

Supply, Installation, Testing and Commissioning of CCTV & Surveillance system Product Details

1.	Annexure A	SITC of 4.0MP IP Metal Casing Bullet Camera, 12.0mm Fix Lens, 50 MTR IR., Four (4) H.265 or Higher Streams, Built-in Mic and Speaker, Storage slot suitable for 1TB SD/SDHC/SDXC memory, Face Detection, Human Detection, People Counting, On-Duty Violation, Vehicle Detection, Vehicle Counting, Parking Violation, Smart Motion Detection, Line Crossing, Wrong-Side Vehicle Direction, Video Blind, IP67, OEM registered MAC ID, STQC Approved, NABL Test Report, CE, FCC, RoHS, BIS Certification.	120 NOS
2.	Annexure B	SITC of 5.0MP ANPR Bullet Network Camera, IP67, OEM registered MAC ID, CE, FCC, RoHS Certification.	05 NOS
3.	Annexure C	SITC of 6.0MP 1/2.7" Progressive Scan Sensor IP Speed Dome Camera, 4.5mm ~ 135mm Motorized Lens, 150 Meters IR., H.265+, Vehicle Detection, Face Detection, Human Detection, Active Deterrence, Line Crossing, Trip Wire, IP67, OEM registered MAC ID, BIS, CE, FCC, RoHS Certification.	03 NOS
4.	Annexure D	SITC of 64CH NVR, H.265+, VGA, 2 x HDMI, 64 *5MP, 36 *4K (8MP), 2 *10/100/1000 Mbps, 2 x USB2.0, 1 x USB3.0, 8HDD X 10TB, 16 Alarm Input, 4 Alarm Output, FACE DETECTION, VEHICLE DETECTION, HUMAN DETECTION, ACTIVE DETERRENCE, PEOPLE COUNTING, BIS, CE, FCC, RoHS Certification.	02 NOS
5.	Annexure E	SITC of 32CH NVR, H.265+, VGA, HDMI, 32Ch. *4K (8MP), 10/100/1000 Mbps, 2 x USB2.0, 1 x USB3.0, 2HDD X 10TB, FACE DETECTION, VEHICLE DETECTION, HUMAN DETECTION, ACTIVE DETERRENCE, PEOPLE COUNTING, BIS, CE, FCC, RoHS Certification.	01 NOS
6.	Annexure F	SITC of 10TB Surveillance Hard Disk.	10 NOS
7.	Annexure G	SITC of 7 Ports POE+ Smart Self Manage Switch; 4Port 10/100/1000 Mbps + 1Port 10/100/1000 Mbps Uplink + 2Ports SFP, POE AF/AT, 60W Power Budget, 250 Meter support, CE, FCC, RoHS Certification.	57 NOS
8.	Annexure H	Supplying and Laying of 6 Core Armoured Fibre Cable.	22000 MTR
9.	Annexure I	Supplying and Laying of Pure Copper CAT6 Cable Outdoor Double Coated with Pipe / Casing / Clip/ Nails Etc, REACH & ISO Certified.	5000 MTR
10.	Annexure J	SFP Transceivers Dual data-rate of 1.25Gbps/1.063Gbps operation, 1310nm FP laser and PIN Photo detector for 20km transmission, Compliant with SFP MSA and SFF-8472 with duplex LC receptacle, Digital Diagnostic Monitoring, Internal Calibration or External Calibration, Compatible with RoHS.	50 NOS
11.	Annexure K	SITC of 50 Inch Led TV.	03 NOS
12.	Annexure L	PVC Junction Box for Switch.	50 NOS
13.	Annexure M	Camera Housing.	100 NOS

