

GUWAHATI SMART CITY LTD.

(Formerly Guwahati Smart City Development Agency Ltd.)

(CIN U45309AS2016SGC017403)

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SPV/GSCL/DEV/55/2017/Pt-1/395

Date: 11/09/2020

ADDENDUM No.12

Changes in Clauses of RFP

Tender Title: “System Integrator Design Engineering Supply Installation Erection Testing and Commissioning including O & M for a period of five years for city surveillance and Integrated Command and Control Centre in Guwahati”

Tender No: SPV/GSCL/DEV/55/2017/396

Tender ID: 2020_GSCT_17942_1

Tender Published Date: 12-06-2020

This addendum is being issued in reference to the changes in clauses of the RFP. The intending bidders are requested to take note of the following changes and accordingly shall have to submit the tender.

Statement showing the amendments to the existing clause in tender volumes is published online.

-Sd-
Managing Director
Guwahati Smart City Limited

ADDENDUM XII

Reference of Tender Clause						Instead of	Now read as
Sl No	Serial	Volume No	Page	Clause No	Para /S.No		
1	128	Vol 2	169	RFP VOL 2 5.3.3 Data Center Out of Band Switches		6. Should support minimum 8MB buffer.	6. Should support minimum 4 MB buffer
2	134	Vol 2	204	RFP VOL 2 5.3.12 Hyper Converged Infrastructure (HCI), clause 6.7		The solution shall support provisioning across multihypervisor (e.g.: VMware ESXi 6.5 or higher, Microsoft Hyper-V 2016 or higher, System Center 2016 or higher) virtual and public cloud environments.	The solution shall support provisioning hypervisor (e.g.: VMware and Microsoft Hyper-V or System Center or Red hat or KVM or AHV or Xen) virtual and public cloud environments
3	138	Vol 2	180	RFP VOL 2 5.3.5 / Intranet Firewall with IPS / Clause no 1.7		No limitation for client connecting using SSL VPN	Clause deleted
4	157	Vol 2	85	RFP VOL 2 5.1.3.7, S.No-10		b) Static Routing Protocols c) Dynamic Routing Protocol – OSPFv2 & OSPF v3 from day 1. d) Layer 3 multicast routing from day 1	b) Static Routing Protocols c) Dynamic Routing Protocol – OSPFv2 & OSPF v3 from day 1. c) Multicast features from Day 1
5	140	Vol 2	181	RFP VOL 2 5.3.5 / Intranet Firewall with IPS / Clause no 2.7		i) Firewall should have minimum 10 virtual contexts/VDOM	Tender clause prevails
6	1654	Vol 2	128	RFP VOL II Section 5.2.2.2 Video-Wall Specifications		19. Cube Depth: Total Cube depth including screen module should be less than 500 mm or lower	19. Cube Depth: As per OEM Structure
7	1656	Vol 2	130	RFP VOL II Section 5.2.2.4 Specifications of Display Wall Management Software		10. Framework: Video wall cube should be use Python- Django framework for monitoring the system	10: Framework: Video wall cube should be use Python- Django/ JAVA framework for monitoring the system
8	1661	Vol 2	197	RFP VOL II Section 5.3.10 Authentication, Authorization and Accounting – Network Access Control (AAA – NAC)		Platform Hardware: The proposed solution must support at least 2 x 10/100/1000 GB Ethernet Copper Traffic Ports	Platform Hardware: The proposed solution must support at least 2 x 10/100/1000 MB Ethernet Copper Traffic Ports
9	1662	Vol 2	197	RFP VOL II Section 5.3.10 Authentication, Authorization and Accounting – Network Access Control (AAA – NAC)		Platform Hardware: The proposed solution must support a 1 x 10/100/100 GB Dedicated Management port	Platform Hardware: The proposed solution must support a 1 x 10/100/100 MB Dedicated Management port
11	1577	Vol 2	198	RFP VOL 2 5.3.11 Storage Specifications		Sl No 3 a) Storage Solution with NSPoF (No single point of failure) Architecture. The architecture should allow modular upgrades of hardware and software for investment protection. The system must support 12 Gbps SAS Disk Drives (Latest Drive interface) and SATA/NL-SAS Disk Drives (latest Drive interface).	a) Storage Solution with NSPoF (No single point of failure) Architecture. The architecture should allow modular upgrades of hardware and software for investment protection. The system shall support 12 Gbps SAS/SSD Disk Drives (Latest Drive interface) and SATA/NL-SAS Disk Drives (latest Drive interface).

