

BERHAMPUR MUNICIPAL CORPORATION

RFP No. 9927

Date 03.08.19



Request for proposal (RFP) for City Surveillance (Design, Built, and Operations & Maintenance) in Berhampur City

Issued by:

Berhampur Municipal Corporation

Berhampur, Odisha-760002

Contact – 0680-2250290

email – mcbemc08@gmail.com

BERHAMPUR MUNICIPAL CORPORATION BERHAMPUR

Bid Identification No. 9927

Dtd.03.08.19

REQUEST FOR PROPOSAL

1. Berhampur Municipal Corporation invites sealed proposal in conformity with RFP documents in Two Bid System (Part-I: Technical Bid and Part-II: Price Bid) through Registered Post/ Speed Post to the office of the undersigned from Registered firms / System Integrators for establishing City Surveillance in designated locations under Berhampur Municipal Corporation.

More details provided in this RFP document.

Sl.No	Name of Work	Contract Period	Cost of bid document in Rs. (Non-refundable)	EMD in Rs.	Period of Sale of Bid	Date of Opening of Technical Bid
1	2	3	4	5	6	7
1	City Surveillance of Berhampur Municipal Corporation.	5 Years	Rs.11200/- (including GST)	Rs. 200000/- (Rupees Two Lakhs Only)	From 05.08.2019 at 10.00 AM to 26.08.2019 by 05.00 PM	28.08.2019 at 11.00 AM

The details of the bid and bid document can be downloaded from official website i.e. www.berhampur.gov.in.

Any clarification can be obtained in the office of the undersigned.

The Authority reserves the right to accept or reject any or all bids without assigning any reason thereof.

Sd/03.08.19

Commissioner

Berhampur Municipal Corporation

Memo No. 9928

Dt.03.08.19

Copy submitted to the Principal Secretary to Govt., H& UD Dept, / Director, Municipal Administration H. & U.D. Dept., Govt. of Odisha, for favour of kind information.

Sd/03.08.19

Commissioner

Berhampur Municipal Corporation

Memo No. 9929

Dt.03.08.19

Copy submitted to the Collector, Ganjam, Chatrapur for favour of kind information with a request to please display a copy of this Notice in his Office Notice Board for wide circulation and information of all concerned .

Sd/03.08.19

Commissioner

Berhampur Municipal Corporation

Memo No. 9930

Dt.03.08.19

Copy submitted to the Tahasilar, Berhampur for information and he is requested to attend the Bid opening on the date scheduled.

Sd/03.08.19

Commissioner

Berhampur Municipal Corporation

Memo No. 9931

Dt.03.08.19

Copy forwarded to the Steno to Mayor, Berhampur Municipal Corporation / P A to Municipal Commissioner/ Steno to the City Engineer/ Steno to Exe. Engineer, Berhampur Municipal Corporation for information and necessary action.

Sd/03.08.19

Commissioner

Berhampur Municipal Corporation

Memo No. 9932

Dt.03.08.19

Copy to Office Notice Board / Spare Copies to the Concerned Files for reference and record and information of all concerned.

Sd/03.08.19

Commissioner

Berhampur Municipal Corporation

Introduction :

Berhampur Municipal Corporation invites Request for Proposal(RFP) in Two-bid forms for “City Surveillance” in designated locations under BeMC from reputed organizations/ System Integrators with proven experience in similar field.

Bid Data Sheet:

Availability of Bid Document	Bid Documents can be downloaded from the official website: www.berhampur.gov.in
Cost of Bid Document	Rs. 11200/- (including GST) which is non-refundable.
Earnest Money Deposit	Rs.2,00,000/- (Rupees Two lakhs Only)
Downloading of Bid Document	From 05.08.2019 at 10.00 AM to 26.08.2019 by 5.00 PM
Pre-Bid Meeting	16.08.2019 At 11.00 AM
Last Date of Receipt of filled-up Bid Documents	27.08.2019 by 5.00 PM
Date & Time of Opening of Technical Bid	28.08.2019 at 11.00 AM
Date & Time of opening of price bid	To be intimated to the respective bidder who qualify the Technical Evaluation
Address for Communication	COMMISSIONER BERHAMPUR MUNICIPAL CORPORATION, BERHAMPUR Phone : 06802250290 Email: mcbemc08@gmail.com (All communications, including the envelopes, should contain the following information, to be marked at the top in bold letters: - “BID DOCUMENT FOR CITY SURVEILLANCE”)

General Instructions and Eligibility Criteria to the bidder:

1. The Bidder should submit the Bid cost of Rs. 11200/- (including GST) Non refundable in form of DD in favour of Commissioner, Berhampur Municipal Corporation, Berhampur.
2. The bidder should submit EMD of Rs. 2,00,000/- (Two lakhs) in shape of DD in favour of Commissioner, Berhampur Municipal Corporation payable at Berhampur.
3. The bidder should submit the bid in two covers i.e. one is TECHNICAL and other is FINANCIAL Cover clearly written on the cover.
4. The Financial Bid will be opened for those who qualifies in the Technical Criteria.