14.	Annexure N	SITC of 22U Rack.	01 NOS
15.	Annexure O	SITC of 1.5 Ton AC for Server Room.	01 NOS
16.	Annexure P	SITC of i5 Desktop Computer for Server Room.	02 NOS
17.	Annexure Q	Computer Table.	02 NOS
18.	Annexure R	Chair for Server Room.	02 NOS
19.	Annexure S	300mbps internet	02 NOS
20.	Annexure T	RJ 45 Connectors	1000 NOS
21.	Annexure U	Galvanised Poll 5 mtr with fitting.	10 NOS
22.	Annexure V	Electric Cable.	2000 MTR
23.	Annexure W	Electric Board.	50 NOS
24.	Annexure X	MCB 6Amp Single Pole.	50 NOS
25.	Annexure Y	Fibre Spilysizing Cable.	110 NOS
26.	Annexure Z	LC to LC Patch Cord 3mtr.	50 NOS
27.	Annexure AA	UPS 1000va	02 NOS
28.	Annexure BB	VMS Pro Software.	01 NOS
29.	Annexure CC	1 Year Maintenance.	01 NOS

Annexure A

4MP Network Bullet Camera				
	Make			
	Model			
S. No.	Specification		Compliance (Yes/ No)	Remarks (If any)
1	Image Sensor	4MP Image Sensor		
2	Pixels	2568 (H) x 1448 (V)		
3	Video Compression	H.265, or higher		
4	Streaming Capability	Quad Streams		
5	Video Resolutions	i) Main Stream : 2560 x 1440 (4MP). ii) Second Stream : 720P or D1 or VGA or QCIF resolutions. iii) Third Stream : D1 or VGA or CIF resolutions. iv) Fourth Stream : D1 or VGA or CIF resolutions.		
6	Resolution and Frame Rate	4MP/Full HD@25FPS with H.265 or higher compression on All Stream. 720P/D1@25FPS with H.265 or higher compression on Sub Stream2. D1 or VGA or CIF @25FPS with H.265 or higher compression on 3rd & 4th stream.		
7	Minimum Illumination			
	a) Colour Mode	0.002 Lux @ (F1.4, AGC ON)		
	b) Night Mode (Black & White)	0 Lux with IR		
8	Shutter speed	1/25 - 1/100000		
9	Signal to Noise Ratio	> 45dB		
10	Video Standard	PAL		
11	Lens Mount	CS/C mount or any other mount		
12	Lens	12.0mm Fixed Lens		
13	IR Range	50 Meters		
14	Day/Night Camera	Auto Day/Night Configuration		
15	Datarate	Shall work on 3 Mbps bit rate or less average for Full HD@ 25 FPS at Variable bit rate (VBR) on individual (Single) stream with H.265orhigher Video Compression. The camera shall also support Constant Bit Rate (CBR).		
16	Video Streaming	Unicast and Multicast streams		

17	Text Superimposing	Camera shall support super imposing the title and date & time on the video		
18	Edge Storage	Edge Storage slot suitable for 1TB SD/SDHC/SDXC memory		
19	Activity Controlled Video Recording	Required. During periods of negligible motion, the bits rate shall drop and when motion occurs, the bit rate shall return to normal without any perceptible delay.		
20	Network Connectivity	Ethernet,10/100BaseT		
21	Discovery Interface	OEM interface to detect the Camera automatically and configure network settings		
22	Network Protocols	TCP/IPv4/IPv6, HTTP, HTTPS, QoS, DHCP, DNS, Email, RTP, RTCP, RTSP/RTSPs, SNMP, NTP, PPPOE, SMTP, NTP, TLS/SSL, SFTP, ICMP, IGMP, ARP, UDP, 802.1x, ONVIF		
23	Web Server	Internal Web server required with embedded operating system.		
24	Automatic Gain Control	Required		
25	Back light Compensation (BLC) or High Light Compensation (HLC)	Required		
26	Automatic White Balance	Required		
27	Wide Dynamic Range (WDR)	≥120 dB		
28	Built in Microphone	Required		
29	Built in Speaker	Required		
30	Alarm Inputs/outputs	1 input & 1 output (NO/NC)		
31	Input Voltage	Power should be drawn on PoE, 220VAC Voltage (Nominal)/24VAC or DC/12V DC		
32	PoE	IEEE802.3af/at compliant		
33	Operating Temperature	-20°C to +80°C		
34	Humidity	0% to 90% RH non-condensing		
35	MAC Address	MAC Address of OEM is needed		
36	MTBF	Higher than 1,00,000 Hours @ 40°C		
37	AI Functions	Face Detection, Human Detection, People Counting, On-Duty Violation, Vehicle Detection, Vehicle Counting, Parking Violation, Smart Motion Detection, Line Crossing, Wrong-Side Vehicle Direction, Video Blind		
38	Interoperability/ ONVIF	Open Network Video Interface (Profile S, Profile G,		