		Vol 2	72	RFP VOL 2 5.1.3.1 Dome CCTV Cameras		14. Multiple Streams: Quad stream	Multiple Streams: Triple Stream
12	1196	Vol 2	75	RFP VOL 2 5.1.3.2 Fixed Bullet CCTV Cameras		14. Multiple Streams: Quad stream	Multiple Streams: Triple Stream
12		Vol 2	77	RFP VOL 2 5.1.3.3 PTZ CCTV Cameras		11. Multiple Streams: Quad stream	Multiple Streams: Triple Stream
13	1213	Vol 2	116	RFP VOL 2 5.2.2 Technical Specification – ICC 5.2.2.1 Integrated Command Control Platform		Global Market Presence & Support System 74. Smart City Platform/Software provider shall be reputed company and Member of Smart Cities Council or Navigant Research Report for Smart Cities Suppliers.	This clause is deleted
14	1694	Vol 2	73	RFP VOL II Section 5.1.3.1 Dome CCTV Cameras		28. OEM Criteria: OEM without any JV/Distributor Should have their own registered office in India since Last 7 years	28. OEM Criteria: The OEM without any JV/Distributor should have their registered office in India for at least 7 years and should have been operating own service centre and RMA in India from the last 7 years as on RFP date. It should be on same OEM name throughout the 7 year period.
15	1695	Vol 2	73	RFP VOL II Section 5.1.3.1 Dome CCTV Cameras		28. OEM Criteria: OEM without any JV/ Distributor Should have their own service center in India since Last 7 years	28. OEM Criteria: The OEM without any JV/Distributor should have their registered office in India for at least 7 years and should have been operating own service centre and RMA in India from the last 7 years as on RFP date. It should be on same OEM name throughout the 7 year period.
16	1700	Vol 2	77	RFP VOL II Section 5.1.3.2 Fixed Bullet CCTV Cameras		29. OEM Criteria: OEM without any JV/Distributor Should have their own registered office in India since Last 7 years	29. OEM Criteria: The OEM without any JV/Distributor should have their registered office in India for at least 7 years and should have been operating own service centre and RMA in India from the last 7 years as on RFP date. It should be on same OEM name throughout the 7 year period.
17	1701	Vol 2	77	RFP VOL II Section 5.1.3.2 Fixed Bullet CCTV Cameras		29. OEM Criteria: OEM without any JV/ Distributor Should have their own service center in India since Last 7 years	29. OEM Criteria: The OEM without any JV/Distributor should have their registered office in India for at least 7 years and should have been operating own service centre and RMA in India from the last 7 years as on RFP date. It should be on same OEM name throughout the 7 year period.
18	1710	Vol 2	80	RFP VOL II Section 5.1.3.3 PTZ CCTV Cameras		34. OEM Criteria: OEM without any JV/Distributor Should have their own registered office in India since Last 7 years	34. OEM Criteria: The OEM without any JV/Distributor should have their registered office in India for at least 7 years and should have been operating own service centre and RMA in India from the last 7 years as on RFP date. It should be on same OEM name throughout the 7 year period.
19	1711	Vol 2	80	RFP VOL II Section 5.1.3.3 PTZ CCTV Cameras		34. OEM Criteria: OEM without any JV/Distributor Should have their own registered office in India since Last 7 years	34. OEM Criteria: The OEM without any JV/Distributor should have their registered office in India for at least 7 years and should have been operating own service centre and RMA in India from the last 7 years as on RFP date. It should be on same OEM name throughout the 7 year period.
20	1738	Vol 2	223	RFP VOL II Section 5.4.1.5 Camera /Thermal Vehicle Detector		5.4.1.5 Camera /Thermal Vehicle Detector	4D Radar/ Thermal Detector/ Camera
21	1740	Vol 2	225	RFP VOL II Section 5.4.1.7 Automatic Traffic Counting and Classification System (ATCC) – Video / Thermal		5.4.1.7 Automatic Traffic Counting and Classification System (ATCC) – Video / Thermal	Automatic Traffic Counting and Classification System (ATCC) – 4DRadar / Thermal

