



केन्द्रीय औषधीय एवं सगंध पौधा संस्थान, लखनऊ  
CENTRAL INSTITUTE OF MEDICINAL & AROMATIC PLANTS  
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)

(Council of Scientific & Industrial Research)

पोस्ट आफिस- सीमैप, लखनऊ  
P.O. CIMAP Campus, Lucknow-226015

Date: 30.01.17

**Corrigendum**

In continuation of our tender for procurement of Gas Chromatography coupled with mass spectrometer & Supply, Installation, Testing and Commissioning of IP CCTV Based Video Surveillance Solution at CSIR-CIMAP, Campus, Lucknow dated 10.01.17 and consequent upon the pre bid meetings held on 20.01.17, 11.00 Am & 2.30 PM the competent authority has approved some modifications in the technical specifications of the tender. The last Date of submission of bids is extended till 13.02.2017, 2.30 PM. The Technical Bid for the above tenders will be opened on 13.02.2017, 3.30 PM. For details please visit CIMAP website [www.cimap.res.in](http://www.cimap.res.in).

The rest of the terms and conditions of the tender document remains unchanged.

Stores & Purchase Officer



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### शुद्धिपत्र

गैस क्रामैटोग्राफी कपल्ड विद मास स्पेक्ट्रोमीटर और सप्लाई, इंस्टालेशन, टेस्टिंग और कमीशनिंग ऑफ आईपी सीसीटीवी बेस्ड विडियो सर्विलेन्स साल्यूशंस एट सीएसआईआर-सीमैप, कैम्पस, लखनऊ के क्रय हेतु जारी निविदा दिनांक 10.01.17 के क्रम में दिनांक 20.01.17 को क्रमशः 11.00 पूर्वाह्न एवं 2.30 अपराह्न को आयोजित पूर्व बोली बैठक के संदर्भ में सक्षम प्राधिकारी ने तकनीकी विशिष्टताओं में कतिपय संशोधन अनुमोदित किया है। बिड जमा करने की अंतिम तिथि 13.02.17 अपराह्न 2.30 बजे तक होगी। तकनीकी बिड दिनांक 13.02.17 को अपराह्न 3.30 बजे खोली जाएगी। संबंधित विस्तृत विवरण सीमैप की वेबसाइट [www.cimap.res.in](http://www.cimap.res.in) पर उपलब्ध है।

निविदा की शेष नियम और शर्तें यथावत रहेंगी।

भंडार एवं क्रय अधिकारी

## **Supply, Installation, Testing and Commissioning of IP CCTV Based Video Surveillance Solution at CSIR-CIMAP Campus, Lucknow.**

### **A. Project Vision**

Vision of the project is to implement holistic and integrated video surveillance system for the CSIR-CIMAP Campus and at CIMAP colony. This system shall integrate with surveillance systems of different stakeholders with the objective of enhancing safety and security in the Campus as well the colony. The system shall help:

- ✓ For security and interactive tools for employees/public/students
- ✓ Crowd monitoring at places like Reception, Gates ,Parking etc
- ✓ Perimeter surveillance – intrusion during and after working hours
- ✓ Deter Theft
- ✓ Deter vandalism – property
- ✓ Protect Privacy of Students and Staffs
- ✓ Colony Gates Entry Exits Point Monitoring

### **Typical types of Locations to be kept under surveillance are:**

- Campus Entry and Exit points of the Main Campus
- Parking Areas
- Residential Entry and Exit Gates
- Important Road Stretches and field areas
- Receptions and Foyers

### **B. Basic Expectation of CSIR-CIMAP from CCTV System**

- ✓ High Resolutions and High Quality Live and Recorded Video
- ✓ Low Maintenance and Running Cost
- ✓ Less nos. Cameras to cover Large Areas
- ✓ Robust and Practically Maintenance Free
- ✓ No PTZ Camera system, Only Fixed IP Cameras
- ✓ HIGH Mean time between Failure (MTBF) Products at least for 5 Years.
- ✓ Value Add Features like Temperature, Decibel, Illumination sensors and Shock Detector will be added advantage.
- ✓ Vandal Proof System
- ✓ Privacy Protection Feature
- ✓ Intelligent and Smart Alarm Systems using Sound, Visual, SIP, SMTP and FTP Functionality.
- ✓ Fast Retrieval of recorded video / Information
- ✓ Easily Manageable by Non IT personals
- ✓ Low Power , Less Bandwidth and Storage Consumption
- ✓ Intelligent Video Managements Systems.
- ✓ Systems should give Perfect Details in each frame