5. The Award will be made on the basis of financial bid.
6. The successful bidder should submit 2% of the total work value as Bid Security in shape of Bank Guarantee.
7. The Contract is for 5 years (Design, Built, Operate and Maintenance)
8. The total 5 years comprehensive warrantee on all the product will be given by the bidder.
9. The alternate good proposals also

The bidder must possess the requisite experience, strength, technical know-how and capability in providing the services necessary to meet the requirements as described in the RFP document(s). The invitation to proposal is open to all bidders who qualify the eligibility criteria as given below:

- The bidder is registered firm with ISO Certification.
- The Bidder should submit the PAN, GST Regn.
- The bidder should have minimum Average Annual Turnover of Rs.2 Cr, in last three consecutive years.
- The Bidder should have positive net worth as on the closing date of each of last financial year.
- The bidder should have executed minimum 200 IP Cameras in Government/ Autonomous body.
- The bidder should have executed minimum one City Surveillance Project Worth 1 Crore across the country in same pattern.
- The bidder should submit the Audited Balance sheet of last 3 years.
- Authorisation from Genetec AutoVu Command Control Integration specific to this project.(Bidders are encouraged to visit the facility in BeMC premises to make a better proposal before Pre-bid meeting).
- The bidder should not be blacklisted or debarred by any Govt. Organizations. Declaration to this effect must be submitted with bid.

All the above documents are mandatory, failing to produce any one of the documents lead to rejection of bid.

Scope of Work

Berhampur Municipal Corporation is interested in creating City Surveillance at designated locations across the City. The design and components should be compatible to the existing system available with BeMC. (Bidders are encouraged to visit the facility in BeMC premises to make a better proposal before Pre-Bid meeting)

The broad scope of work for the implementation of City Surveillance is as under:

The city surveillance system is the core of this projects and acts as “**safeguarding**” the kind interest of Public.

- Existing Unified Command and control software integration with the VMS software.
 - City wise plan manager deployment to view all the activity on a single city map view.
 - Day & Night vision High Definition star light IP surveillance camera.
 - Strong & separate Network Back bone for video carrier.
 - Galvanized Pole/Mast with Lightning & Surge protection for camera mounting.
 - Weather & dust proofing enclose system.
 - Industrial Grade PoE Switch.
 - Real-Time Map-Based CentralMonitoring.
-
- Open Platform Command & control Software for supporting Video Monitoring, Recording.
 - Report Generation (As per the selected module)
 - Failover Architecture of both VMS & Network.
 - Storage, Backup & restoration of video for emergency requirement.
 - Dedicated Power Backup System.

A key requirement for this project is the need to monitor the activities of the specified city areas. The technology chosen for this intention will be the most open method of unifying and managing different technologies and brands for use in this projects..

1. **Security and safety:** Live surveillance and alerts in case of an incident through a network of cameras. Greater coverage of surveillance within the city, with more eyes on the street. Supporting operations at major events, such as crowd control and safety. Preventing crime by detecting and deterring criminal activity, and by helping identify offenders and assisting in the apprehension of offenders, leading to the prosecution.
 2. **Open Platform Command & Control Software:** The main benefit of Open Platform Command & control software lies in its integration capabilities it enables to unify different technologies from different manufacturers.
 3. **Complete situational awareness:** The system will give you a global view of your facilities, Monitor real-time information across all your security applications, within a single intuitive interface.
 4. **Fast Response by Real-Time Map-Based Monitoring:** Response time is crucial during an emergency. The system will keep the operatorinformed by its **Plan Manager** module of Security Center that provides interactive mapping functionality to better visualize and manage security environments. With the ability to dynamically navigate through facilities and manage a greater number of cameras, intrusion areas, and other security devices, Plan Manager provides complete and real-time coverage in large and multi-site environments.
-
- Enhance situational awareness with intuitive view of cameras and security device locations on maps.
 - Receive and respond to real-time events and alarms directly on maps.

Support multiple file formats and online maps for fluid navigation across distributed sites and large geographic areas

Operations, Maintenance and Support

Operation, Maintenance and day to day support for the Project given by the Bidder at approved cost of O&M.

Data Maintenance & Security:

The selected agency shall ensure that user information is secured and is not accessible to any unauthorized entity. It must also be ensured that solution is designed for end- to-end security for the network to prevent any unauthorized changes and use of the network. User / usage specific data

SERVICE TERMS:

- The entire scope of the work depends on the technical skill and experience in management of the same level or kind of infrastructure.
- It is mandatory for Bidder to deploy qualified professional to install, commission & maintain the proposed Network, as defined under scope of work.
- The Bidder has to submit regular schedule of man power availability & get it approved by TENDERER, before deployment.
- The Bidder will have to carry out reinstallation of any of the equipment 'Free of Cost, if required.
- The Bidder need to manage & maintain various records related to the services extended to the Government.
- In case of failure of any system or equipment, the Bidder needs to replace or repair the faulty part/component/device to restore the services at the earliest. The cost of the repairing or replacement of faulty Cable/component/device has to be entirely born by the Bidder.
- All expenses related to cable/component/device, including hiring of specialized technical expertise, in case required, has to be borne by the Bidder as part of Contract Agreement.
- Bidder shall submit test procedures covering various test cases and expected results of these tests relating to various systems being commissioned for the network.
- The bidder should required to undertake the insurance for all components of the Project which has been procured under this RFP.

