निदेशालय उत्तराखण्ड

#### RISHIKESH

The Gateway to the Garhwal Himalayas, Rishikesh is the Yoga Capital of the world. It is known as the pilgrimage town and regarded as one of the holiest places to Hindus. Hindu sages and saints have visited Rishikesh since ancient times to meditate in search of higher knowledge. The sacred river Ganges flows through Rishikesh. Here the river leaves the Shivalik Hills in the Himalayas and flows into the plains of northern India. Several temples, ancient and new, are along the banks of the Ganges in Rishikesh making it one of the most popular places with not just Indian people but also with people from abroad.

- Prominent attraction points in Rishikesh
  - Laxman Jhula
  - Ram Jhula
  - Ganga Ghat
  - Triveni Ghat
  - Parmarth Niketan
  - Shivpuri
  - · Beatles Ashram

#### **Swami Narayan Ghat**

The Swami Narayan Ghat witnesses thousands of people become a part of yoga and other cultural activities every day during the International Yoga Festival conducted from 1<sup>st</sup> to 7<sup>th</sup> of March every year. The International festival conducts sessions for people from across the globe at the Ghat. Along with this people at the Ghat also witnesses a spiritual enlightenment every evening as the Ganga aarti is conducted at the Ghat. Along with the students fo the Gurukul, hundreds of people become a part of this aarti every day. The Students of Gurukul sing Bhajans before and after the aarti making it an auspicious event to be a part of.

#### THE NEED OF SOUND SYSTEM IN RISHIKESH

Being the Yoga capital of India, Rishikesh witnesses more than one Lakh people, visiting the place every year. A lot of people Visit the city during the International Yoga Festival conducted at the Swami Narayan Ghat.

On days with a heavy footfall, it gets difficult and unfulfilled sometimes for a lot of devotees to visit and be a part of different religious and spiritual activities on the Ghat.

Considering the challenges faced by the visitors and local masses in Rishikesh to view and participate in the ritual proceedings regularly conducted in the auspicious sacred banks of river Ganges, there is a need to introduce a few IT interventions that can easy the process of being a part of the ritual for a devotee and also help attract more people to the land.

As a value addition for the people and Rishikesh to enhance the participation in the rituals for river Ganges, Puja ceremonies and Yoga festival can be broadcasted on real time basis at different parts of the city to sensitize the local residents and visitors outside the

Resort or the Ghats premises about the Puja, ceremoniesalong with the highlight and focus being on the music and announcements during the Yoga Festival from Swami Narayan Ghat. The sound system can help create an attraction point through a sound show reflecting the historic importance of Yoga, Meditation, Rishikesh and the other prominent places here.

#### **RISHIKESH-IT INTERVENTIONS**

Being the Yoga Capital of India, Rishikesh sees a footfall of more than a Lakh people in a year. Most of the footfall, prefer to visit the prominent places in the city like Ganga Resort, Parmarth Niketan, Ram Jhulla, Laxman Jhulla and Shivpuri. Evening aarti at Swami Narayan Ghat in itself sees people ranging from 3000 to 30,000 per day.

On days with a heavy footfall, it gets difficult and unfulfilled sometimes for a lot of devotees to visit and be a part of different religious and spiritual activities on the Ghats.

Considering the challenges faced by the visitors and local masses in Rishikesh to view and participate in the ritual proceedings regularly conducted in the auspicious sacred banks of river Ganges, there is a need to introduce a few IT interventions that can easy the process of being a part of the ritual for a devotee and also help attract more people to the land.

As a value addition for the people of Rishikesh and the city and to enhance the participation in the rituals for river Ganges, Puja ceremonies can be broadcasted on real time basis at different parts of the city to sensitize the local residents and visitors outside the temple or the Ghats premises about the Puja and ceremonies along with the highlight and focus being on the live broadcast of Aarti through sound system from Swami Narayan Ghat. Along with this, the sound system can help create shows talking about the historic importance of Rishikesh and Yoga along with musical shows.

#### **ENVISAGED ROADMAP**

To implement the envisaged target, Mela Karayalaya has placed an objective to install and commission multiple cameras, LED Variable Message screens catering to the Audiovisual needs of the intended facilitation for citizens.

Variable Message screens shall be installed at identified strategic public places/ locations. The VMS shall broadcast live presentation of the Puja and Aarti at Ghats which is scheduled twice throughout a day.

Also, the VMS screens will demonstrate the public messages in the interest of publicity of a few Govt. schemes such as Swatchahta Abhiyan, traffic mass education, road safety, women safety, various citizen helplines for Govt. services. The VMS system will also be used to communicate information & guidance about traffic based on real time factors, traffic movement intensity and related regulations, diversions etc. to the citizens/ public on the road. They shall also be used for showing emergency/disaster related messages as and when required.

The VMS screens will be complemented with Public address system that shall be used at identified key intersections, public places, market places or those critical locations as identified Competent Authority to make important announcements for the citizens/public. The system shall also deliver pre- recorded messages to the loud speakers attached to them from CD/DVD Players & Pen drives for public announcements.

The system shall contain an IP based amplifier and use PoE power that could drive the speakers. The system shall also contain the control software that could be used to control/monitor all the components of the system that includes Controller, Calling Station & Keypad, Amplifier (Mixing & Booster).

#### **COMMAND & CONTROL CENTRE**

The VMS system will be equipped with robust connectivity at all the locations to capture the feeds and broadcast uninterruptedly. Also, the screens will be controlled and monitored by the Integrated Command & Control Centre being developed in Rishikesh. The VMS shall be able to communicate with the Integrated Command and Control Centre System (ICC) using Optical Fibre Leased Line connectivity. Each unit shall be provided with a unique identification number in order to communicate distinctly.