## D. Scope of Work

Supply, installation, and commissioning of Surveillance system to achieve the above mentioned objectives at given location in the Campus and can further be extended or modified.

- a) Installation & Commissioning of Network Connectivity, wherever required throughout the Campus, for the purpose of video surveillance using IP based CCTV Cameras.
- b) Installation & Commissioning of IP based CCTV at all locations, which has been identified for surveillance.
- c) Installation of UPS for providing power backup to installed components.
- d) Bidder shall supply all the installation materials/accessories/consumable necessary for the installation of the solution. The Bidder should arrange all the tools/civil/ mechanical work, if any required for the installation. The 'malba'(if any) should be removed immediately and the site should be kept clean immediately after each piece of work.
- e) Shall provide the required networking terminal equipment for end-to-end connectivity from Control room to individual Surveillance Cameras. Cameras shall be placed in such a way that it covers the entire location under surveillance.
- f) The scope includes all components, accessories and equipment required to implement a fully functional intelligent CCTV city surveillance system regardless of whether they are explicitly mentioned or not.
- g) The scope includes the complete design, engineering, supply, delivery, and storage at site, installation, testing, commissioning and maintenance of a fully functional and complete surveillance system. All accessories and fitting hardware such as brackets / poles, any other hardware item(s) required for smooth functioning of the total system but may not be mentioned in the bid, wiring together with associated masonry work are included in the scope of work.
- h) Bidder shall provide onsite warranty for minimum three years for CCTV and Networking, IT Equipment & Display from the date of commissioning.**
- i) The successful bidder shall handover the Surveillance System within 30 Days from the issue of work Order.

From the overall scoping perspective, project requirements have been classified into the following main components. Annexure has been provided along with for a detailed specification of equipment to be installed at the location.

### i. Surveillance Equipment (CCTV)

The project includes surveillance of about 10 locations across main Campus Area and 2 locations across residential Campus Area. These locations would get covered through IP based surveillance cameras. The video feeds will be recorded, stored and viewed at high Quality. The Cameras would have the capability to record videos into itself, during the time of network outage or downtime. It would also have the capability to be in sync with the Network Access Storage once the network is restored.

The cameras to be installed should be complied with minimum technical specification specified in the tender document.

**ii. Provision of Power Supply**

Power would be used from any existing electricity points, that are comes under Campus/colony.

UPS requirement till the last mile is mandatory, however, it would be ensured that proper protection is taken against power surges and ensure power stabilization to the surveillance equipment. During the project, we would follow earthling standards (e.g. IS-3043) and ensure that pole and the edge level components are protected against lightning. In addition, Junction box design should be modular and each component should be well organized and clamped inside to ensure components do not heat up or fall out on opening. The Electricity/Power costs for the CCTV Project will be borne by Campus Authorities.

**iii. Network**

A robust, reliable and scalable network shall be deployed to enable converged communication. The points of connection include Cameras at 10 key locations and a Command Center at a central location and Cameras at 2 key locations and a Command Center at another central location. All the required equipment (active and passive) for establishing such connectivity and to meet the service levels would be deployed as a part of the overall networking solution. Networking requirements also include the LAN creation at Command center(s). All Cameras would be connected individually through wired network.

**iv. Application Software (VMS)**

Video Management Software should be complied with all minimum specification and features as specified in the tender document.

**v. Command Center**

All feeds from cameras that would be installed into the network would be available for viewing at the Command Center at any point of time. The Command Center should propose to have simultaneous viewing capability for about all cameras. The Command Center should have viewing capacity of about any specific camera at a given point. The CSIR-CIMAP would provide manpower at the Command Control Center for the purpose of monitoring/surveillance for which the project has been setup and suitable training should be given to the designated CSIR-CIMAP person(s).

