



**ADDENDUM & CORRIGENDUM-2**  
**REQUEST FOR PROPOSAL**  
**FOR**  
**SELECTION OF IMPLEMENTING AGENCY FOR**  
**SUMAN EYE (CCTV NETWORK) PROJECT**

**RFP No.: SSCDL-SumanEye-RFP-01-2018**

**Last date for Price Bid Submission: 16. 10. 2018**



Invited by

Surat Smart City Development Limited

115, Smart City Cell, Surat Municipal Corporation,

Muglisara, Main Road, Surat - 395003, Gujarat.

**Surat Smart City Development Limited**

**ADDENDUM AND CORRIGENDUM-2**

**RFP Notification No.: SSCDL-SumanEye-RFP-01-2018**

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The Bidder are requested to take note of the following changes made in the RFP documents, which are to be taken in to account while submitting the RFP. They shall be presumed to have done so and submitted the RFP accordingly.

- This Addendum and Corrigendum shall be the part of the RFP documents.
- All items specified in this Addendum and Corrigendum supersede relevant items to that effect as provided in the original RFP documents. All other specifications, terms and conditions of the original RFP document shall remain unchanged.
- Bidder shall read and consider following points, which shall be a part of the RFP documents.
- All the changes mentioned in this document should be read across the RFP, Addendum & Corrigendum, wherever applicable.
- **The queries raised and given by SIs, but the clarifications are not made in this Addendum and Corrigendum shall be considered to remain unchanged as per the terms and conditions mentioned in the original RFP documents.**

**Changes with respect to RFP Schedule**

Please note that with respect to tendering schedules, the following changes have been effected. Bidders are requested to take note of the same and adhere to the dates specified hereunder with regards to Price Bid Submission and Technical Bid Submission:

<b>Particular</b>	<b>Current Dates</b>	<b>Proposed Dates</b>
<b>Online Price Bid Submission Date</b>	10.10.2018 up to 18:00 hrs.	<b>16.10.2018</b> up to 18:00 hrs.
<b>Technical Bid Submission (in Hard Copy)</b> Filled-in Technical Bid along with Bid Fee, EMD and other documents	In sealed envelope strictly by RPAD/Postal Speed Post On or before 15.10.2018 up to 18:00 hrs. To the Chief Accounts, Surat Municipal Corporation, Muglisara, Surat – 395003, Gujarat by RPAD or Speed Post Only.	In sealed envelope strictly by RPAD/Postal Speed Post On or before <b>20.10.2018</b> up to 18:00 hrs. To the Chief Accounts, Surat Municipal Corporation, Muglisara, Surat – 395003, Gujarat by RPAD or Speed Post Only.

## Other Changes

#	Section	Page No.	Tender Reference	Existing Clause	Amended/New Clause
1.	6.1	16	System Integration of CCTV Surveillance Network (Suman Eye) Point No-3	Bidder shall have to design their solution for CCTV system considering the bit rate of minimum 5 Mbps for each camera.	Bidder shall have to design their solution for CCTV system considering the bit rate of <b>minimum 3 Mbps with H.265 compression</b>
2.	6.1	19	System Integration of CCTV Surveillance Network (Suman Eye) Point No-19	SI is responsible to carry out Civil Work (Supply, Erection and commissioning) of Non-IT infrastructure like poles/frames/fixtures/housing etc. with proper electrical earthing (as per IS-3043) wherever required based on the feasibility study report.	SI is responsible to carry out Civil Work (Supply, Erection and commissioning) of Non-IT infrastructure like poles/ <b>junction box</b> /frames/fixtures/housing etc. with proper electrical earthing (as per IS-3043) wherever required based on the feasibility study.
3.	6.1	19	System Integration of CCTV Surveillance Network (Suman Eye) Point No-22	The CCTV system implemented at Construction site shall be temporary implemented. SI shall carry out shifting and or alignment of CCTV Cameras installed system implemented at construction site within same premise for better monitoring. SI shall also carry out the relocation of CCTV System at another construction sites without any extra cost if the work at existing site has been completed. In this regard, SI shall carry out above said activities only after intimation and written permission from SSCDL/SMC.	The CCTV system (including camera and all allied accessories) implemented at Construction site <b>or any other site</b> shall be temporary implemented. SI shall carry out shifting and or alignment of CCTV Cameras installed system implemented at construction site within same premise for better monitoring without any additional cost. However, the relocation of CCTV System within the same site or to another site that requires the shifting of the pole will be done on a chargeable basis and the payment will be made as per the approved rate. In this regard, SI shall carry out above said activities only after intimation and written permission from SSCDL/SMC.
4.	6.1.3	22	Detailed Functionalities of Suman Eye (CCTV Network) Project Point No-8	The Recording Server / System shall support camera (analogue and IP cameras) devices from various manufacturers.	The Recording Server / System shall support <b>IP camera of various manufacturers.</b>
5.	6.1.3	22	Detailed Functionalities of Suman Eye (CCTV Network) Project Point No-9	The Recording Server / System shall support the PTZ protocols not limited to certain OEMs but in general all the PTZ cameras of the supported devices listed by the camera OEMs.	<b>The Recording Server / System shall support the IP PTZ cameras from OEM's based on the ONVIF 2.X standard.</b>

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6.	6.1.3	23	Detailed Functionalities of Suman Eye (CCTV Network) Project Point No-12	The system shall support multiple failover servers for a group of recording servers	The system shall support failover of <b>Video Management System Server in N+N mode and other servers in N+1 Mode for a group of recording servers</b>
7.	6.1.3	24	Detailed Functionalities of Suman Eye (CCTV Network) Project Point No-19	The web-based remote client shall offer live view of up to 16 cameras, including PTZ control and event / output activation. The Playback function shall give the user concurrent playback of multiple recorded videos with date, alert sequence or time searching.	The web-based remote client shall offer live view of <b>minimum 9 cameras</b> , including PTZ control and event / output activation. The Playback function shall give the user concurrent playback of multiple recorded videos with date, alert sequence or time searching.
8.	6.1.13	40	Earthing System	<b>New Clause Added</b>	<b>5. SI shall have to provide chemical earthing as per IS Standard wherever required based on feasibility report</b>
9.	6.1.5.9	33	Warranty, ATS and Annual Maintenance Services	1. <b>Hardware Warranty:</b> 3 years on-site comprehensive warranty with parts (Back-to-back from OEM).	1. <b>Hardware Warranty:</b> 3 years on-site comprehensive warranty with parts (Back-to-back from OEM) <b>except for below items which should be quoted with 5 years on-site comprehensive warranty with parts (Back-to-back from OEM):</b> <ol style="list-style-type: none"> <li>Servers</li> <li>Blade Chasis , if applicable</li> <li>Storage</li> <li>Enterprise Next Generation firewall</li> <li>8 Port PoE/PoE+ industrial grade network Switch</li> <li>8 Port PoE/PoE+ non-industrial grade network Switch</li> <li>Core/Top of the Rack/ Data Centre network Switch</li> <li>4 TB, 6 TB and 8 TB Surveillance Hard Disk for NVR</li> <li>3.5" 6TB 7200 RPM Near Line SAS drive</li> <li>2.5" 1.2 TB 10K RPM SAS drive</li> <li>2.5" SFF HDD disk Enclosure</li> <li>3.5" LFF HDD disk Enclosure</li> </ol>

#	Section	Page No.	Tender Reference	Existing Clause	Amended/New Clause
10.	6.1.5.9	33	Warranty, ATS and Annual Maintenance Services	<p><b>2. Hardware O&amp;M after warranty:</b> Comprehensive onsite O&amp;M with parts from the date of end of warranty till the end of contract covering back-to-back support from the OEM</p>	<p><b>2. Hardware O&amp;M after warranty:</b> Comprehensive onsite O&amp;M with parts from the date of end of warranty till the end of contract covering back-to-back support from the OEM except for below items, which to be quoted with 5 years of warranty support:</p> <ul style="list-style-type: none"> <li>a. Servers</li> <li>b. Blade Chasis , if applicable</li> <li>c. Storage</li> <li>d. Enterprise Next Generation firewall</li> <li>e. 8 Port PoE/PoE+ industrial grade network Switch</li> <li>f. 8 Port PoE/PoE+ non-industrial grade network Switch</li> <li>g. Core/Top of the Rack/ Data Centre network Switch</li> <li>h. 4 TB, 6 TB and 8 TB Surveillance Hard Disk for NVR</li> <li>i. 3.5" 6TB 7200 RPM Near Line SAS drive</li> <li>j. 2.5" 1.2 TB 10K RPM SAS drive</li> <li>k. 2.5" SFF HDD disk Enclosure</li> <li>l. 3.5" LFF HDD disk Enclosure</li> </ul>
11.	6.1.5.9	33	Software ATS	<p><b>3. Software ATS:</b> Comprehensive O&amp;M/ATS services from the date of completion of Warranty on all the licensed software (IT product, associated software components, VMS Software, database, operating systems, etc.) provided by the System Integrator till 5 years from the date of first Go live. The ATS from OEM shall be applicable for VMS and antivirus software. All minor and major updates/upgrades shall be made available as part of ATS. The SI will be responsible to installation of the</p>	<p><b>3. Software Licensed and ATS:</b></p> <ul style="list-style-type: none"> <li>i. All the proposed software solution components like Video Management Solution, Server OS, Database System, Antivirus Software, Virtualization platform, etc. must be proven and enterprise class in nature.</li> <li>ii. Comprehensive O&amp;M/ATS services from the date of completion of Warranty on all the licensed software (IT product, associated software components, VMS Software, database, operating systems, etc.) provided by the System Integrator</li> </ul>

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				<p>same from time to time. For OS &amp; Database, the SI will be required to carry out necessary patch updates/ service pack updates from time to time.</p>	<p>till 5 years from the date of Go-live of the first Request Order.</p> <p>iii. Video Management System: The VMS shall consist of necessary components including VMS client and VMS mobile app. All the major and minor updates and upgrades shall be provided for all the components of the proposed VMS solution during the contract period without any additional cost. The VMS shall be provided with back-to-back 24*7 enterprise OEM support throughout the contract period.</p> <p>iv. Virtualization Software: If the solution offered by the bidder utilizes the virtualization technology, necessary virtualization management software along with virtualization host software license is to be provisioned by the bidder. The virtualization software shall be provided with back-to-back 24*7 enterprise OEM support throughout the contract period.</p> <p>v. Server OS &amp; Database OS: If the open source based server and database OS are proposed, the same shall be provided with back-to-back 24*7 enterprise OEM support throughout the contract period.</p> <p>vi. All minor and major updates/upgrades shall be made available as part of ATS. The SI will be responsible to installation of the minor and major updates/upgrades along with patches, bug fixes, service packs from respective OEM from time to time.</p>
12.	6.1.6	35	Design Considerations and Operating Condition for Suman Eye Project (CCTV Network)	New Clause Added	13. The proposed solution consisting all the hardware and software component must support ONVIF 2.X standard with support for all necessary profiles so as to meet the requirements specified in the RFP.

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11.	6.2.2	46	Deployment of Onsite Support Engineer  Point No-5	5. The support engineer will visit the installation site once quarterly with the provision that monthly/quarterly reports of the failures and health of the equipment is generated from the EMS and submitted to the Authority. The SI shall arrange the suitable replacement in case the assigned support engineer goes on leave or is unavailable due to any other reason to ensure uninterrupted support services. SI may also require to engage additional manpower on case to case basis for proper operation & support of the system.	5. The support engineer will be required to carry out the preventive maintenance of various components as per the best industry practice on regular basis atleast once a quarter. The preventive maintenance activity report shall be submitted on a quarterly basis to SMC as per the decided format. Moreover, support engineer should also submit monthly and quarterly reports of the failures and health of the equipment as generated from the EMS. The SI shall arrange the suitable replacement in case the assigned support engineer goes on leave or is unavailable due to any other reason to ensure uninterrupted support services. SI may also require to engage additional manpower on case to case basis for proper operation & support of the system.
12.	7.1	51	Bidders Eligibility Criteria		Please refer to the Annexure I for revised Bidders Eligibility Criteria
13.	7.2	53	OEM's Eligibility Criteria		Please refer to Annexure II & III for revised OEM's Eligibility Criteria.
14.	9	74	Service Level Agreements (SLA)	Theft cases by default would not be considered as "beyond the control of Bidder". However, certain cases, based on circumstances & certain locations, SSCDL may agree to qualify as "beyond the control of Bidder". Damages due to any accident / mishap shall be considered as "beyond the control of Bidder". However, Power shut down or deliberate damage to field devices such as Cameras, Network Switch Systems etc. would not be considered as "beyond the control of Bidder"	Theft cases, Damages due to any accident / mishap shall be considered as "beyond the control of Bidder". However, Power shut down or deliberate damage to field devices such as Cameras, Network Switch Systems etc. would not be considered as "beyond the control of Bidder"

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15.	10	80	Payment Schedules and Milestones	<p><b>Note:</b></p> <p>1. Based on requirement/criticality SSCDL/SMC may issue interim/subsequent orders as per the approved rate during and after the Request Orders as specified above. Such order may have different quantity of CCTV Camera and other components and the same shall be required to be delivered.</p> <p>a. For CCTV Camera quantity upto 25 – SITC to be completed within 15 days of work order.</p> <p>b. For CCTV Camera quantity 25 to 100 – SITC to be completed within 45 days of work order</p>	<p><b>Note:</b></p> <p>1. Based on requirement/criticality SSCDL/SMC may issue interim/subsequent orders as per the approved rate during and after the Request Orders as specified above. Such order may have different quantity of CCTV Camera and other components and the same shall be required to be delivered.</p> <p>a. For CCTV Camera quantity upto 25 – SITC to be completed within <b>45 days</b> of work order.</p> <p>b. For CCTV Camera quantity 25 to 100 – SITC to be completed within <b>60 days</b> of work order</p>
16.	10.1	81	Payment Terms		Please refer to Annexure IV for revised Payment Terms
17.	12	89	General Instructions on Preparation of Technical Proposal (Under point C)	The hardware sizing proposed for hosting the solution shall have to be certified by the authorized person of the respective OEM either on OEM's letterhead or on SI;s letter head with OEM's stamp and signature	The hardware sizing proposed for hosting the solution shall have to be certified by the authorized person of the <b>VMS OEM</b> either on OEM's letterhead or on SI;s letter head with OEM's stamp and signature
18.	12	89	Compliance to Technical and Functional Specifications from the Bidder (Under point C)	The bidder (in case of consortium prime bidder) is required to provide the Compliance to Technical and Functional Specifications in form of undertaking for all the items as mentioned in Section 14	The bidder (in case of consortium prime bidder) is required to provide the Compliance to Technical and Functional Specifications form of undertaking for all the items as mentioned in Section 14. <b>Please refer to the revised TQ_10 form (Annexure V of this document) for more details.</b>
19.	12	90	Compliance to Technical and Functional Specifications from the OEM (Under point C)	The bidder must provide the Compliance to Technical and Functional Specifications in form of undertaking for all the items as mentioned Section 14 from respective OEMs on OEM's letter head duly signed by authorized signatory of OEM. Bidder is required to submit the compliance for all items mentioned in TQ_10 & TQ_11 (Section 13).	The bidder must provide the Compliance to Technical and Functional Specifications in form of undertaking for all the items as mentioned Section 14 from respective OEMs on OEM's letter head duly signed by authorized signatory of OEM. <b>Please refer to the revised TQ_10 form (Annexure V of this document) for more details.</b>



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20.	12	90	Authorization letter from OEM (Under point C)	The bidder must submit the authorisation from the OEM as per the format mentioned in TQ_9. Bidder is required to submit the authorization letter from OEM for all items mentioned in TQ_10 (Section 13.11)	The bidder must submit the authorisation from the OEM as per the format mentioned in TQ_8 and TQ_11 for respective items. Bidder is required to submit the authorization letter from OEM for all items mentioned in revised TQ_10 form (Annexure V of this document).
21.	13.11	107	TQ_10: Format for Specifying the Make & Model		Please refer to Annexure V for the revised TQ_10: Format for Specifying the Make & Model
22.	13.12	109	TQ_11: Format for Self Certificate from OEMs		Please refer to Annexure V for the revised TQ_11 Format
23.	14.1	110	2 Megapixel Full HD IR IP Vandal proof Dome Camera with Varifocal Lens		Please refer to Annexure VI for the revised technical Specifications of 2 Megapixel Full HD IR IP Vandal proof Dome Camera with Varifocal Lens
24.	14.2	112	2 Megapixel Full HD IR IP Vandal proof Bullet Camera with Varifocal Lens		Please refer to Annexure VI for the revised technical Specifications of 2 Megapixel Full HD IR IP Vandal proof Bullet Camera with Varifocal Lens
25.	14.3	114	2 Megapixel IR IP Vandal proof Bullet Camera with built-in 4G supported SIM Card Slot		Please refer to Annexure VI for the revised technical Specifications of 2 Megapixel IR IP Vandal proof Bullet Camera with built-in 4G supported SIM Card Slot
26.	14.4	116	2 Megapixel IR Dome Camera with fixed lens		Please refer to Annexure VI for the revised technical Specifications of 2 Megapixel IR IP Dome Camera with fixed lens
27.	14.5	118	2 Megapixel IR IP Bullet Camera with fixed lens		Please refer to Annexure VI for the revised technical Specifications of 2 Megapixel IR IP Bullet Camera with fixed lens
28.	14.6	119	2 Megapixel IR IP PTZ Camera with 30X optical zooming		Please refer to Annexure VI for the revised technical Specifications of 2 Megapixel IR IP PTZ Camera with 30X optical zooming
29.	14.8	122	4 Channel Network Video Recorder		Please refer to Annexure VI for the revised technical Specifications of 4 Channel Network Video Recorder
30.	14.9	124	4 Channel Network Video Recorder with built-in PoE Ports		Please refer to Annexure VI for the revised technical Specifications of 4 Channel Network Video Recorder with built-in PoE Ports

