



Notice Inviting Expression of Interest (Eoi)

For

Complete Site Survey, preparation of Detailed Project Report (DPR), RFP Prepration, Bid Process Management & Project Monitoring for Installation of CCTV and Complete Eco System in all Police Stations Buildings across the State of Jharkhand



**Jharkhand Agency for promotion of IT
Engineers Hostel #1, Near GoalChakkar
Dhurwa, Ranchi-834004
Phone: 0651-2401044 /67
Email: japit_doit@rediffmail.com**

Expression of Interest (EoI)

Ref No. JAPIT/CCTV/PS/EoI/02

On behalf of Department of Home, Prisons and Disaster Management, Government of Jharkhand, Jharkhand Agency for Promotion of Information Technology (JAP-IT) an autonomous body under department of Information Technology & e-Governance, GoJ invites Expression of Interest (EoI) for selection of Agency for providing the service for complete site survey , preparation of Detailed Project Report (DPR),RFP preparation, Bid Process Management & Project Monitoring for Installation of CCTV for installation of IP CCTV and Complete System in 497 Police Stations Buildings across the State of Jharkhand.

The EoI document can be downloaded from the website **Jharkhand.gov.in** and **japit.jharkhand.gov.in** from **09/10/2021**. Interested Agency who meet the criteria may furnish their EoI response with all the necessary documents as mentioned in the terms and conditions, scope of work, criteria in a sealed cover along with the covering letter duly signed by an authorized signatory of Agency and a non-refundable EoI fee of **Rs. 25,000/-** by Demand draft in favour of CEO, JAP-IT, Ltd payable at Ranchi which shall be received up to **6 PM dated 29/10/2021**.

JAP-IT reserves the right to cancel the EoI or part thereof without assigning any reason.

Sd/-
Chief Executive Officer
JAP-IT

Fact Sheet

1.	Name of Work	Complete Site Survey and preparation of DPR ,RFP Preparation, Bid Process management and Project Monitoring for Installation of CCTV and Complete Eco System in all Police Stations Buildings across the State of Jharkhand
2.	Tender Ref No.	JAPIT/CCTV/PS/EoI/02
3.	Cost of EoI Document	INR 25,000/ (Twenty-Five Thousand only) in the form of Demand Draft in favour of CEO, JAP-IT payable at Ranchi
4.	Earnest Money Deposit(EMD)	20 LAC in from of Bank Guarantee having validity 90 days.
5.	EoI Downloading Date	9/10/2021 at 11.00 AM
6.	Last date and time of EoI response Submission	29/10/2021 at 6:00 PM
7.	EoI Opening	1/11/2021 at 3.30 PM
8.	Address for Communication and EoI Submission,Pre-bid & opening	CEO,JAP-IT Engineers Hostel #1,Near GoalChakkar, Dhurwa, Ranchi-834004 Jharkhand

1. Background:

In compliance to the order issued by Hon'ble Supreme Court, India on dated 2/3/2021 under case no. SPL(crl) no.3543/2020, CCTV system has to be installed in all the Police Station across the State of Jharkhand. Considering the above orders, the Home, Prisons & Disaster Management department Govt. of Jharkhand envisage to design and implement a project that shall satisfy all the directions of Hon'ble Supreme Court orders.

On behalf of Dept. of Home, Prisons and Disaster Management, Govt. of Jharkhand, Jharkhand Agency for promotion of Information Technology (JAP-IT) an autonomous body under Dept. of Information Technology & e-Governance, GoJ intended to hire an agency for Site Survey , DPR preparation, Bill of Quantity and design of CCTV solution for installation of CCTV System in all Police Station, Preparation of Request of Proposal(RFP), Complete Bid Process Management System and Award of work, Monitoring of the entire Project till completion of the Project and audit and monitoring for 3 years after Go-Live of the Project . The service will include 100% site survey, preparation of Detailed Project Report (DPR) and Bill of Quantity (BoQ) for installation of CCTV System in **497** Police Stations Buildings in Jharkhand. There are multiple Police Stations which are functional in single Police Station Building. **The List of Police Buildings are annexed as annexure-1 in this EoI document for reference.** Further the district wise list of police stations along with latitude & longitude can be access from Jharkhand Geospatial portal through following URL **<https://gis1.jharkhand.gov.in/jharthana>**

2. Scope of Work:

The indicative broad scope of work is as under: -

- i. Detailed Site Survey and preparation of Detailed Project Report (DPR).
- ii. Preparation of Request of Proposal (RFP)
- iii. Complete Bid Process Management and award of work
- iv. Monitoring of the entire project till completion of the project i.e. audit and monitoring for 3 years after Go-Live of the Project.

- v. This project envisages creation of an integrated network of CCTV cameras with proper storage fitted across **497 Police buildings** (as per list) of the State and will be connected with District Headquarters for an efficient surveillance and management except police stations without internet connectivity.
- vi. The Agency is required to conduct detailed site survey at 100% location i.e., all **497 Police Stations building (list annexed)** by co-ordinating and obtaining signature by the concern Police Station In charge and will prepare the Detailed Project Report (DPR) along with Bill of Quantity (BoQ) of IT and None IT infrastructure required for creating CCTV Network. The compiled report of each district is required to be vetted, verified and to be forwarded by the concern SSP/SP of the district.
- vii. It should include Survey and design of an IP network-based CCTV surveillance system along with the requisite hardware and software for the CCTV surveillance system to connect the Control Room with all the mentioned locations.
- viii. Potential agency must acquaint themselves fully about the assignment and the local conditions and factors before submitting the proposal. They have to visit each Police Station with own arrangement at their own cost.
- ix. Selected agency has to specify network Connectivity topology with redundancy and submit the complete BoQ for Police Station wise and district wise as per specified specification of hardware.
- x. High availability of the system is extremely important. The proposed solution should be designed in such a way that System should remain 99% functional on 24x7x365 basis.
- xi. following are key aspects must be covered by the selected agency and will prepare the Detail Project Report (DPR) accordingly.

- CCTV Cameras should be installed at each and every Police Station.
- CCTV Cameras should be installed at all entry and exit points, main gate of the Police Station, all lock-ups, all corridors, Lobby/the reception area, all verandas/outhouses, Inspector's room, Sub-inspector's room, areas outside the lock-up room, station hall, in front of the Police Station compound, outside washrooms /toilets, duty Officer's room, back part of Police Station etc. No part of a Police Station is left uncovered.
- System that has to be installed must be equipped with the night vision and must necessarily consist of **audio as well as video footage**.
- Recording data of CCTV system shall be preserved for a period of 12 months.
- Types of Cameras to be installed as per the requirement/location at each police station.
- Identify the areas to be covered under surveillances based on the Hon'ble Supreme Court directions.
- **The Selected Agency must incorporate the rough schematic map/diagram of each Police Station along with position and types of cameras and area to be covered in DPR. This must be verified and counter signed by respective Police Station In-Charge along with 5 photographs of each Police Buildings.**
- Design of components which include solution architecture, application architecture, technology, security architecture, deployment architecture, network, storage, compute, power backup etc.
- **Live and recorded footage Monitoring facility at Police Stations and at respective District HQs**

- How many police stations have electric connection with proper voltage, earthing current and availability (duration) of power for proper charging of UPS battery installed for power backup for entire setup.
 - Those police stations where there is no electric connection, what will be the alternate plan like solar panel etc. or any other option.
 - **Internet Bandwidth:** Required suitable Internet Connectivity etc. at each Police Station and District HQs for remote live monitoring. Those Police Stations where no internet connectivity what will be the plan for remote archival and monitoring of the CCTV footages.
 - For establishment of control room at each level (police station, District and State) there will be requirement of dedicated space/room with civil (minor work) and electrical infrastructure etc. Does the Police Station, District HQs has requisite space/rooms and what are the status/condition of those space/rooms.
 - CCTV footage needs to stored locally as well as at district headquarter for redundancy and backup. In case of internet link failure footage must remain available at local storage (i.e., in police station).
 - High level service-level agreement (SLAs)
- xii. This Detailed Project Report (DPR) should also cover other important aspects related to Capacity Building, Risk Management, Exit Management, Plan, Help Desk/issue management, Complaint resolution/Grievance redressal and Service Levels required to manage a project of this scale and complexity.
- xiii. Prepare the Request of Proposal (RFP) and complete bid process management for selection of System Integrator (SI) and Service Level Agreement (SLA).
- xiv. Audit and monitor the progress of work of System Integrator during implementation phase i.e. Go-Live of the project. Certify the quantity and

standards of quality of work complete by System Integrator. Thereafter audit and monitoring of the project 3 years after Go-Live. i.e., during operation and maintenance phase. Monitor the performance of the SI as per SLA and validate the payment of SI. Six technical resource persons for 3 shift (2 person/shift) will be deployed at Ranchi. during Monitoring of project.