Specification for City Surveillance

Video Management Software:

SL. No	Technical Specification	Compliance (Y/ N)
1.	VMS General Requirements	
1.0	The VMS must integrate the our Existing setup	
1.1	The VMS shall be based on a true open and Cloud ready architecture that shall allow the use of non-proprietary workstation and server hardware, non-proprietary network infrastructure and non-proprietary storage. The VMS application provider must support at least 50 + brands of Cameras and the list of integrations must be listed on the global web site of the application provider	
1.2	The VMS shall integrate cameras using dedicated driver or using the industry standards ONVIF Profile S and Profile G. The same must be listed on the ONVIF website.	
1.3	The Proposed VMS Solution shall seamless unify with the proposed UC&C (Unified Command & Control platform) and provide a consistent user experience and operator along with the other Public safety solutions. The VMS application provider must be among the top 5 vendors Globally as per IHS / IMS research report	
1.4	The Security application shall offer a complete and scalable video surveillance solution which allows cameras to be added on a unit-by-unit basis. The database shall support more than 50000 cameras / IP end points in a single Hardware machine.	
1.5	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.	
1.6	The Fail over and Fall back management and recording Server shall be on hot standby, ready to take over during the primary management server fails. No manual action from the user shall be required. The fail over time should not be beyond 1 Min and there should not be any loss in the Live video and recorded video.	
1.7	The Standby VMS server shall support disaster recovery scenarios where a server can be in another geographic area (or building) and only take over if Primary server become offline.	
1.8	The Standby Server shall support real-time synchronization of the configuration databases for high reliability.	
1.9	The Application shall offer a plug and play type hardware discovery service with the following functionalities:	
1.10	Automatically discover Video surveillance units as they are attached to the network.	

1.11	Discover Surveillance units on different network segments, including the Internet, and across routers with or without network address translation (NAT) capabilities.	
1.12	The Application shall have the capacity to configure the key frame interval (I-frame) in seconds or number of frames.	
1.13	The Application shall allow for multiple recording schedules to be assigned to a single camera.	
1.14	The Application shall support Direct Multicast from Camera. For network topologies that restrict the Application from sending multicast UDP streams, the application shall redirect audio/video streams to active viewing clients on the network using multicast UDP.	
1.15	The Application shall allow important video sequences to be protected against normal disk cleanup routines.	
1.16	The application shall have the following options when protecting a video sequence: Until a specified date, for a specified number of days, indefinitely (until the protection is explicitly removed for evidence).	
1.17	The application shall support edge recording capabilities with ability to playback the video recorded at different speeds and ability to offload the video recorded on the application server on schedule, on event, or manually to store it on the recording server.	
1.18	The proposed software shall be scalable to support live viewing and automatic transfer of video recorded to the cloud on demand basis, based on the age of the video for future scalability and the hosted Cloud Platform must be among the approved vendors as per the GI Cloud initiative from Govt of India. The proposed application must provide a single interface to monitor, collaborate and action for both on premises and cloud devices like cameras, ANPR devices etc.	
1.19	The Application shall be capable to handle both IP v4 and IP v6 Unicast and Multicast traffic with both PIM - SM and PIM - DM support.	
1.2	The application management server should not have any limitation on the no of recording servers added on one single management / fail over server. Any limitations must be clearly specified by the bidder.	
1.21	There should not be any dependency on the end point MAC address for licensing for ease of operations.	
1.22	The application vendor must be a Gold partner of the proposed OS vendor for seamless integration and higher level of support commitment.	
2.0	Human Machine Interface (HMI)	

2.1	The Monitoring UI shall fulfill the role of a Unified Security Interface that can monitor various Video, ALPR, and other system events and alarms, as well as view live and recorded video.	
2.2	To enhance usability and operator efficiency, the Monitoring UI shall support the following UI concepts:	
2.3	a. Dynamically adaptive interface that adjusts in real-time to what the operator is doing.	
2.4	b. A dynamic dashboard loaded with entity-specific widgets (e.g. door and camera widgets).	
2.5	c. Use of transparent overlays that can display multiple types of data in a seamless fashion.	
2.6	d. Display tile menus and quick commands.	
2.7	e. Consolidated and consistent workflows.	
2.8	f. Tile menus and quick commands easily accessible within every display tile of the user workspace.	
2.9	Single click functionality for reporting and tracking. The Monitoring UI shall support both single-click reporting for various system elements. Single-click reporting or tracking shall create a new task with the selected entities to report on or to track.	
2.1	Operator Workflows:	
2.11	A workflow shall be a sequence of operations an operator or administrator shall execute to complete an activity. The “flow” relates to a clearly defined timeline or sequence for executing the activity.	
2.12	The Monitoring UI shall be equipped with consistent workflows for various City wide elements like ALPR, video, Communication systems that it unifies.	
2.13	User workspace customization:	
2.14	The user shall have full control over the user workspace through a variety of user-selectable customization options. Administrators shall also be able to limit what users and operators can modify in their workspace through privileges.	
2.15	Once customized, the user shall be able to save his or her workspace.	
2.16	The user workspace shall be accessible by a specific user from any client application on the network.	
2.17	Display tile patterns shall be customizable.	
2.18	Event or alarm lists shall span anywhere from a portion of the screen up to the entire screen and shall be resizable by the user. The length of event or alarm lists shall be user-defined. Scroll bars shall enable the user to navigate through lengthy lists of events and alarms.	
2.19	The Monitoring UI shall support multiple display tile patterns (e.g. 1 display tile (1x1 matrix), 16 tiles (8x8 matrix), and multiple additional	