	Compliance	Profile T, Profile M), ISAPI, SDK, ISUP		
39	Regulatory Approvals/ Certifications	Camera Should pass EMC Test and Surge Test		
40	Plugins	Should open on Multiple Browser like Chrome, Mozilla, Firefox, Opera without the need to install additional Plugins		
41	Secure Boot	Yes		
42	Signed firmware	Yes		
43	Data Encryption	All data, including sensitive data, is encrypted with AES 256 and RSA 2048		
44	HTTPs Streaming	Yes, using TLS 1.2		
45	Edge Data Encryption	Yes		
46	Network Authentication	Yes, 802.1x Network authentication		
47	Secure Firmware Upgrade	Yes		
48	Anti-roll back firmware	Yes		
49	Web login Password protection	Yes		
50	Unused debug interface protection	Yes		
51	IP Rating	IP67 (NABL Test Report)		
52	Certification	CE, FCC, RoHS, BIS-ER, STQC Approved		

Annexure B

ANPR Bullet Network Camera				
	Make			
	Model			
Sr. No.	Specification		Compliance (Yes/ No)	Remarks (If any)
1	Image Sensor	1/2.8" Progressive Scan CMOS or Better		
2	Image Pixels	2592 x 1944 Pixels (5.0 MP)		
3	Min. Illumination	0.1Lux or Better		
4	Day/Night	Auto (ICR) / Color / Black & White		
5	WDR	≥120db		
6	IR Led	Yes		
7	IR Distance	Up to 50 Meters		
8	Lens Mount	5.0 ~ 50 MM Lens		
9	Network Interface	10/100 MBPS, RJ45 Connector		
10	LPR Accuracy	95% or Better		
11	Triggering Mode	Vehicle Capturing, Coil Trigger, Video Triggering		
12	Electronic Shutter Speed	0-1ms, 0-2ms, 0-3ms,0-4ms		
13	Video Encoding	H.265/H.264		
14	I/O Interface	4 Input		
		2 Output		
15	Serial Interface	1 (RS485)		
16	On Board Storage	SD Card with Minimum Capacity of 128GB		
17	Audio Input	Yes, 1Ch.		
18	Audio Output	Yes, 1Ch.		
19	Operation Temperature	-10°C ~ +55°C		
20	IP Rating	IP66 or Better		
21	Housing Material	Full Metal Body		
22	Power Supply	DC12V / 2Amperes		
23	Certifications	CE, FCC, RoHS		