22	1785	Vol 2	169	RFP VOL II Section 5.3.3 Data Center Out of Band Switches		6. Should support minimum 8MB buffer.	6. Should support minimum 4MB buffer.
23	1786	Vol 2	170	RFP VOL II Section 5.3.3 Data Center Out of Band Switches		20. Must support IEEE 802.1Qbb Prioritybased Flow Control (PFC).	20. Must support IEEE 802.1Qbb Prioritybased Flow Control (PFC)/ equivalent
24	1826	Vol 2	200	RFP Vol II Section 5.3.11 Storage Specifications Hardware Platform		6. <u>Hardware Platform</u> d) Should have minimum of 8x10/40 Gbe or 8x16Gb FC Host ports. e) Storage shall have minimum front-end support for 16 Gb and backend support for minimum 12 Gb.	6. <u>Hardware Platform</u> d) Should have minimum of 8x10/40 Gbe or 8x16Gb FC Host ports. e) Storage shall have minimum front-end support for 10 Gb and backend support for minimum 12 Gb.
25	1834	Vol 2	166	RFP Vol II Section 5.3.2 Data Center Spine & Leaf Switching Solution		3.2. Leaf Switch – i) 24x 100BaseT Ports	3.2. Leaf Switch – i) 24x 1000BaseT Ports
26	1571	Vol 2	184	RFP Vol II Section 5.3.6 Next Generation Firewall, Clause 4		The proposed firewall appliance should have at least 12 ports of 10/100/1000 along with 8 ports of 10 Gig SFP+ ports with separate management port and 4 * 40 G ports from Day one.	The proposed firewall appliance should have at least 8 ports of 1Gi/ 10 G SFP+ ports from day one and support for at least 8 * 4G QSEP+ ports for future expansion.
27	1572	Vol 2	185	RFP Vol II Section 5.3.6 Next Generation Firewall, Clause 22		Proposed appliance should also provide Reputation- and category-based URL filtering offers comprehensive alerting and control over suspect web traffic and enforces policies on hundreds of millions of URLs in more than 50 categories	Proposed appliance should also provide Reputation- and category-based URL filtering offers comprehensive alerting and control over suspect web traffic and enforces policies on hundreds of millions of URLs in more than minimum 50 categories.
28	1574	Vol 2	188	RFP Vol II Section 5.3.8 Load Balancer with WAF, Clause 2		Minimum 4 nos. of 10 Gig Ethernet ports with required SFP+ multimode transceivers and separate port for management The appliance should have minimum 20 Gbps of Layer 7 throughput, 10 Gbps of SSL throughput, 20K SSL TPS (RSA 2K), 14K ECC TPS (ECDSA P256)	Minimum 20 nos of 10 Gig ethernet ports with SFP+ multimode transceivers and separate port for management. Minimum 20 * 10 G SFP+ port support (bidder to populate SFP+ as per the solution). The appliance should have minimum 20 Gbps of Layer 7 throughput, scalable upto 80 Gbps of SSL throughput, minimum 20K SSL TPS (RSA 2K), 14K ECC TPS (ECDSA P256)
29	1210	Vol 2	42	RFP Vol II Section 4.20 Edge Analytics		4.20 Edge Analytics The SI will be responsible for designing and implementing edge analytics at camera level. Following listed use cases should be part of implementation and should be not be limited to: 1. Safety: Detection and classification based on: a) Parking violation b) Loitering detection c) Crowd Detection d) Gesture recognition: Identification through gesture change 2. Wrong way or illegal turn detection at ITMS Signal Crossing.	4.20 Edge Analytics The SI will be responsible for designing and implementing analytics at either camera level or server level. However, the SI has to incorporate the cost in the proposed solution within the same BOQ as a part of complete solution. Following listed use cases should be part of implementation and should be not be limited to: 1. Safety: Detection and classification based on: (a) Parking violation (b) Loitering detection (c) Crowd Detection (d) Line crossing; (e) idle/ remove object, scene changed; (f) Follow route. (g)People counting h). Wrong way or illegal turn detection

30	3060	Vol 2	42	RFP VOL II 4.20 Edge Analytics	<p>The SI will be responsible for designing and implementing edge analytics at camera level.</p> <p>Following listed use cases should be part of implementation and should be not be limited to:</p> <ol style="list-style-type: none"> 1. Safety: Detection and classification based on: <ol style="list-style-type: none"> a) Parking violation b) Loitering detection c) Crowd Detection d) Gesture recognition: Identification through gesture change 2. Wrong way or illegal turn detection at ITMS Signal Crossing. 	<p>4.20 Edge Analytics</p> <p>The SI will be responsible for designing and implementing analytics at either camera level or server level. However, the SI has to incorporate the cost in the proposed solution within the same BOQ as a part of complete solution.</p> <p>Following listed use cases should be part of implementation and should be not be limited to:</p> <ol style="list-style-type: none"> 1. Safety: Detection and classification based on: <ol style="list-style-type: none"> (a) Parking violation (b) Loitering detection (c) Crowd Detection (d) Line crossing; (e) idle/ remove object, scene changed; (f) Follow route. (g)People counting h). Wrong way or illegal turn detection
31	3080	Vol 2	42	RFP VOL II 4.20 Edge Analytics	<p>The SI will be responsible for designing and implementing edge analytics at camera level.</p> <p>Following listed use cases should be part of implementation and should be not be limited to:</p> <ol style="list-style-type: none"> 1. Safety: Detection and classification based on: <ol style="list-style-type: none"> a) Parking violation b) Loitering detection c) Crowd Detection d) Gesture recognition: Identification through gesture change 2. Wrong way or illegal turn detection at ITMS Signal Crossing. 	<p>4.20 Edge Analytics</p> <p>The SI will be responsible for designing and implementing analytics at either camera level or server level. However, the SI has to incorporate the cost in the proposed solution within the same BOQ as a part of complete solution.</p> <p>Following listed use cases should be part of implementation and should be not be limited to:</p> <ol style="list-style-type: none"> 1. Safety: Detection and classification based on: <ol style="list-style-type: none"> (a) Parking violation (b) Loitering detection (c) Crowd Detection (d) Line crossing; (e) idle/ remove object, scene changed; (f) Follow route. (g)People counting h). Wrong way or illegal turn detection
32	319	Vol 2	73	RFP VOL II 5.1.3.1 Dome CCTV Cameras	<p>23 SD CARD</p> <p>Built in SD card slot with support up to 128 GB with Class 10 speed. Camera should have pre-installed SD card of 128 GB.</p> <p>The camera should have the facility to store the data on local SD card inside the camera in case of network connection loss and the stored data on SD card should be automatically sent to the storage when network reconnects.</p>	<p>23 SD CARD</p> <p>Built in SD card slot with support up to 512 GB with Class 10 speed. Camera should have pre-installed SD card of 512 GB.</p> <p>The camera should have the facility to store the data on local SD card inside the camera in case of network connection loss and the stored data on SD card should be automatically sent to the storage when network reconnects.</p>
33	325	Vol 2	79	RFP VOL II 5.1.3.3 PTZ CCTV Cameras	<p>25 SD CARD Built in SD card slot with support up to 128 GB with Class 10 speed. Camera should have pre-installed SD card of 128 GB. The camera should have the facility to store the data on local SD card inside the camera in case of network connection loss and the stored data on SD card should be automatically sent to the storage when network reconnects.</p>	<p>25 SD CARD Built in SD card slot with support up to 512 GB with Class 10 speed. Camera should have pre-installed SD card of 512 GB. The camera should have the facility to store the data on local SD card inside the camera in case of network connection loss and the stored data on SD card should be automatically sent to the storage when network reconnects.</p>