3. General Information and Terms and Conditions of EoI

- i. Sealed offers prepared in accordance with the procedure enumerated in the EoI document should be submitted to CEO, JAP-IT, not later than the date and time laid down, at the address given.
- ii. **The project is not a consultancy service. The agency has to execute the work through its own resources. Subcontracting is not allowed at any stage.**
- iii. The submitted EoI/proposal must be accompanied by a non-refundable **fee of 25,000/ (Twenty Five Thousand)-** in form of Bank Demand Draft having validity period of 90 days drawn from a scheduled/Nationalized bank in favor of CEO, JAP-IT, payable at Ranchi. **EoI response not accompanied by required fee or incomplete in any respect will be rejected out rightly.**
- iv. The Bidder shall furnish a EMD amounting to INR **20,00,000 /- (Twenty Lac)**. The EMD issued from Nationalized/Scheduled Bank, shall be in favor of CEO, JAP-IT, Ranchi in form of Bank Guarantee as per issuing bank format having validity of 90 days. **EoI response not accompanied by required EMD or incomplete in any respect will be rejected out rightly.**
- v. The response of EoI/ will be opened on the date and time as indicated in this EoI document. If the date of opening is declared to be a holiday it will be opened on the next working day or as decided by competent authority.
- vi. Each of the responses shall be evaluated as per the Eligibility criterions. JAP-IT may seek clarification during evaluation stage.

- vii. The decision taken by the Competent Authority in the process of Tender evaluation will be full and final.
- viii. **The EoI with the lowest evaluated total quoted rate will be declared as L1 for award of the work.**
- ix. Successful Agency will be issued work order after being declared L1 subject to submission of **Performance Bank Guarantee (PBG)** of 10% of quoted rate within 7 working day after declaration of L1 in the form of Bank Guarantee (BG) from any nationalized /Scheduled Bank in the name of The CEO, Jharkhand Agency for Promotion of Information Technology, Ranchi, having validity of project period. After submission of PBG the EMD without any interest accrued will be refunded to successful Agency. In case of non-selected agency, EMD will be refunded without any interest accrued on finalization of EoI process.
- x. **Earnest Money Deposit (EMD) can be forfeited if a Agency:**
- Withdraws its' EoI response during the period of EoI validity.
 - Does not accept, and / or violates the tender terms and conditions of EoI after submission of the bid.
 - Fails to accept the work orders
- xi. This PBG may be forfeited in case of non-compliance of terms and conditions.
- xii. JAP-IT reserves the right to cancel the work order and to terminate the contract in the event of short performance or non-performance or delay in service by the Selected Agency and forfeit the Performance Bank Guarantee and may blacklist the agency.

- xiii. At any time prior to the deadline for submission the Competent Authority may, for any reason, whether on its own initiative may modify, change, incorporate certain conditions in the EoI document.
- xiv. The response/proposal prepared by the prospective agency, as well as all correspondence and documents relating to the EoI exchanged by the agency shall be in English only.
- xv. Prices shall be quoted in Indian National Rupees only and shall be valid 90 days from the last date of EoI/response/proposal submission.
- xvi. **The rates quoted shall be in Indian Rupees exclusive of Taxes. Taxes as applicable at the time of completion of job.**
- xvii. All legal disputes are subject to the jurisdiction of Ranchi courts only.
- xviii. **JAP-IT reserves the right to reject any or all proposals on the basis of any deviations.**
- xix. **The JAP-IT will not be responsible for delay in submission of Proposal/EoI due to any reason, what so ever.**
- xx. **Conditional proposal shall be summarily rejected.**
- xxi. **JAP-IT also reserve the right to suspend the entire process at any point of time without assigning any reason whatsoever.**

4. Timeline:

- The Selected Agency will have to submit the Survey report and Detailed Project Report (DPR) etc. as per the requirement/scope of work in form of soft copy and hardcopy and will present before the competent authority **within 6 Weeks from date of issuing of work order.**
- Audit and Monitoring (Operation & Maintenance Phase) of the Project for 3 Years after Go-Live and may be extended further on mutual consent without any cost escalation.

5. Penalty:

- Any unreasonable delay beyond the allowed timeline, the Penalty will be levied Rs 25,000/- per day for DPR preparation. Breach of performance consistently on part of the selected agency may lead forfeit the Performance Bank Guarantee.
- If any resource person found absent the penalty will be levied Rs 2500/per day/per person beyond one day absent in each month during Audit and monitoring (Operation and Monitoring) period.
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6. Payment Terms:

- No advance payment will be made.
- Payment Schedule

S.N.	Deliverables	Payment Terms
1.	Submission of satisfactory Complete Site Survey report and DPR as per the scope of work for Installation of CCTV and Complete Eco System in all Police Stations Buildings across the State of Jharkhand (to be completed in 6 weeks)	90% payment on completion of deliverables [after deduction of penalty (if any)] Balance 10% payment after successful completion of bidding process
2.	RFP Preparation, Complete Bid Process Management, preparation of SLA and Go-Live	90% payment after successful completion of bidding process Balance 10% payment after Go Live of the Project
3.	Audit and monitoring of the project 3 years after Go-Live	Quarterly Payment (in 12 Quarter) after deduction of penalty (if any)

7. Eligibility Criteria:

The invitation to techno-commercial proposal is open to all who qualify the eligibility criteria as given below

- i. The Agency should be in **the IT/ITES and CCTV Survey work** in India and should be registered under Companies Act, 1956/2013. (A copy of the registration certificate along with relevant work order which confirm CCTV Survey work in India to be enclosed with the proposal.)
- ii. Should have valid PAN and GST registration. Attached copy of the PAN card and GST registration.
- iii. The Agency should have surveyed, prepared DPR and also Installed IP based minimum 5000 CCTV surveillance system at least in five district in a State Government or should have surveyed, prepared DPR and also Installed IP based minimum 6000 CCTV surveillance system in Central Government/PSU/Government Undertaking in India, during last five years as on last date of EoI submission. (Submit the work order/agreement copy and work completion certificate/ongoing certificate duly sealed and signed by client)
- iv. Should have a minimum average annual turnover of **Rs. 150** Crore in IT/ITES business during last three financial years (FY 17-18, FY 18-19 & FY 19-20 OR FY 18-19, FY 19-20 & FY 20-21). (1. Submit copy of Audited Balance Sheet & Profit and Loss account duly sealed and signed by CA AND 2. Duly sealed and signed Certificate from the CA specifying the average annual turnover financial year wise from IT/ITES business)
- v. The agency should have at least 50 full time IT professionals (at least B.Tech or equivalent) on the rolls of the company working in Jharkhand from last 6 months from EoI submission date so that immediate deployment of some personnel may be started to complete the survey work on schedule. (Submit the declaration by HR manager on company letter head duly sealed and