#### **OBJECTIVE**

Every day thousands of devotees visit Rishikesh and have a spiritual dream to witness the magnificent Ganga aarti every day and Yoga sessions during the Yoga festival at the ghat. But due to the platform where the aarti is performed being smaller as compared to the number of people visiting the place it becomes a major problem for devotees to witness the aarti properly.

The idea of having Sound System at different places in and around Swami Narayan Ghat is to provide a convenient and wonderful experience of the Puja and Aarti rituals along with music sessions happening at the around Swami Narayan Ghat and Ganga Resort with extended proximity of participation. This will also help in crowd management at the place in peak hours.

#### PROPOSED PLACES FOR SOUND SYSTEM

- 1. From Swami Narayan Ghat to Ram Jhulla
- 2. Ganga Resort

## नियम एवं शर्तेव संलग्न करने हेतु अनिवार्य दस्तावेज

- 1- निविदादाता फर्म की पिछले 3 वित्तीय वर्षों की सी०ए० द्वारा प्रमाणित बैलेंस शीट।
- 2- निविदादाता फर्म का पिछले 3 वित्तीय वर्षों का सी०ए० द्वारा सत्यापित वांछित कारोबार का प्रमाण पत्र।
- 3- निविदादाता फर्म की पिछले ३ वित्तीय वर्षों की आई०टी०आर०।
- 4- निविदादाता फर्म का पैन कार्ड की छायाप्रति।
- 5- निविदादाता फर्म का जी०एस०टी० पंजीकरण प्रमाण-पत्र।
- 6- नीचे दिये गये फार्मेट में सभी मांगे गये items के मेक एवं मॉडल प्रदर्शित करना अनिवार्य है, items की datasheet/catalogue/brochureसंलग्न करना भी अनिवार्य है, अन्यथा निविदा निरस्त कर दी जायेगी।
- 7-निविदादाता फर्म/OEM द्वारा पूर्व में(वर्ष 2017–18 तथा 2018–19) क्रियान्वित किये गये प्रोजेक्टों पर सम्बन्धित विभाग/संस्था/कार्यालय द्वारा प्रदत्त संतोषजनक प्रमाण-पत्र की प्रति।
  - 8- OEM tender specific authorization letter (MAF)
  - 9- निविदा के साथ ₹2,84,000. (₹दो लाखचौरासीहजार) मात्र की एफ0डी0आर/ एन0एस0सी0/सी0डी0आर0 धरोहर धनराशि (Earnest Money) जो कि निदेशक, संस्कृति निदेशालय, उत्तराखण्ड, देहरादून के नाम बन्धक हो, संलग्न करना अनिवार्य है।
  - 10- निविदा प्रपत्र का मूल्य जी०एस०टी० सिहत ₹2,596 / बैंक ड्राफ्ट के माध्यम से जो देहरादून में देय होगा संलग्न करना अनिवार्य है। ।
  - 11- Earnest Money तथा निविदा शुल्क पृथक-पृथक सील बंद लिफाफों में निर्धारित तिथि तक पंजीकृत डाक / स्पीड पोस्ट / सीधे जमा करना अनिवार्य है । निर्धारित तिथि के पश्चातु प्राप्ति स्वीकार नहीं की जायेगी ।
  - 12- निविदा स्वीकृति के उपरान्त फर्म को जमानत राशि(Security Money) के रूप में रू0 7,10,000 / (₹सात लाखदस हजार) मात्र की एफ0डी0आर / एन0एस0सी0 / सी0डी0आर0 धरोहर धनराशि के रूप में निदेशक, संस्कृति निदेशालय, उत्तराखण्ड, देहरादून के नाम बन्धक हो, जमा करना होगा जिसकी वैद्यता 05 वर्ष होनी चाहिए।
  - 13- निविदा स्वीकृति प्रपत्र हस्ताक्षर मोहर के साथ जमा करना अनिवार्य है, अन्यथा निविदा निरस्त कर दी जायेगी।
  - 14- फर्म का उत्तराखण्ड में पंजीकरण प्रमाण-पत्र।
  - 15- सामग्री को स्थल तक ले जाने तथा निर्दिष्ट स्थान पर स्थापित करने तथा 05 वर्ष के O&M सिहत दरें प्रदान की जायेंगी, नियमानुसार GST की दरें पृथक रूप से अंकित करें।
  - 16- Quoted products निर्दिष्ट स्थल पर इंस्टॉलेशन उच्च गुणवत्ता के साथ किया जायेगा।

- 17- सामग्री का निर्दिष्ट स्थल पर इंस्टॉलेशन उच्च गुणवत्ता के साथ किया जायेगा। एल०ई०डी० स्क्रीन ऑल वेदर तथा निर्धारित मापदण्डों के आधार पर स्थापित की जायेगी।
- 18- साउण्ड सिस्टम हेतु स्पीकर ऑल वेदर उच्च तकनीकी के स्थापित किये जायेंगे।
- 19- सशर्त निविदाएं मान्य नहीं होगी।
- 20- निविदा में अंकित सामग्री आपूर्ति आदेशों के अनुसार निर्धारित समय में आपूर्ति न करने की दशा में बन्धक धनराशि जब्त करने का अधिकार विभाग को होगा।द्वि—निविदा (तकनीकी तथा वित्तीय) आमंत्रित है। (फर्म की तकनीकी निविदा / शर्तें पूर्ण होने पर ही वित्तीय निविदा खोली जायेगी)
- 21- निविदादाता द्वारा तकनीकी बिंड निर्धारित प्रपत्र में तथा वित्तीय बिंड (Bill of Quanity) में प्रस्तुत करनी होगी। तकनीकी बिंड के प्रत्येक पृष्ठ पर निविदादाता द्वारा हस्ताक्षर करना अनिवार्य होगा ।
- 22- फर्म का सम्बन्धित कार्य का Black Listed ना होने का नोटरी द्वारा प्रमाणित शपथ पत्र 100/- रू० के स्टाम्प पेपर पर प्रस्तुत करना अनिवार्य है।
- 23- निदेशक, संस्कृति निदेशालय उत्तराखण्ड को समस्त निविदाएं बिना कारण बताए निरस्त करने का पूर्ण अधिकार होगा।
- 24- फाईनेंशियल बिड बी०ओ०क्यू० में निविदादाता द्वारा ऑन लाईन दी जायेगी।
- 25- निविदादाता करने वाली फर्म का पिछले 3 वित्तीय वर्षों का सालाना टर्न ओवर कम से 2 करोड़ रूपये होना आवश्यक है।
- 26- OEMs/निविदादाता फर्म को कम से कम 3 समान प्रकार के प्रोजेक्ट को सफलतापूर्वक क्रियान्वित करने का अनुभव हो, जिसमें से कम से कम एक प्रोजेक्ट एक वर्ष पुराना हो।
- 27- बिडर का ESIC में पंजीकरण अनिवार्य है एवं इसका रजिस्ट्रेशन सर्टिफिकेट लगाना अनिवार्य है
- 28- OEMs कासालाना टर्न ओवर कम से कम100 करोड़ रूपये होना आवश्यक है।
- 29- पिछले 03 वर्षो से OEMs का भारत में सर्विस सेंटर होना अनिवार्य है. सर्विस सेंटर्सकी डिटेल्स संलग्न की जाये |