34	322	Vol 2	76	RFP VOL II 5.1.3.2 Fixed Bullet CCTV Cameras		24 SD CARD Built in SD card slot with support up to 128 GB with Class 10 speed. Camera should have pre-installed SD card of 128 GB. The camera should have the facility to store the data on local SD card inside the camera in case of network connection loss and the stored data on SD card should be automatically sent to the storage when network reconnects.	24 SD CARD Built in SD card slot with support up to 512 GB with Class 10 speed. Camera should have pre-installed SD card of 512 GB. The camera should have the facility to store the data on local SD card inside the camera in case of network connection loss and the stored data on SD card should be automatically sent to the storage when network reconnects.
35	2427	Vol 2	Page 76 of 400	RFP VOL II 5.1.3.2 Fixed Bullet CCTV Cameras		24 SD CARD Built in SD card slot with support up to 128 GB with Class 10 speed. Camera should have pre-installed SD card of 128 GB. The camera should have the facility to store the data on local SD card inside the camera in case of network connection loss and the stored data on SD card should be automatically sent to the storage when network reconnects.	24 SD CARD Built in SD card slot with support up to 512 GB with Class 10 speed. Camera should have pre-installed SD card of 512 GB. The camera should have the facility to store the data on local SD card inside the camera in case of network connection loss and the stored data on SD card should be automatically sent to the storage when network reconnects.
36	1167	Vol 2	11	RFP VOL II 3.4 Project Objectives		Intelligent Video analytics at edge devices locations and centralized.	The SI will be responsible for designing and implementing analytics at either camera level or server level. However, the SI has to incorporate the cost in the proposed solution within the same BOQ as a part of complete solution.
37	1560	Vol 2	180	Page no-180, Intranet Firewall with IPS, Clause No-1.5		Support of at least deliver 10 Gbps IPSec VPN throughput)	Clause stands deleted
38	1561		180	Page no-180, Intranet Firewall with IPS, Clause No-1.6		The Appliance must deliver the SSL/TLS inspection throughput of 4 Gbps.	Clause stands deleted
39	1562		180	Page no-180, Intranet Firewall with IPS, Clause No-1.7		No limitation for client connecting using SSL VPN	Clause stands deleted
40	1565		181	Page no-181, Intranet Firewall with IPS, Clause No-2.8		The firewall shall support proxy of services, which terminate connections at the firewall and make separate connections with each of the communicating hosts, to enforce protocol validation and to restrict the allowed parameters for each protocol.	Clause stands deleted
41	1566		182	Page no-182, Intranet Firewall with IPS, Clause No-2.11		Management or Controller must monitor the Network statistics, including continuous performance monitoring of jitters, latency, and packet loss for all network paths/ link utilization.	Clause stands deleted
42	1568			Page no-183, Intranet Firewall with IPS, Clause No-5.2		Network statistics, including continuous performance monitoring of jitters, latency, and packet loss for all network paths/ link utilization.	Clause stands deleted
43	1569			Page no-183, Intranet Firewall with IPS, Clause No-5.6		The Solution MUST provide following reports of Individual Link Quality/Virtual Link Quality on daily, weekly, monthly etc.	Clause stands deleted

44	706	Vol 2	244	Volume 2: Scope of Work & Technical Specifications 5.4.2 Traffic Violation Detection System (TVDS) with ANPR & RLVD Camera 5.4.2.6 ANPR HW Requirements	4. Shutter Time: PAL: 1/20~ 1/30,000 sec.	To be read as in original RFP; 4. Shutter Time: PAL: 1/20~ 1/30,000 sec.
0		Vol 2	202	RFP Vol II Section 5.3.12 Hyper Converged Infrastructure	2.2 (b) HCI solution should provide usable storage (without considering deduplication & compression) capacity of 100 TB using Enterprise hot swappable SSD drives.	2.2 (b) HCI solution should provide usable storage using RF2/ (N+1)/ equivalent for ensuring that there will be no performance degradation in case of 1 node failure. The usable storage capacity shall be 200 TB using Enterprise hot swappable SSD drives
46	624	Vol 2	184	RFP Vol II; Section 5.3.6 Next Gen Firewall/6	Should support 5 Gbps of IPSec VPN throughput and must support minimum 10000 VPN user.	Should support 5 Gbps of IPSec VPN throughput and must support minimum 500 VPN user.
47	208	Vol 2		Vol 2 5.4.2 Traffic Violation Detection System (TVDS) with ANPR & RLVD Camera 5.4.2.1 Functional Requirement – Traffic Violation Detections System	c) The ITMS OEM should have supplied at least 2000 licenses (ANPR/RLVD/Speed or cumulative) in at least three projects in India.	The ITMS OEM should have supplied and deployed proposed system for at least 500 ANPR systems, 100 RLVD systems and 200 SVD systems in India
48		vol2	117	5.2.2.1 Integrated Command Control Platform	74 Smart City Platform/Software provider shall be reputed company and Member of Smart Cities Council or Navigant Research Report for Smart Cities Suppliers.	Stands Deleted