Annexure C

6.0MP 30X H.265+ Network Speed Dome Camera				
	Make			
	Model			
Sr. No.	Specification		Compliance (Yes/ No)	Remarks (If any)
1	Image Sensor	1/2.8" 6.0 Megapixel Progressive Scan Sensor		
2	Image Pixels	Max: 3072 x 2048 Pixels (6.0 Mega Pixels)		
3	Min. Illumination	Color: 0.005Lux@F1.2 B/W: 0.001Lux@F1.2 (IR ON: 0.0Lux)		
4	Day/Night	Auto (ICR) / Color / Black & White		
5	WDR	≥140db		
6	IR Led	Yes		
7	IR Distance	150 Meters		
8	Lens Mount	4.5mm ~ 135 mm (30X optical zoom)		
9	Network Interface	10/100 MBPS RJ45 Connector		
10	Intelligent AI Feature	Face Detection, Vehicle Detection, Active Deterrence, Line Crossing, Trip Wire, Human Auto Tracking		
11	Network Protocol	HTTP, TCP, ARP, RTSP, RTP, UDP, RTCP, SMTP, FTP, DHCP, DNS, DDNS, PPPoE, IPv4/v6, SNMP, QoS, UPnP, NTP		
12	Electronic Shutter Speed	Manual/Auto (1/25s ~ 1/100000s)		
13	ONVIF Compliance	ONVIF Profile S, G & T; Model should be Available on Conformant Models List		
14	Video Encoding	H.265+, H.265, H.264+ and H.264		
15	Video Bitrate	128kbps ~ 8Mbps		
16	Video Streams	Triple Stream		
		Main Stream: 3072 x 2048; @20/25fps, 1920 x 1080@25/30fps, Sub Stream 1: 720 x 576@25/30fps;		
17	Audio Input	Yes, 1Ch.		
18	Audio Output	Yes, 1Ch.		
19	Audio Bitrate	G.711A (Optional)		
20	Image Setup	Mirror Image/Reverse/Color Settings		
21	ONVIF Compliance	ONVIF Profile G, S & T; Model should be Available on Conformant Models List		
22	Pan Range	0°~360° Endless		

23	Pan Speed	0°/s ~ 200°/s		
24	Tilt Range	0° ~ +93° (Auto-Reverse)		
25	Tilt Speed	0°/s ~ 100°/s		
26	Auto Flip	Pan: 180°; Tilt: 93°		
27	Presets	220 /500 Presets		
28	Dwell Time	1s ~ 60s Selectable		
29	Guard Tours	Minimum 3 Tours		
30	Guard Points	Min: 16 Points Per Tour		
31	Park Time	1 ~ 60 Minutes		
32	Digital Defog	Available		
33	S/N Ratio	≥ 50dB		
34	Day/Night Mode	IR-Cut filter with auto switch (ICR)		
35	OSD	Up to 8 OSDs		
36	Privacy Mask	Up to 8 Areas		
37	Operation Temperature	-40°C ~ +65°C		
38	Operation Humidity	0% ~ 90% RH (Non-Condensing)		
39	Power Supply	12V 4Amp		
40	PoE	POE(Optional,802.3at)		
41	Power Consumption	~ 25W (Without IR)		
42	Housing Material	Aluminium + ABS		
43	IP Rating	IP67		
44	RJ45 Connector	Weatherproof RJ45 Connector		
45	IR Schedule Function	Available		
46	SD Card Support	Up to 512GB SD Card Support (Optional)		
47	Multiple Browsers	Chrome, Mozilla, Opera, Edge should be Supported without IE Extension		
49	MAC Address	MAC Address should be registered in the Name of the Manufacturer		
50	Lightning Protection	Transient Voltage 6000V		
51	Certifications	CE, FCC, RoHS, BIS		