नोट— हमने विभाग द्वारा निर्धारित शर्तों का पूर्ण अध्ययन कर लिया है। विभाग द्वारा मांगी गई सूचनायें हमारी फर्म द्वारा सही—सहीदी गई हैं। यदि कोई जानकारी असत्य पायी गई तो फर्म इसके लिये स्वयः उत्तरदायी रहेगी।

(बीना भट्ट)	निविदादाता के हस्ताक्षर
निदेशक	नाम

#### **Other Conditions**

- 1. Purchaser means Directorate of Culture, Uttarakhand
- 2. The Bidder shall supply equipment/components including associated accessories and software as under this contract and install, commission, integrate, manage and maintain those components during the entire period of contract.
- 3. The bidder should provide a letter of assurance from his OEM that irrespective of who the bidder is the OEM shall ensure that the equipment/components being supplied by him for the purchaser will not be declared "End Of Sale" or "End of Support" for a minimum of 7 Years, from the date of launch, If the same is de-supported by the OEM for any reason whatsoever, the OEM shall replace it with an equivalent or better substitute that is acceptable to Purchaser without any additional cost to the Purchaser and without impacting the performance of the solution in any manner whatsoever.
- 4. The Bidder shall employ appropriate advanced technology and engineering practices and safe and effective equipment, machinery, material and methods. The Bidder shall always act, in respect of any matter relating to this Contract, as faithful advisors to the Purchaser and shall, at all times, support and safeguard the Purchaser's legitimate interests in any dealings with Third Parties.
- 5. That the Bidder shall procure all the necessary permissions and adequate approvals and licenses for use of various software and any copyrighted process/product free from all claims, titles, interests and liens thereon and shall keep the Purchaser indemnified in relation thereto.
- 6. All Systems Deployed/Installed by the bidder must be capable of GUI/Software based Control/Management and signalling.
- 7. The Bidder shall Provide all Connectivity/Networking Diagrams between End Devices and would make all necessary arrangements (Fiber

- Termination in LIU) at the proposed Site so that existing network can be connected to State Network.
- 8. Bidders should ensure that Advanced/Latest Cabling standards (Fiber/Cat-6A or better) should be used between end devices in a safe manner in order to minimize Damage to cabling and reduce Interference/Noise/Crosstalks/Latency in the System.

### Warranty

- 1. A comprehensive on-site warranty and Annual Maintenance support on all goods supplied under this Contract shall be provided by the respective Original Equipment Manufacturer (OEM) through Bidder's engineers till the end of the Contract. It include support for all hardware equipments and all updates and patches to the respective Software and for the above stated period.
- 2. In case of issues with provided equipments, the Bidder shall, with all reasonable speed, repair or replace the defective Goods or parts thereof, without prejudice to any other rights which the Purchaser may have against the Bidder under the Contract

## **Scope of Contract**

- 1. Purchaser has engaged the Bidder for Supply, Installation and Maintenance of Audio/Video Equipments for Govt. of Uttarakhand
- 2. If any services, functions or responsibilities not specifically described in this Contract are an inherent, necessary or customary part of the Services or are required for proper performance or provision of the Services in accordance with this Contract, they shall be deemed to be included within the scope of the work to be delivered for the Charges, as if such services, functions or responsibilities were specifically described in this Contract.
- 3. The Purchaser or Purchaser's Technical Representative reserves the right to amend any of the terms and conditions with mutual agreement in relation to the Scope of Work and may issue any such directions which are not necessarily stipulated therein if it deems necessary for the fulfilment of the Scope of Work.

#### **Transit Risks**

Any damage during transit due to whatsoever reason, cost shall be borne by the successful bidder.

#### **Evaluation of Bids**

- 1. The Bidder should not be involved in any major litigation that may have an impact of affecting or compromising the delivery of services as required under this contract. If at any stage of Tendering process or during the currency of the Contract, any suppression / falsification of such information is brought to the knowledge of the Purchaser, the Purchaser shall have the right to reject the bid or terminate the contract, as the case may be, without any compensation to the Bidder.
- 2. The Purchaser will examine the bids to determine whether they are complete, whether the bid format confirms to the Tender requirements, whether any computational errors have been made, whether required EMD have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- A bid determined as not substantially responsive will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the nonconformity.
- 4. When deemed necessary, during the tendering process, the Purchaser may seek clarifications or ask the Bidders to make Technical presentations on any aspect from any or all the Bidders. However, that would not entitle the Bidder to change or cause any change in the substance of the tender submitted or price quoted.