49		vol1		3.6.1	B4.1 (Evaluation Criteria Details)	The Sole Bidder or any consortium member (in case of consortium) have been awarded and successfully designed, executed & commissioned and Operation & Maintenance of Integrated command & control room/ emergency response centre /Security and Surveillance control room/ Surveillance control room built for any State/ Central Government Department or Central/ State PSUs/ Smart City in India of minimum value of INR 5 Crores per projects during last Seven (7) years (as on Bid Submission date) Number of Projects Marks >= 3 projects 5 2 to 3 projects 4 1 project 3	The Sole Bidder or any consortium member (in case of consortium) have been awarded and successfully designed, executed & commissioned and Operation & Maintenance of Integrated command & control room/ emergency response centre /Security and Surveillance control room/ Surveillance control room built for any State/ Central Government Department or Central/ State PSUs/ Smart City in India of minimum value of INR 5 Crores per projects during last Seven (7) years (as on Bid Submission date) Number of Projects Marks >= 3 projects 3 2 projects 2 1 project 1																								
50		Vol1		3.6.1	B6 (Evaluation Criteria Details)	The Sole Bidder or any consortium member (in case of consortium) have been awarded and successfully designed, executed & commissioned and Operation & Maintenance of Data Centre Project for any State/ Central Government Department or Central/ State PSUs/ Smart City in India of minimum value of INR 10 Crores per projects during last Seven (7) years (as on Bid Submission date) Number of projects Marks >=3 5 2 to 3 projects 4 1 project 3	The Sole Bidder or any consortium member (in case of consortium) have successfully designed, executed & commissioned and maintained of Data Centre Project for any State/Central Government Department or Central/State PSUs/Smart City in India of minimum value of INR 5 Crores per projects during last Seven (7) years (as on Bid Submission date) Number of projects Marks >=3projects 5 2 projects 4 1 project 3																								
51		Vol1		3.6.1	B7		The Sole Bidder or any consortium member (in case of consortium) have successfully designed, executed & commissioned and maintained a captive outdoor IP radio network of at least 30 nodes in any State/Central Government Department or Central/State / PSUs/Smart city project Number of projects Marks >=3projects 5 2 projects 4 1 project 3																								
52		Vol1	63	6.3	C	Financial Turnover (required for sole bidder/ all members of consortium) <table border="1"> <thead> <tr> <th>Descriptions</th> <th>2017-18</th> <th>2018-19</th> <th>2019-20</th> </tr> </thead> <tbody> <tr> <td>Annual</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Turnover</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Descriptions	2017-18	2018-19	2019-20	Annual				Turnover				Financial Turnover (required for sole bidder/ all members of consortium) <table border="1"> <thead> <tr> <th>Descriptions</th> <th>2016-17</th> <th>2017-18</th> <th>2018-19</th> </tr> </thead> <tbody> <tr> <td>Annual</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Turnover</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Descriptions	2016-17	2017-18	2018-19	Annual				Turnover			
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53		Vol1	46	3.6.3	<table border="1"> <thead> <tr> <th>Position</th> <th>Minimum Qualification</th> </tr> </thead> <tbody> <tr> <td>Project Manager</td> <td> <ul style="list-style-type: none"> a. Education: Fulltime MCA/M.Tech/B.Tech/B.E. from reputed institute b. Total Experience: At least 2 years in IT sector c. Should have more than 5 years of experience in handling such large projects as a project manager d. Should have PMP or Prince 2 certification e. Should preferably have Governance project experience </td> </tr> <tr> <td>Integrated Command and Control Centre (CCC) Expert</td> <td> <ul style="list-style-type: none"> a. Education: Fulltime M.Tech/B.Tech/B.E. from reputed institute b. Experience: Minimum 10 years of IT experience c. Should have experience in Control and Command Centre implementation for minimum 2 projects </td> </tr> <tr> <td>Solution Architect</td> <td> <ul style="list-style-type: none"> a. Education: Fulltime MCA/M.Tech/B.Tech/B.E. from reputed institute b. Total Experience: At least 10 years in IT sector c. Should have experience in more than 5 years Solution Architecture in large projects of similar nature </td> </tr> <tr> <td>Network Security Infrastructure Expert</td> <td> <ul style="list-style-type: none"> a. Education: M.Tech/B.Tech/B.E. from reputed institute b. Experience: Minimum 10 years of IT experience c. Should have experience in designing and implementing network solutions for at least 3 similar projects. </td> </tr> <tr> <td>Security Surveillance Expert</td> <td> <ul style="list-style-type: none"> a. Education: Fulltime MCA/M.Tech/B.Tech/B.E. from reputed institute b. Total Experience: At least 10 years in IT sector c. Should have experience in designing and implementing </td> </tr> <tr> <td>Integrated Traffic Management Expert</td> <td> <ul style="list-style-type: none"> a. Education: Fulltime M.Tech/B.E./B.Tech from reputed institute b. Graduation/Post Graduation in Transportation from reputed institute c. Total Experience: At least 10 years in IT sector d. Should have experience in designing and implementing Integrated Traffic Management system for minimum 2 projects. </td> </tr> <tr> <td>Server Storage Expert</td> <td> <ul style="list-style-type: none"> a. Education: Fulltime MCA/M.Tech/B.Tech/B.E. from reputed institute b. Total Experience: At least 10 years in IT sector c. Should have experience as Server and Storage expert for at least 2 projects of similar size </td> </tr> </tbody> </table>	Position	Minimum Qualification	Project Manager	<ul style="list-style-type: none"> a. Education: Fulltime MCA/M.Tech/B.Tech/B.E. from reputed institute b. Total Experience: At least 2 years in IT sector c. Should have more than 5 years of experience in handling such large projects as a project manager d. Should have PMP or Prince 2 certification e. Should preferably have Governance project experience 	Integrated Command and Control Centre (CCC) Expert	<ul style="list-style-type: none"> a. 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Should have experience in designing and implementing 	Integrated Traffic Management Expert	<ul style="list-style-type: none"> a. Education: Fulltime M.Tech/B.E./B.Tech from reputed institute b. Graduation/Post Graduation in Transportation from reputed institute c. Total Experience: At least 10 years in IT sector d. Should have experience in designing and implementing Integrated Traffic Management system for minimum 2 projects. 	Server Storage Expert	<ul style="list-style-type: none"> a. Education: Fulltime MCA/M.Tech/B.Tech/B.E. from reputed institute b. Total Experience: At least 10 years in IT sector c. Should have experience as Server and Storage expert for at least 2 projects of similar size 	<table border="1"> <thead> <tr> <th>Position</th> <th>Minimum Qualification</th> </tr> </thead> <tbody> <tr> <td>Project Manager</td> <td> <ul style="list-style-type: none"> a. Education: Fulltime MCA/M.Tech/B.Tech/B.E./MSc(IT)/MSc(Electronics) from reputed institute b. 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BOQ Details