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31.	14.10	126	8 Channel Network Video Recorder		Please refer to Annexure VI for the revised technical Specifications of 8 Channel Network Video Recorder
32.	14.11	128	8 Channel Network Video Recorder with built-in PoE ports		Please refer to Annexure VI for the revised technical Specifications of 8 Channel Network Video Recorder with built-in PoE ports
33.	14.12	129	16 Channel Network Video Recorder		Please refer to Annexure VI for the revised technical Specifications of 16 Channel Network Video Recorder
34.	14.13	131	32 Channel Network Video Recorder		Please refer to Annexure VI for the revised technical Specifications of 32 Channel Network Video Recorder
35.	14.15	134	8 Port PoE/PoE+ industrial grade network switch		Please refer to Annexure VI for the revised technical Specifications of 8 port PoE/PoE+ industrial grade network switch.
36.	14.16	135	8 Port PoE non industrial grade network switch		Please refer to Annexure VI for the revised technical Specifications of <b>8 Port Web Managed PoE/PoE+ Network switch.</b>
37.	14.17	136	Core Switch/Top of the Rack Switch/DC Switch		Please refer to Annexure VI for the revised technical Specifications of Core Switch/Top of the Rack Switch/DC Switch
38.	14.18	142	Enterprise Next Generation Firewall		Please refer to Annexure VI for the revised technical Specifications of Enterprise Next Generation Firewall
39.	14.19	147	Server (As Building block, to establishing computing solution for sub-systems/solutions)		Please refer to Annexure VI for the revised technical Specifications of Server (As Building block, to establishing computing solution for sub-systems/solutions)
40.	14.20	149	Blade Chassis		Please refer to Annexure VI for the revised technical Specifications of Blade Chassis
41.	14.21	150	Storage		Please refer to Annexure VI for the revised technical Specifications of Storage
42.	14.25	159	Field Junction box for outdoor locations		Please refer to Annexure VI for the revised technical Specifications of <b>Field Junction box for outdoor locations (without WAN equipment)</b>
43.	14.27	161	Media Convertor		Please refer to Annexure VI for the revised technical Specifications of Media Convertor
44.	14.28	162	LIU		Please refer to Annexure VI for the revised technical <b>Specifications of LIU</b>
45.	14.30	164	Cat-6 UTP Cable		Please refer to Annexure VI for the revised technical Specifications of Cat-6 UTP Cable

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46.	14.36	167	Surveillance Hard disk (HDD) for Network Video Recorder (NVR)		Please refer to Annexure VI for the revised technical Specifications of Surveillance Hard disk (HDD) for Network Video Recorder (NVR)
47.	14.37	167	Enterprise Management System(EMS)		Please refer to Annexure VI for the revised technical Specifications of EMS. Also please check the revision in scope of additional license requirements.
48.	14.38	183	Video Management Software Point No: 25	All CCTV cameras locations shall be overlaid in graphical map in the VMS Graphical User Interface (GUI) or VMS Software shall have capability to integrate with GIS maps (Google or Open Street). The cameras selection for viewing shall be possible via clicking on the camera location on the graphical map. The graphical map shall be of high resolution enabling operator to zoom-in for specific location while selecting a camera for viewing.	VMS Software shall have capability to overlay all CCTV Cameras on GIS maps (Google, Open Street, etc.). The cameras selection for viewing shall be possible via clicking on the camera location on the GIS Map. The GIS map shall be of high resolution enabling operator to zoom-in for specific location while selecting a camera for viewing. Necessary license provisioning if any in this regard, shall have to be done by the SI without any additional cost.
49.	14.38	185	Video Management Software Point No: 43	VMS shall support integration with the ANPR application.	This clause stands deleted.
50.	14.38	188	Video Management Software Point No: 64	Viewing of Minimum 9 cameras on Single screen at full HD (1920 X 1080 p) resolution at 15 fps and minimum 5 Mbps bit rate of each camera	Viewing of Minimum 9 cameras on Single screen at full HD (1920 X 1080 p) resolution at 25 fps with minimum 3 Mbps bit rate of each camera over H.265 compression
51.	14.40	193	Key consideration for Storage requirement Point No: 1	The video of each camera is required to be stored for 30 days at Full HD (1920X1080) resolution at H.265 High quality compression at minimum 25 fps with 5 mbps bit rate of each camera.	The video of each camera is required to be stored for 30 days at Full HD (1920X1080) resolution at H.265 High quality compression at minimum 25 fps with 3 mbps bit rate of each camera.
52.	14		Technical Compliance Sheet	New Component Added	Please refer to Annexure VI (Point 14.41) for the technical Specifications of 1G SFP Transceiver Module for 8 Port PoE/PoE+ industrial grade network switch
53.	14		Technical Compliance Sheet	New Component Added	Please refer to Annexure VI (Point 14.42) for the technical Specifications of 1G SFP Transceiver Module for 8 Port Web Managed PoE/PoE+ network switch
54.	14		Technical Compliance Sheet	New Component Added	Please refer to Annexure VI (Point 14.43) for the technical Specifications of SMPS based PoE Injector

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55.	14		Technical Compliance Sheet	New Component Added	Please refer to Annexure VI (Point 14.44) for the technical Specifications of STP Cat 6 cable (Armoured)
56.	14		Technical Compliance Sheet	New Component Added	Please refer to Annexure VI (Point 14.45) for the technical Specifications of 2U wall mount Network Rack
57.	14		Technical Compliance Sheet	New Component Added	Please refer to Annexure VI (Point 14.46) for the technical Specifications of Field Junction box for outdoor locations (Including WAN Equipment)
58.	15.2	197	General Instructions Point No: 17	Line items mentioned in the Commercial Formats are for representation purpose and SI may propose alternate technology / solution (with proper justification). Bidders are required to suitably add line items / merge the cost components depending upon their proposed solution.	This clause stands deleted
59.	15.3	198	Commercial bid format		Please refer to Annexure VIII for the revised Commercial Bid Format
60.	16	225	Insurance Point No: 7	<p>The bidder will be required to undertake the insurance for all components of the Suman Eye (CCTV Network) Project which has been procured under this RFP.</p> <p><b>i. Insurance during the Contract Period</b></p> <p>The System Integrator shall, at its cost and expense, purchase and maintain during the Contract Period, such insurances as are necessary including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Hardware delivered and installed to the extent possible at the replacement value with Authority as beneficiary.</li> <li>• Fire and allied natural calamities for the Central Control Centre limited to the scope of supply at replacement value with the Authority as beneficiary;</li> <li>• System Integrator's all risk insurance with the Authority as co-beneficiary;</li> </ul>	<p>The bidder will be required to undertake the insurance for all components of the Suman Eye (CCTV Network) Project which has been procured under this RFP.</p> <p><b>i. Insurance during the Contract Period</b></p> <p>The System Integrator shall, at its cost and expense, purchase and maintain during the Contract Period, such insurances as are necessary including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Hardware delivered and installed to the extent possible at the replacement value with Authority as beneficiary.</li> <li>• Fire and allied natural calamities at any location to the scope of supply at replacement value with the Authority as beneficiary</li> <li>• System Integrator's all risk insurance (including any theft of items) with the Authority as co-beneficiary;</li> </ul>

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				<ul style="list-style-type: none"> <li>Comprehensive third party liability insurance with the SMC/SSCDL as co-beneficiary;</li> <li>Workmen’s compensation insurance with the SMC/SSCDL as co-beneficiary;</li> <li>Any other insurance that may be necessary to protect the System Integrator, its employees and the Project against loss, damage or destruction at replacement value including all Force Majeure Events that are insurable and not otherwise covered in items (a) to (e) with the Authority as beneficiary/co-beneficiary;</li> </ul> <p><b>ii. Evidence of Insurance Cover</b></p> <ul style="list-style-type: none"> <li>The System Integrator shall, from time to time, provide to the Authority copies of all insurance policies (or appropriate endorsements, certifications or other satisfactory evidence of insurance) obtained by it in accordance with System Integrator Agreement.</li> </ul> <p>If System Integrator shall fail to effect and keep in force the insurance for which it is responsible pursuant hereto , Authority shall have the option to take or keep in force any such insurance, and pay such premium and recover all costs thereof from System Integrator.</p> <p><b>iii. Application of Insurance Proceeds</b></p> <ul style="list-style-type: none"> <li>All moneys received under insurance policies shall be promptly applied by the System Integrator towards repair or renovation or restoration or substitution of the Project or any hardware/equipment/device thereof which may have been damaged or required repair/modification.</li> <li>The System Integrator shall carry out such repair or renovation or restoration or</li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive third party liability insurance with the SMC/SSCDL as co-beneficiary;</li> <li>Workmen’s compensation insurance with the SMC/SSCDL as co-beneficiary;</li> <li>Any other insurance that may be necessary to protect the System Integrator, its employees and the Project against loss, damage or destruction at replacement value including all Force Majeure Events that are insurable and not otherwise covered in <b>above items</b> with the Authority as beneficiary/co-beneficiary;</li> </ul> <p><b>ii. Evidence of Insurance Cover</b></p> <ul style="list-style-type: none"> <li>The System Integrator shall, from time to time, provide to the Authority copies of all insurance policies (or appropriate endorsements, certifications or other satisfactory evidence of insurance) obtained by it in accordance with System Integrator Agreement.</li> <li>If System Integrator shall fail to effect and keep in force the insurance for which it is responsible pursuant hereto , Authority shall have the option to take or keep in force any such insurance, and pay such premium and recover all costs thereof from System Integrator</li> </ul> <p><b>v. Application of Insurance Proceeds</b></p> <ul style="list-style-type: none"> <li>All moneys received under insurance policies shall be promptly applied by the System Integrator towards repair or renovation or restoration or substitution of the Project or any hardware/equipment/device thereof which may have been damaged or required repair/modification.</li> <li><b>SMC/SSCDL shall place the order to System</b></li> </ul>

#	Section	Page No.	Tender Reference	Existing Clause	Amended/New Clause
				<p>substitution to the extent possible in such manner that the Project , or any part thereof, shall, after such repair or renovation or restoration or substitution be as far as possible in the same condition as they were before such damage or destruction, normal wear and tear excepted.</p> <ul style="list-style-type: none"> <li>For insurance policies where the Authority is the beneficiary and where it received the insurance proceeds, only such sums as are required from the insurance proceeds for restoration, repair and renovation of the Project .</li> </ul> <p><b>iv. Validity of Insurance Cover</b> The System Integrator shall pay the premium payable on such insurance Policy/Policies so as to keep the insurance in force and valid throughout the Contract Period and furnish copies of the same to the Authority for each year/policy period. If at any time the System Integrator fails to purchase, renew and maintain in full force and effect, any and all of the Insurances required under this System Integrator Agreement, the Authority may at its option purchase and maintain such insurance and all sums incurred by the Authority therefore shall be reimbursed by the System Integrator forthwith on demand, failing which the same shall be recovered by the Authority by encashment of Performance Security, exercising right of set off or otherwise</p>	<p><b>Integrator for those items that are damaged or theft as per the quoted price bid. The System Integrator is required to carry out the restoration / repair/ substitution of such items on immediate basis on receipt of work order from SMC/ SSCDL. The payment of such work order shall be made by SMC/SSCDL on receipt of Insurance claim.</b></p> <ul style="list-style-type: none"> <li>The System Integrator shall carry out such repair or renovation or restoration or substitution to the extent possible in such manner that the Project , or any part thereof, shall, after such repair or renovation or restoration or substitution be as far as possible in the same condition as they were before such damage or destruction, normal wear and tear excepted.</li> </ul> <p><b>vi. Validity of Insurance Cover</b> The System Integrator shall pay the premium payable on such insurance Policy/Policies so as to keep the insurance in force and valid throughout the Contract Period and furnish copies of the same to the Authority for each year/policy period. If at any time the System Integrator fails to purchase, renew and maintain in full force and effect, any and all of the Insurances required under this System Integrator Agreement, the Authority may at its option purchase and maintain such insurance and all sums incurred by the Authority therefore shall be reimbursed by the System Integrator forthwith on demand, failing which the same shall be recovered by the Authority by encashment of Performance Security, exercising right of set off or otherwise</p>

## ANNEXURE-I

### 7.1 Bidder's Eligibility Criteria

#	Eligibility Criteria	Proof Document Required	Applicable to Sole Bidder	Applicable to Consortium
1.	<p>The Prime Bidder / Sole Bidder should be registered under the Companies Act 1956 and should be in operation in India for a period of at least 5 years as on publication of bid.</p> <p>In case of Consortium, the Consortium Partner should be registered under the Companies Act 1956 Or a partnership firm registered under LLP Act, 2008 or partnership firm registered under Indian Partnership Act 1932</p>	Copy of certification of incorporation issued by competent authority/ Registration Certificate/ Shop and Establishment certificate	Yes	Yes
2.	<p>Bidder/ Primer Bidder should have a minimum average annual turnover of <b>Rs. 25 crore</b> from ICT business for last three financial years i.e. FY 2017-18, FY 2016-17, 2015-16</p> <p>In case of Consortium, Consortium Partner should have a minimum average annual turnover of <b>Rs. 5 crore</b> from ICT business for last three financial years i.e. FY 2017-18, FY 2016-17, 2015-16</p> <p>The copies of Audited Annual Accounts for last three years to be submitted along with the bid [Financial Years of 2015-16, 2016-17 and 2017-18]. If 2017-18 Financial Statements of any bidder is unaudited then the Audited Financial Statements of 2014-15 along with an undertaking letter from the bidder that the 2017-18 Statements are not audited is to be submitted.</p>	Copy of the Audited Profit and Loss statement and statutory auditor / CA certificate from a regarding turnover. The certificate should be originally signed or notarized	Yes	Yes

#	Eligibility Criteria	Proof Document Required	Applicable to Sole Bidder	Applicable to Consortium
3.	<p>Bidder/ Consortium should have a positive net worth as on 31<sup>st</sup> March 2018</p> <p>If 2017-18 Financial Statements of any bidder is unaudited then Bidder should have a positive net worth as on 31<sup>st</sup> March 2017. Moreover, an undertaking letter from the bidder that the 2017-18 Statements are not audited is to be submitted</p>	Certificate from the statutory auditor / CA towards positive net worth of the company. The certificate should be originally signed or notarized	Yes	Yes (All Members of Consortium)
4.	<p>Bidder should have supplied and installed any of the following in last 7 years from the date of publishing this RFP as below:</p> <p>At least one project covering minimum 800 CCTV Cameras</p> <p><b>OR</b></p> <p>Two Projects each covering minimum 500 CCTV Cameras</p> <p><b>OR</b></p> <p>Three Projects each covering minimum 400 CCTV Cameras</p>	<ol style="list-style-type: none"> <li>Copy of completion certificate issued by client</li> <li>Copy of Work order / Contract</li> </ol>	Yes	Yes (In case of consortium, the lead bidder should meet this criteria)
5.	Bidder should be registered for GST number in India	GST Registration Certificate PAN Card	Yes	Yes (All Members of Consortium)
6.	Bidder should not be blacklisted or debarred by any Government / PSU in India at the time of submission of the bid.	Declaration letter by bidder as per format given in the RFP document	Yes	Yes (All Members of Consortium)
7.	<p>Bidder should have a local office in Surat.</p> <p>Note: If bidder does not have the local presence, it should open a local office within 60 days from issuance of LOI / Work Order whichever is earlier.</p>	<p>Supporting Documents like Rent Agreement/ Electricity Bill / Self Declaration on Company's Letter head to be submitted.</p> <p>In case local presence is not available then an Undertaking from authorized signatory to open the local office within 60 days from issuance of LOI to be submitted</p>	Yes	Yes (Any Member of Consortium)



## ANNEXURE-II

### 7.2. OEM's Eligibility Criteria

#	Selection criteria for the OEM	Proof Document Required
<b>A</b>	<b>CCTV Cameras and NVRs</b>	
<b>1.</b>	<p><b>Presence in India</b> The OEM for CCTV Camera should have registered office and service center in India since last 3 years (i.e. If bidder wants to quote the “X” brand of CCTV Camera, then OEM of “X” brand of CCTV Camera should have registered office and service center in India since last 3 years).</p>	<p>Please attach the following:</p> <ul style="list-style-type: none"> <li>• Certificate of Incorporation / Registration in India</li> <li>• Copy of GST registration / Copy of PAN Card / VAT Registration/CST Registration</li> <li>• Details of Address and support phone number for Indian registered office and service center.</li> <li>• Any one of the following: Property Tax Bill / Electricity Bill / Telephone Bill / Valid Lease Agreement indicating presence since last 3 years.</li> </ul>
<b>2.</b>	<p><b>Experience in Public Sector / Government</b> OEM must have supplied minimum 3000 CCTV surveillance cameras in last 5 years as on bid start date for any PSU/State Govt./Central Govt./Police Department/ULB/Airport Authority <b>in India</b> .</p>	End-user work order or PO document specifying no. and type of CCTV camera supplied under the project.
<b>3.</b>	OEM must have supplied minimum 500 outdoor camera for atleast one City Surveillance ( <b>globally</b> ) in last 5 years as on bid start date.	SI work order or PO document specifying no. and type of CCTV camera supplied under the project.
<b>4.</b>	OEM must be one of the Top 10 as per Latest IHS World Report for Network Security Cameras.	In this regard OEM shall have to submit the latest IHS report
<b>5.</b>	<p><b>ONVIF Compliance:</b> All CCTV Cameras &amp; NVRs should be ONVIF 2.X standard compliant and should support for all necessary profiles so as to meet the requirements specified in the RFP.</p>	In this regard OEM shall have to submit self-declaration on their letterhead duly signed and stamp by competent authority as per Form-TQ_11
<b>6.</b>	<p><b>Commitment to Support</b> The OEM should commit to support the product proposed in the scope of this RFP for at least five (5) years. End of support date should not have been announced for the product proposed. OEM will abide by the same SLA during support period as System Integrator.</p>	OEM self-certification as per Section-TQ_8 indicating the commitment to support along with product roadmap
<b>B</b>	<b>Video Management System Software</b>	
<b>1.</b>	<p>From any of Top 10 OEM from Latest IHS World Report for Video Management Software. In this regard OEM shall have to submit the latest IHS report <b>OR</b> As on bid start date, OEM must have supplied VMS for management of CCTV Solution for minimum 3 projects in India with CCTV Camera base of average 500 cameras and should have been operational for at least two Outdoor Surveillance projects having average 500 cameras in India.</p>	<p>Latest and relevant report from IHS to be submitted clearly showing presence of the OEM. <b>OR</b> 1. Work order of 3 projects for supply of cameras 2. Client certificate specifying the successful running of VMS software for the project.</p>