**E. CSIR-CIMAP Deliverables /Scope**

- ✓ CSIR-CIMAP Campus, Lucknow shall make available the sites to the Successful Bidder to carry out the job from administrative point of view.
- ✓ Successful Bidder should specify the space requirement as infrastructure for implementing his system based on which, CSIR-CIMAP Campus, Lucknow shall ensure adequate space for placing the equipment and provide the necessary support as mentioned above.
- ✓ **Permissions Required:** All related permission in writing shall be required from concerned department will be the responsibility of the Bidder. CSIR-CIMAP will provide his official support as and when required.
  - Permission to use existing poles and infrastructure for installation of Cameras & related items
  - Permission for the use of power available for the running of the cameras & related items

- o Permission to dig at some specific areas, for the installation of Cameras or related items,

## F. Eligibility Criteria

Applicant must meet the minimum conditions of eligibility provided herein. Proposals of only those Applicants who satisfy the Conditions of Eligibility will be considered for evaluation and eligible for the “Technical Stage” evaluation.

#.	Pre-Qualification Criteria	Supporting Documents
1	The Applicant shall have minimum average annual turnover of Rs. 1 Crore in the last three (3) financial years i.e., 2013-14, 2014-15, 2015-16 as on March, 2016	Audited Balance Sheet of the last 3 financial years.
2	The Applicant should have implemented installation of IP based HD CCTV projects with a minimum combined value of Rs. 24Lakhs or more in the last 3 years as of March, 2016 in India	Work Orders and/or Invoices with Completion & Satisfactory certificate from the agencies supporting the implemented project value.  Projects in progress should submit the work orders for complete project and Invoices for the work completed as on date
3	The Applicant should have implemented/in-progress at least one IP based HD CCTV System with a minimum of 13 cameras in any industry in India.	Relevant work orders
4	Applicant must be a registered company/Firm in India with a competent authority. The Applicant should be operating in Integrated Security Solution domain for a minimum of 3 years as on March-2016.	Copy of Company Registration certification should be submitted.
5	Applicant should be registered with the following authorities : a- VAT/CST where his business is located b- Service Tax c- Income Tax/PAN Number	Copies of relevant certificates of registration
6	The Applicant should have Manufacturers’ authorization and back to back support agreement with the OEM for the equipment’s included in proposed solution.	Submission of MAF

#.	Pre-Qualification Criteria	Supporting Documents
7	The Applicant should not have been blacklisted by any government organization / banks, Self-declaration to that effect should be submitted along with the technical bid.	An undertaking signed by Authorized signatory.

- Bidder should submit duly signed and stamped documentary proof in support of all the Pre-Qualification Criteria mentioned above along with the Technical Bid. Offers submitted without valid supporting documents (A compliance chart must be submitted and Page nos. of the supporting documents should be mentioned in the compliance chart) will be summarily rejected.
- Timely implementation of the project is essence of this contract. Hence, only those Bidders having requisite capacity and capabilities and genuinely interested to meet our time lines are requested to participate in the Tender.



## Annexure A– Bill of Quantity

SI No.	Products Description	Unit	Qty
1	Fix Outdoor IP Camera with mounting	Nos.	8
2	Outdoor IP Cameras Hemispheric (Fish Eye Lens) with mounting	Nos.	5
3	Cable STP Cat 6	Meters	Actual
4	Conduit PVC Pipe	Meters	Actual
5	Switch 8 Port Giga POE 10/100/1000	Nos.	5
6	Enterprise Network Attached Storage (4 Bay)	Nos.	1
7	Enterprise Network Attached Storage (2 Bay)	Nos.	1
8	Enterprise 3TB Hard Disk	Nos.	6
9	Desktop/PC	Nos.	2
10	Networking Rack 15 U with cable Manager and PDU	Nos.	2
11	UPS 1 KVA with Batteries for 1 Hr Backup	Pairs	3
12	VMS Software License for 15 or more Cameras	Lot	1
13	Pole 3 Inch Dia - 10 Feet Length	Nos.	Actual
14	Outdoor Weather Proof IP Rated 15URack with Stand	Nos.	3
15	Services I & C	Lot	1