	variations).	
2.20	Additional customization options include: show/hide window panes, show/hide menus/toolbars, show/hide overlaid information on video, resize different window panes, and choice of tile display pattern on a per task basis.	
2.21	The Monitoring UI shall provide an interface to support the following tasks and activities common to Various systems	
2.22	Monitoring the events from a live security system	
2.23	Generating reports, including custom reports.	
2.24	Monitoring and acknowledging alarms.	
2.25	Creating and editing incidents and generating incident reports.	
2.26	Displaying dynamic graphical maps and floor plans as well as executing actions from dynamic graphical maps and floor plans Unified with UC&C.	
2.27	The live video viewing capabilities of the Monitoring UI shall include:	
2.28	The ability to display all cameras attached to the system both Public, Collaborative monitoring and Cloud based entities.	
2.29	The ability to drag and drop a camera into a display tile for live viewing.	
2.3	The ability to drag and drop a camera from a map into a display tile for live viewing.	
2.31	Support for digital zoom on live camera video streams.	
2.32	The ability for audio communication with video units with audio input and output.	
2.33	The ability to control pan-tilt-zoom, iris, focus, and presets.	
2.34	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.	
2.35	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.	
2.36	The ability to activate or de-activate viewing of all system events as they occur.	
2.37	The ability to switch to instant replay of the video for any archiving camera with the simple click of button.	
2.38	The ability to take snapshots of live video and be able to save or print the snapshots.	
2.39	The ability to browse through a list of all bookmarks created on the system and select any bookmarked event for viewing.	
2.4	Tools for exporting video and a self-contained video player on various media such as USB keys, CD/DVD-ROM and Proposed Evidence management and Collaboration system. This video player	

	shall be easy to use without training and shall still support reviewing video metadata.	
2.41	Tools for exporting video sequences in standard video formats, such as ASF, MP4	
2.42	The ability to encrypt exported video files with industry standard encryption.	
2.43	A tool building and exporting a set of videos into a single container. This tool shall allow the operator to build sequences of video to create a storyboard and allow the export of synchronous cameras.	
3	Cyber Security Requirements:	
3.1	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 leveraging RTSPS (aka RTSP over TLS). Client authentication for media stream requests is claims-based and may use a limited lifetime security token.	
3.2	The VMS shall offer the ability to encrypt the media stream, including video, audio, and metadata with authenticated encryption. Media stream encryption shall be done at rest and in transit and be a certificate-based AES 128-bit encryption.	
3.3	The VMS shall allow encryption to be set on a per camera basis for all or some of the cameras.	
3.4	Provide up to 20 different certificates for different groups of users who have been granted access to decrypted streams.	
3.5	Use Secure RTP (SRTP) to encrypt the payload of a media stream in transit and allow multicast and unicast of the encrypted stream.	
3.6	Use a random encryption key and change periodically.	
3.7	Allow encrypted streams to be exported.	
3.8	The VMS shall support end to end encrypted streams with cameras supporting Secure RTP (SRTP) both in unicast and multicast from the camera.	
3.9	The Application shall support digitally sign recorded video using 248-bit RSA public/private key cryptography.	
3.1	The Application shall protect archived audio/video files and the system database against network access and non-administrative user access.	
3.11	Media encryption shall support with latest industry standards - AES-128.	
3.12	The application must support encryptions at the rest and not only on the exported videos footage	
3.13	The proposed VMS platform must be UL 2900-2-3 Level 3 Cybersecurity certification	

3.14	The proposed system should be pre-integrated with the existing system installed at the Command control Center	
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SPECIFICATION FOR STARLIGHT 33X PTZ CAMERA

SR. No.	General Specification	Technical Specification	Compliance (Yes / No)
1	Sensor	1/2.8", progressive scan, 2.0 megapixel, Starlight CMOS	
2			
3	Lens	4.5 ~ 135.5 mm , AF automatic focusing and motorized zoom lens	
4	Digital Zoom	16	
5	Optical Zoom	30	
6	DORI Distance	Lens	
7		4.5mm	
8		135.5mm	
9		Detect(m)	
10		69.8	
11		2304.3	
12		Observe(m)	
13		27.9	
14		921.7	
15		Recognize(m)	
16		14	
17		460.9	
18		Identify(m)	
19		7	
20	230.4		
21	Angle of View (H)	62.67°~2.82°	
22	Angle of View (V)	38.4°~1.3°	
23	Angle of View (O)	77.1°~3.3°	

24	Shutter	Auto/Manual; shutter time: 1~ 1/100000 s	
25	Minimum Illumination	Colour: 0.001Lux (F1.6,AGC ON) 0 Lux with IR	
26	Iris	Auto/Manual; F1.6 ~ F5.3	
27	Day/Night	IR-cut filter with auto switch (ICR)	
28	Digital noise reduction	2D/3D DNR	
29	S/N	>52dB	
30	IR Range	UP to 200m (656ft)	
31	Defog	Digital Defog	
32	WDR	120Db	
33			
34	Video Compression	Ultra 265,H.265, H.264, MJPEG	
35	H.264 code profile	Baseline profile, Main Profile, High Profile	
36	Frame Rate	Main Stream: 2 MP (1920×1080): Max. 60 fps;	
		Sub Stream: 2 MP (1920×1080): Max. 60 fps;	
		Third Stream: D1 (720×576): Max. 60 fps	
37	HLC	Supported	
38	BLC	Supported	
39	EIS	Supported	
40	OSD	Up to 8 OSDs	
41	Privacy Mask	Up to 24 areas	
42	ROI	Up to 8 areas	
43	Motion Detection	Up to 4 areas	
44			
45	Behavior Detection	Intrusion, cross line, motion detection, Auto tracking	
46	Intrusion	Enter and loiter in a pre-defined virtual region	
47	cross line	Cross a pre-defined virtual line	