#	Selection criteria for the OEM	Proof Document Required
2.	<p><b>ONVIF Compliance:</b>                      Video Management System and its solution component should be ONVIF 2.X standard compliant and should support for all necessary profiles so as to meet the requirements specified in the RFP.</p>	In this regard OEM shall have to submit self-declaration on their letterhead duly signed and stamp by competent authority as per Form-TQ_11
3.	<p><b>Commitment to Support</b>                      The OEM should commit to support the product proposed in the scope of this RFP for at least five (5) years.                      End of support date should not have been announced for the product proposed.</p>	OEM self-certification as per Section-TQ_8 indicating the commitment to support along with product roadmap
<b>C Active Network Equipment (POEs, Network Switches)</b>		
1.	OEM must be listed in Leader's Quadrant of the latest Gartner Magic Quadrant for Wired and Wireless LAN Access Infrastructure (except edge level industrial grade network switch) or amongst the top 5 for World-wide Market share in terms of Revenue as per IDC for Ethernet Switch Market (except edge level industrial grade network switch).	Latest and relevant report from Gartner or IDC to be submitted clearly showing presence of the OEM.
2.	<p><b>Commitment to Support</b>                      The OEM should commit to support the product proposed in the scope of this RFP for at least five (5) years.                      End of support date should not have been announced for the product proposed.</p>	OEM self-certification as per Section-TQ_8 indicating the commitment to support along with product roadmap
<b>D Server</b>		
1.	OEM must be listed in Leader's Quadrant of the latest Gartner Magic Quadrant for Modular Servers or amongst the top 5 for World-wide Market share in terms of Revenue as per IDC for Server Market.	Latest and relevant report from Gartner or IDC to be submitted clearly showing presence of the OEM.
2.	<p><b>Commitment to Support</b>                      The OEM should commit to support the product proposed in the scope of this RFP for at least five (5) years.                      End of support date should not have been announced for the product proposed.</p>	OEM self-certification as per Section-TQ_8 indicating the commitment to support along with product roadmap
<b>E Storage</b>		
1.	OEM must be listed in Leader's Quadrant of the latest Gartner Magic Quadrant for General-Purpose Disk Arrays or amongst the top 5 for World-wide Market share in terms of Revenue as per IDC for Enterprise Storage Market.	Latest and relevant report from Gartner or IDC to be submitted clearly showing presence of the OEM.
2.	<p><b>Commitment to Support</b>                      The OEM should commit to support the product proposed in the scope of this RFP for at least five (5) years.                      End of support date should not have been announced for the product proposed.</p>	OEM self-certification as per Section-TQ_8 indicating the commitment to support along with product roadmap
<b>F Enterprise Next Generation Firewall</b>		
1.	OEM must be listed in Leader's Quadrant of the latest Gartner Magic Quadrant for Enterprise Firewall or amongst the top 5 for World-wide Market share in terms of Revenue as per IDC for Enterprise Firewall Market.	Latest and relevant report from Gartner or IDC to be submitted clearly showing presence of the OEM.
2.	<p><b>Commitment to Support</b>                      The OEM should commit to support the product proposed in the scope of this RFP for at least five (5) years.</p>	OEM self-certification as per Section-TQ_8 indicating the commitment to support along with product roadmap

#	Selection criteria for the OEM	Proof Document Required
	End of support date should not have been announced for the product proposed.	
<b>G</b>	<b>Enterprise Management System(EMS)</b>	
<b>1</b>	As on bid submission date, OEM must have supplied EMS for health monitoring of equipment like CCTV cameras, sensors, active components etc. for minimum 5 projects in India with average installation base of 600 equipment and should have been operational(Gone live) for at least two projects having minimum 600 equipment each in India	<ol style="list-style-type: none"> <li>1. Work order of 5 projects for supply of EMS</li> <li>2. Client certificate specifying the successful running of EMS software for the project.</li> </ol> (client document must clearly indicate the no. of equipment managed)
<b>H</b>	<b>General Criteria – Applicable for all OEMs whose product is proposed in this bid.</b>	
<b>1</b>	OEM should not be blacklisted or debarred by any Government / PSU in India at the time of submission of the bid.	Declaration letter by OEM from authorized signatory as per format given in Annexure III

## ANNEXURE-III

### **Self-Certificate from OEM – No Blacklisting**

<<To be printed on bidders (or in case of consortium, each member of consortium) company's letterhead and signed by Authorized signatory>>

Date: dd/mm/yyyy

To  
Chief Executive Engineer,  
115, Smart City Cell,  
Surat Municipal Corporation – Head Quarter,  
Muglisara, Main Road, Surat – 395003, Gujarat.

**Subject:** Selection of Implementing Agency for Suman Eye (CCTV Network) Project

Sir/Madam,

In response to the Tender Ref. No. \_\_\_\_\_ dated \_\_\_\_\_ for **Selection of implementing agency for Suman Eye (CCTV Network)** Project, as an owner/ partner/ Director of \_\_\_\_\_, I/ We hereby declare that presently our Company/ firm \_\_\_\_\_ is not blacklisted or debarred by any Government / PSU on the date of Bid Submission.

If this declaration is found to be incorrect then without prejudice to any other action that may be taken, my/ our security may be forfeited in full and the tender if any to the extent accepted may be cancelled.

Name of the OEM :  
Authorized Signatory :  
Seal of the Organization :  
Business Address :  
Date :  
Place :

## ANNEXURE-IV

### 10.1. Revised Payment Terms

#	Milestone	Payment
1.	Satisfactory delivery and acceptance of materials (as per the Request Order) and after submission of the invoice.	40% of total CAPEX of Request order
2.	Satisfactory completion of Installation of respective items/ equipment and after, submission of the invoice.	20% of total CAPEX of Request order
3.	UAT and Go Live of entire RO (Testing and Commissioning)	25% of total CAPEX of Request order
4.	Successful completion of 1 <sup>st</sup> year after Project “Go Live”	4% of total CAPEX of Request order
5.	Successful completion of 2 <sup>nd</sup> year after Project “Go Live”	4% of total CAPEX of Request order
6.	Successful completion of 3 <sup>rd</sup> year after Project “Go Live”	4% of total CAPEX of Request order
7.	Successful completion of 4 <sup>th</sup> year after Project “Go Live”	1.5% of total CAPEX of Request order
8.	Successful completion of 5 <sup>th</sup> year after Project “Go Live”	1.5% of total CAPEX of Request order
9.	i. The cost of Support Engineer projected by SI in their commercial bid will be made equally on quarterly basis (20 quarters) at completion of each quarter after Project “Go Live”. ii. OPEX projected by SI in their commercial bid will be made equally on quarterly basis for 4 <sup>th</sup> and 5 <sup>th</sup> Year (8 quarters) at completion of each quarter. iii. The payments are subject to meeting of SLA’s failing which the appropriate deductions as mentioned in the SLA section of this RFP will be made applicable. iv. The contract period of 5 years are considered from the Go-Live date of 1st Request Order. The payment of subsequent Request Orders will be made from the Go-Live date of that request order till the remaining years of the Contract period i.e. 5 years	

**Note:**

- All payments to the SI shall be made upon submission of invoices along with necessary approval certificates from concerned Authority like SSCDL, SMC, if applicable.
- The above payments are subject to meeting of SLA’s failing which the appropriate deductions as mentioned in the SLA document of this RFP

## ANNEXURE-V

### 13. Revised format for Technical Bid

#### 13.11. TQ\_10: Format for Specifying the Make & Model

The bidder needs to mention and submit relevant information as per the below mentioned table as part of their Technical Proposal.

#	Description	Proposed Make	Proposed Model No./ Version	Quantity	Unit	Bidder's Compliance as per Section-14 on Letter Head and Datasheets submission	OEM's Compliance as per Section-14 on OEM's Letter Head	OEM's Compliance as per TQ_8 / TQ_11
<b>IT Hardware Components</b>								
1	2 Megapixel Full HD IR IP vandal proof Bullet Camera (2.8mm to 12mm Varifocal lens)	Yes	Yes	765	Number	Yes	Yes	TQ_11
2	2 Megapixel IR IP vandal proof Dome Camera (2.8mm to 12mm Varifocal lens)	Yes	Yes	308	Number	Yes	Yes	TQ_11
3	2 Megapixel IR IP Bullet Camera with Built-in 4G Sim Card Slot	Yes	Yes	10	Number	Yes	Yes	TQ_11
4	2 Megapixel IR IP Bullet Camera (Fixed Lens)	Yes	Yes	1298	Number	Yes	Yes	TQ_11
5	2 Megapixel IR IP Dome Camera (Fixed Lens)	Yes	Yes	741	Number	Yes	Yes	TQ_11
6	2 Megapixel IR IP PTZ Camera	Yes	Yes	26	Number	Yes	Yes	TQ_11
7	Local Storage (MicroSD/SDHC/SDXC card) for CCTV Camera	Yes	Yes	50	Number	Yes	No	No
8	PTZ Joystick Controller	Yes	Yes	1	Number	Yes	Yes	TQ_11
9	4 Channel Network Video Recorder (NVR)	Yes	Yes	50	Number	Yes	Yes	TQ_11

#	Description	Proposed Make	Proposed Model No./ Version	Quantity	Unit	Bidder's Compliance as per Section-14 on Letter Head and Datasheets submission	OEM's Compliance as per Section-14 on OEM's Letter Head	OEM's Compliance as per TQ_8 / TQ_11
10	4 Channel Network Video Recorder (NVR) with built-in PoE Ports	Yes	Yes	20	Number	Yes	Yes	TQ_11
11	8 Channel Network Video Recorder (NVR)	Yes	Yes	80	Number	Yes	Yes	TQ_11
12	8 Channel Network Video Recorder (NVR) with built-in PoE	Yes	Yes	36	Number	Yes	Yes	TQ_11
13	16 Channel Network Video Recorder (NVR)	Yes	Yes	30	Number	Yes	Yes	TQ_11
14	32 Channel Network Video Recorder (NVR)	Yes	Yes	18	Number	Yes	Yes	TQ_11
15	4 TB Surveillance Hard Disk for NVR	Yes	Yes	To be specified by bidder as per sizing	Number	Yes	No	No
16	6 TB Surveillance Hard Disk for NVR	Yes	Yes	To be specified by bidder as per sizing	Number	Yes	No	No
17	8 TB Surveillance Hard Disk for NVR	Yes	Yes	To be specified by bidder as per sizing	Number	Yes	No	No
18	32" LED Display Screen with HDMI Cable	Yes	Yes	234	Number	Yes	Yes	TQ_8
19	8 Port PoE/PoE+ industrial grade network Switch	Yes	Yes	231	Number	Yes	Yes	TQ_8
20	1G SFP Transceiver Module for 8 Port PoE/PoE+ industrial grade network switch	Yes	Yes	30	Number	Yes	Yes	TQ_8

#	Description	Proposed Make	Proposed Model No./ Version	Quantity	Unit	Bidder's Compliance as per Section-14 on Letter Head and Datasheets submission	OEM's Compliance as per Section-14 on OEM's Letter Head	OEM's Compliance as per TQ_8 / TQ_11
21	8 Port PoE/PoE+ Web Managed network Switch	Yes	Yes	456	Number	Yes	Yes	TQ_8
22	1G SFP Transceiver Module for 8 Port Web Managed PoE/PoE+ network switch	Yes	Yes	30	Number	Yes	Yes	TQ_8
23	Core/Top of the Rack/ Data Centre network Switch	Yes	Yes	2	Number	Yes	Yes	TQ_8
24	Enterprise next generation firewall	Yes	Yes	1	Number	Yes	Yes	TQ_8
25	Blade/Rack Servers with no single point of failover	Yes	Yes	To be specified by bidder as per sizing	Number	Yes	Yes	TQ_8
	1. Video Management server (n+n mode)							
	2. Recording server							
	3. Database management server							
	4. Others as per solution provided by the bidder meeting RFP requirement							
Note: In n+1 mode for Recording Server, Database management server and others.								
26	Blade Chassis for above mentioned Blade Servers	Yes	Yes	To be specified by bidder as per sizing	Number	Yes	Yes	TQ_8
27	Storage with Complete mounting accessories	Yes	Yes	To be specified by bidder as per sizing	Number	Yes	Yes	TQ_8
28	SAN Switch (if Rack Mountable Server proposed)	Yes	Yes	2	Number	Yes	Yes	TQ_8



#	Description	Proposed Make	Proposed Model No./ Version	Quantity	Unit	Bidder's Compliance as per Section-14 on Letter Head and Datasheets submission	OEM's Compliance as per Section-14 on OEM's Letter Head	OEM's Compliance as per TQ_8 / TQ_11
<b>Software Components</b>								
33	Video Management Server Software	Yes	Yes	1	Number	Yes	Yes	TQ_11
34	Video Management Software channel license	No	No	1476	Number	Yes	Yes	TQ_11
35	Video Management Software Desktop Client License	No	No	15	Number	Yes	Yes	TQ_11
36	Video Management Software Mobile Client License (for android and iOS)	No	No	30	Number	Yes	Yes	TQ_11
37	Antivirus software including licenses for DC infrastructure.	Yes	Yes	To be specified by bidder as per requirement	Number	Yes	No	TQ_8
38	EMS Software	Yes	Yes	1	Number	Yes	Yes	TQ_8
39	EMS Client/device license	No	No	To be specified by bidder as per requirement	Number	Yes	Yes	TQ_8
40	Server OS Licenses (for physical Servers)	Yes	Yes	To be specified by bidder as per requirement	Number	Yes	No	No
41	Server OS Licenses (for VMs)	Yes	Yes	To be specified by bidder as per requirement	Number	Yes	No	No
42	Supply and configuration of Database Licenses	Yes	Yes	To be specified by bidder as per requirement	Number	Yes	No	No

#	Description	Proposed Make	Proposed Model No./ Version	Quantity	Unit	Bidder's Compliance as per Section-14 on Letter Head and Datasheets submission	OEM's Compliance as per Section-14 on OEM's Letter Head	OEM's Compliance as per TQ_8 / TQ_11
43	Supply and configuration of Virtualisation Management Software	Yes	Yes	To be specified by bidder as per requirement	Number	Yes	No	TQ_8
44	Virtualisation Host Licenses	Yes	Yes	To be specified by bidder as per requirement	Number	Yes	No	TQ_8
<b>Civil and Non IT</b>								
45	42U Networking/Server Rack in data center	Yes	Yes	To be specified by bidder as per requirement	Number	Yes	Yes	TQ_8
46	6U Wall Mount Network Rack	Yes	Yes	222	Set	Yes	Yes	TQ_8
47	2U Wall Mount Network Rack	Yes	Yes	234	Set	Yes	Yes	TQ_8
48	UPS with battery Bank as required for Data Center	Yes	Yes	1	Number	Yes	Yes	TQ_8
49	Media Convertor	Yes	Yes	30	Number	Yes	Yes	TQ_8
50	LIU with splicing and Complete mounting accessories as required	Yes	Yes	243	Number	Yes	Yes	TQ_8
51	SMPS Based PoE Injector with power supply and Complete mounting accessories as required	Yes	Yes	500	Number	Yes	No	No
52	Field Junction Box with WAN equipment	No	No	70	Set	Yes	No	No
53	Field Junction Box without WAN equipment	No	No	160	Set	Yes	No	No

#	Description	Proposed Make	Proposed Model No./ Version	Quantity	Unit	Bidder's Compliance as per Section-14 on Letter Head and Datasheets submission	OEM's Compliance as per Section-14 on OEM's Letter Head	OEM's Compliance as per TQ_8 / TQ_11
54	6 mtr. Pole for with cantilever	No	No	420	Set	Yes	No	No
55	10 mtr. Pole for CCTV cameras	No	No	26	Set	Yes	No	No
56	STP Cat-6 Cable (Armoured)	Yes	Yes	20,000	RM	Yes	Yes	TQ_8
57	UTP Cat-6 Cable (Un Armoured)	Yes	Yes	80,000	RM	Yes	Yes	TQ_8
58	6 core Fiber Optic Cable	Yes	Yes	5000	RM	Yes	Yes	TQ_8
59	3 core 1.5 sq. mm Power cable	Yes	Yes	1000	RM	Yes	No	No
60	3 core 1.5 sq. mm armoured Power cable	Yes	Yes	500	RM	Yes	No	No
61	32 mm HDPE Pipe	Yes	Yes	2000	RM	Yes	No	No
62	32 mm DWC Pipe	Yes	Yes	8000	RM	Yes	No	No
63	25 mm PVC Conduit Pipe	Yes	Yes	70000	RM	Yes	No	No
64	Open Digging, Trenching and Ducting	NA	NA	16000	RM	NA	NA	NA
65	Horizontal Directional Drilling (HDD)	NA	NA	800	RM	NA	NA	NA
<b>Rate Discovery Items</b>								
66	9U Wall Mount Network Rack	Yes	Yes	1	Set	Yes	Yes	TQ_8
67	3.5" 6TB 7200 RPM Near Line SAS drive compatible with offered storage solution	Yes	Yes	1	Number	Yes	No	No
68	2.5" 1.2 TB 10K RPM SAS drive compatible with offered storage solution	Yes	Yes	1	Number	Yes	No	No
69	2.5" SFF Additional HDD disk Enclosure compatible with offered storage solution with all necessary cable/accessories to make it functional	Yes	Yes	1	Number	Yes	No	No

#	Description	Proposed Make	Proposed Model No./ Version	Quantity	Unit	Bidder's Compliance as per Section-14 on Letter Head and Datasheets submission	OEM's Compliance as per Section-14 on OEM's Letter Head	OEM's Compliance as per TQ_8 / TQ_11
70	3.5" LFF Additional HDD disk Enclosure compatible with offered storage solution with all necessary cable/accessories to make it functional	Yes	Yes	1	Number	Yes	No	No

**13.12 TQ\_11: Format for Self Certificate from OEMs**

<<To be printed on letter head of OEM and signed by Authorized signatory of OEM>>

Date: dd/mm/yyyy

To  
Chief Executive Engineer,  
115, Smart City Cell,  
Surat Municipal Corporation – Head Quarter,  
Muglisara, Main Road, Surat – 395003, Gujarat.

**Subject:** Selection of Implementing Agency for Suman Eye (CCTV Network) Project– Authorization Letter from OEMs

**Ref :** Tender No: <No> Dated <DD/MM/YYYY>

Dear Sir/ Madam,

We \_\_\_\_\_, (name and address of the manufacturer) who are established and reputed manufacturers of \_\_\_\_\_ having factories at \_\_\_\_\_ (addresses of manufacturing / development locations) do hereby certify that below product shall support ONVIF 2.X standard with support for all necessary profiles so as to meet the requirements specified in the RFP.

The proposed solution consisting all the hardware and software component must.

Sr. No.	Product Name	Make & Model
1		
2		
...		
n		

We herewith certify that the above mentioned equipment / software products are neither end of sale nor end of the life and we hereby undertake to support these equipment / software till the successful completion of O&M phase (3 years of Warranty Support and 2 years of O&M).