- signed along with list of manpower, their area of expertise and relevant Salary proof of last 6 months)
- vi. The agency must have local presence in Ranchi (Submit the valid proof /document). If the agency is not having local presence in Ranchi, they have to open a local office in Ranchi within 15 days of issuance of work order. and provide the required documents. (Submit the declaration duly sealed and signed by authorized signatory to open local office within 15 days from date of issuing of work order and their after will submit the required documents confirming the local presence.)
 - vii. The agency shall have **positive net worth of 15 Crore during each of the last three financial years (FY 17-18, FY 18-19 & FY 19-20 OR FY 18-19, FY 19-20 & FY 20-21)** (Certificate from the CA duly sealed and signed has to be enclosed)
 - viii. Should have a valid ISO 9001-2008 (or 2015), ISO 14001:2015, ISO 20000-1:2018 and ISO 27001:2013 certification as on last date of EoI submission. (Submit valid ISO Certifications)
 - ix. Should not have been blacklisted by any State / Central Government/Govt. Agencies/PSU in India as on date of EoI response submission (Submit Self-Declaration/Certificate duly signed and stamped by authorized signatory of the agency-on-agency letter head)

8. Commercial Proposal

EoI Reference No.:

Agency Name & Address

To,

The CEO,
JAP-IT,
GROUND FLOOR ENGINEERS HOSTEL - I
Dhurwa, Ranchi - 834 004

Sub: Complete Site Survey and preparation of DPR , RFP Preparation , Bid Process Management and Project Monitoring as per the scope of work for Installation of CCTV and Complete Eco System in all Police Stations Buildings across the State of Jharkhand

Dear Sir,

We, the undersigned, offer to provide above service in accordance with your EoI. Our Commercial proposal for project is given as below:

Format for Commercial Proposal

A. Complete site survey, Preparation of DPR & RFP and Bid process Management

S.N.	Description	UoM	Unit Rate (In INR) (Exclusive of Taxes)	Total Cost (In INR) (Exclusive of Taxes)
1.	Complete Site Survey and preparation of DPR as per the scope of work for Installation of CCTV and Complete Eco System in all Police Stations Buildings across the State of Jharkhand	1 LoT		
2.	Sub Total			

B. RFP Preparation, Complete Bid Process Management and SLA Preparation

S.N.	Description	UoM	Unit Rate (In INR) (Exclusive of Taxes)	Total Cost (In INR) (Exclusive of Taxes)
1.	RFP Preparation, Complete Bid Process Management and SLA preparation	1 LoT		
2.	Sub Total			

C. Audit and Monitoring of the Project

S.N.	Description	UoM	Rate for 1 Year (In INR) (Exclusive of Taxes)	Rate for 2nd Year (In INR) (Exclusive of Taxes)	Rate for 3rd Year (In INR) (Exclusive of Taxes)
1.	Audit and monitoring of the project 3 years after Go-Live	1LoT			
2.	Sub Total (Rate of 1st +Rate of 2nd Year+ Rate of 3rd Year)				

D. Summary of Commercial Proposal

S.N.	Description	Total Cost (In INR)
1.	Complete Site Survey and preparation of DPR as per the scope of work for Installation of CCTV and Complete Eco System in all Police Stations Buildings across the State of Jharkhand	<<mention subtotal as per table A>>
2.	RFP Preparation, Complete Bid Process Management and SLA preparation	<<mention subtotal as per table B>>
3.	Audit and monitoring of the project 3 years after Go-Live	<<mention subtotal as per table C>>
4.	Total Cost	

Total Cost in FigureOnly

Total Cost in Words.....Only.

Note: This figure will be used for commercial evaluation.

We undertake in competing for and, if the award is made to us, in executing the above services, we will strongly observe the laws against fraud and corruption to force in India namely Prevention of Corruption Act 1988. We understand that you are not bound to accept any proposal you receive.

Yours faithfully,

(Authorized signatory)

Date:

Name:

Designation:

(Seal/Stamp)

ANNEXURE-1**LIST OF POLICE STATIONS BUILDINGD**

SI No	DISTRICT	PS
1	BOKARO	BERMO
2		BTPS
3		GHANDHINAGAR
4		CHANDANKIYARI
5		SIYALJORI
6		RAIL BHOJUDIH
7		CHANDRAPURA
8		CHANDRAPURA RAIL
9		DUGDHA
10		BALIDIH
11		BOKARO RAIL
12		BOKARO STEEL CITY
13		CHAS
14		CHAS (M)
15		HARLA
16		MAHILA BOKARO
17		MARAFARI
18		PINDRAJORA
19		SECTOR - IV
20		SECTOR -XII
21		SECTOR-VI
22		TRAFFIC PS
23		CHATROCHATTI
24		GOMIA
25		GOMIA RAIL
26		IEL
27		JAGESHWARVIHAR
28		LALPANIYA
29		MAHUATAND
30		JARIDIH
31		KASMAR
32		NAWADIH
33		PENK NARAYANPUR
34		PETERWAR
35	CHAIBASA	ANANDPUR
36		BANDGAON
37		KARAIKELA
38		TEBO
39		MAHILA
40		MUFFASIL
41		SADAR
42		CHAKRADHARPUR
43		CKP MAHILA

SI No	DISTRICT	PS
44		RAIL CHAKRADHARPUR
45		TOKLO
46		GOILKERA
47		GUDRI
48		HATGAMHARIA
49		JAGANNATHPUR
50		RAIL DANGOPOSI
51		JHINKPANI
52		KUMARDUNGI
53		MAJHGAON
54		MANJHARI
55		CHOTANAGARA
56		JARAIKELA
57		MANOHARPUR
58		GUA
59		JATEA
60		KIRIBURU
61		MAHILA KIRIBURU
62		NOAMUNDI
63		SONUA
64		TONTO
65		CHATRA SADAR
66		MAHILA
67		GIDHOR
68		BASHISHTNAGAR
69		HUNTERGANJ
70		ITKHORI
71		RAJPUR
72	CHATRA	KUNDA
73		LAWALOUNG
74		MAYURHAND
75		PATHALGADDA
76		PRATAPPUR
77		SIMARIYA
78		TANDWA
79		PIPARWAR
80		BAIDHNATHDHAM M
81		CYBER
82		DEOGHAR NAGAR
83		JASIDIH
84		KUNDA
85	DEOGHAR	MAHILA
86		RAIL JASIDIH
87		DEVIPUR
88		KARRON
89		PATHROL
90		BUDHAI

SI No	DISTRICT	PS
91		MADHUPUR
92		MADHUPUR MAHILA
93		RAIL MADHUPUR
94		MARGOMUNDA
95		MOHANPUR
96		RIKHIYA
97		KHAGA
98		PALAJORI
99		CHITRA
100		SARATH
101		SARWAN
102		SONARAITHARI
103		BAGHMARA
104		BARORA
105		KATRAS
106		MADHUBAN
107		MAHUDA
108		RAIL KATRASGARH
109		BALIAPUR
110		BANKMORE
111		CYBER
112		DHANBAD NAGAR
113		DHANSAR
114		JOGTA
115		KENDUAHIDH
116		LOYABAD
117		MAHILA
118		PUTKI
119		RAIL DHANBAD
120	DHANBAD	RAIL KUSUNDA
121		SARAIHELIA
122		TETULMARI
123		CHIRKUNDA
124		BARWADDA
125		GOVINDPUR
126		JHARIA
127		JORAPOKHAR
128		PATHERDIH
129		RAIL PATHARDIH
130		SINDRI
131		SUDAMDIH
132		TISHRA
133		NIRSA
134		PURWI TUNDI
135		HARIHARPUR
136		RAJGANJ
137		RAIL GOMOH

