Request for Proposal ('RFP') For Selection of Vendor for Upgradation of existing Command Control Centre to Unified Command Control Centre & Implementation of Intelligent Enforcement Management System (IEMS) for Office of the Transport Commissioner, Odisha

Published on: 14/11/2023

Tender No. LXVII-424/2022/R.S./T.C – 16953

Contents

1 Response to the queries raised by the bidders

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
1.	9	BID Datasheet	Earnest Money Deposit	we seek clarification on whether a Bank Guarantee, as is standard practice, would be acceptable in lieu of the Demand Draft for the Earnest Money Deposit (EMD) of Rs. 1,00,00,000, to make the process more accessible and in line with common bidding procedures.	Please refer to Corrigendum III : Sr. No. - 14, 15
2.	19	2.6	Earnest Money Deposit (EMD	Bidder will submit their bids along with EMD in shape of Bank Draft/PBG issued by any Nationalized Bank drawn in favor of Transport Commissioner Odisha, Payable at Cuttack.	Please refer to Corrigendum III : Sr. No. - 14, 15
3.	26	3.5	PQ-3(Technical Capability)	The bidder/any member of consortium must have experience in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only) The "Similar assignment" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video Surveillance through Video Management system/ Video analytics through camera/Radar or both in India with any state / central government /PSUs in last 7 years as on date of publication of bid.	Please refer to Annexure - 3

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				Note: The Bidder/The Lead Bidder need to specify the project/s for evaluation	
4.	26	3.5	PQ-3(Technical Capability)	Bidder/Consortium shall submit: • Copy of Work Order/agreement having the scope of work, client details and project value. • Completion/Substantial completion certificate on installation and verification (Minimum 80% of Capex Project Cost)/Phase wise completion along with value of completed work/Go live issued excluding O & M cost, signed by the authorized signatory of the client entity on the entity's Letterhead or certificate from Chartered Accountant /Statutory Auditor mentioning that the mentioned project work has been completed successfully along with scope and cost of the project	Please refer to Annexure - 3
5.	34	3.11	Performance Bank Guarantee	Request you to change the PBG value to 3%	Please refer to Corrigendum III : Sr. No. - 12
6.	64	9.5	Annexure 5	The whole table is not in line with section 3.5 of volume 1 need to revise the same	Please refer to Annexure - 2
7.	90	--	--	Price spec for multilane speed display is not mentioned in the BOQ pole mounted camera will only be useful for a (1+1) lane road. Multilane road will require gantry monted structure.	Please refer to Annexure - 6
8.	90	--	--	No line item for power utility cost in the utility services [B] section of the price bid format in line with the scope of work Vol 2 - 3.8.1	Please refer to Annexure - 6
9.	90	--	--	No line item for mentioning insurance cost [B] section of the price bid format in line with the instruction to bidders Vol 1 - 5.21 -- Subtotal of Operations and Maintenance of the IEMS Solution.	Please refer to Annexure - 6
10.	11	2.1	Proposed solutions	Extension period mentioned as 3 years	Please refer to Corrigendum III : Sr. No. - 2
11.	11	2.1		On successful validation offence details will be processed through e-Challan system. An SMS will be sent to the violators on their registered mobile number	The IEMS solution will be integrated with VAHAN 4.0 and e-challans will be

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				mentioned in VAHAN 4.0. Which server will generate the SMS Vahan server or the UCC software. Who will generate the sms and challan ? Whose Responsibility ? It should ideally be NIC server because because they generate the chalan or create sms.? Please confirm	generated from e-Challan solution deployed by NIC. NIC will facilitate required supports for integration. However, the MSI/Successful Bidder will be responsible for coordination with NIC time to time for desired functionalities.
12.	14	2.4	Important Instructions for the MSI	The provisions of the said paragraph are not in line with the provisions of vol2. - Sec 3.8.1 (Electrical power supply).	The MSI shall be responsible for providing redundant power and maintain SLA as defined in the RFP. Redundant power may be solar power arrangement for unreliable power locations integrated with UPS or a continuous power source.
13.	52	3.3.10	Onilne UPS	please add spec for the software/utility to monitor the Online UPS	Please refer to Annexure - 2
14.	87	3.8.2	Network connectivity	Please modify the bandwidth requirement to 30mbps for gantry locations and UCCC bandwidth requirement should be inline with the corresponding gantry bandwidth and locations.	Please refer to Corrigendum III : Sr. No. - 7
15.	27	3.2.3	SVD system overspeeding Point 2	The minimum speed for accuracy should be atleast 300 kmph	Please refer to Corrigendum III : Sr. No. - 8
16.	28	3.2.3	SVD system overspeeding Point 7	Please remove the video requirement in the speeding event. And the requirement for images should be 2- 5. "The display window for each event should feature a cropped image of the vehicle's number plate, captured at the time of the overspeeding incident. Additionally, this window should include two to five snapshots from the ANPR (Automatic Number Plate Recognition) camera linked to the event, providing secondary evidence and ensuring clear visibility of the number plate based on the time it was captured."	Please refer to Corrigendum III : Sr. No. - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
17.	42	3.3.3	Video analytics camera	4 MP camera	Please refer to Annexure - 2
18.	40	3.3	3.3.1 ANPR Camera	SR.No.(1)Image Sensor-1 inch" Progressive CMOS Global shutter or better	Please refer to Annexure - 2
19.	40	3.3	3.3.1 ANPR Camera	SR.No.(2)Maximum Resolution- 4112 x 2176 (8 MP) or better	Please refer to Annexure - 2
20.	40	3.3	3.3.1 ANPR Camera	SR.No.(3)Lens Type- Fix or Full focus-focal	Please refer to Annexure - 2
21.	40	3.3	3.3.1 ANPR Camera	SR.No.(4)Focal Length- 25, 35, 50mm option to suit application. Lens must focus visible and infrared light at the same depth. F1.8 or better	Please refer to Annexure - 2
22.	40	3.3	3.3.1 ANPR Camera	SR.No.(5)Effective Sensor Diagonal- 16.1 mm or better	Please refer to Annexure - 2
23.	40	3.3	3.3.1 ANPR Camera	SR.No.(10)Operating Temperature - 0° C ~ 70°C or Better	Please refer to Annexure - 2
24.	46	3.3	3.3.4 Pole Security Camera	SR.No.(23)Electronic Shutter- 1/3 s to 1/100,000 s with slow shutter support	Please refer to Annexure - 2
25.	31	3.6	Product Technical Compliance	C1. Certificate of speed violation detection The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8 > 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
26.	89	BOQ	[2] Sub Total of IEMS Software Components (with licenses) & Services, 3. Hardware Components (Supply, delivery, installation, testing,	3.1. ANPR Cameras : 80 nos. 3.3 Video Analytical Camera for Traffic Violation detection : 80 nos.	Please refer to Annexure - 1

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			commissioning and mounting on structure)		
27.	26	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	1. The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2
28.	27	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	10. The system should be capable of providing all the above functionality on multi lane (up to 8 (4+4) Lane) with simultaneous incident detection and recording.	Please refer to Annexure - 2
29.	28	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding)	4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids.	Please refer to Annexure - 2
30.	33	3.2	3.2.11 Artificial Intelligence (AI) and Deep Learning (DL) based IEMS.	5. The system should be capable of multi lane (up to 8 Lane (4 + 4 Lane)) functioning with simultaneous incident detection and ecording.	Please refer to Annexure - 2
31.	41	3.3	3.3.2 Speed Violation Detection Radar	4. Frequency: 76-81 GHz integrated CMOS transceiver	Please refer to Annexure - 2
32.	42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Annexure - 2
33.	48	3.3	3.3.7 Local Processing Unit (LPU)	1. Camera interface : USB, 2 x CSI2 - 2 Lanes, 1 x CSI2 - 4 Lanes, 1x FPD Link III , 1x GMSL 2. USB : 2x USB 2.0, 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX) 3. Network Connectivity: Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 4. Storage : M.2 M key slot for NVMe SSD card 256 GB, 6GB HDD 5. Display: HDMI 2.0 6. Audio: HDMI 2.0, DMIC / I2S via Expansion Header, Bluetooth	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				7. Peripherals Support / Other Interfaces : CAN (Xavier NX, TX2 NX), UART Debug, 9-axis IMU Sensors 8. Expansion Header : I2C, I2S, SPI, GPIOs, Reset and Power 9. Input DC Supply: 12V/5A to 24V/2.5A 10. Dimension : 125mm (L) x 90mm (W) 11. Operating Temperature: -20 to 850C	
34.	64/65	9.5	9.5.Annexure 5: Form II-PQ Bid Checklist	PQ-3 Technical Capability: The bidder should have similar project experience related to City/statewide surveillance/safe city project in India with any state/central government/PSUs in last 7 years as on date of release of this RFP. • One project of minimum 1000 Nos. of ANPR camera • One project of minimum 100 Crores	Please refer to Annexure - 5
35.	25	3.5	Annual Turnover	Requesting to Amend the clause as: The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 75 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). In the case of consortium, the member of consortium should have an average annual turnover of minimum INR 12.50 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). The net worth of the bidder/all members of consortium must be positive in the last three financial years (2023-2022, 2022-2021, 2021-2020) ending on 31st March 2023.	RFP Clause Prevails
36.	29	3.6	A1 Financial Competency	Requesting to Amend the clause as: The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 75 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020).	RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				> 75 Crore <= 100 Crore | 5 marks > 100 Crore <= 125 Crore | 10 marks > 125 Crores | 15 marks	
37.	30	3.6	B.2 Networking Experience	Requesting to Amend the clause as: The bidder/any member of the consortium should have similar experience of single project for providing network connectivity across minimum 15 10 highway locations or remote locations for any state / central government / ULB / Smart City or Municipal Corporation in India in last 7 years as on date of release of bid. For this criteria, similar experience means a Secured, Point to Point /MPLS network connectivity, having multi redundant paths from each field node. Please note that a project implemented within the same city area limits shall not be considered as a remote location.	Please refer to Annexure - 4
38.	27	3.5	PQ-4, OEM Certificate The letter from respective OEM should also confirm about the authorization of the products quoted are not end-of-life for further period of 7 years.	We request authority to delete this sub-line as it is less feasible to get/provided by OEM.	RFP Clause Prevails
39.	31	3.6	C1 Product Technical Compliance The Radar system should capture the speed of vehicles running up to the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity	C1 Product Technical Compliance The Radar system should capture the speed of vehicles running up to the speed of 180 KMPH with an accuracy of at least 99% more than 97%. Speed Detection Capacity in kmph | Marks > 180 <= 240 | 6 > 240 <= 280 | 8 > 280 | 10	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			in kmph | Marks > 180 <= 240 | 6 > 240 <= 280 8 > 280 | 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory / ARAI certificate of Government of India or any International standard certificate of radar country of origin equivalent to check the technical competency or registered under CMV Rules 126.	
40.	9	3.7	3.7 Operations and Maintenance of the IEMS Solution	Requesting to Amend the clause as: "Rs.1,00,00,000 (One Crore Rupees Only), in form of Demand Draft / Bank Guarantee issued by any Nationalized / Scheduled commercial Bank drawn in favour of Transport Commissioner, Odisha payable at Cuttack valid for 180 days from the date of submission of bid."	Please refer to Corrigendum III : Sr. No. - 14, 15
41.	34	3.11	3.11. Performance Bank Guarantee	Requesting to Amend the clause as: 1. The PBG (10% 3% of total contract value) shall be submitted within 15 days of notification of award done through issuance of Letter of Intent valid for the entire period of the project and six months thereafter i.e., five years and six months. Transport Commissioner, Odisha shall facilitate the signing of contract within the period of 15 days of notification of award. However, it is to be noted that the date of commencement of project and all contractual obligations shall commence from the date of issuance of letter of intent, whichever is earlier. All reference timelines as regards execution of project and payments to bidder shall be considered as beginning from date of issuance of letter of acceptance, whichever is earlier.	Please refer to Corrigendum III : Sr. No. - 12

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
42.	64	9.5	9.5. Annexure 5: Form II- PQ Bid Checklist	Request to change 9.5. Annexure 5: Form II- PQ Bid Checklist as per 3.5. Pre-Qualification	Please refer to Annexure - 5
43.	72	9.9	9.9. Annexure 9: Manufacturer Authorization Form (MAF)	Note: This letter of authority should be on the letterhead of the manufacturer of respective item and should be signed by a person competent and having the power of attorney.	RFP Clause Prevails
44.	102	7	7 Project Timeline & Payment Milestones Milestones: M7 | Payment Schedule: 5% of Work Order Value (Capex Cost) Time Schedule: D1 + 26 Weeks	We understand Timeline for implementation will be 6.5 months as mentioned in this sub-chapter (i.e., D1 + 26 Weeks wherein D1 is 'Date of Issue of Work Order'). Please confirm.	Please refer to Annexure - 7
45.	82	3.7	The development and implementation of the application shall be completed and commissioned by MSI in 4 months from the date of signing of agreement contract with MSI and shall be ready for Go live across all the locations with all desired functionalities.	We understand Timeline for implementation will be 6.5 months as mentioned in this sub-chapter (i.e., D1 + 26 Weeks wherein D1 is 'Date of Issue of Work Order'). Please confirm.	Please refer to Annexure - 7
46.	90	4.1	The successful bidder shall hand over the system within 5 months / 20 Weeks from date of issue of Work Order.	We understand Timeline for implementation will be 6.5 months as mentioned in this sub-chapter (i.e., D1 + 26 Weeks wherein D1 is 'Date of Issue of Work Order'). Please confirm.	Please refer to Annexure - 7
47.	31	3.6	D1 Proof of Concept (PoC) | Total 35 Marks Evaluation committee will study the functionality and	We understand the objective of authority to evaluate the proposed solution before work order. However, Proof-of-Concept (PoC) with hardware, connectivity, and electricity on site that to within short timeframe and for short duration is almost impossible wherein focus will be	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			award marks for the demonstration and Proof of Concept (PoC) Demo Hardware in Line with the specifications | 5 Marks Uninterrupted Redundant network | 5 Marks Uninterrupted redundant Power supply | 5 Marks	on hardware deployment part rather than focusing on solution capabilities part. Hence, we strongly request authority to conduct a presentation on demonstration of proposed software by bidder and it's OEM at other site locations wherein authority can evaluate bidder's capability in order to understand the solution and OEM's software capabilities which is proposed by bidder.	
48.	9	2	The Bidder shall upgrade the existing command and control centre to a Unified Command and Control Centre (UCCC) for traffic violation detection with integrated solution for issuance of challan through e-Challan system developed by NIC.	Please provide in-line clarification on below points as it is required to design the solution in detailed, 1. Do we need to just integrate with existing e-challan system developed by NIC and NIC e-challan software will issue the e-challan afterwards? 2. Does existing e-challan system/software is deployed on cloud or it is on-prime hosting arrangement? 3. We understand tasks such as manual cross-validation of enforcement event, print of e-challan, courier of e-challan is in department (either Police or Odisha state transport department) scope at CCC. Please confirm. 4. We understand existing e-challan system will be used across the project tenure to issue e-challan. Please confirm.	NIC e-Challan Software will issue e-Challans. Manual Cross-validation (adjudication) will be conducted by MSI. Print of e-Challan, courier of e-Challan will be done by Office of Transport Commissioner.
49.	83	3.7	The MSI will deploy the Operations Support resources for accomplishing the IEMS scope of work and shall ensure successful	E-challan system is used of existing software system. Does bidder needs to provide resource to issue e-challan at UCCC? If Yes, does these manpower are additional apart from UCCC Operator asked in the tender and call centre	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			generation of traffic challans.	manpower? We understand printer, pages, etc. required is in department scope to generate e-challan including courier (if required)	
50.	102	7	Note: The 10% of the of Capex for Software would be paid to the bidder/the lead bidder (in case of consortium) proportionately over the operation and maintenance period on Quarterly basis, Post Go-Live. The Billing period of Hosting & maintenance Cost would begin after Go-Live.	The said clause is contradict the standard practices and it may discourage bidders to participate as it create more cashflow related hurdles results incremental cost of overall project cost. Hence, we request authority to release 10% of the Capex for software during implementation timeline.	Please refer to Annexure - 7
51.	88	9.2	[A] PRE-IMPLEMENTATION COST – CAPEX 1.1 Upgradation of CCC to UCCC | 1 Lumpsum	The said scope is very open is nature. We request authority to define the scope w.r.t. hardware, and service. Please provide inline response of below points to design the solution, 1. Does bidder needs to use existing CCC space (300 sq. ft., mentioned in sub-clause 3.1.1, Page Number - 19 of Volume-2) or UCCC will be at different location? 2. If UCCC at different location, please clarify, 2A. what is area of new UCCC in sq. ft.? 2B. Basic civil infrastructure is available to design the new state-of-the-art UCCC? 3. Does other beautification scope such as interior, furniture, false celling, AC is in bidder's scope?	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				4. Does existing hardware is used to UCCC or new hardware is required? If new hardware is required, we request authority to define the exact Bill of Material of hardware needs to supply at new UCCC.	
52.	89	4.1	• For command control centre, setting up of video wall, including minor civil works (Drill, Cementing, Holes, painting, partitioning, flooring, labour etc. to fit the Video Wall).	The said scope is very open is nature. We request authority to define the scope w.r.t. hardware, and service. Please provide inline response of below points to design the solution, 1. Does bidder needs to use existing CCC space (300 sq. ft., mentioned in sub-clause 3.1.1, Page Number - 19 of Volume-2) or UCCC will be at different location? 2. If UCCC at different location, please clarify, 2A. what is area of new UCCC in sq. ft.? 2B. Basic civil infrastructure is available to design the new state-of-the-art UCCC? 3. Does other beautification scope such as interior, furniture, false celling, AC is in bidder's scope? 4. Does existing hardware is used to UCCC or new hardware is required? If new hardware is required, we request authority to define the exact Bill of Material of hardware needs to supply at new UCCC.	Please refer to Annexure - 8
53.	90	4.2	To provide premises for setting up a new Integrated Command and Control Centre.	The said scope is very open is nature. We request authority to define the scope w.r.t. hardware, and service. Please provide inline response of below points to design the solution, 1. Does bidder needs to use existing CCC space (300 sq. ft., mentioned in sub-clause 3.1.1, Page Number -	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				19 of Volume-2) or UCCC will be at different location? 2. If UCCC at different location, please clarify, 2A. what is area of new UCCC in sq. ft.? 2B. Basic civil infrastructure is available to design the new state-of-the-art UCCC? 3. Does other beautification scope such as interior, furniture, false celling, AC is in bidder's scope? 4. Does existing hardware is used to UCCC or new hardware is required? If new hardware is required, we request authority to define the exact Bill of Material of hardware needs to supply at new UCCC.	
54.	24	3.1.2	The MSI shall set up operator workstations, network connectivity and software for processing traffic violations, power backups, firewall, antivirus licenses, etc. • The MSI shall provide dedicated primary-secondary link along with link load balancer at UCCC for connecting IEMS locations and UCCC. • The MSI shall be responsible for suggesting the bandwidth capacity with due detailed explanation to the STA for uninterrupted and defect free operation and	The said scope is very open is nature. We request authority to define the scope w.r.t. hardware, and service. Please provide inline response of below points to design the solution, 1. Hardware at UCCC is not mentioned in the BoQ such as workstation, connectivity, UPS as a power backup, videowall etc. We request authority to define this hardware and add line item in BoQ. 2. Please provide MBPS bandwidth required at UCCC in the form of P2P leased line to be provided by bidder for evaluation. 3. We understand hosting of software application is on cloud where as storage is required at UCCC on-premises to store the camera feeds. Please Confirm. 4. Does redundant connectivity is required at UCCC - primary and secondary both?	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			execution of the system in totality.		
55.	24	3.1.2	The MSI shall ensure data security by provisioning point to point secured encrypted leased lines from IEMS locations to UCCC as well as the OSDC / cloud infrastructure.	The said scope is very open is nature. We request authority to define the scope w.r.t. hardware, and service. Please provide inline response of below points to design the solution, 1. Hardware at UCCC is not mentioned in the BoQ such as workstation, connectivity, UPS as a power backup, videowall etc. We request authority to define this hardware and add line item in BoQ. 2. Please provide MBPS bandwidth required at UCCC in the form of P2P leased line to be provided by bidder for evaluation. 3. We understand hosting of software application is on cloud where as storage is required at UCCC on-premises to store the camera feeds. Please Confirm. 4. Does redundant connectivity is required at UCCC - primary and secondary both?	Please refer to Annexure - 8
56.	24	3.1.2	The MSI shall upgrade the existing CCC to the UCCC to ensure all required hardware like videowall, IT equipment, third party software, antivirus, firewall, etc. are seamlessly integrated on UCCC platform.	The said scope is very open is nature. We request authority to define the scope w.r.t. hardware, and service. Please provide inline response of below points to design the solution, 1. Hardware at UCCC is not mentioned in the BoQ such as workstation, connectivity, UPS as a power backup, videowall etc. We request authority to define this hardware and add line item in BoQ. 2. Please provide MBPS bandwidth required at UCCC	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				in the form of P2P leased line to be provided by bidder for evaluation. 3. We understand hosting of software application is on cloud where as storage is required at UCCC on-premises to store the camera feeds. Please Confirm. 4. Does redundant connectivity is required at UCCC - primary and secondary both?	
57.	14	2.4	The Command Control Centre will have dedicated primary- secondary link and MSI will be responsible to suggest the bandwidth capacity with due detailed explanation to the Office of the Transport Commissioner for uninterrupted and defect free operation and execution of the system on turnkey basis.	The said scope is very open is nature. We request authority to define the scope w.r.t. hardware, and service. Please provide inline response of below points to design the solution, 1. Hardware at UCCC is not mentioned in the BoQ such as workstation, connectivity, UPS as a power backup, videowall etc. We request authority to define this hardware and add line item in BoQ. 2. Please provide MBPS bandwidth required at UCCC in the form of P2P leased line to be provided by bidder for evaluation. 3. We understand hosting of software application is on cloud where as storage is required at UCCC on-premises to store the camera feeds. Please Confirm. 4. Does redundant connectivity is required at UCCC - primary and secondary both?	Please refer to Annexure - 8
58.	11	2.1	The MSI shall be responsible for making the required arrangements for feeding data from field equipment and analysing the data through IEMS	We understand access to other stakeholder will be via separate user ID, Password and via https based software application only which can be accessed by other department using their own IT hardware (i.e., workstation or laptop) and Internet arrangements. Please confirm.	The MSI will be responsible for providing live feed of the surveillance to the nearby RTO offices and police stations as per the requirements of office of the

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			Solution and presenting the interactive dashboard at Unified Command & Control Centre (UCCC) and other monitoring centres at selected RTO Offices & Police Stations.		Transport Commissioner. The solution shall have the provision of providing live feed at different offices as per the requirements of office of the Transport Commissioner.
59.	12	2.1	The MIS reports and dashboard will be accessed through any RTO office locations or establishments under the purview of the Office of Transport Commissioner along with the police stations.	We understand access to other stakeholder will be via separate user ID, Password and via https based software application only which can be accessed by other department using their own IT hardware (i.e., workstation or laptop) and Internet arrangements. Please confirm.	The MSI will be responsible for providing live feed of the surveillance to the nearby RTO offices and police stations as per the requirements of office of the Transport Commissioner. The solution shall have the provision of providing live feed at different offices as per the requirements of office of the Transport Commissioner.
60.	34	3.2	A surveillance camera should be provided for the field area surveillance of junction boxes. The image/video data should be transmitted to the UCCC and other monitoring stations such as RTO offices and nearest police stations	We understand access to other stakeholder will be via separate user ID, Password and via https based software application only which can be accessed by other department using their own IT hardware (i.e., workstation or laptop) and Internet arrangements. Please confirm.	The MSI will be responsible for providing live feed of the surveillance to the nearby RTO offices and police stations as per the requirements of office of the Transport Commissioner. The solution shall have the provision of providing live feed at different offices as per the requirements of office of the Transport Commissioner.
61.	19	3.1.1	The details of the indicative hardware, networking and infrastructure components available and installed at CCC are as follows	We understand existing hardware BoM and specification is for information purpose. Such existing hardware will be used to access new IEMS system by departmental stakeholder. Please confirm.	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			Major Component Quantity Video Wall 1 Unit Desktop 4 Nos Online UPS 1 No Application Server 1 No. Workstations Furniture 6 Nos	Also, we assume department will use existing CCC and existing hardware only to access new IEMS system. Please confirm. We request authority to provide Make & Model of each existing hardware mentioned for solution designing.	
62.	19	3.1.1	Existing hardware specification, 3.1.1.1 Video Wall and Controller, 3.1.1.2 Desktop 3.1.1.3 Online UPS, 3.1.1.4 Application Server	We understand existing hardware BoM and specification is for information purpose. Such existing hardware will be used to access new IEMS system by departmental stakeholder. Please confirm. Also, we assume department will use existing CCC and existing hardware only to access new IEMS system. Please confirm. We request authority to provide Make & Model of each existing hardware mentioned for solution designing.	Please refer to Annexure - 8
63.	16	2.5	Maintaining the visual display board of Command-and-Control Centre, its workstations, servers, UPS, batteries, interior equipment, network connectivity, processing units and all its ancillary peripheries would be a part of the comprehensive AMC.	We understand UCCC does not required any new hardware which needs to be supplied by bidder. Existing hardware mentioned in the tender will be used at CCC. In such case, we request authority to remove scope of maintenance of existing hardware as it is beyond the preview of bidder. At times, existing hardware Make, Model, supplier, warranty terms, end-of-life etc. can not be predict by bidder. Also, authority may have bidder/vendor from which they have supplied such hardware in past who has AMC contract. Hence, we request authority to delete this AMC clause for existing hardware. However, AMC for new hardware will be in bidder's scope and comes under SLA part.	Please refer to Annexure - 8
64.	11	2.1	An SMS will be sent to the violators on their registered	We understand this functionality can be meet by e-challan system which will be used by integrate with	The IEMS solution will be integrated with VAHAN 4.0

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			mobile number mentioned in VAHAN 4.0.	existing e-Challan system developed by NIC. Hence, e-challan system availability, SMS and e-mail Gateway related cost, sending of such data manually (if desired by department) or automatically will not be in bidder's scope. Please confirm.	and e-challans will be generated from e-Challan solution deployed by NIC. NIC will facilitate required supports for integration. However, the MSI/Successful Bidder will be responsible for coordination with NIC time to time for desired functionalities.
65.	26	3.2.2	The system should also have the functionality to send the alert via email and SMS to designated email addresses at UCCC and mobile phone numbers of violators, if desired by the office of the Transport Commissioner, in the future.	We understand this functionality can be meet by e-challan system which will be used by integrate with existing e-Challan system developed by NIC. Hence, e-challan system availability, SMS and e-mail Gateway related cost, sending of such data manually (if desired by department) or automatically will not be in bidder's scope. Please confirm.	The IEMS solution will be integrated with VAHAN 4.0 and e-challans will be generated from e-Challan solution deployed by NIC. NIC will facilitate required supports for integration. However, the MSI/Successful Bidder will be responsible for coordination with NIC time to time for desired functionalities.
66.	12	2.1	Also, the application which will be developed as part of IEMS project must be scalable and designed in such a way that during the project period, Office of the Transport Commissioner may increase the number of gantries or nodes and cameras to any extent without changing the core of the software engine or any part thereof, whereas only the required hardware infrastructure will be added or upgraded as per requirement and	Please note that hosting infrastructure on cloud and software is scalable to meet the future expansion requirement. However, the software hosting asked/proposed in the bids having some technical capacity. It can not be open-ended wherein software and hosting can cater any hardware scale-up at the same cost and same core infrastructure. Hence, we request you to delete this clause.	The office of the Transport Commissioner shall make payment for additional requirements as per the unit rates quoted by the bidder in the financial quote for any future expansion above the number of locations as defined by the office of the Transport Commissioner during Contract execution. The MSI shall procure, design, develop, deliver and install the software and allied systems to ensure future scalability above the number of locations as defined by the

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			recommendation of competent authority.		office of the Transport Commissioner without any additional cost to the Office of the Transport Commissioner. For further details regarding the locations, please refer to Annexure - 9.
67.	25	3.2	The application which will be developed as part of IEMS project must be scalable and designed in such a way that during the project period, Office of the Transport Commissioner may increase the number of gantries or nodes and cameras to any extent without changing the core of the software engine or any part thereof, whereas only the required hardware infrastructure will be added or upgraded as per requirement and recommendation of competent authority.	Please note that hosting infrastructure on cloud and software is scalable to meet the future expansion requirement. However, the software hosting asked/proposed in the bids having some technical capacity. It can not be open-ended wherein software and hosting can cater any hardware scale-up at the same cost and same core infrastructure. Hence, we request you to delete this clause.	The office of the Transport Commissioner shall make payment for additional requirements as per the unit rates quoted by the bidder in the financial quote for any future expansion above the number of locations as defined by the office of the Transport Commissioner during Contract execution. The MSI shall procure, design, develop, deliver and install the software and allied systems to ensure future scalability above the number of locations as defined by the office of the Transport Commissioner without any additional cost to the Office of the Transport Commissioner. For further details regarding the locations, please refer to Annexure - 9.
68.	-	-	General - Location and Bill of Quantity	At present, the entire scope is open in nature.	Please refer to Annexure - 6

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				It seems authority has higher level vision to implement Intelligent Enforcement Management System (IEMS) at 40 locations. However, location identification is not missing. Please note that Bill of Quantity will differ based on exact site location (Highway name and number of lanes and incoming and outgoing arms). Bidder can not do design engineering and estimate the cost with respect to expected outcomes and solution design. Hence, we request authority to define the location with number of lanes, define exact Bill of Quantity on basis of identified location so that bidder can consider exact design engineering and cost associated with it.	
69.	12	2.2	The MSI shall conduct a feasibility survey along the identified stretches on Highways and District roads of Odisha to identify the locations for implementation of IEMS as per the requirement of Office of the Transport Commissioner.	At present, the entire scope is open in nature. It seems authority has higher level vision to implement Intelligent Enforcement Management System (IEMS) at 40 locations. However, location identification is not missing. Please note that Bill of Quantity will differ based on exact site location (Highway name and number of lanes and incoming and outgoing arms). Bidder can not do design engineering and estimate the cost with respect to expected outcomes and solution design. Hence, we request authority to define the location with number of lanes, define exact Bill of Quantity on basis	Please refer to Annexure - 6

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				of identified location so that bidder can consider exact design engineering and cost associated with it.	
70.	89	9.2	[A] PRE-IMPLEMENTATION COST – CAPEX 2.9 Vehicle Classification | 1	We understand Vehicle Classification is required for 'Video Analytical Camera' based on site location using raw surveillance and Analytics on it. Please confirm.	Please refer to RFP clause 3.2.10 Vehicle Classification
71.	90	9.2	[A] PRE-IMPLEMENTATION COST – CAPEX 4.1 Variable Messaging Display Board (VMD) with Pole | 1 Nos	Please clarify below points, 1. We understand it is 3080 x 1960 mm VMD display as per technical specification mentioned '3.3.11 Variable Messaging Display Board (VMD)/Speed Display'. Please confirm. 2. what will be the location of this VMD? It it inclusive in 40 locations or other than this location? 3. We understand the VMD will be mounted on single Pole as per sub-clause'3.3.11.1' drawing. Please confirm. 4. Does only single unit of VMD is required as mentioned in the BoM?	The quantity of the VMD will be decided during contract agreement sign off. The bidders shall quote unit price for Variable Messaging Display Board along with mounting structure.
72.	90	9.2	[A] PRE-IMPLEMENTATION COST – CAPEX 4.2 Speed Display System with Pole | 1 Nos	Please clarify below points, 1. We understand this system is for awareness purpose only as mentioned in the RFP. Vehicle Number plate capture and incidence video/image based evidence is not required. Please confirm. 2. what will be the location of this Speed Display System? How many lances need to consider for such system as quantity of speed display is depends on it. 3. We understand the Speed Display System will be	The quantity of the Speed Display System will be decided during contract agreement sign off. The bidders shall quote unit price for Speed Display System along with mounting structure.

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				mounted on Gentry. Please confirm. 4. Does only single unit of Speed Display System is required as mentioned in the BoM?	
73.	61	3.3.12	The MSI shall provide pole mounted Doppler Radar along with 3 digit LED Display system powered through Solar Power.	The solar power eco-system is less accepted when it comes to operational aspects. To meet the outcomes, primary electricity source is most suitable. Hence, we request authority to remove solar power as a power source.	Primary source of supply should be elecrical supply through agency, however, MSI shall make provision of UPS and Solar based electric supply wherever required.
74.	52	3.3.10	The proposed system shall incorporate redundant power integration along with traditional power, ensuring an eco-friendly and renewable energy source.	The solar power eco-system is less accepted when it comes to operational aspects. To meet the outcomes, primary electricity source is most suitable. Hence, we request authority to remove solar power as a power source.	The MSI shall be responsible for providing redundant power and maintain SLA as defined in the RFP. Redundant power may be solar power arrangement for unreliable power locations integrated with UPS or a continuous power source.
75.	-	-	General - Location and Bill of Quantity 3.2 Speed Violation Detection Radar | 80 Nos	We understand at 40 locations - Video Analytical Camera is required for capture the video feed and provide enforcement use-case as mentioned in the RFP. Additionally, on the same locations radar will be used to detect the speed to capture the Speed Violation incidence. Please confirm.	Please refer to Annexure - 1
76.	90	9.2	[5] Civil Infrastructure (Supply, installation, commissioning including cabling 5.1 Gantry Structures | 40 Nos 5.2 Cantilever Structure | 40 Nos 5.3 Poles for Security Camera | 40 Nos	The locations is 40 based on BoQ and RFP. Does it mean, for all 40 location these will be 1 lane per incoming and upcoming stream and one side Gentry will be placed and one site cantilever pole will be placed. Apart from this near to such infra a sperate Pole will be there on which security camera will be installed. Please confirm. Else, we request authority to provide clarity on locations and pole consideration at each pole.	Please refer to Annexure - 6

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
77.	104	7	• Payment of Operations and maintenance phase shall be made on half yearly basis (at completion of each semester) based on the adherence to monthly SLA compliance, for the amount quoted for each respective year.	We understand O&M payment will be quarterly basis only. Please confirm.	Please refer to Annexure - 7
78.	86	3.8.1	The payment will be made as per the quarterly invoice raised by MSI or the actual invoice raised by the service provider, whichever is lower.	We understand O&M payment will be quarterly basis only. Please confirm.	Please refer to Annexure - 7
79.	-	-	General - Electricity	There is no line-item in 'Annexure 20: Price Bid Format' in O&M for recurring charges. We understand during O&M electricity bill be paid extra as actual basis by department. It does not need to add in Commercial Price Bid and same will not be considered for commercial evaluation. Please confirm.	Please refer to Annexure - 6
80.	87	3.8.1	The payment will be made as per the quarterly invoice raised by MSI or the actual invoice raised by the service provider, whichever is lower.	There is no line-item in 'Annexure 20: Price Bid Format' in O&M for recurring charges. We understand during O&M electricity bill be paid extra as actual basis by department. It does not need to add in Commercial Price Bid and same will not be considered for commercial evaluation. Please confirm.	Please refer to Annexure - 6
81.	12	2.2	The bidder shall propose a cost of shifting of gantry or cantilever structure along with the installed devices. However, the cost will not be a part of the financial bid proposal. The bidder	We strongly request authority to delete this clause. Please note that the IEMS solution is not a plug-and-play solution which can be deinstalled from one location and installed and other location. Neither it is widely accepted across any department as	Please refer to Annexure - 1

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			will also indicate a turnaround time of shifting of the structures to the new location.	a standard process nor it is advisable as it has lots of challenges to name a few civil related task, hardware focus related points change in site location design (2 lane to 3 lane road), etc. As per global practice, exact location need to define and such shifting scope needs to remove.	
82.	95	9.2	Additional Requirement Cost (will not be part of Financial Bid Evaluation) [1] Additional Requirement 1.1 Shifting/Relocation of IEMS Location with associated hardware and operationalize the same IEMS Location | 1 Nos	We strongly request authority to delete this clause. Please note that the IEMS solution is not a plug-and-play solution which can be deinstalled from one location and installed and other location. Neither it is widely accepted across any department as a standard process nor it is advisable as it has lots of challenges to name a few civil related task, hardware focus related points change in site location design (2 lane to 3 lane road), etc. As per global practice, exact location need to define and such shifting scope needs to remove.	Please refer to Annexure - 6
83.	13	2.2	At each location of IEMS implementation, MSI shall install following components for surveillance system:	Please note that ANPR Camera is required 1 per lane as a standard practice. ANPR camera is capable to capture vehicle Number plate in a lane. Hence, we request authority to amend the mentioned table. (ANPR Camera 4 and 6 for 4 lane and 6 lane respectively) and remove the mentioned line.	Please refer to Annexure - 1
84.	26	3.2.2	One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please note that ANPR Camera is required 1 per lane as a standard practice. ANPR camera is capable to capture vehicle Number plate in a lane. Hence, we request authority to amend the mentioned table. (ANPR Camera 4 and 6 for 4 lane and 6 lane respectively) and remove the mentioned line.	Please refer to Annexure - 1

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
85.	13	2.3	The system should be compatible with integration with interface of external systems such as DEESHA Command and Control Centre Application, and with other stakeholder application as and when desired by the authority.	Please provide brief detail about this project as integration is expected and outcomes of the project is linked with existing system. 1. Who is System Integrator of existing system? 2. System tenure of the project. Go-live and O&M of the system timeline in Month and Year? 3. Does this solution software hosted on cloud, on-premises or in Hybrid manner? 4. Please provide Make & Model of E-challan and CCC software applications (if any)	Please refer to Annexure - 8
86.	15	2.5	SIs should ensure complete warranty and support for all equipment from OEMs. All the back-to-back service agreements should be submitted along with the Technical Bid.	We request authority to delete this clause as agreement of support can be done with OEMs at later stage by successful bidder and respective OEM. Also, warranty and support part is required once hardware is supplied. Hence, we request you to delete this clause	RFP Clause Prevails
87.	16	2.5	Bidder shall be responsible for filing FIR in nearest Police Station for any theft or physical damage of product under IEMS System Project (including cable & accessories) due to any unforeseen reason.	We strongly request authority to delete this clause. Please note that the IEMS solution is not bidder's preview. Also, since hardware is at remote location and asset is of transport department. Departmental person must fill FIR as Police and legal procedure is time taking scope wherein government department can work collaboratively.	The office of the Transport Commissioner will support MSI to register FIR. However, the MSI shall be responsible to file FIR.
88.	49	3.3.7	10. Dimension | 125mm (L) x 90mm (W)	We request authority to amend this as follows as it may be size/design specific. 10. Dimension | 125mm (L) x 90mm (W) or equivalent	Please refer to Annexure - 2
89.	36	3.2.15	MSI should setup a project management information system which will enable sharing of project plan,	We request authority to add line-item in Bill of Material as it is one of the deliverables. However, it is not mentioned in the BoM.	RFP Clause prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			regular status updates, issue register with all stakeholders involved.	Project Management Information System Software	1 Nos	
90.	36	3.2.14	The office of the Transport Commissioner has placed mobile speed detection system & may procure some interceptor vehicles in future, the selected MSI need to integrate those vehicles and systems in the new environment without any preconditions for ease & single point of operation.	Please provide below details, 1. How many mobile speed detection system is there or will be there in future? 2. We understand mobile speed detection system will send data to backend using SIM connectivity and it will be in department's scope. Please confirm.	The office of the Transport Commissioner will facilliate the required information and tools for integration. However, the successful integration will be the responsibility of MSI.
91.	16	2.5	All servers, active networking components (for edge level switches), security equipment, storage systems and COTS Application proposed should be from OEMs who are amongst the top 5 for world-wide market share in terms of revenue as per IDC latest published quarterly report presence in the latest Magic Quadrant of Gartner. MSI is expected to attach the report along with the Technical Bid.	We request to delete this 5 OEM world-wide market share and/or IDC latest report point as it is OEM specific that to of global OEMs. It also restrict Indian based OEMs who have capabilities as per Technical and Functional aspects. Also, it increases overall procurement cost. Hence, we request authority to delete this clause.	Please refer to Corrigendum III : Sr. No. - 1
92.	17	2.7.2	The MSI shall make the provision for high availability for all the services of the system.	We understand DC with HA and DR is required for software hosting consideration. Please confirm.	RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			Redundancy must be considered at the core / server room / data centre applications/components level.		
93.	35	3.2.13	This system shall be set up in a highly available mode.	We understand DC with HA and DR is required for software hosting consideration. Please confirm.	RFP Clause Prevails
94.	24	3.2	The source code will be shared with office of Transport Commissioner at the time of exit management.	Source code can be shared with department as OEM of software application is owner of software source code. Department will be perpetual license of software application and source code of customized software application part meant for department. Hence, we request you to delete this clause.	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
95.	25	3.2	Once the diligence is completed, the data will be pushed to e- Challan system of Vahan 4.0 and / or any other third-party application as deemed by Office of the Transport Commissioner suitable for further actions on issuance of e-challan, booked under which offence, calculation of fine amount, communication to the offenders.	Please clarify, such primary diligence done by UCCC operator or departmental personal?	Please refer to RFP Clause 3.7.1 Operations Support Resources, Volume - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
96.	25	3.2	Thus, any Traffic rules violation event will be recorded, and all the above details will be sent to Unified Command Control Centre (UCCC) for diligence check with the digital Image/image evidence taken by the camera and registration number plate identified by the camera system.	Please clarify, such primary diligence done by UCCC operator or departmental personal?	Please refer to RFP Clause 3.7.1 Operations Support Resources, Volume - 2
97.	26	3.2	The system should capture HSRP & standard vehicle's number plates with an accuracy of at least 97% during day & night across all weather conditions throughout 24x7.	The said accuracy is very high. We request to kept it at 95% in day time and more than 90% in night time. We request authority to amend this clause as, "The system should capture HSRP & standard vehicle's number plates with an accuracy of at least 97% more than 90% in night time and more than 95% in day time during day & night across all weather conditions throughout 24x7."	RFP Clause Prevails. SLA may be modified during the User/Final Aceptance Test as per the directions from the Office of the Transport Commissioner.
98.	28	3.2	The Single Overview Cameras will be installed for up to 4 lanes on each side & integrated with AI (by software module) to detect any traffic violation and integrate the same with ANPR system and e-Challan system to generate challans.	As per global standard practice and meet the accuracy, since overview camera can capture maximum up to 2 lanes. Hence, we request authority to amend it as follows, "The Single Overview Cameras will be installed for up to 4 2 lanes on each side & integrated with AI (by software module) to detect any traffic violation and integrate the same with ANPR system and e-Challan system to generate challans."	Please refer to Annexure - 2
99.	27	3.2	The MSI shall supply all the necessary equipment for the camera and detection system, including but not limited to sensors,	We understand warning sign. Will be installed on the same pole (i.e., Gentry or Cantilever Pole) and it will be one per location. Please confirm.	The MSI shall be responsible for providing warning signs at the IEMS locations.