Yours faithfully,

(Signature of the Authorized Signatory from OEM)

Name

Designation

Seal.

Date:

Place:

Business Address:

## ANNEXURE-VI

### 14. Revised Technical Compliance Sheet

#### 14.1 2 Megapixel Full HD IR IP Vandal proof Dome Camera with Varifocal Lens

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/Remarks if Any
A	B	C	D	E
1.	Image Sensor	1/3" Progressive Scan CMOS or better		
2.	Pixels	2 Mega Pixel Full HD (1920 X 1080)		
3.	Min. Illumination	Color: 0.05 lux, B/W: 0 lux with IR (ON)		
4.	Lens	2.8 mm ~ 12 mm Varifocal, DC Auto Iris, IR Corrected, or better		
5.	Signal to Noise Ratio	More Than 50 dB		
6.	Focus	Automatic, Manual		
7.	Wide Dynamic Range	100 dB or better		
8.	IR Range	30 Meter or better		
9.	Day & Night	Auto (IR), Color, B/W		
10.	Backlight Compensation	Automatic BLC		
11.	Noise Reduction	3D DNR, 2D DNR		
12.	Compression Standard	H.265 (backward compatible with H.264), MJPEG or better		
13.	Streams	Minimum two video Stream Supported. Each stream configurable for resolution, fps.		
14.	Resolution & Frame Rate	Minimum 25 frames per second (FPS) for both the Streams. Full HD (1080P) @ 25 FPS with H.265 compression on one stream & HD (720p) @ 25 FPS with H.265 compression on other stream.		
15.	Data rate	i) 8 Mbps maximum for H.265 Video Compression. ii) Shall work on 3 Mbps bit rate or less average for Full HD@ 25 FPS at Variable bit rate (VBR) on individual		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/Remarks if Any
		(Single) stream with H.265 Video Compression.		
16.	Video Streaming	Unicast and Multicast Streams		
17.	Text Superimposing	Camera shall support superimposing the title and date & time on the video		
18.	Ethernet Port	RJ45 (10/100Base-T) self-adaptive		
19.	Protocols	IPv4/IPv6, TCP/IP, UDP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP		
20.	Power	12 V DC / 24V DC/AC and PoE		
21.	Local Storage	Support minimum 128 GB of microSD/SDHC/SDXC card		
22.	Alarm I/O	Alarm I/P Port:1 And O/P Port: 1		
23.	Audio	2 Way Audio Supported		
24.	Housing	Vandal proof and Impact resistant enclosure with IP66 or NEMA 4X and IK 10 Rated or better		
25.	Operating Temperature	0 °C to 50 °C		
26.	Operating Humidity	0% to 80% Relative, Non-Condensing		
27.	Standard	ONVIF 2.0 and above supported		
28.	Certification	CE, FCC and UL		
29.	Warranty	3 Years comprehensive onsite Warranty with parts		
30.	Specify Make of proposed camera			
31.	Specify Model of proposed camera			

**14.2 2 Megapixel Full HD IR IP Vandal proof Bullet Camera with Varifocal Lens**

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/Remarks if Any
A	B	C	D	E
1.	Image Sensor	1/3" Progressive Scan CMOS or better		
2.	Pixels	2 Mega Pixel Full HD (1920 X 1080)		
3.	Min. Illumination	Color: 0.05 lux, B/W: 0 lux with IR (ON)		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/Remarks if Any
4.	Lens	2.8 mm ~ 12 mm Varifocal, DC Auto Iris, IR Corrected, or better		
5.	Signal to Noise Ratio	More Than 50 dB		
6.	Focus	Automatic, Manual		
7.	Wide Dynamic Range	100 dB or better		
8.	IR Range	30 Meter or better		
9.	Day & Night	Auto (IR), Color, B/W		
10.	Backlight Compensation	Automatic BLC		
11.	Noise Reduction	3D DNR, 2D DNR		
12.	Compression Standard	H.265 (backward compatible with H.264), MJPEG or better		
13.	Streams	Minimum two video Stream Supported. Each stream configurable for resolution, fps.		
14.	Resolution & Frame Rate	Minimum 25 frames per second (FPS) for both the Streams. Full HD (1080P) @ 25 FPS with H.265 compression on one stream & HD (720p) @ 25 FPS with H.265 compression on other stream.		
15.	Data rate	i) 8 Mbps maximum for H.265 Video Compression. ii) Shall work on 3 Mbps bit rate or less average for Full HD@ 25 FPS at Variable bit rate (VBR) on individual (Single) stream with H.265 Video Compression.		
16.	Video Streaming	Unicast and Multicast Streams		
17.	Text Superimposing	Camera shall support superimposing the title and date & time on the video		
18.	Ethernet Port	RJ45 (10/100Base-T) self-adaptive		
19.	Protocols	IPv4/IPv6, TCP/IP, UDP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP		



#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/Remarks if Any
20.	Power	12 V DC / 24V DC/AC and PoE		
21.	Local Storage	Support minimum 128 GB of microSD/SDHC/SDXC card		
22.	Alarm I/O	Alarm I/P Port:1 And O/P Port: 1		
23.	Audio	2 Way Audio Supported		
24.	Housing	Vandal proof and Impact resistant enclosure with IP66 or NEMA 4X and IK 10 Rated or better		
25.	Operating Temperature	0 °C to 50 °C		
26.	Operating Humidity	0% to 80% Relative, Non-Condensing		
27.	Standard	ONVIF 2.0 and above supported		
28.	Certification	CE, FCC and UL		
29.	Warranty	3 Years comprehensive onsite Warranty with parts		
30.	Specify Make of proposed camera			
31.	Specify Model of proposed camera			

**14.3 2 Megapixel IR IP Vandal proof Bullet Camera with built-in 4G supported SIM Card Slot**

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/Remarks if Any
A	B	C	D	E
1.	Image Sensor	1/3" Progressive Scan CMOS or better		
2.	Pixels	2 Mega Pixel Full HD (1920 X 1080)		
3.	Min. Illumination	Color: 0.05 lux, B/W: 0 lux with IR (ON)		
4.	Lens	Fixed Lens wide angle between 2.8mm to 3.6mm /Fixed Lens narrow angle between 4 mm to 6mm (actual focal length to be decided based on feasibility study)		
5.	Signal to Noise Ratio	More Than 50 dB		
6.	Wide Dynamic Range	100 dB or better		
7.	IR Range	30 Meter or better		
8.	Day & Night	Auto (IR), Color, B/W		
9.	Backlight Compensation	Automatic BLC		
10.	Noise Reduction	3D DNR, 2D DNR		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
11.	Compression Standard	H.265 (backward compatible with H.264), MJPEG or better		
12.	Streams	Minimum two video Stream Supported. Each stream configurable for resolution, fps.		
13.	Resolution & Frame Rate	Minimum 25 frames per second (FPS) for both the Streams. Full HD (1080P) @ 25 FPS with H.265 compression on one stream & 4CIF @ 25 FPS with H.265 compression on other stream.		
14.	Data rate	i) 8 Mbps maximum for H.265 Video Compression. ii) Shall work on 3 Mbps bit rate or less average for Full HD@ 25 FPS at Variable bit rate (VBR) on individual (Single) stream with H.265 Video Compression.		
15.	Video Streaming	Unicast and Multicast Streams		
16.	Text Superimposing	Camera shall support superimposing the title and date & time on the video		
17.	Ethernet Port	RJ45 (10/100Base-T) self-adaptive		
18.	4G SIM Card Slot	Built-in support for 4G SIM		
19.	Protocols	IPv4/IPv6, TCP/IP, UDP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP		
20.	Power	12 V DC / 24V DC/AC and PoE		
21.	Local Storage	Support minimum 128 GB of microSD/SDHC/SDXC card		
22.	Housing	Vandal proof and Impact resistant enclosure with IP66 or NEMA 4X and IK 10 Rated or better		
23.	Operating Temperature	0 °C to 50 °C		
24.	Operating Humidity	0% to 80% Relative, Non-Condensing		
25.	Standard	ONVIF 2.0 and above supported		
26.	Certification	CE, FCC and UL		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
27.	Warranty	3 Years comprehensive onsite Warranty with parts		
28.	Specify Make of proposed camera			
29.	Specify Model of proposed camera			

**14.4 2 Megapixel IR IP Dome Camera with fixed lens**

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	Image Sensor	1/3" Progressive Scan CMOS or better		
2.	Pixels	2 Mega Pixel Full HD (1920 X 1080)		
3.	Min. Illumination	Color: 0.05 lux, B/W: 0 lux with IR (ON)		
4.	Lens	Fixed Lens wide angle between 2.8mm to 3.6mm /Fixed Lens narrow angle between 4 mm to 6mm (actual focal length to be decided based on feasibility study)		
5.	Signal to Noise Ratio	More Than 50 dB		
6.	Wide Dynamic Range	80 dB or better		
7.	IR Range	30 Meter or better		
8.	Day & Night	Auto (IR), Color, B/W		
9.	Backlight Compensation	Automatic BLC		
10.	Noise Reduction	3D DNR, 2D DNR		
11.	Compression Standard	H.265 (backward compatible with H.264), MJPEG or better		
12.	Streams	Minimum two video Stream Supported. Each stream configurable for resolution, fps.		
13.	Resolution & Frame Rate	Minimum 25 frames per second (FPS) for both the Streams. Full HD (1080P) @ 25 FPS with H.265 compression on one stream & HD (720P) @ 25 FPS with H.265 compression on other stream.		
14.	Data rate	i) 8 Mbps maximum for H.265 Video Compression. ii) Shall work on 3 Mbps bit rate or less average for		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
		Full HD@ 25 FPS at Variable bit rate (VBR) on individual (Single) stream with H.265 Video Compression.		
15.	Text Superimposing	Camera shall support superimposing the title and date & time on the video		
16.	Ethernet Port	RJ45 (10/100Base-T) self-adaptive		
17.	Protocols	IPv4/IPv6, TCP/IP, UDP, HTTP, HTTPS, DHCP, DNS, DDNS, PPPoE, NTP, UPnP, SMTP		
18.	Power	12 V DC / 24V DC/AC and PoE		
19.	Housing	IP66/NEMA 4X or better		
20.	Operating Temperature	0 °C to 50 °C		
21.	Operating Humidity	0% to 80% Relative, Non-Condensing		
22.	Standard	ONVIF 2.0 and above supported		
23.	Certification	CE, FCC and UL		
24.	Warranty	3 Years comprehensive onsite Warranty with parts		
25.	Specify Make of proposed camera			
26.	Specify Model of proposed camera			

#### 14.5 2 Megapixel IR IP Bullet Camera with fixed lens

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	Image Sensor	1/3" Progressive Scan CMOS or better		
2.	Pixels	2 Mega Pixel Full HD (1920 X 1080)		
3.	Min. Illumination	Color: 0.05 lux, B/W: 0 lux with IR (ON)		
4.	Lens	Fixed Lens wide angle between 2.8mm to 3.6mm /Fixed Lens narrow angle between 4 mm to 6mm (actual focal length to be decided based on feasibility study)		
5.	Signal to Noise Ratio	More Than 50 dB		
6.	Wide Dynamic Range	80 dB or better		
7.	IR Range	30 Meter or better		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
8.	Day & Night	Auto (IR), Color, B/W		
9.	Backlight Compensation	Automatic BLC		
10.	Noise Reduction	3D DNR, 2D DNR		
11.	Compression Standard	H.265 (backward compatible with H.264), MJPEG or better		
12.	Streams	Minimum two video Stream Supported. Each stream configurable for resolution, fps.		
13.	Resolution & Frame Rate	Minimum 25 frames per second (FPS) for both the Streams. Full HD (1080P) @ 25 FPS with H.265 compression on one stream & HD (720P) @ 25 FPS with H.265 compression on other stream.		
14.	Data rate	i) 8 Mbps maximum for H.265 Video Compression. ii) Shall work on 3 Mbps bit rate or less average for Full HD@ 25 FPS at Variable bit rate (VBR) on individual (Single) stream with H.265 Video Compression.		
15.	Text Superimposing	Camera shall support superimposing the title and date & time on the video		
16.	Ethernet Port	RJ45 (10/100Base-T) self-adaptive		
17.	Protocols	IPv4/IPv6, TCP/IP, UDP, HTTP, HTTPS, DHCP, DNS, DDNS, PPPoE, NTP, UPnP, SMTP		
18.	Power	12 V DC / 24V DC/AC and PoE		
19.	Housing	IP66/NEMA 4X or better		
20.	Operating Temperature	0 °C to 50 °C		
21.	Operating Humidity	0% to 80% Relative, Non-Condensing		
22.	Standard	ONVIF 2.0 and above supported		
23.	Certification	CE, FCC and UL		
24.	Warranty	3 Years comprehensive onsite Warranty with parts		
25.	Specify Make of proposed camera			
26.	Specify Model of proposed camera			

**14.6 2 Megapixel IR IP PTZ Camera with 30X optical zooming**

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	Image Sensor	1/3" Progressive Scan CMOS or better		
2.	Pixels	2 Mega Pixel Full HD (1920 X 1080)		
3.	Min. Illumination	Color: 0.05 lux, B/W: 0 lux with IR (ON)		
4.	Optical Zoom	30X or better		
5.	Digital Zoom	10X or Better		
6.	Lens	Optical zoom 30x or better IR corrected lens suitable for Full HD camera. Focal length of the lens: Upper range shall be 125 mm or higher		
7.	Signal to Noise Ratio	More Than 50 dB		
8.	Focus	Automatic, Manual		
9.	Wide Dynamic Range	100 dB or better		
10.	IR Range	150 Meter or better		
11.	Day & Night	Auto (IR), Color, B/W		
12.	Backlight Compensation	Automatic BLC		
13.	Noise Reduction	3D DNR, 2D DNR		
14.	Compression Standard	H.265 (backward compatible with H.264), MJPEG or better		
15.	Streams	Minimum two video Stream Supported. Each stream configurable for resolution, fps.		
16.	Resolution & Frame Rate	Minimum 25 frames per second (FPS) for both the Streams. Full HD (1080P) @ 25 FPS with H.265 compression on one stream & HD (720p) @ 25 FPS with H.265 compression on other stream.		
17.	Data rate	i) 8 Mbps maximum for H.265 Video Compression. ii) Shall work on 3 Mbps bit rate or less average for Full HD@ 25 FPS at Variable bit rate (VBR) on individual		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
		(Single) stream with H.265 Video Compression.		
18.	Preset	99 preset or more		
19.	PAN	360° continuous		
20.	PAN/Tilt Speed	1°/second to 90°/second or better		
21.	Tilt angle	0° to 90° Tilt from horizontal plane		
22.	Preset Speed	90°/second or better		
23.	Preset Tour	Supported		
24.	Auto tracking	Supported		
25.	Video Streaming	Unicast and Multicast Streams		
26.	Text Superimposing	Camera shall support superimposing the title and date & time on the video		
27.	Ethernet Port	RJ45 (10/100Base-T) self-adaptive		
28.	Protocols	IPv4/IPv6, TCP/IP, UDP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP		
29.	Power	12 V DC / 24V DC/AC / 230 V AC and PoE/PoE+		
30.	Local Storage	Support minimum 128 GB of microSD/SDHC/SDXC card		
31.	Alarm I/O	Alarm I/P Port:1 And O/P Port: 1		
32.	Audio	2 Way Audio Supported		
33.	Housing	Vandal proof and Impact resistant enclosure with IP66 / NEMA 4X Rated or better		
34.	Operating Temperature	0 °C to 50 °C		
35.	Operating Humidity	0% to 80% Relative, Non-Condensing		
36.	Standard	ONVIF 2.0 and above supported		
37.	Certification	CE, FCC and UL		
38.	Warranty	3 Years comprehensive onsite Warranty with parts		
39.	Specify Make of proposed camera			
40.	Specify Model of proposed camera			

#### 14.8 4 Channel Network Video Recorder

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	IP Video inputs	4 Channel		
2.	Incoming Bandwidth	Minimum 32 Mbps or better		
3.	Recording Resolutions	2MP (1080P) @ 25 FPS or better		
4.	HDMI Output	Supported (1080P)		
5.	VGA Output	Supported		
6.	Decoding Format	H.265 (backward compatible with H.264), MJPEG or better		
7.	Video Playback	4 Channel simultaneously @ Full HD (1920 X 1080) or higher		
8.	SATA interface	Minimum 1 SATA interfaces		
9.	HDD Support	4TB, 6TB capacity for each SATA interface		
10.	Storage Provisioning	Necessary HDD(s) to store CCTV feed from maximum supported cameras at Full HD (1080P) @ 25 FPS with H.265 – High Quality compression for minimum 30 days		
		Specify the total storage proposed with details of number of hard disk and storage capacity of each hard disk proposed		
11.	Network interface	Minimum 1 RJ-45, 10 /100 Mbps self-adaptive Ethernet interface		
12.	Network Protocol	Suitable and required network protocol stack to work Camera in TCP/IP based Ethernet network environment. (As required for system working)		
13.	Features	<ul style="list-style-type: none"> <li>- Recording &amp; Playback Control</li> <li>- Recording Mode – Manual, Schedule (Continuous/Event), Event (Pre/Post), Motion detection, Alarms, Trigger Input, etc.</li> <li>- Search &amp; Export – Recording search by camera, date and time, export of</li> </ul>		



#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
		video clips to USB Flash drives - System Log – Alarms, events, operator log, etc. - User Management – Authentication of User Login, Configuration of Users, User Groups & User Access Rights		
14.	USB Interface	2 * USB 2.0 or better		
15.	Alarm In/Out	4/1		
16.	Third party IP Camera	Third party ONVIF IP camera supported		
17.	Power Supply	12 V DC or 230 V AC or better		
18.	Working Temperature	0 °C to 50 °C		
19.	Working humidity	10% to 80%		
20.	Certifications	CE, FCC and UL		
21.	Warranty	3 Years comprehensive onsite Warranty with parts		
22.	Specify Make of proposed NVR			
23.	Specify Model of proposed NVR			