48	motion detection	Moving within a pre-defined virtual region	
49	auto tracking	Tracking the specified target	
50	Recognition:	Face detection、 Audio detection	
51	Intelligent Identification	Defocus, Scene Change, Object Left, Object Moving	
52	Statistical Analysis	People counting	
53	General Function	Watermark, IP Address Filtering, Tampering Alarm, Alarm input, Alarm output, Access Policy, ARP Protection, RTSP Authentication, User Authentication	
54			
55	Audio Compression	G.711	
56	Two-way audio	Supported	
57	Suppression	Supported	
58	Sampling Rate	8 KHZ	
59	Storage		
60	Edge Storage	Micro SD, up to 128 GB	
61	Network Storage	ANR	
62	Network		
63	Protocols	Ipv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, PPPoE, RTP, RTSP, RTCP, DNS, DDNS, NTP, FTP, UpnP, HTTP, HTTPS, SMTP, 802.1x, SNMP	
64	Compatible Integration	ONVIF(Profile S, Profile G), API	
65			
66	Pan Range	360° (endless)	
67	Pan Speed	0.1°/s ~ 240°/s	
68		Preset speed: 300°/s	
69	Tilt Range	-15° ~ +90° (auto reverse)	
70	Tilt Speed	0.1° ~ 160°/s	
71		Preset speed: 240°/s	
72	Number of Preset	1024	

73	Patrol	Preset patrol, route patrol, recorded patrol	
74	Home Position	Supported	
75			
76	Audio I/O	Audio cable	
		Input: impedance 35 K ω ; amplitude 2 V [p-p]	
		Output: impedance 600 Ω ; amplitude 2 V [p-p]	
77	Alarm I/O	01-Feb	
78	Serial Port	1 RS485	
79	Network	1 RJ45 10M/100M Base-TX Ethernet	
80	Video Output	1 BNC, impedance 75 Ω ; amplitude 1 V [p-p]	
81			
82	Power	24 V AC (Default) \pm 25%, 24 V DC \pm 25%	
83		Power consumption: 11~47W	
84		Dimensions(ϕ xH)	ϕ 227x359.4 mm (ϕ 8.9" x 14.2")
85	Weight	5.5 kg (12.1 lb)	
86	Working Environment	-40°C ~ +70°C (-40°F ~ 158°F), Humidity:10%~ 95% RH(non-condensing)	
87	Ingress Protection	IP66	
88	Vandal Resistant	IK10	
89	Reset Button	Supported	
90	Certifications Mandatory	ISO 14001, ISO270001, ISO9001,UL,RoHS, CE,FCC, Environmental Test Report,BIS	

Specification For 5 MP Starlight MotorisedVerifocal Bullet / Box Camera

Sr. No	General specification	Technical Specification	Compliance (Yes / No)
1	Sensor	1/2.7", progressive scan, 5.0megapixel Starlight, CMOS	
2	Resolution	2592 x 1944 resolution, 25fps	
3	Lens	2.7~13.5mm, AF automatic focusing and motorized zoom lens	
4	DORI Distance	Lens	
5		2.7mm	
6		13.5mm	

7		Detect(m)	
8		45	
9		192.9	
10		Observe(m)	
11		18	
12		77.1	
13		Recognize(m)	
14		9	
15		38.6	
16		Identify(m)	
17		4.5	
18		19.3	
19	Angle of View(H)	107.8° ~26.3°	
20	Angle of View (V)	56.7°~14,4°	
21	Angle of View (O)	140.2°~32.3°	
22	Adjustmentangle	Pan: 0°~360°	
23		Tilt: 0°~90°	
24		Rotate:0°~360°	
25	Shutter	Auto/Manual, 1/6~1/100000 s	
26	Minimum Illumination	Colour: 0.002 Lux (F1.4, AGC ON) 0 Lux with IR on	
27	Day/Night	IR-cut filter with auto switch (ICR)	
28	Digital noise reduction	2D/3D DNR	
29	S/N	>52dB	
30	IR Range	Up to 50m (164 ft) IR range	
31	Defog	Digital Defog	
32	WDR	120dB	
33	Video Compression	Ultra 265,H.265, H.264,MJPEG	
34	H.264 code profile	Baseline profile, Main Profile, High Profile	
35	Frame Rate	Main Stream:2MP (1920×1080): Max. 30 fps; Sub Stream: 2MP (1920×1080): Max. 30 fps; Third Stream:D1 (720×576): Max. 30 fps	
36	9:16 Corridor	Supported	

	Mode		
37	HLC	Supported	
38	BLC	Supported	
39	OSD	Up to 8 OSDs	
40	Privacy Mask	Up to 8 areas	
41	ROI	Up to 8 areas	
42	Motion Detection	Up to 4 areas	
43	Behavior Detection	Intrusion, cross line, motion detection	
44	Intrusion	Enter and loiter in a pre-defined virtual region	
45	cross line	Cross a pre-defined virtual line	
46	motion detection	Moving within a pre-defined virtual region	
47	Recognition:	Face detection、 Audio detection	
48	Intelligent Identification	Defocus, Scene Change	
49	Statistical Analysis	People counting	
50	General Function	Watermark, IP Address Filtering, Tampering Alarm, Alarm input, Alarm output, Access Policy, ARP Protection, RTSP Authentication, User Authentication	
51	Audio Compression	G.711	
52	Two-way audio	Supported	
53	Suppression	Supported	
54	Sampling Rate	8 KHZ	
55	Edge Storage	Micro SD, up to 128 GB	
56	Network Storage	ANR	
57	Protocols	IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, PPPoE, RTP, RTSP, RTCP, DNS, DDNS, NTP, FTP, UPnP, HTTP, HTTPS, SMTP, 802.1x, SNMP, SSL, TLS	
58	Compatible Integration	ONVIF(Profile S, Profile G), API	
59	Audio I/O	Audio cable	
60		Input: impedance 35 kΩ; amplitude 2	