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			computers, ancillary camera equipment, camera housings, camera poles, warning signs and shall make the final connections to the camera. The solution should be able to integrate with the E-Challan system under the scope of this project.		
100	35	3.2	The system should provide real-time alerts and notifications via various channels (email, SMS, mobile app, etc.) to relevant stakeholders when SLA thresholds are in danger of being breached or when critical issues arise.	We request authority to remove Mobile Application for SLA monitoring scope as it will increase the overall cost and at times such information can be accessed via email or SLA monitoring portal We request authority to amend this clause as follows, "The system should provide real-time alerts and notifications via various channels (email, SMS, mobile app, etc.) to relevant stakeholders when SLA thresholds are in danger of being breached or when critical issues arise."	The clause maybe read as "In future if required then the system shall have the capability of integrating SLA monitoring alerts with Mobile Application." The office of the Transport Commissioner will facilitate required API protocol for integration.
101	17	2.2	Cover: Super scribed with "Selection of IT service provider for providing onsite support on manhour basis for e-Governance services at the Office of the Transport Commissioner and its subordinate offices." and bidders name and address.	We understand it is type error. Cover name will be: "Selection of Vendor for Upgradation of existing Command Control Centre to Unified Command Control Centre & Implementation of Intelligent Enforcement Management System (IEMS)" Please confirm	Please refer to Corrigendum III : Sr. No. - 3
102	83	3.7	• Set up a Call centre for verification of addresses, pending issues, reminders, public help regarding challan etc. The Call centre	Please clarify below points, Existing E-challan system will be to issue challan by department/existing vendor. Even though,	Please refer to Corrigendum III : Sr. No. - 6

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			shall be one-seater and shall work in 2 shifts 7 days a week.	1. Does bidder need to provide call centre? 2. If Yes, we request authority to add line-item in BoQ 3. Does Call Centre operation (7 days, 2 shift) is in bidder's scope? 4. Does it extra apart for CCC operator asked in tender? 5. We assume number will be normal number and recording of such call is not required. Please confirm. Otherwise, please add BoQ of IPPBX System, IP Phone, Toll-Free number is BoQ	
103		3.3.10	The solution shall provide call logging and tracking facility through provision of toll-free number facility (vernacular and English speaking)/Telephone number.	We understand it is for UPS and it needs to provide by System Integrator. Please confirm. If Yes, we request authority to add line-item in BoQ such as IPPBX System, IP Phone, Toll-Free number at CCC. Otherwise, we request authority to delete this clause.	This clause stands deleted.
104	81	3.6.3	o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage.	Please clarify below points, 1. We understand this storage is required at UCCC in physical storage mode. Please confirm. 2. We understand only incidence data or flagged data needs to store for long-term in archival mode. Please confirm. 3. Does these archival data needs to store in cloud and during entire contract period? Please confirm.	Please refer to Corrigendum III : Sr. No. - 5
105	81	3.6.3	Indicative minimum storage requirement is mentioned as follows: 1. Primary Storage | 700 TB 2. Secondary Storage | 2100 TB	Please clarify below points, 1. We understand this storage is required at UCCC in physical storage mode. Please confirm. 2. We understand only incidence data or flagged data needs to store for long-term in archival mode. Please confirm.	Please refer to Corrigendum III : Sr. No. - 5

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				3. Does these archival data needs to store in cloud and during entire contract period? Please confirm.	
106	29	3.2.5	Data collected by the system shall be securely stored in the cloud for long-term archiving and analysis.	Please clarify below points, 1. We understand this storage is required at UCCC in physical storage mode. Please confirm. 2. We understand only incidence data or flagged data needs to store for long-term in archival mode. Please confirm. 3. Does these archival data needs to store in cloud and during entire contract period? Please confirm.	Please refer to Annexure - 8
107	84	3.7.2	The MSI should maintain sufficient stock of spares with them during this warranty period for replacement of any items during this warranty period.	We understand the mentioned BoM is without spares. Also, we request authority to clarify on minimum spare required for fair evaluation at least 2%.	The MSI shall be responsible for mainting the spares and mainting the SLA as provide in this RFP.
108	40	3.2	The MSI will be responsible for the compliance for each of the items and corresponding to the defined features mentioned herewith during procurement process.	Please clarify below points, 1. We understand e-challan will be generated once system is Go-live. Please confirm. 2. Storage of incidence during design stage/implementation stage is not required. Please confirm.	Yes e-challan will be generated after successful Go-Live. The MSI will be responsible for storage during the implementation stage.
109	-	-	General	We understand if at site location LPU is there, SD card based additional storage is not required at camera level across the tender document. Please confirm	Please refer to Annexure - 2
110	32	3.2	The UCCC software shall have an incident tracking and management system to track data from different systems like, towing system, Highway police in case of accidents,	Please provide detail functionality and expectation towards such use case and incidence.	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			interceptor vehicles etc to track all the incidents.		
111	28	3.2	Any future scope of violations as added by STA.	Please note that use-case based on AI-ML based analytics has license cost. It can be not provided at free of cost. The exact use-case need to discuss across stakeholder and it's impact on solution designing and cost needs to mutually agreed. Hence, we request authority to delete this clause	RFP Clause prevails
112	33	3.2	Any other MV violations or Incidents as required by office of the Transport Commissioner	Please note that use-case based on AI-ML based analytics has license cost. It can be not provided at free of cost. The exact use-case need to discuss across stakeholder and it's impact on solution designing and cost needs to mutually agreed. Hence, we request authority to delete this clause	RFP Clause prevails
113	9	2	The command control centre should have features to other incident management as may be required by the Transport Commissioner from time to time without any additional cost to the project.	Please note that use-case based on AI-ML based analytics has license cost. It can be not provided at free of cost. The exact use-case need to discuss across stakeholder and it's impact on solution designing and cost needs to mutually agreed. Hence, we request authority to delete this clause	Incident Management System includes reporting of an incident, log of the whole event, tracking of the incidents response and TAT based analytics of the whole event. Further changes shall be directed by office of the Transport commissioner as and when required. The MSI shall develop and implement such changes in the System.
114	52	3.3.10	Design, engineering, manufacture, supply, testing, inspection, packing, forwarding,	Redundant UPS system is not required at field location as we are using UPS as secondary source of power. Also, it increase the cost.	UPS shall be used as secondary source of power supply. Further, MSI shall make provision of Solar

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			transportation, installation, and commissioning of parallel redundant Uninterrupted Power System (UPS).	Hence, we request authority to delete this sub-clause.	based electric supply wherever required.
115	9	2	The interactive dashboard for health monitoring shall have the following functionalities: o System parameters for components such as utilization of Database Server, Recorder Servers, Local Workstation, and Storage System (all available storages). o The dashboard should also show the parameters such as CPU Core Usage, RAM Utilization and Storage Utilization.	We understand such data is required for Cloud based software application hosted infrastructure. Please confirm.	RFP Clause Prevails
116	16	1.10. 1	Right to Vary Scope of Contract	Transport Commissioner, Odisha may at any time, by a written order given to the bidder, make changes within the quantities, specifications, services, or scope of the Contract as specified	RFP Clause prevails
117	34	3.11.2	Performance Bank Guarantee	An amount equivalent of 10% of total contract value shall be payable by the bidder for two years and six months i.e., during extended maintenance period. All charges whatsoever such as commission, etc. with respect to the Performance Bank guarantee shall be borne by the bidder. Post completion of Project, this bank guarantee shall be returned subject to work carried out to the satisfaction of the Transport Commissioner, Odisha.	Please refer to Corrigendum III : Sr. No. - 12

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
118	34	3.11.3	Performance Bank Guarantee	The Performance bank guarantee may be discharged / returned by Transport Commissioner, Odisha upon satisfactory completion of project as per the RFP and contract.	RFP Clause prevails
119	38	5.8.3	Liability of the MSI	The MSI shall be liable for any indirect or consequential loss or damage; and or any direct loss or damage that exceeds the Agreement Value set forth in clause of the Agreement, with respect to damage caused to the Transport Commissioner, Odisha's property, shall not be liable to the Transport Commissioner, Odisha.	RFP Clause prevails
120	39	5.12	Documents Ownership	Documents prepared by the MSI will be property of the Transport Commissioner, Odisha. All reports and other documents (collectively referred to as "Project Documents") prepared by the MSI (or by the Sub-Contractor or any Third Party or any partner) in performing the Services shall become and remain the property of the Transport Commissioner, Odisha, and all intellectual property rights in such Project Documents shall vest with the Transport Commissioner, Odisha	RFP Clause prevails
121	39	5.14.	Indemnity	The MSI shall hold the Transport Commissioner, Odisha harmless and indemnified for any losses, claims, damages, expenses (including all legal expenses), awards, penalties or injuries (collectively referred to as "Claims") which may arise from or due to any unauthorized use of such Project Documents, or due to any breach or failure on part of the MSI or its Sub-Contractor or a Third Party or any partner to perform any of its duties or obligations in relation to securing the afore mentioned rights of the Transport Commissioner, Odisha.	RFP Clause prevails
122	43	6.3.	Termination Termination for Default	If the MSI commits any breach of the Contract and fails to remedy or rectify the same within the period of 24 Hours. or such longer period as the Transport Commissioner, Odisha in its absolute discretion decide.	RFP Clause prevails
123	43	6.3. B	Termination Termination for Default	In the event the Transport Commissioner, Odisha terminates the contract in whole or in part, Transport	RFP Clause prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				Commissioner, Odisha may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services like those undelivered or not performed, and the MSI shall be liable to Transport Commissioner, Odisha for any additional costs and / or payment adjustments for such similar Goods or Related Services.	
124	43	6.3. A	Termination Termination for Convenience	The Authority, by 15 days of written notice sent to the MSI, may terminate the contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Authority's convenience	RFP Clause prevails
125	44	6.3. C	Termination	If the MSI failed to rectify the deficiencies or shortcomings within 7 Days, the agreement shall be terminated along payment of penalty	RFP Clause prevails
126	44	6.3.	Consequences of Termination	Handover all developed codes, related documentation, and other Configurable items, if any in his possession	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
127	44	6.3.	Consequences of Termination	Request to add payment clause as consequence of termination	RFP Clause prevails
128	46	6.7	Patent / Intellectual Property Rights (IPR) / Copy Rights	Similarly, The Source code of all the software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall solely vest with the Transport Commissioner, Odisha. Authority shall have rights to	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				use the Source Code of IEMS project. This would be restricted to internal use by the Transport Commissioner, Odisha only. Entire source code would be handed over to the Authority after completion of the entire project and before final payments has been made to MSI. The MSI must take the approval of this Authority if it wants to use the source code that has been developed specifically for this Authority even after the expiration of contract agreement or period.	documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
129	83	9.18	NDA	Bidder shall not disclose to a third party any Confidential Information or the contents of this RFP without the prior written consent of the Authority	RFP Clause prevails
130	83	9.18	NDA	Term of the NDA	RFP Clause prevails
131	9	BID Datasheet	Earnest Money Deposit	we seek clarification on whether a Bank Guarantee, as is standard practice, would be acceptable in lieu of the Demand Draft for the Earnest Money Deposit (EMD) of Rs. 1,00,00,000, to make the process more accessible and in line with common bidding procedures.	Please refer to Corrigendum III : Sr. No. - 14, 15
132	19	2.6	Earnest Money Deposit (EMD	Bidder will submit their bids along with EMD in shape of Bank Draft/PBG issued by any Nationalized Bank drawn in favor of Transport Commissioner Odisha, Payable at Cuttack.	Please refer to Corrigendum III : Sr. No. - 14, 15
133	26	3.5	PQ-3(Technical Capability)	The bidder/any member of consortium must have experience in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount	Please refer to Annexure - 3

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				₹20,00,00,000/- (Twenty Crore Only) The "Similar assignment" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video Surveillance through Video Management system/ Video analytics through camera/Radar or both in India with any state / central government /PSUs in last 7 years as on date of publication of bid. Note: The Bidder/The Lead Bidder need to specify the project/s for evaluation	
134	26	3.5	PQ-3(Technical Capability)	Bidder/Consortium shall submit: • Copy of Work Order/agreement having the scope of work, client details and project value. • Completion/Substantial completion certificate on installation and verification (Minimum 80% of Capex Project Cost)/Phase wise completion along with value of completed work/Go live issued excluding O & M cost, signed by the authorized signatory of the client entity on the entity's Letterhead or certificate from Chartered Accountant /Statutory Auditor mentioning that the mentioned project work has been completed successfully along with scope and cost of the project	Please refer to Annexure - 3
135	34	3.11	Performance Bank Guarantee	Request you to change the PBG value to 3%	Please refer to Corrigendum III : Sr. No. - 12
136	64	9.5	Annexure 5	The whole table is not in line with section 3.5 of volume 1 need to revise the same	Please refer to Annexure - 5
137	90	--	--	Price spec for multilane speed display is not mentioned in the BOQ pole mounted camera will only be useful for a (1+1) lane road. Multilane road will require gantry monted structure.	Please refer to Annexure - 6

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
138	90	--	--	No line item for power utility cost in the utility services [B] section of the price bid format in line with the scope of work Vol 2 - 3.8.1	Please refer to Annexure - 6
139	90	--	--	No line item for mentioning insurance cost [B] section of the price bid format in line with the instruction to bidders Vol 1 - 5.21 -- Subtotal of Operations and Maintenance of the IEMS Solution.	Please refer to Annexure - 6
140	11	2.1	Proposed solutions	Extension period mentioned as 3 years	Please refer to Corrigendum III : Sr. No. - 2
141	11	2.1		On successful validation offence details will be processed through e-Challan system. An SMS will be sent to the violators on their registered mobile number mentioned in VAHAN 4.0. Which server will generate the SMS Vahan server or the UCC software. Who will generate the sms and challan ? Whose Responsibility ? It should ideally be NIC server because because they generate the chalan or create sms.? Please confirm	The IEMS solution will be integrated with VAHAN 4.0 and e-challans will be generated from e-Challan solution deployed by NIC. NIC will facilitate required supports for integration. However, the MSI/Successful Bidder will be responsible for coordination with NIC time to time for desired functionalities.
142	14	2.4	Important Instructions for the MSI	The provisions of the said paragraph are not in line with the provisions of vol2. - Sec 3.8.1 (Electrical power supply).	Please refer to Corrigendum III : Sr. No. - 4
143	52	3.3.10	Onilne UPS	please add spec for the software/utility to monitor the Online UPS	Please refer to Annexure - 2
144	87	3.8.2	Network connectivity	Please modify the bandwidth requirement to 30mbps for gantry locations and UCCC bandwidth requirement should be inline with the corresponding gantry bandwidth and locations.	Please refer to Corrigendum III : Sr. No. - 7
145	30	3.6 (B.2)	Networking Experience(B.2)	The maximum score for this criteria indicated in the maxmium marks column should be set at 15 points, in accordance with the highest score indicated in the parameter column.	Please refer to Annexure - 4
146	34	3.11	Performance Bank Guarantee	Please make the Performance Bank Guarantee (PBG) value to 5%,	Please refer to Corrigendum III : Sr. No. - 12

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
147	64	9.5	Annexure 5	Regarding the alignment of the table with the contents of Section 3.5 in Volume 1, it appears that there are inconsistencies that need to be addressed.	Please refer to Annexure - 5
148	90	--	--	No line item for power utility cost in the utility services [B] section of the price bid format in line with the scope of work Vol 2 - 3.8.1	Please refer to Annexure - 6
149	90	--	--	In the [B] section of the price bid format, there is an omission of a line item for insurance costs, which should be included as per the instructions to bidders in Volume 1, Section 5.21, under the subtotal for Operations and Maintenance of the IEMS Solution. Please advise on this discrepancy.	Please refer to Annexure - 6
150	11	2.1		The sms will be generated by NIC software.	The IEMS solution will be integrated with VAHAN 4.0 and e-challans will be generated from e-Challan solution deployed by NIC. NIC will facilitate required supports for integration. However, the MSI/Successful Bidder will be responsible for coordination with NIC time to time for desired functionalities.
151	101	7	Project Time line and Payment milestone	The Payment milestone for Gantry/Field locations should be on a prorated basis depending on the site clearances facilitated by STA. The Payment Milestones of Field SITC and UCCC SITC, especially of hardware, should be clearly demarcated and separated. The site clearance like NHAI shall be in STA's Scope and shall be considered while deciding project timelines	Please refer to Annexure - 7
152	101	7	Project Timeline & Payment Milestones	M 1 Site Survey 5% of Work Order Value (Capex Cost)	Please refer to Annexure - 7

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
153		7		M 2 Delivery & Verification of Hardware and related accessories--- 20% of Work Order Value (Capex Cost)	Please refer to Annexure - 7
154		7		M 3 Civil Work with Cabling, Installation, Testing, Commissioning Hardware of IEMS Location & verification--- 20 % of Work Order Value (Capex Cost)	Please refer to Annexure - 7
155		7		M 4 Installation, configuration, and Software/Application deployment---10 % of Work Order Value (Capex Cost)	Please refer to Annexure - 7
156		7		M 5 Acceptance Test for integration with UCCC Hardware & Application software--- 10% of Work Order Value (Capex Cost)	Please refer to Annexure - 7
157		7		M 6 Final Acceptance Test & Go-Live of the IEMS system--- 10% of Work Order Value (Capex Cost)	Please refer to Annexure - 7
158		7		M 7 - Completion of Training--- 5% of Work Order Value (Capex Cost)	Please refer to Annexure - 7
159		7		M 8 30 Days of successful Go-Live--- 20% of Work Order Value (Capex Cost)	Please refer to Annexure - 7
160	90	4	Speed display system	As per BOQ line item no. 4, quantity mentioned is one number only. However thequantity for SVD and associated civil mounting sctructre are 40 nos.	Please refer to Annexure - 6
161	89	2.16	Capex BOQ clause 2.16 Storage and recoding service	Kindly clarify the storage capacity provisiong required on cloud infrastructure during O&M and implementation period.	Please refer to Corrigendum III : Sr. No. - 5
162	13	2.2	location for installation	2 ANPR cameras is considered for 4 Lane and 6 Lane requirement. As per the Industry best practices, One ANPR per Lane is required to have high accurancy ANPR solution. .	Please refer to Annexure - 1
163	13	2.3	General feature system: The source code of the custom developed application for IEMS should be handed over to the Office of the Transport Commissioner during the time of go-live.	Bidder needs to provide source code of those modules which is specifically developed for iEMS project.	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
164	14	2.4	The offending events shall be stored in the storage for 3 three years for any legal requirement. All the data shall be archived every three months duration for proper space utilization.	Please clarify the recording Resolution and frame rate to be considered for recording.	Please refer to Annexure - 2
165	89	3.1	Online UPS with battery bank	40 nos Online UPS with battery bank is asked in BOQ.	RFP Clause Prevails
166	34	3.2.12	Pole mounted Junction Box security System: A surveillance camera should be provided for the field area surveillance of junction boxes. The image/video data should be transmitted to the UCCC and other monitoring stations such as RTO offices and nearest police stations.	As per our understanding, Monitoring Cameras streams needs to be transmitted to RTO and Police stations. MSI scope for the same is limited to provide necessary routing and pass through related to UCCC Network.	The MSI will be responsible for providing live feed of the surveillance to the nearby RTO offices and police stations as per the requirements of office of the Transport Commissioner. The solution shall have the provsion of providing live feed at different offices as instructed by offcie of the Transport Commissioner.
167	40	3.3.1	ANPR Cameras: 8MP ANPR camera	Kindly clarify requirement of 8MP ANPR camera?	Please refer to Annexure - 2
168			Upgradation of CCC to UCCC	As per our understanding after going through RFP Vol-II, Integration with legacy system is also the part of this project. Necessary support in terms of getting the	Please refer to Annexure - 8
169	35,Volume-2	3.2.13	Service Level Agreement (SLA) Monitoring Tool	• The system shall include tools for root cause analysis to pinpoint the exact cause of SLA violations and issues, aiding in faster resolution.	The system may include tools like Ping, Traceroute, Telnet , SNMP Walk, or any other

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					such tools for finding root cause & to pinpoint the exact issue/aiding in faster resolution and to avoid SLA violations
170	35,Volume-2	3.2.13	Service Level Agreement (SLA) Monitoring Tool	• The system shall enable automated remediation for common issues and workflows, reducing the need for manual intervention and minimizing downtime.	RFP Clause prevails
171	35,Volume-2	3.2.13	Service Level Agreement (SLA) Monitoring Tool	• The system shall offer advanced reporting capabilities, such as ad-hoc querying, predictive analytics, and trend forecasting.	The system shall offer advanced reporting capabilities, such as ad-hoc reports, predictive analytics, and trend forecasting
172	46, Volume 1	6.7	Patent / Intellectual Property Rights (IPR) / Copy Rights	The Master System Integrator along with Software OEM will be responsible to provide full documentation and sample codes used in the project by way of open APIs, SDKs and other tools, documentation etc. so that the customer/nominated agency on their behalf can carry out any customization, software development, changes in UI/UX etc. as may be needed as per their needs. In addition, the System Integrator along with Software OEM must provide an undertaking to enter into a software escrow agreement without any pre- conditions which is to cover server & client-side codes as below – a. Server software: Source code of the dataflow of the software architecture including interconnects of all the necessary kernel modules and model files for customization. b. Authority software: Source code of the Authority software to interface for GUI customization.	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
173	31	3.6	Product Technical Compliance	C1. Certificate of speed violation detection The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%.	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8 > 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	
174	31	3.6	Product Technical Compliance	Proof of Concept (PoC), Evaluation committee will study the functionality and award marks for the demonstration and Proof of Concept (PoC), Criteria: Marks Approach & Methodology and Proposed Solution : 5 Marks Accuracy of Speed of SVD system : 5 Marks Accuracy of ANPR system : 5 Marks Demo Hardware in Line with the specifications : 5 Marks Uninterrupted Redundant network : 5 Marks Uninterrupted redundant Power supply : 5 Marks Software features like Unified CCC software, dashboarding, single interface etc. : 5 Marks	RFP Clause Prevails
175	89	BOQ	[2] Sub Total of IEMS Software Components (with licenses) & Services, 3. Hardware Components (Supply, delivery, installation, testing, commissioning and mounting on structure)	3.1. ANPR Cameras : 80 nos. 3.3 Video Analytical Camera for Traffic Violation detection : 80 nos.	Please refer to Annexure - 1
176	16	2	2.5 Common guidelines regarding compliance of systems / equipment	All servers, active networking components (for edge level switches), security equipment, storage systems and COTS Application proposed should be from OEMs	Please refer to Corrigendum III : Sr. No. - 1

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				who are amongst the top 5 for world-wide market share in terms of revenue as per IDC latest published quarterly report presence in the latest Magic Quadrant of Gartner. MSI is expected to attach the report along with the Technical Bid.	
177	30	3.6.	Technical Bid Evaluation	B.2) Networking Experience For this criteria, similar experience means a Secured, Point to Point network connectivity, having multi redundant paths from each field node.	Please refer to Annexure - 4
178	30	3.6.	Technical Bid Evaluation	B.3) Command and Control Centre The bidder/any member of the consortium should have design and implementation experience in procurement, supply, installation of command-and-control centre having video wall, enterprise management system, help desk for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value	Please refer to Annexure - 4
179	26	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	1. The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2
180	27	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	10. The system should be capable of providing all the above functionality on multi lane (up to 8 (4+4) Lane) with simultaneous incident detection and recording.	Please refer to Annexure - 2
181	28	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding)	4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids.	Please refer to Annexure - 2
182	33	3.2	3.2.11 Artificial Intelligence (AI) and Deep Learning (DL) based IEMS.	5. The system should be capable of multi lane (up to 8 Lane (4 + 4 Lane)) functioning with simultaneous incident detection and recording.	Please refer to Annexure - 2
183	41	3.3	3.3.2 Speed Violation Detection Radar	4. Frequency: 76-81 GHz integrated CMOS transceiver	Please refer to Annexure - 2
184	30	3.6.	Technical Bid Evaluation	B.1) Implementation Experience of video surveillance through camera/radar/both with analytics. The bidder/any member of the consortium should have	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				design and implementation experience in one single project of procurement, supply, installation of video surveillance through camera/radar/both with analytics for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value:	
185	30	3.6.	Technical Bid Evaluation	B.2) Networking Experience Please note that a project implemented within the same city area limits shall not be considered as a remote location.	Please refer to Annexure - 4
186	42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Annexure - 2
187	48	3.3	3.3.7 Local Processing Unit (LPU)	1. Camera interface : USB, 2 x CSI2 - 2 Lanes, 1 x CSI2 - 4 Lanes, 1x FPD Link III , 1x GMSL 2. USB : 2x USB 2.0, 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX) 3. Network Connectivity: Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 4. Storage : M.2 M key slot for NVMe SSD card 256 GB, 6GB HDD 5. Display: HDMI 2.0 6. Audio: HDMI 2.0, DMIC / I2S via Expansion Header, Bluetooth 7. Peripherals Support / Other Interfaces : CAN (Xavier NX, TX2 NX), UART Debug, 9-axis IMU Sensors 8. Expansion Header : I2C, I2S, SPI, GPIOs, Reset and Power 9. Input DC Supply: 12V/5A to 24V/2.5A 10. Dimension : 125mm (L) x 90mm (W) 11. Operating Temperature: -20 to 850C	Please refer to Annexure - 2
188	25	3.5.	Pre-Qualification	PQ-1) Legal Entity • The Bidder/All members of consortium should have or shall be ready to set up a project office in Bhubaneswar with 30 days of issuance of LOA/I.	RFP Clause Prevails
189	26	3.5.	Pre-Qualification	PQ-3) Technical Capability The "Similar assignment" of the work shall mean project	Please refer to Annexure - 3

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video analytics through camera/Radar or both in India with any state / central government /PSUs in last 7 years as on date of publication of bid. Note: The Bidder/The Lead Bidder need to specify the project/s for evaluation	
190	79	3.6	3.6.3 Provision for Storage & Recording Services	• The following storage requirements shall be fulfilled by the MSI as scope for the project: o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage.	Please refer to Corrigendum III : Sr. No. - 5
191	64	9.5	Annexure 5: Form II- PQ Bid Checklist	Point PQ-3- One project of minimum 1000 Nos. of ANPR camera	Please refer to Annexure - 5
192	26	3.5	Pre-Qualification	Point PQ-3- One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only)	Please refer to Annexure - 3
193	64	9.5	Annexure 5: Form II- PQ Bid Checklist	Point PQ-3- One project of minimum 1000 Nos. of ANPR camera	Please refer to Annexure - 5
194	31	3.6.	Technical Bid Evaluation Product Technical Compliance	C1) Certificate of speed violation detection The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
195	12	2.2	Locations for Installation	longitude and latitude Cordinates Required for 40 locations mentioned	Please refer to Annexure - 9
196	25	3.5	3.5. Pre-Qualification PQ 1	A consortium must be formed 7 days prior to the last date of the bid submission	Please refer to the Sr. No. 14 - "Consortium" of "Glossary of Terms" mentioned at Page No. 12 of the RFP
197	25	3.5	3.5. Pre-Qualification PQ 1 PQ 8 - Local Presence	The Bidder/All members of consortium should have or shall be ready to set up a project office in Bhubaneswar with 30 days of issuance of LOA/I.	RFP Clause prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				The bidding firm/any member of the consortium should have its offices in Odisha. However, if the presence is not there in the state, the bidder/Lead Bidder should give an undertaking for establishment of an office, within one month from the date of issuance of Letter of Intent (LOI)	
198	25	3.5	PQ 2- Annual Turnover	The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020).	RFP Clause prevails
199	29	3.6	Technical Bid Evaluation/ A1 Financial Competency	The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020).	RFP Clause Prevails
200	31	3.6	Product Technical Compliance/ Certificate of speed violation detectio	C1. Certificate of speed violation detection The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8 > 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
201	31	3.6	Product Technical Compliance	Proof of Concept (PoC), Evaluation committee will study the functionality and award marks for the demonstration and Proof of Concept (PoC),	RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				Criteria: Marks Approach & Methodology and Proposed Solution : 5 Marks Accuracy of Speed of SVD system : 5 Marks Accuracy of ANPR system : 5 Marks Demo Hardware in Line with the specifications : 5 Marks Uninterrupted Redundant network : 5 Marks Uninterrupted redundant Power supply : 5 Marks Software features like Unified CCC software, dashboarding, single interface etc. : 5 Marks	
202	89	BOQ	[2] Sub Total of IEMS Software Components (with licenses) & Services, 3. Hardware Components (Supply, delivery, installation, testing, commissioning and mounting on structure)	3.1. ANPR Cameras : 80 nos. 3.3 Video Analytical Camera for Traffic Violation detection : 80 nos.	Please refer to Annexure - 1
203	16	2	2.5 Common guidelines regarding compliance of systems / equipment	All servers, active networking components (for edge level switches), security equipment, storage systems and COTS Application proposed should be from OEMs who are amongst the top 5 for world-wide market share in terms of revenue as per IDC latest published quarterly report presence in the latest Magic Quadrant of Gartner. MSI is expected to attach the report along with the Technical Bid.	Please refer to Corrigendum III : Sr. No. - 1
204	26	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	1. The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2
205	27	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	10. The system should be capable of providing all the above functionality on multi lane (up to 8 (4+4) Lane) with simultaneous incident detection and recording.	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
206	28	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding)	4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids.	Please refer to Annexure - 2
207	33	3.2	3.2.11 Artificial Intelligence (AI) and Deep Learning (DL) based IEMS.	5. The system should be capable of multi lane (up to 8 Lane (4 + 4 Lane)) functioning with simultaneous incident detection and ecording.	Please refer to Annexure - 2
208	41	3.3	3.3.2 Speed Violation Detection Radar	4. Frequency: 76-81 GHz integrated CMOS transceiver	Please refer to Annexure - 2
209	42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Annexure - 2
210	48	3.3	3.3.7 Local Processing Unit (LPU)	1. Camera interface : USB, 2 x CSI2 - 2 Lanes, 1 x CSI2 - 4 Lanes, 1x FPD Link III , 1x GMSL 2. USB : 2x USB 2.0, 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX) 3. Network Connectivity: Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 4. Storage : M.2 M key slot for NVMe SSD card 256 GB, 6GB HDD 5. Display: HDMI 2.0 6. Audio: HDMI 2.0, DMIC / I2S via Expansion Header, Bluetooth 7. Peripherals Support / Other Interfaces : CAN (Xavier NX, TX2 NX), UART Debug, 9-axis IMU Sensors 8. Expansion Header : I2C, I2S, SPI, GPIOs, Reset and Power 9. Input DC Supply: 12V/5A to 24V/2.5A 10. Dimension : 125mm (L) x 90mm (W) 11. Operating Temperature: -20 to 850C	Please refer to Annexure - 2
211	79	3.6	3.6.3 Provision for Storage & Recording Services	• The following storage requirements shall be fulfilled by the MSI as scope for the project: o 30 days storage of all the traffic surveillance camera	Please refer to Corrigendum III : Sr. No. - 5

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage.	
212	64	9.5	Annexure 5: Form II- PQ Bid Checklist	Point PQ-3- One project of minimum 1000 Nos. of ANPR camera	Please refer to Annexure - 5
213	26	3.5	Pre-Qualification	Point PQ-3- One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only)	#N/A
214	64	9.5	Annexure 5: Form II- PQ Bid Checklist	Point PQ-3- One project of minimum 1000 Nos. of ANPR camera	Please refer to Annexure - 5
215	25	3.5.	Pre-Qualification	PQ-1) Legal Entity • The Bidder/All members of consortium should have or shall be ready to set up a project office in Bhubaneswar with 30 days of issuance of LOA/I.	RFP Clause Prevails
216	26	3.5.	Pre-Qualification	PQ-3) Technical Capability The "Similar assignment" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video analytics through camera/Radar or both in India with any state / central government /PSUs in last 7 years as on date of publication of bid. Note: The Bidder/The Lead Bidder need to specify the project/s for evaluation	Please refer to Annexure - 3
217	30	3.6.	Technical Bid Evaluation	B.1) Implementation Experience of video surveillance through camera/radar/both with analytics. The bidder/any member of the consortium should have design and implementation experience in one single project of procurement, supply, installation of video surveillance through camera/radar/both with analytics for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value:	Please refer to Annexure - 4
218	30	3.6.	Technical Bid Evaluation	B.2) Networking Experience Please note that a project implemented within the same	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				city area limits shall not be considered as a remote location.	
219	30	3.6.	Technical Bid Evaluation	B.2) Networking Experience For this criteria, similar experience means a Secured, Point to Point network connectivity, having multi redundant paths from each field node.	Please refer to Annexure - 4
220	30	3.6.	Technical Bid Evaluation	B.3) Command and Control Centre The bidder/any member of the consortium should have design and implementation experience in procurement, supply, installation of command-and-control centre having video wall, enterprise management system, help desk for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value	Please refer to Annexure - 4
221	31	3.6.	Technical Bid Evaluation Product Technical Compliance	C1) Certificate of speed violation detection The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
222	12	2.2	Locations for Installation	longitude and latitude Cordinates Required for 40 locations mentioned	Please refer to Annexure - 9
223	31	3.6	Product Technical Compliance	C1. Certificate of speed violation detection The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8 > 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				of Government of India or registered under CMV Rules 126.	
224	31	3.6	Product Technical Compliance	Proof of Concept (PoC), Evaluation committee will study the functionality and award marks for the demonstration and Proof of Concept (PoC), Criteria: Marks Approach & Methodology and Proposed Solution : 5 Marks Accuracy of Speed of SVD system : 5 Marks Accuracy of ANPR system : 5 Marks Demo Hardware in Line with the specifications : 5 Marks Uninterrupted Redundant network : 5 Marks Uninterrupted redundant Power supply : 5 Marks Software features like Unified CCC software, dashboarding, single interface etc. : 5 Marks	RFP Clause Prevails
225	89	BOQ	[2] Sub Total of IEMS Software Components (with licenses) & Services, 3. Hardware Components (Supply, delivery, installation, testing, commissioning and mounting on structure)	3.1. ANPR Cameras : 80 nos. 3.3 Video Analytical Camera for Traffic Violation detection : 80 nos.	Please refer to Annexure - 1
226	16	2	2.5 Common guidelines regarding compliance of systems / equipment	There are no such categories available for OEMs of Intelligent Enforcement Management Systems, who rank among the top 5 globally in terms of market share revenue, as per the latest quarterly report published by IDC and their presence in the latest Magic Quadrant of Gartner.	Please refer to Corrigendum III : Sr. No. - 1
227	26	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	1. The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
228	27	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	10. The system should be capable of providing all the above functionality on multi lane (up to 8 (4+4) Lane) with simultaneous incident detection and recording.	Please refer to Annexure - 2
229	28	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding)	4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids.	Please refer to Annexure - 2
230	33	3.2	3.2.11 Artificial Intelligence (AI) and Deep Learning (DL) based IEMS.	5. The system should be capable of multi lane (up to 8 Lane (4 + 4 Lane)) functioning with simultaneous incident detection and ecording.	Please refer to Annexure - 2
231	41	3.3	3.3.2 Speed Violation Detection Radar	4. Frequency: 76-81 GHz integrated CMOS transceiver	Please refer to Annexure - 2
232	42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Annexure - 2
233	48	3.3	3.3.7 Local Processing Unit (LPU)	1. Camera interface : USB, 2 x CSI2 - 2 Lanes, 1 x CSI2 - 4 Lanes, 1x FPD Link III , 1x GMSL 2. USB : 2x USB 2.0, 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX) 3. Network Connectivity: Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 4. Storage : M.2 M key slot for NVMe SSD card 256 GB, 6GB HDD 5. Display: HDMI 2.0 6. Audio: HDMI 2.0, DMIC / I2S via Expansion Header, Bluetooth 7. Peripherals Support / Other Interfaces : CAN (Xavier NX, TX2 NX), UART Debug, 9-axis IMU Sensors 8. Expansion Header : I2C, I2S, SPI, GPIOs, Reset and Power 9. Input DC Supply: 12V/5A to 24V/2.5A 10. Dimension : 125mm (L) x 90mm (W) 11. Operating Temperature: -20 to 850C	Please refer to Annexure - 2
234	79	3.6	3.6.3 Provision for Storage & Recording Services	• The following storage requirements shall be fulfilled by the MSI as scope for the project: o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and	Please refer to Corrigendum III : Sr. No. - 5

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage.	
235	19	2.6	Earnest Money Deposit (EMD)	Bidder will submit their bids along with EMD in shape of Bank Draft issued by any Nationalized Bank drawn in favor of Transport Commissioner Odisha, Payable at Cuttack	Please refer to Corrigendum III : Sr. No. - 14, 15
236	27	3.5	3.5. Pre-Qualification	PQ-7 Blacklisting The bidder/any of the OEM should not have been blacklisted/banned by any State/Central Government in India as on release date of this RFP for corrupt, fraudulent or any other unethical business practices or for any other reason. In case of Consortium all members should not have blacklisted/banned by any State/Central Government, in India as on date of release of this RFP for corrupt, fraudulent or any other unethical business practices or for any other reason.	#N/A
237	64	9.5	Annexure 5: Form II- PQ Bid Checklist	Point PQ-3- One project of minimum 1000 Nos. of ANPR camera	Please refer to Annexure - 5
238	26	3.5	Pre-Qualification	Point PQ-3- One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only)	#N/A
239	64	9.5	Annexure 5: Form II- PQ Bid Checklist	Point PQ-3- One project of minimum 1000 Nos. of ANPR camera	Please refer to Annexure - 5
240	25	3.5.	Pre-Qualification	PQ-1) Legal Entity • The Bidder/All members of consortium should have or shall be ready to set up a project office in Bhubaneswar with 30 days of issuance of LOA/I.	Please refer to Annexure - 3
241	26	3.5.	Pre-Qualification	PQ-3) Technical Capability The "Similar assignment" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video analytics through camera/Radar or both in India with any state /	Please refer to Annexure - 3

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				central government /PSUs in last 7 years as on date of publication of bid. Note: The Bidder/The Lead Bidder need to specify the project/s for evaluation	
242	30	3.6.	Technical Bid Evaluation	B.1) Implementation Experience of video surveillance through camera/radar/both with analytics. The bidder/any member of the consortium should have design and implementation experience in one single project of procurement, supply, installation of video surveillance through camera/radar/both with analytics for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value:	Please refer to Annexure - 4
243	30	3.6.	Technical Bid Evaluation	B.2) Networking Experience Please note that a project implemented within the same city area limits shall not be considered as a remote location.	Please refer to Annexure - 4
244	30	3.6.	Technical Bid Evaluation	B.2) Networking Experience For this criteria, similar experience means a Secured, Point to Point network connectivity, having multi redundant paths from each field node.	Please refer to Annexure - 4
245	30	3.6.	Technical Bid Evaluation	B.3) Command and Control Centre The bidder/any member of the consortium should have design and implementation experience in procurement, supply, installation of command-and-control centre having video wall, enterprise management system, help desk for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value	Please refer to Annexure - 4
246	31	3.6.	Technical Bid Evaluation Product Technical Compliance	C1) Certificate of speed violation detection The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
247	12	2.2	Locations for Installation	longitude and latitude Cordinates Required for 40 locations mentioned	Please refer to Annexure - 9

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
248	31	3.6	Product Technical Compliance	C1. Certificate of speed violation detection The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8 > 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
249	31	3.6	Product Technical Compliance	Proof of Concept (PoC), Evaluation committee will study the functionality and award marks for the demonstration and Proof of Concept (PoC), Criteria: Marks Approach & Methodology and Proposed Solution : 5 Marks Accuracy of Speed of SVD system : 5 Marks Accuracy of ANPR system : 5 Marks Demo Hardware in Line with the specifications : 5 Marks Uninterrupted Redundant network : 5 Marks Uninterrupted redundant Power supply : 5 Marks Software features like Unified CCC software, dashboarding, single interface etc. : 5 Marks	RFP Clause Prevails
250	89	BOQ	[2] Sub Total of IEMS Software Components (with licenses) & Services, 3. Hardware Components (Supply, delivery, installation, testing,	3.1. ANPR Cameras : 80 nos. 3.3 Video Analytical Camera for Traffic Violation detection : 80 nos.	Please refer to Annexure - 1

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			commissioning and mounting on structure)		
251	16	2	2.5 Common guidelines regarding compliance of systems / equipment	There are no such categories available for OEMs of Intelligent Enforcement Management Systems, who rank among the top 5 globally in terms of market share revenue, as per the latest quarterly report published by IDC and their presence in the latest Magic Quadrant of Gartner.	Please refer to Corrigendum III : Sr. No. - 1
252	26	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	1. The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2
253	27	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	10. The system should be capable of providing all the above functionality on multi lane (up to 8 (4+4) Lane) with simultaneous incident detection and recording.	Please refer to Annexure - 2
254	28	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding)	4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids.	Please refer to Annexure - 2
255	33	3.2	3.2.11 Artificial Intelligence (AI) and Deep Learning (DL) based IEMS.	5. The system should be capable of multi lane (up to 8 Lane (4 + 4 Lane)) functioning with simultaneous incident detection and ecording.	Please refer to Annexure - 2
256	41	3.3	3.3.2 Speed Violation Detection Radar	4. Frequency: 76-81 GHz integrated CMOS transceiver	Please refer to Annexure - 2
257	42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Annexure - 2
258	48	3.3	3.3.7 Local Processing Unit (LPU)	1. Camera interface : USB, 2 x CSI2 - 2 Lanes, 1 x CSI2 - 4 Lanes, 1x FPD Link III , 1x GMSL 2. USB : 2x USB 2.0, 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX) 3. Network Connectivity: Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 4. Storage : M.2 M key slot for NVMe SSD card 256 GB, 6GB HDD 5. Display: HDMI 2.0 6. Audio: HDMI 2.0, DMIC / I2S via Expansion Header,	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				Bluetooth 7. Peripherals Support / Other Interfaces : CAN (Xavier NX, TX2 NX), UART Debug, 9-axis IMU Sensors 8. Expansion Header : I2C, I2S, SPI, GPIOs, Reset and Power 9. Input DC Supply: 12V/5A to 24V/2.5A 10. Dimension : 125mm (L) x 90mm (W) 11. Operating Temperature: -20 to 850C	
259	79	3.6	3.6.3 Provision for Storage & Recording Services	• The following storage requirements shall be fulfilled by the MSI as scope for the project: o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage.	Please refer to Corrigendum III : Sr. No. - 5
260	15	1	1.1. General	The determination of the relationship of Parent(s) and/or Affiliate(s) with the Bidder shall be on the date 7 (seven) days prior to the last date of submission of the Bid. Documentary evidence to establish such relationship shall be furnished by the Bidder along with the Bid.	Please refer to the Sr. No. 14 - "Consortium" of "Glossary of Terms" mentioned at Page No. 12 of the RFP
261	19	2	2.6.Earnest Money Deposit (EMD)	1. Bidder will submit their bids along with EMD in shape of Bank Draft issued by any Nationalized Bank drawn in favor of Transport Commissioner Odisha, Payable at Cuttack	Please refer to Corrigendum III : Sr. No. - 14, 15
262	25	3	3.5. Pre-Qualification	PQ-1 Legal Entity Note: - Consortium/Joint Venture consisting of 1 Lead bidder and 1 Consortium Partner shall be allowed. Lead bidder of the consortium shall be responsible and accountable for the entire project. A consortium must be formed 7 days prior to the last date of the bid submission. Under no circumstances consortium shall be formed after the last date of the bid submission.	Please refer to the Sr. No. 14 - "Consortium" of "Glossary of Terms" mentioned at Page No. 12 of the RFP

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
263	25	3.5	3.5. Pre-Qualification	PQ-2 Annual Turnover The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). In the case of consortium, the member of consortium should have an average annual turnover of minimum INR 12.50 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). The net worth of the bidder/all members of consortium must be positive in the last three financial years (2023-2022, 2022-2021, 2021-2020) ending on 31st March 2023.	RFP Clause prevails
264	29	3	3.6.Technical Bid Evaluation	A1 Financial Competency The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). Average Annual Turnover Marks > 150 Crores <= 200 Crores--5 marks > 200 Crores <= 300 Crores--10 marks > 300 Crores--15 Marks	RFP Clause prevails
265	34	3.11	3.11. Performance Bank Guarantee	1. The PBG (10% of total contract value) shall be submitted within 15 days of notification of award done through issuance of Letter of Intent valid for the entire period of the project and six months thereafter i.e., five years and six months. Transport Commissioner, Odisha shall facilitate the signing of contract within the period of 15 days of notification of award.	Please refer to Corrigendum III : Sr. No. - 12
266	64 and 25	9.5	9.5. Annexure 5: Form II- PQ Bid Checklist	The bidder should have an average annual turnover of INR 75 Crores in last 3 audited financial years (2021-2022, 2020-2021, 2019-2020)	Please refer to Annexure - 5

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			3.5. Pre-Qualification	The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020).	
267	64 and 26	9	9.5. Annexure 5: Form II- PQ Bid Checklist 3.5. Pre-Qualification	The bidder should have similar project experience related to City/statewide surveillance/safe city project in India with any state/central government/PSUs in last 7 years as on date of release of this RFP. • One project of minimum 1000 Nos. of ANPR camera • One project of minimum 100 Crores PQ-3 Technical Capability The bidder/any member of consortium must have experience in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only) The "Similar assignment" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video analytics through camera/Radar or both in India with any state / central government /	Please refer to Annexure - 5

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
268		3.6		General	Please refer to Annexure - 7
269	Volume:1 31	3.6	Product Technical Compliance	C1. Certificate of speed violation detection The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8 > 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
270	Volume:1 89	BOQ	[2] Sub Total of IEMS Software Components (with licenses) & Services, 3. Hardware Components (Supply, delivery, installation, testing, commissioning and mounting on structure)	3.1. ANPR Cameras : 80 nos. 3.3 Video Analytical Camera for Traffic Violation detection : 80 nos.	Please refer to Annexure - 1
271	Volume:2 16	2	2.5 Common guidelines regarding compliance of systems / equipment	All servers, active networking components (for edge level switches), security equipment, storage systems and COTS Application proposed should be from OEMs who are amongst the top 5 for world-wide market share in terms of revenue as per IDC latest published quarterly report presence in the latest Magic Quadrant of Gartner. MSI is expected to attach the report along with the Technical Bid.	Please refer to Corrigendum III : Sr. No. - 1
272	Volume:2 26	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	1. The System should automatically detect a vehicle in the camera view using video detection and activate	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	
273	Volume:2 27	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	10. The system should be capable of providing all the above functionality on multi lane (up to 8 (4+4) Lane) with simultaneous incident detection and recording.	Please refer to Annexure - 2
274	Volume:2 28	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding)	4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids.	Please refer to Annexure - 2
275	Volume:2 41	3.3	3.3.2 Speed Violation Detection Radar	4. Frequency: 76-81 GHz integrated CMOS transceiver	Please refer to Annexure - 2
276	Volume:2 42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Annexure - 2
277	Volume:2 47	3.3	IP Rating	IP 67 or better	Please refer to Annexure - 2
278	Volume:2 48	3.3	3.3.7 Local Processing Unit (LPU)	1. Camera interface : USB, 2 x CSI2 - 2 Lanes, 1 x CSI2 - 4 Lanes, 1x FPD Link III , 1x GMSL 2. USB : 2x USB 2.0, 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX) 3. Network Connectivity: Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 4. Storage : M.2 M key slot for NVMe SSD card 256 GB, 6GB HDD 5. Display: HDMI 2.0 6. Audio: HDMI 2.0, DMIC / I2S via Expansion Header, Bluetooth 7. Peripherals Support / Other Interfaces : CAN (Xavier NX, TX2 NX), UART Debug, 9-axis IMU Sensors 8. Expansion Header : I2C, I2S, SPI, GPIOs, Reset and Power 9. Input DC Supply: 12V/5A to 24V/2.5A 10. Dimension : 125mm (L) x 90mm (W) 11. Operating Temperature: -20 to 850C	Please refer to Annexure - 2
279	Volume:2 49	3.3	3.3.8. Integrated Power Rack	The Enclosure solution should be - 15U 600W 800 D enclosure upto 1000 mm (Overall) in height with 850	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				mm Width (Including Panel AC) and 600 mm Depth for Server & Networking application.	
280	Volume:2 50	3.3	3.3.8. Integrated Power Rack	Remote Monitoring	Please refer to Annexure - 2
281	Volume:2 50	3.3	3.3.8. Integrated Power Rack	Should have PDU 1U 6 X 5/15Amp Octagonal angular Socket with 16Amp MCB.	Please refer to Annexure - 2
282	Volume:2 50	3.3	3.3.9 Industrial Managed PoE + Switch	L2 Managed Industrial Switch 16 ports 2X1G with 8x10/100/1000 Base-T PoE+ ports and additional 2x1G Base-X ports accommodate SM/MM FO Module.	Please refer to Annexure - 2
283	Volume:2 63	3.4	3.4.1 Gantry & Cantilever Indicative Design	Gantry & Cantilever Design	Under section 3.4.1 of the RFP, indicative design of Gantry & Cantilever is provided. The MSI shall design the Gantry &/or Cantilever as per the field conditions and solution proposed by the MSI.
284	Volume:2 79	3.6	3.6.3 Provision for Storage & Recording Services	• The following storage requirements shall be fulfilled by the MSI as scope for the project: o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage.	Please refer to Corrigendum III : Sr. No. - 5
285	Volume:2 87	3.8	3.8.1 Electrical Power Supply	The MSI shall make sure that the field equipment is powered through an uninterrupted & redundant power source.	The MSI shall be responsible for providing redundant power and maintain SLA as defined in the RFP. Redundant power may be solar power arrangement for unreliable power locations integrated with UPS or a continuous power source.
286	Volume:2 88	3.8	3.8.2 Network Connectivity	The Bidders are also required to do the estimation of bandwidth requirements considering following benchmark parameters:	Please refer to Corrigendum III : Sr. No. - 7

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
287	Volume:2 91	5	5.1 Factory Testing	Select MSI shall have to submit Factory Test Certificate for the below mentioned materials before the actual supply of the items. • Cable • Pole & mounting structures • Signal Aspects Authorized representative from Office of the Transport Commissioner will visit the manufacturing plant of the product subject to present in India. Authorized representative will check the testing process.	RFP Clause Prevails
288	Volume:2 101	7	Project Timeline & Payment Milestones	M1: 5% of Work Order Value (Capex Cost), D1 + 3 Weeks M2: 20% of Work Order Value (Capex Cost), D1 + 8 Weeks M3: 20% of Work Order Value (Capex Cost), D1 +10 Weeks M4: 10% of Work Order Value (Capex Cost), D1 +12 Weeks M5: 10% of Work Order Value (Capex Cost), D1 +16 Weeks M6: 10% of Work Order Value (Capex Cost), D1 +22 Weeks M7: 5% of Work Order Value (Capex Cost), D1 +26 Weeks M8: 20% of Work Order Value (Capex Cost), D1 +30 Weeks	Please refer to Annexure - 7
289	Volume:2 104	3.1.1.4	Storage	Minimum 2 x 500GB SSD Hard disk drive	Please refer to Annexure - 8
290	Volume:2 104	3.1.1.4	Ethernet Port	Minimum 2x10Gb Ethernet Port, Support for 2x1/10G Base-T	Please refer to Annexure - 8
291	Volume:2 104	3.1.1.4	Server Management	Server Management software with the device drivers	Please refer to Annexure - 8
292			General	Capex:Opex	RFP Clause Prevails
293			Additional Requirement	List of Locations not Provided	Please refer to Annexure - 9