Volume.02, Clause No. 12.7 Bill of Material (BOM) Summary for ITMS (for Make & Model Submission) –

S. No.	Description of Item	UOM	Tender QTY	Product Make	Model Nos	GST/ Tax (%)
1	Integrated Traffic Control System					
1.1	Traffic Violation Detection System at Traffic Junctions					
1.1.1	ANPR Camera with accessories & required analytics SW	Nos	452			
1.1.2	RLVD Camera with accessories & required analytics SW	Nos	226			
1.1.3	Sped Violation Detection System, Including the complete solutions (IP Camera, Thermal Camera or 4D Radar, Local Processing Unit, Pulse IR, Software License Lifetime use fee, Junction Box (with Network, PoE Switch, UPS with Battery designed for appropriate Backup per technical specification and SLA mentioned in volume II of this RFP) , Cables, accessories, and installations	Nos	6			
1.1.4	CL Pole mopunted Vehicle Activated Radar Speed Signs- Highway Variable Display Board 1 x1 meter, 3 color display (red, green, and amber) with Junction Box, Network Cobnnectivity, UPS with battery (appropriate Backup per technical specification and SLA mentioned in volume II of this RFP), Cables, accessories, and installation	Nos	12			
1.1.5	Gantry 10-meter width & 6-meter Height For Highway SVD System	Nos	6			
1.1.6	Junction Box I Control Unit Cabinet for ANPR & RLVD: including AC Power supply and UPS with battery (appropriate Backup per technical specification and SLA mentioned in volume II of this RFP) , CPU Sub Module, with all cabling, fittings, earthing, lighting arrester, Industrial grade PoE switch etc.	Nos	226			

1.1.7	Junction Box / Control Unit Cabinet for SVD Camera: including AC Power supply and CPU Sub Module, with all cabling, fittings, earthing, lighting arrester etc.	Nos	6			
1.1.8	Industrial Grade Outdoor - L2-Managed switches - 8 Port +4 SFP (Only for ITMS)	Nos	64			
1.1.9	Industrial Grade Outdoor - L2-Managed switches - 08 Port +4 SFP (Only for SVD)	Nos	3			
1.1.10	Gantry System/Cantilever Pole - ANPR & RLVD as per solution requirement post survey	Nos	226			
1.1.11	ANPR Analytics Software License for detecting No Helmet, Triple Ride on 2-wheelers	Nos	452			
1.1.12	RLVD with speed Analytics Software License	Nos	226			
1.1.13	Complete ducting, cabling, power, OFC Ring, Foundation required for poles, chambers and civil works repair and restoration as required	Nos	64			
1.2	Adaptive Traffic Signal Control System (Signalization)					
1.2.1	ATCS Traffic Controller	Nos	64			
1.2.2	Countdown timer	Nos	0			
1.2.3	Vehicle Detection System (Count and Classification of Vehicles)	Nos	226			
1.2.4	Galvanized standard Poles for Pedestrian signals	Nos	452			
1.2.5	Galvanized Cantilevers for Traffic Aspects	Nos	226			
1.2.6	Traffic Light Aspects - Red	Nos	452			
1.2.7	Traffic Light Aspects - Amber	Nos	452			
1.2.8	Traffic Light Aspects - Green	Nos	1356			
1.2.9	Pedestrian lamp heads - Stop Man	Nos	452			
1.2.10	Pedestrian lamp heads - Walk Man	Nos	452			