SI No	DISTRICT	PS
138		TOPCHANCHI
139		MANIYADIH
140		TUNDI
141	DUMKA	MAHILA
142		MUFFASIL
143		NAGAR
144		GOPIKANDAR
145		JAMA
146		JARMUNDI
147		TALJHARI
148		KATHIKUND
149		MASALIA
150		RAMGARH
151		RANESHWAR
152		TONGRA
153		HANSDIHA
154		SARAIYAHAT
155		SHIKARIPARA
156	GARHWA	BARDIHA
157		BHANDARIA
158		BHAWNATHPUR
159		BISHUNPURA
160		CHINIA
161		DANDA
162		DANDAI
163		DHURKI
164		GARHWA NAGAR
165		MAHILA GARHWA
166		KANDI
167		KETAR
168		KHARAUNDHI
169		MANJHIAON
170		MERAL
171		MAHILA NAGAR UNTARI
172		NAGAR UNTARI
173		RAMKANDA
174		RAMNA
175	RANKA	
176	GIRIDIH	BAGODAR
177		BENGABAD
178		BIRNI
179		BHELVAGHATY
180		DEORI
181		RAJ DHANWAR
182		DUMRI
183		KHUKHRA
184		MADHUBAN

SI No	DISTRICT	PS
185		NIMIYAGHAT
186		PIRTAND
187		AHILYAPUR
188		GANDEY
189		TARATAND
190		GAWAN
191		GIRIDIH MUFFASIL
192		GIRIDIH NAGAR
193		MAHILA
194		PACHAMBA
195		JAMUA
196		HIRODIH
197		SARIYA
198		LOKAI NAYANPUR
199		TISHRI
200		BASANTRAI
201		BOARIJORE
202		LALMATIA
203		RAJABHITHA
204		GODDA MUFFASIL
205		GODDA NAGAR
206		MAHILA
207		HANWARA
208	GODDA	MAHAGAMA
209		BELBADDA
210		MEHARMA
211		THAKURGANGTI
212		PATHARGAMA
213		PORIYAHAT
214		DEODAR
215		SUNDERPAHARI
216		BASIA
217		BHARNO
218		KARANJ
219		BISHUNPUR
220		GURDARI
221		CHAINPUR
222		KURUMGARH
223		DUMRI
224	GUMLA	GHGHARA
225		GUMLA NAGAR
226		MAHILA
227		SCST
228		ALBERT EKKA JARI
229		KAMDARA
230		KURKURA
231		PALKOT

SI No	DISTRICT	PS
232		RAIDIH
233		SURSANG
234		PUSO
235		SISAI
236	HAZARIBAGH	BARHI
237		BARKAGAON
238		BARKATHA
239		GORHAR
240		BISHNUGARH
241		CHALKUSA
242		CHAUPARAN
243		ANGO
244		CHARHI
245		CHURCHU
246		DADI
247		GIDDI
248		DARU
249		ICHAK
250		KATKAMDAG
251		KATKAMSANDI
252		KEREDARI
253		KORRA
254		LOHSINGHNA
255		MAHILA HAZARIBAG
256		MUFFASIL
257		SADAR
258		TATI JHARIYA
259		JAMSHEDPUR
260	BARSOL	
261	BODAM	
262	CHAKULIA	
263	SHYAMSUNDARPUR	
264	DHALBHUMGARH	
265	DUMARIA	
266	GALUDIH	
267	GHATSHILA	
268	AZADNAGAR	
269	BAGBERA	
270	BIRSANAGAR	
271	BISTUPUR	
272	BURMAMINES	
273	CYBER	
274	GOLMURI	
275	GOVINDPUR	
276	JUGSALAI	
277	KADMA	
278	MAHILA	

SI No	DISTRICT	PS	
279		MANGO	
280		PARSUDIH	
281		RAIL TATANAGAR	
282		SAKCHI	
283		SIDGORA	
284		SITARAMDERA	
285		SONARI	
286		SUNDARNAGAR	
287		TELCO	
288		TRAFFIC PS BISTUPUR	
289		TRAFFIC PS JUGSALAI	
290		GURABANDA	
291		MUSABANI	
292		KAMALPUR	
293		M.G.M	
294		PATAMDA	
295		JADUGORA	
296		KAWALI	
297		POTKA	
298		JAMTARA	FATEHPUR
299			MIHIJAM
300			CYBER
301			MAHILA
302			NAGAR
303			BAGDEHRI
304			KUNDAHIT
305			BINDAPATHAR
306			NALA
307			NARYANPUR
308	KARMATAND		
309	KHUNTI	ARKI	
310		JARIYAGARH	
311		KARRA	
312		KHUNTI NAGAR	
313		MAHILA	
314		MARANGHADA	
315		MURHU	
316		SAIKO	
317		RANIYA	
318		TAPKARA	
319		TORPA	
320	KODERMA	CHANDWARA	
321		DHAB	
322		DOMCHANCH	
323		JAINAGAR	
324		KODARMA	
325		MAHILA	

SI No	DISTRICT	PS
326		TILIYA
327		RAIL KODERMA
328		MARKACHO
329		NAWALSAHI
330		SATGAWAN
331	LATEHAR	LATEHAR NAGAR
332		GARU
333		MANIKA
334		BARIYATU
335		BALUMATH
336		MAHUADAND
337		BARWADIH
338		CHANDWA
339		NETERHAT
340		HERHANJ
341		CHHIPADOHAR
342		BARESARH
343		MAHILA LATEHAR
344		MAHUADAND MAHILA
345	LOHARDAGA	BHANDRA
346		KAIRO
347		BAGRU
348		JOBANG
349		KISKO
350		KURU
351		LOHARDAGA
352		MAHILA
353		SCST
354		PESHRAR
355		SERENDGAG
356	SENHA	
357	PAKUR	AMRAPARA
358		HIRANPUR
359		LITTIPARA
360		MAHESHPUR
361		MAHILA
362		MUFFASSIL
363		TOWN
364		PAKURIA
365	PALAMU	BISHRAMPUR
366		REHLA
367		CHAINPUR
368		CHATARPUR
369		CHHATARPUR MAHILA
370		CYBER
371		DALTONGANJ NAGAR
372	DALTONGANJ SADAR	

SI No	DISTRICT	PS
373		MAHILA
374		RAIL DALTONGANJ
375		SCST
376		HAIDER NAGAR
377		HARIHARGANJ
378		HUSSAINABAD
379		HUSSAINABAD MAHILA
380		MOHAMMEDGANJ
381		LESLIGANJ
382		MANATU
383		NAWA BAZAR
384		NAWA JAIPUR
385		NAWDIHA BAZAR
386		PADWA
387		PANDU
388		PANKI
389		PIPRATAND
390		PATAN
391		PIPARA
392		RAMGARH
393		SATBARWA THANA
394		TARHASI
395		UNTARIROAD
396		RAJRAPPA
397		BARLANGA
398		GOLA
399		MANDU
400		BASAL
401		PATRATU
402		RAIL BARKAKANA
403		MAHILA
404		RAMGARH
405		TRAFFIC PS
406		ANGARA
407		SIKIDARI
408		BERO
409		BUNDU
410		BURMU
411		DASAM FALL
412		THAKURGAON
413		CHANHO
414		GONDA
415		TRAFFIC PS GONDA
416		ITKI
417		KANKE
418		PITHORIA
419		KHELARI