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
294	Volume:1 46	6.7	Patent / Intellectual Property Rights (IPR) / Copy Rights	The Master System Integrator along with Software OEM will be responsible to provide full documentation and sample codes used in the project by way of open APIs, SDKs and other tools, documentation etc. so that the customer/nominated agency on their behalf can carry out any customization, software development, changes in UI/UX etc. as may be needed as per their needs. In addition, the System Integrator along with Software OEM must provide an undertaking to enter into a software escrow agreement without any pre- conditions which is to cover server & client-side codes as below – a. Server software: Source code of the dataflow of the software architecture including interconnects of all the necessary kernel modules and model files for customization. b. Authority software: Source code of the Authority software to interface for GUI customization.	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
295	Volume:1 90	9.2	6.3 Networking Components	Hybrid WAN Link aggregator (Inbound / Outbound) Hub Unit	Please refer to Annexure - 2
296	Volume:1 90	9.2	6.3 Networking Components	Hybrid WAN Link aggregator (Inbound / Outbound) Hub Unit	Please refer to Annexure - 2
297	Volume:2 70	3.5.3	1. Hardware	Should be appliance-based solution with purpose built hardware on HA for high performance ILL/MPLS/SDWAN Link aggregation & Load balancing, LTE-4G/5G-Sim Link aggregation and Inbuilt module to support multiple sim cards simultaneously on demand, WAN smoothing, Hot Fail over and multi access NMS module along with real-time analytics dashboard of the same OEM	Please refer to Annexure - 2
298	Volume:2 70	3.5.3	2. Traffic Management	Support using an USB 3G/4G/LTE modem as WAN from day one and 5G on demand using same hardware to deliver seamless services if all WAN link goes down.	Please refer to Annexure - 2
299	Volume:2 70	3.5.3	1. Hardware	Support at least 20 Gbps bandwidth throughput	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
300	Volume:2 70	3.5.3	1. Hardware	Ability to support up to 12 (GbE) WAN ports and expandable slot on demand with bandwidth bonding license from day one	Please refer to Annexure - 2
301	Volume:2 70	3.5.3	2. Traffic Management	Ability to load balance inbound traffic	Please refer to Annexure - 2
302	Volume:2 72	3.5.3	2. Traffic Management	Ability to act as an authoritative DNS server and support the following records: • SOA • NS • MX • CNAME • A • TXT • SRV • PTR	Please refer to Annexure - 2
303	Volume:2 73	3.5.3	8. Device Management	Ability to name clients	Please refer to Annexure - 2
304	Volume:2 73	3.5.3	9. Certifications	Device should have below certifications: • FCC • CE • RoHS	Please refer to Annexure - 2
305	Volume:2 70	3.5.3	1. Hardware	Ability to support up to 3/4 (GbE) WAN/LAN ports with one USB WAN port along with two inbuilt 4G LTE sim port for bandwidth bonding	Please refer to Annexure - 2
306	Volume:2 70	3.5.3	1. Hardware	The appliance should have inbuilt wifi modem from day one with flex module for additional 5G sim slot on demand	Please refer to Annexure - 2
307	Volume:2 70	3.5.3	2. Traffic Management	Ability to define local DNS records to lookup local host names	Please refer to Annexure - 2
308	Volume:2 70	3.5.3	2. Traffic Management	Ability to load balance inbound traffic	Please refer to Annexure - 2
309	Volume:2 70	3.5.3	2. Traffic Management	Ability to act as an authoritative DNS server and support the following records: • SOA • NS • MX	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				• CNAME • A • TXT • SRV • PTR	
310	Volume:2 70	3.5.3	2. Traffic Management	Device should have below certifications: • FCC • CE • RoHS	Please refer to Annexure - 2
311	Volume:2, Page 40	3.3	3.3 Hardware Components – Technical Specifications ,3.3.1 ANPR Cameras ,Point No -1	Image Sensor :- 1 inch" Progressive CMOS Global shutter or better	Please refer to Annexure - 2
312	Volume:2, Page 40	3.3	3.3 Hardware Components – Technical Specifications ,3.3.1 ANPR Cameras ,Point No -2	Maximum Resolution:-4112 x 2176 (8 MP) or better	Please refer to Annexure - 2
313	Volume:2, Page 40 &41	3.3	3.3 Hardware Components – Technical Specifications ,3.3.1 ANPR Cameras ,Point No -10 and 14	Point 10 Operating Temperature :-0° C ~ 70°C or Better and Point 14 Operating Temperature Starting Temperature: 0°C ~ 60°C Working Temperature: -20°C ~ 60°C -5°C ~ 60°C, with optional cold start heater Suitable for Odisha weather conditions	Please refer to Annexure - 2
314	Volume:2, Page 41	3.3	3.3 Hardware Components – Technical Specifications ,3.3.1 ANPR Cameras ,Point No -20	Presence in India :- Any globally reputed Manufacturer presence in India for more than 5 years.	Please refer to Annexure - 2
315	Volume:2, Page 42	3.3	3.3.3 Video Analytical Camera for Traffic Violation detection ,Point 5	Image Resolution:- 4112 x 2176 (8 MP) or better	Please refer to Annexure - 2
316	Volume:2, Page 43	3.3	3.3.3 Video Analytical Camera for Traffic Violation detection ,Point 8	Min. Illumination:-0.0001 lux	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
317	Volume:2, Page 43	3.3	3.3.3 Video Analytical Camera for Traffic Violation detection ,Point 10	Focal Length:-10mm–50mm Motorized	Please refer to Annexure - 2
318	Volume:2, Page 43	3.3	3.3.3 Video Analytical Camera for Traffic Violation detection ,Point 16	Mainstream (2688 × 1520@25/30fps), (1920 x 1080@50/60fps) Sub stream (1600 × 1200@25/30fps)	Please refer to Annexure - 2
319	Volume:2, Page 43	3.3	3.3.3 Video Analytical Camera for Traffic Violation detection ,Point 24	Edge Enhancement :- Yes	Please refer to Annexure - 2
320	Volume:2, Page 44	3.3	3.3.3 Video Analytical Camera for Traffic Violation detection ,Point 27	Storage- 1, supports maximum 512 GB SD card local storage	Please refer to Annexure - 2
321	Volume:2, Page 44	3.3	3.3.3 Video Analytical Camera for Traffic Violation detection ,Point 37 and 38	RS-485 2, connecting to devices such as radar /RS-232:-2, con is used for serial debugging and R T G is for connecting to radars	Please refer to Annexure - 2
322	Volume:2, Page 45	3.3	3.3.3 Video Analytical Camera for Traffic Violation detection ,Point 47	Presence in India :- Any globally reputed Manufacturer presence in India for more than 5 years.	Please refer to Annexure - 2
323	Volume:2, Page 47	3.3	3.3.4 Pole Security Camera ,Point No 31	Presence in India :- Any globally reputed Manufacturer presence in India for more than 5 years.	Please refer to Annexure - 2
324	Page# 8 of Vol-2	1.2	1.2 Project Objectives	c) Monitoring of the traffic violations at the identified locations throughout 24x7x365.	Live Camera feed shall be required at UCCC.
325	Page# 8 of Vol-2	1.2	1.2 Project Objectives	Integration with e-Challan, Vahan 4.0 and Sarathi 4.0 for data access along with CCTNS, ERSS, Highway Patrol, Interceptors, IRAD, VLT for data access and transactions.	The UCCC software shall be able to integrate with existing systems and solutions like e-Challan, Vahan 4.0 and Sarathi 4.0 for data access along with CCTNS, ERSS, Highway Patrol, Interceptors, IRAD, VLT for data access and transactions. The Transport Commissioner's office will provide the MSI with the necessary permissions and information, but the MSI will have to coordinate with

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					the relevant agencies to ensure successful integration.
326	Page# 9 of Vol-2	2	2 Term of Reference	Any future scope of violations as added by Office of the Transport Commissioner from time to time.	The IEMS solution shall be able to scaled up with violation detections as instructed by the office of the Transport Commissioner.
327	Page# 9 of Vol-2	2	2 Term of Reference	System parameters for components such as utilization of Database Server, Recorder Servers, Local Workstation, and Storage System (all available storages). The dashboard should also show the parameters such as CPU Core Usage, RAM Utilization and Storage Utilization.	RFP Clause Prevails
328	Page# 12 of Vol-2	2.1	2.1 Proposed Solution	There should be additional provisions in IEMS to capture incidents like Traffic Congestion Detection at Gantry/Cantilever Locations and Accidents/On road Vehicle stranded/Abandon Vehicle parked on road for a longer period within the limitation of gantry location, using live/recorded camera feeds at remote monitoring units and/or Unified Command and Control Centre. The system should be scaled up in the future to have an incident management system to identify the breakdown failure of components.	The IEMS solution shall be able to scaled up with violation/incident detections as instructed by the office of the Transport Commissioner.
329	Page# 13 of Vol-2	2.3	2.3 General System Features	The source code of the custom developed application for IEMS should be handed over to the Office of the Transport Commissioner during the time of go-live.	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					to use the Source Code of bespoke / custom developed software for IEMS project.
330	Page# 13 of Vol-2	2.3	2.3 General System Features	The system should allow the operator to create a continuous recording schedule for the camera based on the time of day and day of week. It should be possible to set the camera recording schedule for a single camera or a group of cameras or all cameras.	Please refer to Annexure - 1
331	Page# 14 of Vol-2	2.4	2.4 Important Instructions for the MSI	10. The offending events shall be stored in the storage for 3 three years for any legal requirement. All the data shall be archived in every three months duration for proper space utilization.	Please refer to Corrigendum III : Sr. No. - 5
332	Page# 15 of Vol-2	2.5	2.5 Common guidelines regarding compliance of systems / equipment	Critical core components of the system should not have any requirements to have proprietary platforms and should conform to open standards.	RFP Clause prevails
333	Page# 19 of Vol-2	3.1	3.1.1 Command and Control Centre (CCC)	Under DEESHA project, Command and Control Centre (CCC) has been set up in an approximate area of 300 Sq Ft. at Bhubaneswar by the Office of the Transport Commissioner. Presently, CCC is used by the Office of the Transport Commissioner for monitoring traffic violations identified through DEESHA Project.	Please refer to Annexure - 8
334	Page# 24 of Vol-2	3.1	3.1.2 Unified Command and Control Centre (UCCC)	MSI shall be responsible for upgrading the existing command and control centre including but not limited to hardware and software components to a Unified Command and Control Center (UCCC) which will be capable of processing live feeds from the identified locations.	Please refer to Annexure - 8
335	Page# 26 of Vol-2	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2
336	Page# 35 of Vol-2	3.2	3.2.14 Integration with legacy systems	All Interceptors deployed by State Transport Authority in State Toll Gates/e-detection system (in future as per requirements)	The UCCC solution shall have capability of integration with other third party solutions/systems like towing

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					system, Highway police in case of accidents, interceptor vehicles, Toll gates system etc. The UCCC solution shall have capbility of capturing data from other systems and analyse the same as per the requirements from Ofiice of the Transport Commissioner.
337	Page# 48 of Vol-2	3.3	3.3.7 Local Processing Unit (LPU)	3.3.7 Local Processing Unit (LPU)	Please refer to Annexure - 2
338	Page# 81 of Vol-2	3.6	3.6.1.1 Cloud enabled DC Operations & Administration	Cloud enabled DC Operations & Administration	RFP Clause Prevails
339	Page# 81 of Vol-2	3.6	3.6.3 Provision for Storage & Recording Services	o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage. o Above systems are required to be stored on Primary storage for 7 days & on Secondary Storage for remaining days respectively at Data Centers.	Please refer to Corrigendum III : Sr. No. - 5
340	Page# 58 of Vol-2	3.3		Certifications- CE, UL, FCC, RoHS, BIS and IP65.	Please refer to Annexure - 2
341	11	Glossary of Terms(14)	Consortium	Consortium defn slightly different with PQ-1.	Please refer to the Sr. No. 14 - "Consortium" of "Glossary of Terms" mentioned at Page No. 12 of the RFP
342	19	2.6	Earnest Money Deposit (EMD	Bidder will submit their bids along with EMD in shape of Bank Draft/PBG issued by any Nationalized Bank drawn in favor of Transport Commissioner Odisha, Payable at Cuttack.	Please refer to Corrigendum III : Sr. No. - 14, 15
343	25	3.5	PQ-1(Legal Entity)	The bidder/members of consortium must be a company registered in India under Indian Companies Act 1956/2013, since last 3 years as on date of publication of bid.	RFP Clause prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
344	9	Bid Data Sheet	6. Earnest Money Deposit	Rs.1,00,00,000 (One Crore Rupees Only), in form of Demand Draft issued by any Nationalized drawn in favor of Transport Commissioner	Please refer to Corrigendum III : Sr. No. - 14, 15
345	25	3.5	PQ 2-Annual Turnover	The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). In the case of consortium, the member of consortium should have an average annual turnover of minimum INR 12.50 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). The net worth of the bidder/all members of consortium must be positive in the last three financial years (2023-2022, 2022-2021, 2021-2020) ending on 31st March 2023.	RFP Clause prevails
346	25	3.5	PQ 3-Technical Capability	The bidder/any member of consortium must have experience in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only) The "Similar assignment" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video analytics through camera/Radar or both in India with any state /	Please refer to Annexure - 3

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				central government /PSUs in last 7 years as on date of publication of bid.	
347	29	3.6	A1. Financial Competency	The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023- 2022, 2022-2021, 2021-2020). Average Annual Turnover- Marks > 150 Crores <= 200 Crores- 5 Marks > 200 Crores <= 300 Crores- 10 marks > 300 Crores- 15 Marks	RFP Clause Prevails
348	30	3.6	B1. Implementation Experience of video surveillance through camera/radar/both with analytics	The bidder/any member of the consortium should have design and implementation experience in one single project of procurement, supply, installation of video surveillance through camera/ radar/ both with analytics for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value: Project Value - Marks > 20 Crores <= 30 Crores - 5 Marks > 30 Crores <= 40 Crores- 10 marks > 40 Crores - 15 Marks	RFP Clause Prevails
349	30	3.6	B2. Networking Experience	The bidder/any member of the consortium should have similar experience of single project for providing network connectivity across minimum 15 highway locations or remote locations for any state / central government in India in last 7 years as on date of release of bid. For this criteria, similar experience means a Secured, Point to Point network connectivity, having multi redundant paths from each field node. Please note that a project implemented within the same city area limits shall not be considered as a remote location. No. of Projects - Marks 1 Project - 3 Marks 2 Projects- 5 marks 3 Projects - 10 Marks	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
350	88	BOQ	[A] PRE-IMPLEMENTATION COST – CAPEX	Upgradation of CCC to UCCC Project Management Services for upgradation of CCC to UCCC	Please refer to Annexure - 8
351	9	Bid Datasheet	Bid Data Sheet	Purpose of RFP	The IEMS solution shall be monitored through UCCC. The SLAs are defined in the RFP Clause 7.
352	17	2.2	Mode of Bid Submission	The proposal shall be submitted, through Physical Submission as details specified in the Bid Datasheet	RFP Clause prevails
353	30	B.3	Command & Control Center	The bidder/any member of the consortium should have design and implementation experience in procurement, supply, installation of command-and-control centre having video wall, enterprise management system, help desk for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value:	Please refer to Annexure - 4
354	31	C1	Certificate of speed violation detection	The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
355	31	D1	Proof of Concept (PoC)	Accuracy of ANPR system - 5 Demo Hardware in Line with the specifications - 5	RFP Clause Prevails
356	31	D1	Proof of Concept (PoC)	Uninterrupted Redundant network - 5 Uninterrupted redundant Power supply - 5 Software features like Unified CCC software, dashboarding, single interface etc. - 5	RFP Clause Prevails
357	19	3.1.1	Upgradation of CCC to UCCC	The details of the indicative hardware, networking and infrastructure components available and installed at CCC are as follows	Please refer to Annexure - 8
358	19	3.1.1	Upgradation of CCC to UCCC	The details of the indicative hardware, networking and infrastructure components available and installed at CCC are as follows	Please refer to Annexure - 8
359	19	3.1.2	Unified Command and Control Centre (UCCC)		Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
360	26	3.2.2	Automatic Number Plate Recognition(ANPR) System	The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 1
361	49	3.3.8	Integrated Power Rack/ Technical Requirement	5.The Enclosure solution should be - 15U 600W 800 D enclosure upto 1000 mm (Overall) in height with 850 mm Width (Including Panel AC) and 600 mm Depth for Server & Networking application.	Please refer to Annexure - 2
362	49	3.3.8	Integrated Power Rack/8. Physical Requirement	9. Doors: The Rack Front door shall have Metel Plain door and rear shall be closed.	Please refer to Annexure - 2
363	49	3.3.8	Integrated Power Rack/8. Physical Requirement	10.Doors shall be reversible with capability to install hinges on left or right position	Please refer to Annexure - 2
364	49	3.3.8	Integrated Power Rack/8. Physical Requirement	11.Mechanical swing handle with 3-point locking provision	Please refer to Annexure - 2
365	49	3.3.8	Integrated Power Rack/15.Equipment Access & Installation	16.Space inside the cabinet to be suitably designed for optimum use of available space inside cabinet. The Rack should have minimum 15U available usable Space.	Please refer to Annexure - 2
366	49	3.3.8	Integrated Power Rack/15.Equipment Access & Installation	18.The front door should be easily detachable and openable for ease of accessing.	Please refer to Annexure - 2
367	50	22	Certifications, Environmental and Safety Requirements	23.Racks should be manufactured by ISO9001:2008, ISO14001:2004, ISO 45001:2018 & ISO 50001:2018 Certified company and should have proper EHS Policy.	Please refer to Annexure - 2
368	50	22	Certifications, Environmental and Safety Requirements	24.Manufacturing process shall comply with ROHS and REACH standards.	Please refer to Annexure - 2
369	50	22	Certifications, Environmental and Safety Requirements	25.The rack shall be IP55 certified from an accredited lab.	Please refer to Annexure - 2
370	50	32	Power subsystem:	33.Should have PDU 1U 6 X 5/15Amp Octagonal angular Socket with 16Amp MCB	Please refer to Annexure - 2
371	25	3.5	PQ3 Techincal Capability The bidder/any member of consortium must have experience	Request to relaxed the point " dedicated network connectivity, power supply connectivity " in the defination of Similar assignment	Please refer to Annexure - 3

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only) The "Similar assignment" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video analytics through		

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			camera/Radar or both in India with any state / central government / PSUs in last 7 years as on date of publication of bid. Note: The Bidder/The Lead Bidder need to specify the project/s for evaluation Supporting Doucments Completion/Substantial completion certificate on installation and verification (Minimum 80% of Capex Project Cost) issued excluding O & M cost, signed by the authorized signatory of the client entity on the entity's Letterhead or certificate from Chartered Accountant /Statutory Auditor mentioning that the mentioned project work has been completed successfully along with scope and cost of the project		
372	30	3.6	B2. Networking Experience The bidder/any member of the consortium should have similar experience of single project for providing network connectivity across minimum 15 highway locations or	Request you to make correction on Marks.	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			remote locations for any state / central government in India in last 7 years as on date of release of bid. For this criteria, similar experience means a Secured, Point to Point network connectivity, having multi redundant paths from each field node. Please note that a project implemented within the same city area limits shall not be considered as a remote location. No of Projects and Marks 1 project 5Marks 2 Project 10Marks 3 project 15 Marks Total Marks 10Marks		
373	30	3.6	B2. Networking Experience The bidder/any member of the consortium should have similar experience of single project for providing network connectivity across minimum 15 highway locations or remote locations for any state / central government in India in last 7 years as on date of release of bid. For this criteria, similar experience means a Secured, Point to Point	In Smart city projects multiple locations is in the same city so we request you to accept the 15 higway location or remote locations on the same city. Also considered the Network expereicne in last 10 years as on the date of relase of bid instead of 7 years.	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			network connectivity, having multi redundant paths from each field node. Please note that a project implemented within the same city area limits shall not be considered as a remote location. No of Projects and Marks 1 project 5Marks 2 Project 10Marks 3 project 15 Marks Total Marks 10Marks		
374	25,26,64	3.5 9.5	3.5. Pre-Qualification Annexure 5: Form II- PQ Bid Checklist PQ1 Legal Entity PQ2 Annual Turnover PQ3 Technical Capability	Prequalification mentioned in the 3.5 and Annexure 5 are different. Please confirm the exact prequalification requirment.	Please refer to Annexure - 5
375	30	B.2	Networking Experience	The bidder/any member of the consortium should have similar experience of single project for providing network connectivity across minimum 15 highway locations or remote locations for any state / central government in India in last 7 years as on date of release of bid.	Please refer to Annexure - 4
376	64	9.5	Annexure 5	The whole table is not in line with section 3.5 of volume 1 need to revise the same	Please refer to Annexure - 5
377	11	2.1	Terms of reference.	Could you please confirm who will be responsible for generating the SMS and challan? Ideally, this should be managed by the NIC server, as they typically handle challan generation and SMS dispatch. We seek clarification on this matter.	The IEMS solution will be integrated with VAHAN 4.0 and e-challans will be generated from e-Challan solution deployed by NIC. NIC will facilitate required supports for integration. However, the MSI/Successful Bidder will be responsible for coordination

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					with NIC time to time for desired functionalities.
378	14	3.4	Important Instructions for the MSI	The contents of the mentioned paragraph do not align with the details specified in Volume 2, Section 3.8.1, concerning Electrical Power Supply.	Please refer to Corrigendum III : Sr. No. - 4
379	88	BOQ	[A] PRE-IMPLEMENTATION COST – CAPEX	Upgradation of CCC to UCCC Project Management Services for upgradation of CCC to UCCC	Please refer to Annexure - 8
380	9	Bid datasheet	Bid Data Sheet	Purpose of RFP	The IEMS solution shall be monitored through UCCC. The SLAs are defined in the RFP Clause 7.
381	17	2.2	Mode of Bid Submission	The proposal shall be submitted, through Physical Submission as details specified in the Bid Datasheet	RFP Clause prevails
382	30	B.3	Command & Control Center	The bidder/any member of the consortium should have design and implementation experience in procurement, supply, installation of command-and-control centre having video wall, enterprise management system, help desk for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value:	Please refer to Annexure - 4
383	31	C1	Certificate of speed violation detection	The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
384	31	D1	Proof of Concept (PoC)	Accuracy of ANPR system - 5 Demo Hardware in Line with the specifications - 5	RFP Clause Prevails
385	31	D1	Proof of Concept (PoC)	Uninterrupted Redundant network - 5 Uninterrupted redundant Power supply - 5 Software features like Unified CCC software, dashboarding, single interface etc. - 5	RFP Clause Prevails
386	19	3.1.1	Upgradation of CCC to UCCC	The details of the indicative hardware, networking and infrastructure components available and installed at CCC are as follows	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
387	19	3.1.1	Upgradation of CCC to UCCC	The details of the indicative hardware, networking and infrastructure components available and installed at CCC are as follows	Please refer to Annexure - 8
388	19	3.1.2	Unified Command and Control Centre (UCCC)		Please refer to Annexure - 8
389	26	3.2.2	Automatic Number Plate Recognition(ANPR) System	The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 1
390	49	3.3.8	Integrated Power Rack/ Technical Requirement	5.The Enclosure solution should be - 15U 600W 800 D enclosure upto 1000 mm (Overall) in height with 850 mm Width (Including Panel AC) and 600 mm Depth for Server & Networking application.	Please refer to Annexure - 2
391	49	3.3.8	Integrated Power Rack/8. Physical Requirement	9. Doors: The Rack Front door shall have Metel Plain door and rear shall be closed.	Please refer to Annexure - 2
392	49	3.3.8	Integrated Power Rack/8. Physical Requirement	10.Doors shall be reversible with capability to install hinges on left or right position	Please refer to Annexure - 2
393	49	3.3.8	Integrated Power Rack/8. Physical Requirement	11.Mechanical swing handle with 3-point locking provision	Please refer to Annexure - 2
394	49	3.3.8	Integrated Power Rack/15.Equipment Access & Installation	16.Space inside the cabinet to be suitably designed for optimum use of available space inside cabinet. The Rack should have minimum 15U available usable Space.	Please refer to Annexure - 2
395	49	3.3.8	Integrated Power Rack/15.Equipment Access & Installation	18.The front door should be easily detachable and openable for ease of accessing.	Please refer to Annexure - 2
396	50	22	Certifications, Environmental and Safety Requirements	23.Racks should be manufactured by ISO9001:2008, ISO14001:2004, ISO 45001:2018 & ISO 50001:2018 Certified company and should have proper EHS Policy.	Please refer to Annexure - 2
397	50	22	Certifications, Environmental and Safety Requirements	24.Manufacturing process shall comply with ROHS and REACH standards.	Please refer to Annexure - 2
398	50	22	Certifications, Environmental and Safety Requirements	25.The rack shall be IP55 certified from an accredited lab.	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
399	50	32	Power subsystem:	33.Should have PDU 1U 6 X 5/15Amp Octagonal angular Socket with 16Amp MCB	Please refer to Annexure - 2
400	Page# 8 of Vol-2	1.2	c) Monitoring of the traffic violations at the identified locations throughout 24x7x365.	As we understand , only events & violation related data will be monitored 24x7x365 & live camera feed is not required. Kindly confirm	Live Camera feed shall be required at UCCC.
401	Page# 8 of Vol-2	1.2	Integration with e-Challan, Vahan 4.0 and Sarathi 4.0 for data access along with CCTNS, ERSS, Highway Patrol, Interceptors, IRAD, VLT for data access and transactions.	Kindly clarify the integration scope in details.	The UCCC software shall be able to integrate with existing systems and solutions like e-Challan, Vahan 4.0 and Sarathi 4.0 for data access along with CCTNS, ERSS, Highway Patrol, Interceptors, IRAD, VLT for data access and transactions. The Transport Commissioner's office will provide the MSI with the necessary permissions and information, but the MSI will have to coordinate with the relevant agencies to ensure successful integration.
402	Page# 9 of Vol-2	2	Any future scope of violations as added by Office of the Transport Commissioner from time to time.	Kindly clarify the possible use cases that might be asked in future	The IEMS solution shall be able to scaled up with violation detections as instructed by the office of the Transport Commissioner.
403	Page# 9 of Vol-2	2	System parameters for components such as utilization of Database Server, Recorder Servers, Local Workstation, and Storage System (all available storages). \n\n The dashboard should also	We understand, this should be provided by the NMS or EMS system. Please confirm	RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			show the parameters such as CPU Core Usage, RAM Utilization and Storage Utilization.		
404	Page# 12 of Vol-2	2.1	There should be additional provisions in IEMS to capture incidents like Traffic Congestion Detection at Gantry/Cantilever Locations and Accidents/On road Vehicle stranded/Abandon Vehicle parked on road for a longer period within the limitation of gantry location, using live/recorded camera feeds at remote monitoring units and/or Unified Command and Control Centre. The system should be scaled up in the future to have an incident management system to identify the breakdown failure of components.	Kindly confirm whether this solution needs to be considered at all locations & required from day-1.	The IEMS solution shall be able to scaled up with violation/incident detections as instructed by the office of the Transport Commissioner.
405	Page# 13 of Vol-2	2.3	The source code of the custom developed application for IEMS should be handed over to the Office of the Transport Commissioner during the time of go-live.	We understand this clause is not applicable to COTS solutions. Kindly confirm.	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					to use the Source Code of bespoke / custom developed software for IEMS project.
406	Page# 13 of Vol-2	2.3	The system should allow the operator to create a continuous recording schedule for the camera based on the time of day and day of week. It should be possible to set the camera recording schedule for a single camera or a group of cameras or all cameras.	We understand the continous recording is required in DC & DR for all cameras including ANPR camera , Pole security cameras & analytics cameras. Kindly confirm the understanding.	Please refer to Corrigendum III : Sr. No. - 5
407	Page# 14 of Vol-2	2.4	10. The offending events shall be stored in the storage for 3 three years for any legal requirement. All the data shall be archived in every three months duration for proper space utilization.	As we understand , for Violation events with image snap & video clip needs to be stored for 3 years. Kindly confirm.	Please refer to Corrigendum III : Sr. No. - 5
408	Page# 15 of Vol-2	2.5	Critical core components of the system should not have any requirements to have proprietary platforms and should conform to open standards.	Kindly include the following : "The proposed IEMS software should be agnostic to camera brand & ONVIF profile S, G , T & M compliant to ensure software platform being an open standard."	RFP Clause prevails
409	Page# 19 of Vol-2	3.1	Under DEESHA project, Command and Control Centre (CCC) has been set up in an approximate area of 300 Sq Ft. at Bhubaneswar by the Office of the Transport	We undersrand the seamless integration of the new and existing system should be in such a way that it should provide unification of services such as failover redundancy with the existing hardware, software and application stack without any downtime. Kindly confirm.	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			Commissioner. Presently, CCC is used by the Office of the Transport Commissioner for monitoring traffic violations identified through DEESHA Project.		
410	Page# 24 of Vol-2	3.1	MSI shall be responsible for upgrading the existing command and control centre including but not limited to hardware and software components to a Unified Command and Control Center (UCCC) which will be capable of processing live feeds from the identified locations.	We understand that the system should provide unified interface for monitoring cameras, assignment of analytics, monitoring of analytics alerts, system health alerts for the new and existing system. The system should also have all the recorded data (continuous video feeds, VA alerts, flagged videos, system audit logs, operator permissions, etc.) preserved and available from day one. Kindly confirm the understanding.	Please refer to Annexure - 8
411	Page# 26 of Vol-2	3.2	The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	We understand that One ANPR camera per lane needs to be considered for the project. Kindly confirm the understanding.	Please refer to Annexure - 2
412	Page# 35 of Vol-2	3.2	All Interceptors deployed by State Transport Authority in State Toll Gates/e-detection system (in future as per requirements)	Kindly clarify the scope of integration for interceptor solution & Toll gates system	The UCCC solution shall have capability of integration with other third party solutions/systems like towing system, Highway police in case of accidents, interceptor vehicles, Toll gates system etc. The UCCC solution shall have capbility of capturing

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					data from other systems and analyse the same as per the requirements from Ofiice of the Transport Commissioner.
413	Page# 48 of Vol-2	3.3	3.3.7 Local Processing Unit (LPU)	Every OEM sizes their compute requirement as per their design . We request to kindly allow the OEMs to propose LPU configuration as per their solution meeting all the functional requirement of the RFP.	Please refer to Annexure - 2
414	Page# 81 of Vol-2	3.6	Cloud enabled DC Operations & Administration	As we understand , DR will have 100% capacity of DC compute. Kindly confirm.	RFP Clause prevails
415	Page# 81 of Vol-2	3.6	o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage. o Above systems are required to be stored on Primary storage for 7 days & on Secondary Storage for remaining days respectively at Data Centers.	As per pg no 14 of Vol-2 , The offending events shall be stored in the storage for 3 three years for any legal requirement whereas on Pg 81 asks for 90 days storage. Kindly clarify the storage requirement.	Please refer to Corrigendum III : Sr. No. - 5
416	40	3.3	3.3.1 ANPR Camera	SR.No.(1)Image Sensor-1 inch" Progressive CMOS Global shutter or better	Please refer to Annexure - 2
417	40	3.3	3.3.1 ANPR Camera	SR.No.(2)Maximum Resolution- 4112 x 2176 (8 MP) or better	Please refer to Annexure - 2
418	40	3.3	3.3.1 ANPR Camera	SR.No.(3)Lens Type- Fix or Full focus-focal	Please refer to Annexure - 2
419	40	3.3	3.3.1 ANPR Camera	SR.No.(4)Focal Length- 25, 35, 50mm option to suit application. Lens must focus visible and infrared light at the same depth. F1.8 or better	Please refer to Annexure - 2
420	40	3.3	3.3.1 ANPR Camera	SR.No.(5)Effective Sensor Diagonal- 16.1 mm or better	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
421	40	3.3	3.3.1 ANPR Camera	SR.No.(10)Operating Temperature - 0° C ~ 70°C or Better	Please refer to Annexure - 2
422	46	3.3	3.3.4 Pole Security Camera	SR.No.(23)Electronic Shutter- 1/3 s to 1/100,000 s with slow shutter support	Please refer to Annexure - 2
423	25	3.5	PQ-1(Legal Entity)	The bidder/members of consortium must be a company registered in India under Indian Companies Act 1956/2013, since last 3 years as on date of publication of bid.	RFP Clause Prevails
424	26	3.5	PQ-3(Technical Capability)	The bidder/any member of consortium must have experience in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only) The "Similar assignment" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video Surveillance through Video Management system/ Video analytics through camera/Radar or both in India with any state / central government /PSUs in last 7 years as on date of publication of bid. Note: The Bidder/The Lead Bidder need to specify the project/s for evaluation	Please refer to Annexure - 3
425	29	3.6	Technical Bid Evaluation	The totals in the summary table of A,B,C,D are not In-line with the totals of detailed table below	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
426	31	3.6 (C.1)	Certificate of speed violation detection		Please refer to Annexure - 4
427	64	9.5	Annexure 5	The whole table is not in line with section 3.5 of volume 1 need to revise the same	Please refer to Annexure - 5
428	90	--	--	Price spec for multilane speed display is not mentioned in the BOQ pole mounted camera will only be useful for a (1+1) lane road. Multilane road will require gantry monted structure.	Please refer to Annexure - 6
429	11	2.1		Could you please confirm which server is responsible for generating SMS and challans? Is it the Vahan server or the UCC software? Ideally, this function should be attributed to the NIC server, given that they are typically responsible for challan generation and SMS creation. Your confirmation on this matter would be appreciated.	The IEMS solution will be integrated with VAHAN 4.0 and e-challans will be generated from e-Challan solution deployed by NIC. NIC will facilitate required supports for integration. However, the MSI/Successful Bidder will be responsible for coordination with NIC time to time for desired functionalities.
430	10	2	Terms of reference.	Ability to preview, view live or playback recorded videos. Is camera surveillance at all gantries for Road a part of the scope of supply ?	Yes, Camera Surveillance of roads shall be part of scope of work.
431	19	3.1.2 and 3.1.1	CCC scope of supply	1. Are there any available resources such as architectural diagrams, system integration maps, database access, and source code details that could aid in understanding the current setup and facilitate the integration process for the new UCCC platform? 2. Could you provide details on the make and model of the existing hardware and software at the CCC, along with any relevant integration protocols or standards	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				necessary for ensuring seamless integration and compatibility with the new UCCC platform? 3. In regards to the network infrastructure, could you share the network architecture diagram, data flow matrix, and information about the current capacity and performance of the CCC's systems? Additionally, is there an existing Annual Maintenance Contract for these systems, and how might the transition to UCCC impact these arrangements?	
432	27	3.2.3	SVD system overspeeding Point 2	The minimum speed for accuracy should be atleast 240 kmph	Please refer to Corrigendum III : Sr. No. - 8
433	28	3.2.3	SVD system overspeeding Point 7	"In cases of speeding events, the event window needs to display a cropped image of the vehicle's number plate. Additionally, it should feature two to four snapshots captured by the ANPR camera associated with the incident, providing clear visibility of the number plate and offering supplementary evidence based on the time of capture."	Please refer to Corrigendum III : Sr. No. - 8
434	42	3.3.3	Video analytics camera	Point no 5 : 4 MP	Please refer to Annexure - 2
435	9	2	Term of Reference	The command control centre should have features to other incident management as may be required by the Transport Commissioner from time to time without any additional cost to the project.	RFP Clause Prevails
436	9	2	Term of Reference	Using Mobile Phone while driving.	Using Mobile Phone while driving/riding any vehicle shall be part of scope of work
437	9	2	Term of Reference	Allow the operator to raise support ticket from the VMD client itself.	VMD client means OEM of the product and associated agencies.
438	25	3.2.1	Brief Overview of IEMS	The UCCC software shall have an incident tracking and management system to track data from different systems like, towing system, Highway police in case of accidents, interceptor vehicles etc to track all the incidents.	The UCCC solution shall have capability of integration with other third party solutions/systems like towing system, Highway police in case of accidents, interceptor vehicles, Toll gates system

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					etc. The UCCC solution shall have capbility of capturing data from other systems and analyse the same as per the requirements from Ofiice of the Transport Commisioner.
439	28	3.2.4	Evidence Camera for detection of Traffic Violations	Evidence Camera for detection of Traffic Violations	RFP Clause prevails
440	94	6	Service Level Agreement	SLA	RFP Clause prevails
441	28	3.2.3	Speed Violation Detection (SVD) System (Over speeding)	The event window should show the video of the number plate of the vehicle along with the over speeding event. The window should also show at least five snapshots from ANPR camera associated with the event.	Please refer to Corrigendum III : Sr. No. - 8
442	13	1	1.1. General	6. Transport Commissioner, Odisha may cancel this RFP at any time prior to a formal written agreement being executed between parties.	RFP Clause Prevails
443	15	1	1.1. General	The determination of the relationship of Parent(s) and/or Affiliate(s) with the Bidder shall be on the date 7 (seven) days prior to the last date of submission of the Bid. Documentary evidence to establish such relationship shall be furnished by the Bidder along with the Bid.	Please refer to the Sr. No. 14 - "Consortium" of "Glossary of Terms" mentioned at Page No. 12 of the RFP
444	19	2	2.6.Earnest Money Deposit (EMD)	1. Bidder will submit their bids along with EMD in shape of Bank Draft issued by any Nationalized Bank drawn in favor of Transport Commissioner Odisha, Payable at Cuttack	VMD client means OEM of the product and associated agencies.
445	25	3	3.5. Pre-Qualification	PQ-1 Legal Entity Note: - Consortium/Joint Venture consisting of 1 Lead bidder and 1 Consortium Partner shall be allowed. Lead bidder of the consortium shall be responsible and accountable for the entire project. A consortium must be formed 7 days prior to the last	Please refer to the Sr. No. 14 - "Consortium" of "Glossary of Terms" mentioned at Page No. 12 of the RFP

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				date of the bid submission. Under no circumstances consortium shall be formed after the last date of the bid submission.	
446	29	3	3.6.Technical Bid Evaluation	A1 Financial Competency The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). Average Annual Turnover Marks > 150 Crores <= 200 Crores--5 marks > 200 Crores <= 300 Crores--10 marks > 300 Crores--15 Marks	RFP Clause prevails
447	34	3	3.11. Performance Bank Guarantee	1. The PBG (10% of total contract value) shall be submitted within 15 days of notification of award done through issuance of Letter of Intent valid for the entire period of the project and six months thereafter i.e., five years and six months. Transport Commissioner, Odisha shall facilitate the signing of contract within the period of 15 days of notification of award.	Please refer to Corrigendum III : Sr. No. - 12
448	64 and 25	9	9.5. Annexure 5: Form II-PQ Bid Checklist 3.5. Pre-Qualification	The bidder should have an average annual turnover of INR 75 Crores in last 3 audited financial years (2021-2022, 2020-2021, 2019-2020) The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020).	Please refer to Annexure - 5
449	64 and 26	9	9.5. Annexure 5: Form II-PQ Bid Checklist 3.5. Pre-Qualification	The bidder should have similar project experience related to City/statewide surveillance/safe city project in India with any state/central government/PSUs in last 7 years as on date of release of this RFP. • One project of minimum 1000 Nos. of ANPR camera	Please refer to Annexure - 5

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				• One project of minimum 100 Crores PQ-3 Technical Capability The bidder/any member of consortium must have experience in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only) The "Similar assignment" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video analytics through camera/Radar or both in India with any state / central government /	
450		3.6		General	Please refer to Annexure - 7
451	Volume:1 31	3.6	Product Technical Compliance	C1. Certificate of speed violation detection The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				> 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	
452	Volume:1 31	3.6	Product Technical Compliance	C1. Certificate of speed violation detection The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8 > 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
453	Volume:1 31	3.6	Product Technical Compliance	Proof of Concept (PoC), Evaluation committee will study the functionality and award marks for the demonstration and Proof of Concept (PoC), Criteria: Marks Approach & Methodology and Proposed Solution : 5 Marks Accuracy of Speed of SVD system : 5 Marks Accuracy of ANPR system : 5 Marks Demo Hardware in Line with the specifications : 5 Marks Uninterrupted Redundant network : 5 Marks Uninterrupted redundant Power supply : 5 Marks Software features like Unified CCC software, dashboarding, single interface etc. : 5 Marks	RFP Clause prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
454	Volume:1 46	6.7	6.7. Patent / Intellectual Property Rights (IPR) / Copy Rights	The System Integrator along with Software OEM must provide an undertaking to enter into a software escrow agreement without any pre- conditions which is to cover server & client-side codes as below: a. Server software: Source code of the dataflow of the software architecture including interconnects of all the necessary kernel modules and model files for customization. b. Authority software: Source code of the Authority software to interface for GUI customization.	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
455	Volume:1 89	BOQ	[2] Sub Total of IEMS Software Components (with licenses) & Services, 3. Hardware Components (Supply, delivery, installation, testing, commissioning and mounting on structure)	3.1. ANPR Cameras : 80 nos. 3.3 Video Analytical Camera for Traffic Violation detection : 80 nos.	Please refer to Annexure - 2
456	Volume:2 16	2	2.5 Common guidelines regarding compliance of systems / equipment	All servers, active networking components (for edge level switches), security equipment, storage systems and COTS Application proposed should be from OEMs who are amongst the top 5 for world-wide market share in terms of revenue as per IDC latest published quarterly report presence in the latest Magic Quadrant of Gartner. MSI is expected to attach the report along with the Technical Bid.	Please refer to Corrigendum III : Sr. No. - 1
457	Volume:2 26	3.2	No of NAPR Cameras	The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
458	Volume:2 26	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	1. The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2
459	Volume:2 27	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	10. The system should be capable of providing all the above functionality on multi lane (up to 8 (4+4) Lane) with simultaneous incident detection and recording.	Please refer to Annexure - 2
460	Volume:2 28	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding)	4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids.	Please refer to Annexure - 2
461	Volume:2 33	3.2	3.2.11 Artificial Intelligence (AI) and Deep Learning (DL) based IEMS.	5. The system should be capable of multi lane (up to 8 Lane (4 + 4 Lane)) functioning with simultaneous incident detection and ecording.	Please refer to Annexure - 2
462	Volume:2 41	3.3	3.3.2 Speed Violation Detection Radar	4. Frequency: 76-81 GHz integrated CMOS transceiver	Please refer to Annexure - 2
463	Volume:2 42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Annexure - 2
464	Volume:2 47	3.3	IP Rating	IP 67 or better	Please refer to Annexure - 2
465	Volume:2 48	3.3	3.3.7 Local Processing Unit (LPU)	1. Camera interface : USB, 2 x CSI2 - 2 Lanes, 1 x CSI2 - 4 Lanes, 1x FPD Link III , 1x GMSL 2. USB : 2x USB 2.0, 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX) 3. Network Connectivity: Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 4. Storage : M.2 M key slot for NVMe SSD card 256 GB, 6GB HDD 5. Display: HDMI 2.0 6. Audio: HDMI 2.0, DMIC / I2S via Expansion Header, Bluetooth 7. Peripherals Support / Other Interfaces : CAN (Xavier NX, TX2 NX), UART Debug, 9-axis IMU Sensors 8. Expansion Header : I2C, I2S, SPI, GPIOs, Reset and Power 9. Input DC Supply: 12V/5A to 24V/2.5A	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				10. Dimension : 125mm (L) x 90mm (W) 11. Operating Temperature: -20 to 850C	
466	Volume:2 49	3.3	3.3.8. Integrated Power Rack	The Enclosure solution should be - 15U 600W 800 D enclosure upto 1000 mm (Overall) in height with 850 mm Width (Including Panel AC) and 600 mm Depth for Server & Networking application.	Please refer to Annexure - 2
467	Volume:2 50	3.3	3.3.8. Integrated Power Rack	Remote Monitoring	Please refer to Annexure - 2
468	Volume:2 50	3.3	3.3.8. Integrated Power Rack	Should have PDU 1U 6 X 5/15Amp Octagonal angular Socket with 16Amp MCB.	Please refer to Annexure - 2
469	Volume:2 50	3.3	3.3.9 Industrial Managed PoE + Switch	L2 Managed Industrial Switch 16 ports 2X1G with 8x10/100/1000 Base-T PoE+ ports and additional 2x1G Base-X ports accommodate SM/MM FO Module.	Please refer to Annexure - 2
470	Volume:2 63	3.4	3.4.1 Gantry & Cantilever Indicative Design	Gantry & Cantilever Design	The MSI shall design and install Gantry & Cantilever to meet SLA parameters and to withstand wind speed of minimum 200 kms per hour.
471	Volume:2 79	3.6	3.6.3 Provision for Storage & Recording Services	• The following storage requirements shall be fulfilled by the MSI as scope for the project: o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage.	Please refer to Corrigendum III : Sr. No. - 5
472	Volume:2 87	3.8	3.8.1 Electrical Power Supply	The MSI shall make sure that the field equipment is powered through an uninterrupted & redundant power source.	The MSI shall be responsible for providing redundant power and maintain SLA as defined in the RFP. Redundant power may be solar power arrangement for unreliable power locations integrated with UPS or a continuous power source.
473	Volume:2 88	3.8	3.8.2 Network Connectivity	The Bidders are also required to do the estimation of bandwidth requirements considering following benchmark parameters:	Please refer to Corrigendum III : Sr. No. - 7

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
474	Volume:2 91	5	5.1 Factory Testing	Select MSI shall have to submit Factory Test Certificate for the below mentioned materials before the actual supply of the items. • Cable • Pole & mounting structures • Signal Aspects Authorized representative from Office of the Transport Commissioner will visit the manufacturing plant of the product subject to present in India. Authorized representative will check the testing process.	RFP Clause Prevails
475	Volume:2 101	7	Project Timeline & Payment Milestones	M1: 5% of Work Order Value (Capex Cost), D1 + 3 Weeks M2: 20% of Work Order Value (Capex Cost), D1 + 8 Weeks M3: 20% of Work Order Value (Capex Cost), D1 +10 Weeks M4: 10% of Work Order Value (Capex Cost), D1 +12 Weeks M5: 10% of Work Order Value (Capex Cost), D1 +16 Weeks M6: 10% of Work Order Value (Capex Cost), D1 +22 Weeks M7: 5% of Work Order Value (Capex Cost), D1 +26 Weeks M8: 20% of Work Order Value (Capex Cost), D1 +30 Weeks	Please refer to Annexure - 7
476	Volume:2 104	3.1	Storage	Minimum 2 x 500GB SSD Hard disk drive	The specification is provided for existing hardware available at CCC.
477	Volume:2 104	3.1	Ethernet Port	Minimum 2x10Gb Ethernet Port, Support for 2x1/10G Base-T	The specification is provided for existing hardware available at CCC.
478	Volume:2 104	3.1	Server Management	Server Management software with the device drivers	The specification is provided for existing hardware available at CCC.
479			General	Capex:Opex	RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
480			Additional Requirement	List of Locations not Provided	Please refer to Annexure - 9
481	30		Networking Experience	The bidder/any member of the consortium should have similar experience of single project for providing network connectivity across minimum 15 highway locations or remote locations for any state / central government in India in last 7 years as on date of release of bid. For this criteria, similar experience means a Secured, Point to Point network connectivity, having multi redundant paths from each field node. Please note that a project implemented within the same city area limits shall not be considered as a remote location. No. of Projects Marks 1 Project 5 2 Projects 10 3 Projects 15	Requesting to Tender Authority Please amend this clause as mention below. The bidder/any member of the consortium should have similar experience of single project for providing network connectivity across minimum 15 50 highway locations or remote locations for any state / central government in India in last 7 years as on date of release of bid. For this criteria, similar experience means a Secured, Point to Point network connectivity, having multi redundant paths from each field node. Please note that a project implemented within the same city area limits shall not be considered as a remote location. No. of Projects Marks 1 Project 50 locations 5 2 Projects 60 Locations 10 3 Projects 70 Locations 15	Please refer to Annexure - 4
482	30		Certificate of speed violation detection	The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least	Requesting to Tender Authority Please amend this clause as mention below. The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			99%. Speed Detection Capacity in kmph Marks > 180 <= 240 6 > 240 <= 280 8 > 280 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	of at least 99%. Speed Detection Capacity in kmph Marks > 180 <= 240 6 > 240 <= 280 8 > 280 10 The bidder/consortium member or Technology Application Partner OEM shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126	
483	101	7	20% of Work Order Value (Capex Cost)	Requesting to Tender Authority Please amend this clause as mention below. 45% of Work Order Value (Capex Cost)	Please refer to Annexure - 7
484	102	7	10% of Work Order Value (Capex Cost)	Requesting to Tender Authority Please amend this clause as mention below. 5% of Work Order Value (Capex Cost)	Please refer to Annexure - 7
485	102	7	10% of Work Order Value (Capex Cost	Requesting to Tender Authority Please amend this clause as mention below. 5% of Work Order Value (Capex Cost)	Please refer to Annexure - 7
486	102	7	20% of Work Order Value (Capex Cost	Requesting to Tender Authority Please amend this clause as mention below. 5% of Work Order Value (Capex Cost)	Please refer to Annexure - 7

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
487	20	3.1	3.1.1.1.1 Video Wall and Controller 19. Operating System Window 7- 64 bit	Support for windows 7 ended on 14th January 2020, Please refer link below : https://support.microsoft.com/en-us/windows/windows-7-support-ended-on-january-14-2020-b75d4580-2cc7-895a-2c9c-1466d9a53962 Please change the same to latest windows 64-bit version	The specification is provided for existing hardware available at CCC.
488	22	3.1	3.1.1.2 Desktop 16. OS Support Microsoft Windows 10 Professional	As the OS required should be pre-loaded (which could be Windows 10 Professional or higher), as per undertaning the support is requried for the pre-loaded OS. Is the usnderstanding correct?	The specification is provided for existing hardware available at CCC.
489	24	3.1	3.1.1.4 Application Server 17. Operating System : Compatible with Microsoft Windows Server latest version Standard and datacenter Edition (32 bit and 64 bit), Ubuntu Latest version (32 bit and 64 bit) 18 Operating System : OS Ubuntu 18.4	In serial no. 17 a compatible Microsoft Windows server version, Ubuntu latest version are mentioned and in Serial No. 18 OS is mentioned as Ubuntu 18.4 Please clarify what OS is required for Application server?	The specification is provided for existing hardware available at CCC.
490	9	2	Section 2- Term of Reference	Allow the operator to raise support ticket from the VMD client itself	VMD client means OEM of the product and associated agencies.
491	10	2	Section 2- Term of Reference	Ability to preview, view live or playback recorded videos.	Continuous recording is required to be stored at UCCC
492	12	2	Section 2.2- Locations for installation	A minimum of 40 locations will be considered for implementation of IEMS	Please refer to Annexure - 6
493	12	2	Section 2.2- Locations for installation	This solution should be designed for zero interruption-based communication from the links between control room and cameras installed and spread over various locations across the state	Please refer to Annexure - 1
494	12	2	Section 2.2- Locations for installation	The bidder shall propose a cost of shifting of gantry or cantilever structure along with the installed devices.	The MSI shall submit unit rate of shifting and reinstallation of

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				However, the cost will not be a part of the financial bid proposal. The bidder will also indicate a turnaround time of shifting of the structures to the new location	gantry or cantilever structue along with the devices installed on it. Please refer to the Financial Format.
495	13	2	Section 2.2- Locations for installation	At each location of IEMS implementation, MSI shall install following components for surveillance system:	Please refer to Annexure - 6
496	13	2	Section 2.3- General System Features	The source code of the custom developed application for IEMS should be handed over to the Office of the Transport Commissioner during the time of go-live.	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
497	13	2	Section 2.3- General System Features	The system should allow the operator to create a continuous recording schedule for the camera based on the time of day and day of week. It should be possible to set the camera recording schedule for a single camera or a group of cameras or all cameras	Please refer to the Section 3.3.4 Pole Security Camera to understand the funcationality of Pole Security Camera.
498	14	2	Section 2.3- General System Features	The system should be compatible with integration with interface of external systems such as DEESHA Command and Control Centre Application, and with other stakeholder application as and when desired by the authority	The Office of the Transport Commissioner will facilitate the required information and data from the concerned agencies. The MSI shall be responsible for coordination and succesful integration at no additional cost for development to the Office of the Transport Commissioner.