## Annexure B– Technical Specifications

### **B-1:- IP Based Video Surveillance Cameras Specification(Fixed Out Door Cameras)**

**Preferred Make: Pelco, Axis, Mobotix, Panasonic, Sony, Bosch**

S. No.	Specifications	Description
1	<b>Image Sensor</b>	Progressive scan CMOS 1/1.8" sensor or bigger
2	<b>Resolution</b>	3072 x 2048 or better and camera resolution can be configurable in all standards resolutions like 2CIF, 4C1F,HD 720p,HD 1080p
3	<b>Illumination</b>	0.1 lux at 1/60 sec in day 0.02 lux at 1/60 sec in night
4	<b>Signal to Noise Ration</b>	> = 90db, Back light compensation ON/OFF selectable
5	<b>Compression</b>	JPEG,MXPEG,M-JPEG

6	<b>Field of View</b>	The camera should cover the following field of view dimension Height of the camera : 4.5 Mtrs, Distance >=20 Mtrs.
7	<b>Varifocal lens</b>	The lens should be qualified for 6MP resolution (Certificate should be provided for the same) The lens should meet the Field of View (spec 6) requirements in all resolutions.
8	<b>Lens mount</b>	Lens mount should F=1.8
9	<b>Day/Night Camera</b>	Should have auto day/Night configuration, with auto AGC
10	<b>FPS</b>	Min 25 Frames per second for both the streams (Stream 1: mega, Stream 2 : HD)
11	<b>Shutter speed</b>	1 s to 1/16,000 s
12	<b>Digital Zooming</b>	Can able to digital zoom the live video
13	<b>Streams</b>	Camera should have minimum triple stream and each stream can be individually configurable, and can able to choose stream for live and recording
14	<b>Streaming</b>	Camera should support unicast and multicast streams
15	<b>Authentication</b>	IEEE802.1X
16	<b>Bit Rate</b>	Camera should able to give stream in both CBR and VBR With CBR maximum of @4Mbps hit rate camera should not degrade the quality of the video stream.
17	<b>Web interface</b>	Camera should have web interface to configure and control
18	<b>Text superimposing</b>	Camera should support the super impose the title and date & time and lux level on video
19	<b>Horizontal Viewing angle</b>	110 to 35 degree
20	<b>Image Stabilizer</b>	Required
21	<b>Noise Reduction</b>	Required
22	<b>Edge Analytics</b>	Yes, Built in analytics such as Passing, Motion detection, Camera Tampering, etc.
23	<b>Ethernet, Network protocols</b>	10/100 Tx Auto Sensing (half/full duplex) 802.3af PoE, IPv4/v6,SNMP,IGMP,DHCP
24	<b>Discovery interface</b>	Camera should have OEM interface to detect the cameras automatically and configure network settings. The interface should support Windows 7 or 8 with 32/64 bit Operation Systems
25	<b>Software Compatibility</b>	The camera should provide SDK (not OnVif) to integrate with any third party VMS Software
26	<b>Firmware upgrade</b>	Should have option to upgrade firmware over the network during the life of camera without any extra cost
27	<b>Housing</b>	IP66 weather proof housing
28	<b>Power Requirement</b>	Should able to operate with POE standard 802.3af
29	<b>Operating Temperature</b>	- 30°C to + 50°C or wider range
30	<b>Operating Humidity</b>	20 to 80% RH non-condensing
31	<b>Regulatory Approvals</b>	FCC,PART, 15B,CE,EMC,VDE 1066

**B-2:- IP Based Video Surveillance Cameras Specification (Hemispheric (Fish Eye Out Door Cameras))****Preferred Make: Pelco, Axis, Mobotix, Panasonic, Sony, Bosch**