SI No	DISTRICT	PS
420		MAKLUSKIGANJ
421		LAPUNG
422		MANDAR
423		NARKOPI
424		JAGARNATHPUR
425		NAGRI
426		TRAFFIC PS JAGARNATPUR
427		NAMKUM
428		DHURWA
429		RAIL HATIA
430		TATISILWAY
431		ORMANJHI
432		ARGORA
433		ATS
434		BARIYATU
435		CHUTIYA
436		CYBER CRIME PS
437		DAILY MARKET
438		DORANDA
439		HINDPIRI
440		KHELGAON
441		LALPUR
442		LOWER BAZAR
443		MAHILA
444		RAIL RANCHI
445		RANCHI KOTWALI
446		SADAR
447		SCST
448		SUKHDEV NAGAR
449		TRAFFIC PS CHUTIYA
450		TRAFFIC PS LALPUR
451		RATU
452		SILLI
453		RAIL MURI
454		SONAHATU
455		TAMAR
456		MIRZACHAUKI
457		BARHET
458		BARHARWA
459		KOTALPOKHAR
460		RAIL BARHARWA
461	SAHEBGANJ	BORIO
462		RANGA
463		RAJMAHAL
464		TINPAHAR
465		MAHILA SAHEBGANJ
466		MUFFASIL

SI No	DISTRICT	PS
467		RAIL SAHEBGANJ
468		SAHIBGANJ NAGAR
469		TALJHARI
470		RADHANAGAR
471	SARAIKELA	CHANDIL
472		CHOWKA
473		ADITYAPUR
474		GAMHARIA
475		KANDRA
476		R. I. T
477		ICHAGARH
478		KHARSAWAN
479		KUCHAI
480		TIRULDIH
481		NIMDIH
482		RAIL CHANDIL
483		RAJNAGAR
484		SARAIKELA
485	SIMDEGA	BANO
486		MAHABUANG
487		BOLBA
488		JALDEGA
489		KERSAI
490		KOLEBIRA
491		KURDEG
492		PAKARTAND
493		MAHILA
494		MUFFASIL
495		SIMDEGA
496		RENGARI
497		T.TANGER
Total - 497		

Annexure-2

Minimum Indicative Technical Specification

1. Dome Camera

S.N.	Minimum Specification	
1.	(1/2.7 inch or better) Progressive Scan HD CMOS Image Sensor	
2.	Pixel: 5 Megapixel resolution	
3.	S/N Ratio: 50 dB or better	
4.	Minimum Illumination Color mode: 0.4Lux or better, Black and White mode: 0 Lux with IR	
5.	3 mm-9mm or better, DC Iris	
6.	Frame Rate: 30fps	
7.	WDR :It shall have Wide Dynamic Range feature. (100db or better)	
8.	IR Function: minimum 30 Meter	
9.	Digital Noise Reduction: 3D DNR	
10.	Day & Night: Auto IR	
11.	Video Compression: H.265 or better	
12.	Streaming Capability: 2 Streams or better	
13.	Audio: Two-way 1 IN & 1 Out	
14.	Camera should have option to connect external microphone	
15.	Audio Compression: G.711 or better	
16.	Networking interface 1x RJ-45 (10/100Base-T)	
17.		Camera Tempering
18.	Power input: PoE	
19.	Protocols Support:	IPv4/IPv6 TCP/IP HTTP DHCP SSH RTP RTSP NTP SMTP SNMP HTTPS SRTP SSL/TLS
20.	Should support Motion Detection	
21.	Local Storage: Camera should have 128 GB Micro SD/SDHC	
22.	Environmental protection: IP67 or better	

23.	Vandal Protection: IK 10 or better	
24.	ONVIF	ONVIF Profile-S,G,Q,T
25.	Mobile android OS support	
26.	Supported Browser: Microsoft Internet Explorer, Firefox and Chrome	

2. Bullet Camera

S.N.	Minimum Specification	
1.	(1/2.7 inch or better) Progressive Scan HD CMOS Image Sensor	
2.	Pixel: 5 Megapixel resolution	
3.	S/N Ratio: 50 dB or better	
4.	Minimum Illumination Color mode: 0.5Lux or better, Black and White mode: 0 Lux with IR	
5.	3.6 mm-9mm or better	
6.	Frame Rate: 30fps	
7.	WDR :It shall have Wide Dynamic Range feature. (100db or better)	
8.	IR Function: minimum 30 Meter	
9.	Digital Noise Reduction: 3D DNR	
10.	Day & Night: Auto IR	
11.	Video Compression: H.265 or better	
12.	Streaming Capability: 2 Streams or better	
13.	Audio: Two-way 1 IN & 1 Out	
14.	Camera should have option to connect external microphone	
15.	Audio Compression: G.711 or better	
16.	Networking interface 1x RJ-45 (10/100Base-T)	
17.	Power input: PoE	
18.	Protocols Support:	IPv4/IPv6
		TCP/IP
		HTTP
		DHCP
		SSH
		RTP
		RTSP
		NTP
		SMTP
		SNMP
		HTTPS
		SRTP
		Bonjure
SSL/TLS		
19.	Should support Motion Detection	

20.	Local Storage: Camera should have 128 GB Micro SD/SDHC	
21.	Environmental protection: IP67 or better	
22.	Vandal Protection: IK 10 or better	
23.	ONVIF	ONVIF Profile -S,G,Q,T
24.	Mobile android OS support	
25.	Supported Browser: Microsoft Internet Explorer, Firefox and Chrome	

3. PTZ Dome Network Camera

S.N.	Minimum Specification	
1.	1/2.8 inch or better CMOS Image Sensor	
2.	Pixel : 2 Megapixel resolution or better	
3.	Lens Type : Varifocal min 4.3 -129mm or better	
4.	Signal to Noise : 50db or better	
5.	Minimum Illumination : color mode :0.05Lux or better , Black and wide: 0 Lux with IR	
6.	White Balance : Auto	
7.	Frame Rate: 30fps	
8.	Zoom 30X Optical and 12X Digital or better	
9.	Pan & Tilt Travel: Pan @ 0°~360°endless, Tilt @ ' 0°~90° or better	
10.	Presets Mini. 255 Presets	
11.	WDR :It shall have Wide Dynamic Range feature. (100db or better)	
12.	IR Function : minimum 150 Meter	
13.	Noise Reduction :3D	
14.	Remote Operation : PTZ control	
15.	Day & Night: Auto IR cut filter	
16.	Video Compression: H.265 or better	
17.	Focus: Autofocus	
18.	Video Streaming Dual streaming	
19.	Networking interface 1x RJ-45 (10/100Base-T)	
20.	Protocols Support:	IPv4/IPv6
		TCP/IP
		HTTP
		DHCP
		SSH
		RTP
		RTSP
		NTP
		SMTP
		SNMP
		HTTPS
	SRTP	

		Bonjure
		SSL/TLS
21.	Motion Detection	
22.	Tampering Alarm Supported	
23.	Environmental protection: IP67 or better	
24.	Vandal Protection: IK 10 or better	
25.	Open Network Video Interface Forum (ONVIF profile S or better)	
26.	Mobile android OS support	
27.	Supported Browser: Microsoft Internet Explorer, Firefox and Chrome	

4. Network video Recorder (NVR)

No.	Requirement	
1.	General	It should support number of cameras as per site requirements: <ul style="list-style-type: none"> - min 8 - min 16 - min 24
2.		It must continuously record up to 800 Mbps (Windows)
3.		1200 Mbps (Linux) of video for high concentration of high definition IPcameras
4.		Local client display rate:
5.		Windows OS: up to 700 frames per second
6.		Linux OS: up to 900 frames per second
7.		It should support streaming live/recorded video up to 500 simultaneous PC clients
8.		Two-way audio feature
9.	Processor	Gen 4 Intel® Xeon E3
10.	Minimum capability	It must work on Windows / Linux platform with 2x1 Gbps NIC and 16 GB of RAM
11.	Display	It must support DVI-I, HDMI, 1 display ports, max 2 simultaneous monitors
12.	Storage	NVR should support minimum 240 TB of storage with RAID 6
13.		NVR should be supply with the following usable space (as per site requirements) from day one. <ul style="list-style-type: none"> - 50 TB - 100 TB - 125 TB - 150 TB
14.	Communication	NVR shall have 2 Gigabit 1000Base-T RJ-45 NIC card
15.		NVR shall have RS-485 serial port capabilities to communicate with serial devices