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
499	14	2	2.4 Important Instructions for the MSI	The Command Control Centre will have dedicated primary- secondary link and MSI will be responsible to suggest the bandwidth capacity with due detailed explanation to the Office of the Transport Commissioner for uninterrupted and defect free operation and execution of the system on turnkey basis. The installation and commissioning of the application servers is the responsibility of MSI, to be hosted with managed cloud services.	Please refer to Corrigendum III : Sr. No. - 7
500	19	3.1	Section -3.1.1- Command and Control Centre (CCC)	Desktop	The specification is provided for existing hardware available at CCC.
501	19	3	Section -3.1.1 -Command and Control Centre (CCC)	Video Wall	Please refer to Annexure - 8
502	19	3	Section -3.1.1 -Command and Control Centre (CCC)	Online UPS	Please refer to Annexure - 8
503	19	3	Section -3.1.1- Command and Control Centre (CCC)	Application Server	Please refer to Annexure - 8
504	24	3	Section -3.1.2 -Unified Command and Control Centre (UCCC)	The MSI shall upgrade the existing CCC to the UCCC to ensure all required hardware like videowall, IT equipment, third party software, antivirus, firewall, etc. are seamlessly integrated on UCCC platform.	Please refer to Annexure - 8
505	24	3	Section -3.1.2 -Unified Command and Control Centre (UCCC)	The MSI shall set up operator workstations, network connectivity and software for processing traffic violations, power backups, firewall, antivirus licenses, etc.	Please refer to Annexure - 8
506	25	3	Section -3.2.1- Brief Overview of IEMS	The application which will be developed as part of IEMS project must be scalable and designed in such a way that during the project period, Office of the Transport Commissioner may increase the number of gantries or nodes and cameras to any extent without changing the core of the software engine or any part thereof, whereas only the required hardware infrastructure will be added or upgraded as per requirement and recommendation of competent authority	The MSI will be responsible for the customization of the solution as per the instruction and requirements of office of the Transport Commissioner.

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
507	25	3	Section 3.2.1.1 -License	All licenses must be perpetual, and ownership must lie with office of the transport commissioner	RFP Clause Prevails
508	26	3	Section -3.2.2- Automatic Number Plate Recognition (ANPR) System	The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR	Please refer to Annexure - 2
509	27	3	Section -3.2.2 -Automatic Number Plate Recognition (ANPR) System	The system should give an instant alert in such case (within 4 Sec). The system should also have the functionality to send the alert via email and SMS to designated email addresses at UCCC and mobile phone numbers of violators, if desired by the office of the Transport Commissioner, in the future	The Emails to be sent to the designated authorities of the office of Transport Commissioner by MSI. The SMS will be sent through eChallan System.
510	27	3	Section- 3.2.3- Speed Violation Detection (SVD) System (Over speeding)	The system should be an object frame rate & radar-based speed violation detection system shall be used for speed detection. MSI will make provision to install one radar which will accommodate up to 4 lanes on one side of road. One Radar for 4 lanes will ensure scalability of the system in case of future expansion of roads and it should be of advanced technology.	RFP Clause Prevails
511	28	3	Section 3.2.3- Speed Violation Detection (SVD) System (Over speeding)	The system should have an algorithm to calculate the segmental speed of a vehicle between two gantries/cantilevers.	RFP Clause Prevails
512	28	3	Section -3.2.4- Evidence Camera for detection of Traffic Violations	The Single Overview Cameras will be installed for up to 4 lanes on each side & integrated with AI (by software module) to detect any traffic violation and integrate the same with ANPR system and e-Challan system to generate challans.	Please refer to Annexure - 1
513	32	3	Section -3.2.9 -Riding without helmet by both rider and pillion rider system	The system should collectively identify the incident where helmet less riding for both the rider and the pillion, shall be detected	The system should collectively identify the incident where helmet less riding for both the rider and the pillion, shall be detected. This clause is applicable for the helmets meeting ISI and MVA standards.

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
514	32	3	Section -3.2.10- Vehicle Classification	The system should be used for detection, recognition and tracking of the vehicles in the ANPR footage and would be able to classify as: • Two Wheelers •Three Wheelers •Four Wheelers •Heavy Vehicle any Non-Motorized Vehicle	Please refer to Annexure - 6
515	33	3	Section -3.2.11 -Artificial Intelligence (AI) and Deep Learning (DL) based IEMS	The system should have the deep learning-based video analytics for IEMS such as: •Driving vehicles with excess speed (Over-speeding). •Using Mobile Phone while driving. •Driving against flow of traffic. •Driver and Passenger not wearing seat belt. •Riding more than two persons on two-wheeler. •Riding without helmet by both rider and pillion rider •Vehicles abandoned on Road. •Any other MV violations or Incidents as required by office of the Transport Commissioner	Please refer to Annexure - 1
516	35	3	Section -3.2.14- Integration with legacy systems	The application should have the provision for base integration with other third-party applications as per the requirement of office of the Transport Commissioner and Government Applications with their versions during the IEMS Project	The UCCC software shall be able to integrate with existing systems and solutions like e-Challan, Vahan 4.0 and Sarathi 4.0 for data access along with CCTNS, ERSS, Highway Patrol, Interceptors, IRAD, VLT for data access and transactions. The Transport Commissioner's office will provide the MSI with the necessary permissions and information, but the MSI will have to coordinate with the relevant agencies to ensure successful integration.

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
517	40	3	Section -3.3.1 -ANPR Cameras	Focal Length-25, 35, 50mm option to suit application. Lens must focus visible and infrared light at the same depth. F1.8 or better	Please refer to Annexure - 2
518	45	3	Section -3.3.4-Pole Security Camera	The Pole Security Camera shall be installed & integrated with AI (by software module) to detect any unwanted activity near IEMS locations and trigger alert to the UCCC. Moreover, if any node is disconnected, the system shall raise an alert to the UCCC & appropriate action shall be taken by MSI to rectify the same. The Alerts will also be transmitted to RTO offices & police stations nearer to the location on need basis. A monitoring station will be provided at RTO offices & police stations nearer to the location.	Please refer to the Section 3.3.4 Pole Security Camera to understand the funcationality of Pole Security Camera.
519	47	3	Section -3.3.5 -Junction box	Junction Box	Please refer to Annexure - 2
520	48	3	Section -3.3.7 Local Processing Unit (LPU)	M.2 M key slot for NVMe SSD card 256 GB 6GB HDD	Please refer to Annexure - 2
521	50	3	Section -3.3.9 -Industrial Managed PoE + Switch	Industrial Managed PoE + Switch	Please refer to Annexure - 2
522	51	3	Section-3.3.10 -Online UPS	Online UPS	Please refer to Annexure - 2
523	56	3	Section -3.3.11- Variable Messaging Display Board (VMD)/Speed Display	The MSI shall install IP based VMD boards on strategic locations across the highways as per the requirement of the Office of the Transport Commissioner	Please refer to Annexure - 6
524	66	3	Section -3.4.3-Civil Infrastructure and Cabling-	The system should be designed in such a way that in any case of temporary failure of the network, the data shall be stored in the local device & as and when the network is restored, the data shall be synced to the server.	Please refer to Annexure - 2
525	67	3	Section -3.5.1- Seamless connectivity via 5-scale connectivity matrix	Point-to-Point Radio Links: Customizable Radio Towers shall be incorporated within gantries/cantilevers, adjustable up to 40 meters to facilitate smooth communication even in challenging terrains	RFP Clause Prevails
526	67	3	Section -3.5.1- Seamless connectivity via 5-scale connectivity matrix	5G Dual SIM Redundancy: The mechanism shall guarantee consistent data transmission. In case one link	RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				fails, the other shall remain operative, ensuring uninterrupted data flow	
527	79	3	Section -3.5.6- Network Management System	The objective of this service is to ensure continuous operation and upkeep of the Network infrastructure of the project including all active and passive components. The MSI shall be responsible to coordinate with Network Service Provider for network related issues	RFP Clause Prevails
528	81	3	Section -3.6.3 -Provision for Storage & Recording Services	Indicative minimum storage requirement is mentioned as follows: Primary Storage:700 TB Secondary Storage:2100 TB	Please refer to Corrigendum III : Sr. No. - 5
529	88	9	Section -9.20- Annexure 20: Price Bid Format-[A] PRE-IMPLEMENTATION COST – CAPEX-Section 2.14	Hosting of IEMS Solution on Managed Cloud Services	Please refer to Annexure - 6
530	89	9	Section -9.20- Annexure 20: Price Bid Format-[A] PRE-IMPLEMENTATION COST – CAPEX-Section 3.1	ANPR Cameras	Please refer to Annexure - 6
531	89	9	Section -9.20- Annexure 20: Price Bid Format-[A] PRE-IMPLEMENTATION COST – CAPEX-Section 3.3	Video Analytical Camera for Traffic Violation detection	Please refer to Annexure - 6
532	All		RoW/RI	Installation ,Commissioning ,testing and hand overing	The Right of Way (RoW) charges (If any) shall be borne by the Office of the Transport Commissioner. The MSI shall obtain necessary approval from the Office of the Transport Commissioner prior to commencement of the work. MSI need not consider the RoW and

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					restoration/Reinstatement charges in their bid price. If there are any delays due to the permission/approvals from Employer/Other Govt. agencies pertaining to RoW & Restoration/Reinstatement, the MSI shall not be levied any penalty for such delay and time extension shall be provided accordingly.
533	Page No 25	PQ-2	The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020).	Request you to amend as " The bidder/lead member of the consortium should have an average annual turnover of minimum INR 75 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020)."	RFP Clause Prevails
534	Page No 26	PQ-3	The bidder/any member of consortium must have experience in mplementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR	Request you to amend as The bidder should have Similar Project Experience related to City/state-wide CCTV surveillance / safe city / Intelligent Traffic Management (ITMS) / Traffic Enforcement (IEMS)project in India with any state / central government/ PSUs in last 7 years as on date of publication of bid. Similar Project Experience •Single project of minimum 125 Nos. of ANPR camera AND •Project Cost of minimum INR 50 Crores	RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only)		
535	Page No 29	3.6	The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). Average Annual Turnover Marks > 150 Crores <= 200 Crores 5 > 200 Crores <= 300 Crores 10 > 300 Crores 15	Reuest to amend as " The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). Average Annual Turnover Marks > 75 Crores <= 80 Crores 5 > 80 Crores <= 90 Crores 10 > 100 Crores 15	RFP Clause prevails
536	Page No 30	3.6	The bidder/any member of the consortium should have design and	Request you to amend as "The bidder should have design and implementation experience of RLVD/Speed Cameras in one single project related related to	RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			implementation experience in one single project of procurement, supply, installation of video surveillance through camera/radar/both with analytics for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value: Project Value Marks > 20 Crores <= 30 Crores 5 > 30 Crores <= 40 Crores 10 > 40 Crores 15	City/State-wide CCTV surveillance/safe city/Smart City/ Intelligent Traffic Management (ITMS) /Traffic Enforcement (IEMS) project in India with any state/central government/PSUs in last 7 years as on date of release of this RFP • Project of 100 ANPR Cameras= 5 Marks • Project of 150 ANPR Cameras= 10 Marks • Project of more than 200 ANPR cameras= 15 Marks"	
537	Page No 30	3.6	The bidder/any member of the consortium should have similar experience of single project for providing network connectivity across minimum 15 highway locations or remote locations for any state / central government in India in last 7 years as on date of release of bid. For this criteria, similar experience means a Secured, Point to Point network connectivity, having multi redundant paths from each field node.	Request to amend as " The bidder/any member of the consortium should have similar experience of single project for providing network connectivityCumulative count of ANPR cameras in maximum 3 projects • Project of 200-300 Cameras= 5 Mark • Project of 301- 400 Cameras= 10 Mark • Project of 401 - 500 Cameras= 15 Mark	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			Please note that a project implemented within the same city area limits shall not be considered as a remote location. No. of Projects Marks 1 Project 5 2 Projects 10 3 Projects 15		
538	Page No 31	3.6	Evaluation committee will study the functionality and award marks for the demonstration and Proof of Concept (PoC) Criteria Marks Approach & Methodology and Proposed Solution 5 Accuracy of Speed of SVD system 5 Accuracy of ANPR system 5 Demo Hardware in Line with the specifications 5 Uninterrupted Redundant network 5 Uninterrupted redundant Power supply	Request you to comnsider cut off marks for same as " 30 "	RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			5 Software features like Unified CCC software, dashboarding, single interface etc. 5		
539	Page No 45	6.6	The MSI should ensure that the licenses are transferable to any entity currently present/ created in the future that is related to Transport Commissioner, Odisha.	We request remove the clause.	The clasue explains the transfer of ownership.
540	Page No 8	1.2	c) Monitoring of the traffic violations at the identified locations throughout 24x7x365.	As we understand , only events & violation related data will be monitored 24x7x365 & live camera feed is not required. Kindly confirm	Live Camera feed shall be required at UCCC.
541	Page No 8	1.2	Integration with e-Challan, Vahan 4.0 and Sarathi 4.0 for data access along with CCTNS, ERSS, Highway Patrol, Interceptors, IRAD, VLT for data access and transactions.	Kindly clarify the integration scope in details.	The UCCC software shall be able to integrate with existing systems and solutions like e-Challan, Vahan 4.0 and Sarathi 4.0 for data access along with CCTNS, ERSS, Highway Patrol, Interceptors, IRAD, VLT for data access and transactions. The Transport Commissioner's office will provide the MSI with the necessary permissions and information, but the MSI will have to coordinate with the relevant agencies to ensure successful integration.
542	Page No 9	2	Any future scope of violations as added by Office of the Transport	Kindly clarify the possible use cases that might be asked in future	The IEMS solution shall be able to scaled up with violation detections as

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			Commissioner from time to time.		instructed by the office of the Transport Commissioner.
543	Page No 9	2	System parameters for components such as utilization of Database Server, Recorder Servers, Local Workstation, and Storage System (all available storages). The dashboard should also show the parameters such as CPU Core Usage, RAM Utilization and Storage Utilization.	We understand, this should be provided by the NMS or EMS system. Please confirm	RFP Clause Prevails
544	Page No 12	2.2	The bidder shall propose a cost of shifting of gantry or cantilever structure along with the installed devices. However, the cost will not be a part of the financial bid proposal. The bidder will also indicate a turnaround time of shifting of the structures to the new location.		The MSI shall submit unit rate of shifting and reinstallation of gantry or cantilever structue along with the devices installed on it. Please refer to the Financial Format.
545	Page No 13	2.2	At each location of IEMS implementation, MSI shall conduct Supply, Installation, Testing & Commissioning of field Devices with uninterrupted and redundant power supply and network services at a single IEMS location.		The MSI shall be responsible for providing redundant power and maintain SLA as defined in the RFP. Redundant power may be solar power arrangement for unreliable power locations integrated with UPS or a continuous power source.

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
546	Page No 13	2.3	The system should be compatible with integration with interface of external systems such as DEESHA Command and Control Centre Application, and with other stakeholder application as and when desired by the authority.		Please refer to Annexure - 8
547	Page No 14	2.4	The Command Control Centre will have dedicated primary-secondary link and MSI will be responsible to suggest the bandwidth capacity with due detailed explanation to the Office of the Transport Commissioner for uninterrupted and defect free operation and execution of the system on turnkey basis. The installation and commissioning of the application servers is the responsibility of MSI, to be hosted with managed cloud services.		Please refer to Annexure - 8
548	Page No 14	2.4	The Office of the Transport Commissioner will facilitate electrical connection, in coordination with Utility Provider at a point nearer and feasible to the place of Gantry		Please refer to Corrigendum III : Sr. No. - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			installation. From that point the rest of wiring to be done by the selected MSI, be it underground or over ground based on site conditions and due approval from the authority. They will be also responsible for installation of proper earthing at all the outer locations. The electrical connection made by MSI at the gantries/cantilever will be inspected (if required) by competent authority from office of the Transport Commissioner and MSI needs to act accordingly if any deficiency is noticed by Office of the Transport Commissioner. The MSI will be responsible for all utility services and bear expenditure. The expenditure occurred due to utility services will be paid to the MSI as per the actual invoice raised by the utility service providers. (Utility Services includes power and network services)		
549	Page No 12	2.1	There should be additional provisions in IEMS to capture incidents like Traffic Congestion	Kindly confirm whether this solution needs to be considered at all locations & required from day-1.	The IEMS solution shall be able to scaled up with violation/incident detections

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			Detection at Gantry/Cantilever Locations and Accidents/On road Vehicle stranded/Abandon Vehicle parked on road for a longer period within the limitation of gantry location, using live/recorded camera feeds at remote monitoring units and/or Unified Command and Control Centre. The system should be scaled up in the future to have an incident management system to identify the breakdown failure of components.		as instructed by the office of the Transport Commissioner.
550	Page No 13	2.3	The source code of the custom developed application for IEMS should be handed over to the Office of the Transport Commissioner during the time of go-live.	We understand this clause is not applicable to COTS solutions. Kindly confirm.	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
551	Page No 13	2.3	The system should allow the operator to create a continuous recording schedule for the camera	We understand the continous recording is required in DC & DR for all cameras including ANPR camera , Pole security cameras & analytics cameras. Kindly confirm the understanding.	Please refer to Corrigendum III : Sr. No. - 5

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			based on the time of day and day of week. It should be possible to set the camera recording schedule for a single camera or a group of cameras or all cameras.		
552	Page No 14	2.4	10. The offending events shall be stored in the storage for 3 three years for any legal requirement. All the data shall be archived in every three months duration for proper space utilization.	As we understand , for Violation events with image snap & video clip needs to be stored for 3 years. Kindly confirm.	Please refer to Corrigendum III : Sr. No. - 5
553	Page No 15	2.5	Critical core components of the system should not have any requirements to have proprietary platforms and should conform to open standards.	Kindly include the following : "The proposed IEMS software should be agnostic to camera brand & ONVIF profile S, G , T & M compliant to ensure software platform being an open standard."	RFP Clause Prevails
554	Page No 16	2.5	Bidder shall be responsible for filing FIR in nearest Police Station for any theft or physical damage of product under IEMS System Project (including cable & accessories) due to any unforeseen reason. The MSI shall have to submit the copy of FIR to Office of the Transport Commissioner within 7 days from the date of filing FIR.		The office of the Transport Commissioner will support MSI to register FIR. However, the MSI shall be responsible to file FIR.

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
555	Page No 19	3.1	Under DEESHA project, Command and Control Centre (CCC) has been set up in an approximate area of 300 Sq Ft. at Bhubaneswar by the Office of the Transport Commissioner. Presently, CCC is used by the Office of the Transport Commissioner for monitoring traffic violations identified through DEESHA Project.	We undersrand the seamless integration of the new and existing system should be in such a way that it should provide unification of services such as failover redundancy with the existing hardware, software and application stack without any downtime. Kindly confirm.	Please refer to Annexure - 8
556	Page No 24	3.1	MSI shall be responsible for upgrading the existing command and control centre including but not limited to hardware and software components to a Unified Command and Control Center (UCCC) which will be capable of processing live feeds from the identified locations.	We understand that the system should provide unified interface for monitoring cameras, assignment of analytics, monitoring of analytics alerts, system health alerts for the new and existing system. The system should also have all the recorded data (continuous video feeds, VA alerts, flagged videos, system audit logs, operator permissions, etc.) preserved and available from day one. Kindly confirm the understanding.	Please refer to Annexure - 8
557	Page No 24	3.1	MSI shall be responsible for upgrading the existing command and control centre including but not limited to hardware and software components to a Unified Command and Control Center (UCCC) which will be capable of processing live feeds from the identified locations.		Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
558	Page No 26	3.2	The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	We understand that One ANPR camera per lane needs to be considered for the project. Kindly confirm the understanding.	Please refer to Annexure - 2
559	Page No 35	3.2	All Interceptors deployed by State Transport Authority in State Toll Gates/e-detection system (in future as per requirements)	Kindly clarify the scope of integration for interceptor solution & Toll gates system	The UCCC solution shall have capability of integration with other third party solutions/systems like towing system, Highway police in case of accidents, interceptor vehicles, Toll gates system etc. The UCCC solution shall have capbility of capturing data from other systems and analyse the same as per the requirements from Ofiice of the Transport Commissioner.
560	Page No 40	3.3	SR.No.(1)Image Sensor-1 inch" Progressive CMOS Global shutter or better	Request you to amend Image Sensor -1/1.8'' progressive CMO global Shutter or better.	Please refer to Annexure - 2
561	Page No 40	3.3	SR.No.(2)Maximum Resolution- 4112 x 2176 (8 MP) or better	Request you to amend Maximum Resoultion 2048x1536 (3MP) or better it will also cover two lanes with better image clarity and fullfills all functionals requirement .	Please refer to Annexure - 2
562	Page No 40	3.3	SR.No.(3)Lens Type- Fix or Full focus-focal	Request you to Consider to amend" Lens Type-Varifocal , Motorized 12-40 mm P-Iris lens for better image clarity for Number plate and Field of depth."	Please refer to Annexure - 2
563	Page No 40	3.3	SR.No.(4)Focal Length-25, 35, 50mm option to suit application. Lens must focus visible and infrared	Request you to Consider to amend this clause "focal length Varifocal , Motorized 12-40 mm P-Iris lens with Pulse IR for better image clarity for Number plate and Field of depth."	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			light at the same depth. F1.8 or better		
564	Page No 40	3.3	SR.No.(5)Effective Sensor Diagonal- 16.1 mm or better	Request you to consider to amend "effective sensor diagonal in inch and recommended 1/1.8" image sensor or better"	Please refer to Annexure - 2
565	Page No 40	3.3	SR.No.(10)Operating Temperature - 0° C ~ 70°C or Better	Request you to consider to amend "Opertaing Temperature 0° C ~ 50°C or Better"	Please refer to Annexure - 2
566	Page No 46	3.3	SR.No.(23)Electronic Shutter- 1/3 s to 1/100,000 s with slow shutter support	Request you to amend "Electronic shutter -1/3s to 1/30,000s with slow support or better. It will fulfills all functional requirements."	Please refer to Annexure - 2
567	Page No 47	3.3	Alarm / Hooter : The junction box should have Alarm / Hooter for any unwanted tampering event. The hooter must create loud alert sound.	Size of the junction box to be specified by customer . Also instead of IP67 request customer to prefer IP66 Junction boxes .	Please refer to Annexure - 2
568	Page No 47	3.3	IP Rating : IP 67 or better	IP66 is recommended as IP67 is usually used in electronic gadgets etc	Please refer to Annexure - 2
569	Page No 48	3.3	3.3.7 Local Processing Unit (LPU)	Every OEM sizes their compute requirement as per their design . We request to kindly allow the OEMs to propose LPU configuration as per their solution meeting all the functional requirement of the RFP.	Please refer to Annexure - 2
570	Page No 49	3.3	The Enclosure solution should be - 15U 600W 800 D enclosure upto 1000 mm (Overall) in height with 850 mm Width (Including Panel AC) and 600 mm Depth for Server & Networking application.	Side mount panel AC watts to be specified . Also customer to note that the unit will be standing type or it can be mounted on a foundation . It is recommended to mount the system in a shelter for better longevity complete lock & key cage kind of a system for equipment protection and unauthorised tampering .	Please refer to Annexure - 2
571	Page No 50	3.3	New addition	Switch Certifications: NEMA TS 2 certfication, IEC60068-2-27 and IEC60068-2-6	Please refer to Annexure - 2
572	Page No 50	3.3	The rack shall be IP55 certified from an accredited lab.	As such the racks with PANEL AC systems are certified for IP66 as the entire system is completely sealed from all the sides .	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
573	Page No 50	3.3	Remote Monitoring	Customer to specify what type of applications to be monitored , like temperature , humidity , smoke , fire , WLD , door opening etc .	Please refer to Annexure - 2
574	Page No 50	3.3	Should have PDU 1U 6 X 5/15Amp Octagonal angular Socket with 16Amp MCB.	Customer to prefer regular 15amps sockets from reputed make like anchor /legrand etc . Octagonal shaped sockets are not industry standards .	Please refer to Annexure - 2
575	Page No 50	3.3	L2 Managed Industrial Switch 16 ports 2X1G with 8x10/100/1000 Base-T PoE+ ports and additional 2x1G Base-X ports accommodate SM/MM FO Module.	L2 Managed Industrial Switch with 16x10/100/1000 Base-T PoE+ ports and additional 2x1G Base-X ports accommodate SM/MM FO Module.	Please refer to Annexure - 2
576	Page No 50	3.3	Should support PoE as per IEEE 802.3af and 802.3at with PoE budget of 120W or better.	Should support PoE as per IEEE 802.3af and 802.3at with PoE budget of 240W or better.	Please refer to Annexure - 2
577	Page No 51	3.3	Management: CLI, GUI, USB or memory card slot for taking backup of software release files configurations, DDM – Optical digital diagnostic monitoring as per SFF – 8472 or equivalent, UDLD or equivalent, Time Domain Reflectometry/ equivalent, RMON 4 groups, SNMPv3, Support ECO Friendly Mode, LLDP-MED, IEEE 802.3az, SNMPv6, Telnetv6 and SSHv6.	Management: CLI, GUI, USB or memory card slot for taking backup of software release files configurations, DDM –Optical digital diagnostic monitoring as per SFF – 8472 or equivalent, UDLD or equivalent, Time Domain Reflectometry/ equivalent, RMON 4 groups, SNMPv3, Support ECO Friendly Mode, LLDP-MED, SNMPv6, Telnetv6 and SSHv6.	Please refer to Annexure - 2
578	Page No 52	3.3	The MSI shall provide UPS with upto 4 hours		The MSI shall be responsible for providing redundant power

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			of backup with uninterrupted power supply. The proposed system shall incorporate redundant power integration along with traditional power, ensuring an eco-friendly and renewable energy source. It is essential that the UPS system is designed to withstand outdoor environmental conditions and includes automatic bypass features for optimal balance of uninterrupted power. MSI shall ensure the system is equipped with remote monitoring capabilities to facilitate efficient tracking and maintenance.		and maintain SLA as defined in the RFP. Redundant power may be solar power arrangement for unreliable power locations integrated with UPS or a continuous power source.
579	Page No 52	3.3	The locations where camera and IEMS equipment are installed. At such locations that the Power is not available or unreliably available the MSI shall make the provision of redundant power supply with 4 hours backup in case of bad weather, etc.		The MSI shall be responsible for providing redundant power and maintain SLA as defined in the RFP. Redundant power may be solar power arrangement for unreliable power locations integrated with UPS or a continuous power source.
580	Page No 67	3.5	To ensure unyielding and seamless data delivery, MSI shall implement a 5-		RFP Clause prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			Scale Connectivity Matrix for the project as follows:		
581	Page No 70	3.5	Captive Portal support for Wired and Wireless LAN Clients	Request to remove this clause for wider OEM participation	RFP Clause prevails
582	Page No 70	3.5	Should support Built-in Customizable Splash Page No	Request to remove this clause for wider OEM participation	RFP Clause prevails
583	Page No 70	3.5	Ability to support up to 3/4 (GbE) WAN/LAN ports with one USB WAN port along with two inbuilt 4G LTE sim port for bandwidth bonding	Ability to support up to 3/4 (GbE) WAN/LAN ports along with two inbuilt 4G LTE sim ports for backup connectivity	RFP Clause prevails
584	Page No 70	3.5	The appliance should have inbuilt wifi modem from day one with flex module for additional 5G sim slot on demand	Request to remove this clause for wider OEM participation	RFP Clause prevails
585	Page No 72	3.5	Support X.509 certificates as a means of authentication for VPNs	Support X.509 certificates or any other equivalent mechanism as a means of authentication for VPNs	RFP Clause prevails
586	Page No 72	3.5	Ability to act as an authoritative DNS server and support the following records: • SOA • NS • MX • CNAME • A • TXT • SRV • PTR	Request to remove this clause for wider OEM participation	RFP Clause prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
587	Page No 72		Ability to set monthly allowance limit for bandwidth usage on each WAN	Ability to set monthly allowance limit for bandwidth usage on each WAN either natively or by using some external tools	RFP Clause Prevails
588	Page No 72		Should support Out of Band Management for LAN/WAN to gain access to all remote devices connected to the LLB through the NMS Module	Request to remove this clause for wider OEM participation	RFP Clause Prevails
589	Page No 74	3.5	Device should have at least 3 free LAN/WAN slots	Device should have at least 1 free LAN/WAN slots	RFP Clause prevails
590	Page No 76	3.5	Should support Anti-SPAM to prevent unsafe and annoying email out of the network and reduce the risk for email as an attack vector.	reuest to remove this clause	RFP Clause prevails
591	Page No 78	3.5	The security effectiveness of the proposed OEM against exploits, malware and malicious URLs should be proven and validated as the following: i. More than 99% measured by NSS Labs ii. AAA rating by Cyber Rating iii. More than 99.5% measured by ICSA Labs	OEM Specific Clause	Please refer to Corrigendum III : Sr. No. - 9
592	Page No 81	3.6	Cloud enabled DC Operations & Administration	As we understand , DR will have 100% capacity of DC compute. Kindly confirm.	RFP Clause prevails
593	Page No 81	3.6.3	o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data	As per pg no 14 , The offending events shall be stored in the storage for 3 three years for any legal requirement whereas on Pg 81 asks for 90 days storage. Kindly clarify the storage requirement.	Please refer to Corrigendum III : Sr. No. - 5

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			(critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage. o Above systems are required to be stored on Primary storage for 7 days & on Secondary Storage for remaining days respectively at Data Centers.		
594	Page No 82	3.6.3	Primary Storage - 700 TB		Please refer to Corrigendum III : Sr. No. - 5
595	Page No 82	3.7	During the Operations & Maintenance (O&M) Phase, the MSI shall carry out but not limited to the following major activities:		RFP Clause prevails
596	Page No 86	3.8	The MSI shall be responsible for electricity connection to each location through an aggregation point. Since this component has dependency on approval from local authorities, it is recommended that MSI plans this requirement well in advance & submits the application to the concerned electricity distribution agency on behalf of the Office of the Transport Commissioner		Please refer to Corrigendum III : Sr. No. - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			with requisite fees, as applicable.		
597	Page No 88	3.8.2	The Office of the Transport Commissioner reserves the right to ask the MSI to increase the bandwidth if the provided bandwidth is not sufficient to give the functionality of the system mentioned in the RFP and adhere to the SLAs.		Please refer to Corrigendum III : Sr. No. - 7
598	Page No 89	BOQ	Hosting of IEMS Solution on Managed Cloud Services & Storage & Recording Services. Indicative quantity = 6 months and units=months		Please refer to Annexure - 6
599	Page No 89		The scope of work is not limited to the work described below and may vary from time to time as required by the Transport Commissioner.		RFP Clause Prevails
600	Page No 91	5.1	Select MSI shall have to submit Factory Test Certificate for the below mentioned materials before the actual supply of the items. • Cable • Pole & mounting structures • Signal Aspects Authorized representative from Office of the Transport Commissioner will visit the		RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			manufacturing plant of the product subject to present in India. Authorized representative will check the testing process.		
601	Page No 96	6.1	Incidence Resolution (Network)		RFP Clause Prevails
602	9	BID Datasheet	Earnest Money Deposit	In reference to the tender requirement for an Earnest Money Deposit (EMD) of Rs.1,00,00,000 (One Crore Rupees Only) in the form of a Demand Draft payable at Cuttack, we seek clarification regarding the exemption provision for Public Sector Undertakings (PSUs).	Please refer to Corrigendum III : Sr. No. - 14, 15
603	26	3.5	PQ-3 (Technical Capability)	The bidder/any member of consortium must have experience in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only) The "Similar Assignment" is defined as a project that encompasses the procurement, supply, installation, and provision of dedicated network and power supply connectivity. Additionally, it includes the maintenance of a video surveillance system, which could involve video management systems, video analytics, cameras, radars, or a combination of these technologies. This project must have been undertaken in India, either with any state or central government entity or with Public	Please refer to Annexure - 3

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				Sector Undertakings (PSUs), within the last seven years from the bid publication date.	
				Please consider a price escalation of 10% per year for	
604	29	3.6	Technical Bid Evaluation	The totals in the summary table of A,B,C,D are not In-line with the totals of detailed table below	Please refer to Annexure - 4
605	30	3.6 (B.2)	Networking Experience(B.2)	The maximum marks allocated for this criterion, as outlined in the maximum marks column, should be capped at 15 points, consistent with the top score specified in the parameter column.	Please refer to Annexure - 4
606	31	3.6 (C.1)	Certificate of speed violation detection		Please refer to Annexure - 4
607	34	3.11	Performance Bank Guarantee	Please adjust the Performance Bank Guarantee (PBG) value to 5%,	Please refer to Corrigendum III : Sr. No. - 12
608	64	9.5	Annexure 5	In view of the discrepancy noted between the entire table and the stipulations of Section 3.5 in Volume 1 of the tender documentation, it is requested that a revision be undertaken to align the table with the said section to ensure consistency in the tender requirements.	Please refer to Annexure - 5
609	90	9.2	Price Bid format	Upon going through the specifications of 3.5.2 and 3.5.3 and 3.5.4 The number of 6.2 ---- 40, 6.3 ----- 2 and 6.4 ----- 2	Please refer to Annexure - 6
610	11	2.1		On successful validation offence details will be processed through e-Challan system. An SMS will be sent to the violators on their registered mobile number mentioned in VAHAN 4.0. Which server will generate the SMS Vahan server or the UCC software.	The IEMS solution will be integrated with VAHAN 4.0 and e-challans will be generated from e-Challan solution deployed by NIC. NIC will facilitate required supports for integration. However, the

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					MSI/Successful Bidder will be responsible for coordination with NIC time to time for desired functionalities.
611	10	2	Terms of reference.	Ability to preview, view live or playback recorded videos. Does the scope of supply include camera surveillance at all gantry locations on the road?	Please refer to Annexure - 1
612	14	2.4	Important Instructions for the MSI	The contents of the mentioned paragraph do not align with the specifications detailed in Volume 2, Section 3.8.1, which pertains to Electrical Power Supply.	Please refer to Corrigendum III : Sr. No. - 4
613	42	3.3.3	Video analytics camera	We request a modification in the tender document where point number 5 should be altered to reflect '4 MP' in accordance with the specifications required.	Please refer to Annexure - 2
614	101	7	Payment milestone	The payment of the field gantry loaction will be done according to pro rata basis depending on the clearances obtained by STA from respective nodal agencies	Please refer to Annexure - 7
615	31	3.6	Product Technical Compliance	C1. Certificate of speed violation detection The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8 > 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
616	89	BOQ	[2] Sub Total of IEMS Software Components (with licenses) & Services,	3.1. ANPR Cameras : 80 nos. 3.3 Video Analytical Camera for Traffic Violation detection : 80 nos.	Please refer to Annexure - 1

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			3. Hardware Components (Supply, delivery, installation, testing, commissioning and mounting on structure)		
617	26	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	1. The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2
618	27	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	10. The system should be capable of providing all the above functionality on multi lane (up to 8 (4+4) Lane) with simultaneous incident detection and recording.	Please refer to Annexure - 2
619	28	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding)	4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids.	Please refer to Annexure - 2
620	33	3.2	3.2.11 Artificial Intelligence (AI) and Deep Learning (DL) based IEMS.	5. The system should be capable of multi lane (up to 8 Lane (4 + 4 Lane)) functioning with simultaneous incident detection and ecording.	Please refer to Annexure - 2
621	41	3.3	3.3.2 Speed Violation Detection Radar	4. Frequency: 76-81 GHz integrated CMOS transceiver	Please refer to Annexure - 2
622	42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Annexure - 2
623	48	3.3	3.3.7 Local Processing Unit (LPU)	1. Camera interface : USB, 2 x CSI2 - 2 Lanes, 1 x CSI2 - 4 Lanes, 1x FPD Link III , 1x GMSL 2. USB : 2x USB 2.0, 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX) 3. Network Connectivity: Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 4. Storage : M.2 M key slot for NVMe SSD card 256 GB, 6GB HDD	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				5. Display: HDMI 2.0 6. Audio: HDMI 2.0, DMIC / I2S via Expansion Header, Bluetooth 7. Peripherals Support / Other Interfaces : CAN (Xavier NX, TX2 NX), UART Debug, 9-axis IMU Sensors 8. Expansion Header : I2C, I2S, SPI, GPIOs, Reset and Power 9. Input DC Supply: 12V/5A to 24V/2.5A 10. Dimension : 125mm (L) x 90mm (W) 11. Operating Temperature: -20 to 850C	
624	31	3.6	Product Technical Compliance	C1. Certificate of speed violation detection The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8 > 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
625	31	3.6	Product Technical Compliance	Proof of Concept (PoC), Evaluation committee will study the functionality and award marks for the demonstration and Proof of Concept (PoC), Criteria: Marks Approach & Methodology and Proposed Solution : 5 Marks Accuracy of Speed of SVD system : 5 Marks Accuracy of ANPR system : 5 Marks Demo Hardware in Line with the specifications : 5 Marks	RFP Clause prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				Uninterrupted Redundant network : 5 Marks Uninterrupted redundant Power supply : 5 Marks Software features like Unified CCC software, dashboarding, single interface etc. : 5 Marks	
626	89	BOQ	[2] Sub Total of IEMS Software Components (with licenses) & Services, 3. Hardware Components (Supply, delivery, installation, testing, commissioning and mounting on structure)	3.1. ANPR Cameras : 80 nos. 3.3 Video Analytical Camera for Traffic Violation detection : 80 nos.	Please refer to Annexure - 1
627	16	2	2.5 Common guidelines regarding compliance of systems / equipment	All servers, active networking components (for edge level switches), security equipment, storage systems and COTS Application proposed should be from OEMs who are amongst the top 5 for world-wide market share in terms of revenue as per IDC latest published quarterly report presence in the latest Magic Quadrant of Gartner. MSI is expected to attach the report along with the Technical Bid.	Please refer to Corrigendum III : Sr. No. - 1
628	26	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	1. The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2
629	27	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	10. The system should be capable of providing all the above functionality on multi lane (up to 8 (4+4) Lane) with simultaneous incident detection and recording.	Please refer to Annexure - 2
630	28	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding)	4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids.	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
631	33	3.2	3.2.11 Artificial Intelligence (AI) and Deep Learning (DL) based IEMS.	5. The system should be capable of multi lane (up to 8 Lane (4 + 4 Lane)) functioning with simultaneous incident detection and ecording.	Please refer to Annexure - 2
632	41	3.3	3.3.2 Speed Violation Detection Radar	4. Frequency: 76-81 GHz integrated CMOS transceiver	Please refer to Annexure - 2
633	42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Annexure - 2
634	48	3.3	3.3.7 Local Processing Unit (LPU)	1. Camera interface : USB, 2 x CSI2 - 2 Lanes, 1 x CSI2 - 4 Lanes, 1x FPD Link III , 1x GMSL 2. USB : 2x USB 2.0, 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX) 3. Network Connectivity: Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 4. Storage : M.2 M key slot for NVMe SSD card 256 GB, 6GB HDD 5. Display: HDMI 2.0 6. Audio: HDMI 2.0, DMIC / I2S via Expansion Header, Bluetooth 7. Peripherals Support / Other Interfaces : CAN (Xavier NX, TX2 NX), UART Debug, 9-axis IMU Sensors 8. Expansion Header : I2C, I2S, SPI, GPIOs, Reset and Power 9. Input DC Supply: 12V/5A to 24V/2.5A 10. Dimension : 125mm (L) x 90mm (W) 11. Operating Temperature: -20 to 850C	Please refer to Annexure - 2
635	79	3.6	3.6.3 Provision for Storage & Recording Services	• The following storage requirements shall be fulfilled by the MSI as scope for the project: o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage.	Please refer to Corrigendum III : Sr. No. - 5
636	31	3.6	Product Technical Compliance	C1. Certificate of speed violation detection	Please refer to Annexure - 4

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8 > 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	
637	89	BOQ	[2] Sub Total of IEMS Software Components (with licenses) & Services, 3. Hardware Components (Supply, delivery, installation, testing, commissioning and mounting on structure)	3.1. ANPR Cameras : 80 nos. 3.3 Video Analytical Camera for Traffic Violation detection : 80 nos.	Please refer to Annexure - 1
638	26	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	1. The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2
639	27	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	10. The system should be capable of providing all the above functionality on multi lane (up to 8 (4+4) Lane) with simultaneous incident detection and recording.	Please refer to Annexure - 2
640	28	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding)	4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids.	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
641	33	3.2	3.2.11 Artificial Intelligence (AI) and Deep Learning (DL) based IEMS.	5. The system should be capable of multi lane (up to 8 Lane (4 + 4 Lane)) functioning with simultaneous incident detection and ecording.	Please refer to Annexure - 2
642	41	3.3	3.3.2 Speed Violation Detection Radar	4. Frequency: 76-81 GHz integrated CMOS transceiver	Please refer to Annexure - 2
643	42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Annexure - 2
644	42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Corrigendum III : Sr. No. - Please refer to Annexure - 2
645	48	3.3	3.3.7 Local Processing Unit (LPU)	1. Camera interface : USB, 2 x CSI2 - 2 Lanes, 1 x CSI2 - 4 Lanes, 1x FPD Link III , 1x GMSL 2. USB : 2x USB 2.0, 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX) 3. Network Connectivity: Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 4. Storage : M.2 M key slot for NVMe SSD card 256 GB, 6GB HDD 5. Display: HDMI 2.0 6. Audio: HDMI 2.0, DMIC / I2S via Expansion Header, Bluetooth 7. Peripherals Support / Other Interfaces : CAN (Xavier NX, TX2 NX), UART Debug, 9-axis IMU Sensors 8. Expansion Header : I2C, I2S, SPI, GPIOs, Reset and Power 9. Input DC Supply: 12V/5A to 24V/2.5A 10. Dimension : 125mm (L) x 90mm (W) 11. Operating Temperature: -20 to 850C	Please refer to Annexure - 2
646	79	3.6	3.6.3 Provision for Storage & Recording Services	• The following storage requirements shall be fulfilled by the MSI as scope for the project: o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for	Please refer to Corrigendum III : Sr. No. - 5

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				approximately 90 days, permanent storage envisaged on secondary storage.	
647	27 of 95	PQ	OEM Criteria	The Solution proposed by the bidder for Network Management must have at least 3 deployments in any Central Government/ Public Sector/ State Govt or in any other Government institutions in India for monitoring managing of atleast 10,000 devices in each of such deployments. Supporting documents like PO and sign-off document should be submit at time of the bid submission.	RFP Clause Prevails
648	27 of 95	PQ	OEM Criteria	Proposed NMS solution must be ISO 27001:2013 / ISO 27034 and CIS certified to ensure security compliances.	RFP Clause Prevails
649	27 of 95	PQ	OEM Criteria	The OEM of the proposed EMS solution should be "Make In India" company with presence of min. 10 years in India. The documentary proof should be submitted at time of the bid submission.	RFP Clause Prevails
650	27 of 95	PQ	OEM Criteria	The solution must provide a flexible framework for collecting and managing service leve templates including Service Definatio, Service Level Metrics, Penalties and other performance indicators measured across infrastcture and vendors.	RFP Clause Prevails
651	27 of 95	PQ	OEM Criteria	The proposed monitoring solution must not use any third party database (including RDBMS and open source) to store data in order to provide full flexibility on collected data	RFP Clause Prevails
652	Page No: 50	3.3.9	L2 Managed Industrial Switch 16 ports 2X1G with 8x10/100/1000 Base-T PoE+ ports and additional 2x1G Base-X ports accommodate SM/MM FO Module.	L2 Managed Industrial Switch with 16x10/100/1000 Base-T PoE+ ports and additional 2x1G Base-X ports accommodate SM/MM FO Module.	Please refer to Annexure - 2
653	Page No: 50	3.3.9	Should support PoE as per IEEE 802.3af and 802.3at	Should support PoE as per IEEE 802.3af and 802.3at with PoE budget of 240W or better.	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			with PoE budget of 120W or better.		
654	Page No: 50	3.3.9	New addition	Switch Certifications: NEMA TS 2 certfication, IEC60068-2-27 and IEC60068-2-6	Please refer to Annexure - 2
655	31	3.6	Product Technical Compliance	C1. Certificate of speed violation detection The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. Speed Detection Capacity in kmph : Marks > 180 <= 240 : 6 > 240 <= 280 : 8 > 280 : 10 The bidder/consortium member shall submit valid certification copy from any NABL accredited laboratory of Government of India or registered under CMV Rules 126.	Please refer to Annexure - 4
656	31	3.6	Product Technical Compliance	Proof of Concept (PoC), Evaluation committee will study the functionality and award marks for the demonstration and Proof of Concept (PoC), Criteria: Marks Approach & Methodology and Proposed Solution : 5 Marks Accuracy of Speed of SVD system : 5 Marks Accuracy of ANPR system : 5 Marks Demo Hardware in Line with the specifications : 5 Marks Uninterrupted Redundant network : 5 Marks Uninterrupted redundant Power supply : 5 Marks Software features like Unified CCC software, dashboarding, single interface etc. : 5 Marks	RFP Clause prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
657	89	BOQ	[2] Sub Total of IEMS Software Components (with licenses) & Services, 3. Hardware Components (Supply, delivery, installation, testing, commissioning and mounting on structure)	3.1. ANPR Cameras : 80 nos. 3.3 Video Analytical Camera for Traffic Violation detection : 80 nos.	Please refer to Annexure - 1
658	16	2	2.5 Common guidelines regarding compliance of systems / equipment	All servers, active networking components (for edge level switches), security equipment, storage systems and COTS Application proposed should be from OEMs who are amongst the top 5 for world-wide market share in terms of revenue as per IDC latest published quarterly report presence in the latest Magic Quadrant of Gartner. MSI is expected to attach the report along with the Technical Bid.	Please refer to Corrigendum III : Sr. No. - 1
659	26	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	1. The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	Please refer to Annexure - 2
660	27	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System	10. The system should be capable of providing all the above functionality on multi lane (up to 8 (4+4) Lane) with simultaneous incident detection and recording.	Please refer to Annexure - 2
661	28	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding)	4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids.	Please refer to Annexure - 2
662	33	3.2	3.2.11 Artificial Intelligence (AI) and Deep Learning (DL) based IEMS.	5. The system should be capable of multi lane (up to 8 Lane (4 + 4 Lane)) functioning with simultaneous incident detection and ecording.	Please refer to Annexure - 2
663	41	3.3	3.3.2 Speed Violation Detection Radar	4. Frequency: 76-81 GHz integrated CMOS transceiver	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
664	42	3.3	3.3.2 Speed Violation Detection Radar	12. Certificates: OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Please refer to Annexure - 2
665	48	3.3	3.3.7 Local Processing Unit (LPU)	1. Camera interface : USB, 2 x CSI2 - 2 Lanes, 1 x CSI2 - 4 Lanes, 1x FPD Link III , 1x GMSL 2. USB : 2x USB 2.0, 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX) 3. Network Connectivity: Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 4. Storage : M.2 M key slot for NVMe SSD card 256 GB, 6GB HDD 5. Display: HDMI 2.0 6. Audio: HDMI 2.0, DMIC / I2S via Expansion Header, Bluetooth 7. Peripherals Support / Other Interfaces : CAN (Xavier NX, TX2 NX), UART Debug, 9-axis IMU Sensors 8. Expansion Header : I2C, I2S, SPI, GPIOs, Reset and Power 9. Input DC Supply: 12V/5A to 24V/2.5A 10. Dimension : 125mm (L) x 90mm (W) 11. Operating Temperature: -20 to 850C	Please refer to Annexure - 2
666	79	3.6	3.6.3 Provision for Storage & Recording Services	• The following storage requirements shall be fulfilled by the MSI as scope for the project: o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage.	Please refer to Corrigendum III : Sr. No. - 5
667	Volume-1 Page 9 of 95	Bid Data Sheet	Earnest Money Deposit Rs. 1,00,00,000 (One Crore Rupees only), in form of Demand Draft issued by any Nationalized drawn in favor of Transport Commissioner, Odisha payable at Cuttack valid for	Rs. 1,00,00,000 (One Crore Rupees only), in form of Demand Draft or in the form of Bank Guarantee from any Nationalized/Scheduled Commercial Bank in favor of Transport Commissioner, Odisha payable at Cuttack valid for 180 days from the date of submission of bid.	Please refer to Corrigendum III : Sr. No. - 14, 15