1.2.11	Supply & Laying of Cabling, junction box installation, earthing, conduiting , trenching, digging of road, etc	Nos	64			
1.2.12	ATCS Centralize Software	Lot	1			
1.2.14	Off Line Simulation Solution	Lot	1			
1.2.13	ATCS System Design, Commissioning & Training	LS	1			
1.2.16	Command Centre Integration	Nos	1			
1.3	E-Challan System for ITMS					
1.3.1	E-Challan Hand held devices (terminal) with E- Challan s/w for Handheld along with 3G/4G (or above) enabled SIM Cards	Nos	64			
1.3.2	E-Challan MASTER Software	Nos	1			
1.4	Additional Requirements					
1.4.1	Any other Hardware or Software required to meet the RFP requirements (Bidder to list individual items and provide costing)	LS	1			
2	City Surveillance System					
2.1	CCTV Camera at different location in the city					
2.1.1	Indoor Dome Camera	Nos	23			
2.1.2	Outdoor Bullet IFixed Camera	Nos	1423			
2.1.3	Outdoor PTZ Camera with power supply	Nos	160			
2.1.4	Poles for CCTV Cameras with Accessories	Nos	798			
2.1.5	Junction Box I Control Unit Cabinet for CCTV: including AC Power supply with all cabling, fittings, earthing, lighting arrester, etc.	Nos	798			
2.1.6	Industrial Grade Outdoor - L2-PoE switches - 8 Port + 2 SFP	Nos	799			

2.1.7	UPS with Battery (appropriate Backup per technical specification and SLA mentioned in volume II of this RFP)	Nos	798			
2.1.8	VMS Software with all Camera License	Nos	1			
2.1.9	Digging, Piping & Re-filling, including digging for electrical cabling - All camera locations	LS	798			
2.2	Additional Requirements					
2.2.1	Any other Hardware or Software required to meet the RFP requirements (Bidder to list individual items and provide costing)	LS	1			
3	OFC - Network					
3.1	Optical Transmission Equipment's for POP Sites					
3.1.1	Core Router with 10Gbps, 10km Transceivers - 24 nos, 40Gbps, QSFP Multimode Transceivers/Cables - 4 nos.	Nos	2			
3.1.2	IP/MPLS Router - POP Sites (with 10 Gbps 10KM transceivers - 4 nos. , 1 Gbps 10 Km transceivers - 16)	Nos	23			
3.1.3	Overhead OFC Deployment Cost (Including OFC, Pole, RM, JC Closure & Fixture)	Nos	150			
3.1.4	Underground OFC Deployment Cost (Including OFC, HDPE Ducts, Couplers, RM, Chambers JC Closures)	Nos	200			
3.1.5	36U Racks for Tx Equipment's	Nos	23			
3.1.6	FDMS/LIU Equipment	Nos	23			
3.1.7	Patch Cord - 3 Meters (OFC)	Nos	92			
3.1.8	UTP Cat 6 Armoured Cable (As per Bidder's Solution)	LS (Box)	5			
3.2	Additional Requirements					
3.2.1	Any other Hardware or Software required to meet the RFP requirements (Bidder to list individual items and provide costing)	LS	1			

4	Wireless RF Connectivity				
4.1	RF Connectivity - for ITMS Crossing				
4.1.1	RF connectivity at all ITMS location with complete solutions - 50 Mbps- Including Tower, Pole, BTS, CPE, Power Backup -- (64-ITMS Crossing + 3 SVDS locations)	Nos	67		
4.2	Additional Requirements				
4.2.1	Any other Hardware or Software required to meet the RFP requirements (Bidder to list individual items and provide costing)	LS	1		
5	Integrated Command and Control Centre (ICCC)				
5.1	Video Wall System				
5.1.1	Video Wall Cubes for - Wall size 6.5 x 2.5 Meter - with complete stand and accessories	Nos	1		
5.1.2	Video Wall Controller with Wall Management System	Nos	1		
5.2	ICT Equipment in ICCC				
5.2.1	Multi-Function Laser Printer (City Control Room)	Nos	2		
5.2.2	Operator Workstations with Triple Monitor (City Control Room)	Nos	15		
5.2.3	IP PABX System	Nos	1		
5.2.4	IP Phones	Nos	15		
5.2.5	Office Desktop	Nos	5		
5.2.6	KVM Switches - 4 Port USB/HDMI	Nos	10		
5.2.7	PRI Modem	Nos	1		
5.3	Network , ICCC Platform and Switching Devices				
5.3.1	Switches - Core	Nos	2		
5.3.2	Internet Router (L-3)	Nos	2		
5.3.3	Networking/ IT racks - 42 U	Nos	4		
5.3.4	UTM for 50 concurrent users	Nos	2		