#### 14.9 4 Channel Network Video Recorder with built-in PoE Ports

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	IP Video inputs	4 Channel		
2.	Incoming Bandwidth	Minimum 32 Mbps or better		
3.	Recording Resolutions	2MP (1080P) @ 25 FPS or better		
4.	HDMI Output	Supported (1080P)		
5.	VGA Output	Supported		
6.	Decoding Format	H.265 (backward compatible with H.264), MJPEG or better		
7.	Video Playback	4 Channel simultaneously @ Full HD (1920 X 1080) or higher		
8.	SATA interface	Minimum 1 SATA interfaces		
9.	HDD Support	4TB, 6TB capacity for each SATA interface		
10.	Storage Provisioning	Necessary HDD(s) to store CCTV feed from maximum supported cameras at Full HD (1080P) @		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
		25 FPS with H.265 – High Quality compression for minimum 30 days		
		Specify the total storage proposed with details of number of hard disk and storage capacity of each hard disk proposed		
11.	Network interface	Minimum 1 RJ-45, 10 /100 Mbps self-adaptive Ethernet interface		
12.	Network Protocol	Suitable and required network protocol stack to work Camera in TCP/IP based Ethernet network environment. (As required for system working)		
13.	Features	<ul style="list-style-type: none"> <li>- Recording &amp; Playback Control</li> <li>- Recording Mode – Manual, Schedule (Continuous/Event), Event (Pre/Post), Motion detection, Alarms, Trigger Input, etc.</li> <li>- Search &amp; Export – Recording search by camera, date and time, export of video clips to USB Flash drives</li> <li>- System Log – Alarms, events, operator log, etc.</li> <li>- User Management – Authentication of User Login, Configuration of Users, User Groups &amp; User Access Rights</li> </ul>		
14.	PoE Interface	Minimum 4-RJ 45 10/100 Mbps Self-adaptive Ethernet interface (IEEE 802.3af/ IEEE 802.3at)		
15.	PoE Power	Maximum Power requirement for maximum number of supported (offered make) camera		
16.	USB Interface	2 * USB 2.0 or better		
17.	Alarm In/Out	4/1		
18.	Third party IP Camera	Third party ONVIF IP camera supported		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
19.	Power Supply	12 V DC or 230 V AC or better		
20.	Working Temperature	0 °C to 50 °C		
21.	Working humidity	10% to 80%		
22.	Certifications	CE, FCC and UL		
23.	Warranty	3 Years comprehensive onsite Warranty with parts		
24.	Specify Make of proposed NVR			
25.	Specify Model of proposed NVR			

#### 14.10 8 Channel Network Video Recorder

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	IP Video inputs	8 Channel		
2.	Incoming Bandwidth	Minimum 64 Mbps or better		
3.	Recording Resolutions	2MP (1080P) @ 25 FPS or better		
4.	HDMI Output	Supported (1080P)		
5.	VGA Output	Supported		
6.	Decoding Format	H.265 (backward compatible with H.264), MJPEG or better		
7.	Video Playback	8 Channel simultaneously @ Full HD (1920 X 1080) or higher		
8.	SATA interface	Minimum 2 SATA interfaces		
9.	HDD Support	4TB, 6TB, 8TB capacity for each SATA interface		
10.	Storage Provisioning	Necessary HDD(s) to store CCTV feed from maximum supported cameras at Full HD (1080P) @ 25 FPS with H.265 – High Quality compression for minimum 30 days		
		Specify the total storage proposed with details of number of hard disk and storage capacity of each hard disk proposed		
11.	Network interface	Minimum 1 RJ-45, 10 /100/1000 Mbps self-adaptive Ethernet interface		
12.	Network Protocol	Suitable and required network protocol stack to work Camera in TCP/IP based Ethernet network environment. (As required for system working)		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
13.	Features	<ul style="list-style-type: none"> <li>- Recording &amp; Playback Control</li> <li>- Recording Mode – Manual, Schedule (Continuous/Event), Event (Pre/Post), Motion detection, Alarms, Trigger Input, etc.</li> <li>- Search &amp; Export – Recording search by camera, date and time, export of video clips to USB Flash drives</li> <li>- System Log – Alarms, events, operator log, etc.</li> <li>- User Management – Authentication of User Login, Configuration of Users, User Groups &amp; User Access Rights</li> </ul>		
14.	USB Interface	2 * USB 2.0 or better		
15.	Alarm In/Out	4/1		
16.	Third party IP Camera	Third party ONVIF IP camera supported		
17.	Power Supply	12 V DC or 230 V AC or better		
18.	Working Temperature	0 °C to 50 °C		
19.	Working humidity	10% to 80%		
20.	Certifications	CE, FCC and UL		
21.	Warranty	3 Years comprehensive onsite Warranty with parts		
22.	Specify Make of proposed NVR			
23.	Specify Model of proposed NVR			

**14.11 8 Channel Network Video Recorder with built-in PoE ports**

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	IP Video inputs	8 Channel		
2.	Incoming Bandwidth	Minimum 64 Mbps or better		
3.	Recording Resolutions	2MP (1080P) @ 25 FPS or better		
4.	HDMI Output	Supported (1080P)		
5.	VGA Output	Supported		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
6.	Decoding Format	H.265 (backward compatible with H.264), MJPEG or better		
7.	Video Playback	8 Channel simultaneously @ Full HD (1920 X 1080) or higher		
8.	SATA interface	Minimum 2 SATA interfaces		
9.	HDD Capacity	4TB, 6TB, 8TB capacity for each SATA interface		
10.	Storage Provisioning	Necessary HDD(s) to store CCTV feed from maximum supported cameras at Full HD (1080P) @ 25 FPS with H.265 – High Quality compression for minimum 30 days		
		Specify the total storage proposed with details of number of hard disk and storage capacity of each hard disk proposed		
11.	Network interface	Minimum 1 RJ-45, 10 /100/1000 Mbps self-adaptive Ethernet interface		
12.	Network Protocol	Suitable and required network protocol stack to work Camera in TCP/IP based Ethernet network environment. (As required for system working)		
13.	Features	<ul style="list-style-type: none"> <li>- Recording &amp; Playback Control</li> <li>- Recording Mode – Manual, Schedule (Continuous/Event), Event (Pre/Post), Motion detection, Alarms, Trigger Input, etc.</li> <li>- Search &amp; Export – Recording search by camera, date and time, export of video clips to USB Flash drives</li> <li>- System Log – Alarms, events, operator log, etc.</li> <li>- User Management – Authentication of User Login, Configuration of Users, User Groups &amp; User Access Rights</li> </ul>		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
14.	PoE Interface	Minimum 8-RJ 45 10/100 Mbps Self-adaptive Ethernet interface (IEEE 802.3af/ IEEE 802.3at)		
15.	PoE Power	Maximum Power requirement for maximum number of supported (offered make) camera		
16.	USB Interface	2 * USB 2.0 or better		
17.	Alarm In/Out	4/1		
18.	Third party IP Camera	Third party ONVIF IP camera supported		
19.	Power Supply	12 V DC or 230 V AC or better		
20.	Working Temperature	0 °C to 50 °C		
21.	Working humidity	10% to 80%		
22.	Certifications	CE, FCC and UL		
23.	Warranty	3 Years comprehensive onsite Warranty with parts		
24.	Specify Make of proposed NVR			
25.	Specify Model of proposed NVR			

#### 14.12 16 Channel Network Video Recorder

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	IP Video inputs	16 Channel		
2.	Incoming Bandwidth	Minimum 128 Mbps or better		
3.	Recording Resolutions	2MP (1080P) @ 25 FPS or better		
4.	HDMI Output	Supported (1080P)		
5.	VGA Output	Supported		
6.	Decoding Format	H.265 (backward compatible with H.264), MJPEG or better		
7.	Video Playback	16 Channel simultaneously @ Full HD (1920 X 1080) or higher		
8.	SATA interface	Minimum 2 SATA interfaces		
9.	HDD Capacity	4TB, 6TB, 8TB capacity for each SATA interface		
10.	Storage Provisioning	Necessary HDD(s) to store CCTV feed from maximum supported cameras at Full HD (1080P) @ 25 FPS with H.265 – High Quality compression for minimum 30 days		

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
		Specify the total storage proposed with details of number of hard disk and storage capacity of each hard disk proposed		
11.	Network interface	Minimum 1 RJ-45, 10 /100/1000 Mbps self-adaptive Ethernet interface		
12.	Network Protocol	Suitable and required network protocol stack to work Camera in TCP/IP based Ethernet network environment. (As required for system working)		
13.	Features	<ul style="list-style-type: none"> <li>- Recording &amp; Playback Control</li> <li>- Recording Mode – Manual, Schedule (Continuous/Event), Event (Pre/Post), Motion detection, Alarms, Trigger Input, etc.</li> <li>- Search &amp; Export – Recording search by camera, date and time, export of video clips to USB Flash drives</li> <li>- System Log – Alarms, events, operator log, etc.</li> <li>- User Management – Authentication of User Login, Configuration of Users, User Groups &amp; User Access Rights</li> </ul>		
14.	USB Interface	2 * USB 2.0 or better		
15.	Alarm In/Out	4/1		
16.	Third party IP Camera	Third party ONVIF IP camera supported		
17.	Power Supply	12 V DC or 230 V AC or better		
18.	Working Temperature	0 °C to 50 °C		
19.	Working humidity	10% to 80%		
20.	Certifications	CE, FCC and UL		
21.	Warranty	3 Years comprehensive onsite Warranty with parts		
22.	Specify Make of proposed NVR			
23.	Specify Model of proposed NVR			

**14.13 32 Channel Network Video Recorder**

#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	IP Video inputs	32 Channel		
2.	Incoming Bandwidth	Minimum 256 Mbps or better		
3.	Recording Resolutions	2MP (1080P) @ 25 FPS or better		
4.	HDMI Output	Supported (1080P)		
5.	VGA Output	Supported		
6.	Decoding Format	H.265 (backward compatible with H.264), MJPEG or better		
7.	Video Playback	16 Channel simultaneously @ Full HD (1920 X 1080) or higher		
8.	SATA interface	Minimum 4 SATA interfaces		
9.	HDD Capacity	4TB, 6TB, 8TB capacity for each SATA interface		
10.	Storage Provisioning	Necessary HDD(s) to store CCTV feed from maximum supported cameras at Full HD (1080P) @ 25 FPS with H.265 – High Quality compression for minimum 30 days		
		Specify the total storage proposed with details of number of hard disk and storage capacity of each hard disk proposed		
11.	Network interface	Minimum 1 RJ-45, 10 /100/1000 Mbps self-adaptive Ethernet interface		
12.	Network Protocol	Suitable and required network protocol stack to work Camera in TCP/IP based Ethernet network environment. (As required for system working)		
13.	Features	<ul style="list-style-type: none"> <li>- Recording &amp; Playback Control</li> <li>- Recording Mode – Manual, Schedule (Continuous/Event), Event (Pre/Post), Motion detection, Alarms, Trigger Input, etc.</li> <li>- Search &amp; Export – Recording search by camera, date and time, export of video clips to USB Flash drives</li> <li>- System Log – Alarms, events, operator log, etc.</li> </ul>		



#	Parameters	Minimum Specifications	Compliance (Yes / No)	Deviation from Specifications/ Remarks if Any
		- User Management – Authentication of User Login, Configuration of Users, User Groups & User Access Rights		
14.	USB Interface	2 * USB 2.0 or better		
15.	Alarm In/Out	8/1		
16.	Third party IP Camera	Third party ONVIF IP camera supported		
17.	Power Supply	12 V DC or 230 V AC or better		
18.	Working Temperature	0 °C to 50 °C		
19.	Working humidity	10% to 80%		
20.	Certifications	CE, FCC and UL		
21.	Warranty	3 Years comprehensive onsite Warranty with parts		
22.	Specify Make of proposed NVR			
23.	Specify Model of proposed NVR			

**14.15 8 Port PoE/PoE+ industrial grade network switch**

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	Type	Managed Outdoor Industrial grade switch		
2.	Total Ports	<ul style="list-style-type: none"> <li>• 8 RJ-45 auto-negotiating 10/100/1000 PoE/PoE+ ports</li> <li>• Minimum 2 Combo 100/1000 BASE-X SFP/BASE T ports in addition to above ports.</li> </ul>		
3.	PoE Standard	IEEE 802.3af/ IEEE 802.3at		
4.	Protocols	<ul style="list-style-type: none"> <li>• IPV4, IPV6</li> <li>• Support 802.1Q VLAN</li> <li>• DHCP support</li> <li>• IGMP</li> <li>• SNMP Management</li> <li>• Should support Loop protection and Loop detection</li> <li>• Should support Ring protection</li> <li>• End point Authentication</li> <li>• Should support NTP</li> <li>• Should have IPv4 and IPv6 Static Routing</li> </ul>		
5.	Access Control	<ul style="list-style-type: none"> <li>• Support port security</li> </ul>		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
		<ul style="list-style-type: none"> <li>Support 802.1x (Port based network access control).</li> <li>Support for IP and MAC binding based filtering and Access List.</li> <li>Support security group access control list</li> </ul>		
6.	PoE Power per port	Sufficient to operate the Offered CCTV cameras/edge devices connected		
7.	Enclosure Rating	IP 30 or equivalent Industrial Grade Rating(to be housed in Junction box)		
8.	Operating Temperature	0 -50 C or better Industrial Grade Rating		
9.	Multicast support	IGMP Snooping V1, V2, V3		
10.	Management	Switch needs to have RS-232/USB/RJ45 console port for management via a console terminal or PC,Web GUI NTP, Syslog for log capturing SNMP V1,V2,V3		
11.	Power Supply	AC Input		
12.	Compliance	UL/EN/IEC and NEMA TS-2		
13.	Surge Protection	IEC 61000-4-5 complied		
14.	Warranty	5 Years comprehensive onsite Warranty with parts		
15.	Specify Make of proposed industrial grade network switch			
16.	Specify Model of proposed industrial grade network switch			

#### 14.16 8 Port Web Managed PoE/PoE+ Network switch

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	Type	Web Managed		
2.	Total Ports	<ul style="list-style-type: none"> <li>8 RJ-45 auto-negotiating 10/100/1000 PoE/PoE+ ports</li> <li>Minimum 2 Combo 100/1000 BASE-X SFP/BASE T ports in addition to above ports</li> </ul>		
3.	PoE Standard	IEEE 802.3af/ IEEE 802.3at.		
4.	Protocols	<ul style="list-style-type: none"> <li>IPV4, IPV6</li> <li>DHCP support</li> <li>IGMP</li> <li>SNMP Management</li> <li>Should support Loop protection and Loop detection</li> </ul>		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/Remarks if Any
		<ul style="list-style-type: none"> <li>Should support Ring protection</li> <li>End point Authentication</li> <li>Should support NTP</li> <li>Should have IPv4 and IPv6 Static Routing</li> </ul>		
5.	Access Control	<ul style="list-style-type: none"> <li>Support port security</li> <li>Support 802.1x (Port based network access control).</li> <li>Support for IP and MAC binding based filtering and Access List.</li> <li>Support security group access control list</li> </ul>		
6.	PoE Power per port	Sufficient to operate the Offered CCTV cameras/edge devices connected		
7.	Operating Temperature	0 - 45° C or better		
8.	Multicast support	IGMP Snooping V1, V2, V3		
9.	Management	<ul style="list-style-type: none"> <li>The Switch should support simple Web management</li> <li>Support NTP</li> </ul>		
10.	Power Supply	AC Input		
11.	Compliance	UL/EN/IEC		
12.	Warranty	5 Years comprehensive onsite Warranty with parts		
13.	Specify Make of proposed Web managed network switch			
14.	Specify Model of proposed Web Managed network switch			