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			180 days from the date of submission of bid.		
668	Volume-2 Page 101 of 104	7	Project Timeline & Payment Milestones	We request you to change the Project timelines as amended below: D = Effective Date of Letter of Intent or Contract Agreement (whichever is earlier) D1 = Date of Issue of Work Order M1 - Site Survey - D1 + 3 Weeks 6 weeks M2 - Delivery & Verification of Hardware and related accessories - D1 + 8 weeks 22 weeks M3 - Civil Work with Cabling, Installation, Testing, Commissioning Hardware of IEMS Location & verification - D1 + 10 weeks 26 weeks M4 - Installation, configuration, and Software/Application deployment - D1 + 12 weeks 30 weeks M5 - Acceptance Test for integration with UCCC Hardware & Application software - D1 +16 weeks 32 weeks M6 - Final Acceptance Test & Go-Live of the IEMS system - D1 + 22 weeks 36 weeks M7 - Completion of Training - D1 + 26 weeks 40 weeks M8 - 30 days of successful Go-Live - D1 + 30 weeks 40 weeks M9 to M13 - 5 years O&M after Go-Live	Please refer to Annexure - 7
669	Volume-2 Page 101 of 104	7	Project Timeline & Payment Milestones	We request you to change the payment terms as amended below: D = Effective Date of Letter of Intent or Contract Agreement (whichever is earlier) D1 = Date of Issue of Work Order Mobilization Advance (Interest free) of 10% of project value against submission of equivalent bank guarantee. M1 - Site Survey - 5% of Work Order Value (Capex cost)	Please refer to Annexure - 7

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				M2 - Delivery & Verification of Hardware and related accessories - 20% 40% of Work Order Value (Capex cost) on Pro-rata basis M3 - Civil Work with Cabling, Installation, Testing, Commissioning Hardware of IEMS Location & verification - 20% of Work Order Value (Capex cost) on Pro-rata basis M4 - Installation, configuration, and Software/Application deployment - 10% of Work Order Value (Capex cost) on Pro-rata basis M5 - Acceptance Test for integration with UCCC Hardware & Application software - 10% 5% of Work Order Value (Capex cost) on Pro-rata basis M6 - Final Acceptance Test & Go-Live of the IEMS system - 10% 5% of Work Order Value (Capex cost) M7 - Completion of Training - 5% of Work Order Value (Capex cost) M8 - 30 days of successful Go-Live - 20% of Work Order Value (Capex cost) Nil M9 to M13 - Year wise O&M after Go-Live - 20% of Work Order Value quarterly (Opex cost) and 2% of Work Order Value for IEMS Software Components with licenses & Services (Capex cost) per year.	
670	Volume-2 Page 102 of 104	7	Project Timeline & Payment Milestones Note: The 10% of the of Capex for Software would be paid to the bidder/the lead bidder (in case of consortium) proportionately over the operation and maintenance period on Quarterly basis, Post Go-Live. The Billing period of Hosting &	Note: The 10% of the of Capex for Software would be paid to the bidder/the lead bidder (in case of consortium) proportionately over the operation and maintenance period on Quarterly basis, Post Go-Live. The Billing period of Hosting & maintenance Cost would begin after Go-Live	Please refer to Annexure - 7

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			maintenance Cost would begin after Go-Live		
671	Volume-2 Page 97 of 104	6.2	SLA during Implementation	1. Delay in Delivery of Hardware - 0.5% of Contract value of undelivered / delayed Items (as per Financial BID) per week or part thereof for delay in delivery. Delay beyond 8 weeks, office of the Transport Commissioner may terminate the contract and Forfeit the PBG.	RFP Clause Prevails
				2. Delay in Implementation: Installation and Commissioning and FAT of hardware / software at Central and Site Location - 0.75% of Contract value of delayed part (as per Financial BID) per week or part thereof for delay in implementation Delay Beyond 16 weeks office of the Transport Commissioner may terminate the contract and Forfeit the PBG)	
672	Volume-2 Page 94 of 104	6	Service Level Agreement (SLA)	In case of failure / delay to complete the work/supply in time the penalty shall be levied @ 0.50% per week or part thereof of the total Contract Value subject to maximum of 10% of the total Contract Value. If the total Penalty exceeds beyond 10%, it would be considered as non-performance to the Quality of Services and may lead to termination of the Contract and Authority may on their sole discretion cancel the order. Penalty will be recovered from the PBG amount	Please refer to Annexure - 7
673	Volume - 1 Page 43 of 95	6.3	Termination for Convenience C. If the MSI failed to rectify the deficiencies or shortcomings within 7 Days, the agreement shall be terminated along payment of penalty.	We understand that in case of any defeciency and shortcoming wherein the customer is not satisfied with the MSI's performance, same shall be intimated to the MSI. MSI shall take necessary action to rectify the same at earliest so that project progress is not hampered.Hence we request you to delete the mentioned termination clause.	RFP Clause prevails
				Change requested: "C. If the MSI failed to rectify the deficiencies or	

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				shortcomings within 7 Days, the agreement shall be terminated along payment of penalty."	
674	Volume - 2 Page 14 of 104	2.4	Important Instructions for the MSI The electrical connection made by MSI at the gantries/cantilever will be inspected (if required) by competent authority from office of the Transport Commissioner and MSI needs to act accordingly if any deficiency is noticed by Office of the Transport Commissioner. The MSI will be responsible for all utility services and bear expenditure. The expenditure occurred due to utility services will be paid to the MSI as per the actual invoice raised by the utility service providers. (Utility Services includes power and network services)	We understand that MSI shall be paid for both "One time connection" charge as well as "Recurring charge" for the electricity as per actuals and same is not to be included in the bid price. Kindly confirm.	Please refer to Annexure - 6
675	General	General	Right Of Way & Reinstatement Charges	As the Permissions and Approvals for Right of way and Restoration/Reinstatement involves co-ordination with multiple government agencies, we request you (authority) to kindly be responsible for both approvals and charges to be paid for Right of way and Reinstatement/Restoration. So kindly include the following clause as mentioned follows: 1. The Right of Way (RoW) charges (If any) shall be borne by the authority and necessary approval shall be given by authority taken prior to commencement of the	The Right of Way (RoW) charges (If any) shall be borne by the Office of the Transport Commissioner. The MSI shall obtain necessary approval from the Office of the Transport Commissioner prior to commencement of the work. MSI need not consider the RoW and

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				work. MSI need not consider the RoW and Restoration/Reinstatement charges in their bid price. 2. If there are any delays due to the permission/approvals from Employer/Other Govt. agencies pertaining to RoW & Restoration/Reinstatement, we request you to kindly confirm that MSI shall not be levied any penalty for such delay and time extension shall be provided accordingly.	restoration/Reinstatement charges in their bid price. If there are any delays due to the permission/approvals from Employer/Other Govt. agencies pertaining to RoW & Restoration/Reinstatement, the MSI shall not be levied any penalty for such delay and time extension shall be provided accordingly.
676	Volume - 1 Page 64 of 95	9.5	PQ bid checklist PQ-1 to PQ-8	We understand that there is a Pre-Qualification criteria given in the clause "3.5 Pre-Qualification Criteria" in page 25 which is not correctly mapped in the given PQ bid checklist (Annexure 5). We understand that the Qualification criteria and technical marking criteria given in the clause -- shall prevail. Request you to amend the checklist accordingly.	Please refer to Annexure - 5
677	Volume - 1 Page 64 of 95	9.5	PQ-8 ISO Certifications The bidder should have valid ISO 9001:2015 for IT Service Management Certification at the time of submission of bid	As we know that ISO 9001:2015 is not a IT service mangement certification , ISO 9001:2015 stands for Quality management. We requeest you to kindly amend the same.	Please refer to Annexure - 3
678	Volume - 1 Page 34 of 95	3.11	Performance Bank Guarantee	We request you to consider seperate PBG for both CAPEX and OPEX and amend the clause as below: SI shall furnish Performance Security to the Authority at the time of signing the Contract which shall be equal to 10% 3% of the value of the Contract. 1) PBG = 3% of CAPEX to be submitted at the time of signing the contract	Please refer to Corrigendum III : Sr. No. - 12

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				2) PBG = 3% of OPEX to be submitted upon project Go-live	
679	Volume - 1 Page 56 of 95	8	Contract Finalization and Award a. Key Personnel involved in the project shall be on the payrolls of the Lead Bidder.	We request you to change the clause as amended below: a. Key Personnel involved in the project shall be on the payrolls of the Lead Bidder/Consortium/OEM/Subcontractor.	Please refer to Corrigendum III : Sr. No. - 10
680	Volume - 2 Page 87 of 104	3.8.2	Network Connectivity • The MSI shall make payments to the Network Service Provider directly and get the payment from the Office of the Transport Commissioner through quarterly invoice.	As per TRAI guidelines, bidders are not allowed to resell the internet bandwidth and same shall be a tri-partite agreement between the client, ISP and the bidder. Therefore, we request you to include the Tripartite agreement in the current contract.	Please refer to Annexure - 2
681	Volume - 1 Page 16 of 95	1.11	Bid Rejection Criteria	We would like to highlight that debarment or banning of an organization has a larger impact for business since bigger companies like L&T Technology Services operates in multiple domain, business areas and multiple geographies. Considering the same we request to remove this clause and suggest to amend the clause as below: 18. If after awarding the contract, it is found that the accepted bid violated any of the directions pertaining to the participation, the contract shall be liable for cancellation at any time during its validity in addition to penal action including forfeiting of EMD blacklisting against the bidders. a) Price Bids that do not conform to the RFP's price bid format. b) The total price quoted by the Bidders does not include all statutory taxes and levies applicable.	RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
682	Volume - 2 Page 15 of 104	2.5	Common guidelines regarding compliance of systems / equipment	We request you to kindly allow us to propose multiple makes for the auxiliary systems like Networking, Bandwidth, Cyber Security Solution, Junction boxes, Video Wall, Poles etc as the same are only support systems and do not play a role in the overall function of the project. This will enable the SI with optimal solution during the project execution and will benefit authority with competitive offers ensuring timely delivery of the project.	RFP Clause Prevails
683	Volume - 1 Page 23 of 95	3.5	Pre-Qualification PQ-3 Technical Capability	PQ-3 Technical Capability The bidder/any member of consortium must have experience in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) Rs. 100,00,00,000/- (100 Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) Rs. 80,00,00,000/- (80 Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only) Rs. 50,00,00,000/- (50 Crore Only) The "Similar assignment" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video analytics through camera/Radar or both in India with any state / central government / PSUs in last 7 years as on date of publication of bid.	Please refer to Annexure - 3

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
				Note: The Bidder/The Lead Bidder need to specify the project/s for evaluation	
684	Volume - 1 Page 30 of 95	3.6	Technical Bid Evaluation B.1 Implementation Experience of video surveillance through camera/radar/both with analytics	We request you to amend this clause as mentioned below: B.1 Implementation Experience of video surveillance through camera/radar/both with analytics The bidder/any member of the consortium should have design and implementation experience in one single project of procurement, supply, installation of video surveillance through camera/radar/both with analytics for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value: > 20 50 Crores <= 30 80 Crores - 5 Marks > 30 80 Crores <= 40 100 Crores - 10 Marks > 40 100 Crores - 15 Marks	RFP Clause Prevails
685	Volume - 1 Page 30 of 95	3.6	Technical Bid Evaluation B.3 Command and Control Centre	B.3 Command and Control Centre The bidder/any member of the consortium should have design and implementation experience in procurement, supply, installation of command-andcontrol centre having video wall, enterprise management system, help desk for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value minimum number of projects: 1 3 Project - 3 Marks 2 4 Projects - 5 Marks 3 5 Projects - 10 Marks	RFP Clause prevails
686	pAGE 79 of 104	3.5	Network Management System	Kindly provide the detailed technical specifications for the Network Management System	RFP Clause Prevails

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
687	Page 24 of 104	3.1.2	3.1.2 Unified Command and Control Centre (UCCC) The MSI shall set up operator workstations, network connectivity and software for processing traffic violations, power backups, firewall, antivirus licenses, etc.	Kindly provide the detailed technical specifications for the Workstations and include the quantity for same in BOQ.	Please refer to Annexure - 8
688	Page 56 of 104	3.3.	3.3.11 Variable Messaging Display Board (VMD)/Speed Display The MSI shall install IP based VMD boards on strategic locations across the highways as per the requirement of the Office of the Transport Commissioner.	In Vol 1 BOQ only 1 No. of Variable Messaging Display Board (VMD) with Pole is mentioned, however as per Vol 2 the VMD has to be placed across multiple locations. Kindly provide the exact quantity of VMDs to be quoted and include the same in BOQ.	The quantity of the VMD will be decided during contract agreement sign off. The bidders shall quote unit price for Variable Messaging Display Board along with mounting structure.
689	Page 47 of 104	3.3	IP Rating : IP 67 or better	Kindly change the IP rating of Junction Box to IP 55.	Please refer to Annexure - 2
690	Page 50 of 104	3.3	Remote Monitoring	Kindly mention the type of parameters to be monitored , like temperature , humidity , smoke , fire , WLD , door opening etc .	Please refer to Annexure - 2
691	Page 50 of 104	3.3	The Enclosure solution should be - 15U 600W 800 D enclosure upto 1000 mm (Overall) in height with 850 mm Width (Including Panel AC) and 600 mm Depth for Server & Networking application.	Both the mentioned clauses are contradicting with each other. Kindly clarify whether inbuilt Cooling is required. If required, IP 55 certified Rack can't be possible.	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			The rack shall be IP55 certified from an accredited lab.		
692	Page 12 of 104	2.2	The bidder shall propose a cost of shifting of gantry or cantilever structure along with the installed devices. However, the cost will not be a part of the financial bid proposal. The bidder will also indicate a turnaround time of shifting of the structures to the new location.	Kindly share the detailed list of Equipment with Location Details need to be shifted	The MSI shall submit unit rate of shifting and reinstallation of gantry or cantilever structue along with the devices installed on it. Please refer to the Financial Format.
693	Page 50 of 104	3.3	Should have PDU 1U 6 X 5/15Amp Octagonal angular Socket with 16Amp MCB.	Kindly rise the clause as "Should have PDU 1U 6 X 5/15Amp Socket with 16Amp MCB."	Please refer to Annexure - 2
694	Page 19 of 104	3.1	The details of the indicative hardware, networking and infrastructure components available and installed at CCC are as follows: Sr. No. Major Component Quantity 1.Video Wall 1 Unit 2. Desktop 4 Nos 3. Online UPS 1 No 4. Application Server 1 No. 5. Workstations Furniture 6 Nos	Kindly share the Existing CCC Layout, Area details and Locations. As we have to enhance the existing CCC.	Please refer to Annexure - 8
695	Page 24 of 104	3.1	The MSI shall upgrade the existing CCC to the UCCC to ensure all required hardware like videowall, IT equipment, third party	Kindly clarify the Detailed Scope work of ICCC requirement to be considered by the Bidder. Kindly add the same in the BOQ	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			software, antivirus, firewall, etc. are seamlessly integrated on UCCC platform.		
696	Page 35 of 104	3.2	3.2.14 Integration with legacy systems The application should have the provision for base integration with other third-party applications as per the requirement of office of the Transport Commissioner and Government Applications with their versions during the IEMS Project like: • e-Challan • CCTNS (Crime and Criminal Tracking Network and Systems) • Vahan 4.0 • Sarathi 4.0 • ERSS (Emergency Response Support System) • IRAD (Integrated Road Accident Database) • DEESHA Solution • All Interceptors deployed by State Transport Authority in State (in future as per requirements)	Kindly mention details of integration protocols these systems can support	Please refer to Annexure - 8
697	Page no.24 of 104	3.1.2	3.1.2 Unified Command and Control Centre (UCCC) • MSI shall be responsible for upgrading the existing	Kindly mention following details about existing systems: a) Make details b) Model details c) On what Operating system the existing applications are currently running	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			command and control centre including but not limited to hardware and software components to a Unified Command and Control Center (UCCC) which will be capable of processing live feeds from the identified locations. • The MSI shall upgrade the existing CCC to the UCCC to ensure all required hardware like videowall, IT equipment, third party software, antivirus, firewall, etc. are seamlessly integrated on UCCC platform.	d) What database is being used to store data of these applications e)Current version of OS and DB f) Frequency of data	
698	General	General	General	a) Kindly share the complete technology/Solution stack of the existing applications b) Kindly share details (make, model, version) of all COTS and bespoke products that are currently being used c) Kindly clarify what technologies have been used for developing the mentioned COTS and bespoke product solutions.	Please refer to Annexure - 8
699	Page no.25 of 104	3.2.1	3.2.1 Brief Overview of IEM The system would be compatible in the future to get integrated with police database.	Kindly mention the details about types of databases currently being used.	The details will be shared at the time of integration with Police database.
700	Page no.80 of 104	3.6.1	3.6 Managed Cloud Services 3.6.1 DC & DR on Managed Cloud Services	Kindly mention what will be the RTO?	Please refer to Corrigendum III : Sr. No. - 11

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
701	Page 13 of 104	2.3	2.3 General System Features The system should allow the operator to create a continuous recording schedule for the camera based on the time of day and day of week. It should be possible to set the camera recording schedule for a single camera or a group of cameras or all cameras.	Kindly provide the retention period for video feeds.	Please refer to Corrigendum III : Sr. No. - 5
702	Page 26 of 104	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to 4 lanes of road for doing ANPR.	As per industrial standard partice we recommend to use one ANPR camera per lane. So kindly revise the clause to "The System should automatically detect a vehicle in the camera view using video detection and activate Registration plate recognition. One ANPR camera shall be utilized for up to one lanes of road for doing ANPR."	Please refer to Annexure - 2
703	Page 26 of 104	3.2	3.2.2 Automatic Number Plate Recognition (ANPR) System The system should capture HSRP & standard vehicle's number plates with an accuracy of at least 97% during day & night across all weather conditions throughout 24x7.	Kindly revise the clause to "The system should capture HSRP & standard vehicle's number plates with an accuracy of at least 90% or above during day & night across all weather conditions throughout 24x7" for wider OEM participation.	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
704	Page 27 of 104	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding) The system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%.	Kindly revise the clause to"The system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 90%" for wider OEM participation.	Please refer to Annexure - 2
705	Page 28 of 104	3.2	3.2.3 Speed Violation Detection (SVD) System (Over speeding) The system should have an algorithm to calculate the segmental speed of a vehicle between two gantries/cantilevers.	As per RFP, we understand that Average vehicle speed need to be calculated between two gantries/cantilevers.Kindly confirm	Please refer to Annexure - 2
706	Page 8 of Vol-2	1.2	1.2 Project Objectives c) Monitoring of the traffic violations at the identified locations throughout 24x7x365.	As per RFP, we understand that only events & violation related data will be monitored 24x7x365 & live camera feed is not required. Kindly confirm	Live Camera feed shall be required at UCCC.
707	Page 13 of Vol-2	2.3	2.3 General System Features The source code of the custom developed application for IEMS should be handed over to the Office of the Transport Commissioner during the time of go-live.	We understand this clause is not applicable to COTS solutions. Kindly confirm.	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					bespoke / custom developed software for IEMS project.
708	Page 13 of Vol-2	2.3	2.3 General System Features The system should allow the operator to create a continuous recording schedule for the camera based on the time of day and day of week. It should be possible to set the camera recording schedule for a single camera or a group of cameras or all cameras.	As per RFP we understand that continous recording is required in DC & DR for all cameras including ANPR camera , Pole security cameras & analytics cameras. Kindly confirm the understanding.	Please refer to Corrigendum III : Sr. No. - 5
709	Page 14 of Vol-2	2.4	2. 4 Important Instructions for the MSI 10. The offending events shall be stored in the storage for 3 three years for any legal requirement. All the data shall be archived in every three months duration for proper space utilization.	As per RFP we understand that only Violation events with image snap & video clip needs to be stored for 3 years. Kindly confirm.	Please refer to Corrigendum III : Sr. No. - 5
710	Page 24 of Vol-2	3.1	3.1.2 Unified Command and Control Centre (UCCC) MSI shall be responsible for upgrading the existing command and control centre including but not	As per RFP, we understand that the system should provide unified interface for monitoring cameras, assignment of analytics, monitoring of analytics alerts, system health alerts for the new and existing system. The system should also have all the recorded data (continuous video feeds, VA alerts, flagged videos, system audit logs, operator permissions, etc.) preserved	Please refer to Annexure - 8

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
			limited to hardware and software components to a Unified Command and Control Center (UCCC) which will be capable of processing live feeds from the identified locations.	and available from day one. Kindly confirm the understanding.	
711	Page 35 of Vol-2	3.2	3.2.14 Integration with legacy systems All Interceptors deployed by State Transport Authority in State Toll Gates/e-detection system (in future as per requirements)	Kindly clarify the scope of integration for interceptor solution & Toll gates system	Please refer to Annexure - 8
712	Page 81 of Vol-2	3.6	3.6.1.1 Cloud enabled DC Operations & Administration	Kindly provide what percentage of DC compute to be considered in DR.	RFP Clause prevails
713	General		General	Kindly include the VMS and VA license need to be considered as part of the solution in the BoQ	VMS and VA Licenses shall be considered by the MSI as a part of Scope of work.
714	Volume : 1 Page: 17/95	2.6	Earnest Money Deposit (EMD).	Please exempt the EMD for central and state owned PSUs	Please refer to Corrigendum III : Sr. No. - 14, 15
715	Volume : 1 Page: 25/95	3.5	Pre-Qualification	We are a multilocated company and our auditors are appointed by CAG and we are in the final stage of Audit. Hence please consider the provisional balance sheet for the FY 2022-2023	Please refere to Annexure – 3
716	Volume : 1 Page: 27/95	3.5	Pre-Qualification	ANPR camera used is machine vision category and has super night image quality with dual power IR flash etc, ONVIF specs does not support such specs of specialized ANPR cameras. Request to consider Camera has BIS certification and 100% designed & manufactured in India.	Please refer to Annexure - 3

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
717	Volume : 1 Page: 31/95	3.6	Technical Bid Evaluation	Request to consider the international metrological lab certification for the RADAR and MORTH 167A Rule compliance.	Please refer to Annexure - 4
718	Volume : 1 Page: 31/95	3.6	Technical Bid Evaluation	Total mark for the technical evaluation of bid shown as 100. But in the sum of marks in the detailed split up shown as 95.	Please refer to Annexure - 4
719	Volume : 1 Page: 34/95	3.11	Performance Bank Guarantee	Please exempt the PBG for the Central/State PSUs or put the minimum 3% as per the Amendment in General Financial Rules 2017 - Rule 171(i) for Central/State PSUs.	Please refer to Corrigendum III : Sr. No. - 12
720	Volume : 1 Page: 34/95	3.11		Instead of considering the 10% of total project value, requsest to consider an amount equivalent of 10% total extended maintenance period contract value shall be payable by the bidder for two years and six months i.e., during extended maintenance period.	Please refer to Corrigendum III : Sr. No. - 12
721	Volume : 1 Page: 41/95	5.21	Insurance Requirement	Transport Commissioner may authorize the successful bidder to claim the insurance coverage from the Insurance company.	RFP Clause prevails
722	Volume : 1 Page: 46/95	6.7	Patent / Intellectual Property Rights (IPR) / Copy Rights	Source code is an intellectual property of the respective company kindly exempt the same. Full documents can be shared	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
723	Volume : 1 Page: 46/95	6.7	Patent / Intellectual Property Rights (IPR) / Copy Rights	Source code is an intellectual property of the respective company kindly exempt the same. Full documents can be shared	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation,

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
724	Volume : 1 Page: 46/95	6.7	Patent / Intellectual Property Rights (IPR) / Copy Rights	Source code is an intellectual property of the respective company kindly exempt the same. Full documents can be shared	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
725	Volume : 1 Page: 46/95	6.7	Patent / Intellectual Property Rights (IPR) / Copy Rights	Source code is an intellectual property of the respective company kindly exempt the same. Full documents can be shared	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
					bespoke / custom developed software for IEMS project.
726	Volume : 1 Page: 81/95	9.16	Annexure 16: Noninvolvement in any litigation with Government (on bidder letterhead)	Based on the network connectivity availability bidder need flexibility to select them.	RFP Clause prevails
727	Volume : 2 Page:12/104	2.3	General System Features	Source code is an intellectual property of the respective company kindly exempt the same. Full documents can be shared	The Source code of all the bespoke / custom developed software code, data, algorithms, documentation, manuals, any other documents generated as a part of implementation of this project shall be handed over to the Transport Commissioner, Odisha. Authority shall have all rights to use the Source Code of bespoke / custom developed software for IEMS project.
728	Volume : 2 Page: 13/104	2.3	General System Features	The necessary API may be provided by the department for DEESHA Command and Control Centre integration	The office of the Transport Commissioner will facilitate all the data and information required from the agency. However, the MSI will be responsible for coordination and successful integration.
729	Volume : 2 Page: 13/104	2.3	General System Features	The necessary API may be provided by the department for the same	The office of the Transport Commissioner will facilitate all the data and information required from the agency. However, the MSI will be responsible for coordination and successful integration.

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
730	Volume : 2 Page: 16/104	2.5	Common guidelines regarding ompliance of systems / equipment	Since the project Owner is Transport Commissioner FIR may register on behalf of Transport commissioner only. Necessary field support shall be provided by the successful bidder	The office of the Transport Commissioner will support MSI to register FIR. However, the MSI shall be responsible to file FIR.
731	Volume : 2 Page: 18/104	2.7.6	Open Standards	Maximum open standards will be used.	RFP Clause Prevails
732	Volume : 2 Page: 26/104	3.2.2	3.2.2 ANPR System	No 4 lane road is mentioned in BOQ . For 4 lanes - one 4K camera will not be sufficient when considering 2 wheelers.	Please refer to Annexure - 1
733	Volume : 2 Page: 27/104	3.2.3	Speed Violation Detection (SVD) System (Over speeding)	Request to consider the international certification as well as MORTH 167A Rule.	Please refer to Corrigendum III : Sr. No. - 8
734	Volume : 2 Page: 34/104	3.2.13	Service Level Agreement (SLA) Monitoring Tool	Please consider NMS OR equivalent schemes also to be allowed.	RFP Clause Prevails
735	Volume : 2 Page: 34/104	3.2.12	Pole mounted Junction Box security System	Please clarify alarm can be triggered while system running on low battery mode.	RFP Clause Prevails
736	Volume : 2 Page: 35/104	3.3.1	ANPR Camera s	Request to consider H.264/MJPEG or better .	Please refer to Annexure - 2
737	Volume : 2 Page: 41/104	3.3.2	Speed Violation Detection Radar	Requested to allow Equivalent 24 GHZ option other than 77GHZ option (NOTE: WPC- wireless planning commission of India allows 24 & 77 GHZ bands for Traffic enforcement)	Please refer to Annexure - 2
738	Volume : 2 Page: 41/104	3.3.2	Speed Violation Detection Radar	Request to consider Equivalent to BIS certification also	Please refer to Annexure - 2
739	Volume : 2 Page: 48/104	3.3.7	Local processing Unit	Request to consider equivalent LPU which meets the proposed system functional requirement	Please refer to Annexure - 2
740	Volume : 2 Page: 63/104	3.4	Gantry & Cantilever Indicative Design	Request to attach a readable Drawing	The MSI shall design and install Gantry & Cantilever to meet SLA parameters and to withstand wind speed of minimum 200 kms per hour.
741	Volume : 2 Page: 66/104	3.4.3	Civil Infrastructure and Cabling	Request to consider any reputed structural Engineer approval drawing also	Please refer to Annexure - 2

Sr	RFP Page No.	RFP Clause No.	Clause Title	Queries / Clarification Sought	Response
742	Volume : 2 Page: 90/104	4.1	Master System Integrator	Considering the large volume and global shortage of semiconductor request to consider minimum 8 months to hand over from the date of issue of work order	Please refer to Annexure - 7
743	Volume : 2 Page: 90/104	6.2	SLA during Implementation	Considering the large volume and global shortage of semiconductor request to consider 0.05% per week subject to maximum 10% of the total contract Value	RFP Clause prevails
744	Volume : 2 Page: 97/104	6.3	SLA during Operation and Maintenance:	Please consider the normal tender conditions like typical field systems 98% uptime, excluding force majeure conditions	RFP Clause prevails

2 Corrigendum - III

Request for Proposal ('RFP') For Selection of Vendor for Upgradation of existing Command Control Centre to Unified Command Control Centre & Implementation of Intelligent Enforcement Management System (IEMS) for Office of the Transport Commissioner, Odisha

Published on: 14/11/2023
Tender No. LXVII-424/2022/R.S/T.C – 16953

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
1.	2	2.5	16	Common guidelines regarding compliance of systems / equipment	All servers, active networking components (for edge level switches), security equipment, storage systems and COTS Application proposed should be from OEMs who are amongst the top 5 for world-wide market share in terms of revenue as per IDC latest published quarterly report presence in the latest Magic Quadrant of Gartner. MSI is expected to attach the report along with the Technical Bid.	All servers, active networking components (for edge level switches), security equipment, storage systems and COTS Application proposed should be from reputed OEMs. MSI is expected to attach the supporting documents such as satisfactory performance certificate from government client along with the Technical Bid.
2.	2	2.1	11	Proposed Solution	The solution shall be developed by Master System Integrator (MSI), who shall be responsible for supply,	The solution shall be developed by Master System Integrator (MSI), who shall be responsible for supply, development,

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
					development, customization, installation, testing and commissioning of the project along with operations and maintenance for the period of 5 years. Further, the operations and maintenance period may be extended up to 3 years on a yearly basis performance review of the MSI.	customization, installation, testing and commissioning of the project along with operations and maintenance for the period of 5 years. Further, the operations and maintenance period may be extended up to 2 years on a yearly basis performance review of the MSI.
3.	1	17	2.2	Mode of Submission	Cover: Super scribed with "Selection of IT service provider for providing onsite support on manhour basis for e-Governance services at the Office of the Transport Commissioner and its subordinate offices." and bidders name and address.	Cover: Super scribed with "Request for Proposal for Selection of Vendor for Upgradation of existing Command Control Centre to Unified Command Control Centre & Implementation of Intelligent Enforcement Management System (IEMS)" and bidders name and address.
4.	2	2.4	14	Important Instructions for the MSI	• The Office of the Transport Commissioner will facilitate electrical connection, in coordination with Utility Provider at a point nearer and feasible to the place of Gantry installation. From that point the rest of wiring to be done by the selected MSI, be it underground or over ground based on site conditions and due approval from the authority. They will be also responsible for installation of proper earthing at all the outer locations. The electrical connection made by MSI at the	• In Odisha, Tata Power is into power distribution along with Government of Odisha in a joint venture in all four zones namely TPWODL (for Western Odisha), TPSODL (for Southern Odisha), TPNODL (for Northern Odisha) and TPCODL (for Central Odisha respectively). • The MSI shall be responsible for electricity connection to each location through an aggregation point. Since this component has dependency on approval from local authorities, it is

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
					gantries/cantilever will be inspected (if required) by competent authority from office of the Transport Commissioner and MSI needs to act accordingly if any deficiency is noticed by Office of the Transport Commissioner. The MSI will be responsible for all utility services and bear expenditure. The expenditure occurred due to utility services will be paid to the MSI as per the actual invoice raised by the utility service providers. (Utility Services includes power and network services)	recommended that MSI plans this requirement well in advance & submits the application to the concerned electricity distribution agency on behalf of the Office of the Transport Commissioner with requisite fees, as applicable. • MSI shall be responsible for installation of proper earthing at all the outer locations. The electrical connection made by MSI at the gantries/cantilever will be inspected (if required) by competent authority from office of the Transport Commissioner and MSI needs to act accordingly if any deficiency is noticed by Office of the Transport Commissioner. • The MSI will be responsible for all utility services and bear expenditure. • The expenditure incurred by appointed MSI on account of electrical charges will be reimbursed to the MSI as per the actual bills raised by the electricity service providers or as per the financial quote submitted by MSI under Price bid, whichever is less.
5.	2	3.6.3	82	Provision for Storage &	• It is proposed that the storage solution should be modular enough	It is proposed that the system shall be modular enough to ensure compliance to

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
				Recording Services	to ensure compliance to the changes in storage / recording policy, to be evolved upon initial deployment of the system. • MSI shall provide storage and recording services for the operations and maintenance period of 5 years. • The following storage requirements shall be fulfilled by the MSI as scope for the project: o 30 days storage of all the traffic surveillance camera feeds to be stored at UCCC and Flagged data (critical incidents) will be stored for approximately 90 days, permanent storage envisaged on secondary storage. o Above systems are required to be stored on Primary storage for 7 days & on Secondary Storage for remaining days respectively at Data Centers.	the changes in storage / recording policy, to be evolved upon initial deployment of the system. The system shall be scalable and secure as per industry standards. MSI shall be responsible for storage and recording services for the operations and maintenance period of 5 Years. The following storage requirements shall be fulfilled by the MSI as scope for the project: • Traffic Violations Data shall be stored on Cloud. • Primary storage shall store all data for 180 days, further the data will be transferred to secondary storage for 3 years. • Data related to traffic offences shall be stored for a minimum of 3 years or conclusion of proceedings/appeals whichever is higher. • Storage of surveillance camera feeds to be stored at UCCC. o Storage of all the traffic surveillance camera feeds to

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
					o Data on storage would be over-written automatically by newer data after the stipulated time period. If some data is flagged by designated personnel as important data / evidence data due to some reporting of accident in the area or due to court order or due to suspicious activity, it would need to be stored for longer duration, as per requirements. o Full audit trail of reports to be maintained for 90 days. o Bidder is expected to carry out the storage requirement estimation and supply as per the solution proposed. o Indicative minimum storage requirement is mentioned as follows: <table><tr><td>#</td><td>Minimum Storage Requirement</td><td>TB</td></tr><tr><td>1</td><td>Primary Storage</td><td>700 TB</td></tr><tr><td>2</td><td>Secondary Storage</td><td>2100 TB</td></tr></table>	be stored at UCCC for 1 Year. o Further the data will be stored at secondary storage for 3 years. • The live video surveillance feeds of Pole Security Camera, Video Analytics Cameras shall be stored at UCCC. • Data on storage should be over-written automatically by newer data after the stipulated time period as defined in the RFP. If some data is flagged by designated personnel as important data / evidence data due to some reporting of accident in the area or due to court order or due to suspicious activity, it would need to be stored for longer duration, as per requirements of the office of the Transport Commissioner. • The MSI shall be responsible for installation, configuration and management of Storage and Recording System and its accessories like switches, LAN cablings, power cabling, etc.

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
						- The MSI shall prepare share Standard Operating Procedure (SOP) document for the Storage Administration and management. - Data on storage would be over-written automatically by newer data after the stipulated time period. If some data is flagged by designated personnel as important data / evidence data due to some reporting of accident in the area or due to court order or due to suspicious activity, it would need to be stored for longer duration, as per requirements. - Full audit trail of reports to be maintained for 3 Years. - The bidder is expected to carry out the storage requirement estimation and supply as per the solution proposed. - The MSI shall be responsible for management of storage environment to maintain performance at desired optimum levels.

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
						• Indicative minimum storage requirement is mentioned as follows:

#	Minimum Storage Requirement	TB
1	Primary Storage of Traffic surveillance camera feeds for 1 Year	3562 TB
2	Secondary Storage of Traffic surveillance camera feeds for next 2 Years	7124 TB
	Total Storage	10686 TB

Note:

- In case of compressed data, the actual storage size will be reduced.
- The live video surveillance feeds of Pole Security Camera, Video Analytics Camera to be stored at UCCC.
- The bidder shall comply with the Archival and Retention Policy issued by MoRTH from time to time.

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
6.	2	3.7	83	Operations and Maintenance of	• Set up a Call center for verification of addresses, pending issues,	This clause stands deleted.

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
				the IEMS Solution	reminders, public help regarding challan etc. The Call center shall be one-seater and shall work in 2 shifts 7 days a week.	
7.	Volume - 2	3.8.2	88	3.8.2 Network Connectivity	(see table below)	Each location shall have a minimum of 25 Mbps bandwidth. (see table below) UCCC: Minimum Bandwidth of 1:1 according to the number of field locations i.e. bandwidth requirement at each location multiplied by number of locations.
8.	2	3.2.3	28	Speed Video Detection System	1. The system should be an object frame rate & radar-based speed violation detection system shall be used for speed detection. MSI will make provision to install one radar which will accommodate upto 4 lanes on one side	1. The system should be an object frame rate & radar-based speed violation detection system shall be used for speed detection. MSI will make provision to install one radar which will accommodate upto 3 lanes on one side of road. One

RFP Clause table (row 7):

#	Solution	Approx. Bandwidth Requirement
1	ANPR Camera	4 Mbps per location
2	SVD Radar	4 Mbps per location
3	Video Analytical Camera	4 Mbps per location
4	Pole Security Camera	2 Mbps per location

Revised Clause table (row 7):

Lane Type	ANPR Camera	Video Analytics Camera	Minimum Bandwidth
2 Lane	2 X 6 Mbps	2 X 3 Mbps	18 Mbps
4 Lane	2 X 6 Mbps	4 X 3 Mbps	24 Mbps
6 Lane	2 X 6 Mbps	6 X 3 Mbps	30 Mbps

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
					of road. One Radar for 4 lanes will ensure scalability of the system in case of future expansion of roads and it should be of advanced technology. 2. The system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. 4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government. Such certificate/test report should be submitted along with bids. 7. The event window should show the video of the number plate of the vehicle along with the over speeding event. The window should also show at least five snapshots from ANPR camera associated with the event. 10. The system should be capable of multi lane (up to 8 (4+4) Lane) functioning with simultaneous incident detection and recording.	Radar for 3 lanes will ensure scalability of the system in case of future expansion of roads and it should be of advanced technology. 2. The accuracy of the radar speed detection system should be at least 98% and capture up to minimum 180 kmph speeds during day and night for all types of vehicles. 4. The system should have been certified/tested by a reputed Indian test laboratory or institute under central government or equivalent international institution. Relevant certificate/test report should be submitted along with bids. 7. The event window should display cropped image of the number plate of the vehicle along with the over speeding event. The window should also display at least 2 clear snapshots from camera associated with the event ensuring clear visibility of the number plate. 10. The system should be capable of multi lane (up to 6 (3+3) Lane) functioning with simultaneous incident detection and recording.
9.	2	3.5.5	78	Network Intrusion	16. Certifications and Third-Party Validation	16. Certifications and Third-Party Validation

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
				Prevention System	The security effectiveness of the proposed OEM against exploits, malware and malicious URLs should be proven and validated as the following: i. More than 99% measured by NSS Labs ii. AAA rating by Cyber Rating iii. More than 99.5% measured by ICSA Labs	The security effectiveness of the proposed OEM against exploits, malware and malicious URLs should be proven and validated as the following: i. AAA rating by Cyber Rating ii. More than 99.5% measured by ICSA Labs
10.	1	8	57	Contract finalization and award	Contract Finalization and Award a. Key Personnel involved in the project shall be on the payrolls of the Lead Bidder.	Contract Finalization and Award a. Key Personnel involved in the project shall be on the payrolls of the bidder or Lead Bidder or consortium partner.
11.	2	3.6.1	80	DC & DR on Managed Cloud Services	MSI will be responsible for managing RPO (4 hours), DR Drills for the entire solution	MSI will be responsible for managing RTO (4 hours), RPO (1 hour), DR Drills for the entire solution
12.	1	3.11	34	Performance Bank Guarantee	1. The PBG (10% of total contract value) shall be submitted within 15 days of notification of award done through issuance of Letter of Intent valid for the entire period of the project and six months thereafter i.e., five years and six months. Transport Commissioner, Odisha shall facilitate the signing of contract within the period of 15 days of notification of award. However, it is to	1. The PBG (5% of total contract value) shall be submitted within 15 days of notification of award done through issuance of Letter of Intent valid for the entire period of the project and six months thereafter i.e., five years and six months. Transport Commissioner, Odisha shall facilitate the signing of contract within the period of 15 days of notification of award. However, it is to be noted that the date of

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
					be noted that the date of commencement of project and all contractual obligations shall commence from the date of issuance of letter of intent, whichever is earlier. All reference timelines as regards execution of project and payments to bidder shall be considered as beginning from date of issuance of letter of acceptance, whichever is earlier. 2. An amount equivalent of 10% of total contract value shall be payable by the bidder for two years and six months i.e., during extended maintenance period. All charges whatsoever such as commission, etc. with respect to the Performance Bank guarantee shall be borne by the bidder. Post completion of Project, this bank guarantee shall be returned subject to work carried out to the satisfaction of the Transport Commissioner, Odisha.	commencement of project and all contractual obligations shall commence from the date of issuance of letter of intent, whichever is earlier. All reference timelines as regards execution of project and payments to bidder shall be considered as beginning from date of issuance of letter of acceptance, whichever is earlier. 2. An amount equivalent of 5% of total contract value shall be payable by the bidder for two years and six months i.e., during extended maintenance period. All charges whatsoever such as commission, etc. with respect to the Performance Bank guarantee shall be borne by the bidder. Post completion of Project, this bank guarantee shall be returned subject to work carried out to the satisfaction of the Transport Commissioner, Odisha.
13.	1	9	58	Annexure 1: Technical Cover Letter	9. We hereby declare that if the contract is awarded to us, we will submit Performance Bank Guarantee equivalent to 10% of total contract value as quoted in the commercial bid in the form prescribed in the RFP.	9. We hereby declare that if the contract is awarded to us, we will submit Performance Bank Guarantee equivalent to 5% of total contract value as quoted in the commercial bid in the form prescribed in the RFP.

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
14.	1	2.6	19	Earnest Money Deposit (EMD)	1. Bidder will submit their bids along with EMD in shape of Bank Draft issued by any Nationalized Bank drawn in favor of Transport Commissioner Odisha, Payable at Cuttack.	An EMD of INR 1,00,00,000 (Indian Rupees One Crore) in the form of demand draft or bank guarantee from any Scheduled Commercial bank or Nationalized Bank in India and drawn in favour of the "Transport Commissioner, Odisha" and payable at "Cuttack", must be submitted along with the Proposal. If the EMD is submitted through a bank guarantee, it must be in the format set out in Annexure 10 and the minimum validity date of the bank guarantee should be 180 (one hundred eighty) days from the Proposal Due Date. In the event of any extension in the Proposal's validity, the EMD will also remain valid for such extended period.
15.	1	-	9	Bid Data Sheet Earnest Money Deposit (EMD)	Rs.1,00,00,000 (One Crore Rupees Only), in form of Demand Draft issued by any Nationalized drawn in favor of Transport Commissioner, Odisha payable at Cuttack valid for 180 days from the date of submission of bid	An EMD of INR 1,00,00,000 (Indian Rupees One Crore) in the form of demand draft or bank guarantee from any Scheduled Commercial bank or Nationalized Bank in India and drawn in favour of the "Transport Commissioner, Odisha" and payable at "Cuttack", must be submitted along with the Proposal. If the EMD is submitted through a bank guarantee, it must be in the format set out in Annexure 10 and the minimum validity

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
						date of the bank guarantee should be 180 (one hundred eighty) days from the Proposal Due Date. In the event of any extension in the Proposal's validity, the EMD will also remain valid for such extended period.
16.	Volume - 2	3.4.3		Civil Infrastructure and Cabling		Amended Clause: Detailed design drawings and structural calculations for each type of pole, gantry, or cantilever (including foundations) used to mount IEMS equipment shall be submitted to the Office of the Transport Commissioner and/or the nominated representative for approval after due certification by a Licensed Structural Engineer using state of the art software. The design calculations shall be carried out in accordance with relevant MoRTH/IRC/Govt. of Odisha or as per the directions issued by Office of the Transport Commissioner, Odisha from time to time, standards where applicable. The drawings shall show materials specification and finishes for each item of equipment proposed for use. All weld types and sizes shall be identified on the design and construction drawings.

Sr. No.	Volume	Clause No.	Page No.	Clause Title	RFP Clause	Revised Clause
17.	1	Bid Data Sheet, Sr. No. 9	9	Last Date and time (deadline) for receipt of proposals in response to RFP notice	**12-12-2023 by 04.00 P.M.** Road Safety Lead Agency Cell, Office of the Transport Commissioner 7th Floor, Rajaswa Bhawan, P.O- Chandini Chowk, Cuttack, Pin: 753002 Odisha.0671-2507042,	**09-01-2024 by 04.00 P.M.** Road Safety Lead Agency Cell, Office of the Transport Commissioner 7th Floor, Rajaswa Bhawan, P.O- Chandini Chowk, Cuttack, Pin: 753002 Odisha.0671-2507042,
18.	1	Bid Data Sheet, Sr. No. 9	10	Date, time, and venue of opening of Technical Proposals received in response to the RFP notice	**12-12-2023 at 04:30 P.M.** Conference Hall, Office of the Transport Commissioner 7th Floor, Rajaswa Bhawan, P.O- Chandini Chowk, Cuttack, Pin: 753002 Odisha.0671-2507042	**09-01-2024 at 04:30 P.M.** Conference Hall, Office of the Transport Commissioner 7th Floor, Rajaswa Bhawan, P.O- Chandini Chowk, Cuttack, Pin: 753002 Odisha.0671-2507042

3   Annexure (1) – Volume 2: 2.1 Revised Proposed Solution

The idea of having a vibrant and dynamic IEMS in place is envisioned keeping in mind that the numbers of vehicles are increasing day by day in the state. The rate of accidents involving drivers, riders and pedestrians on the roads increases due to negligence driving and over speeding.

Therefore, any traffic rules violations along the identified stretches will be captured through Cameras and Radars. The processed data will be transmitted to the UCCC, which will be hosted at cloud infrastructure. The Violator Vehicles details (like Mobile No., Address) will be validated with the VAHAN database. On successful validation offence details will be processed through e-Challan system. An SMS will be sent through e-Challan system to the violators on their registered mobile number mentioned in VAHAN 4.0.

The solution shall be developed by Master System Integrator (MSI), who shall be responsible for supply, development, customization, installation, testing and commissioning of the project along with operations and maintenance for the period of 5 years. Further, the operations and maintenance period may be extended up to 2 years on a yearly basis performance review of the MSI. The MSI shall be responsible for making the required arrangements for feeding data from field equipment and analyzing the data through IEMS Solution and presenting the interactive dashboard at Unified Command & Control Centre (UCCC) and other monitoring centers at selected RTO Offices & Police Stations.