16.	Certification	Requirement is of critical nature and hence offered camera must be of global standards and hence should be CE, FCC certified.
17.	Power Supply	NVR shall have Dual Hot Swap redundant power supplies
18.	Operating Temperature	Operating Temperature 40° - 95°F (4.5° - 35°C)
19.	Operating System	Pre-loaded Operating System must be on Windows/Linux platform

4. 24 Port L2 Switch

	Minimum Specification
1.	The Switch shall have 24 No(s) Giga Base-T Ports and 4 nos. 1/10-Gigabit SFP+
2.	The Switch shall have 1x DB-9 Female / RJ-45 console port for Management/ CLI Port
3.	The Switch shall have 1x 10/100Mbps RJ-45 out-band management port
4.	The Switch shall have Dual redundant power supply
5.	Operation Temperature: 0° to 40° C
6.	Storage Temperature: 0° to 50° C
7.	Performance
8.	The Switch shall support at least 8 hardware queues
9.	The Switch shall support at least 128 Gbps or better Switch fabric speed
10.	The Switch shall support adequate Packet buffer of 4 MB (Egress/Ingress)
11.	The Switch shall support minimum 9 KB Jumbo Frame (Bytes)
12.	The Switch shall support minimum 32K MAC address table
13.	The Switch shall support minimum 12K IP Address table
14.	The Switch shall support minimum IPv4 static Routing entries to meet the solution requirements and SLAs
15.	The Switch shall support minimum 4K IPv6 static Routing Entries to meet the solution requirements and SLAs
16.	Interface
17.	The Switch shall support minimum Up to 4K static/dynamic VLANs
18.	The Switch shall have IPv4 Interface
19.	The Switch shall have IPv6 Interface

20.	L2 Services – MAC
21.	The Switch shall support Static MAC forwarding, MAC filter
22.	L2 Services VLANs
23.	The Switch shall support IP subnet Based VLANs
24.	The Switch shall support Guest VLAN, Private VLAN, MAC-based VLAN
25.	The Switch shall support IEEE 802.1x Guest VLAN, MAC-based VLAN, Unauthenticated VLAN
26.	The Switch shall support Dynamic VLAN, GARP with GVRP/GMRP OR equivalent.
27.	The Switch shall support Double VLAN Tagging (QinQ)
28.	L2 Services – Availability
29.	The Switch shall support IEEE 802.3ad - LAGs, 16 groups/8 interfaces per group
30.	The Switch shall support LACP, Static LAGs, IEEE 802.3x (Full Duplex and flow control), Per port Flow Control, IEEE 802.1D STP, IEEE 802.1w RSTP
31.	The Switch shall support IEEE 802.1s MSTP
32.	The Switch shall support BPDU Control, BPDU Guard and Loop Guard Support
33.	The Switch shall support Spanning Tree Root Guard
34.	L2 Services – Multicast
35.	The Switch shall support the following L2 multicast protocols: IGMPv2 Snooping, IGMPv3 Snooping, MLDv1 Snooping, L2 Multicast Filtering / ACL/Filters, IGMP Snooping, IGMPsnooping
36.	L3 Services – Multicast
37.	The Switch shall support L3 multicast protocols
38.	L3 Services – DHCP
39.	The Switch shall support IPv4, IPv6 DHCP Client
40.	The Switch shall support IPV4, IPv6 DHCP Server
41.	The Switch shall support DHCP Relay
42.	L3 Services - IPv4 Routing
43.	The Switch shall support following IPV4 routing protocols: 802.3ad (LAG) for router ports, Policy Based Route, VRRP, Multipath - ECMP, L3 Loopback Interface, RIP (v1 & v2), OSPFv2
44.	L3 Services - IPv6 Routing
45.	Multipath – ECMP
46.	Neighbour Discover
47.	Network Monitoring and Discovery Services

48.	The Switch shall support following IPV4 monitoring protocols: 802.1ab/ LLDP-MED, SNMP (v1, v2c, v3), RMON (1,2,3,9), sFlow/NetFlow
49.	Security
50.	The Switch shall support following IPV4 security protocols: Broadcast, Multicast, Storm Control, DoS (Control), BPDU filtering, ARP filtering, Static IP/MAC binding, DynamicIP/MAC binding, Dynamic to Static, DHCP Snooping IPV4/IPv6, ARP Inspection
51.	AAA
52.	The Switch shall support following authentication protocols: RADIUS - port-based, RADIUS - MAC based, TACACS+, Authorization, RADIUS, TACACS+, Accounting, RADIUS,TACACS+,
53.	Support Policy rule based on Permit, Drop, egress port, mirror, next hop, 1p mark DSCP remark / ACL
54.	Quality of Service (QoS)
55.	IEEE 802.1p, trust/untrust mode
56.	Queue Method, WRR, WFQ, SPQ or equivalent
57.	Management
58.	The Switch shall support Configurable Management VLAN
59.	The Switch shall support Physical Stacking up to 4 switches, stacking bandwidth minimum 80 Gbps
60.	The Switch shall support HTTP, SSL/TLS, Telnet, SSH, FTP, TFTP
61.	The Switch shall support Dual Software (firmware) image
62.	The Switch shall support Dual Configuration file
63.	The Switch shall support Port descriptions
64.	The Switch shall support NTP/SNTP client
65.	The Switch shall support Port Mirroring based on Session, Tx/Rx/Both, M-to-1, Remote
66.	The Switch shall support Syslog (RFC 3164)
67.	The Switch shall support DNS Client
68.	The Switch shall support Privilege: Local, Remote, Level, configurable Exec
69.	Certification
70.	The Switch shall have following Compliances & Certifications:EN 61000 3 2 Power Line Harmonics EN 61000 3 3 Voltage Fluctuations and Flicker EN 61000 4 2 for EN 61000 4 3 for RS: Radiated susceptibility EN 61000 4 4 for EFT: Electrical Fast Transient EN 61000 4 5 for Surge EN 61000 4 6 for CS: Conducted susceptibility

5. 8 Port Switch

S.No	Parameters	Minimum Specifications
1	Type	Managed Outdoor industrial grade
2	Total Ports	Minimum 8*10/100/1000-Base-TX PoE/PoE+ 4 x SFP Ports
3	PoE Standard	IEEE 802.3af / IEEE 802.3at or better with minimum 150 Watts of PoE budget
4	Protocols	<ul style="list-style-type: none"> • Support 802.1Q VLAN • DHCP support • IGMP, MLD snooping • SNMP Management • Should support Loop protection and Loop detection • Should support Ring Protection • End point authentication • Should support NTP
5	Access Control	<ul style="list-style-type: none"> • Support port security • Support 802.1x (port-based network access control) • Support for MAC filtering'
6	PoE Power per port	a) Should support PoE scheduling, Auto checking. b) Switch should supply uninterrupted power to the connected device even when the POE switch is booting
7	Operating Temperature	-40 to 75° C or better
8	Industrial Certifications	NEMA-TS2, IP30 rating, UL, IEC60068-2- 27, IEC60068-2-6
9	Switch should support lower power consumption	Less than 24W on no PoE load