#### **Local Conditions**

- 1. It will be incumbent upon each Bidder to fully acquaint oneself with the local conditions and other relevant factors at the proposed Setup site/s which would have any effect on the performance of the contract and / or the cost.
- 2. The Bidder is expected to make a site visit to the proposed sites to obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into contract. Obtaining such information shall be at Bidder's own cost.
- 1. Failure to obtain the information necessary for preparing the bid and/or failure to perform activities that may be necessary for the providing services before entering into contract will in no way relieve the successful Bidder from performing any work in accordance with the Tender documents.
- 2. The bidder and any of its personnel or agents will be granted permission by Govt of Uttarakhand to enter its facilities at various locations in the state forthe implementation of project. The Bidder shall at its own risk, peril, cost and liability undertake site visits to designated facilities in the state.

#### **Reporting Progress**

- 1. During & Post implementation, the Bidder shall submit to the Purchaser, MIS reports as an ongoing basis. Extracts of the progress report to be termed, as "Executive Summary" shall be submitted. Periodic meetings shall be held between the representatives of the Purchaser and the Bidder once in every 15 days during the implementation phase to discuss the progress of implementation.
- 2. The Bidder shall ensure that the respective solution teams involved in the execution of work are part of such meetings.
- 3. In case during execution of works, the progress falls behind schedule or does not meet the Tender requirements, Bidder shall deploy extra manpower/ resources to make up the progress or to meet the Tender requirements. All time and cost effect in this respect shall be borne, by the Bidder within the contract value.

### Onsite Maintenance and Support Services

The scope of work for this activity includes providing comprehensive maintenance with spare parts for all ITInfrastructure supplied for this project for a period of five years from go-live. This includes:

- a. Repairing of defective parts/components,
- b. Replacement of parts/components beyond repair with parts/components of same or better Specifications ensuring compatibility,
- c. Providing suitable standby for parts/components with same or better specifications till the time the Original part/component is repaired or replaced so that daily business is not affected,

#### संस्कृति विभाग, उत्तराखण्ड

## संस्कृति निदेषालय, एम0डी0डी0ए० कालोनी, चन्दर रोड़, डालनवाला, देहरादून।

# ई–मेलः directorculture@gmail.com, dir-culture@uk.gov.in दूरभाश नं0–0135–2712595

- 1- फर्म का नाम-
- 2- पता-
- 3- दूरभाश-
- 4- फर्म के मालिक / साझेदारों का नाम-
- 5- व्यापार कर / सेवाकर / जी०एस०टी० के अन्तर्गत पंजीकरण का प्रमाण-पत्र (पंजीकरण प्रमाण-पत्र की प्रति संलग्न करें)
- 6- फर्म के आयकर की प्रति (पैन नं0)-
- 7- विगत तीन वर्श (2016–17, 2017–18 एवं 2018–19) के आयकर रिटर्न की प्रति–
- 8- विगत तीन वर्श (2016–17, 2017–18 एवं 2018–19) का क्रियान्वित किये गये प्रोजेक्टों पर सम्बन्धित विभाग / संस्था / कार्यालय द्वारा प्रदत्त संतोशजनक प्रमाण-पत्र की प्रति।
- 9- धरोहर राषि का विवरण— एफ0डी0आर0/डी0डी0नं0

दिनांक-

बैंक का नाम-

- 10- विगत ०३ वर्श (२०१६–१७ए २०१७–१८) का आय—व्यय विवरण (सी०ए० द्वारा प्रमाणित अंकेक्षित लेखों की प्रति संलग्न करें)।
- 11- फर्म का विगत 03 वर्शों (2016—17ए 2017—18 तथा 2018—19) का वार्शिक टर्नओवर न्यूनतम रू० 2. 00 करोड़ प्रति वर्श।
- 12- राजकीय विभाग / संस्थान से विधिक विवाद न होने / किसी सरकारी / अर्द्धसरकारी संस्थान द्वारा काली सूची में न डाले जाने का नोटरी द्वारा प्रमाणित षपथ पत्र।
- 13- उत्तराखण्ड के 01 राजपत्रित अधिकारी द्वारा प्रदत्त नवीनतम चरित्र प्रमाण-पत्र।
- 14- अन्य विवरण (यदि कोई हो)।
- 15- संलग्नों का विवरण।

मैं / हम लिखित रूप से अपनी सहमित देता / देते / हूँ / हैं कि निविद प्रपत्र उल्लिखित सभी नियम षर्ते मुझे / हमें मान्य हैं तथा वित्तीय निविदा (बी०ओ०क्यू) में अंकित की गई दरों पर सामग्री आपूर्ति के लिये मैं / हम तैयार हूं / हैं यदि मुझे आपूर्ति आदेष निर्गत किया जाता है तो मैं / हम रूपये 100.00 के गैर अदालती स्टाम्प पेपर पर औपचारिक अनुबन्ध के लिये तैयार हूं / हैं।

निविदाता के हस्ताक्षर व मुहर निविदादाता का नाम व पूरा पता दूरभाश नं0—

स्थानः

दिनांक:

# Documents to be enclosed (To be Indexed by the bidder as per following order).

Sl. No.	Documents	Yes / No
1.	Proof of GST Registration	
2.	Proof/certificate of CA Certified turnover of Rs. 02 crores	
3.	Balancesheet of last three financial years of the firm	
4.	ITR of last three financial years of the firm	
5.	Proof of office registration in Uttarakhand of the firm	
6.	EMD & Tender fees	
7.	Signed & Stamped copy of tender document	
8.	Tender acceptance letter in prescribed format with signature & stamp	
9.	Make & Model(Quoted Products)item- wise accompanied with Datasheets/Catalogue/ Brochure	
10.	Required MAF Certificates	
11.	Certificates copy like BIS, UL, FCC etc wherever is required	
12.	Compliance sheet	
13.	Proof of non-blacklist on stamp paper	
14.	Copy of PAN Card	
15.	Copy of GST Registration	
16.	Work orders of similar projects	
17.	Satisfactory completion certificates obtained from the Department/ Office	
18.	ESIC Registration Proof	
19.	OEMs turnover certificate	
20.	Details of service centers	