S. No.	Specifications	Description
1	<b>Image Sensor</b>	Progressive scan CMOS 1/1.8" sensor,
2	<b>Resolution</b>	3072 x 2048 or better and camera resolution can be configurable in all standards resolutions like 2CIF, 4C1F,HD 720p,HD 1080p
3	<b>Illumination</b>	0.1 lux at 1/60 sec in day 0.02 lux at 1/60 sec in night
4	<b>Signal to Noise Ration</b>	> = 90db, Back light compensation ON/OFF selectable
5	<b>Compression</b>	JPEG,MXPEG,M-JPEG
6	<b>Field of View</b>	The camera should cover the 360 degree field of view dimension when mounted.
7	<b>lens</b>	The lens should be qualified for 6MP resolution (Certificate should be provided for the same) .The lens should be Hemispheric
8	<b>Lens mount</b>	Lens should be F=1.8
9	<b>Day/Night Camera</b>	Should have auto day/Night configuration, with auto AGC
10	<b>FPS</b>	Min 25 Frames per second for both the streams (Stream 1: mega, Stream 2 : HD)
11	<b>Shutter speed</b>	1 s to 1/16,000 s
12	<b>Digital Zooming</b>	Can able to digital zoom the live video
13	<b>Streams</b>	Camera should have minimum triple stream and each stream can be individually configurable, and can able to choose stream for live and recording
14	<b>Streaming</b>	Camera should support unicast and multicast streams
15	<b>Authentication</b>	IEEE802.1X
16	<b>Bit Rate</b>	Camera should able to give stream in both CBR and VBR With CBR maximum of @4Mbps hit rate camera should not degrade the quality of the video stream.
17	<b>Web interface</b>	Camera should have web interface to configure and control
18	<b>Text superimposing</b>	Camera should support the super impose the title and date & time and lux level on video
19	<b>Horizontal Viewing angle</b>	180 degree
20	<b>Image Stabilizer</b>	Required
21	<b>Noise Reduction</b>	Required
22	<b>Edge Analytics</b>	Yes, Built in analytics such as Passing, Motion detection, Camera Tampering, Heat Map, etc.
23	<b>Ethernet, Network protocols</b>	10/100 Tx Auto Sensing (half/full duplex) 802 3af PoE, IPv4/v6,SNMP,IGMP,DHCP
24	<b>Discovery interface</b>	Camera should have OEM interface to detect the cameras automatically and configure network settings. The interface should support Windows 7 or 8 with 32/64 bit Operation Systems
25	<b>Software</b>	The camera should provide SDK (not OnVif) to integrate with any

	<b>Compatibility</b>	third party VMS Software
26	<b>Firmware upgrade</b>	Should have option to upgrade firmware over the network during the life of camera without any extra cost
27	<b>Housing</b>	IP66 weather proof housing preferably from Same Manufacturer for Outdoor Pole Mount.
28	<b>Power Requirement</b>	Should able to operate with POE standard 802.3af
29	<b>Operating Temperature</b>	- 30°C to + 50°C or wider range
30	<b>Operating Humidity</b>	20 to 80% RH non-condensing
31	<b>Regulatory Approvals</b>	FCC,PART, 15B,CE,EMC,VDE 1066

**B-2:- Network Access Storage (4 Bay)**

<b>CPU Frequency</b>	1.4Ghz Dual Core Processor or better
<b>Memory</b>	1GB DDR3 or more
<b>Internal HDD</b>	4 * 3.5" Hot Swap Bays Support SATA-II HDD
<b>Ext. Device Interface</b>	3 * USB 3.0
<b>Storage Capacity</b>	8Tb (2TB *4 Nos.) with RAID5 Configuration
<b>Gigabit LAN</b>	One 10/100/1000 Ethernet ports
<b>RAID Level</b>	JBOD, RAID 0,1,5,6, RAID 5 + Hot Spare
<b>File System Support</b>	EXT4, (EXT3/FAT/NTFS) Read Only
<b>Networking Protocol</b>	CIFS, AFP, FTP, Telnet, SSH, NFS
<b>OS Support / System Compatibility</b>	Windows
<b>Form Factor</b>	Desktop
<b>Warranty</b>	Minimum 3 Years