The solution should also be capable of generating periodic, traffic violation wise and demographic MIS reports based on location, operator, number of enforcement cases, duration of the day, and other data parameters as per the requirements of the client. The MIS reports and dashboard shall be accessed through any RTO office locations or establishments under the purview of the Office of Transport Commissioner along with the police stations.

There shall have provisions to capture incidents like Traffic Congestion Detection at Gantry/Cantilever Locations and Accidents / On road Vehicle stranded / Abandon Vehicle parked on road for a longer period within the limitation of camera field of view, using live / recorded camera feeds at remote monitoring units and/or Unified Command and Control Centre. The system shall be scaled up in the future to have an incident management system to identify the breakdown failure of components.

Also, the application which will be developed as part of IEMS project must be scalable and designed in such a way that during the project period, Office of the Transport Commissioner may increase the number of IEMS locations or nodes and cameras to any extent without changing the core of the software engine or any part thereof, whereas only the required hardware infrastructure will be added or upgraded as per requirement and recommendation of competent authority.

The MSI shall develop a burglar/Anti-theft alarm system and analytics applications for deployment of intelligent analytics on the cameras/field equipment and raise alarms & triggers in case of offensive and unlawful activities (unauthorized opening of junction box, thefts, vandalism, etc.) within a periphery of gantries or nodes using alarms, hooters, and notifications.

The solution shall comprise of various field systems at IEMS locations, viz. ANPR system, Speed Violation Detection (SVD) System and Video Analytics for detection of traffic violations.

E-Challan system and other IT infrastructure available with legacy system at Central Control & Centre (CCC) shall be integrated with new upgraded Unified Command & Control Centre (UCCC) for successful operation of the IEMS.

ANPR system:

The ANPR System shall be used for monitoring vehicle flow at strategic locations. The system will support real-time detection of vehicles at the deployed locations, capture all vehicle, reading its number plate, database lookup from central server and triggering of alarms/alerts based on the vehicle status and category as specified by the database. The System will automatically detect the license plate in the captured video feed in real-time and then generate the Optical Character Recognition (OCR) of the license plate characters and forward this to UCCC for further processing. ANPR systems are also part of Speed Violation Detection & Video Analytics for Traffic Violation as sub-systems.

The ANPR Camera with IR will interface to LPU (place inside the Junction Box) and real time data of violating vehicles will be transferred to the UCCC via MPLS network. ANPR Camera should be able to detect Number plates of vehicle minimum 180 Kmph without any distortion of image.

In case ANPR system is unable to recognize the number plate for a vehicle, the image will be captured by the software for manual number plate recognition. No predictions or low confidence recognitions will be manually annotated by staff at the UCCC and fed back to improve the model. The software at the UCCC shall allow operators to zoom in, correct number plate recognized from the snapshot.

The ANPR camera shall correctly link the vehicle number plate with the any violation as detected by the radar or video analytical camera. They shall be operating in tandem where required. The ANPR camera shall be able to capture both retro & non-retro reflective number plates.

SVD system:

The SVD System shall be comprised of one Radar Unit with flasher and shall be interlinked with ANPR system. The Radar will detect the vehicles moving over threshold speed and trigger an alert to ANPR system to capture the details of offensive vehicles. The System shall detect the speed of vehicles as per the business rules defined by the office of the Transport Commissioner.

The Radar with Flasher will interface to LPU and LPU will process the data of violating vehicles and transmit the same to the UCCC via MPLS network.

Video Analytic System for detection of Traffic Violations:

This system shall be capable of video-based traffic violation detection and enforcement systems. The primary objective of the systems is to not only detect traffic violations but also impose enforcement on the violators through supporting evidence for generations of e-Challans.

The Video Analytics Camera will be installed for each lane on each side & integrated with AI (by software module) to detect any traffic violation and integrate the same with ANPR system and e-Challan system to generate challans. The cameras shall be capable of recognizing number plates of the vehicles. The Video Analytics Camera should be able to detect Number plates of vehicle minimum 180 Kmph without any distortion of image.

The system shall be capable of detection of offenses as listed below.

- Using Mobile Phone while driving.
- Driving against the flow of traffic.
- Driver and Passenger not wearing seat belt.
- Riding more than two people on a two-wheeler.
- Riding without helmet by both rider and pillion rider
- Vehicles abandoned on Road.
- Any future scope of violations as added by STA.

The system should have the ability to automatically count and classify traffic, providing valuable data for traffic management purposes.

Connectivity:

The ANPR, RADAR and evidence camera will interface to LPU, and real time data of violating vehicles will be transferred to the UCCC via MPLS network.

Indicative Field Equipment Setup:

1. **ANPR camera:** One dedicated camera for ANPR of the ongoing vehicles as well as capturing images of high-speed vehicles on the road. This camera shall be capable of capturing vehicles on all lanes (upto 3 lanes). The ANPR camera shall provide additional accuracy of capturing License number plates of all hi-speed vehicles running on the road.

2. **Speed Violation Detection Radar:** This shall be a multilane radar for detection of speed violation according to conditions mentioned in the tender. One Single radar shall be used for up to three lanes of road. SVD radar will be connected to ANPR camera which will capture images of vehicles.

3. **Video Analytics Camera for Traffic Violation Detection:** This camera shall be used for continuous monitoring of the road traffic and detection of listed video evidence according to the conditions mentioned in the tender. The MSI shall use this camera for doing ANPR of the vehicles on the road. One Camera shall be used per lane of road.

4. **Pole Security camera:** The Pole security camera mounted shall be used to do surveillance of the junction box and its adjoining area of interest to protect the equipment.

At each location of IEMS implementation, MSI shall install at least following components for surveillance system:

Lane classification	ANPR Camera	SVD Radar	Video Analytics Camera	Pole Security Camera	Total Monitoring Devices
2 Lane (1+1 Lane)	2	2	2	1	7
4 Lane (2+2 Lane)	2	2	4	1	9
6 Lane (3+3 Lane)	2	2	6	1	11

Indicative diagram of field equipment setups is as follows:
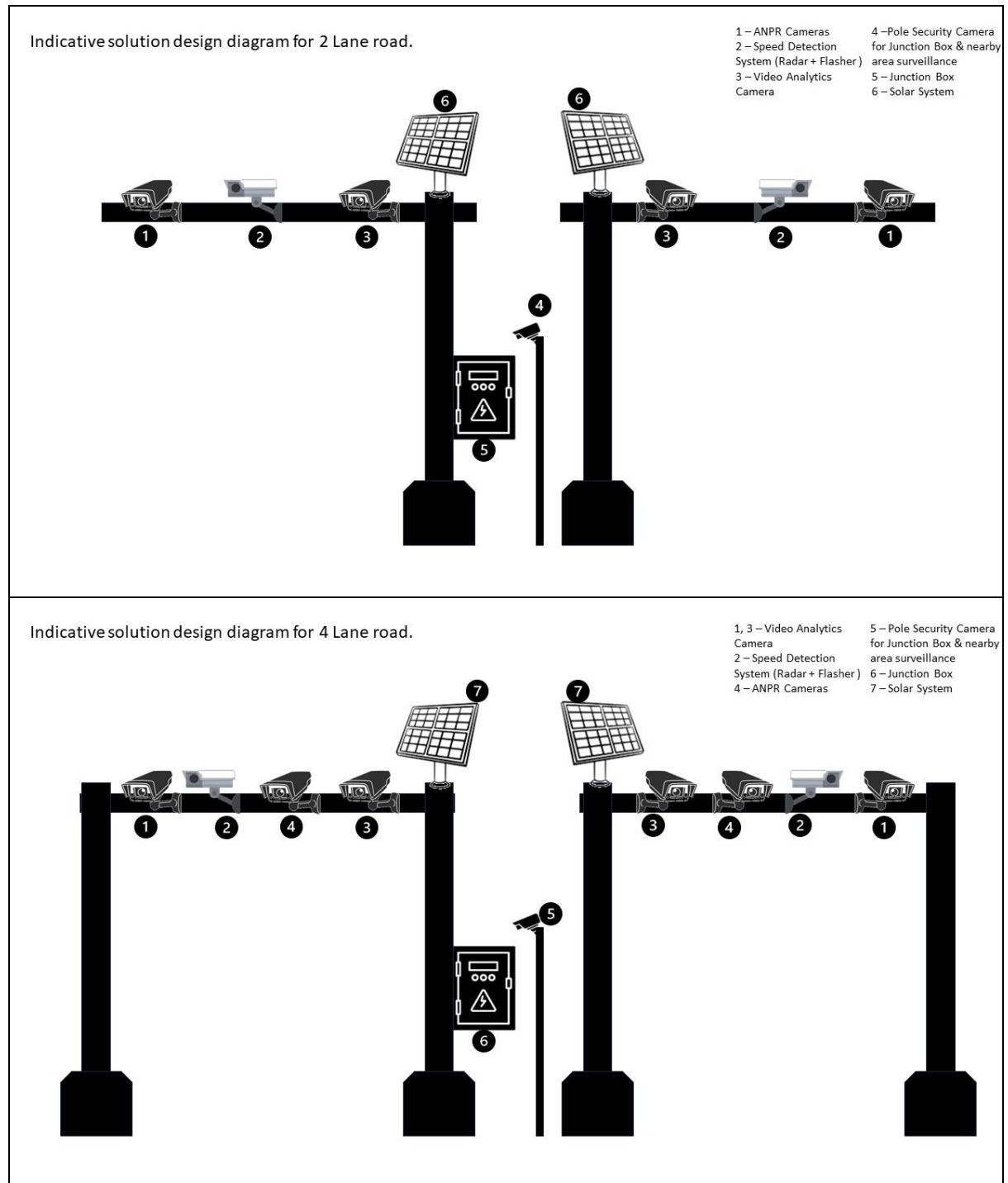
Indicative solution design diagram for 2 Lane road.

1 – ANPR Cameras
2 – Speed Detection System (Radar + Flasher)
3 – Video Analytics Camera
4 – Pole Security Camera for Junction Box & nearby area surveillance
5 – Junction Box
6 – Solar System

Indicative solution design diagram for 4 Lane road.

1, 3 – Video Analytics Camera
2 – Speed Detection System (Radar + Flasher)
4 – ANPR Cameras
5 – Pole Security Camera for Junction Box & nearby area surveillance
6 – Junction Box
7 – Solar System

Indicative solution design diagram for 6 Lane road.

1, 3, 5 – Video Analytics Camera
2 – Speed Detection System (Radar + Flasher)
4 – ANPR Cameras
8 – Pole Security Camera for Junction Box & nearby area surveillance
6 – Junction Box
7 – Solar System
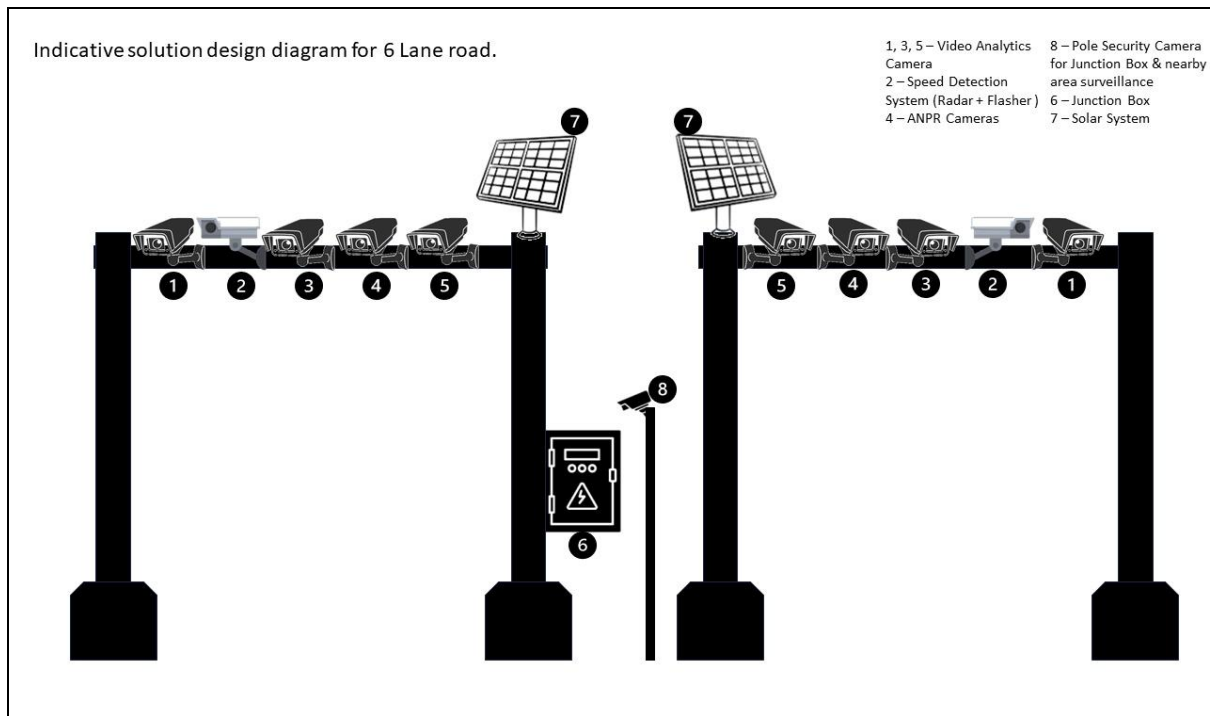
The bandwidth requirement at IEMS Locations:

Lane classification	ANPR Camera	Video Analytics Camera	Minimum Bandwidth
2 Lane	2 X 6 Mbps	2 X 3 Mbps	18 Mbps
4 Lane (2 Up & 2 Down)	2 X 6 Mbps	4 X 3 Mbps	24 Mbps
6 Lane (3 Up & 3 Down)	2 X 6 Mbps	6 X 3 Mbps	30 Mbps

Note: *The bandwidth requirement provided is indicative.*

- This solution should be designed for zero interruption-based communication from the links between control room and cameras installed and spread over various locations across the state.

- The number of nodes/locations including field devices and associated units as decided by Office of the Transport Commissioner may be increased during the award of contract or anytime during the project period and the quoted unit prices of items in the bid shall hold unchanged. No revision of unit prices will be considered for the additional nodes during the project period.

- At each location of IEMS implementation, MSI shall conduct Supply, Installation, Testing & Commissioning of field Devices with uninterrupted and redundant power supply and network services at a single IEMS location. The MSI shall be responsible for providing redundant power supply and maintain SLA as defined in the RFP. Redundant power may be solar power arrangement or a continuous power source.

4   Annexure (2) – Volume 2: 3.3 Hardware Components – Revised Technical Specifications

The MSI will be responsible for the compliance for each of the items and corresponding to the defined features mentioned herewith during procurement process.

3.3.1   ANPR Cameras

#	Feature	Technical specification	Revised Technical specification	Compliance (Yes/No)
1.	Image Sensor	1 inch" Progressive CMOS Global shutter or better	1/2.8" Progressive scan CMOS Global Shutter	
2.	Maximum Resolution	4112 x 2176 (8 MP) or better	4112 x 2176/ 3840 x 2160 (8 MP) or better	
3.	Lens Type	Fix or Full focus-focal	Fix or Full focus focal	
4.	Focal Length	25, 35, 50mm option to suit application. Lens must focus visible and infrared light at the same depth. F1.8 or better	22 / 32 / 50mm option to suit application. Lens must focus visible and infrared light at the same depth.	
5.	Aperture	F1.8 or better	F1.8 or better	
6.	Day/Night	Removable IR-cut filter for day & night function	Removable or fixed IR-cut filter for day & night function	
7.	Mono/Color	Color	Color	
8.	Effective Sensor Diagonal	16.1 mm or better	9.1 mm or better	
9.	Ingress Protection	Weather-proof IP66-rated housing or better Vandal-proof	Weather-proof IP66-rated housing or better Vandal-proof	
10.	Operating Temperature	0° C ~ 70°C or Better	Deleted	
11.	Shutter Time	1/1000 to 1/10,000 sec. or better	1/1000 to 1/10,000 sec. or better	
12.	Capture Range	35 meters or better	35 meters or better	

#	Feature	Technical specification	Revised Technical specification	Compliance (Yes/No)
13.	Power Input	DC 12V to 24V or PoE	DC 12V to 24V or PoE	
14.	Operating Temperature	Starting Temperature: 0°C ~ 60°C Working Temperature: -20°C ~ 60°C -5°C ~ 60°C, with optional cold start heater Suitable for Odisha weather conditions	0°C ~ 60°C suitable for Odisha weather conditions	
15.	Video Compression	Minimum 90%	Deleted	
16.	Interface	H.264 & MJPEG or better	MJPEG / H.264 / H.265 or better	
17.	Synchronization	Fast Ethernet (100 Mbit/s) Gigabit Ethernet (1000 Mbit/s)	Fast Ethernet (100 Mbit/s) or better	
18.	Exposure Time Control	Via hardware trigger Via software trigger Via free run Via hardware trigger Programmable via the camera API	Via hardware trigger Via software trigger Via free run Via hardware trigger Programmable via the camera API	
19.	Presence in India	Any globally reputed Manufacturer presence in India for more than 5 years.	Any globally reputed Manufacturer presence in India for more than 5 years.	

3.3.2 Speed Violation Detection Radar

#	Feature	Technical specification	Revised Technical specification	Compliance (Yes/No)
1.	Technology	Object tracking (range, angle, speed) with UHD resolution independent discrimination of multiple targets at same speed and range	Object tracking (range, angle, speed) with UHD resolution independent discrimination of multiple targets at same speed and range	
2.	Speed Range	Maximum Speed: 5 to 180 Km/H	5 Km/H to minimum 180 Km/H	
3.	Field of view	+/- 9 Degree (LRR), +/- 45 Degree (MRR),	+/- 9 Degree (LRR), +/- 45 Degree (MRR),	
4.	Frequency	76-81 GHz integrated CMOS transceiver	76-81 GHz integrated CMOS transceiver or any other band allowed by Government of India.	

#	Feature	Technical specification	Revised Technical specification	Compliance (Yes/No)
			The bidder shall provide certificate from WPC, Ministry of Communication (Dept of Telecommunication) for operating in license exempted bands permitted in India. The Radar Sensor proposed should be fully compliant to all frequency norms in India.	
5.	Interface	Ethernet/CAN	Ethernet/CAN/RS485	
6.	Housing	IP67	IP66/67	
7.	Simultaneous Tracking of Objects	200 or more	256 or more	
8.	Max. speed Detection Range	250 Mtr or more	250 Mtr or more	
9.	Operation Mode	Approaching Object detection	Approaching Object detection	
10.	Accuracy	99% or better	98% or better	
11.	Refresh Time	50msec or better, Multi lane operation	75msec or better, Multi lane operation	
12.	Certificates	OIML D11, OIML R91, FCC, BIS, IEC 60068-2-31	Valid certification from any NABL accredited laboratory / ARAI/ICAT/VRDE/GARC certificate of Government of India or Indian testing agencies in accordance Section 167A and rule 126 of the Central Motor Vehicle Rules (CMVR) 1989. FCC, IEC 60068-2-31	
Output				
13.	Output Format	Track object list	Track object list	
14.	Trigger	Range, Speed and Class based triggers (Remotely Configurable)	Range, Speed and Class based triggers (Remotely Configurable)	
15.	Classification	3 Vehicle classes (Further upgradable to 6)	4 Vehicle classes (Further upgradable to 6)	
16.	Ghost object removal	Yes	Yes	
17.	Presence in India	Any globally reputed Manufacturer presence in India for more than 5 years.	Any globally reputed Manufacturer presence in India for more than 5 years.	

3.3.3   Video Analytical Camera for Traffic Violation detection

#	Features	Technical specification	Revised Technical specification	Compliance (Yes/No)
1.	Sensor		1/2.8" or better	
2.	Sensor type		Progressive scan CMOS Global shutter	
3.	Resolution (H x V Pixels)		2560 × 1440 or better	
4.	Resolution		4 MP or better	
5.	Effective Sensor Diagonal		8.9 mm or better	
6.	Frame Rate (at Default Settings)		Mainstream (2560 × 1440@25/30fps) or better Sub stream (1920 × 1080@50/60fps) or better	
7.	Mono / Color		Color	
8.	Day/Night		Yes, IR Cut Filter	
9.	Image Data Interface		Fast Ethernet (100 Mbit/s)	
10.	Synchronization		Via hardware trigger Via software trigger Via free run	
11.	Exposure Time Control		Via hardware trigger Programmable via the camera API	
12.	I/O Lines		1 opto-coupled input line 1 opto-coupled output line 1 general purpose I/O (GPIO) line	
13.	Lens Mount		C-mount	
14.	Video Compression		MJPEG / H.264 / H.265 or better	
15.	Interface		Fast Ethernet (100 Mbit/s) or better	

#	Features	Technical specification	Revised Technical specification	Compliance (Yes/No)
16.	Operating Temperature		0°C ~ 60°C suitable for Odisha weather conditions	
17.	Presence in India		Any globally reputed Manufacturer presence in India for more than 5 years.	
18.	Image Sensor	1/1.8" CMOS (1.411 cm)	Deleted	
19.	Shutter Mode	Single shutter	Deleted	
20.	Electronic Shutter Speed	Auto/Manual 1/50 s–1/100,000 s	Deleted	
21.	Image Resolution	4112 x 2176 (8 MP) or better	Deleted	
22.	Noise Reduction	3D NR	Deleted	
23.	S/N Ratio	>50dB	Deleted	
24.	Min. Illumination	0.0001 lux	Deleted	
25.	Day/Night	Supports ICR auto switch: IR cut-off filter (IRCF) with the polarizing filter is used during the daytime, and switches to the common IR cut-off filter at night	Deleted	
26.	Focal Length	10mm–50mm Motorized	Deleted	
27.	Field of View	Horizontal: 9.4°–40.8° Vertical: 5.4°–22.9° Diagonal: 10.7°–46.9°	Deleted	

#	Features	Technical specification	Revised Technical specification	Compliance (Yes/No)
28.	Exposure Mode	Auto; Manual (Select from shutter values or customize shutter range)	Deleted	
29.	Gain Range	0-100	Deleted	
30.	Bit Rate Control	CBR; VBR	Deleted	
31.	Video Resolution	4M (2688 × 1520)/ 1080P (1920 × 1080)/ UXGA (1600 × 1200)/ 720P (1280 × 720)/ D1 (704 × 576)/CIF (352 × 288)	Deleted	
32.	Video Frame Rate	Mainstream (2688 × 1520@25/30fps), (1920 x 1080@50/60fps) Sub stream (1600 × 1200@25/30fps)	Deleted	
33.	Video Bit Rate	H.264: 32kbps–32767kbps; H.265: 32kbps–32767kbps; MJPEG: 512kbps–32767kbps	Deleted	
34.	Video Compression	H.265; H.264M; H.264H; MJPEG	Deleted	
35.	Picture Encoding Format	JPEG	Deleted	
36.	Auto Gain Control	Support	Deleted	
37.	Signal Processing	Digital Signal Process	Deleted	
38.	White Balance	Auto; Manual; Outdoor; Natural; Street Lamp; Partial white balance	Deleted	

#	Features	Technical specification	Revised Technical specification	Compliance (Yes/No)
39.	Bad Pixel Correction	Yes	Deleted	
40.	Edge Enhancement	Yes	Deleted	
41.	Composite Image	Supports combining up to 3 source images, and 1 close-up image into a composite image	Deleted	
42.	Trigger Mode	Video detection/radar*	Deleted	
43.	Storage	1, supports maximum 512 GB SD card local storage	Deleted	
44.	Alarm Event	Storage full, storage error, external alarm, no storage space, illegal access, and security fault	Deleted	
45.	Image Tampering Prevention	Verifies watermarks in videos and images	Deleted	
46.	Security	Authorized username and password, MAC address binding, HTTPS encryption, and network access control	Deleted	
47.	Auto Registration	Yes	Deleted	
48.	Effective Range	50mtr or better	Deleted	
49.	Detection Accuracy (min)	99%	Deleted	

#	Features	Technical specification	Revised Technical specification	Compliance (Yes/No)
50.	Capture Speed Rate	5 to 180 Kmph	Deleted	
51.	Network	1 × RJ-45 Ethernet port, 10/100/1000 M network transmission	Deleted	
52.	SDK and API	Yes	Deleted	
53.	RS-485	2, connecting to devices such as radar	Deleted	
54.	RS-232	2, con is used for serial debugging and R T G is for connecting to radars	Deleted	
55.	Audio Compression	G.711A; G.711Mu; G.726	Deleted	
56.	IR Distance	23 m–50 m or better (adjustable brightness)	Deleted	
57.	Protocol	HTTP, HTTPS, TCP/IP, UDP, ICMP, IGMP, FTP, DHCP, DNS, DDNS, PPPoE, NTP, SSL, RTP, RTSP, RTCP, UPnP, SMTP, SNMP, IGMP, QoS, 802.1X, IPv4 and IPv6, ONVIF (Profile S, Profile G, Profile T)	Deleted	
58.	Power Supply	12–36 VDC, PoE	Deleted	
59.	Power Consumption	≤ 13W	Deleted	
60.	Operating Temperature	-5°C to +65°C	Deleted	

#	Features	Technical specification	Revised Technical specification	Compliance (Yes/No)
61.	Operating Humidity	10%–90%	Deleted	
62.	Protection Grade	IP67	Deleted	
63.	Presence in India	Any globally reputed Manufacturer presence in India for more than 5 years.	Deleted	

3.3.4 Pole Security Camera

The Pole Security Camera shall be installed & integrated with AI (by software module) to detect any unwanted activity near IEMS locations and trigger alert to the UCCC. Moreover, if any node is disconnected, the system shall raise an alert to the UCCC & appropriate action shall be taken by MSI to rectify the same. The Alerts will also be transmitted to RTO offices & police stations nearer to the location on need basis. A monitoring station will be provided at RTO offices & police stations nearer to the location.

#	Feature	Technical specification	Revised Technical specification	Compliance (Yes/No)
1.	Camera Type	Varifocal Bullet Camera	Varifocal Bullet Camera	
2.	Image Sensor	1/2.8-inch CMOS or better	1/2.8 inch CMOS or better	
3.	Resolution	2 MP, Min. 1920 × 1080 at 50/60 FPS or better	2 MP, Min. 1920 × 1080 at 30 FPS or better	
4.	Video Compression	H.264, H.265	MJPEG / H.264 / H.265 or better	
5.	Audio Compression	G.711ulaw/G.711alaw/G.722.1/G.726/MP2L2/PCM/MP3/MJPEG, should support Environment Noise Filtering	G.711ulaw/G.711alaw/G.722.1/G.726/MP2L2/PCM/MP3/MJPEG, should support Environment Noise Filtering	
6.	Streaming	Min. three compressed stream (Individually Configurable)	Min. three compressed stream (Individually Configurable)	

#	Feature	Technical specification	Revised Technical specification	Compliance (Yes/No)
7.	ID/Password	Multi-level user ID/Password	Multi-level user ID/Password	
8.	Simultaneous Live View	Up to 6 channels	Up to 6 channels	
9.	Physical Layer	1 RJ45 10M/100M self-adaptive Ethernet port	1 RJ45 10M/100M self-adaptive Ethernet port	
10.	Security	Password protection, complicated password, HTTPS encryption, Stateful IP address filter	Password protection, complicated password, HTTPS encryption, Stateful IP address filter	
11.	Protocol	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, NTP, UPnP, SMTP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP, Bonjour, SSL/TLS, PPPoE, ARP	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, NTP, UPnP, SMTP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP, SSL/TLS, PPPoE, ARP	
12.	Lens Type	2.7 to 13.5 mm	2.7 to 13.5 mm	
13.	Alarm	2 inputs, 2 output	1 inputs, 1 output	
14.	Audio	1 inputs, 1 output	1 inputs, 1 output	
15.	Image Enhancement	BLC, HLC, 3D DNR	BLC, HLC, 3D DNR	
16.	Image Parameters Switch	Yes	Yes	
17.	Image Settings	Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance adjustable by client software or web browser	Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance adjustable by client software or web browser	
18.	Target Cropping	Yes	Optional	
19.	Illumination	Color: 0.002 Lux or better at (F1.4, AGC ON), 0 Lux with IR	Color: 0.002 Lux or better at (F1.4, AGC ON), 0 Lux with IR	
20.	Minimum Illumination	0.001 Lux	0 Lux with IR	0.001 Lux	0 Lux with IR	
21.	IR Distance	60 mtrs. or better	60 mtrs. or better	
22.	Privacy Mask	Yes	Yes	
23.	Electronic Shutter	1/3 s to 1/100,000 s with slow shutter support	1/3 s to 1/100,000 s with slow shutter support	
24.	Wide Dynamic Range	120dB	120dB	
25.	Day and Night	Day, Night, Auto, Schedule	Day, Night, Auto, Schedule	
26.	Edge Storage	MicroSD / microSD HC / microSD XC slot supporting memory card for min. 256 GB (Min. Class 6 or higher, Card to be included)	MicroSD / microSD HC / microSD XC slot supporting memory card for min. 256 GB (Min. Class 6 or higher, Card to be included)	

#	Feature	Technical specification	Revised Technical specification	Compliance (Yes/No)
27.	Operating Temperature	-30 °C to +60 °C Humidity 95% or less (non-condensing)	0°C ~ 60°C suitable for Odisha weather conditions Humidity 95% or less (non-condensing)	
28.	Housing	IP67, IK10	IP67, IK10	
29.	Basic Events	Video tampering, Motion Detection. The system focuses on human and vehicle targets, vastly improving alarm efficiency and effectiveness	Video tampering, Motion Detection. The system focuses on human and vehicle targets, vastly improving alarm efficiency and effectiveness	
30.	Power Source	12 VDC, PoE: 802.3at/af	12 VDC, PoE: 802.3at/af	
31.	Presence in India	Any globally reputed Manufacturer presence in India for more than 5 years.	Any globally reputed Manufacturer presence in India for more than 5 years.	

3.3.5 Junction box

#	Item	Technical Specification	Revised Technical Specification	Compliance (Yes/No)
1.	Sensor Specification	The sensor should be a 4-wired connection with tamper loop, up to 15 mm gap functionality with NC output. Contact Rating – 10W, 12/24 V DC. 0.5 A	The sensor should be a 4-wired connection with tamper loop, up to 15 mm gap functionality with NC output. Contact Rating – 10W, 12/24 V DC. 0.5 A	
2.	Sensor solution detail	Sensor should sense any unauthorized access to Junction box and at the same time it will integrate with IEMS. An audio-Visual alarm should be generated at CCC for further action.	Sensor should sense any unauthorized access to Junction box and at the same time it will integrate with IEMS. An audio-Visual alarm should be generated at CCC for further action.	
3.	Alarm / Hooter	The junction box should have Alarm / Hooter for any unwanted tampering event. The hooter must create loud alert sound.	The junction box should have Alarm / Hooter for any unwanted tampering event. The hooter must create loud alert sound.	
4.	IP Rating	IP 67 or better	IP 65 or better	

3.3.6 Surge Protector

#	Feature	Technical Specification	Revised Technical Specification	Compliance (Yes / No)
1	Surge Suppression	Energy Dissipation (Data and Power lines): 2.1 Joules Ethernet Maximum Common Mode Voltage: 75 V Ethernet Maximum Common Mode Current: 200 A DC Power Line Maximum Common Mode Voltage: 93 V DC Power Line Maximum Common Mode Current: 16 A	Energy Dissipation (Data and Power lines): 2.1 Joules Ethernet Maximum Common Mode Voltage: 75 V Ethernet Maximum Common Mode Current: 200 A DC Power Line Maximum Common Mode Voltage: 93 V DC Power Line Maximum Common Mode Current: 16 A	
2	Environmental	IP54 or better	IP54 or better	
3	Temperature	Operating Temperature: 0°C to +60°C or better	Operating Temperature: 0°C to +60°C or better	
4	Physical Connections	2 x RJ-45	2 x RJ-45	
5	Presence in India	Any globally reputed Manufacturer presence in India for more than 5 years.	Any globally reputed Manufacturer presence in India for more than 5 years.	

3.3.7 Local Processing Unit (LPU)

#	Feature	Technical specification	Revised Technical specification	Compliance (Yes/No)
1.	Camera interface	USB 2 x CSI2 - 2 Lanes 1 x CSI2 - 4 Lanes 1x FPD Link III 1x GMSL	Deleted	
2.	Processor and Memory		Intel i5 or better processor RAM 16GB or higher DDR4 2133MHz SODIMM, up to 32 GB	
3.	USB	2x USB 2.0 1x USB 3.0 (Nano, TX2 NX) / 3.1 (Xavier NX)	3 X USB 2.0 or better	

#	Feature	Technical specification	Revised Technical specification	Compliance (Yes/No)
4.	Network Connectivity	Gigabit Ethernet Wi-Fi 802.11 a/b/g/n/ac & BT 5.0	2 RJ 245 GigaLAN ports 1 Onboard RTL8111 Gigabit Ethernet NIC Or higher BaseT LAN support for 100Mbps or better to be present.	
5.	Storage	M.2 M key slot for NVMe SSD card 256 GB 6GB HDD	128 GB SSD SATA or better	
6.	Display Port	HDMI 2.0	Display Port: HDMI, VGA interface, HDMI1.4 or higher.	
7.	Audio	HDMI 2.0 DMIC / I2S via Expansion Header Bluetooth	Audio support through MIC and Speaker	
8.	Peripheral Support	CAN (Xavier NX, TX2 NX) UART Debug 9-axis IMU Sensors	Deleted	
9.	Expansion Header	I2C, I2S, SPI, GPIOs, Reset and Power	Deleted	
10.	IP Rating		IP65 or higher rated.	
11.	Graphics		Yes	
12.	Input DC Supply	12V/5A to 24V/2.5A	12V/ DC 5A	
13.	Dimension	125mm (L) x 90mm (W)	Deleted	
14.	Certifications		FCC, CE, RoHS and BIS.	
15.	Operating Conditions		0°C to +60°C or better relative humidity(RH) of 10~90% @30 degree centigrade(non-condensing)	
16.	OS		Linux or Windows OS.	
17.	Serial communication		2 or more RS232 serial ports.	
18.	Chassis /Enclosure		Rack Mountable / Junction Box Mountable	
19.	Presence in India		Any globally reputed Manufacturer presence in India for more than 5 years.	
20.			Next Generation Anti-virus and Endpoint Security shall be considered.	

3.3.8 Integrated Power Rack

#	Technical Requirement	Revised Technical Requirement	Compliance (Yes/No)
1	System:	System:	
2	Rack should be designed to provide Compatible, Secure, Monitored, Manageable, simplifying infrastructure deployment in Edge Environment.	Rack should be designed to provide Compatible, Secure, Monitored, Manageable, simplifying infrastructure deployment in Edge Environment.	
3	Rack should be self-Contained with proper air circulation.	Rack should be self-Contained with proper air circulation.	
4	Rack should be designed so that it is compatible with latest converged and hyper-converged IT System.	Rack should be designed so that it is compatible with latest converged and hyper-converged IT System.	
5	The Enclosure solution should be - 15U 600W 800 D enclosure upto 1000 mm (Overall) in height with 850 mm Width (Including Panel AC) and 600 mm Depth for Server & Networking application.	The Enclosure solution should be - 15U 600W 800 D enclosure upto 1000 mm (Overall) in height with 850 mm Width and 600 mm Depth for Server & Networking application.	
6	Power supply input: Single Feed AC 230V +/-10% /1P/50-60Hz.	Power supply input: Single Feed AC 230V +/-10% /1P/50-60Hz.	
7	Country of Origin: India	Country of Origin: India	
8	Physical Requirement:	Physical Requirement:	
9	Doors: The Rack Front door shall have Metel Plain door and rear shall be closed.	Doors: The Rack Front door shall have Metel Plain door and rear shall be closed.	
10	Doors shall be reversible with capability to install hinges on left or right position	Doors shall be reversible with capability to install hinges on left or right position	
11	Mechanical swing handle with 3-point locking provision.	Mechanical swing handle with 3-point locking provision.	
12	The Rack should have one pair of full side panels, Top & Bottom, grounding and bonding accessories pre-installed by the OEM.	The Rack should have one pair of full side panels, Top & Bottom, grounding and bonding accessories pre-installed by the OEM.	
13	Installation type: Floor mount	Installation type: Floor mount	
14	The overall Rack height shall be inclusive of 100mm bottom plinth	The overall Rack height shall be inclusive of 100mm bottom plinth	
15	Equipment Access & Installation	Equipment Access & Installation	
16	Space inside the cabinet to be suitably designed for optimum use of available space inside cabinet. The Rack should have minimum	Space inside the cabinet to be suitably designed for optimum use of available space inside cabinet. The Rack should have minimum	

#	Technical Requirement	Revised Technical Requirement	Compliance (Yes/No)
	15U available usable Space.	15U available usable Space.	
17	The Rack should have 4 Nos. 19" verticals equipment mounting angles with 'U' marking, screen printed.	The Rack should have 4 Nos. 19" verticals equipment mounting angles with 'U' marking, screen printed.	
18	The front door should be easily detachable and openable for ease of accessing.	The front door should be easily detachable and openable for ease of accessing.	
19	Material Requirements	Material Requirements	
20	19" equipment mounting angle should be 2MM.	19" equipment mounting angle should be 2MM.	
21	All sheet metal parts should be Pre-Treated and powder coated.	All sheet metal parts should be Pre-Treated and powder coated.	
22	Certifications, Environmental and Safety Requirements	Certifications, Environmental and Safety Requirements	
23	Racks should be manufactured by ISO9001:2008, ISO14001:2004, ISO 45001:2018 & ISO 50001:2018 Certified company and should have proper EHS Policy.	Racks should be manufactured by ISO9001:2008, ISO14001:2004, ISO 45001:2018 & ISO 50001:2018 Certified company and should have proper EHS Policy.	
24	Manufacturing process shall comply with ROHS and REACH standards.	Manufacturing process shall comply with ROHS and REACH standards.	
25	The rack shall be IP55 certified from an accredited lab.	The rack shall be IP55 certified from an accredited lab.	
26	Cable Management	Cable Management	
27	The Rack shall have dedicated cable management.	The Rack shall have dedicated cable management.	
28	Cabinet Interior Lightning:	Cabinet Interior Lightning:	
29	Front LED Lights to be provided.	Front LED Lights to be provided.	
30	Remote Monitoring	Remote Monitoring	
31	The Rack shall include a RS232 / RJ45 / RS485 interface port	The Rack shall include a RS232 / RJ45 / RS485 interface port	
32	Power subsystem:	Power subsystem:	
33	Should have PDU 1U 6 X 5/15Amp Octagonal angular Socket with 16Amp MCB.	Should have PDU 1U 6 X 5/15Amp Octagonal angular Socket with 16Amp MCB.	
34	Delivery & Installation	Delivery & Installation	

#	Technical Requirement	Revised Technical Requirement	Compliance (Yes/No)
35	The unit should be shipped fully assembled as one orderable Unit including enclosure, and smart power distribution panel	The unit should be shipped fully assembled as one orderable Unit including enclosure, and smart power distribution panel	

3.3.9 Industrial Managed PoE + Switch

#	Technical Specifications	Revised Technical Specifications	Compliance (Yes / No)
1.	L2 Managed Industrial Switch 16 ports 2X1G with 8x10/100/1000 Base-T PoE+ ports and additional 2x1G Base-X ports accommodate SM/MM FO Module.	L2 Managed Industrial Switch with 16x10/100/1000Base-T(X) P.O.E., 2xGigabit combo P.S.E. and 2x100/1000Base-X, SFP socket	
2.	Should support PoE as per IEEE 802.3af and 802.3at with PoE budget of 120W or better.	Should support PoE as per IEEE 802.3af and 802.3at with PoE budget of 240W or better.	
3.	Should have Minimum 20Gbps switching bandwidth and Min. 14Mbps Switch- forwarding rate. The switch should work Wire speed forwarding from day 1.	Should have Minimum 20Gbps switching bandwidth and Min. 14Mbps Switch- forwarding rate	
4.	Layer 2 Features: Should support STP, RSTP, MSTP, IGMP v1/v2/v3 snooping, loop protection, MAC-Port mapping, STP root guard, Voice VLAN, MLD snooping (MLDv1 and v2), 16k MAC Table or more, PVST+ compatibility mode, VLAN Mirroring (RSPAN), Support IEEE 802.1Q (4000 VLAN IDs), Should support GARP VLAN Registration Protocol / GVRP, VLAN classification by protocol and port, VLAN Double tagging (Q-in-Q).	Layer 2 Features: Should support STP, RSTP, MSTP, IGMP v1/v2/v3 snooping, loop protection, 8k MAC Table or more, IEEE 802.1Q (4000 VLAN IDs), IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3ad, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1AB, Jumbo Frame Up to 9.6K Bytes or more,	
5.	Resiliency: Should support IEEE 802.17/equivalent for sub 50ms ring protection in following scenario: single, dual fiber cuts in ring, Control Plane Prioritization (CPP), Loop Detection and Loop protection.	Resiliency: Should support recovery time < 30ms over 250 units of connection. Standard redundancy protocols like RSTP/MSTP & MRP.	
6.	Security: Should support ACL based on L2 and L3, Stateful Packet Filter, DHCP (Server, Relay and Client), IP Source guard, DAI, Private VLAN, AAA, Authentication (MAC, Web and IEEE 802.1x), BPDU Protection, sflow or equivalent, SSLv2 and SSLv3, TACACS+, LAG.	Security: Support ACL, TACACS+ and 802.1x User Authentication for security, DHCP (Server, Relay and Client, Authentication (MAC, Web and IEEE 802.1x), Device Binding security feature, Enable/disable ports, MAC based port security, Should have DOS/DDOS Auto Prevention.	

#	Technical Specifications	Revised Technical Specifications	Compliance (Yes / No)
7.	Qos: Policy-based QoS based classifying traffic based on MAC, Port, VLAN, Protocol, Tail drop for queue congestion control, Strict priority/ weighted round robin.	Qos: Support application-based QoS management.	
8.	Management: CLI, GUI, USB or memory card slot for taking backup of software release files configurations, DDM –Optical digital diagnostic monitoring as per SFF – 8472 or equivalent, UDLD or equivalent, Time Domain Reflectometry/ equivalent, RMON 4 groups, SNMPv3, Support ECO Friendly Mode, LLDP-MED, IEEE 802.3az, SNMPv6, Telnetv6 and SSHv6.	Management: Web-based,Telnet, Console (CLI), and Windows utility (Open-Vision) configuration, Support SNMP v1/v2c/v3 & RMON & 802.1Q VLAN Network Management, Provided HTTPS/SSH protocol to enhance network security.	
9.	The switch should support static & dynamic Routing, ping pooling and trace route.	The switch should support IEEE 802.3az Energy-Efficient Ethernet technology.	
10.	Should support Ipv4 and Ipv6 dual stack.	Should support Ipv4 and Ipv6 new internet protocol version.	
11.	Should inherently support operating temperature range of 0°C to 60°C or Better.	Should inherently support operating temperature range of 0°C to 60°C or Better.	
12.	Switch Certifications: RoHS compliant, UL, EN, FCC,	Switch Certifications: UL, EN, FCC, IEC60068-2-27 and IEC60068-2-6	
13.	Switch and FO Module should be from same OEM	Deleted	
14.	Any globally reputed Manufacturer should have 5 years of prior presence in India	Any globally reputed Manufacturer should have 5 years of prior presence in India	

3.3.10 Online UPS

The MSI shall provide an online uninterruptible power supply (UPS), which will provide continuous, clean, and reliable electrical power to filed equipment mounted on gantry/cantilever in the event of power disruptions or failures. Its primary function is to ensure that critical devices and systems remain operational even when the conventional power supply experiences problems.

The online UPS shall have provision for scaling up by adding external battery packs for extended runtime if necessary.

The MSI shall provide UPS with upto 4 hours of backup with uninterrupted power supply. The proposed system shall incorporate redundant power integration along with traditional power, ensuring an eco-friendly and renewable energy source.

MSI shall ensure the system is equipped with remote monitoring capabilities to facilitate efficient tracking and maintenance.

#	Technical Requirement	Revised Technical Requirement	Compliance (Yes/No)
	Uninterruptible Power Supply (UPS) System	Uninterruptible Power Supply (UPS) System	
1.	Should be appliance-based solution with purpose-built hardware with real-time analytics dashboard of the same OEM from day one.	Should be appliance-based solution with purpose-built hardware with real-time analytics dashboard of the same OEM from day one.	
2.	Single Phase in and Single Phase Out, 4 Hours Backup on system load of each gantry/cantilever	Single Phase in and Single Phase Out, 4 Hours Backup on system load of each gantry/cantilever, Minimum 3000VA for 4 hours of Backup	
3.	UPS shall be with double conversion, IGBT rectifiers for all above type of loads.	UPS shall be with double conversion, IGBT rectifiers for all above type of loads.	
4.	The UPS utilizes double conversion online topology designed to protect electronic equipment by supplying reliable, network-grade power featuring extremely tight voltage and frequency regulation.	The UPS utilizes double conversion online topology designed to protect electronic equipment by supplying reliable, network-grade power featuring extremely tight voltage and frequency regulation.	
5.	The UPS should feature an internal bypass and input power factor correction.	The UPS should feature an internal bypass and input power factor correction.	
6.	Scope of Supply	Scope of Supply	
7.	The scope of supply for the Uninterrupted Power System shall include but not limited to the following: Design, engineering, manufacture, supply, testing, inspection, packing, forwarding, transportation, installation, and commissioning of parallel redundant Uninterrupted Power System (UPS).	The scope of supply for the Uninterrupted Power System shall include but not limited to the following: Design, engineering, manufacture, supply, testing, inspection, packing, forwarding, transportation, installation, and commissioning of parallel redundant Uninterrupted Power System (UPS). UPS shall be used as a secondary source of power supply. Further, MSI shall make provision of Solar based electric supply wherever required.	
8.	Scope of Work.	Scope of Work.	
9.	The scope covers supply, installation, testing and commissioning of new UPS systems.	The scope covers supply, installation, testing and commissioning of new UPS systems.	
10.	Supply, installation, testing and commissioning of Battery banks with battery mounting racks/ cabinets for new UPS system.	Supply, installation, testing and commissioning of Battery banks with battery mounting racks/ cabinets for new UPS system.	