# Technical Specifications

# Item 1: Outdoor LED Display-Pixel Pitch 10mm

Sl.No.	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
	Make/Model (For Quoted Product)			
1	Display Size (WXH)	Minimum 18.90ft X 9.45ft or bigger		
2	Pixel Pitch	10 mm or better (Lower pitch is regarded as better)		
3	LED Configuration	RGB 3 in 1 SMD		
4	Pixel Density	Minimum 10,000 pixels per sqm or better		
5	Half Gain Horizontal/Vertical Viewing Angle	H 140 deg/V90 deg or better		
6	Refresh Rate	>=3840 Hz or better		
7	Temp Range	-20 to +50 Degrees C or better		
8	Gray Scale Processing	16 bit or better		
9	Brightness (Calibrated)	5500cd/m <sup>2</sup> or better		
10	Maximum Power Consumption	850w/sqm or lower		
11	Power Input	100~240VAC		
12	Individual Title/Cabinet Dimensions	As per the OEM		
13	Contrast Ratio	3500:1 or better		
14	Access For Maintenance	Front or Rear		
15	IP Level	Front IP65/Rear IP54 OR		

		higher	
16	Unit Case Material	As per the OEM	
17	International Safety Certifications (Mandatory to submit along with the bid)	CE certification , UL, FCC Certification, BIS (Beaureu of Indian Standards), ROHS, Quality Management System 9001:2015	
18	Auto Brightness Sensor	Auto Brightness Sensor to be installed along with the screen to monitor the ambient brightness and ensure automatic optimum brighness levels during the day and night time.	
19	Compulsary Requirement	LED Tiles and LED Controller should be from same OEM to ensure compatibility between components and smooth after service support from single OEM	
20	Rack Frame Power Distribution Unit	To be suppplied with Led screen	

## **Item 2: LED Controller**

Sl.	Parameter	Specifications	Cross-Reference	Compliance
			to Product	
no.			Catalogue	
	M. 1 /M. 1 1 (E)			
	Make/Model (For			
	Quoted Product)			
	G + 1D +	DG000		
1	Control Port	RS232		
2	Signal Input	DVI with resolution		
		capability of 1920 X 1200 or		
		better and HDMI,VGA		

3	Signal Output	RJ45 X2, Ethernet X2	
4	Maximum Load Capacity	2.3 Million Pixels	
5	Input Voltage	100~240VAC	
6	Operating Temperature	5~40 Deg C	

# Item 3: Media Player

S#	Parameter	Specifications	Cross- Reference to Product Catalogue	Compliance
	Make/Model (For Quoted Product)			
1	Media Player with built in Playout software	Of reputed manufactures, compatible with LED Supplied (MAF Certificate to be enclosed)		
2	Processor	Intel/Other High End		
3	OS	Linux / Android/ Windows		
4	Internal drive	Solid State Drive 60 GB or More		
5	Output	HDMI/Display Port for Graphics		
6	Operating System Video	At least should support MPEG-4,WMV,Quicktime or better		
7	Audio	MP3, WAV		
8	Image	JPEG, PNG,BMP,GIF		
9	Text	Multiple fonts, speeds, colors,		

		animations	
10	Internet	HTML, XML Files, RSS newsfeeds or better	
11	Others Video Zones	1 or more	
12	Network	Ethernet 1000/100/10(RJ45) and WiFi	

## Item 4: Mechanical Structure For Mounting of LED Walls

Sl. No.	Parameter  Make / Model (For Quoted Product)	Specifications	Cross-Reference to Product Catalogue	Compliance
2	Mounting Structure	LED wall should be mounted on bipole. Structure should be earthed properly (Earthing resistance: 02 ohm) and provided with lightining arrestor as well which should be properly shielded against any damage.		
3	Material	Should be made from mild steel and painted black along with antirust coating.		

## Item 5: Outdoor Cabinet Commercial Air Conditioner

Sl. No	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
1	Make/Model (For			

	Quoted Product)		
2	Outdoor Cabinet Air Conditioner	As per the OEM specifications which should be compatible for given screen.	

## Item 6: Desktop PC

Sl. No.	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
1	Make/Model (For Quoted Product)			
2	Operating System	WIN10 Professional		
3	HDD	1 TB or higher		
4	RAM	8GB or higher		
5	Processor	i5 8th Gen / i7 8th gen		
6	Monitor (With DVI/HDMI I/P)	22"		
7	Display Output	DVI/HDMI/DP		
8	Display Memory/Graphic Card	1GB or higher		
9	Ethernet/LAN + Wifi	10/100/1000 Mbps		

#### **Item 7: Communication Interface Device**

(This device shall be used to communicate with serial port devices like led controller for brightness control, ON/OFF)

Sl.	Parameter	Specifications	Cross-Reference to	Compliance
			Product Catalogue	

no.			
1	Make/Model (For Quoted Product)		
2	Ethernet Interface		
2.1	Number of Ports	One 8 pin RJ45	
2.2	Speed	10/100/1000 Mbps, auto MDI/MDIX	
2.3	Serial Interface		
2.4	Number of Ports	One	
2.5	Serial Standards	RS-232 on DB 9 connector	
3	Serial Communication Parameters		
3.1	Data Bits	5,6,7,8	
3.2	Stop Bits	1,1.5,2	
3.3	Parity	None, Even,Odd,Space,Ma rk	
3.4	Flow Control	RTS/CTS and DTR/DSR (RS-232 only), XON/XOFF	
3.5	Baudrate	110 bps to 230.4 kbps	
3.6	Serial Signals		
3.7	RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND	
4	Software		
4.1	Network Protocols	ICMP, IPv4,TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1,	