5.3.5	Supply of ICCC Application Software Integration with Operator . Console, Integration of Video Management Software all CCTV,Camera with 4 Analytics (min), Integration of ITMS (ATCS, ANPR, RLVD, SVDS,eChallan), SMS Gateway Integration , Email Gateway Integration, Integration with EMS / NMS, Integration with Video Wall at Command Centre, Integration of City GIS, and other services related to this RFP.	Nos	1			
5.4	Building Utilities for ICCC					
5.4.1	DG Set - 75 KVA with AMF Panel with Change-over Switch	Nos	1			
5.4.2	UPS with battery backup - 50 KVA	Nos	1			
5.4.3	Electrical and Power Cabling work in ICCC	LS	1			
5.4.4	Electrical Cabling & Necessary illumination devices	LS	1			
5.4.5	LAN and CAT-6 cabling	LS	1			
5.4.6	Fire & Smoke Detection System	Nos	1			
5.4.7	Fixed Dome Cameras	Nos	6			
5.5	Civil Works, Floor & Interior Work					
5.5.1	Civil Work - False-Ceiling, Raised flooring in Server Room, etc.	SQF	5000			
5.5.2	Floor Carpet	SQF	5000			
5.5.3	Painting	SQF	20000			
5.5.4	HVAC System for Video Monitoring Room (20 TR)	Nos	1			
5.5.5	Ductable Split AC (10 TR) for Equipment Room & Meeting Rooms	Nos	1			
5.5.6	Furniture (Work Stations - Desk and Chairs) for ICCC	Nos	15			
5.5.7	Furniture (Work Stations - Desk, Chairs) for ICCC Operation Manager Cabin	Nos	4			

5.5.8	Furniture for Meeting Rooms (6-Seats Complete Setup x 2 Nos)	Nos	2			
5.5.9	Furniture for Security Desk /Guard Room	Nos	1			
5.5.10	Furniture for Help Desk - 5 Seater	Nos	5			
5.6	Additional Requirements					
5.6.1	Any other Hardware or Software required to meet the RFP requirements (Bidder to list individual items and provide costing)	LS	1			
6	Data Centre (Hosted at State Data Centre)					
6.1	Servers, Switches & Application SW					
6.1.1	Data Centre Spine Switch (Core)	Nos	2			
6.1.2	Data Centre Leaf Switch (Aggregate)	Nos	4			
6.1.3	Data Centre Out of Band Switch	Nos	4			
6.1.4	GIS Enterprise Software	Nos	1			
6.2	Storage & Other Components					
6.2.1	Primary Storage (3 PB) - 30 Days	Nos	1			
6.2.2	Secondary Storage (5 PB) / Compressed Form - 90 Days	Nos	1			
6.2.3	Hyper Converged Infrastructure (HCI)	Set (As per design)	13			
6.2.4	Intranet Firewall with IPS	Nos	2			
6.2.5	Next Generation Firewall (NGFW) with Anti APT	Nos	2			
6.2.6	Server Load Balancer with Web application Firewall	Nos	2			
6.2.7	Security Information & Event Management (SIEM) System	Nos	1			

6.2.8	Authentication, Authorization and Accounting – Network Access Control (AAA – NAC)	Nos	1			
6.2.9	Network Management System (NMS)/ Enterprise Management System - EMS	Nos	1			
6.2.10	End Host Antivirus	Nos	1			
6.3	Additional Requirement					
6.3.1	Any other Hardware or Software required to meet the RFP requirements (Bidder to list individual items and provide costing).	LS	1			
7	Network Enablement Charges - Shifting					
7.1	Shifting & Fixing of all ICCC Equipment's - Temporary Locations to Permanent Building					
7.1.1	Shifting & Installation all Networking & Video-Wall Equipment's (Electronics & IT)	LS	1			
7.1.2	Shifting & Installation all Electrical & HVAC Equipment's (HVAC, Electricals)	LS	1			
8	Operations & Maintenance - OPEX					
8.1	OPEX - Operations & Maintenance Services					
8.1.1	Contact Centre Operators (To be included in OPEX) - Year 1	Nos	11			
8.1.2	Contact Centre Operators (To be included in OPEX) - Year 2	Nos	11			
8.1.3	Contact Centre Operators (To be included in OPEX) - Year 3	Nos	11			
8.1.4	Contact Centre Operators (To be included in OPEX) - Year 4	Nos	11			
8.1.5	Contact Centre Operators (To be included in OPEX) - Year 5	Nos	11			

8.1.6	PRI Lines for Telephones - Year 1	Nos	1			
8.1.7	PRI Lines for Telephones - Year 2	Nos	1			
8.1.8	PRI Lines for Telephones - Year 3	Nos	1			
8.1.9	PRI Lines for Telephones - Year 4	Nos	1			
8.1.10	PRI Lines for Telephones - Year 5	Nos	1			
8.1.11	Internet Lease lines (ILL) - Year 1	Nos	1			
8.1.12	Internet Lease lines (ILL) - Year 2	Nos	1			
8.1.13	Internet Lease lines (ILL) - Year 3	Nos	1			
8.1.14	Internet Lease lines (ILL) - Year 4	Nos	1			
8.1.15	Internet Lease lines (ILL) - Year 5	Nos	1			
8.1.16	O&M of Complete System & Services - Year 1	Nos	1			
8.1.17	O&M of Complete System & Services - Year 2	Nos	1			
8.1.18	O&M of Complete System & Services - Year 3	Nos	1			
8.1.19	O&M of Complete System & Services - Year 4	Nos	1			
8.1.20	O&M of Complete System & Services - Year 5	Nos	1			
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