#	Technical Requirement	Revised Technical Requirement	Compliance (Yes/No)
11.	Supply, installation, testing and commissioning of cables and inter connection between battery banks and battery switchgear and UPS system.	Supply, installation, testing and commissioning of cables and inter connection between battery banks and battery switchgear and UPS system.	
12.	Necessary filters to reduce the THD levels (as specified in data sheet).	Necessary filters to reduce the THD levels (as specified in data sheet).	
13.	Performance, Design, and Configurations:	Performance, Design, and Configurations:	
14.	The UPS and associated equipment operate in conjunction with a primary power supply and an output distribution system to provide quality uninterrupted power for a mission-critical, electronic equipment load.	The UPS and associated equipment operate in conjunction with a primary power supply and an output distribution system to provide quality uninterrupted power for a mission-critical, electronic equipment load.	
15.	This specification describes the performance, functionality, and design of the UPS, external battery packs, and connectivity solutions.	This specification describes the performance, functionality, and design of the UPS, external battery packs, and connectivity solutions.	
16.	All programming and miscellaneous components for a fully operational system as described in this specification are available as part of the UPS.	All programming and miscellaneous components for a fully operational system as described in this specification are available as part of the UPS.	
17.	Input	Input	
18.	Input voltage : 220/230/240 Vac (PH-N)	Input voltage : 220/230/240 Vac (PH-N)	
19.	Input voltage Range : 160 – 285V	Input voltage Range : 160 – 285V	
20.	Input frequency : 50 Hz / 60 Hz	Input frequency : 50 Hz / 60 Hz	
21.	Input frequency tolerance : 40 – 70 Hz auto-selecting	Input frequency tolerance : 40 – 70 Hz auto-selecting	
22.	Input Power factor at nominal voltage and full load : ≥ 0.95	Input Power factor at nominal voltage and full load : ≥ 0.95	
23.	Input Connections : IEC 60320 C20	Input Connections : IEC 60320 C20	
24.	Input Circuit Breaker : Yes	Input Circuit Breaker : Yes	
25.	Rectifier Circuit- IGBT Type : IGBT Type	Rectifier Circuit- IGBT Type : IGBT Type	
26.	Input phase to Output Phase : 1:1	Input phase to Output Phase : 1:1	
27.	Output	Output	
28.	Rated voltage : 220/230/240 Vac	Rated voltage : 220/230/240 Vac	

#	Technical Requirement	Revised Technical Requirement	Compliance (Yes/No)
29.	Output power factor : 0.9	Output power factor : 0.9	
30.	AC output static voltage regulation: +/-1%.	AC output static voltage regulation: +/-1%.	
31.	Output Frequency : 50/60 +/- 3 Hz	Output Frequency : 50/60 +/- 3 Hz	
32.	Output Frequency Regulation: : Nominal +/- 0.1 Hz	Output Frequency Regulation: : Nominal +/- 0.1 Hz	
33.	Crest Factor :3:1	Crest Factor :3:1	
34.	Output Voltage Distortion – Online Mode : 3% max. for full linear load.	Output Voltage Distortion – Online Mode : 3% max. for full linear load.	
35.	Output Voltage Distortion – Battery Mode : 6% max. for full RCD load (100% VA, 0.9 PF)	Output Voltage Distortion – Battery Mode : 6% max. for full RCD load (100% VA, 0.9 PF)	
36.	Output Connections : (4) India 6A , (1) Terminal 24A	Output Connections : (4) India 6A , (1) Terminal 24A	
37.	Overload Condition :	Overload Condition :	
38.	< 105% Continuous.	< 105% Continuous.	
39.	Up to 125% For 2 minutes.	Up to 125% For 2 minutes.	
40.	140% for 30 secs.	140% for 30 secs.	
41.	Overload Capability (In battery mode)	Overload Capability (In battery mode)	
42.	< 105% Continuous.	< 105% Continuous.	
43.	Up to 120% For 1 minute.	Up to 120% For 1 minute.	
44.	Inverter Circuit : IGBT Type	Inverter Circuit : IGBT Type	
45.	Emergency Power Off (EPO) : All UPS Should have Integrated Emergency Power Off (EPO) terminal with normally closed (NC) contacts	Emergency Power Off (EPO) : All UPS Should have Integrated Emergency Power Off (EPO) terminal with normally closed (NC) contacts	
46.	Efficiency: Double-conversion mode : 90% @ 100% Load	Efficiency: Double-conversion mode : 90% @ 100% Load	
47.	Efficiency: ECO mode : 96% @ 100% Load	Efficiency: ECO mode : 96% @ 100% Load	
48.	Heat dissipation : To be filled by the Bidder	Heat dissipation : To be filled by the Bidder	
49.	STATIC BYPASS	STATIC BYPASS	
50.	Internal Static Switch Provided- Yes/No : To be filled by the Bidder	Internal Static Switch Provided- Yes/No : To be filled by the Bidder	

#	Technical Requirement	Revised Technical Requirement	Compliance (Yes/No)
51.	DC CHARACTERISTICS	DC CHARACTERISTICS	
52.	Battery type : Lithium Ion Battery	Battery type : Lithium Ion Battery	
53.	Battery nominal voltage : 48V DC	Battery nominal voltage : Minimum 24V DC	
54.	Max Charging Current : To be filled by the Bidder	Max Charging Current : To be filled by the Bidder	
55.	Charging method : Constant Current-Constant Voltage	Charging method : Constant Current-Constant Voltage	
56.	Back Up Requirement : 4 Hours Backup on required gantry Load, Battery calculation sheet need to be provided by the bidder.	Backup requirement: Minimum 3000VA for 4 hours of Backup	
57.	Cold start Required	Cold start Required	
58.	Max Battery Support Required	Max Battery Support Required	
59.	CONTROLS	CONTROLS	
60.	POWER ON/OFF button : Required	POWER ON/OFF button : Required	
61.	Mute / Escape button: Required	Mute / Escape button: Required	
62.	ENTER button : Required	ENTER button : Required	
63.	Navigation buttons : Required	Navigation buttons : Required	
64.	INDICATIONS (ALARMS)	INDICATIONS (ALARMS)	
65.	Inverter Failure : Required	Inverter Failure : Required	
66.	Overload (if load exceeds 100%) : Required	Overload (if load exceeds 100%) : Required	
67.	Overload shutdown : Required	Overload shutdown : Required	
68.	Emergency shutdown : Required	Emergency shutdown : Required	
69.	Equipment over temperature : Required	Equipment over temperature : Required	
70.	Bypass ON : Required	Bypass ON : Required	
71.	DC over voltage : Required	DC over voltage : Required	
72.	Low battery : Required	Low battery : Required	
73.	Battery circuit breaker open : Required	Battery circuit breaker open : Required	
74.	Battery on load :Required	Battery on load :Required	
75.	Mains failure :Required	Mains failure :Required	

#	Technical Requirement	Revised Technical Requirement	Compliance (Yes/No)
76.	Load on bypass :Required	Load on bypass :Required	
77.	UPS in Fault State : Required	UPS in Fault State : Required	
78.	Output voltage error : Required	Output voltage error : Required	
79.	MECHANICAL	MECHANICAL	
80.	Weight of UPS – Kg : To be filled by the Bidder	Weight of UPS – Kg : To be filled by the Bidder	
81.	Dimension of UPS (W x H x D) in mm : To be filled by the Bidder	Dimension of UPS (W x H x D) in mm : To be filled by the Bidder	
82.	Ventilation : Forced air cooling required	Ventilation : Forced air cooling required	
83.	Rail Kit Accessory :To be filled by the Bidder	Rail Kit Accessory :To be filled by the Bidder	
84.	ENVIRONMENTAL AND GENERAL CHARACTERISTICS	ENVIRONMENTAL AND GENERAL CHARACTERISTICS	
85.	Operating temperature: 0 to 40 °C without capacity deration	Operating temperature: 0 to 40 °C without capacity deration	
86.	Relative humidity: 0% to 95% non-condensing	Relative humidity: 0% to 95% non-condensing	
87.	Operating Altitude: 0 to 2000 meters without capacity deration	Operating Altitude: 0 to 2000 meters without capacity deration	
88.	Storage Altitude :0 to15,000 meters	Storage Altitude :0 to15,000 meters	
89.	Storage temp.: -20°C to 50°C	Storage temp.: -20°C to 50°C	
90.	Maximum No. of systems can be paralleled: To be filled by the Bidder	Maximum No. of systems can be paralleled: To be filled by the Bidder	
91.	Cable entry - Top / Bottom: To be filled by the Bidder	Cable entry - Top / Bottom: To be filled by the Bidder	
92.	Degree of Protection: Minimum IP 20	Degree of Protection: Minimum IP 20	
93.	Conformal coated PCBAs: Required	Conformal coated PCBAs: Required	
94.	Acoustic Noise Level: <50dBA	Acoustic Noise Level: <50dBA	
95.	Compliances: IEC 62040-1, IS 16242 (Part 1), BIS, IEC 62040-2: 2016	Compliances: IEC 62040-1, IS 16242 (Part 1), BIS, IEC 62040-2: 2016	
96.	Standard warranty: 3 Years on UPS and battery.	Standard warranty: 3 Years on UPS and battery.	
97.	COMMUNICATION INTERFERENCE	COMMUNICATION INTERFERENCE	
98.	Interface ports: Integrated Serial RS-232, USB (Type B), Intelligent Slot	Interface ports: Integrated Serial RS-232, USB (Type B), Intelligent Slot, SNMP	

#	Technical Requirement	Revised Technical Requirement	Compliance (Yes/No)
99.	MODES OF OPERATION	MODES OF OPERATION	
100.	Normal: The UPS output power stage (inverter) should constantly recreate the UPS output voltage waveform by converting the DC bus voltage to AC voltage through a set of IGBT switches. In both online operation and battery operation, the output power stage (inverter) should create an output voltage waveform independent of the mains input voltage waveform. Input voltage anomalies such as brown-outs, spikes, surges, sags, and outages should not affect the amplitude or sinusoidal nature of the recreated output voltage sine wave of the output power stage (inverter). The input PFC power stage and the output power stage (inverter) shall operate in an on-line manner to continuously regulate power to the critical load. The input PFC stage shall be capable of full battery recharge while simultaneously providing regulated power to the load for all line and load conditions within the range of the UPS specifications.	Normal: The UPS output power stage (inverter) should constantly recreate the UPS output voltage waveform by converting the DC bus voltage to AC voltage through a set of IGBT switches. In both online operation and battery operation, the output power stage (inverter) should create an output voltage waveform independent of the mains input voltage waveform. Input voltage anomalies such as brown-outs, spikes, surges, sags, and outages should not affect the amplitude or sinusoidal nature of the recreated output voltage sine wave of the output power stage (inverter). The input PFC power stage and the output power stage (inverter) shall operate in an on-line manner to continuously regulate power to the critical load. The input PFC stage shall be capable of full battery recharge while simultaneously providing regulated power to the load for all line and load conditions within the range of the UPS specifications.	
101.	Battery: Upon failure of the AC input source, the critical load should be continued being supplied by the output inverter, which would derive its power from the battery system. There is no interruption in power to the critical load during both transfers to battery operation and retransfers from battery to normal operation.	Battery: Upon failure of the AC input source, the critical load should be continued being supplied by the output inverter, which would derive its power from the battery system. There is no interruption in power to the critical load during both transfers to battery operation and retransfers from battery to normal operation.	
102.	Bypass: The system automatic bypass shall provide a transfer of the critical load from the Inverter output to the automatic bypass input source during times when the inverter cannot support the load. Such times may be due to prolonged or severe overloads or to UPS failure. The UPS should constantly monitor the output current as well as the bypass source voltage and inhibit potentially unsuccessful transfers to automatic bypass from taking place.	Bypass: The system automatic bypass shall provide a transfer of the critical load from the Inverter output to the automatic bypass input source during times when the inverter cannot support the load. Such times may be due to prolonged or severe overloads or to UPS failure. The UPS should constantly monitor the output current as well as the bypass source voltage and inhibit potentially unsuccessful transfers to automatic bypass from taking place.	

#	Technical Requirement	Revised Technical Requirement	Compliance (Yes/No)
103.	Automatic Transfers: An automatic transfer of load to bypass shall take place whenever the load on the critical bus exceeds the overload rating of the UPS. Automatic transfers of the critical load from bypass back to normal operation shall take place when the overload condition is removed from the critical bus output of the system. Automatic transfers of load to bypass shall also take place if for any reason the UPS cannot support the critical bus.	Automatic Transfers: An automatic transfer of load to bypass shall take place whenever the load on the critical bus exceeds the overload rating of the UPS. Automatic transfers of the critical load from bypass back to normal operation shall take place when the overload condition is removed from the critical bus output of the system. Automatic transfers of load to bypass shall also take place if for any reason the UPS cannot support the critical bus.	
104.	Manual Transfers: Manually initiated transfers to and from bypass may be initiated by the user display interface.	Manual Transfers: Manually initiated transfers to and from bypass may be initiated by the user display interface.	
105.		UPS Should be able to compatible with Solar System.	
106.		UPS monitoring Software: Centralized monitoring via SNMP v1, v3 or modbus TCP or physical server via Redfish protocols, User Management Secure outbound connections: Standard 2048-bit RSA certificate Accessible through Web or VPN based -- Cloud Based option with features like Device Search, Data Collection, Device Configuration, UPS Health Monitoring and interfacing with external systems through API.	

3.3.13 Solar Power Unit (New Addition)

Sr.	Features	Technical Specifications	Compliance (Yes/No)
1.	Solar Panels	3 Kva,48 v Mppt Solar PCU	
2.	Solar Module	40 w half-cut mono solar PV module or better	
3.	Battery Capacity	150~200Ah Battery	
4.	Output power	3000 W or better	

Sr.	Features	Technical Specifications	Compliance (Yes/No)
5.	MPPT voltage range	100~490VDC	
6.	Number of MPP trackers	2 or better	
7.	Efficiency	98% or better	
8.	Display	LCD or better	
9.	Inverter Type	Hybrid with Battery Storage	
10.	Mounting Structure	Non-corrosive	
11.	Operating temperature range	As per Odisha Climatic Condition	
12.	Certification	BIS	
13.	Protection Rating	IP 65 or better	

3.3.13 Storage System (New Addition)

#	Parameters	Descriptions	Compliance (Yes/No)
1	CPU	Intel® Xeon® E E-2136 6-core / 12-thread processor	
2	CPU Architecture	64-bit x86	
3	Encryption Engine	Yes Option should be available to support FIPS 1402 certified self-encrypting drives (SEDs) Or encryption at controller level with license	
4	System Memory	16 GB UDIMM DDR4 ECC (2 x 8GB), scalable upto 64 GB	
5	Memory Slot	4 x UDIMM DDR4	
6	Flash Memory	5GB (Dual boot OS protection)	
7	Drive Bay	24 x 3.5-inch SATA 6Gb/s, 3Gb/s	
8	Drive Compatibility	3.5-inch bays:	
		3.5-inch SATA hard disk drives	
		2.5-inch SATA solid state drives	

#	Parameters	Descriptions	Compliance (Yes/No)
9	Hot-swappable	Yes	
10	GPU pass-through	Yes	
11	Gigabit Ethernet Port	4	
12	10 Gigabit Ethernet Port	2 x 10GbE SFP+ Smart NIC port	
13	PCIe Slot	Minimum 5	
14	USB 3 Gen 2 (10Gbps) Port	2 x Type-C USB 3.2 Gen 2 10Gbps	
		4 x Type-A USB 3.2 Gen 2 10Gbps	
15	Operating Temperature	0 - 40 °C (32°F - 104°F)	
16	Power Supply Unit	800W(x2), 100-240V	
17	System Warning	Buzzer	
18	Client Operating Systems	must be certified to support current versions of OS like Microsoft Windows Server, Red Hat Linux, VMware, Native files, Block Protocols, etc.	
19	Storage Pool	Yes	
20	Pool size	10 PB (Scalable up to 15 PB)	
21	RAID Support	The storage should support industry standard RAID levels like RAID 0, 1, 5, 6, RAID 10 or better; The storage should support combination of multiple RAID Levels in a single array.	
22	Storage Pool Expansion (by adding RAID Group)	Yes	
23	Internet protocol	IPv4, IPv6	
24	Network access protection with auto-blocking	SSH, Telnet, HTTP(S), FTP, CIFS/SMB, and AFP	
25	2-step verification	Yes	
26	Allow/Deny List	Yes	
27	Access Protection	Yes	
28	Service binding	Yes	
29	Firewall	Yes	
30	SAN/NAS Switch	Yes	

#	Parameters	Descriptions	Compliance (Yes/No)
31	Warranty Support	5 Years (extendable up to 7 years)	
32	Scalability	Offered storage should support scale up for future capacity and performance enhancements	

3.5.4 Backbone Engine for Secured Network

#	Specifications	Description	Revised Description	Compliance (Yes/No)
1.	General requirements	Device should have a modular architecture. Minimal performance degradation when running advanced services such as stateful firewall, NAT, and IPSec.	Device should have a modular architecture. Minimal performance degradation when running advanced services such as stateful firewall, NAT, and IPSec.	
2.	Hardware and interface requirements	Device should have at least 8 x 10/100/1000BaseT and 4 x 1G SFP ports out of which 4 x 10/100/1000BaseT and 4 x 1G SFP should support WAN protocols. Above ports should be available after deployment of high availability if required. 2 SFP ports must be loaded with single mode transceiver.	Device should have at least 8 x 10/100/1000BaseT and 4 x 1G SFP ports out of which 4 x 10/100/1000BaseT and 4 x 1G SFP should support WAN protocols. Above ports should be available after deployment of high availability if required. 2 SFP ports must be loaded with single mode transceiver.	
		The Router should have 4GB RAM and 4GB internal Flash	The Router should have 4GB RAM and 4GB internal Flash	
		Device should have at least 3 free LAN/WAN slots	Device should have at least 3 free LAN/WAN slots	
		Device should support modular LAN and WAN connectivity options including Gigabit Ethernet, T1/E1, 4G-LTE interface modules.	Device should support LAN and WAN connectivity options including Gigabit Ethernet, T1/E1, 4G-LTE interface modules.	
		The Router should have internal redundant Power Supply.	The Router should have internal redundant Power Supply.	

#	Specifications	Description	Revised Description	Compliance (Yes/No)
3.	Performance requirements	The Device should have a minimum routing performance of 700Kpps	The Device should have a minimum routing performance of 700Kpps	
4.	Quality of Service (QoS) requirements	Devices should support Class-based queuing with prioritization	Devices should support Class-based queuing with prioritization	
		It should be possible to configure maximum bandwidth and guaranteed bandwidth	It should be possible to configure maximum bandwidth and guaranteed bandwidth	
		Devices should support Queuing based on VLAN, DLCI, interface, bundles, or filters	Devices should support Queuing based on VLAN, DLCI, interface, bundles, or filters	
		Devices should support Marking, policing, and shaping	Devices should support Marking, policing, and shaping	
		Devices should support congestion management features like WRED	Deleted	
5.	Routing protocol support	The Device should support IPv4 and IPv6 routing	The Device should support IPv4 and IPv6 routing	
		The Device should support VRRP	The Device should support VRRP	
		The Device should support Static Routes	The Device should support Static Routes	
		The Device should support RIPv1 & RIPv2	The Device should support RIPv1 & RIPv2	
		The Device should have OSPFv2 and IS-IS routing features	Deleted	
		The Device should support Policy Based Routing	The Device should support Policy Based Routing	
		The Device should support ECMP	Deleted	
6.	Multicast Features	Multicast Listener Discovery (MLD)	Multicast Listener Discovery (MLD)	
		IGMP v1/v2/v3	IGMP v1/v2/v3	
		Support PIM-SM, Source Specific Multicast (SSM)	Support Open Standard	
7.	Security features	Devices should support LDAP/RADIUS/TACAS	Devices should support LDAP/RADIUS/TACAS	
		Devices should support Packet Filters	Devices should support Packet Filters	

#	Specifications	Description	Revised Description	Compliance (Yes/No)
		Devices should have Stateful Firewalling	Devices should have Stateful Firewalling	
		Devices should support Tunnels (GRE, IP-in-IP, IPSec)	Devices should support Tunnels (GRE, IP-in-IP, IPSec)	
		Devices should have DES (56-bit), 3DES (168-bit), AES (256-bit) encryption	Devices should have DES (56-bit), 3DES (168-bit), AES (256-bit) encryption	
		Devices should support MD5 and SHA-1 authentication	Devices should support MD5 and SHA-1 authentication	
		Devices should have role-based access mechanisms.	Devices should have role-based access mechanisms.	
		Devices should support Network address translation (NAT).	Devices should support Network address translation (NAT).	
8.	Management and Troubleshooting	Device should have Console, Telnet and Web for management	Device should have Console, Telnet and Web for management	
		Devices should support Software upgrades through Web	Devices should support Software upgrades through Web	
		Devices should support SNMPv2 and SNMPv3	Devices should support SNMPv2 and SNMPv3	
		Extensive debugs on all protocols	Extensive debugs on all protocols	
		Real-time traffic-interface/sub interface statistics.	Real-time traffic-interface/sub interface statistics.	
9.	Certifications	CE/FCC Certified	CE/FCC Certified	
		The router should be FIPS 140-2 or EAL 3/NDPP or ICSA Lab Certified	The router should be FIPS 140-2 or EAL 3/NDPP or ICSA Lab Certified	
10.	Warranty & Other	The router should be provided with hardware replacement warranty and ongoing software upgrades for all major and minor releases for a period of 5 years.	The router should be provided with hardware replacement warranty and ongoing software upgrades for all major and minor releases for a period of 5 years.	

3.5.5 Network Intrusion Prevention System

The Master System Integrator shall provide a Network Intrusion Prevention System (NIPS) as a network security tool that continuously monitors a network for malicious activity and takes action to prevent it, including reporting, blocking, or dropping it, when it does occur.

#	Technical Specifications	Description	Revised Description	Compliance (Yes/No)
1.	Physical	Operating Temperature in range of 0° to 40° C	Operating Temperature in range of 0° to 40° C	
		Operating Humidity should be 10% to 90% noncondensing	Operating Humidity should be 10% to 90% noncondensing	
		Should be rack mountable and provided with necessary kit for mounting	Should be rack mountable and provided with necessary kit for mounting	
2.	Interfaces and Modules	Should have minimum 4 numbers of 1/10G SFP+ ports	Should have minimum 4 numbers of 1/10G SFP+ ports	
		Should have 8 or more RJ45 10/100/1000 Base-T copper ports	Should have 8 or more RJ45 10/100/1000 Base-T copper ports	
		In addition to above, should have two or more port for High Availability.	In addition to above, should have two or more port for High Availability.	
		Should have one 1X1GbE Out-of-Band (OOB) management ports	Should have one 1X1GbE Out-of-Band (OOB) management ports	
		Must have 1 console RJ-45 port	Must have 1 console RJ-45 port	
		Minimum 1 USB port	Minimum 1 USB port	
3.	System Performance	Should support stateful firewall performance of 20 Gbps or more	Should support stateful firewall performance of 20 Gbps or more	
		Should support IPsec VPN performance of 5 Gbps or more.	Should support IPsec VPN performance of 5 Gbps or more.	
		Should have IPS performance of 2 Gbps measured on HTTP traffic with 44 KB transaction size.	Should have IPS performance of 2 Gbps measured on HTTP traffic with 44 KB transaction size.	
		Routing table size should be minimum of 512 K (IPv4 and IPv6)	Routing table size should be minimum of 512 K (IPv4 and IPv6)	

#	Technical Specifications	Description	Revised Description	Compliance (Yes/No)
		Should support minimum of 1000 VLANs	Should support minimum of 1000 VLANs	
		Should have minimum of 2 virtual / logical firewalls enabled from day-1 and support for .	Should have minimum of 2 virtual / logical firewalls enabled from day-1.	
4.	Memory and Storage	System Memory (RAM) of 4 GB & Flash/SSD of 64 GB	System Memory (RAM) of 4 GB & Flash/SSD of 64 GB	
5.	Power	Should have redundant AC power supply	Should have redundant AC power supply	
6.	Management and Reporting	Should support SSH	Should support SSH	
		Should support Telnet	Should support Telnet	
		Should support SNMP	Should support SNMP	
		Should have Web based GUI. Should support CLI access	Should have Web based GUI. Should support CLI access	
		Should support App based traffic steering with multiple overlay tech – IPSec, GRE with link monitoring	Should support App based traffic steering with multiple overlay tech – IPSec, GRE with link monitoring	
		Must support Python scripting	Must support Python scripting	
		Should support sFlow/jflow/netflow or equivalent	Should support sFlow/jflow/netflow or equivalent	
		Should support IP-Monitoring	Should support IP-Monitoring	
7.	Layer 2 Features	MAC address learning	MAC address learning	
		Link aggregation and LACP	Link aggregation and LACP	
		VLAN addressing support	VLAN addressing support	
8.	IPS and other Features	IPS to prevent network reconnaissance attempts and prevent exploits hidden in network & application traffic	IPS to prevent network reconnaissance attempts and prevent exploits hidden in network & application traffic	
		Application Security for ability to detects at least 4000 Layer 3-7 applications including Web 2.0, Filter out risky and unwanted applications, and Ensure priority to high-value business applications.	Application Security for ability to detects at least 4000 Layer 3-7 applications including Web 2.0, Filter out risky and unwanted applications, and Ensure priority to high-value business applications.	

#	Technical Specifications	Description	Revised Description	Compliance (Yes/No)
		Security Intelligence to prevent Command and Control (C&C) attack, Block known malicious connections, and prevent lateral movement of security threats by identifying infected devices.	Security Intelligence to prevent Command and Control (C&C) attack, Block known malicious connections, and prevent lateral movement of security threats by identifying infected devices.	
		Should support Day-0 response to threat incidents, Discover and prevent new & unknown malwares	Should support Day-0 response to threat incidents, Discover and prevent new & unknown malwares	
		Capability of Policy enforcement based on GeoIP	Capability of Policy enforcement based on GeoIP	
		Capability of Enhanced Web Filtering to identify web traffic by catagories, block malicious & unwanted websites, and selectively decrypt	Capability of Enhanced Web Filtering to identify web traffic by categories, block malicious & unwanted websites, and selectively decrypt	
		Should have capability to work as Gateway Antivirus solution to keep known malwares out of the network and prevent threat from installing on the internal devices.	Should have capability to work as Gateway Antivirus solution to keep known malwares out of the network and prevent threat from installing on the internal devices.	
		Should support Anti-SPAM to prevent unsafe and annoying email out of the network and reduce the risk for email as an attack vector.	Should support Anti-SPAM to prevent unsafe and annoying email out of the network and reduce the risk for email as an attack vector.	
		5 years subscription for Application visibility & security and IPS is to be included with the offer.	5 years subscription for Application visibility & security and IPS is to be included with the offer.	
9.	Routing Features	Should have IPv4, IPv6 Static Routes	Should have IPv4, IPv6 Static Routes	
		Should have BGP, RIP v1/v2, OSPF, IS-IS protocols enabled	Should have BGP, RIP v1/v2, OSPF, IS-IS protocols enabled	
		Should have virtual routers functionality	Should have virtual routers functionality	
		Policy-based routing/Source-based routing should be supported	Policy-based routing/Source-based routing should be supported	
		Should support Multicast -IGMP v1/v2/v3, PIM-SM/PIM-DM	Should support Multicast -IGMP v1/v2/v3, PIM-SM/PIM-DM	

#	Technical Specifications	Description	Revised Description	Compliance (Yes/No)
		Should support MPLS, RSVP, LDP, L3VPN	Should support MPLS, RSVP, LDP, L3VPN	
		Should support Traffic Engineering, FRR	Should support Traffic Engineering, FRR	
		Should support multicast VPN	Should support multicast VPN	
		Graceful protocol restart for BGP, IS-IS, OSPF	Graceful protocol restart for BGP, IS-IS, OSPF	
10.	High Availability Features	Should support VRRP/HSRP on both IPv4 and IPv6	Should support VRRP/HSRP on both IPv4 and IPv6	
		Dual box clustering should be supported	Dual box clustering should be supported	
		Active/passive and Active/Active mode should be supported	Active/passive and Active/Active mode should be supported	
		Device and link detection should be available to monitor failure	Device and link detection should be available to monitor failure	
		Should support IP monitoring with route and interface failover	Should support IP monitoring with route and interface failover	
		Should have modular operating system	Should have modular operating system	
11.	Network Features	Should have Source NAT	Should have Source NAT	
		Should have Port Address Translation (PAT)	Should have Port Address Translation (PAT)	
		Should have Bidirectional 1:1 static NAT	Should have Bidirectional 1:1 static NAT	
		Should have Destination NAT	Should have Destination NAT	
		Should have Persistent NAT	Should have Persistent NAT	
		Should have IPv6 address translation	Should have IPv6 address translation	
12.	VPN Features	Should support GRE, IP-IP Tunnels	Should support GRE, IP-IP Tunnels	
		Should support Data Encryption Standard (DES), triple DES (3DES), Advanced Encryption Standard (AES256), PKI	Should support Data Encryption Standard (DES), triple DES (3DES), Advanced Encryption Standard (AES256), PKI	
13.	QoS Features	Must Support for 802.1p, Diff Serv code point (DSCP), EXP	Must Support for 802.1p, Diff Serv code point (DSCP), EXP	

#	Technical Specifications	Description	Revised Description	Compliance (Yes/No)
		Must Support Classification based on VLAN, interface or multifield filters	Must Support Classification based on VLAN, interface or multifield filters	
		Must Support Marking, policing, and shaping	Must Support Marking, policing, and shaping	
		Must Support Weighted random early detection (WRED)	Must Support Weighted random early detection (WRED)	
		Must Support Guaranteed and maximum bandwidth	Must Support Guaranteed and maximum bandwidth	
		Must Support Ingress traffic policing	Must Support Ingress traffic policing	
14.	Application aware features	Should support application quality experience which enables to effectively prioritize, segregate, and route business-critical applications traffic without compromising performance or availability from Day 1.	Should support application quality experience which enables to effectively prioritize, segregate, and route business-critical applications traffic without compromising performance or availability from Day 1.	
		Should support function to seamlessly diverts applications to an alternate path if the performance of the primary link is below acceptable levels as specified by the SLA	Should support function to seamlessly diverts applications to an alternate path if the performance of the primary link is below acceptable levels as specified by the SLA	
15.	Warranty	3 years onsite support including next-business day hardware replacement in case of failure, 24x7 access to OEM technical assistance center using toll-free telephone service, all minor and major software and patch updates.	5 years onsite support including next-business day hardware replacement in case of failure, 24x7 access to OEM technical assistance center using toll-free telephone service, all minor and major software and patch updates.	
16.	Certifications and Third-Party Validation	Safety certifications UL 60950-1	Safety certifications UL 60950-1	
		EMC certifications FCC Class A	EMC certifications FCC Class A	
		The router or it's operating system should be FIPS 140-2 and EAL 3/NDPP or above, certified under Common Criteria.	The router or it's operating system should be FIPS 140-2 and EAL 3/NDPP or above, certified under Common Criteria.	

#	Technical Specifications	Description	Revised Description	Compliance (Yes/No)
		The security effectiveness of the proposed OEM against exploits, malware and malicious URLs should be proven and validated as the following: i. More than 99% measured by NSS Labs ii. AAA rating by Cyber Rating iii. More than 99.5% measured by ICSA Labs	The security effectiveness of the proposed OEM against exploits, malware and malicious URLs should be proven and validated as the following: i. AAA rating by Cyber Rating ii. More than 99.5% measured by ICSA Labs	
		The OEM should have be placed as Leaders or Challengers in the latest Gartner Magic Quadrant for Enterprise Firewall.	Deleted	

5 Annexure (3) – Volume 1: 3.5 Revised Pre-Qualification

#	Criteria	Pre-qualification Criteria	Revised Pre-qualification Criteria	Supporting Document
PQ-1	**Legal Entity**	The bidder/members of consortium must be a company registered in India under Indian Companies Act 1956/2013, since last 7 years as on date of publication of bid. OR The Bidder/members of consortium shall be a partnership firm and should be registered under Partnership Act, 1932 or LLP Act of 2008 in India, since last 7 years as on date of publication of bid. The bidder/all members of consortium must have GST registration & up- to-date Income Tax Return, PAN Number as on 31st March 2023. Note: - Consortium/Joint Venture consisting of 1 Lead bidder and 1	The bidder/members of consortium must be a company registered in India under Indian Companies Act 1956/2013, since last 7 years as on date of publication of bid. OR The Bidder/members of consortium shall be a partnership firm and should be registered under Partnership Act, 1932 or LLP Act of 2008 in India, since last 7 years as on date of publication of bid. The bidder/all members of consortium must have GST registration & up- to-date Income Tax Return, PAN Number as on 31st March 2023. Note: - Consortium/Joint Venture consisting of 1 Lead bidder and 1	Bidder/Consortium shall submit: • Copy of Certificate of Incorporation / Registration under Companies Act 1956/ 2013 / Partnership firms Act of 1932 / LLP Act of 2008 • Memorandum and Articles of Association (as applicable) • GST Registration Certificate • Documentary proof for operations in India for a period of at least 7 years as on date of publication of bid.

#	Criteria	Pre-qualification Criteria	Revised Pre-qualification Criteria	Supporting Document
		Consortium Partner shall be allowed. Lead bidder of the consortium shall be responsible and accountable for the entire project.	Consortium Partner shall be allowed. Lead Bidder shall act as the sole interface with the Office of the Transport Commissioner on behalf of the consortium and Lead bidder of the consortium shall be responsible and accountable for the successful execution of the entire project including operations and maintenance.	
		A consortium must be formed 7 days prior to the last date of the bid submission. Under no circumstances consortium shall be formed after the last date of the bid submission.	A consortium must be formed prior to the last date of the bid submission. Under no circumstances consortium shall be formed after the last date of the bid submission.	
		• In case of Consortium MoU to be signed with Leader bidder. • The Bidder/All members of consortium should have or	• In case of Consortium MoU to be signed with Leader bidder. • The Bidder/All members of consortium should have or	• Power of Attorney to the authorized person of the lead bidder (as per the format provided)

#	Criteria	Pre-qualification Criteria	Revised Pre-qualification Criteria	Supporting Document
		shall be ready to set up a project office in Bhubaneswar with 30 days of issuance of LOA/I.	shall be ready to set up a project office in Bhubaneswar with 30 days of issuance of LOA/I.	• Undertaking by Bidder/All consortium members
PQ-2	**Annual Turnover**	The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). In the case of consortium, the member of consortium should have an average annual turnover of minimum INR 12.50 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). The net worth of the bidder/all members of consortium must be positive in the last three financial years (2023-2022, 2022-2021, 2021-2020) ending on 31st March 2023.	The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). In the case of consortium, the member of consortium should have an average annual turnover of minimum INR 12.50 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). • The net worth of the bidder/all members of consortium must be positive in the last three financial years (2023-2022, 2022-2021, 2021-2020) ending on 31st March 2023.	• Audited statement for last 3 financial years (2023-2022, 2022-2021, 2021-2020). • Certificate from the Statutory auditor / Independent Chartered Accountant with seal and signature clearly specifying the average annual turnover for the specified years (2023-2022, 2022-2021, 2021-2020). • PSUs may submit provisional financial statements certified by Chartered Accountant.

#	Criteria	Pre-qualification Criteria	Revised Pre-qualification Criteria	Supporting Document
PQ-3	**Technical Capability**	The bidder/any member of consortium must have experience in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only)	The bidder/any member of consortium must have experience in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only)	• Copy of Work Order/agreement having the scope of work, client details and project value. AND • [Completion / Substantial completion on installation and verification (Minimum 80% of Capex Project Cost) issued excluding O & M cost, signed by the authorized signatory of the client entity on the entity's Letterhead or certificate from Chartered Accountant /Statutory Auditor mentioning that the mentioned project work has been completed successfully along with scope and cost of the project. OR • Phase wise completion certificate from client stating the value of completed work.]

#	Criteria	Pre-qualification Criteria	Revised Pre-qualification Criteria	Supporting Document
		The "**Similar assignment**" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video analytics through camera/Radar or both in India with any state / central government / PSUs in last 7 years as on date of publication of bid. Note: The Bidder/The Lead Bidder need to specify the project/s for evaluation	The "**Similar assignment**" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video management system/video analytics through camera/Radar or both in India with any state / central government / PSUs in last 7 years as on date of publication of bid. Note: The Bidder/The Lead Bidder need to specify the project/s for evaluation	
PQ-4	**OEM Certificate**	Copy of RFP specific Manufacturers Authorization Form (MAF) certified by Original Equipment Manufacturer should be submitted for Cameras, Radars, Network switches, UPS, LPU, Racks, Display System, Software products.	Copy of RFP specific Manufacturers Authorization Form (MAF) certified by Original Equipment Manufacturer should be submitted for Cameras, Radars, Network switches, UPS, LPU, Racks, Display System, Software products.	Bidder/Consortium shall submit Manufacturers Authorization Form (MAF) certified by Original Equipment Manufacturer.

#	Criteria	Pre-qualification Criteria	Revised Pre-qualification Criteria	Supporting Document
		The bidder must submit and mention in MAF from OEMs for comprehensive support & warranty for 5 years with an extended warranty of another 2 years. The MAF shall duly stipulate the final warranty explicitly in favor of the Office of Transport Commissioner, without absolving the bidder from any of its obligations pertaining to warranty responsibilities. The letter from respective OEM should also confirm about the authorization of the products quoted are not end-of-life for further period of 7 years.	The bidder must submit and mention in MAF from OEMs for comprehensive support & warranty for 5 years with an extended warranty of another 2 years. The MAF shall duly stipulate the final warranty explicitly in favor of the Office of Transport Commissioner, without absolving the bidder from any of its obligations pertaining to warranty responsibilities. The letter from respective OEM should also confirm about the authorization of the products quoted are not end-of-life for further period of 7 years.	
PQ-5	**OEM Service Center**	The major OEM (Camera, Software, Radar, Network Active and Passive components, Display, UPS, and servers) must have operational offices and service center in India.	The major OEM (Camera, Software, Radar, Network Active and Passive components, Display, UPS, and servers) must have operational offices and service center in India.	Declaration along with documentary evidence needs to be submitted. OR Undertaking to open a project office in Odisha within a period of one month from signing the agreement

#	Criteria	Pre-qualification Criteria	Revised Pre-qualification Criteria	Supporting Document
PQ-6	**Camera OEM Criteria**	Camera OEM should be fulltime member in ONVIF, and model should be listed on ONVIF website. (All the certifications & Credentials should be valid on the date of technical evaluation).	Camera OEM should be fulltime member in ONVIF, and model should be listed on ONVIF website. (All the certifications & Credentials should be valid on the date of technical evaluation).	Self-attested copies of relevant Documents.
PQ-7	**Blacklisting**	The bidder/any of the OEM should not have been blacklisted/banned by any State/Central Government in India as on release date of this RFP for corrupt, fraudulent or any other unethical business practices or for any other reason. In case of Consortium all members should not have blacklisted/banned by any State/Central Government, in India as on date of release of this RFP for corrupt, fraudulent or any other unethical business practices or for any other reason.	The bidder/any of the OEM should not have been blacklisted/banned by any State/Central Government in India as on release date of this RFP for corrupt, fraudulent or any other unethical business practices or for any other reason in last 3 years from the date of publishing this bid. In case of Consortium all members should not have blacklisted/banned by any State/Central Government, in India as on date of release of this RFP for corrupt, fraudulent or any other unethical business practices or for any other reason.	• Undertaking on the letter head as per **Annexure: 7.**
PQ-8	**Local Presence**	The bidding firm/any member of the consortium should have its offices in Odisha. However, if the	The bidding firm/any member of the consortium should have its offices in Odisha. However, if the	Document in support of address proof (Rent Agreement/ Telephone bill/ Electricity Bill) of office premises

#	Criteria	Pre-qualification Criteria	Revised Pre-qualification Criteria	Supporting Document
		presence is not there in the state, the bidder/Lead Bidder should give an undertaking for establishment of an office, within one month from the date of issuance of Letter of Intent (LOI).	presence is not there in the state, the bidder/Lead Bidder should give an undertaking for establishment of an office, within one month from the date of issuance of Letter of Intent (LOI).	in Odisha. OR Undertaking to open a project office in Odisha within a period of one month from signing the agreement.
PQ-9	**ISO Certifications**	The bidder/all members of consortium should have valid ISO 9001:2015. AND The bidder/any member of consortium ISO 27000 & ISO 20000:1 at the time of submission of bid.	The bidder/all members of consortium should have valid ISO 9001:2015. AND The bidder/any member of consortium should have ISO 27000 & ISO 20000:1 at the time of submission of bid.	Copies of the Valid certificates in the name of bidder/member of consortium.
PQ-10	**Non-involvement in Litigation with Govt.**	The bidder/any member of the consortium shall not be involved in any litigation with either Central Government or any State Government.	The bidder/any member of the consortium shall not be involved in any litigation with either Central Government or any State Government.	Undertaking on the letter head as per **Annexure 16: Noninvolvement in any litigation with Government**

6 Annexure (4) – Volume 1: 3.6. Revised Technical Bid Evaluation

Sr. No	Criteria	Parameter	Revised Parameter	Maximum Mark	Supporting Documents
A1	Financial Competency	The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). <table><tr><td>**Average Annual Turnover**</td><td>**Marks**</td></tr><tr><td>> 150 Crores <= 200 Crores</td><td>5</td></tr><tr><td>> 200 Crores <= 300 Crores</td><td>10</td></tr><tr><td>> 300 Crores</td><td>15</td></tr></table>	The bidder/lead member of the consortium should have an average annual turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). <table><tr><td>**Average Annual Turnover**</td><td>**Marks**</td></tr><tr><td>> 150 Crores <= 200 Crores</td><td>5</td></tr><tr><td>> 200 Crores <= 300 Crores</td><td>10</td></tr><tr><td>> 300 Crores</td><td>15</td></tr></table>	15	• Audited statement for last 3 financial years (2023-2022, 2022-2021, 2021-2020). • Certificate from the Statutory auditor / Independent Chartered Accountant with seal and signature clearly specifying the average annual turnover for the specified years (2023-2022, 2022-2021, 2021-2020).
Relevant Project Experience					
B.1	Implementation Experience of video surveillance	The bidder/any member of the consortium should have design and implementation experience in one	The bidder/any member of the consortium should have design and implementation experience in one	15	• Copy of Work Order/agreement having the scope

Sr. No	Criteria	Parameter	Revised Parameter	Maximum Mark	Supporting Documents
	through camera/radar/both with analytics	single project of procurement, supply, installation of video surveillance through camera/radar/both with analytics for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value: | Project Value	Marks | |---|---| | > 20 Crores <= 30 Crores | 5 | | > 30 Crores <= 40 Crores | 10 | | > 40 Crores | 15 |	single project of procurement, supply, installation of video surveillance through camera/radar/both with analytics for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value: | Project Value	Marks | |---|---| | > 20 Crores <= 30 Crores | 5 | | > 30 Crores <= 40 Crores | 10 | | > 40 Crores | 15 |		of work, client details and project value.
B.2	Networking Experience	The bidder/any member of the consortium should have similar experience of single project for providing network connectivity across minimum 15 highway locations or remote locations for any state / central government in India in last 7 years as on date of release of bid. For this criteria, similar experience means a Secured, Point to Point network connectivity, having multi redundant paths from each field node.	The bidder/any member of the consortium should have similar experience of single project for providing network connectivity across minimum 15 highway locations or 15 remote locations for any state / central government / PSUs in India in last 7 years as on date of release of bid. For this criteria, similar experience means a secured, network connectivity, having multi redundant paths from each field node.	15	• Copy of Work Order/agreement having the scope of work, client details and project value.

Sr. No	Criteria	Parameter	Revised Parameter	Maximum Mark	Supporting Documents
		Please note that a project implemented within the same city area limits shall not be considered as a **remote location**. 	No. of Projects	Marks
---	---
1 Project	5
2 Projects	10
3 Projects	15		Network connectivity provided to different postal pin codes of cities, districts, villages, talukas shall be considered. 	No. of Projects	Marks
---	---
1 Project	5
2 Projects	10
3 Projects	15			
B.3	Command and Control Centre	The bidder/any member of the consortium should have design and implementation experience in procurement, supply, installation of command-and-control centre having video wall, enterprise management system, help desk for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value: 	No. of Projects	Marks
---	---
1 Project	3
2 Projects	5
3 Projects	10		The bidder/any member of the consortium should have experience in procurement, supply, installation of command-and-control centre having video wall, management system for any state / central government / PSUs in India in last 7 years as on date of release of bid with project value: 	No. of Projects	Marks
---	---
1 Project	3
2 Projects	5
3 Projects	10		10	• Copy of Work Order/agreement having the scope of work, client details and project value.
Product Technical Compliance					

Sr. No	Criteria	Parameter	Revised Parameter	Maximum Mark	Supporting Documents
C1	Certificate of speed violation detection	The Radar system should capture the speed of vehicles running upto the speed of 180 KMPH with an accuracy of at least 99%. <table><tr><th>Speed Detection Capacity in kmph</th><th>Marks</th></tr><tr><td>> 180 <= 240</td><td>6</td></tr><tr><td>> 240 <= 280</td><td>8</td></tr><tr><td>> 280</td><td>10</td></tr></table>	The accuracy of the radar speed detection system should be atleast 98% and capture up to minimum 180 kmph speeds during day and night for all types of vehicles. <table><tr><th>Speed Detection Capacity in kmph</th><th>Marks</th></tr><tr><td>> 180 < 190</td><td>6</td></tr><tr><td>>= 190 < 200</td><td>8</td></tr><tr><td>>= 200</td><td>10</td></tr></table>	10	The bidder/ consortium member/ OEM shall submit valid certification from any NABL accredited laboratory / ARAI/ICAT/VRDE/GARC certificate of Government of India or Indian testing agencies in accordance Section 167A and rule 126 of the Central Motor Vehicle Rules (CMVR) 1989. FCC, IEC 60068-2-31
Proof of Concept (PoC)					
D1	Proof of Concept (PoC)	Evaluation committee will study the functionality and award marks for the demonstration and Proof of Concept (PoC) <table><tr><th>Criteria</th><th>Marks</th></tr><tr><td>Approach & Methodology and Proposed Solution</td><td>5</td></tr><tr><td>Accuracy of Speed of SVD system</td><td>5</td></tr></table>	Evaluation committee will study the functionality and award marks for the demonstration and Proof of Concept (PoC)	35	Evaluation committee will study the functionality and award marks for the demonstration and Proof of Concept (PoC)

Sr. No	Criteria	Parameter		Revised Parameter		Maximum Mark	Supporting Documents
				Criteria	**Marks**		
		Accuracy of ANPR system	5	Approach & Methodology and Proposed Solution	5		
		Demo Hardware in Line with the specifications	5	Accuracy of Speed of SVD system	5		
		Uninterrupted Redundant network	5	Accuracy of ANPR system	5		
		Uninterrupted redundant Power supply	5	Demo Hardware in Line with the specifications	5		
		Software features like Unified CCC software, dashboarding, single interface etc.	5	Uninterrupted Redundant network	5		
				Uninterrupted redundant Power supply	5		
				Software features like Unified CCC software, dashboarding, single interface etc.	5		

7 Annexure (5) - Volume 1: 9.5. Annexure 5: Form II- PQ Bid Checklist

The Bidder is required to fill relevant information in the format given below. The pre-qualification bid must contain documentary evidence and supporting information to enable Authority to evaluate the eligibility of the Bidder without ambiguity.

#	Criteria	Revised Pre-qualification Criteria	Supporting Document	Compliance (Yes/No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)
PQ-1	**Legal Entity**	The bidder/members of consortium must be a company registered in India under Indian Companies Act 1956/2013, since last 7 years as on date of publication of bid. OR The Bidder/members of consortium shall be a partnership firm and should be registered under Partnership Act, 1932 or LLP Act of 2008 in India, since last 7 years as on date of publication of bid.	Bidder/Consortium shall submit: • Copy of Certificate of Incorporation / Registration under Companies Act 1956/ 2013 / Partnership firms Act of 1932 / LLP Act of 2008 • Memorandum and Articles of Association (as applicable) • GST Registration Certificate • Documentary proof for operations in India for a period of at least 7 years as on date of publication of bid.		

#	Criteria	Revised Pre-qualification Criteria	Supporting Document	Compliance (Yes/No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)
		The bidder/all members of consortium must have GST registration & up-to-date Income Tax Return, PAN Number as on 31st March 2023. Note: - Consortium/Joint Venture consisting of 1 Lead bidder and 1 Consortium Partner shall be allowed. Lead Bidder shall act as the sole interface with the Office of the Transport Commissioner on behalf of the consortium and Lead bidder of the consortium shall be responsible and accountable for the successful execution of the entire project including operations and maintenance.			

#	Criteria	Revised Pre-qualification Criteria	Supporting Document	Compliance (Yes/No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)
		A consortium must be formed prior to the last date of the bid submission. Under no circumstances consortium shall be formed after the last date of the bid submission.			
		• In case of Consortium MoU to be signed with Leader bidder. • The Bidder/All members of consortium should have or shall be ready to set up a project office in Bhubaneswar with 30 days of issuance of LOA/I.	• Power of Attorney to the authorized person of the lead bidder (as per the format provided) • Undertaking by Bidder/All consortium members	•	•
PQ-2	**Annual Turnover**	The bidder/lead member of the consortium should have an average annual	• Audited statement for last 3 financial years (2023-2022, 2022-	•	•

#	Criteria	Revised Pre-qualification Criteria	Supporting Document	Compliance (Yes/No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)
		turnover of minimum INR 150 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). In the case of consortium, the member of consortium should have an average annual turnover of minimum INR 12.50 Crores in last 3 audited financial years (2023-2022, 2022-2021, 2021-2020). • The net worth of the bidder/all members of consortium must be positive in the last three financial years (2023-2022, 2022-2021, 2021-2020) ending on 31st March 2023.	2021, 2021-2020). • Certificate from the Statutory auditor / Independent Chartered Accountant with seal and signature clearly specifying the average annual turnover for the specified years (2023-2022, 2022-2021, 2021-2020). • PSUs may submit provisional financial statements certified by Chartered Accountant.		