		ARP, HTTP, SMTP	
4.2	Configuration Options	Web Console, Serial Console, Telnet Console, Windows Utility	
5	Physical Characteristics		
5.1	Housing	Metal	
5.2	Weight	340 g or less	
5.3	Dimensions	With ears: 75.2 x 80 x 22mm	
6	Environmental		
6.1	Operating Temperature	0° to 55° C	
6.2	Ambient Relative Humidity	5 to 95%(non- condensing)	
7	Power Requirements		
7.1	Input Voltage	12 to 48 VDC	
7.2	Input Current	128.7mA@12VDC	
8	Certifications		
8.1	Safety	UL 60950-1	
8.2	EMC	EN 55022/24	

## Item 8: Network Switch

Sl.		Cross-Reference to	Compliance
No		Product Catalogue	
	Specifications		
1			
	Make/Model (For Quoted Product)		
2	Minimum 24 ports of 10/100/1000 base-T		
3	And 2 SFP combo uplink ports.		

4	Switch Should have minimum 8 PoE Ports.	
5	Rack mountable and should support stacking of minimum 4 switches with 40Gbps of dedicated stacking bandwidth	
6	40 Gbps or higher Backplane capacity.	
7	Should support Non-blocking hardware architecture	
8	All interfaces should provide wire speed forwarding for both Fiber and copper modules	
9	Support for at least 1000 VLANs & 16k MAC address	
10	It should support IGMP snooping v1 & v2	
11	It should have static IP routing from day 1	
12	Switch should support 8 hardware queues per port	
13	Switch should support LLDP and LLDP-MED capabilities	
14	Should support Dynamic Host Configuration Protocol (DHCP) snooping, dynamic ARP inspection (DAI)	
15	Should support Secure Shell (SSH) Protocol and Simple Network Management Protocol Version 3 (SNMPv3).	
16	Switch needs to have console port for administration & management	
17	Management using CLI, GUI using Web interface should be supported	
18	FTP/TFTP for upgrading the operating System	
19	IEEE 802.1x support	
20	IEEE 802.1D Spanning-Tree Protocol	
21	IEEE 802.1p class-of-service (CoS) prioritization	
22	IEEE 802.1Q VLAN	

23	IEEE 802.3 10BASE-T specification
24	IEEE 802.3u 100BASE-TX specification
25	Switch should able to support management via CLI, Web interface
26	SNMP v1,v2,v3
27	Switch should be manageable through both IPv4 & IPv6.
28	The switch should support zero touch provisioning (ZTP) feature allows a DHCP server to push configuration
29	Proposed Solution should have minimum 7 years EOS/EOL from the date of UAT
30	5 years OEM comprehensive Onsite Warranty and support for both hardware and software

## Item 9: Router

Sl.	Specifications	Cross-Reference to	Compliance
No.	Specifications	Product Catalogue	Compilance
	M 1 / 11/D O / 1D 1 /)	Froduct Catalogue	
1	Make/ model (For Quoted Product)		
2	Architecture & Performance		
3	The router should be modular		
4	Router should have redundant power supplies.		
5	The Router should have WAN performance of		
	minimum 01 Gbps with Services and Scalable up		
	to 10 Gbps from Day 1		
6	Should have minimum 4 Gb of DRAM and 4Gb		
	of Flash , should support expandability of DRAM		
	to 8 Gb		
7	The router should have following wire speed		
	interfaces		
8	2-1000BASE SFP Ports,		
9	Minimum 4-10/100/1000BASE-T RJ-45 Ports,		
10	4-Serial / E1 Ports populated from day 1 with		
	cables. For V.35 connectivity in E1 should		
	provide appropriate convertor, Scalable to 8		
	Serial/E1.		
11	Router Should Support at least 1 10G port		
12	High Availability Features		
13	Should have 802.1ag, Y.1731, BFD for IPV4 and		
	IPV6, VRRP		

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14	Router should support adaptive Routing		
	Adjustment by doing routing path selection		
	based on criteria like packet loss, delay ,		
	jitter,RT and Traffic load to intelligently control		
	the traffic to maximize the Quality of user		
	Experience		
15	Feature to be supported		
16	Dynamic Host Configuration Protocol (DHCP)		
17	IP Multicast, PIM SM, PIM SSM, IGMP, MLD,		
	RP, Next generation Multicast using MPLS LSP.		
18	Intermediate SystemStoSIntermediate System		
	(ISSIS)		
19	Label Distribution Protocol (LDP)		
20	MultiSprotocol Label Switching (MPLS), MPLS		
	FRR		
21	L2 VPN, L3 VPN, VPLS		
22	IPv4 Features		
23	Support for RIP Version 2, OSPF, ISIS, BGP		
24	Support for BGP confederations / Route		
23	Reflectors		
25	Integrated routing and bridging support		
26	Should support Bridge domain and virtual		
20	switch or VRF instances or Equivalent		
27	Security features		
28	Policing/RateSlimiting of traffic to CPU		
29			
29	Router should support minimum 1000 IPSec VPN Tunnel		
30	The router shall support dynamically		
30	established MP2MP IPSec Based VPN Tunnels		
	matching traffic conditions.		
31	IPv6 Features		
-			
32	Should support IPv6 ping		
33	Should support IPv6 trace route		
34	Should support Stateless Auto configuration		
35	Should support RIPng, OSPFv3, VRRPv6, MLD		
36	Should support IPv6 L3 forwarding		
37	Should support PIM for Ipv6 multicast		
38	Should support IPv6 ACL		
39	Should support IPv6 traffic over MPLS LSPs		
40	IP/MPLS features		
41	Route redistribution and Route filtering		
42	MPLS featuresS LDP, L2VPN,		
43	Traffic engineering with RSVPSTE,		
44	Fast reroute Link Node and path protection		
45	Policy Based Routing (PBR)		
46	Support MPLS (LDP,L2VPN)and traffic		
	engineering with RSVPSTE		
47	QoS Classifications		
48	802.1Q		
	· · · · ·		