Annexure D

64CH 4K NETWORK RECORDER WITH 8 SATA				
Make				
Model				
Sr. No.	Specification		Compliance (Yes/ No)	Remarks (If any)
1	User Interface	Graphic User Interface (GUI)		
2	Operating System	Embedded Linux		
3	Operation Mode	Preview, Record, Playback, Backup, Network		
4	Password Security	Multi-level User Management		
5	Compliance	ONVIF Profile S, G & T; Model should be Available on Conformant Models List		
6	Resolution	Supports upto 12 Megapixel Network Camera Input		
7	Video Input	64CH		
8	HDMI Output	2 x HDMI (Should Support 4K UHD Resolution)		
9	VGA output	Supports		
10	Audio compression	G.711a		
11	Audio In/Out	1CH RCA In / 1CH RCA Out		
12	Video compression	H.265+/H.265/H.264		
13	Stream Type	Video and Audio/Video Supported		
14	Recording mode	Always/Schedule/Alarm recording/Motion detection recording		
15	Playback Mode	Common Playback, Smart Search, Face Search, Vehicle Search		
16	Video search	Time/Channel/Event		
17	Dual-stream	Supports		
18	Mobile Monitoring	Free Application for Android and iPhone		
19	HDD Port	8 pieces SATA		
20	HDD Maximum Capacity	10TB for each SATA connector		
21	Network protocol	DHCP, DNS, FTP, DDNS, NTP, UPNP, Email, RTSP		
22	Network	2 RJ45 10M/100M/1000M		
23	Multiple IP Network Configuration	Must be supported		
24	NVR to NVR Cascading	Remote, Local, Viewing, Recording		
25	Health Monitoring	Built-in NVR with Data Packet Loss information and Realtime Bandwidth Consumption		
26	Virtual Network	NVR should support virtual network configuration		

27	Video Analytics	Face Detection, Human Detection, Vehicle Detection, People Counting, Line Crossing, Active Deterrence		
28	USB Connector	2 x USB 2.0; 1 x USB 3.0 for Faster Backup		
29	Firmware update	Support USB update/Network update		
30	IP Camera Configuration / Upgradation	Must be supported from NVR		
31	Alarm In/Out	16 Inputs / 4 Outputs		
32	Operation Temperature	(-10°C -- +65°C)		
33	Hard Disk Redundancy	Supported		
34	Operation Humidity	10%--90%		
35	MAC Address	NVR MAC Address should be registered in the Name of the OEM		
36	Certifications	CE, FCC, RoHS & BIS		

Annexure E

32CH 4K UHD H.265+ NVR				
Make				
Model				
Sr. No.	Specification		Compliance (Yes/ No)	Remarks (If any)
1	User Interface	Graphic User Interface (GUI)		
2	Operating System	Embedded Linux		
3	Operation Mode	Preview, Record, Playback, Backup, Network		
4	Password Security	Multi-level User Management		
5	ONVIF Compliance	ONVIF Profile S; Model should be Available on Conformant Models List		
6	Resolution	Supports up to 12 Megapixel Network Camera Input		
7	Video Input	32CH		
8	HDMI Output	1 x HDMI (Should Support 4K UHD Resolution)		
9	VGA output	Supports		
10	Audio compression	G.711a		
11	Audio In/Out	1CH RCA In / 1CH RCA Out		
12	Video compression	H.265+/H.265/H.264		
13	Stream Type	Video and Audio/Video Supported		
14	Recording mode	Always/Schedule/Alarm recording/Motion detection recording		
15	Playback Mode	Common Playback, Smart Search, Face Search, Vehicle Search		
16	Video search	Time/Channel/Event		
17	Dual-stream	Supports		
18	Mobile Monitoring	Free Application for Android and iPhone		
19	HDD Port	2 pieces SATA		
20	HDD Maximum Capacity	10TB for each SATA connector		
21	Network protocol	DHCP, DNS, FTP, DDNS, NTP, UPNP, Email, RTSP		
22	Network	1 RJ45 10M/100M/1000M		
23	Multiple IP Network Configuration	Must be supported		
24	NVR to NVR Cascading	Remote, Local, Viewing, Recording		
25	Health Monitoring	Built-in NVR with Data Packet Loss information and Realtime Bandwidth Consumption		
26	Virtual Network	NVR should support virtual network configuration		