#### 14.17 Core Switch/Top of the Rack Switch/DC Switch

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/Remarks if Any
A	B	C	D	E
1.	Switching Capacity	<ul style="list-style-type: none"> <li>Switching Capacity of minimum 640 Gbps or Higher with Fully populated/all activated ports along with all modules/software/features/support activated from day 1</li> </ul>		
2.	Ports	<ul style="list-style-type: none"> <li>Should have minimum 24 X 1G/10G Base-T/SFP/SFP+ ports.</li> <li>Should have minimum 2 X 40G BASE-QSFP+ SX/LX/LR ports</li> </ul>		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
		<ul style="list-style-type: none"> <li>All Transceivers (SFP+/SFP+ 10G BASE-T/QSFP+) required as must be provided/included with product from day 1 for fully loaded switch.</li> <li>All patch cord (OFC/CAT 6a or CAT 7 RJ-45 Copper/DAC) required must be provided/included with product from day 1 for fully loaded switch.</li> <li>Transceiver Module proposed must be of same OEM/make as for proposed switch.</li> </ul>		
		<ul style="list-style-type: none"> <li>10G Base T/SFP+ port Split should be as per field/site requirement and it should have minimum 24 x 10GBASE-T ports or 24 x SFP+ ports or 24 Converged ports, or a combination of both types of ports.</li> </ul>		
		<ul style="list-style-type: none"> <li>All RJ-45 ports can auto-negotiate between 100M/1G/10G, TX, half-duplex or full duplex and flow control for full-duplex ports.</li> </ul>		
3.	Switch type	<ul style="list-style-type: none"> <li>Fully Managed &amp; Advanced Layer 3 Core/Data Centre Switch &amp; Non Chassis Based</li> </ul>		
4.	Backplane	<ul style="list-style-type: none"> <li>Properly sized Switching fabric capacity (as per network configuration to meet performance requirements of wire speed switching for the connected devices)</li> </ul>		
5.	Layer-2 Features	<ul style="list-style-type: none"> <li>Switch should Support IEEE 802.1Q VLAN encapsulation &amp; must have feature to configure minimum 4090 VLAN IDs.</li> </ul>		
		<ul style="list-style-type: none"> <li>The switch must support dynamic VLAN Registration or equivalent and Dynamic Trunking protocol or equivalent</li> </ul>		
		<ul style="list-style-type: none"> <li>Switch should Support Ether Channelling - IEEE 802.3ad or port aggregation technologies (support of LACP)</li> </ul>		
		<ul style="list-style-type: none"> <li>Switch should Support IEEE 802.3x flow control for full-duplex mode ports.</li> </ul>		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
		<ul style="list-style-type: none"> <li>Switch should Support IEEE 802.1s/w Rapid Spanning Tree Protocol (RSTP) and Multiple Spanning Tree Protocol (MSTP)</li> </ul>		
		<ul style="list-style-type: none"> <li>Support for Automatic Negotiation of Trunking Protocol, to help minimize the configuration &amp; errors.</li> </ul>		
		<ul style="list-style-type: none"> <li>IGMP snooping v1, v2 and v3</li> </ul>		
		<ul style="list-style-type: none"> <li>Should support 32k or more ARP/MAC Address table</li> </ul>		
		<ul style="list-style-type: none"> <li>Should support Loop protection and Loop detection.</li> </ul>		
		<ul style="list-style-type: none"> <li>Should support Ring protection.</li> </ul>		
6.	Layer-3 Features	<ul style="list-style-type: none"> <li>Must have Static, OSPFv3, BGP4, RIPv1, RIPv2 and Policy based routing protocols with IPV4 &amp; IPv6 supported.</li> </ul>		
		<ul style="list-style-type: none"> <li>Should support Dual IP stack which Maintains separate stacks for IPv4 and IPv6</li> </ul>		
		<ul style="list-style-type: none"> <li>Should support Virtual Router Redundancy Protocol (VRRP).</li> </ul>		
		<ul style="list-style-type: none"> <li>Should support Equal-Cost Multipath (ECMP) which provides equal-cost links in a routing environment to increase link redundancy.</li> </ul>		
		<ul style="list-style-type: none"> <li>Support 802.1D, 802.1S, 802.1w, Rate limiting.</li> </ul>		
		<ul style="list-style-type: none"> <li>Inter-VLAN IP routing for full Layer 3 routing between 2 or more VLANs.</li> </ul>		
		<ul style="list-style-type: none"> <li>Support for Multicast VLAN to continuously send multicast streams in a multicast VLAN while isolating the streams from subscriber VLANs for bandwidth and security reasons.</li> </ul>		
		<ul style="list-style-type: none"> <li>Inbuilt Feature of Dynamic Host Configuration Protocol (DHCP) Server which simplifies the management of large</li> </ul>		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
		IP networks and supports client and server system.		
7.	Network Security & QoS	<ul style="list-style-type: none"> <li>Standard 802.1p CoS and DSCP.</li> <li>Must have Network traffic filtering and network control using MAC and IP Binding based ACLs</li> <li>Support for Asynchronous data flows upstream and downstream from the end station or on the uplink using ingress policing and egress shaping.</li> <li>Should support TACACS+ and RADIUS authentication</li> <li>Support for Automatic Quality of Service for easy configuration of QoS features for critical applications.</li> <li>Broadcast storm control to help eliminate network traffic storms</li> <li>IEEE 802.1x to allow dynamic, port-based security, providing user authentication.</li> <li>VLAN ACLs (VACLs) on all VLANs to prevent unauthorized data flows from being bridged within VLANs. Port-based ACLs (PACLs) for Layer 2 interfaces to allow application of security policies on individual switch ports</li> <li>Standard and Extended IP security router ACLs to define security policies on routed interfaces for control- and data-plane traffic.</li> <li>Unicast MAC filtering to prevent the forwarding of any type of packet with a matching MAC address.</li> <li>Unknown unicast and multicast port blocking to allow tight control by filtering packets that the switch has not already learned how to forward.</li> <li>Support for SSHv2 and SNMPv3 to provide network security by encrypting</li> </ul>		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
		administrator traffic during Telnet and SNMP sessions.		
		<ul style="list-style-type: none"> <li>Private VLAN to provide security and isolation between switch ports, helping ensure that users cannot snoop on other users' traffic.</li> </ul>		
		<ul style="list-style-type: none"> <li>MAC address management to allow administrators for analysis of users added to or removed from the network.</li> </ul>		
		<ul style="list-style-type: none"> <li>Multilevel security on console access to prevent unauthorized users from altering the switch configuration.</li> </ul>		
		<ul style="list-style-type: none"> <li>IPv6 Host, Management, multicast and QoS.</li> </ul>		
8.	Management	<ul style="list-style-type: none"> <li>Easy-to-use, Web-based management interface through either GUI based software utility or using standard web browser interface which Supports configuration, system dashboard, system maintenance, and monitoring.</li> </ul>		
		<ul style="list-style-type: none"> <li>Should have accessibility using Telnet, SSH, Console access.</li> </ul>		
		<ul style="list-style-type: none"> <li>Intuitive web interface to upload/download Configurations to and from the switch.</li> </ul>		
		<ul style="list-style-type: none"> <li>Should have feature for easier software/firmware upgrade through network using TFTP/HTTP etc.</li> </ul>		
		<ul style="list-style-type: none"> <li>Provision of Dual flash images to provide independent primary and secondary operating system files for backup while upgrading.</li> </ul>		
		<ul style="list-style-type: none"> <li>Availability of Port statistics through industry-standard RMON</li> </ul>		
		<ul style="list-style-type: none"> <li>Layer 2/3 trace route for ease of troubleshooting by identifying the physical path that a packet takes from source to destination.</li> </ul>		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
		<ul style="list-style-type: none"> <li>SNMPv1, SNMPv2 and SNMPv3.</li> </ul>		
9.	Warranty:	<ul style="list-style-type: none"> <li>5 Years onsite back to back Warranty with parts</li> </ul>		
10.	Chassis:	<ul style="list-style-type: none"> <li>Device must have 1+1 redundant AC power input supply and must be included with switch from day 1.</li> </ul>		
11.	Specify Make of proposed network switch			
12.	Specify Model of proposed network switch			



### 14.18 Enterprise Next Generation Firewall

#	Minimum Parameters	Bidders Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D
1.	<b>Make:</b> OEM must be listed in Leader's Quadrant of the latest Gartner Magic Quadrant for Enterprise Firewall or amongst the top 5 for World-wide Market share in terms of Revenue as per IDC for Enterprise Firewall Market.		
2.	OEM should have support Centre in India.		
3.	Appliance must be ICSA Labs certified for Firewall.		
4.	<b>Minimum Hardware Specification</b>		
	<ul style="list-style-type: none"> <li>Minimum 2 x 10GbE SFP+ Ports form day 1 with 2 x 10G SFP+ Transceivers <b>from same make/OEM must be</b> provided/included with product from day 1</li> <li>Minimum 8 x 1GbE SFP Ports from day 1 <b>with 4 x 1G SFP Transceivers from same make/OEM must be provided</b>/included with product from day 1</li> <li>Minimum 8 x 1GbE RJ45/Copper Ports from day 1</li> <li>Minimum 2 x USB Port</li> <li>2 x Integrated AC input Power Supply</li> <li>Minimum 1x Console Management Ports (RJ45) &amp; should provide http, https, SSH, Telnet, SNMP based management console for managing and configuring</li> <li>Ports can be configurable for LAN/ WAN/DMZ</li> </ul>		
5.	<b>Appliance Throughput</b>		
	<ul style="list-style-type: none"> <li>Minimum Firewall throughput of 15 Gbps or higher</li> <li>Minimum 1,25,000 New Sessions/sec</li> <li>Minimum 15,00,000 Concurrent sessions</li> <li>Minimum 2 Gbps or higher IPS Throughput in real world/Enterprise/Production traffic scenario.</li> <li>Minimum 1.5 Gbps or higher Threat Protection Throughput with Firewall, IPS and Malware Protection enabled in real world/Enterprise/Production traffic scenario.</li> </ul>		
6.	<ul style="list-style-type: none"> <li>Should have minimum 400 GB of inbuilt HDD for Local Storage of device Log which can be used for Analysis &amp; Reporting.</li> </ul>		
7.	<b>General Features</b>		

<ul style="list-style-type: none"> <li>• Should be appliance based and rack mountable.</li> </ul>		
<ul style="list-style-type: none"> <li>• The Firewall should support "Route Mode" or "Transparent Mode" and support web proxy/ssl proxy</li> </ul>		
<ul style="list-style-type: none"> <li>• Device in built DNS server for prevention of phishing and pharming scams involving DNS poisoning while reducing time taken for DNS mapping.</li> </ul>		
<ul style="list-style-type: none"> <li>• Intrusion Prevention System</li> </ul>		
<ul style="list-style-type: none"> <li>• Gateway Anti-virus</li> </ul>		
<ul style="list-style-type: none"> <li>• Gateway Anti-spam with DLP functionality</li> </ul>		
<ul style="list-style-type: none"> <li>• Web Content &amp; Application Filtering</li> </ul>		
<ul style="list-style-type: none"> <li>• Application Control</li> </ul>		
<ul style="list-style-type: none"> <li>• Cloud Sandbox/Zero day prevention</li> </ul>		
<ul style="list-style-type: none"> <li>• Botnet Blocking/Prevention</li> </ul>		
<ul style="list-style-type: none"> <li>• Bandwidth Management/Traffic Shaping capable of setting guarantee bandwidth and maximum bandwidth per firewall policy</li> </ul>		
<ul style="list-style-type: none"> <li>• High Availability with Active-Active &amp; Active-Passive mode support</li> </ul>		
<ul style="list-style-type: none"> <li>• The High Availability should be supported in the Firewall from the day one and without any extra license.</li> </ul>		
<ul style="list-style-type: none"> <li>• The Firewall should support Static, Policy Base, Identity based, Multicast routing and dynamic routing for RIP1 &amp; 2, OSPF, OSPFv3, BGP4, RIPing, Server Load Balancing.</li> </ul>		
<ul style="list-style-type: none"> <li>• The Firewall should belong to a family of products that attains industry standard Approved Certification and attains IPv6 Ready Phase 2 &amp; IPv6 Certification</li> </ul>		
<ul style="list-style-type: none"> <li>• Should support IPv6 ACL to implement security Policy for IPv6 traffic.</li> </ul>		
<ul style="list-style-type: none"> <li>• Support for user authentication over SMS and in built two factor authentication without any additional cost.</li> </ul>		
<ul style="list-style-type: none"> <li>• The proposed solution should support integration with Windows NTLM, Active Directory, LDAP, Radius, or Local Database for user authentication.</li> </ul>		
<ul style="list-style-type: none"> <li>• Country Based Blocking, FQDN support and should support MIX mode deployment</li> </ul>		
<ul style="list-style-type: none"> <li>• Should have an integrated wireless controller and should be able to manage multiple wireless access points centrally from web admin console.</li> </ul>		
<ul style="list-style-type: none"> <li>• Should have feature/provision for Virtual instance/Appliance/Domain or equivalent feature which splits the physical Appliance/domain into virtual by configuration/Software (Optional).</li> </ul>		

	<ul style="list-style-type: none"> <li>Should have Feature/module for Device Logging &amp; Reporting and support for appliance/Hardware based Centralized Logging &amp; Reporting Solution deployed additionally.</li> </ul>		
8.	<p><b>Gateway Antivirus, Anti-Spyware and Anti-Spam</b></p> <ul style="list-style-type: none"> <li>Firewall must be able to scan http, https, IMAP, IMAPs, FTP, FTPs, POP, POPs, SMTP, SMTPs &amp; MAPI protocols with AV signatures</li> <li>Virus, Worm, Trojan Detection and Removal, Automatic Virus signature database update, Real-Time blacklist, Spam Notification, Zero hour Virus outbreak protection.</li> </ul>		
9.	<p><b>Web and Application Filtering</b></p> <ul style="list-style-type: none"> <li>The proposed solution should be able to enable or disable Web Filter per firewall policy or based on firewall authenticated user groups for both HTTP and HTTPS</li> <li>Should blocks web plug-ins such as ActiveX, Java Applet, and Cookies &amp; Shall include Web URL block, Web keyword block, Web Exempt List</li> <li>The proposed solution must work as a HTTP proxy server with integrated Firewall, Anti-Virus, Anti-Spam, Content filtering, IPS.</li> <li>The proposed solution should be able to enable or disable Web Filter per firewall policy or based on firewall authenticated user groups for both HTTP and HTTPS</li> <li>The solution shall allow administrators to create multiple new local URL filtering categories besides dynamic categories</li> <li>Application Control Solution must provide option to create custom signature for applications &amp; it should be able to understand</li> <li>Well-known application like P2P, Voice, etc. without any dependency on the ports</li> <li>Support for IEEE 802.1X (RADIUS authentication)</li> </ul>		
10.	<p><b>Intrusion Prevention System (IPS)</b></p> <ul style="list-style-type: none"> <li>For different attacks like Mail Attack, FTP Attack, HTTP Attack, DNS Attack, ICPM Attack, TCP/IP Attack, DOS and DDOS Attack, Telnet Attack.</li> <li>Signatures: Custom, IPS Policies: Multiple, Custom, User-based policy creation, Automatic real-time updates.</li> <li>Should have a built-in Signature and Anomaly based IPS engine on the same unit and Anomaly based detection should be based on thresholds.</li> <li>Able to prevent denial of service and Distributed Denial of Service attacks on signature.</li> </ul>		

	<ul style="list-style-type: none"> <li>Administrator shall be able to configure DoS policies that are used to associate DoS settings with traffic that reaches an interface based on defined services, source and destinations IP/Range.</li> </ul>		
11.	<p><b>Advance Threat Protection</b></p> <ul style="list-style-type: none"> <li>Advanced Threat Protection (Detect and block network traffic attempting to contact command and control servers).</li> <li>It must have facility to block Bot/Botnet attacks from day 1 &amp; also should scan Mobile devices security from day 1.</li> </ul>		
12.	<p><b>Cloud based Zero day prevention or Sandboxing</b></p> <ul style="list-style-type: none"> <li>Solution should have support to inspect executables and documents containing executable content including .exe, .com, .dll, .docx, rtx, etc , and malware behaviour analysis and should support cloud based Zero day prevention or Sandboxing.</li> </ul>		
13.	<p><b>VPN</b></p> <ul style="list-style-type: none"> <li>L2TP, PPTP, IPsec and SSL must be a part of Basic Appliance.</li> <li>The SSL VPN should be integrated solution and there should be no user based licensing for SSL VPN with SSL encryption/decryption.</li> <li>Firewall must have at least 100 SSL VPN client in Route mode from the day 1 without any additional cost.</li> <li>The system shall support IPSEC site-to-site VPN and remote user VPN in transparent mode without any additional cost for VPN clients.</li> </ul>		
14.	<p><b>Load Balance</b></p> <ul style="list-style-type: none"> <li>For Automated Failover/Failback, Multi-WAN failover, High availability: Active-Active. QoS, OSPF, RIPv2, BGP, Policy routing based on Application and User support Round Robin Load Balancing</li> </ul>		
15.	<p><b>Bandwidth Management</b></p> <ul style="list-style-type: none"> <li>Application and user bandwidth management, Multi WAN bandwidth reporting, guaranteed bandwidth policy. Bandwidth for User, Group, Firewall Rule, URL and Applications.</li> </ul>		
16.	<p><b>Inbuilt Logging and Reporting Solution</b></p> <ul style="list-style-type: none"> <li>Should have GUI based access from standard web browsers available for Centralized reports on network traffic, threats, network activities and trends across the network.</li> <li>Real-time and Historical Views of Network Activity by filtering applications, sources, destinations,</li> </ul>		

	websites/URLs, security threats, administrative modifications and system events.		
	<ul style="list-style-type: none"> <li>• <b>Log Forwarding for Third-Party Integration</b></li> <li>• Should have feature to forward logs from a unit to a syslog server and support for FTP/TFTP log transfer.</li> <li>• <b>The proposed solution must be licensed per unit for minimum 5 years subscription for modules/services mentioned below with 24x7 Hardware &amp; Software support.</b></li> </ul>		
17.	<b>License for Enterprise Firewall</b>		
	<ul style="list-style-type: none"> <li>• The proposed solution must be licensed per unit for <b>5 years</b> &amp; there should not be any license limit on number of sessions, firewall rules, maximum number of connections, no of nodes/desktops, no. of IPs, domains, etc. for all modules. It must include minimum <b>5 years</b> subscription for Firewall, IPS &amp; IDS, Gateway Antivirus, Anti-Spyware, Anti Malware and Log Analysis &amp; Management solution along with Logging &amp; Reporting Solution.</li> <li>• Hardware must be latest released product from OEM and it must not be under the list end of sale, end of support from OEM till <b>5 years</b> from date of commissioning and in any case if subscription is not available/provided from OEM after few years but before the end of contract period than <b>bidder/SI is required</b> to provide equivalent or higher model released by OEM with all subscriptions mentioned above till the contract period</li> </ul>		
18.	<b>5 Years comprehensive onsite Warranty support</b>		
19.	Specify Make of proposed Next Generation Firewall		
20.	Specify Model of proposed Next Generation Firewall		

**14.19 Server (As Building block, to establishing computing solution for sub systems/solutions)**

Server for “Suman Eye (CCTV Network) Project” should not have single point of failover

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/Remarks if Any
A	B	C	D	E
1.	Make	OEM must be listed in Leader’s Quadrant of the latest Gartner Magic Quadrant for Modular Servers or amongst the top 5 for World-wide Market share in terms of Revenue as per IDC for Server Market		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/Remarks if Any
2.	Form factor	Blade / Rack		
3.	Processor	Latest series/Generation of 64 bit x86 processor(s) with 8 or higher Cores Processor speed should be minimum 2.4 GHz Minimum 2 processors each physical server		
		Specify Processor Model		
		Specify Processor Speed		
		Specify No. of Cores		
		Specify Cache		
		Specify No. of Processors Proposed		
4.	RAM	<ul style="list-style-type: none"> <li>DIMM Slots must be supporting 2400 MHz/2666MHz memory frequency</li> <li>Memory DIMM Slots must be supporting 8GB / 16GB / 32GB /64GB/128GB memory modules.</li> <li>Minimum 64 GB Memory per physical server</li> </ul>		
		Specify Maximum RAM supported		
		Specify Total RAM proposed		
5.	Chipset	Compatible latest series of chipset (specify chipset)		
6.	Internal Storage	Minimum 2 x 600 GB SAS (10k rpm) hot swap		
		Specify the No. of HDD Slots Supported		
		Specify the HDD Capacity Offered		
		Specify the HDD Composition proposed with capacity of each type of HDD		
7.	Storage Controllers	Servers must be equipped with RAID Controller supporting RAID 0, 1		
8.	Network interface	2 X 10GbE LAN ports for providing Ethernet connectivity		
9.	Storage Connectivity Interface	2 X Single-port 16Gbps FC HBA for providing FC connectivity		
10.	Operating System	Licensed version of 64 bit latest version of Red Hat Linux/ Unix/Microsoft® Windows based Operating system)		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/Remarks if Any
11.	Virtualization	Shall support Industry standard virtualization hypervisor like Hyper-V, VMWARE, Oracle VM etc. OEM of the blade chassis / rack and servers offered.		
12.	Warranty	24 x 7 Five (5) years on-site back to back comprehensive warranty		
13.	Quantity	Specify the quantity of the proposed server as per the solution architecture		
14.	Specify Make of proposed Server			
15.	Specify Model of proposed Server			