40	T2 1:	
49	Egress policy	
50	Strict priority queuing (LLQ) – egress	
51	WRED (egress)	
52	Trust 802.1p/DSCP (ingress)	
53	Per port and per queue shaping	
54	8 hardware queues per port	
55	Performance Numbers	
56	Minimum 20K IPv4 and minimum 20K IPv6	
	routes with minimum 6 K Multicast routes	
57	OAM & Monitoring Features	
58	802.3ah (Ethernet transport OAM SUDLD	
	equivalent), 802.1ag, RMON	
59	Network Management	
60	SNMP: Support for Minimum SNMP version 2 &	
	upgradable to version 3 shall be provided.	
61	Console or OutSof -band Management: The	
	Router shall have console management access	
62	The Router shall support Network Time Protocol	
	(NTP) as per RFC 1305 or SNTP (simple NTP)	
	as per as per RFC 2030	
63	Certification	
64	The router should be EAL 3/NDPP certified	
	under Common Criteria.	
65	The Router should be IPv6 complaint from Day 1	
66	The Router should have ZTP capabilities	
67	Router in future should be able to migrate to	
	software defined WAN by adding the Controller	
	in the central location .	
68	Proposed Solution should have minimum 7 years	
	EOS/EOL from the date of UAT	
69	5 years OEM comprehensive Onsite Warranty	
	and support for both hardware and software	

# Item 10: Line array Loudspeaker

SL.No.	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
	Make/Model (For Quoted Product)			
1	Effective frequency range (+/-3 dB)	60-15 khz		
2	Long term power Handling	200 watts or better		

3	Sensitivity (SPL / 1 W @ 1 m)	91 dB SPL	
5	Nominal Coverage Pattern (H × V)	100° × 100° or better	
6	Maximum peak SPL	116 db or better	
7	Rated impedance	8 ohms	
8	Transducers	Eight (8) 4.5" (114 mm) full- range environmental drivers / 1 X 8" LF driver & 1 X 1" HF or better	
9	Enclosure material	Mica-reinforced structural foam, textured/ High impact polymer	
10	Grille material	Powder-coated steel grille	
11	Environmental	IP-55 or better	

## Item 11: Subwoofer

SL.No.	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
	Make/Model (For Quoted Product)			
1	Effective frequency range (+/-3 dB)	40-280 Hz or better		
2	Long term power Handling	800 watts or better		
3	Sensitivity (SPL / 1 W @ 1 m)	94 dB SPL		
4	Nominal dispersion	Omni-directional below 200 Hz or better		
5	Maximum peak SPL	123 dB		
6	Rated impedance	4 or 8 ohms		
7	Transducers	LF: Two (2) 12" (305 mm) woofers with 4" (102 mm)		
8	Enclosure material	Birch Plywood or better		

9	Grille material	16-gauge perforated stainless steel grille with powder-coated finish or Powder coated galvanized	
10	Environmental	Outdoor per IEC 529 IPX5 or	
		IP 55	

## Item 12: Custom Bracket

Sl.No.	Parameter	Specifications	Compliance
1	Make / Model		
2	As per the OEM		

# Item No. 13. Digital Power Amplifier

Sl. No	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
1	Make/Model (For Quoted Product)			
2	Channel	Four channel		
3	Rated Power Output	2 x 1000W @ 4Ω, 2 x 1000W @ 70/100V		
4	Voltage Gain	36 dB or better		
5	Signal to Noise Ratio	>102 dBA		
6	Total Harmonic Distortion	<0.4%		
7	Damping Factor	As per OEM		
8	Frequency Response	20Hz to 20kHz		
9	Crosstalk	>65dB or better		
10	Input Impedance	> 20 Kohm or better		

11	Display	As per OEM	
12	Built-in DSP feature	As per OEM	
13	A-D conversion	48kHz, 24-bit floating point	
14	Cooling	Temprature controlled fans, front to rear	

# Item No. 14. Wired handheld Microphone

Sl. No	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
1	Make/Model (For Quoted Product)			
2	Transducer Type	Dynamic		
3	Operating Principle	As per OEM		
4	Polar Pattern	Super Cardioid		
5	Frequency response: Close miking	30-17kHz or better		
6	Distant miking (measured at 1 m)	55-18 kHz or better		
7	Nominal Impedance	$350\Omega$ or better		
8	Load Impedance	2 kΩ		
9	Connection	XLR, 3-pin, Male		

# Item No. 15. Instrumental Microphone

Sl. No	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
1	Make/Model (For Quoted Product)			
2	Transducer Type	Condenser		
3	Operating Principle	As per OEM		
4	Polar Pattern	Cardioid		
5	Frequency response: Close miking	20-20kHz		
6	Distant miking (measured at 1 m)	35-20kHz or better		
7	Nominal Impedance	200 Ω		
8	Max SPL	140 db or better		
9	Load Impedance	1 kΩ		
10.	Connection	XLR, 3-pin, Male		

# Item No. 16. Outdoor all weather Loud Speaker

Sl. No	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
1	Make/Model (For Quoted Product)			
2	Effective frequency range (+/-3 dB)	100 Hz to 16 kHz		
3	Long term power Handling	75 W or better		
4	Sensitivity (SPL / 1 W @ 1 m)	89 db or better		

5	Nominal Coverage Pattern (H × V)	90° × 90° or better
6	Crossover	Passive (2.0 kHz crossover frequency) / Internal crossover
7	Maximum peak SPL	110 dB or better
8	70/100V transformer tap settings	70V: 5, 10, 20, 40, 60 W or better; 100V: 10, 20, 40, 60 W or better
9	Rated impedance	8 ohms
10	Transducers	1x 5.25-inch (1-inch voice coil) or better
11	Enclosure material	As per OEM suitable for outdoor extreme weather conditions
12	Grille material	3-layer: perforated stainless steel, acoustic foam, stainless steel mesh, powder-coat finish
13	Environmental	IP-55 or better