		V [p-p]	
61		Output: impedance 600 Ω; amplitude 2 V [p-p]	
62	Alarm I/O	1-In / 1-Out	
63	Network	1 RJ45 10M/100M Base-TX Ethernet	
64	Power	12 V DC±25%, PoE (IEEE802.3 af)	
65		Power consumption: Max 9W	
66	Dimensions (L × W × H)	253.4 ×86 ×71.7 mm (9.98" × 3.4" × 2.8")	
67	Weight	0.58kg (1.28lb)	
68	Working Environment	-35°C ~ +60°C (-31°F ~ 140°F), Humidity:10%~95% RH(non-condensing)	
69	Ingress Protection	IP67	
70	Certificates	RoHS, UL,FCC,CE,CMMI-L5,ISO14001,ISO27001,ISO9001, UL, IP67,,IP67 Lab Report.	

Specification of NAS		
<u>SL.No.</u>	<u>Single Ctrl Unified Storage Specification.</u>	<u>Compliance (Yes / No)</u>
1	Proposed storage system should have 2U Rack mountable & should support minimum 12x 2.5"/3.5" SATA HDD .	
2	should have at least 1x Intel 2.2Ghz or higher CPU	
3	System should have Default 8GB DDR4 memory expandable up to 32GB DDR4 or higher	
4	System should have 2x1 GbE + 2x 10G SFP+ ports,	
5	System Should have 1 number of replaceable modular Card Slot per.	

6	Below Cards should be supported in each slot and possible to inter change the card without the need to change or upgrade the storage controller	
7	2 x 16 Gb/s FC 4 x 8 Gb/s FC 2 x 10 Gb/s iSCSI (RJ45) 4 x 10 Gb/s iSCSI (SFP+) 4 x 1 Gb/s iSCSI	
8	Initially Quoted with 2x1GbE + 2x10GbE (SFP+) ports	
9	Support drives including SSD, SATA HDD in the same enclosure	
10	2.5" SATA SSDs 3.5" 7200 rpm SATA HDD	
11	Proposed storage should have true unified storage architecture. should support File, Block and Object storage. All these protocols should be supported and licenses for full storage capacity should be quoted for the duration of the product lifecycle NFS, CIFS/SMB, AFP, FTP, SFTP, WebDAV, REST API, 1Gb/s, 10Gb/s and (RJ-45, SFP+), 10Gb/s FCoE, 8Gb/s, 16Gb/s Fibre Channe,	
12	Storage should be able to separate the File Level share folder control with file protocols for secure file sharing process (like share a folder on HTTP or FTP only and share another on CIFS or AFP only.	
13	Automated support request Proposed Storage should have option to automatically create support ticket with relevant logs with the OEM support in case of critical event.	
14	Storage Capacity: Should be quoted with. 12x4.TB SATA-7200RPM Enterprise class HDD.	

15	System should be scalable to minimum 432 drives by using 12G SAS connected expansion enclosure.	
16	Support inbuilt file system which can support single volume size up to 2PB. License for full capacity should be quoted upfront	
17	Cloud - Support cloud provider: Amazon S3, Aliyun, Microsoft Azure, Openstack Swift, Google Cloud. If any additional hardware is required for cloud integration it should be quoted for the full capacity upfront	
18	Cloud Disaster Recovery automatically make the hidden snapshot to cloud, allow administrator to use the last snapshot for roll-back.	
19	Support deduplication/compression feature before data migrate to cloud provider	
20	Storage should support Automated Storage Tiering, SSD Cache, Thin Provisioning, Volume Mirror/Copy, Block level Remote replication, File level Remote Replication (Rsync), Snapshot.	
21	Intelligent multi-level drive spin-down	
22	Relative humidity: 5 to 95% non-condensing, operating and non-operating	

Feature	Specification	Compliance (Yes / No)
Hardware Architecture	24 ports 10/100/1000Base-T	
	The Switch must support USB ports for storage, support NMS	
	The equipment shall support 24*10/100/1000 Giga + 4*10GE SFP+ ports	
	The proposed Switch shall support high switching capacity of at least 128 Gbps non-blocking.	

Feature	Specification	Compliance (Yes / No)
	The proposed Switch shall support high packet transfer rate of at least 95 Mpps with 64 bytes per packet.	
Layer 2	The Switch must support up to 16K MAC address tables	
	The Switch must support Mac-based, Port-based, protocol- based, and IP subnet-based VLAN assignment	
	The Switch must support VLAN Translation	
	The Switch must support the IEEE 802.1ad (Q-in-Q) standard	
	The Switch must support at least 4K active VLAN	
	The Switch must support Private VLAN	
	The Switch must support voice VLAN or equivalent	
	The equipment must support loop detection	
	The Switch must support Jumbo Frames at least 10K bytes	
	The equipment must support stacking feature	
	The Switch must support any ring protocol which can support less than 50ms	
	The equipment must support Port aggregation such as LACP	
Layer 3	The equipment must support static route,RIPv1/v2, OSPF	
	The equipment must support ECMP	
	The equipment must support IPv4/IPv6 dual stack	
	The equipment must support IPv6 over IPv4 tunnel, 4over6 tunnel	
	The equipment must support VRRP	
	The equipment must support BFD for VRRP,OSPF	
	The equipment should support BGP	
Multicast	The equipment must support IGMP proxy	