27	Video Analytics	Face Detection, Human Detection, Vehicle Detection, People Counting, Line Crossing, Active Deterrence		
28	USB Connector	2 x USB 2.0; 1 x USB3.0		
29	Firmware update	Support USB update/Network update		
30	IP Camera Configuration / Upgradation	Must be supported from NVR		
31	Alarm In/Out	Yes / No (Optional)		
32	Operation Temperature	(-10°C -- +65°C)		
33	Hard Disk Redundancy	Supported		
34	Operation Humidity	0%--90%		
35	MAC Address	NVR MAC Address should be registered in the Name of the OEM		
36	Certifications	CE, FCC, RoHS & BIS		

Annexure F

	Surveillance Hard Disk Drive			
	Make			
	Model			
Sr. No	Specification			Compliance (Yes/ No)
				Remarks (If any)
1	Capacity	8 TB		
2	Interface	SATA 6 GB/s		
3	Drive Bays Supported	Up to 16		
4	Cameras Supported	upto 64		
5	RV Sensors	Yes		
6	Max. Sustained Transfer Rate	210 MB/s or Better		
7	Cache	256 MB		
8	Tarnish Resistant	Yes		
9	Load/Unload Cycles	3,00,000		
10	Power-On Hours/Year	8,760		
11	Work Load Rate Limit (WRL)	180/year		
12	MTBF	10,00,000 Hours		

Annexure G

	6 Port Gigabit Fiber SFP POE+ Switch			
	Make			
	Model			
Sr. No.	Specification		Compliance (Yes/ No)	Remarks (If any)
1	Network Ports	4 Ports POE 10/100/1000 Mbps		
2		1 Ports Uplink 10/100/1000 Mbps		
3		2 Ports 10/100/1000 SFP		
4	POE Standard	IEEE802.3 af/at Standard		
5	POE Power Supply Method	End Span Method		
6	Power Wattage	60 Watts		
7	Network Standard	IEEE802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3az, IEEE802.3z		
8	VLAN Mode	Supported		
9	POE Network Transmission Distance	Max 250 Meters should be supported for POE		
10	Uplink Network Transmission Distance	Max 100 Meters		
11	Power Supply Type	External/Internal		
12	Certifications	CE,FCC, RoHS		

Annexure H

	Fiber Cable			
	Make			
	Model			
Sr. No.	Specification		Compliance (Yes/ No)	Remarks (If any)
1	Number of Cores	6 Core		
2	Cable Type	Armoured		
3	Diameter	9mm to 9.5mm +/- 0.3mm		
4	Mode Type	Single Mode		
5	Jacket Material	HDPE/LSZH		
6	Operating Temperature	Minus 20 Deg C to Plus 60 Deg C		
7	Storage Temperature	Minus 40 Deg C to Plus 60 Deg C		
8	Bend Radius	Short Term: 20D, Long Term: 10D		
9	Jacket Thickness	1.8mm +/- 0.2mm		

Annexure I

	CAT6 HDPE Grade Outdoor Cable			
	Make			
	Model			
Sr. No.	Specification		Compliance (Yes/ No)	Remarks (If any)
1	Conductor	Solid Bare Electrolytic Grade Copper		
2	Conductor Guage	23 AWG		
3	Insulation	HDPE		
4	Pairing	4 Twisted Pair with Rip Cord		
5	Shield	Aluminum Shielding		
6	Sheath Material	PVC (Grey) + LDPE (Black)		
7	Worst Cable Skew	45ns/100m		
8	NVP	69%		
9	Test Report	Available		
10	Certification	ISO/IEC 11801-1:2017, REACH, CE, FCC, RoHS		

Annexure K

	50" 4K LED TV			
	Make			
	Model			
Sr. No.	Specification		Compliance (Yes/No)	Remarks (If Any)
1	Screen Size	50 Inch 4K LED TV		
2	Resolution	3840 X 2160 (4K)		
3	Bright	200 – 299		
4	Speaker	10w X 02 (Inbuilt)		
5	Warranty	One Year		
6	Energy Star Rating in line with the Government of India Notification number S O 1896(E) and S O 1897(E)	03 Star		
7	Category	Basic		