**14.20 Blade Chassis (if Blade Server is proposed)**

#	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/Remarks if Any
A	B	C	D
1.	Minimum 6U size, rack-mountable, capable of accommodating minimum 8 or higher hot pluggable blades		
2.	Dual network connectivity of 10 G speed for each blade server for redundancy		
3.	Shall support Industry standard virtualization hypervisor like Hyper-V, VMWARE, Oracle VM etc.		
4.	DVD ROM shall be available in chassis, can be internal or external, which can be shared by all the blades allowing remote installation of software		
5.	Minimum 4 USB port		
6.	Minimum 2 hot-plug/hot-swap 10 Gbps Ethernet modules each with 8 No. of Ethernet ports for uplink and sufficient internal 10 GBPS ports within chassis to support redundancy for each blade (Flexibility to use any port as 10GbE, 25GbE, 40GbE and 100GbE with optics or breakout cables.)		
7.	Two hot-plugs/hot-swap redundant 16 GBPS Fiber Channel module with 16 number of internal and 8 external 16 GBPS ports for connectivity to the external Fiber channel Switch / Storage Controller (Ports must be active and populated with SFP+ from day one.)		
8.	Power supplies shall have N+N. All power supplies modules shall be populated in the chassis. Required number of PDUs and power cables, to connect all blades, Chassis to Data Center power outlet.		
9.	Hot pluggable/hot-swappable redundant cooling unit		

#	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
10.	Provision of systems management and deployment tools to aid in blade server configuration and OS deployment		
11.	Blade enclosure shall have provision to connect to display console/central console for local management such as troubleshooting, configuration, system status/health display.		
12.	Single console for all blades in the enclosure, built-in KVM switch with facility for Virtual KVM features over IP		
13.	Dedicated management network port shall have separate path for remote management.		
14.	24 x 7 Five (5) years on-site back to back comprehensive warranty		
15.	Specify Make of proposed Chassis		
16.	Specify Model of proposed Chassis		

#### 14.21 Storage

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	Make	OEM must be listed in Leader's Quadrant of the latest Gartner Magic Quadrant for General-Purpose Disk Arrays or amongst the top 5 for World-wide Market share in terms of Revenue as per IDC for Enterprise Storage Market		
2.	Controllers	<ul style="list-style-type: none"> <li>At least 2 hot pluggable Controllers in active/active mode (for all required protocols) with automatic failover to each other in case of one controller failure.</li> <li>The controllers / Storage nodes should be upgradable seamlessly, without any disruptions / downtime to production workflow for performance, capacity enhancement and software / firmware upgrades.</li> <li>Minimum four Xeon 8 Core CPU across storage controllers</li> <li>Controller must support Multipath I/O Architecture.</li> </ul>		



#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
3.	Storage Operating System	<ul style="list-style-type: none"> <li>Storage offered must be with the latest operating system</li> </ul>		
4.	Cache	<ul style="list-style-type: none"> <li>Minimum 512 GB of useable cache across controllers. Cache must be controller cache and not SSD based cache.</li> <li>Cache shall be used only for data and control operations and should not handle any overhead of operating system.</li> </ul>		
5.	Host Interface Port	Minimum 4 nos. of 16 Gbps Fibre Channel Ports per Controller shall be available. Ports must be active and populated with SFP+ from day one.		
6.	Back and front port	The storage should support 8/16 Gbps on FC to connect SAN Switch, 10Gbps on iSCSI (SFP+/Base-T) to Connect on LAN switch within same controller pair.		
7.	Scalability	System should support a minimum of 750 drives or more within the same set of controllers.		
8.	Disk Drive Support	System should have support for <ul style="list-style-type: none"> <li>SSD/Flash drives</li> <li>SAS drives</li> <li>Near-line SAS drives</li> </ul>		
9.	RAID support	Should support various RAID Levels (RAID 0 / 1 / 5 / 6 / 10 or any combination of RAID level on single Storage system)		
10.	Solution/ Type	Bidder is required to offer corresponding ports both in server as well as storage controller based on the solution proposed (FC/iSCSI).		
11.	Storage	The Storage Array shall be offered with <ul style="list-style-type: none"> <li>2PB Usable Capacity: Using RAID Level 6 (Dual Parity) with 8 no. drives in each LUNS using 6TB Near-Line SAS 7.2k RPM HDDs for mainly storing camera output (video / images / audio) with 10 No. of HDD to be provisioned for Global Hot Spare</li> </ul>		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
		<ul style="list-style-type: none"> <li>15TB Usable Capacity: Using RAID Level 5 (Single Parity) with 7 no. drives in each LUNS using 1.2TB SAS 10k RPM HDDs with 2 No. of HDD to be provisioned for Global Hot Spare for storing VMS application/ database /etc.</li> </ul>		
12.	Global Hot Spare	<ul style="list-style-type: none"> <li>System should have the capability to designate global hot spares that can be automatically be used to replace a failed drive anywhere in the system.</li> <li>Storage system should be configured and offered with required Global Hot-spares for the different type and no. of disks configured, as per the system architecture best practices.</li> </ul>		
13.	Minimum LUNs	<ul style="list-style-type: none"> <li>Capacity to create minimum 2048 numbers of LUNs</li> </ul>		
14.	Thin Provisioning	<ul style="list-style-type: none"> <li>Offered Storage System should have Thin Provisioning and Thin Reclamation.</li> </ul>		
15.	Hardware Platform	<ul style="list-style-type: none"> <li>Rack mounted form-factor</li> <li>Modular design to support controllers and disk drives expansion</li> </ul>		
16.	On-line Expansion/RAID Group creation/ Expansion	<ul style="list-style-type: none"> <li>System should have online expansion and shrinking of RAID Group or addition and deletion of new RAID Group. Must be able to add and delete additional disks on the fly to expand or reduce the RAID group capacity or create new RAID Group.</li> </ul>		
17.	Redundancy and High Availability	<ul style="list-style-type: none"> <li>The Storage System should be able to protect the data against single point of failure with respect to hard disks, Cache memory, Controller card, connectivity interfaces, fans and power supplies</li> </ul>		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
18.	Management software	<ul style="list-style-type: none"> <li>All the necessary software (GUI Based) to configure and manage the storage space, RAID configuration, logical drives allocation, snapshots etc. are to be provided for the entire system proposed from day-1.</li> <li>Licenses for the storage management software should include disc capacity/count of the complete solution and any additional disks to be plugged in in the future, upto max capacity of the existing controller/units.</li> <li>A single command console for entire storage system.</li> <li>Should also include storage performance monitoring and management software. This should provide detail of performance like IOPs utilization, response time and also provide capacity detail like amount of capacity allocated, capacity used and capacity free.</li> <li>Should provide the functionality of proactive monitoring of Disk drive and Storage system for all possible disk failures</li> <li>Should be able to take "snapshots" of the stored data to another logical drive for backup purposes</li> <li>There should be a dedicated Ethernet port for management and it should not use the iSCSI host ports for management.</li> </ul>		
19.	Data Protection	The storage array must have complete cache protection mechanism either by de-staging data to disk or providing complete cache data protection with battery backup for up to 4 hours		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
20.	Perpetual software License	The software license supplied should be perpetual so that there will be no additional software cost while replacing the storage within the same class.		
21.	Server Operating System Support	Must be completely supported by the server operating system offered by the bidder for all the features and technology		
22.	Virtualization Support	Storage System must be completely supported by the virtualization technology offered by the bidder for all the features and technology		
23.	Accessories	All the necessary tools & tackles licenses, cables/ connectors for Ethernet/ Fibre/USB/ Power etc. required for making the system operational shall be provided by the bidder.		
24.	<b>SAN Switch</b>	<p>If Rack Server based solution is proposed, it is required to supply rack mountable SAN switch with:</p> <ul style="list-style-type: none"> <li>Standard 24 Port 16Gbps SAN Switches x 2 Nos.</li> <li>Each SAN switch with minimum 12 Activated ports from day one or if more active ports require as per proposed application architecture, bidder has to provide the same.</li> <li>Necessary SFP modules, patch cables and other required accessories has to be provided.</li> </ul>		
25.	Warranty	24 x 7 five (5) years on-site back to back comprehensive warranty		
26.	Specify Make of proposed Storage			
27.	Specify Model of proposed Storage			

**14.25 Field Junction box for outdoor locations (without WAN Equipment)**

#	Parameter	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/Remarks if Any
A	B	C	D	E
1.	Size	Suitable size as per site requirements to house the field equipment (without space required for the equipment for WAN Connectivity)		
2.	Cabinet Material	GI with powder coated		
3.	Material Thickness	Min 2 mm		
4.	Number of Locks	One		
5.	Protection	IP 55, Junction Box design should ensure to keep the temperature within suitable operating range for equipment's and should also avoid intentional water splash and dust intake		
6.	Mounting	On Camera Pole / Ground mounted on concrete base		
7.	Form Factor	Rack Mount/DIN Rail		
8.	Power Sockets	Necessary AC power sockets. Power to be terminated through MCB/voltage protector to power sockets.		
9.	Other Features	Cable entry with glands, proper earthing, Fan(s), rain canopy, any other accessories as required for operation of equipment's within junction box. Provision shall also be made for Fibre joint closer/LIU box wherever required based on feasibility study.		
10.	Warranty	3 Years comprehensive onsite Warranty Support		

#### 14.27 Media Convertor

#	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/Remarks if Any
A	B	C	D
1.	Speed (Auto, 10/100 Mbps), Full Duplex		
2.	Unmanaged Fast Ethernet media converter which supports 100 Base-Tx to 100Base-Fx media conversion		

#	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/ Remarks if Any
3.	1 x 100 Base-FX optical port along with required optical fiber patch cord and 1 x 100Mbps Ethernet port-RJ45		
4.	Distance up to 10Kms on Single Mode Fiber		
5.	Required accessories for complete installation and configuration		
6.	Operating Temperature: 0 degree to 50 degree Celsius		
7.	3 Years comprehensive onsite Warranty with parts		
8.	Specify Make of proposed Media Convertor		
9.	Specify Model of proposed Media Convertor		

### 14.30 LIU

#	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/ Remarks if Any
A	B	C	D
1.	Have sufficient slots accommodate Simplex/duplex SC/LC/ST/FC (as per offered solution) adapters individually		
2.	Aluminum base material for light mounting		
3.	Should have Splice Tray & Cable Spool provision inside		
4.	Accessory kit consists of cable ties, mounting ear screw earthing and spiral wrap tube.		
5.	Panel cover should be slide out for easy maintenance		
6.	Removable Rear & Front cover for better access to interior of LIU		
7.	Adaptors All SC/LC/ST/FC (as per offered solution) adaptors should be Simplex and duplex type. Adaptors should have compact design & high precision, which perform well under various circumstances & maintain good plug retention strength.		
8.	Insertion Loss: 0.20db for Zirconia Sleeve		
9.	The connector must: Be field installable		
10.	3 Years comprehensive onsite Warranty Support		
11.	Specify Make of proposed LIU		
12.	Specify Model of proposed LIU		

### 14.30 Cat-6 UTP Cable

#	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/ Remarks if Any
A	B	C	D
1.	Shall be of 4 twisted pairs of 23 AWG solid conductors or better		
2.	Shall support network line speeds upto 1 gigabits per second or better		
3.	Shall be 4-pair Unshielded twisted pair with a cross filler/ isolator (+), meeting Category 6 tested till 500 MHz as per EIA/TIA-568C.2.		
4.	Should comply with all of the performance requirements for current and proposed applications such as Gigabit Ethernet, 100BASE-Tx, digital video and Voice		
5.	The Category 6 Solution shall fully comply with the link segment specifications for 1000 Base-TX in addition to the ANSI/TIA and ISO/IEC Category 6 requirements.		
6.	Shall have the length printed on the outer jacket of the cable after every meter.		
7.	Specify Make of proposed Cat 6 Cable		
8.	Specify Model of proposed Cat 6 Cable		

**14.36 Surveillance Hard disk (HDD) for Network Video Recorder (NVR)**

**14.36. A. 4 TB Surveillance Hard disk (HDD) for Network Video Recorder (NVR)**

#	Parameter	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	A
1.	Formatted Capacity	4TB		
2.	Interface	SATA		
3.	Form Factor	3.5" or Compatible with SATA interface of offered NVR		
4.	RPM	Minimum 5400 RPM or better		
5.	HDD Type	HDD designed for Surveillance Applications		
6.	Certification	RoHS compliant		
7.	Warranty	5 Years comprehensive onsite Warranty Support		
8.	Specify Make of proposed HDD			
9.	Specify Model of proposed HDD			

**14.36. B. 6 TB Surveillance Hard disk (HDD) for Network Video Recorder (NVR)**

#	Parameter	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/Remarks if Any
A	B	C	D	A
1.	Formatted Capacity	6TB		
2.	Interface	SATA		
3.	Form Factor	3.5” or Compatible with SATA interface of offered NVR		
4.	RPM	Minimum 5400 RPM or better		
5.	HDD Type	HDD designed for Surveillance Applications		
6.	Certification	RoHS compliant		
7.	Warranty	5 Years comprehensive onsite Warranty Support		
8.	Specify Make of proposed HDD			
9.	Specify Model of proposed HDD			

**14.36. C. 8 TB Surveillance Hard disk (HDD) for Network Video Recorder (NVR)**

#	Parameter	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/Remarks if Any
A	B	C	D	A
1.	Formatted Capacity	8TB		
2.	Interface	SATA		
3.	Form Factor	3.5” or Compatible with SATA interface of offered NVR		
4.	RPM	Minimum 5400 RPM or better		
5.	HDD Type	HDD designed for Surveillance Applications		
6.	Certification	RoHS compliant		
7.	Warranty	5 Years comprehensive onsite Warranty Support		
8.	Specify Make of proposed HDD			
9.	Specify Model of proposed HDD			

**14.37. Enterprise Management System**

#	Description	Compliance (Yes/No)	Deviation from Specification / Remarks if Any
A	B	C	D
1.	The System should deliver following functionalities:		



#	Description	Compliance (Yes/No)	Deviation from Specification / Remarks if Any
	<ul style="list-style-type: none"> <li>i. Network &amp; Server Fault Monitoring &amp; Performance for IP/SNMP enabled devices like servers, Next Generation Firewall, switches, CCTV devices, NVRs, etc.</li> <li>ii. Application Performance Management</li> <li>iii. Service Level Management</li> <li>iv. Capacity Management</li> <li>v. Configuration Automation</li> </ul>		
2.	The proposed EMS solution should be technology / vendor agnostic and shall enable introduction of any additional equipment for monitoring.		
3.	The EMS should also support single pane visibility across multiple areas of Monitoring		
4.	The system must allow to collect or receive the information to and from various systems/devices/servers proposed under Suman Eye Project		
5.	The EMS should have the ability to provide performance/service data related to various solution components like systems/devices/servers proposed under Suman Eye Project		
6.	The EMS should be able to monitor the power on/off status, network up/down, performance, availability, utilization, etc. of all the devices proposed under this project		
7.	It should have a web Based user Interface through which Administrator can access all administrative tasks and operational status monitoring for Network Devices, Servers, Cameras, etc.		
8.	It should produce a web based interface to the users also for accessing the SLA reports		
9.	The Enterprise Management tools must have Service Level Management function to allow building various service levels and track the performance of Infrastructure and operational service levels in real time.		
10.	The solution should have perpetual licenses to manage all the devices in the network and any other devices that may be added in future.		
11.	In order to generate the reports to monitor the SLAs/KPIs as defined under this RFP shall be provided by necessary customization, if required without any additional cost.		
12.	The proposed tool should be able to gather information about resources over a period of time and provide historical performance and usage information through graphical reports, which will quickly show performance trends.		

## Technical Specification of newly added component

### 14.41. 1G SFP Transceiver Module for 8 Port PoE/PoE+ industrial grade network switch

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	Make	Of the same OEM as proposed for 8 Port PoE/PoE+ Industrial grade network switch (Item 14.15) and should be compatible with it.		
2.	Type	<ul style="list-style-type: none"> <li>1000BASE-LX SFP transceiver type</li> <li>Single-mode fiber supported</li> <li>1310 nm wavelength Supported</li> <li>Distance Support up to 10 km</li> <li>Hot swappable</li> <li>Low insertion-loss duplex LC receptacle</li> <li>Bi-Directional Full Duplex Transceiver Module</li> </ul>		
3.	Patch Cord	Along with required Patch cord for connecting transceiver		
4.	Warranty	5 Years comprehensive onsite Warranty with parts		
5.	Specify Make of proposed 1G SFP Transceiver Module			
6.	Specify Model of proposed 1G SFP Transceiver Module			

### 14.42. 1G SFP Transceiver Module for 8 Port Web Managed PoE/PoE+ network switch

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	Make	Of the same OEM as proposed for 8 Port PoE/PoE+ Web Managed network switch (Item 14.16) and should be compatible with it.		
2.	Type	<ul style="list-style-type: none"> <li>1000BASE-LX SFP transceiver type</li> <li>Single-mode fiber supported</li> <li>1310 nm wavelength Supported</li> <li>Distance Support up to 10 km</li> <li>Hot swappable</li> <li>Low insertion-loss duplex LC receptacle</li> <li>Bi-Directional Full Duplex Transceiver Module</li> </ul>		

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
3.	Patch Cord	Along with required Patch cord for connecting transceiver		
4.	Warranty	5 Years comprehensive onsite Warranty with parts		
5.	Specify Make of proposed 1G SFP Transceiver Module			
6.	Specify Model of proposed 1G SFP Transceiver Module			

#### 14.43 SMPS based PoE Injector

#	Parameter	Minimum Specifications	Compliance (Yes, No)	Deviation from Specifications/ Remarks if Any
A	B	C	D	E
1.	Input Power	AC input		
2.	Output Voltage and Current	As required for offered CCTV Camera		
3.	Wattage	As required for offered CCTV Camera		
4.	Ethernet Port (DATA IN/PoE)	RJ45, 10/100 Mbps		
5.	SMPS	Built-in		
6.	Surge Protection	Built-in		
7.	Operating Temperature	0-50 degree Celsius		
8.	Warranty	3 Years comprehensive onsite Warranty with parts		
9.	Specify Make of proposed SMPS based PoE injector			
10.	Specify Model of proposed SMPS based PoE injector			

#### 14.44 STP Cat 6 cable (Armoured)

#	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/ Remarks if Any
A	B	C	D
1.	Shall be of 4 twisted pairs of 23 AWG solid conductors or better		
2.	Shall support network line speeds upto 1 gigabits per second or better		
3.	Shall be 4-pair Unshielded twisted pair with a cross filler/ isolator (+), meeting Category 6 tested till 500 MHz as per EIA/TIA-568C.2.		
4.	Should comply with all of the performance requirements for current and proposed applications such as Gigabit Ethernet, 100BASE-Tx, Digital Video and Voice.		
5.	The Category 6 Solution shall fully comply with the link segment specifications for 1000 Base-TX in addition to the ANSI/TIA and ISO/IEC Category 6 requirements.		