Feature	Specification	Compliance (Yes / No)
	The equipment must support IGMP snooping	
	The equipment must support MLD snooping v1/v2	
	The equipment must support up to 1K multicast routing entries	
	The equipment must support PIM DM, PIM SM, PIM SSM	
	The equipment must support IGMPv1/v2/v3	
QOS	The equipment must support ingress and egress traffic shaping and VLAN based traffic limit	
	The equipment must support port mirroring	
Security	The equipment must support bidirectional ACL	
	The equipment must support port-based ACL, VLAN-based ACL	
	The equipment must support CPU defence	
	The equipment must support the DAI (Dynamic ARP Inspection) feature	
	The equipment must support DHCP Snooping feature	
	The equipment supports the IP Source Guard feature	
	The equipment must support port-based network access control according to IEEE 802.1x standard	
	The equipment should support MAC Authentication	
Network O&M	The equipment must support web management	
	The equipment must support SNMPv1/v2c/v3, Telnet, RMON, SSHv2	
	The equipment must support automatic configuration	

Feature	Specification	Compliance (Yes / No)
	The equipment must support usb-based deployment	

Specification For Access Level L2 Industrial PoE Switch		Compliance (Yes/No)
Hard Ware	Number of Ethernet ports	
	Front panel Design	
	LED	
	IP Level	
	Din-Rail Mount	
	Wall Mount	
	MTBF	
Performance	Number of MAC Addresses	
	Backplane	
	Line Speed	
Power	24 VDC	
	220 VAC	
	PoE Power Budget	
	PoE standard	
	Power Consumption	
	Dual power input	
Temperature Range	Operating Temp.	
	Storage Temp.	
	Humidity	
Redundant Function	High Speed Redundant Ring	
	Redundancy Protocol	
	Daisy Chain	
	Balancing Chain	
	Ring Coupling	
	Dual-Ring	
Dual-Homing		
Operating Interface	Web interface	

Specification For Access Level L2 Industrial PoE Switch		Compliance (Yes/No)
	Internet Explorer	
	Telnet interface	
	RS232 Console	
	RS232 Console Type	
	CLI	
	Windows Utility	
	SNMP	
	RMON	
Software Functions	STP	
	RSTP	
	MSTP	
	IPv6	
	LLDP	
	SNMP V1/V2C/V3	
	Industrial Protocols Supported	
	RMON	
	SNMP Inform	
	Port Mirror	
	VLAN/GVRP	
	Rate Limiting	
	ACL	
	VCL	
	QCL	
	MLD	
	LACP	
	Static Port Trunk	
	IGMP Snooping/GVRP	
	RADIUS/IEEE 802.1X	
	Broadcast storm protection	
	Multicast/Unicast storm port	
	QoS (CoS/ToS/Diffserv)	
	Https/SSL	
	SSH	
	Ping Command	
	BOOTP/DHCP	
	DHCP Option 82	
	Line-swap fast recovery	
	Set Device IP	
Port Lock		

Specification For Access Level L2 Industrial PoE Switch		Compliance (Yes/No)
	Accessible IP address	
	Loop protection	
Upgrade Software Functions	RS232 Console , RJ45 and Mini USB upgrade	
	Web Browser upgrade	
Alarm	E-mail Alarm	
	Relay Out (Digital Output)	
	SNMP Trap	
	SNMP Inform	
	Event Trigger	
	Event Log	

Server Specification :

1. Processor - Intel® Xeon® Silver 4110 Processor(11M Cache,2.10GHz)
2. RAM16 GB DDR4 Min
3. HDD Sizing2.5 Inch Upto 8 Drivers
4. HDD capacity2 X 600 GB SAS
5. RAID0,1,5
6. Cache Memory2 GB
7. Redundant Power Supply 2 Nos. (550 Watt)
8. Warranty 5 Years
9. Support & Service Pro support & Mission Critical (24 X 7) Hr.

ANNEXURE-1**Proposed Locations with Device details:**

SL NO.	Description	Ways	Bullet / Camera	PTZ	POLE	Existing Fibre N/w of BeMC	Remarks
1	First Gate	3 way	9	1	2	No	
2	Gate Bazaar	5 way	2			Yes	Existing Pole
3	Bijipur	3 way	4		1	No	
4	Lanjipalli Bypass	3 way	4			No	
5	Lichapada Hanuman Temple	3 way	3		1	No	
6	New Bus Stand	4 way	4		1	Yes	
7	Talamentu	4 way	4		1	No	
8	HaridaKhandi	4 way	2		1	No	
9	Medical Entry	2 way	2			Yes	
10	Railway Station Front	2 way	3		1	No	
11	SubaraoChhaka	3 way	3		1	Yes	
12	Utkal Pendle	4 way	4		1	No	
13	Sana Bazaar Chhak	4 way	4		1	No	
14	Giri Market (Near Mushroom shop)	4 way	4		1	Yes	
15	Gandhi Nagar	4 way	4		1	No	
16	Bada Bazaar Chowk	3 way	3		1	No	
17	Ramalingam Tank Square	3 way	3		1	Yes	
18	Hanuman Bazaar Square	3 way	3		1	Yes	
19	Girija Square	4 way	4		1	Yes	
20	Annapurna Market Square (Urban Bank Road)	2 way	3		1	Yes	
21	Old Bus stand	4 way	4		1	Yes	
22	City Hospital Square (State Bank)	3 way	3		1	No	
23	Khallikote College Square	4 way	4		1	Yes	
24	Congress Office square	3 way	3		1	No	
	Total Quantity		86	1	22		