#	Criteria	Revised Pre-qualification Criteria	Supporting Document	Compliance (Yes/No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)
PQ-3	**Technical Capability**	The bidder/any member of consortium must have experience in implementation of at least following numbers of similar assignments of project and value specified herein: - One project of similar assignment in video surveillance, not less than the amount ₹40,00,00,000/- (Forty Crore Only) OR Two projects of similar assignment in video surveillance, each project must not less than the amount ₹30,00,00,000/- (Thirty Crore Only) OR	• Copy of Work Order/agreement having the scope of work, client details and project value. AND • [Completion / Substantial completion on installation and verification (Minimum 80% of Capex Project Cost) issued excluding O & M cost, signed by the authorized signatory of the client entity on the entity's Letterhead or certificate from Chartered Accountant /Statutory Auditor mentioning that the mentioned project work has been completed successfully along with	•	•

#	Criteria	Revised Pre-qualification Criteria	Supporting Document	Compliance (Yes/No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)
		Three projects of similar assignment in video surveillance, each project must not less than the amount ₹20,00,00,000/- (Twenty Crore Only) The "**Similar assignment**" of the work shall mean project including procurement, supply, installation and providing dedicated network connectivity, power supply connectivity, and maintenance of video management system/video analytics through camera/Radar or both in India with any state / central government / PSUs in last 7 years as on date of publication of bid.	scope and cost of the project. OR • Phase wise completion certificate from client stating the value of completed work.]		

#	Criteria	Revised Pre-qualification Criteria	Supporting Document	Compliance (Yes/No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)
		Note: The Bidder/The Lead Bidder need to specify the project/s for evaluation			
PQ-4	**OEM Certificate**	Copy of RFP specific Manufacturers Authorization Form (MAF) certified by Original Equipment Manufacturer should be submitted for Cameras, Radars, Network switches, UPS, LPU, Racks, Display System, Software products. The bidder must submit and mention in MAF from OEMs for comprehensive support & warranty for 5 years with an extended warranty of another 2 years. The MAF shall duly stipulate the final warranty	Bidder/Consortium shall submit Manufacturers Authorization Form (MAF) certified by Original Equipment Manufacturer.		

#	Criteria	Revised Pre-qualification Criteria	Supporting Document	Compliance (Yes/No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)
		explicitly in favor of the Office of Transport Commissioner, without absolving the bidder from any of its obligations pertaining to warranty responsibilities. The letter from respective OEM should also confirm about the authorization of the products quoted are not end-of-life for further period of 7 years.			
PQ-5	**OEM Service Center**	The major OEM (Camera, Software, Radar, Network Active and Passive components, Display, UPS, and servers) must have operational offices and service center in India.	Declaration along with documentary evidence needs to be submitted. OR Undertaking to open a project office in Odisha within a period of one month from signing the agreement		
PQ-6	**Camera OEM Criteria**	Camera OEM should be fulltime member in ONVIF, and model should be listed	Self-attested copies of relevant Documents.		

#	Criteria	Revised Pre-qualification Criteria	Supporting Document	Compliance (Yes/No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)
		on ONVIF website. (All the certifications & Credentials should be valid on the date of technical evaluation).			
PQ-7	**Blacklisting**	The bidder/any of the OEM should not have been blacklisted/banned by any State/Central Government in India as on release date of this RFP for corrupt, fraudulent or any other unethical business practices or for any other reason in last 3 years from the date of publishing this bid. In case of Consortium all members should not have blacklisted/banned by any State/Central Government, in India as on date of release of this RFP for corrupt, fraudulent or any other unethical	• Undertaking on the letter head as per **Annexure: 7.**	•	•

#	Criteria	Revised Pre-qualification Criteria	Supporting Document	Compliance (Yes/No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)
		business practices or for any other reason.			
PQ-8	**Local Presence**	The bidding firm/any member of the consortium should have its offices in Odisha. However, if the presence is not there in the state, the bidder/Lead Bidder should give an undertaking for establishment of an office, within one month from the date of issuance of Letter of Intent (LOI).	Document in support of address proof (Rent Agreement/ Telephone bill/ Electricity Bill) of office premises in Odisha. OR Undertaking to open a project office in Odisha within a period of one month from signing the agreement.		
PQ-9	**ISO Certifications**	The bidder/all members of consortium should have valid ISO 9001:2015. AND The bidder/any member of consortium should have ISO 27000 & ISO 20000:1 at the time of submission of bid.	Copies of the Valid certificates in the name of bidder/member of consortium.		

#	Criteria	Revised Pre-qualification Criteria	Supporting Document	Compliance (Yes/No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)
PQ-10	**Non-involvement in Litigation with Govt.**	The bidder/any member of the consortium shall not be involved in any litigation with either Central Government or any State Government.	Undertaking on the letter head as per **Annexure 16: Noninvolvement in any litigation with Government**		

7.1 Annexure (6) - Volume 1: Annexure 20: Revised Price Bid Format list

To
The Transport Commissioner,
Office of the Transport Commissioner, Odisha
6th Floor, Rajaswa Bhawan, P.O: Chandini Chowk,
Cuttack, Pin: 753002
Odisha.0671-2507042,

Sir,

1. We hereby declare.
    i. that we have domain knowledge in implementation of CCTV / Electronic Surveillance /ANPR, Application Development, Database Synchronization, generic report, generation software, Training on Networking and Software.
    ii. We/our principals are equipped with adequate manpower / machinery / technology for providing the Services as per the parameters laid down in the Tender Document and we are prepared for live/technical demonstration of our capability and preparedness before the representatives of Office of Transport Commissioner and we/our principals are also equipped with adequate maintenance and service facilities within India for supporting the offered document.
    iii. We hereby offer to provide the Services at the prices and rates mentioned in the Commercial Bid in Part II and Part III.
    iv. We do hereby undertake, that, in the event of acceptance of our bid, the Services shall be provided as stipulated in the schedule to the Bid document and that we shall perform all the incidental services.
2. We enclose herewith the complete Commercial Bid as required by you. This includes:
    i. This Bid Letter
    ii. Price Bid Section II

We agree to abide by our offer for a period of 180 days from the last date of submission of Bid and that we shall remain bound by a communication of acceptance within that time.

We have carefully read and understood the terms and conditions of the tender and the conditions of the contract applicable to the tender and we do hereby undertake to provide services as per these terms and conditions.

Certified that the bidder is a Company and the person signing the tender is the duly constituted attorney. Bid Security (Earnest Money Deposit) for an amount equal to Rs.1,00,00,000 (Rupees One Crore Only) is paid towards the tender.

We do hereby undertake, that, until a formal contract is prepared and executed, this bid, together with your written acceptance thereof or placement of WO awarding the contract, shall constitute a binding contract between us.

[A] PRE-IMPLEMENTATION COST - CAPEX

#	Description	Indicative Quantity	Units	Rate per Unit	Net Total	Taxes in Amount	Total Cost Inclusive of Taxes
i	ii	iii	iv	v	vi = (iii x v)	vii	viii = (vi + vii)
[1]	**Upgradation of CCC to UCCC**						
1.1	Upgradation of CCC to UCCC	1	Lumpsum				
1.2	Project Management Services for upgradation of CCC to UCCC	1	Lumpsum				
1.3	Any other component to manage SLA parameters	1	Lumpsum				
[1] Sub Total of Upgradation of CCC to UCCC							
[2]	**IEMS Software Components (with licenses) & Services**						
2.1	Automatic Number Plate Recognition (ANPR) System	1	Lumpsum				
2.2	Speed Violation Detection (SVD) System (Over speeding)	1	Lumpsum				
2.3	Evidence Camera for detection of Traffic Violations	1	Lumpsum				
2.4	Using Mobile Phone while driving detection system	1	Lumpsum				
2.5	Driving against flow of traffic Detection System	1	Lumpsum				
2.6	Driver and Passenger not wearing seat belt detection system	1	Lumpsum				

#	Description	Indicative Quantity	Units	Rate per Unit	Net Total	Taxes in Amount	Total Cost Inclusive of Taxes
i	ii	iii	iv	v	vi = (iii x v)	vii	viii = (vi + vii)
2.7	Riding more than two persons on two-wheeler Detection System	1	Lumpsum				
2.8	Riding without helmet by both rider and pillion rider system	1	Lumpsum				
2.9	Vehicle Classification	1	Lumpsum				
2.10	Artificial Intelligence (AI) and Deep Learning (DL) based IEMS	1	Lumpsum				
2.11	Pole mounted Junction Box security System	1	Lumpsum				
2.12	Integration with legacy systems	1	Lumpsum				
2.13	Service Level Agreement (SLA) Monitoring Tool	1	Lumpsum				
2.14	Hosting of IEMS Solution on Managed Cloud Services	6	Months				
2.15	Project Management Services	6	Months				
2.16	Training & Capacity Building Services	1	Lumpsum				
2.17	Storage & Recording Equipment & Services	10	PB				
2.18	Any other component to manage SLA parameters	1	Lumpsum				
[2] Sub Total of IEMS Software Components (with licenses) & Services							
[3]	**Hardware Components (Supply, delivery, installation, testing, commissioning and mounting on structure)**						
3.1	ANPR Cameras	1	No				
3.2	Speed Violation Detection Radar	1	No				
3.3	Video Analytical Camera for Traffic Violation detection	1	No				
3.4	Pole Security Camera	1	No				
3.5	Junction Box	1	No				

#	Description	Indicative Quantity	Units	Rate per Unit	Net Total	Taxes in Amount	Total Cost Inclusive of Taxes
i	ii	iii	iv	v	vi = (iii x v)	vii	viii = (vi + vii)
3.6	Surge Protector	1	No				
3.7	Local Processing Unit (LPU)	1	No				
3.8	Integrated Power Rack	1	No				
3.9	Industrial Managed PoE + Switch	1	No				
3.10	Online UPS	1	No				
3.11	Any other component to manage SLA parameters	1	Lumpsum				
[4]	**Display Systems**						
4.1	Variable Messaging Display Board (VMD) with Accessories	1	No				
4.2	Pole Structure for VMD	1	No				
4.3	Cantilever Structure for VMD	1	No				
4.4	Speed Display System with Accessories	1	No				
4.5	Pole structure for Speed Display System	1	No				
4.5	Any other component to manage SLA parameters	1	Lumpsum				
[3, 4] Sub Total of Hardware Components (Supply, delivery, installation, testing, commissioning and mounting on structure)							
[5]	**Civil Infrastructure (Supply, installation, commissioning including cabling)**						
5.1	Gantry Structures for 6 Lane and above	1	No				
5.2	Cantilever Structure for 2 & 4 Lane	1	No				
5.3	Poles for Security Camera	1	No				
5.4	Any other component to manage SLA parameters	1	Lumpsum				
[5] Sub Total of Civil Infrastructure (Supply, installation, commissioning including cabling)							

#	Description	Indicative Quantity	Units	Rate per Unit	Net Total	Taxes in Amount	Total Cost Inclusive of Taxes
i	ii	iii	iv	v	vi = (iii x v)	vii	viii = (vi + vii)
[6]	**Utility Services - Components**						
6.1	Solar Power Unit with accessories	1	No				
6.2	Seamless connectivity via 5-scale connectivity matrix	1	Locations				
6.3	Hybrid WAN Link aggregator (Inbound / Outbound)	1	No				
6.4	Hybrid WAN Link aggregator (Inbound / Outbound) Hub Unit	1	No				
6.5	Backbone Engine for Secured Network	1	Lumpsum				
6.6	Network Intrusion Prevention System	1	Lumpsum				
6.7	Network Management System	1	Lumpsum				
6.8	Any other component to manage SLA parameters	1	Lumpsum				
[6] Sub Total of Utility Services Components							
TOTAL OF CAPEX (1 + 2 + 3 + 4 + 5 + 6)							

[B] POST IMPLEMENTATION COST - OPEX

#	Description	Indicative Quantity	Units	Rate per Unit	Net Total	Taxes in Amount	Total Cost Inclusive of Taxes
i	ii	iii	iv	v	vi = (iii x v)	vii	viii = (vi + vii)
[1]	**Managed Cloud Services including Security & Project Management Services**						
1.1	DC & DR on Managed Cloud Services – Year 1	1	Year				
1.2	DC & DR on Managed Cloud Services – Year 2	1	Year				
1.3	DC & DR on Managed Cloud Services – Year 3	1	Year				
1.4	DC & DR on Managed Cloud Services – Year 4	1	Year				

#	Description	Indicative Quantity	Units	Rate per Unit	Net Total	Taxes in Amount	Total Cost Inclusive of Taxes
i	ii	iii	iv	v	vi = (iii x v)	vii	viii = (vi + vii)
1.5	DC & DR on Managed Cloud Services – Year 5	1	Year				
1.11	Any other component to manage SLA parameters	1	Lumpsum				
[1] Subtotal of Managed Cloud Services including Security & Project Management Services							
[2]	Utility Services						
2.1	Electricity Power Connectivity – Year 1	1	Year				
2.2	Electricity Power Connectivity – Year 2	1	Year				
2.3	Electricity Power Connectivity – Year 3	1	Year				
2.4	Electricity Power Connectivity – Year 4	1	Year				
2.5	Electricity Power Connectivity – Year 5	1	Year				
2.6	Network Connectivity – Year 1	1	Year				
2.7	Network Connectivity – Year 2	1	Year				
2.8	Network Connectivity – Year 3	1	Year				
2.9	Network Connectivity – Year 4	1	Year				
2.10	Network Connectivity – Year 5	1	Year				
2.11	Any other component to manage SLA parameters	1	Lumpsum				
[2] Subtotal of Utility Services							
[3] Operations and Maintenance of the IEMS Solution							
3.1	Deployment of Project Manager						
3.2	Year 1	1	Yearly				
3.3	Year 2	1	Yearly				
3.4	Year 3	1	Yearly				
3.5	Year 4	1	Yearly				
3.6	Year 5	1	Yearly				

#	Description	Indicative Quantity	Units	Rate per Unit	Net Total	Taxes in Amount	Total Cost Inclusive of Taxes
i	ii	iii	iv	v	vi = (iii x v)	vii	viii = (vi + vii)
3.7	**Deployment of Technology Expert**						
3.8	Year 1	1	Yearly				
3.9	Year 2	1	Yearly				
3.10	Year 3	1	Yearly				
3.11	Year 4	1	Yearly				
3.12	Year 5	1	Yearly				
3.13	**Deployment of Site Engineer**						
3.14	Year 1	1	Yearly				
3.15	Year 2	1	Yearly				
3.16	Year 3	1	Yearly				
3.17	Year 4	1	Yearly				
3.18	Year 5	1	Yearly				
3.19	**Deployment of Control Room Operators (5 Nos)**						
3.20	Year 1	1	Yearly				
3.21	Year 2	1	Yearly				
3.22	Year 3	1	Yearly				
3.23	Year 4	1	Yearly				
3.24	Year 5	1	Yearly				
[3] Subtotal of Operations and Maintenance of the IEMS Solution							
[4] Comprehensive Warranty & Annual Maintenance of the IEMS Solution (on CAPEX Cost) for 5 years post Go-Live							
4.1	Year 1	1	Yearly				
4.2	Year 2	1	Yearly				
4.3	Year 3	1	Yearly				
4.4	Year 4	1	Yearly				
4.5	Year 5	1	Yearly				

#	Description	Indicative Quantity	Units	Rate per Unit	Net Total	Taxes in Amount	Total Cost Inclusive of Taxes
i	ii	iii	iv	v	vi = (iii x v)	vii	viii = (vi + vii)
[4] Subtotal of Comprehensive Warranty & Annual Maintenance of the IEMS Solution (on CAPEX Cost) for 5 years post Go-Live							
TOTAL OF OPEX (1 + 2 + 3 + 4)							

Summary of Financial Bid:

SR. NO.	DESCRIPTION	AMOUNT IN INR
[A]	**PRE-IMPLEMENTATION COST - CAPEX**	
[B]	**POST IMPLEMENTATION COST - OPEX**	
[C]	**GRAND TOTAL (A + B) in Numbers**	
	GRAND TOTAL (A + B) in Words	

Additional Requirement Cost (will not be part of Financial Bid Evaluation)

#	Description	Indicative Quantity	Units	Rate per Unit	Net Total	Taxes in Amount	Total Cost Inclusive of Taxes
i	ii	iii	Iv	v	vi = (iii x v)	vii	viii = (vi + vii)
[1]	**Additional Requirement**						
1.1	Shifting/Relocation of IEMS Location with allied hardware components including operationalization of the same at new IEMS Location.	1	No				
1.2	Desktops for Police Stations & RTO Offices Minimum Indicative Requirement:	1	No				

#	Description	Indicative Quantity	Units	Rate per Unit	Net Total	Taxes in Amount	Total Cost Inclusive of Taxes
i	ii	iii	Iv	v	vi = (iii x v)	vii	viii = (vi + vii)
	• i3 Processor • 8 GB RAM • 256 SSD • 4 GB Dedicated Graphic Card • 24" LED Monitor with 1 KVA UPS						

Note:

1. *The bill of quantity provided is indicative only. The Bidders need to ensure that the desired functionality and scope of the work is fulfilled within the cost quoted, the Office of the Transport Commissioner will not consider any additional costs which are not mentioned in the Financial Bid Proposal.*
2. *The bill of quantities mentioned under Revised Price Bid format are only for bid evaluation.*
3. *The bidder will be responsible for safe storage and custody of materials, the office of the Transport Commissioner will not be responsible for providing any storage facilities.*
4. *The quoted value for PRE-IMPLEMENTATION COST - CAPEX should not be more than 80% of the overall Project cost. POST IMPLEMENTATION COST - OPEX should be 20% of the overall cost. (CAPEX : OPEX :: 80 : 20). In case quoted CAPEX cost is more than 80%, adjustment shall be made by the Office of the Transport Commissioner in equal proportions over the OPEX period to make cost of OPEX at least 20% of overall project cost.*
5. *The bidder shall quote Additional Requirement Cost as mentioned in the indicative Bill of Quantity, the cost will not be part of the Financial Bid Evaluation. The cost will be paid to the bidder as per the price discovered in this proposal.*

Authorized Signatory   **Date:**

Name: **Designation:**

Office Seal: **Place:**

For and on behalf of: (BIDDER NAME)

8 Annexure (7) – Volume 2: 7 Revised Project Timeline & Payment Milestones

The mode of payments to be made in consideration of the work and deliverables to be performed by the bidder shall be as follows. The Payment will be made to prime bidder only after performance deductions (if any) and statutory deductions (if any).

The Office of the Transport Commissioner at its sole discretion and depending on project progress and under certain criteria may release part-payment against any milestone payment after due undertaking from the bidder for completion of the activity or deliverable within 1 month of such submission of request by the bidder. However, the decision for part payment is entirely dependent on the Office of the Transport Commissioner.

Milestones and Payment Schedules for Implementation Phase

D = Effective Date of Letter of Intent or Contract Agreement (whichever is earlier)

D1 = Effective Date of Issue of Work Order

Milestones	Payment Milestones for the Implementation Phase	Payment Schedule	Time Schedule	Deliverables (Post approval by Authorised officer)
M 1	Site Survey	5% of Work Order Value (Capex Cost)	D1 + 3 Weeks	Technical Design Documents (HLD, LLD, Network Diagram) SRS document, Drawings along with feasibility study report of IEMS (Location & CCC)
M 2	Delivery & Verification of Hardware and related accessories	20% of Work Order Value (Capex Cost)	D1 + 8 Weeks	Delivery Challan, Functional Study Report (Applications & Edge Devices), Inception Report, Project Plan.
M 3	Civil Work with Cabling, Installation, Testing, Commissioning Hardware of IEMS Location & verification	20 % of Work Order Value (Capex Cost)	D1 + 10 Weeks Equal payment for each location completion	Site Commissioning Report, Warranty Certificates for the items supplied.
M 4	Installation, configuration, and Software/Application deployment	20 % of Work Order Value (Capex Cost)	D1 + 14 Weeks	Deployment Report
M 5	Acceptance Test for integration with UCCC Hardware & Application software	10% of Work Order Value (Capex Cost)	D1 + 16 Weeks	User Acceptance Report

Milestones	Payment Milestones for the Implementation Phase	Payment Schedule	Time Schedule	Deliverables (Post approval by Authorised officer)
M 6	Final Acceptance Test & Go-Live of the IEMS system	10% of Work Order Value (Capex Cost)	D1 + 22 Weeks	FAT Report Go-Live Report Security CERTIN Certificate
M 7	Completion of Training	5% of Work Order Value (Capex Cost)	D1 + 26 Weeks	Training Completion Report User Manual
M 8	30 Days of successful Go-Live	5% of Work Order Value (Capex Cost)	D1 + 30 Weeks	System Generated Stability reports for installed hardware/software. Completion of UAT and closure of observations report

Note:

The 5% of the of Capex for Software would be paid to the bidder/the lead bidder (in case of consortium) proportionately over the operation and maintenance period on Quarterly basis, Post Go-Live.

The Billing period of Hosting & maintenance Cost would begin after Go-Live.

Milestones	Payment Milestones for the Operations & Maintenance Phase	Payment Schedule	Time Schedule	Deliverable
M 9	Year 1 payment for O&M after Go-Live	20% of Work Order Value (Opex Cost) And 1% of Work Order Value for IEMS Software Components with licenses & Services (Capex Cost)	Equal Quarterly Invoice Payments	1. Detailed plan for monitoring of SLAs and performance of the overall system. 2. Quarterly Progress Report. 3. Weekly Progress Report. 4. Issues logging and resolution report. Note: Above deliverables would be required to be submitted post Go-Live during Operations & Maintenance Period
M 10	Year 2 payment for O&M	20% of Work Order Value (Opex Cost) And 1% of Work Order Value for IEMS Software	Quarterly	

Milestones	Payment Milestones for the Operations & Maintenance Phase	Payment Schedule	Time Schedule	Deliverable
		Components with licenses & Services (Capex Cost)		
M 11	Year 3 payment for O&M	20% of Work Order Value (Opex Cost) And 1% of Work Order Value for IEMS Software Components with licenses & Services (Capex Cost)	Quarterly	
M 12	Year 4 payment for O&M	20% of Work Order Value (Opex Cost) And 1% of Work Order Value for IEMS Software Components with licenses & Services (Capex Cost)	Quarterly	
M 13	Year 5 payment for O&M	20% of Work Order Value (Opex Cost) And 1% of Work Order Value for IEMS Software Components with licenses & Services (Capex Cost)	Quarterly	

Note:

- *Payment of Operations and maintenance phase shall be made on quarterly basis based on the adherence to monthly SLA compliance.*
- *The MSI shall work under project monitoring and supervision of Technical Support Unit (TSU - M/s. Palladium Consulting India Pvt. Ltd.) during the entire contract period of IEMS Project.*
- *The bidder shall share deliverables with TSU for technical review during the entire contract period of IEMS implementation. On successful completion of the review by TSU, it will be submitted for approval of Authority.*
- *All payments to the MSI shall be made upon submission of invoices along with necessary approval certificates from concerned Authorities.*

9 Annexure (8) – Volume 2: Upgradation of CCC to UCCC

3.1.1 Command and Control Centre (CCC)

The Office of the Transport Commissioner is operating DEESHA project as Enforcement Management System. The Project was started in July 2021 for 5 months of implementation and 3 Years of Operation and Maintenance. Under DEESHA project, Command and Control Centre (CCC) has been set up in an approximate area of 300 Sq Ft. at Bhubaneswar by the Office of the Transport Commissioner. The CCC is used by the Office of the Transport Commissioner for monitoring traffic violations identified through DEESHA Project. Based on the same, CCC is issuing the traffic challans through e-Challan System using the data available through Vahan 4.0 portal. The CCC situated at RTO-1, Bhubaneswar had been deployed by M/s - NIS Facility Management Services Pvt. Ltd. and developed on software platform provided by M/s - Videonatics. The National Informatics Centre (NIC) has provided the e-Challan software, which is integrated into the current solution for generating and communicating challans for traffic violations to relevant stakeholders. The CCC will be shifted to RTO-2, Chandrashekharpur, Bhubaneswar and will be upgraded to UCCC. Shifting is in process & existing system integrator will complete the shifting task. Present CCC has bare minimum civil infrastructure, furniture setup, networking components and power supply.

The details of the indicative hardware, networking, and infrastructure components available and installed at CCC are as follows:

Sr. No.	Major Component	Quantity	Make & Model
1	Video Wall	1 Unit	Delta, Icon Pro Series - D
2	Desktop	4 Nos	HP 280 Pro G6
3	Online UPS	1 No	10KVA
4	Application Server	2 Nos	HP Make
5	Workstations Furniture	6 Nos	Standard

The MSI shall conduct its own study of DEESHA CCC Solution and its accessories like hardware, application server, UPS & operators' workstation. The MSI shall prepare a strategy for optimum use of the available legacy systems and its components along with new requirements given in the Financial Bid format for UCCC. For example, the MSI shall utilize the existing application server for analytics of the data received from new IEMS locations through Video Analytic Cameras installed for detection of traffic violations and the same should be demonstrated at the time of PoC.

RFP for Selection of Vendor for Upgradation of existing Command Control Centre to Unified Command Control Centre & Implementation of Intelligent Enforcement Management System (IEMS)

252 / 265

The indicative specifications of the abovementioned major components are listed below.

Video Wall and Controller

Sr. No.	Feature	Specification
1.	Configuration	Video wall cubes of 50" diagonal in a 2 x 2 configuration complete with base stand
2.	Native Resolution	Full HD (1920x 1080)
3.	Light Source Type	Laser light source, Individual cube should be equipped with multiple laser banks and each laser bank should have an array of diodes.
4.	Brightness of Projection engine	Minimum 2000 lumens
5.	Brightness of Cube	Minimum >500 nits
6.	Brightness Uniformity	≥ 95%
7.	Dynamic Contrast	1000000:1
8.	Control	IP based control
9.	Remote	IR remote control quick access
10.	Screen to Screen Gap	≤ 0.2 mm
11.	Inputs	Digital DVI, HDMI
12.	Cube Depth	Total Cube depth should be <=744 mm
13.	Monitoring of critical parameters	Internal Temperature, Brightness, Cooling, Light Source Status, should be possible to demonstrate these parameters through active monitoring interface
14.	Maintenance Access	Rear
15.	Cube Size	Each cube should have a screen size of 1107mm wide and 623mm high and depth ≤ 470 mm
16.	Display & Controller	Display & Controller should be from the same manufacturer
17.	Display controller	Controller to control 4 displays with 4 outputs, 4 DVI Inputs along with necessary software's
18.	Chassis	19" industrial Rack mount, Lockable front door to protect drives
19.	Operating System	Window 7- 64 bit
20.	Processor	Xeon/ i3/i5/ i7
21.	RAM	Std. 4 GB DDR3
22.	HDD	Support up to minimum 2 HDD, Std.: 500 GB
23.	Networking	Dual-port Gigabit Ethernet Controller inbuilt, Supports Add on copper/ optical fiber adapters
24.	Input / Output	Serial ATA, LAN, 2x RJ45 LAN ports, USB 2.0 port
25.	RAID	RAID 0, 1, 5, 10 supports
26.	Power Supply	(1+1) Redundant hot swappable

Sr. No.	Feature	Specification
27.	Cooling	Forced cooling
28.	Indicators	LED's for HDD activity and Power status
29.	Switches	Power On/Off and System Reset
30.	Monitoring options	CPU, FAN, Temperature
31.	Accessories	DVD +RW, Keyboard and mouse
32.	Voltage	100-240V @ 50/60 Hz
33.	Redundancy	Power Supply, HDD, Cooling FAN, LAN ports
34.		Minimum 2000 lumens
35.	Scalability	Display multiple source windows in any size, anywhere on the wall
36.	Control functions	Brightness / contrast / saturation/ Hue/ Filtering/ Crop / Rotate
37.	Outputs	4 DVI
38.	Resolution support	DVI: 1920x1200 RGB: 2048x1536
39.	DVI Inputs	4 DVI
40.	Accessories	DVD-R, DVD+RW, Keyboard, mouse
41.	Power Supply	(1 + 1) Redundant AC-DC high-efficiency power supply, AC Voltage 100 – 240V, 50-60Hz
42.	Operating	Operating Temperature: 10° to 40°C, Humidity: 10 – 90% non-condensing
43.	Scaling and display	Software to enable the user to display multiple sources in any size and anywhere on the display wall.
44.	Auto Source Detection	Software should support for auto source detection
45.	Layout Management	Support for Video, RGB, DVI, Internet Explorer, Desktop Application and Remote Desktop Monitoring Layouts
46.	Scenarios	Software Save and Load desktop layouts from Local or remote machines
47.	Layout Scheduler	Software support auto launch of Layouts according to specified time or event by user
48.	SNTP	System support SNTP function

Desktop

Sr. No.	Feature	Specification
1.	Processor	9th Generation Intel Core i7- or equivalent/ higher AMD Processor, minimum 4 Core
2.	Speed	4 GHz
3.	Chipset	Compatible Chipset on OEM Motherboard
4.	Graphics	NVIDIA Quadro P620 or Better
5.	Memory	8 GB GDDR5, Memory Interface 128-bit, dual channel expandable up to 64 GB with minimum 4 DIMM slots
6.	Hard Disc	2TB SATA II 3.0 Gbps HDD, 7200 RPM or better
7.	Optional Drive	22X Internal SATA DVD WRITER

Sr. No.	Feature	Specification
8.	Audio	Integrated HD audio with 5.1 surround sound & multi streaming capability
9.	Network	On-board Gigabit (10/100/1000 Mbps) Ethernet Controller with WOL support
10.	Expansion Bus	Minimum 1 x PCI E X16 slot ,2x PCI E X1 slot
11.	Interfaces	Minimum 4 nos. SATA on-board, 1serial port, min 3 USB (V3.0) ports (2 front), 1 Line in , 1 Line out, 1 RJ-45 , 1 VGA, Display Connectors 4x Mini DisplayPort 1.4
12.	Keyboard & Mouse	USB Mechanical Keyboard 107 Keys or more, USB Optical Scroll Mouse with antistatic mouse pad (Same Make as PC)
13.	Monitor	32" LED Monitor, Maximum resolution – 1366 x 768; Response time (typical)- 5ms; 24x7 Industrial Monitor
14.	OS	Windows 10 Professional or higher OS Pre-Loaded.
15.	OS Support	Microsoft Windows 10 Professional
16.	Warranty	comprehensive on-site OEM Warranty

Online UPS

Sr. No.	Feature	Specification
1.	INPUT	Nominal Voltage: 380V / 400V / 415V AC (3P+N+PE) Operating Voltage Range: 190V~499V AC Load Dependent Operating Frequency Range: 50 / 60 Hz ± 10% (Auto Sensing) Power Factor: ≥0.99 Bypass Voltage: - 40% ~ +15% (Configurable) Frequency: ± 5% (Configurable) ECO Range: Same as the Bypass, can be configured. Generator Input: Compatible
2.	OUTPUT	Rated Voltage: 220V / 230V / 240V AC L+N+PE (Configurable) Power Factor: 0.8 (Standard) 0.9 / 1.0 (Optional) Voltage Regulation: ±1% Frequency: Auto Sensing 50 / 60 Hz ± 1~10% Sync Mode (Configurable), 50/60 Hz ± 0.5 Hz Battery Mode Crest Factor: 3:1 Overload: ≤105% for Continuous, ≤ 125% for 10 Min, ≤ 150% for 60 Sec, ≥ 150% for 200ms Harmonic Distortion (THDv): ≤2% with Linear Load, ≤5% with Non-Linear Load Efficiency: Up to 94% Dual Conversion Mode, 99% ECO Mode
3.	BATTERY	Battery Voltage: 192V DC / 216V & 240V DC (Configurable) Typical Recharge Time: 6~8 Hours to 90% of full Capacity Charge Current: 10A Configurable (optional)

Sr. No.	Feature	Specification
4.	SYSTEM FEATURES	IP Protection: IP 20
		Transfer Time: Zero
		EPO / ECO / CVCF: Shutdown UPS Immediately / ECO and CVCF Mode can be Configurable.
		Alarm / Protection: Short Circuit, Input Under/Over Voltage, Over Temperature, Over Current, Overload, DC BUS Under / Over Voltage and Battery low
5.	Display	Line Mode, Backup Mode, ECO Mode, Bypass Mode, Battery Low, Battery Bad, Overload & UPS Fault, Input Voltage, Input Frequency, Output Voltage, Frequency, Current; Load Percentage, Battery Voltage, Charging/ Discharging/Current Temperature & Remaining Battery Backup Time, Load VA/W, Load and Battery Barograph
6.	INVIRONMENTAL	Temperature: Operating: 0~45°C, Storage: -20ºC ~ 55ºC
		Humidity / Altitude: 0~95% RH Non-condensing / <1500 M
		Noise: <65dB at 1meter distance
		Quality: ISO 90001, ISO 14001, OHSAS 18001, ISO 27001 ISO 50001, BIS, RoHS, FCC
		Safety: IEC/EN62040-1; Conformity to IEC / EN
		EMC / Performance: IEC/EN62040-2; IEC/EN62040-3, Complying to CE, Compliance to UL
7.	COMMUNICATION INTERFACE	Standard: RS-232
		Optional: SNMP / ModBus / Dry Contact / USB / RS-485 Monitoring Software

Application Server

Sr. No.	Feature	Specification
1.	Certification(s) Required	OEM - ISO 9001 Manufacturer, VM Ware, HyperV, Red Hat Virtualization
2.	Std. Compliance(s) Req.	UL, FCC & RoHS
3.	Rack	2U Rack Mountable
4.	CPU	2x Minimum 2.4GHz. Latest series/ generation X86 based Processor. Core per CPU is 16.
5.	Chipset	OEM Chipset or equivalent OEM motherboard/ chipset.
6.	GPU	Should support minimum 4 Co-Processor/ GPU
7.	GPU Card	4*NVIDIA T416GB Card/ NVIDIA A10/Higher Co-Processor or GPU card
8.	RAM	256 GB DDR4 RAM, supports with up to 1TB
9.	Storage	Minimum 4 Hot Plug 2.5/ 3.5-inch SATA/SAS HDD Bays
10.	Storage	Minimum 2x500GB SSD Hard disk drive
11.	GPU Slot	Minimum 6xPCIe 4.0, X16 single slot half Height for GPU
12.	RAID	RAID, supports RAID 1,5,6
13.	Cluster Support	Cluster support for high availability
14.	Ethernet Port	Minimum 2x10Gb Ethernet Port, Support for 2x1/10G Base-T

Sr. No.	Feature	Specification
15.	Ports	USB 3.0 support with minimum 4 ports, DVD/CD-RW combo drive
16.	Power Supply	Redundant hot swappable Power Supplies, Redundant hot swappable Fans
17.	Operating System	Compatible with Microsoft Windows Server latest version Standard and datacenter Edition (32 bit and 64 bit), Ubuntu Latest version (32 bit and 64 bit)
18.	Operating System	OS Ubuntu 18.4
19.	Warranty	5 years comprehensive onsite warranty
20.	Server Management	Server Management software with the device drivers
21.	Processor	2x Minimum 2.4GHz. Latest series/ generation X86 based Processor. Core per CPU is 16.

3.1.2 Unified Command and Control Centre (UCCC)

The MSI shall be responsible for upgrading the existing command and control centre including but not limited to hardware and software components to a Unified Command and Control Center (UCCC) which will be capable of processing live feeds from the identified locations.

The MSI shall upgrade the existing CCC to the UCCC to ensure all required hardware like videowall, IT equipment, third party software, antivirus, firewall, etc. are seamlessly integrated on UCCC platform.

The MSI shall set up operator workstations, network connectivity and software for processing traffic violations, power backups, firewall, antivirus licenses, etc.

The MSI shall provide dedicated primary- secondary link along with link load balancer at UCCC for connecting IEMS locations and UCCC.

The MSI shall be responsible for providing 1:1 network bandwidth according to the number of field locations i.e. bandwidth requirement at each location multiplied by number of locations.

The MSI shall ensure data security by provisioning point to point secured encrypted leased lines from IEMS locations to UCCC as well as the OSDC / cloud infrastructure.

The new IEMS application shall be integrated with the e-Challan System developed by NIC for the entire project duration and UCCC operators deployed by MSI shall be responsible for manually validating offenses and transmitting this validated data to the e-Challan solution. NIC e-Challan Software will issue e-Challans. Manual Cross-validation (adjudication) will be conducted by MSI. Print of e-Challan, courier of e-Challan will be done by Office of Transport Commissioner.

The MSI shall be responsible for the complete operation and maintenance of the Unified Command & Control Centre (UCCC).

The UCCC solution shall be capable of processing information obtained from ANPR System, Speed Violation Detection System and Video Analytic System for detection of Traffic Violations through a Video Image processing unit and shall perform real- time remote incident detection at designated IEMS locations, record information on violators at IEMS software end for generation of e-Challans. On requirement the system shall have the capability to communicate

with nearby RTO offices or Police Stations as per directions from the office of the Transport Commissioner. It shall also communicate such detected incidents to DC hosted on Managed Cloud for storage, analysis & reporting.

Minimum Requirements for MSI

The Unified Command & Control Centre (UCCC) shall be IP enabled centralised solution that will support the all-in-one unification of various systems including existing legacy systems like DEESHA system and its CCC software, e-Challan system, storage management, emergency response support system, etc. A single security interface for managing, configuring, monitoring, coordinating, gathering intelligence, and reporting on different embedded systems and related field devices shall be provided.

The following are the indicative functional requirements of UCCC required for IEMS operations. MSI is expected to use all the functionalities of IOT platform for holistic management within the scope of this RFP.

The required features of UCCC are as follows:

- Integrated Dashboard: This feature allows for the creation of customizable reports via the dashboard in addition to real-time tracking and alert systems.
- DEESHA Video Wall and Controller System Integration with Operator Workstation
- Notifying system services via email services.
- Emergency Operation and Help Desk Service.
- Essential electrical and civil work, including fire safety.

The UCCC shall support the seamless unification of various traffic enforcement management system, IP automatic number plate recognition system (ANPR), Incident management, Emergency response system. Record management with future scalability to include Traffic violation management solutions also under a single platform. The UCCC user interface (UI) applications shall present a unified security interface for the management, configuration, monitoring, co - relation, intelligence and reporting of various embedded systems and associated field devices.

The platform must be Cloud ready from day 1 and must have the ability to host either in total or some of the modules in a private cloud environment approved by Meity.

The platform shall have natively failover.

The UCCC platform must be a true unified management experience for critical infrastructure, simplifying control room operation and legacy system integration, and increasing operational efficiency critical to rapid decision-making.

The UCCC shall be integrated with other independent legacy systems through a single Unification point with consistent user interface and better operational efficiency.

The system shall integration scalability of various equipment like Cameras, Radars, Storage devices, field sensors from IEMS locations.

The UCCC platform shall provide a dashboard functionality to manage workflows by integrating information from different agencies and systems to facilitate responsive decision making.

The system shall enable cross-system and cross-agency coordination to monitor, operate and manage the enforcement for traffic violations in an integrated & unified manner.

UCCC Architecture:

- The system shall be IP-enabled solution using standard TCP/IP protocol with TLS encryption for secure communication.
- It shall have ability to handle up to a hundred (100) connected clients simultaneously and unlimited installations.
- It shall have support for unlimited logs and historical transactions based on available storage.
- The system shall have native failover options for hardware and application levels without external dependencies.

Video Image Processing:

The system offered shall be modular and multi-functional. The Video Image processing coupled to the video analytics camera & pole security camera shall have the capacity to detect the presence of objects/vehicles in the entire field of view of the camera. If the service provider wants to centralize the analytics for detection of incidents at the command centre or on cloud, they need to ensure the inference times shall not be more than 5 seconds. Further, in case of internet connectivity is lost, incidents will be automatically stored and processed at LPU, on retaining internet connectivity the same shall be transmitted to UCCC.

Alarm management:

- The system shall have capability of creation and modification of user-defined alarms with time schedules and priority levels.
- The system shall have capability of grouping alarms by source and type, assigning recipients, and managing alarm notifications.
- The system shall be able to push alarm notifications via designated email addresses or devices using the SMTP protocol.
- The UCCC shall also support alarm notification to a designated email address or any devices (may be a Laptop/Computer/Tablet) using the SMTP protocol.

Video Management System (VMS)

The proposed Video Management System (VMS) shall provide a complete end-to end solution for traffic surveillance application. The VMS shall be an enterprise class IP based application with Server-client architecture. The VMS shall support cameras using the industry standards ONVIF Profiles. The VMS shall have Servers for Recording management and Client Interface as integral part of the solution.

The VMS shall be capable to record the live streaming flow of videos with appropriate codec and security certifications in place. The Analytical platform shall revert the derived outcomes to the VMS which shall be forwarded to the VMS clients located in the UCCC.

The Surveillance System shall not have any limit on the number of cameras to be connected for Surveillance, Monitoring and Recording. Any increase in the no. of cameras shall be possible by augmentation of Hardware components.

The UCCC operators shall have following access to the video feeds.

- Viewing of the live Video Streams from IEMS locations.
- Viewing rights to the stored feeds.
- Viewing of video feeds basis upon the Alerts / Exceptions / Triggers raised by Video Analytics, and ANPR system.
- Provide search of recorded video, advanced search should be possible based on various filters like alarm / event, area, camera, etc.
- Export rights of video / other critical incident data based on appropriate rights and privileges.
- Ability to back up data on demand/ schedule based.
- Viewing of video feeds from DEESHA system through integration

Video Management Server(s) for Camera feeds

The Video Management Servers shall provide centralized management of all cameras installed at IEMS locations. The database shall be able to support at least 300 cameras / IP end points in a single server. The Server shall provide with 1:1 redundancy. The failover time shall not be beyond 60 Seconds and there should not be any loss in the Live and Recorded Videos of the connected cameras.

The solution shall be capable to be running in virtualisation / physical server environment in the UCCC. The Standby server shall support data recovery scenarios where a server can be on managed cloud and only take over if Primary server become offline. The Standby Server shall support real-time synchronization of the configuration databases for high reliability.

Video Recording Server(s) for Camera feeds

In the IEMS solution, the Video Recording Servers shall be running centrally in the best possible efficient environment in UCCC. The recording Servers shall have N:1 redundancy. There should not be any loss in the Live and Recorded Videos of the connected cameras due to failover.

There shall be 10% buffer to handle the additional storage database or failover requirements.

Storage requirement for Camera Video Streams

In the IEMS solution, there shall be centralized storage for all cameras at UCCC. The centralised storage shall be planned at UCCC to store all camera feeds for 365 days 24/7 at least with Full HD or better resolution at 30 FPS with suitable (H264 or higher) video compression.

The recordings of all cameras shall happen at UCCC. In case UCCC goes down, traffic incidents, related evidence, and any other critical incidents along with supportive evidence shall be transmitted to DR available in Managed Cloud Services, which shall have provision of scalability.

The system shall have scalable storage capacity for additional IEMS locations at UCCC which shall be added in future as per the instructions from office of the Transport Commissioner.

The video feeds related to incidents and important in nature and which may be required for evidence purposes shall be flagged by the UCCC operators. The flagged data shall be archived in the storage as defined by the office of the Transport Commissioner.

Technical Requirements:

The MSI shall ensure all the licenses shall be provided for 350 camera licenses (scalable up to 1000).

The VMS application must seamlessly Integrate with the UCCC platform including the sub modules like ANPR, SVD and Video Analytics systems for all the functionalities outlined.

The VMS shall integrate with IEMS field devices using dedicated driver or using the industry standards ONVIF Profiles.

The Proposed VMS Solution shall support native Fail over with in application with no dependency on any external application for both hardware and application redundancy. The Standby VMS server shall support disaster recovery scenarios where a server can be on managed cloud and only take over if Primary server become offline. The Standby Server shall support real-time synchronization of the configuration databases for high reliability. The solution shall allow evidence videos/images to be protected against normal disk clean-up routines.

The proposed solution shall be scalable to support live viewing and automatic transfer of video recorded to the cloud on demand basis from UCCC, based on the age of the video for future scalability and the hosted Cloud Platform must be among the approved vendors as per the MeiTY approved GI Cloud initiative from Govt of India. The proposed application must provide a single interface to monitor, collaborate and action for all IEMS devices like cameras, radar devices etc.

The VMS Platform must have the capability to real time and scheduled backup video/ Flagged and critical data to Managed Cloud Services.

The VMS platform must have the flexibility to deploy rules for storing and avoiding data deletion of the flagged data, critical data, & Incident reports based on the criticality of the data.

The Monitoring UI shall provide an interface to support the following tasks and activities common to Various systems.

- Monitoring the events from a live security system.
- Generating reports, including custom reports.
- Monitoring and acknowledging alarms.
- Creating and editing incidents and generating incident reports.
- Displaying dynamic graphical maps and floor plans as well as executing actions from dynamic graphical maps and floor plans Unified with UC&C.

The live video viewing capabilities of the Monitoring UI shall include:

- The ability to display all cameras attached to the system both Public, Collaborative monitoring and Cloud based entities.
- The ability to drag and drop a camera into a display tile for live viewing.
- The ability to drag and drop a camera from a map into a display tile for live viewing.
- Support for digital zoom on live camera video streams.
- The ability to bookmark important events for later retrieval on any archiving camera and to uniquely name each bookmark in order to facilitate future searches.

- The ability to start/stop recording on any camera in the system that is configured to allow manual recording by clicking on a single button.
- The ability to activate or de-activate viewing of all system events as they occur.
- The ability to switch to instant replay of the video for any archiving camera with the simple click of button.
- The ability to take snapshots of live video and be able to save or print the snapshots.
- The ability to browse through a list of all bookmarks created on the system and select any bookmarked event for viewing.
- Tools for exporting video and a self-contained video player on various media such as USB keys, CD/DVD-ROM and external hard disk. This video player shall be easy to use without training and shall still support reviewing video metadata. However, the MSI shall be responsible for providing appropriate training and user manuals.
- Tools for exporting video sequences in standard video formats, such as ASF, MP4.
- The ability to encrypt exported video files with industry standard encryption.
- A tool building and exporting a set of videos into a single platform (physical/cloud).
- The VMS shall support only secured media stream requests, unless explicitly configured otherwise. Secured media stream requests shall be secured with strong certificate-based authentication.

Network Connectivity:

- The MSI shall make provision for network services so that the entire network shall be scalable as & when required without interrupting the services. The MSI will be responsible for any LAN cabling requirement at UCCC.
- The MSI will be responsible for providing outer boxes for network components at UCCC, if required any.

10 Annexure (9) – Volume 2: List of Locations

- Office of the Transport Commissioner, Odisha intends to implement IEMS Project across Odisha locations.

- The bill of quantities mentioned under Revised Price Bid format are only for bid evaluation.

- The MSI shall conduct a feasibility survey in consultation with office of the Transport Commissioner, Odisha on Highways and other roads of Odisha to identify the locations for implementation of IEMS as per the requirement of Office of the Transport Commissioner, Odisha.

- The bidder shall conduct Survey in consultation with office of the Transport Commissioner, Odisha to identify the locations which will be powered through UPS, solar power.

- The number of locations will be finalized during Contract execution by Office of the Transport Commissioner, Odisha.

11 Annexure (10) – Volume 1: BG format for EMD

Bank Guarantee Format for furnishing EMD

Whereas ……………………………………………… (hereinafter called the "Tender") has submitted their offer dated………… for Selection of Vendor for Upgradation of existing Command Control Centre to Unified Command Control Centre & Implementation of Intelligent Enforcement Management System (IEMS) for Office of the Transport Commissioner, Odisha ……………………………………… (hereinafter called the "Tender") against the Tender No. ……………

KNOW ALL MEN by these presents that WE …………………………………… Of ……………………………… having our registered office at…………………………… are bound unto ………………….. (hereinafter called the "Purchaser) in the sum of ………………………………… for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents.

Sealed with the

Common Seal of the said Bank this…………… day of ……………20…… THE CONDITIONS OF THIS OBLIGATION ARE:

(1) If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.

(2) If the tenderer having been notified of the acceptance of his tender by the purchaser during the period of its validity: -

a) If the tenderer fails to furnish the Performance Security for the due performance of the contract.

b) Fails or refuses to accept/execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force upto and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

Our branch at _____ (Name & Address of the branch) is liable to pay the guaranteed amount depending on the filing of claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our _____ branch a written claim or demand and received by us at our ____branch on or before Dt. _____otherwise, bank shall be discharged of all liabilities under this guarantee thereafter.

(Signature of the authorized officer of the Bank)

Name and designation of the officer

Seal, name & address of the Bank and address of the Branch