#	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/Remarks if Any
6.	Shall have the length printed on the outer jacket of the cable after every meter.		
7.	Armouring: GI Wire		
8.	Inner Sheath Material-PE		
9.	Insulation-High Density Polythene		
10.	Support for Temperature Range: 0 deg. To 50 deg		
11.	Specify Make of proposed STP Cat 6 Cable		
12.	Specify Model of proposed STP Cat 6 Cable		

#### 14.45 2 U wall mount Network Rack

#	Parameters	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/Remarks if Any
A	B	C	D	E
1.	Rack	2U ISO certified Wall mount Powder coated Steel cabinet		
		Lock & key with Toughened glass door at front side		
2.	Accessories	<ul style="list-style-type: none"> <li>1 Cooling Fan</li> <li>1 Cable Manager</li> <li>1 Equipment Placement tray</li> <li>3 Socket Power Strip</li> <li>Accessories like Nut &amp; Bolt Set for Whole rack to mount desired Equipment's.</li> </ul>		
		Compatible with 19 inch International Standards & ETSI Standards		
3.	Warranty	3 Years comprehensive onsite Warranty Support		
4.	Specify Make of proposed 2U Rack			
5.	Specify Model of proposed 2U Rack			

#### 14.46. Field Junction box for outdoor locations (With WAN Equipment)

#	Parameter	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/Remarks if Any
A	B	C	D	E
1.	Size	Suitable size as per site requirements to house the field equipment [Including space for		

#	Parameter	Minimum Specifications	Compliance (Yes/No)	Deviation from Specifications/Remarks if Any
		housing network equipment's having dimension of 7"X5"X3.5" (length X width X height)]		
2.	Cabinet Material	GI with powder coated		
3.	Material Thickness	Min 2 mm		
4.	Number of Locks	One		
5.	Protection	IP 55, Junction Box design should ensure to keep the temperature within suitable operating range for equipment's and should also avoid intentional water splash and dust intake		
6.	Mounting	On Camera Pole / Ground mounted on concrete base		
7.	Form Factor	Rack Mount/DIN Rail		
8.	Power Sockets	Necessary AC power sockets including two power socket for WAN link. Power to be terminated through MCB/voltage protector to power sockets.		
9.	Other Features	Cable entry with glands, proper earthing, Fan(s), rain canopy, any other accessories as required for operation of equipment's within junction box. Provision shall also be made for Fibre joint closer/LIU box wherever required based on feasibility study.		
10.	Warranty	3 Years comprehensive onsite Warranty Support		

## ANNEXURE-VIII

### 15.3 Commercial Bid Format

#### A. Capital Expenditure (CAPEX)

A. CAPITAL EXPENDITURE (CAPEX)								
#	Description	Unit of Measurement	Unit (A)	Unit Rate (w/o GST) (INR) (B)	Total w/o GST C=A*B (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST E=C+D (INR)
<b>IT Hardware Components</b>								
1	SITC of 2 Megapixel Full HD IR IP vandal proof Bullet Camera (2.8mm to 12mm Varifocal lense) with Complete mounting accessories as required	Number	765					
2	SITC of 2 Megapixel IR IP vandal proof Dome Camera (2.8mm to 12mm Varifocal lense) with Complete mounting accessories as required	Number	308					
3	SITC of 2 Megapixel IR IP Bullet Camera with Built-in 4G Sim Card Slot with Complete mounting accessories as required	Number	10					
4	SITC of 2 Megapixel IR IP Bullet Camera (Fixed Lens) with Complete mounting accessories as required	Number	1298					
5	SITC of 2 Megapixel IR IP Dome Camera (Fixed Lens) with Complete mounting accessories as required	Number	741					

**A. CAPITAL EXPENDITURE (CAPEX)**

#	Description	Unit of Measurement	Unit (A)	Unit Rate (w/o GST) (INR) (B)	Total w/o GST C=A*B (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST E=C+D (INR)
6	SITC of 2 Megapixel IR IP PTZ Camera with Complete mounting accessories as required	Number	26					
7	Local Storage (MicroSD/SDHC/SDXC card) for CCTV Camera	Number	50					
8	PTZ Joystick Controller	Number	1					
9	SITC of 4 Channel Network Video Recorder (NVR) with Complete mounting accessories as required	Number	50					
10	SITC of 4 Channel Network Video Recorder (NVR) with built-in PoE Ports with Complete mounting accessories as required	Number	20					
11	SITC of 8 Channel Network Video Recorder (NVR) with Complete mounting accessories as required	Number	80					
12	SITC of 8 Channel Network Video Recorder (NVR) with built-in PoE with complete mounting accessories as required	Number	36					
13	SITC of 16 Channel Network Video Recorder (NVR) with Complete mounting accessories as required	Number	30					
14	SITC of 32 Channel Network Video Recorder (NVR) with Complete mounting accessories as required	Number	18					

**A. CAPITAL EXPENDITURE (CAPEX)**

#	Description	Unit of Measurement	Unit (A)	Unit Rate (w/o GST) (INR) (B)	Total w/o GST C=A*B (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST E=C+D (INR)
15	SITC of 4 TB Surveillance Hard Disk for NVR	Number	To be specified by bidder as per sizing					
16	SITC of 6 TB Surveillance Hard Disk for NVR	Number	To be specified by bidder as per sizing					
17	SITC of 8 TB Surveillance Hard Disk for NVR	Number	To be specified by bidder as per sizing					
18	SITC of 32" LED Display Screen with Complete mounting accessories and HDMI Cable as required	Number	234					
19	SITC of 8 Port PoE/PoE+ industrial grade network Switch with Complete mounting accessories as required	Number	50					
20	1G SFP Transceiver Module for 8 Port PoE/PoE+ industrial grade network switch	Number	30					
21	SITC of 8 Port PoE/PoE+ Web Managed network Switch with Complete mounting accessories as required	Number	456					
22	1G SFP Transceiver Module for 8 Port Web Managed PoE/PoE+ network switch	Number	30					



**A. CAPITAL EXPENDITURE (CAPEX)**

#	Description	Unit of Measurement	Unit (A)	Unit Rate (w/o GST) (INR) (B)	Total w/o GST C=A*B (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST E=C+D (INR)
23	SITC of Core/Top of the Rack/ Data Centre network Switch with Complete mounting accessories as required	Number	2					
24	SITC of Enterprise next generation firewall with Complete mounting accessories as required	Number	1					
25	SITC of Blade/Rack Servers with Complete mounting accessories as required. Server for Suman eye (CCTV Network) project should have no single point of failover	Number	To be specified by bidder as per sizing					
	1. Video Management server (n+n mode)							
	2. Recording server							
	3. Database management server							
	4. Others as per solution provided by the bidder meeting RFP requirement							
	Note: In n+1 mode for Recording Server, Database management server and others.							
26	SITC for Blade Chassis for Blade Server for above mentioned Blade Servers	Number	To be specified by bidder as per sizing					

**A. CAPITAL EXPENDITURE (CAPEX)**

#	Description	Unit of Measurement	Unit (A)	Unit Rate (w/o GST) (INR) (B)	Total w/o GST C=A*B (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST E=C+D (INR)
27	SITC of Storage with Complete mounting accessories	Number	To be specified by bidder as per sizing					
28	SITC for SAN Switch (if Rack Mountable Server proposed)	Number	2					
<b>Software Components</b>								
33	Supply and configuration of Video Management Server Software to meet RFP requirements	Number	1					
34	Supply and configuration of Video Management Software channel license	Number	1476					
35	Supply and configuration of Video Management Software Desktop Client License	Number	15					
36	Supply and configuration of Video Management Software Mobile Client License (for android and iOS)	Number	30					
37	Antivirus software including licenses for DC infrastructure.	Number	To be specified by bidder as per requirement					
38	EMS Software	Number	1					
39	EMS Client/device license	Number	To be specified by bidder as per requirement					

**A. CAPITAL EXPENDITURE (CAPEX)**

#	Description	Unit of Measurement	Unit (A)	Unit Rate (w/o GST) (INR) (B)	Total w/o GST C=A*B (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST E=C+D (INR)
40	Supply and configuration of Server OS Licenses (for physical Servers)	Number	To be specified by bidder as per requirement					
41	Supply and configuration of Server OS Licenses (for VMs)	Number	To be specified by bidder as per requirement					
42	Supply and configuration of Database Licenses	Number	To be specified by bidder as per requirement					
43	Supply and configuration of Virtualisation Management Software	Number	To be specified by bidder as per requirement					
44	Supply and configuration of Virtualisation Host Licenses	Number	To be specified by bidder as per requirement					
<b>Civil and Non IT</b>								
45	SITC of 42U Networking/Server Rack in data center with Complete mounting accessories as required	Number	To be specified by bidder as per requirement					

**A. CAPITAL EXPENDITURE (CAPEX)**

#	Description	Unit of Measurement	Unit (A)	Unit Rate (w/o GST) (INR) (B)	Total w/o GST C=A*B (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST E=C+D (INR)
46	SITC of 6U Wall Mount Network Rack with Complete mounting accessories as required	Set	222					
47	SITC of 2U Wall Mount Network Rack with Complete mounting accessories as required	Set	234					
48	SITC of UPS with Complete mounting accessories and battery Bank as required for Data Center	Number	1					
49	SITC of Media Convertor with Complete mounting accessories as required	Number	30					
50	SITC of LIU with splicing and Complete mounting accessories as required	Number	243					
51	SITC of SMPS Based PoE Injector with power supply and Complete mounting accessories as required	Number	500					
52	SITC of Field Junction Box with WAN equipment along with complete mounting accessories as required	Set	70					
53	SITC of Field Junction Box without WAN equipment along with Complete mounting accessories as required	Set	160					

**A. CAPITAL EXPENDITURE (CAPEX)**

#	Description	Unit of Measurement	Unit (A)	Unit Rate (w/o GST) (INR) (B)	Total w/o GST C=A*B (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST E=C+D (INR)
54	SETC of 6 mtr. Pole for with cantilever CCTV cameras with Complete mounting accessories and civil work as required	Set	420					
55	SETC of 10 mtr. Pole for CCTV cameras with Complete mounting accessories and civil work as required	Set	26					
56	SLTC of STP Cat-6 Cable (Armoured) with complete accessories	RM	20,000					
57	SLTC of UTP Cat-6 Cable (Un Armoured) with complete accessories	RM	80,000					
58	SLTC of 6 core Fiber Optic Cable with complete accessories	RM	5000					
59	SLTC of 3 core 1.5 sq. mm Power cable with complete accessories	RM	1000					
60	SLTC of 3 core 1.5 sq. mm armored Power cable with complete accessories	RM	500					
61	SLTC of 32 mm HDPE Pipe with complete accessories	RM	2000					
62	SLTC of 32 mm DWC Pipe with complete accessories	RM	8000					
63	SLTC of 25 mm PVC Conduit Pipe with complete accessories	RM	70000					
64	Open Digging, Trenching and Ducting	RM	16000					
65	Horizontal Directional Drilling (HDD)	RM	800					
<b>Total (INR)- Without GST</b>								

**A. CAPITAL EXPENDITURE (CAPEX)**

#	Description	Unit of Measurement	Unit (A)	Unit Rate (w/o GST) (INR) (B)	Total w/o GST C=A*B (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST E=C+D (INR)
<b>Total (INR)- With GST</b>								
<b>Total (INR)- Without GST in Words</b>								

**B1. Operation and Maintenance Expenditure (OPEX)****B1. OPERATION AND MAINTENANCE EXPENDITURE (OPEX)**

#	Description	Unit of Measurement	Unit (A)	Unit Rate / Year (w/o GST) (INR) (B)	Total w/o GST for 4th & 5th Year C=A*B*2 (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST for 4th & 5th Year E=C+D (INR)
<b>IT Hardware Components</b>								
1	2 Megapixel Full HD IR IP vandal proof Bullet Camera (2.8mm to 12mm Varifocal lense) with Complete mounting accessories as required	Number	765					
2	2 Megapixel IR IP vandal proof Dome Camera (2.8mm to 12mm Varifocal lense) with Complete mounting accessories as required	Number	308					
3	2 Megapixel IR IP Bullet Camera with Built-in 4G Sim Card Slot with Complete mounting accessories as required	Number	10					

**B1. OPERATION AND MAINTENANCE EXPENDITURE (OPEX)**

#	Description	Unit of Measurement	Unit (A)	Unit Rate / Year (w/o GST) (INR) (B)	Total w/o GST for 4th & 5th Year C=A*B*2 (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST for 4th & 5th Year E=C+D (INR)
4	2 Megapixel IR IP Bullet Camera (Fixed Lens) with Complete mounting accessories as required	Number	1298					
5	2 Megapixel IR IP Dome Camera (Fixed Lens) with Complete mounting accessories as required	Number	741					
6	2 Megapixel IR IP PTZ Camera with Complete mounting accessories as required	Number	26					
7	PTZ Joystick Controller	Number	1					
8	4 Channel Network Video Recorder (NVR) with Complete mounting accessories as required	Number	50					
9	4 Channel Network Video Recorder (NVR) with built-in PoE Ports with Complete mounting accessories as required	Number	20					
10	8 Channel Network Video Recorder (NVR) with Complete mounting accessories as required	Number	80					
11	8 Channel Network Video Recorder (NVR) with built-in PoE with complete mounting accessories as required	Number	36					

<b>B1. OPERATION AND MAINTENANCE EXPENDITURE (OPEX)</b>								
#	Description	Unit of Measurement	Unit (A)	Unit Rate / Year (w/o GST) (INR) (B)	Total w/o GST for 4th & 5th Year $C=A*B*2$ (INR)	Applicable GST (G)%	Total GST $D=C*G\%$ (INR)	Total With GST for 4th & 5th Year $E=C+D$ (INR)
12	16 Channel Network Video Recorder (NVR) with Complete mounting accessories as required	Number	30					
13	32 Channel Network Video Recorder (NVR) with Complete mounting accessories as required	Number	18					
14	32" LED Display Screen with Complete mounting accessories and HDMI Cable as required	Number	234					
<b>Software Components</b>								
15	Video Management Server Software to meet RFP requirements	Number	1					
16	Antivirus software including licenses for DC infrastructure	Number	To be specified by bidder as per requirement					
17	EMS Software	Number	1					
18	Virtualisation Management Software	Number	To be specified by bidder as per requirement					
19	Support Charges for Virtualisation Host Software	Number	To be specified by bidder as per requirement					



<b>B1. OPERATION AND MAINTENANCE EXPENDITURE (OPEX)</b>								
#	Description	Unit of Measurement	Unit (A)	Unit Rate / Year (w/o GST) (INR) (B)	Total w/o GST for 4th & 5th Year C=A*B*2 (INR)	Applicable GST (G)%	Total GST D =C*G% (INR)	Total With GST for 4th & 5th Year E=C+D (INR)
20	Support Charges for opensource based Server OS	Number	To be specified by bidder as per requirement					
21	Support Charges for opensource based Database	Number	To be specified by bidder as per requirement					
<b>Civil and Non IT</b>								
22	42U Networking/Server Rack in data center with Complete mounting accessories as required	Number	To be specified by bidder as per requirement					
23	6U Wall Mount Network Rack ( Only for power strips and fan)	Set	222					
24	2U Wall Mount Network Rack ( Only for power strips and fan)	Set	234					
25	UPS with Complete mounting accessories and battery Bank as required for Data Center	Number	1					
<b>Total (INR)- Without GST</b>								
<b>Total (INR)- With GST</b>								
<b>Total (INR)- Without GST in Words</b>								

**B2. Support Engineer Cost**

<b>B2. SUPPORT ENGINEER EXPENDITURE</b>							
#	Description	Unit (A)	Unit Rate / Year (w/o GST) (INR) (B)	Total w/o GST for 5 Years $C=A*B*5$ (INR)	Applicable GST (G)%	Total GST $D=C*G\%$ (INR)	Total With GST for 5 Years $E=C+D$ (INR)
1	Support Engineer	5					
<b>Total (INR)- Without GST</b>							
<b>Total (INR)- With GST</b>							
<b>Total (INR)- Without GST in Words</b>							

**Note:**  
The cost of Support engineer will be payable from the Go-Live date of RO1 ( 3 years warranty support + 2 years of O&M)

**B3. Rate Discovery for Additional Items**

<b>B3. RATE DISCOVERY FOR ADDITIONAL ITEMS</b>							
#	Description	Unit of Measurement	Unit (A)	Unit Rate (w/o GST) (INR) (B)	Applicable GST (G)%	Total GST $C=B*G\%$ (INR)	Total With GST $D=B+C$ (INR)
1	Shifting of Pole with cameras & all accessories	Number	1				
2	Splicing for OFC cut	Number	1				
3	SITC of 9U Wall Mount Network Rack with Complete mounting accessories as required	Number	1				
4	3.5" 6TB 7200 RPM Near Line SAS drive compatible with offered storage solution	Number	1				

**B3. RATE DISCOVERY FOR ADDITIONAL ITEMS**

#	Description	Unit of Measurement	Unit (A)	Unit Rate (w/o GST) (INR) (B)	Applicable GST (G)%	Total GST C = B*G% (INR)	Total With GST D=B+C (INR)
5	2.5" 1.2 TB 10K RPM SAS drive compatible with offered storage solution	Number	1				
6	2.5" SFF Additional HDD disk enclosure compatible with offered storage solution with all necessary cable/accessories to make it functional	Number	1				
7	3.5" LFF Additional HDD disk enclosure compatible with offered storage solution with all necessary cable/accessories to make it functional	Number	1				
<b>Total (INR)- Without GST</b>							
<b>Total (INR)- With GST</b>							
<b>Total (INR)- Without GST in Words</b>							

**Note: The above cost will be paid on actual during the contract period and shall not be considered for L1 calculation.**

**C. Project Summary**

<b>C. Project Summary</b>			
#	Commercial Bid Summary	Total Price (INR) w/o Tax	Total Price (INR) with Tax
1	CAPEX (A)		
2	OPEX (B1+B2)		
	<b>Total Project Cost (INR)</b>		
	<b>Total Project Cost In words</b>		