1. Proposed locations and Quantity may vary as per Administrative decision of BeMC in future the payment will be accordingly raised.
2. The existing Fibre Network of BeMC is already in place in the designated locations mentioned as “Yes” in the above table. Bidder should quote rest of the area which is mentioned as “No” in the column. Bidder should lay the fibre at its own cost or they may carry on rent basis from other Private Vendors. Bidders may calculate and present the most cost effective method. No additional amount outside the quote will be provided by BeMC. Bidder should include all charges in the Capital expenditure and O&M quote.

FINANCIAL BID SUBMISSION :

The Details Bill of Materials and Financial Bid submission as detailed below:

Sl. NO.	Description	Make	Qty	UOM	Rate (INR)	Amount (INR)
(A)	CAMERA & Display					
1	UL Listed 5 MP Star Light Motorised Verical Camera Day/ Night Fixed Camera,IP 67 along with Mounting clamp	Axis/Bosch/ Pelco/Equival ent	86	Nos		
2	UL LISTED 33X Optical Zoom Star Light PTZ Camera,H.265/H.264/MJPEG triple stream encoding, 50/60fps,@1080p(1920*1080), IP 67	Axis/Bosch/ Pelco/ Equivalent	1	Nos		
(B)	RACK					
3	15U Out Door Cabinet with PDU, FAN & accessories. (Dust &water IP 55 Rated).	APW / Equivalent	22	Nos.		
4	Out Door Rack Base with foundation		22	Nos.		
(C)	Switch					
5	L3 Switch 24 Port Fully managed switch .	Cisco / Exstream / Equivalent	1	Nos.		
6	L2 fully Managed Industrial 8 Port Giga PoE Switch with 2 SFP Port.	Cisco / Exstream / Equivalent	21	Nos.		
(D)	Transceiver Module					

7	10G Transceiver Module- Industrial Grade	Cisco / Exstream / Equivalent	2	Nos		
8	1000 Base1310nm SM Transceiver Module- Industrial Grade	Cisco / Exstream / Equivalent	40	Nos.		
(E)	Passive Items					
9	Out Door UTP cable-305 Mtrs. Box	AMP / 3C3/ RIT/Equivalent	18	Nos.		
10	Wireless Key Board Mouse	Logitech	1	SET		
11	OFC patch Cord-Sc-LC	AMP / 3C3/ RIT/Equivalent	40	Nos.		
(F)	ON-Line UPS					
12	UPS SYSTEM - 1 KVA online UPS with Internal battery	Reputed	24	Nos.		
(G)	CCTV Poles					
13	CCTV Cantilever Galvanised Pole with Foundation and Chemical Earthling.	Galvanized	22	Nos.		
	VMS QCOMMAD AND CONTROL INTEGRATION					
14	VMS Enterprise Package which includes: Archiving and Auxiliary Archiving support, Media Router, Audio, Remote Security Desk, Camera Sequences, Camera Blocking, Camera Dewarping, Hardware Matrix Support, Time Zone, Edge recording, trickling and archive transfer, Keyboard and Joystick Support, Max. 300 cameras per Archiver / 100 cameras on the Directory machine. With Plan Manger.	Gentec / NEC/ Mile stone	1	Nos.		
15	Plan Manager	Gentec / NEC/ Mile stone	1	Nos.		
16	1 camera connection	Gentec / NEC/ Mile stone	87	Nos.		
17	1 failover camera connection (camera connection NOT included). Mandatory Genetec Advantage.	Gentec / NEC/ Mile stone	1	Nos.		

	Genetec Advantage					
	Server & Storage					
18	High End Rack mountable server with Redundant power supply .	HP/dell/ Lenovo/ Equivalent	1	Nos.		
19	NAS Storage For 15 Days Recording with Raid 0/1/5/6/10 Facility.	HP/dell/ lenevo/ Equivalent	1	Nos.		
20	Work Station with Original Microsoft Windows License.	HP/dell/ Lenovo/ Equivalent	2	Nos.		
21	22 Inch Full HD Monitor	HP/dell/ Lenovo/ Equivalent	6	Nos.		
22	Monitor Stand (Dual) for fixation in table	Any Standard Manufacturer	6	Nos.		
	Total Amount (INR)					
	Commercials For Job Work					
	Description		Quantity	UOM	Rate (INR)	Amount (INR)
24	Complete Installation, Training ,Onsite Support Service For 1 Year.		1	LS		
	Total Amount (INR)	(Supply + Job Work)				
	Operation & Maintenance charges after 1st year					
	Description		Qty	UoM	Rate (INR)	Amount (INR)
25	2yr O & M		1			
26	3rd O & M		1			
27	4th O & M		1			
27	5th O & M		1			

(The above Quoted price should be inclusive of all taxes)

Implementation time line:

The bidder should complete the work within 60 days of getting the work order.

The undersigned has the right to Accept or reject any or all the bids without assigning reason thereof.

Sd/03.08.19
Commissioner
Berhampur Municipal Corporation