6. Management Server

S.No	Features	Minimum Specifications
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1.	Specifications	
2.	Form Factor/Height	1U rack server
3.	Processors	2xIntel Xeon intel Xeon Gold 5218 16C 125W 2.3GHz Processor, shouldsupport processors up to 125W
4.	Memory	Should support 24 x DIMM slots, , should be configured with 4 x 16GBDDR4, 2933MHz memory
5.	Expansion Slots	Up to 4x PCIe 3.0
6.	Drive Bays	Should support upto 10 x SFF hot swap bays. Should be supplied with 2 x600 GB 10K RPM HDD. should support up to 2x M.2 boot drives (RAID 1)
7.	HBA/RAID Support	HW RAID (up to 8 drives with 2GB flash cache), should support RAID0,1,5,6
8.	Security and Availability Features	Availability Features, TPM 1.2/2.0; PFA; hot-swap/redundant drives, fans, and PSUs; 45°C continuous operation; light path diagnostic LEDs; front-access diagnostics via dedicated USB port
9.	Network Interface	Should be configured with 2 x 1G, 2 x16G FC & 2 x 10G BaseT .
10.	Power (Energy Star 2.0 compliant)	2x hot swap redundant 80 PLUS Platinum;
11.	Systems Management	Remote GUI management tool to Gather and viewing system information and inventory, monitor system status and health, alert notification, update system firmware, real time server power usage monitoring, capture video display content when Operating system is in hand condition. Can be integrated as single GUI for management of other devices of same OEM as storage, switches etc.
12.	Regulatory compliance	FCC, UL/CSA, VCCI, CCC, IEC, CE RoHS, Energy star 2.1
13.	Memory	Should support 24 x DIMM slots, , should be configured with 4 x 16GBDDR4, 2933MHz memory
14.	Expansion Slots	Up to 4x PCIe 3.0

7. SAN Storage

S.No	Parameters	Minimum Specifications
1	Storage Quality Certification	The Storage OEM should be in the Gartner Leader Quadrant in any of lastthree years

2	Storage Controller	The Storage Solution should be based on multiple controllers with Data Assurance in active-active mode configured in a NSPOF and End-to-End Data Protection.
3	Cache required	The system should have minimum 16 GB cache memory across the two controllers with an ability to protect data on cache if there is a controller failure or power outage. The cache on the storage should have 72hrs or more battery backup (OR) should have destining capability to either flash/disk. The system should also offer extended cache based on SSD.
4	Drive Support	The system must support intermixing of SSD , SAS and NL-SAS/SATA drives to meet the capacity and performance requirements of the applications.
5	Protocols	The storage should be configured with FCP & iSCSI protocols. Any hardware/software required for this functionality shall be supplied along with it in No Single Point of Failure mode. System should also support SAS, protocol & connectivity.
6	RAID configuration	Should support various RAID levels 0, 10, 5, 6
7	Storage Capacity	The storage should have the following usable capacity as per site requirements in NLSAS drives to be configured in RAID6 and scalable upto 350 TB within same storage in similar configuration and disk capacity: <ul style="list-style-type: none"> - 50 TB - 125 TB - 150 TB
8	Drive Support	The system must support intermixing of SSD , SAS and NL-SAS dual ported drives to meet the capacity and performance requirements of the applications. The system must support a minimum of a 140 disks per two controllers for scalability purpose and must use every drive, up the supported count of drives per pool, spreading out all volumes across all drives and also decrease the drive rebuild time.
9	Front-End and Backend connectivity	The proposed storage system should have minimum 4 numbers of 12Gbs or higher backend SAS ports. Should support 10 GbE iSCSI.
10	Rack Mountable	The storage should be supplied with rack mount kit. All the necessary patchcords (Ethernet and Fibre) shall be provided and installed by the vendor.
		The storage shall have the ability to expand LUNS/Volumes on the storage online and instantly.

11	Storage functionality and Availability	<p>The storage shall have the ability to create logical volumes without physical capacity being available or in other words system should allow over-provisioning of the capacity. The license required for the same shall be supplied for the maximum supported capacity of the offered storage model.</p> <p>The proposed storage system should be configured to provide data protection against two simultaneous drive failures.</p> <p>The required number hard disks for parity & spares, should be provided exclusively of the usable capacity mentioned after consider RAID and Filesystem overhead. At least 2% of the usable capacity requested on each tier should be configured as spare drives with the subsequent disk types</p> <p>Storage system should support RAID level distributing data across multiple Disk to ensure faster rebuild time.</p> <p>Storage system should allow changing of cache block size non-disruptively for defined RAID group levels to meet various kind of workload.</p> <p>Storage shall have capability to integrate with Object Storage for taking image or file-based backup.</p>
		<p>System should have redundant hot swappable components like controllers, disks, power supplies, fans etc.</p> <p>The Storage System should support T10-PI standard to detects and corrects data integrity issues received from the recording server or due to hardware failures on the drives.</p> <p>System should support asynchronous replication.</p> <p>System Management software should have capability to monitor performance for IOPs, MB/s, latency and should be able to drill down to the capabilities of monitoring controllers, disk pools, volumes, drives. System GUI manager should be able to manage multiple arrays together. Should support Role-based access control and audit log, support for Multi-factor Authentication</p> <p>Storage system should support SSD cache.</p> <p>Storage should have Energy star rated Platinum power supplies. The proposed system should support 99.999% reliability.</p>

12	Point-in-times images	The storage should have the requisite licenses to create point-in-time snapshots. The storage should support minimum 512 snapshots per system. The license proposed should be for the complete supported capacity of the system.
		Offered storage array shall have capability to take snapshot. Must use latest stable technology platform, with support available for next 7 years.
		The system should support instant creation of clones of active data.
13	Management	Easy to use GUI based administration interface for configuration, storage management and performance analysis tools. The proposed storage should provide Proactive monitoring of the health of the system and configurable automated delivery of replacement drives when failures occur.
14	OS support	Support for industry-leading Operating System platforms including: LINUX, Microsoft Windows, HP-UX, SUN Solaris, IBM-AIX, etc. It shall support connecting hosts over iSCSI or FC and shall be supplied with any Multipathing software, if required, with the solution.

8. Work Station

S.No.	Parameters	Minimum Specifications
1.	Processor	Intel 10th generation Core i3-10100 Processor
2.	Chipset	Intel Compatible Chipset
3.	Memory	8 GB DDR4 RAM expandable upto 64GB with 2 DIMM slots
4.	Harddisk Drive	1TB SATA (7200 Rpm) Hard Drive.
5.	Optical Drive	DVD+/-RW drive
6.	Graphics	Integrated Intel UHD Graphics
7.	Ethernet	Integrated 10/100/1000 Mbps ethernet controller;
8.	Slots	2 PCIe x1 slots, 1 PCIe x16 slot
9.	I/O ports	8 External USB: 4 x USB 3.2 and 4 x USB 2.0; 1 RJ-45; 1 VGA Port; 1 HDMI Port; 1 DisplayPort
10.	Wireless	Wireless 802.11 b/g/n/ac with Bluetooth
11.	Audio Port	1 Universal Audio Jack, 1 Line-out, Internal Speaker
12.	Form Factor	Toolless Tower Chassis not more than 15 lts Volume, Mil Std 810G
13.	Power Supply	250W or Higher, 85% Efficient
14.	Monitor	21.5 inch or higher IPS LED Backlit monitor with FHD resolution, TCO Certified (same make as PC)

15	Keyboard	104Keys Multimedia USB Keyboard (same make as PC)
16	Mouse	2 Button USB Optical Mouse (same make as PC)
17	Operating System	Windows 10 64 Bit preloaded.
18	Regulatory Certifications	FCC,UL, Energy Star, ROHS, Windows, Linux.