## Item No. 17. Mixer

Sl. No	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
1	Make/Model (For Quoted			
	Product)			
2	FREQUENCY RESPONSE	10 Hz ÷ 55000 kHz		
3	MIC Input	4 mono & 3 Stereo line		
4	Internal Digital Effcts	99 Preset		
5	THD + N	0.03%		
6	Power Supply	External		

7	Phantom Power	48	
8	Power Consumption	24W	

## Item No. 18. PTZ Camera

Sl. No	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
1	Make/Model (For Quoted Product)			
2	Camera			
3	Image Sensor	1/2.8 Exmor / CMOS or better		
4	Image Sensor	Approx. 2.1 Megapixels or better		
5	Signal System	1080/59.94p, 50p, 29.97p, 25p		
6	Minimum Illumination (50IRE)	1.4 lx (50IRE, F1.6, 1/30s, 43dB, 30fps)		
7	S/N Ratio	50 dB		
8	Shutter Speed	1/1 to 1/10000 sec (59.94 Hz system)		
9	Control	Exposure Control, Exposure Compensation, Bright, Slow Shutter White Balance.		
10	Optical Zoom	30x or better		
11	Digital Zoom	12x or better		
12	Focusing System	Auto/Manual		

13	Horizontal Viewing Angle	60 degree or better (wide)
14	Minimum Object Distance	10 mm(Wide)~1200 mm(Tele)
15	Pan/Tilt AnglePan	±170° Tilt: +90°/- 30°
16	Pan/Tilt Speed (Max.)	60 degrees/sec
17	Preset Position	100 or better
18	Network	Ethernet 10Base- T/100Base-TX or Better
19	IP Video resolution	1920 x 1080, 1280 x 720, 960 x 540, 720 x 480
20	Compression Format	H.264 (High Profile)
21	Maximum Frame Rate	H.264:60fps
22	Multi Streaming Capability	3 sites
23	Maximum Number of Clients	5
24	Protocols	IPv4, IPv6, TCP, UDP, ARP, ICMP, IGMP, HTTP, DHCP, DNS, RTP/RTCP, RTSP, VISCA over IP
25	Camera Features	Auto ICR, Wide- D, Image Stabilization, Image Flip, Auto Power Off, Night Power Off
26	Interface	
27	Visibility should be day & Night	

28	HD Video Output	HD-SDI or HDMI	
29	Camera Control Interface	RS-422, RJ-45, RJ- 45	
30	Power	PoE Plus or Better	

# ${\bf Item~19: Joystick~controller}$

Sl.	Parameter	Specifications	Cross-Reference	Complia
No			to Product	nce
			Catalogue	
1	Make/Model (For Quoted			
	Product)			
2	Control Input/Output	RS-232C OUT Connector,		
		RS-422 connector		
3	Maximum IP Connections	100 or better		
4	Maximum Serial Connections	5 or better		
5	Control Protocol	RJ- 45 over IP/RS 422/RS-		
		232 C switchable		
6	Features	Togglebacklight		
		compensation on/off, R		
		gain and B gain		
		adjustment, Iris value		
		adjustment, Gain value		
		adjustment, Shutter speed		
		adjustment		

## Item 20: Multi Camera Mixer

Sl. No	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
1	Make/Model (For Quoted Product)			
2	Video format	1080/59.94i Hz (60i)		
3	Streaming Protocol	AVC/RTMP/RTSP/RTP (Ustream)		
4	Recording	AVCHD format by SD Card (128 gb or higher and capable of adding external storage device)or better / External recording device in similar or higher capacity		
5	Max rate	50 Mbps		
6	Video Inputs	4 x SDI, 2 x HDMI, 2 x Video in, 1 x title		
7	Video Outputs	1 x HD-SDI, 2 x HDMI (PGM & multi-view), 1 x video out		
8	Key Type	Luminance Key / Chroma key		
9	Audio Inputs	1 x Analog Stereo, 4 x Stereo Embedded Audio inputs		
10	Audio Outputs	1 x PGM (Stereo)		
11	Sampling	48HKHz		
12	Analog input	XLR/TRS Combo Type		
13	Control Port	2 x RJ-45, 1 x USB2.0 or better, 1 x D-Sub 9-pin,		
14	Display	LCD Touch screen		
15	Features	Cut, Mix and Wipe effects, Chroma key, Picture in Picture, Insert and overlay titles, Overlay Logo, Manual transition, Stream content live over the internet, PC, Mac and Tablet integration		

## Item 21: 32 " Display

Sl. No	Parameter	Specifications	Cross-Reference to Product Catalogue	Compliance
1	Make/Model (For Quoted Product)			
2	Viewable Size	32" Diagonal		
3	Aspect Ratio	16:09		
4	Backlight Scanning	100Hz		
5	Viewing Angle (typ)	178°		
6	Horizontal and Vertical Response Time (typ)	8 ms (GTG)		
7	Input Ports	1 x Video, 2 x HDMI, 2 x USB input, 1 x VGA in		
8	Built -in Speakers Full range	20W (10W+10W)		
9	VESA Mount	100 X 100 mm		
10	Safety Regulations	IS 13252:2010		
11	Rated Power Consumption	50W		
12	Low latency high quality video over IP capable			

#### Item 22: Scope for installation

- 1. Complete System must be RoHS certified.
- 2. All connectivity between devices must be low latency and better performance.
- 3. All products should be confirming with latest ISO standards.
- 4. System should be user friendly & should be Interoperable with each other.
- 5. Complete Supply, Installation, Configuration, Testing and Commissioning of all the delivered equipment with necessary cables and accessories.