9. UPS

S.No.	Parameters	Minimum Specifications
1	UPS Rating / Technology	5/10 KVA as per site condition - IGBT (Rectifier & Inverter both)
2	Wave form	Pure Sine wave
3	Technology	IGBT Based - True Online
4	Input power factor correction	0.99
5	Input configuration	1Ph, L-N+PE (160 to 280Vac on full load & shall support up-to 110Vac for 50% load)
6	Output Power factor	0.8
7	frequency (Input)	45-55 Hz
8	frequency (output)	50 Hz +/- 0.1% (free Run Mode)
9	Output Voltage	200/220/230/240 Vac shall be available with +/- 1% regulation.
10	Harmonic	3% max full linear load, 5% max on Non- linear load
11	Crest factor	3:1 or better
12	AC-AC Efficiency	90% or better
13	Transfer time Main- Battery	0 Sec
14	Transfer time Inverter- Bypass	4 msec
15	Output Connection	Terminal in the back side

		of UPS
16	Communication	SNMP V1/V2
17	Port	USB / RS 232
18	Battery Type	SMF/ Lithium Battery
19	Charger	The charger capacity shall be minimum 10% of the Battery Bank capacity.
20	Battery backup	As per site requirements: 4 Hrs on full load @ 0.8 PF - Minimum VAH 32000/64000
21	Operating Temperature Range	0-40 deg. C
22	Indications Required	Load Level, Battery Level, AC Mode, Battery Mode, Bypass Mode and Fault Indicators.
23	Fan Speed Control	Fan Speed Control as per load & room temp shall be possible.
24	Humidity	0% to 95% non-condensing
25	Noise Level	Less than 58 dBA @ one Meter
26	Mounting	Tower type
27	Cold Start	Shall be available
28	Protection	IP20
29	Safety & Performance	BIS
30	Certificate	NABL approved Lab test report for supplied model to be provided
31	Capability criteria	OEM should have registered office in India from last 5 years (certificate of incorporation to be provided) OEM should have ISO 9001, ISO 14001 AND ISO 45001 Certification. (Copy of Certificate to be provided) Should have Service Centre in UP. GST certificate copy to be attached for proof.

10. 42" Screen

S. No.	Parameter	Minimum Specifications
1	Panel Size	42 inches or higher
2	Panel Type	LED backlight
3	Resolution	1920 x 1080 or higher

4	Brightness	450 Cd/m ² (Typ.) or higher
5	Color Depth	8bit, 16.7 Million colors
6	Backlight Life Time	30000 Hours or higher
7	Viewing Angle	178 degree (H/V)
8	Active size (mm)	941.184 (H) ×529.416 (V)
9	Speaker	2×2W 4Ω or higher
10	Input	HDMI x 1, VGA x 1, Analog audio x 1 or more
11	Control	Ethernet RJ45 x 1 or more
12	Terminals	WiFi x 1, USB2.0 x 2, Extension storage (Micro TF Card 32G (Max)) or more
13	Play mode	Horizontal, Split display, Vertical, Play List
14	Multimedia transmission	USB,LAN,WLAN
15	Working	365x24x7 working feature.

11. Passive Components

S.No	Minimum Specifications
1.	All Passive Components should be RoHS (Restriction of Certain Hazardous Substances) compliant.
2.	CAT 6 A/UTP Outdoor Cable
3.	Cat 6 cable should be Double Jacket and suitable for outdoor installation
4.	Cable should be Anti Termite
5.	Cable outer Jacket should be PE and inner jacket should be LSZH
6.	Cable conductor should be 23AWG
7.	Operating Temperature -20° C to +70° C
	Face Plate Single/Duplex
8.	Square plate, 86mmx86mm
9.	Write on labels in transparent plastic window – supplied with plate
10.	Material: ABS Plastic
11.	Face plate should have option to attach Hinged dust cover in different colours
12.	Face Plate dust cover should be replaceable without removing patch cord
	Information Outlet Face Plate and Patch Panel Side
	Minimum Specifications
13.	Category 6, TIA/EIA 568.2-D
14.	information outlets Should accept cables from 22-24 AWG copper
15.	Should be PCB free and Tool less

16.	Material should be halogen-free and heavy-metal free in acc. with EU directives RoHS 2.
17.	Should support 950 mating cycles
18.	Jack should be optimised for 4PpoE (IEEE 802.3bt)
19.	Should support 10GBase-T applications in acc. with IEEE 802.3an up to 500 MHz and 55 m
20.	Panel side IO should have five different options for colour coding clips
21.	Should be Certified by independent labs like ETL/GHMT/3P/DNV-GL for compliance
22.	Should be certified by UL .
	24 Port Jack Panel unloaded
23.	Make and Model
24.	Should be 19" 1U straight Patch Panel, 24-port
25.	Should have integral cable management Metal shelf.
26.	Should accept Shielded as well as Unshielded jacks
27.	Should have rear cable management shelf metallic.
28.	Jack panel should have option to accept different colour snap in coding clips
29.	Jack panel should have zig zag jack placement.
30.	Panel should be UL listed
31.	Mounting Cords Cat (0.5, 1, 1.5, 2, 3 and 5 meters)
32.	Should be Compliant with Cat.6 requirements of ISO/IEC 11801, EN 50173, EN 50168 and TIA/EIA 568.2-D
33.	The Outer Jacket should be LSZH
34.	Should be terminated using IDC technology
35.	Patch cord should be optimised for 4PpoE (IEEE 802.3bt)
36.	Should be unshielded
37.	Patch cord should be terminated using insulation displacement connections
38.	Option for different coding clips should be available
39.	Same Patch cords should be able to accept locking arrangement in future
40.	Patch Cord Should be verified by ETL/3P/DNV-GL .(certificate to be enclosed with the bid)
41.	UTP Field Termination Connector IP20 For field equipment
42.	Make and Model
43.	Connection type: Toolless IDC Type
44.	Should not have metal shielding
45.	IP Class: IP 20 rated
46.	Should be UL Listed and DNV-GL/ETL /3P certified (certificate to be enclosed with the bid)

47.	Should have colour coded rings option
48.	Field Termination plug should be upgradeable to IP54 in case required as per site conditions
49.	Material Polycarbonate for plug and polyamide (housing)
50.	UTP Patch Cord Lock
51.	Make and Model
52.	Minimum Specifications
53.	Should Lock the patch cord in all RJ45 jacks and should be suitable for the compact back-plane design of switches.
54.	Material should be plastic: PC, halogen-free
55.	LIU Unloaded for 24 Duplex LC Ports with Splice Tray
56.	Make and Model
57.	Have sufficient slots to accommodate 24 Duplex LC Ports Single Mode
58.	Should have fibre management provision inside
59.	Should be rack mountable 1U
60.	Should have Splice holder for minimum 24 Fibre cores
61.	Optical Fibre Pig tails single mode
62.	Make and Model
63.	Connector type LC
64.	Fibre Type SM OS2
65.	Compact design (SFF). 1.25 mm ferrule technology
66.	Length 1meter/1.5 meter
67.	Optical Fibre equipment cords (minimum 1, 2, 3 Meter)
68.	Make and Model
69.	Patch Cord Should be LC – LC SM Duplex
70.	Patch Cord Should be Single Mode OS2
71.	Type of Connector LC-LC
72.	Jacket Material: LSZH
73.	Patch Cord should have valid type test approval from labs such as DNV GL Lab/ETL verified/GHMT Premium Verification Program
74.	Should have option for Visual coding, mechanical coding, and lock protection.
75.	Adapter LC Duplex PC Single mode
76.	Make and Model
77.	Should have Adapter body plus flange and integral quick-mounting clip and M2 thread, colour metallic, material X10CrNi18-8
78.	Protection class (IP-20 rated)

79.	Should have integral self-closing metal laser protection flaps
80.	Should have option for Visual coding, mechanical coding, and lock protection.
81.	Adaptor should be UL listed
82.	Adaptor should have semi-transparent plastic dust covers, allowing optical testing with test lasers without removing the covers.
83.	Fibre Cable outdoor 6 Core SM
84.	Should be ISO/IEC 11801:2002; Uni-tube Armoured with ECCS tape of 0.150 mm
85.	Type: Single Mode OS2
86.	Cable Jacket material: 1.8 mm HDPE sheath
87.	Minimum Cores 6
88.	Cable overall diameter 8.5 ± 1.0 mm
89.	Tensile Strength 800N and crush resistance 2000N