**B-3:- Network Access Storage (2 Bay)**

<b>CPU Frequency</b>	1.3Ghz Dual Core Processor or better
<b>Memory</b>	512MB DDR3
<b>Internal HDD</b>	2 * 3.5" Hot Swap Bays Support SATA-II HDD
<b>Ext. Device Interface</b>	2 * USB 3.0 + 1 * USB 2.0

<b>Storage Capacity</b>	12Tb (6TB *2 Nos.) with RAID1 Configuration
<b>Gigabit LAN</b>	One 10/100/1000 Ethernet ports
<b>RAID Level</b>	JBOD, RAID 0,1,5,6, RAID 5 + Hot Spare
<b>File System Support</b>	EXT4, (EXT3/FAT/NTFS) Read Only
<b>Networking Protocol</b>	CIFS, AFP, FTP, Telnet, SSH, NFS
<b>OS Support / System Compatibility</b>	Windows
<b>Form Factor</b>	Desktop
<b>Warranty</b>	Minimum 3 Years

#### **B-4:- Ethernet (Network Switch)**

<b>Network Protocol and Standards Compatibility</b>	IEEE 802.3i 10BASE-T • IEEE 802.3u 100BASE-TX • IEEE 802.3ab 1000BASE-T • IEEE 802.3z 1000BASE-X • IEEE 802.3x full-duplex flow control • IEEE 802.3af (DTE Power Via MDI)
<b>Power Supply</b>	Power consumption: 59.3W maximum
<b>Network Ports</b>	Eight (8) 10/100/1000Mbps autosensing + 2 Gigabit SFP uplinks
<b>Environmental Specifications</b>	Operating temperature: 0° to 50° C • Storage temperature: -10° to 70°C • Operating humidity: 90% maximum relative humidity, non-condensing • Storage humidity: 95% maximum relative humidity, non-condensing
<b>Performance Specifications</b>	• Forwarding modes: Store-and-forward • Bandwidth: 20Gbps full duplex • Network latency: Less than 4 μs for 64-byte frames in store-and-forward mode for 1000Mbps to 1000Mbps transmission • Buffer memory: 512KB embedded memory per unit • Address database size: 4k media access control (MAC) addresses per system • Mean time between failures (MTBF): 157,004 hours (~18 years) • Acoustic noise: 0 dB
<b>Power Adapter</b>	48V, 1.25A external power adapter, localized to India
<b>Safety</b>	CE mark, commercial • cUL IEC 950/EN 60950 • CB

#### **B-5:- Video Managements Software Specifications**

The software should be of latest version with free updation, if any, at least for 5 years
• Unlimited number of users / Clients and cameras,
• Individual user interface, adaptable to each individual user with local or Active Directory Service
• Finding and Configuring Video Sources, Camera & IP Devices
• Automatic Detection
• Manually Adding Video Sources and Editing the list of Video sources
• Re Configuring Cameras on Different Logical Networks (subnets)

<ul style="list-style-type: none"> <li>Layout Managers</li> </ul>
<ul style="list-style-type: none"> <li>Convenient layout editor for integrating real building plans, Multiple 2D Map View</li> </ul>
<ul style="list-style-type: none"> <li>Automatically Generated Layout for Discovered Camera</li> </ul>
<ul style="list-style-type: none"> <li>Manual Generation of Layouts for the Camera</li> </ul>
<ul style="list-style-type: none"> <li>Layout Configuration in 1x1, 2x2, 3x3, 4x4 user defines upto 360 camera in a single layout</li> </ul>
<ul style="list-style-type: none"> <li>Unlimited layouts</li> </ul>
<ul style="list-style-type: none"> <li>Default Layouts of Individual Users</li> </ul>
<ul style="list-style-type: none"> <li>Free Scaling Layouts for Monitor Size</li> </ul>
<ul style="list-style-type: none"> <li>Automatic Switching of layout on Alarm / Events / user defines conditions</li> </ul>
<ul style="list-style-type: none"> <li>Layout in Full Screen Mode</li> </ul>
<ul style="list-style-type: none"> <li>Saved Layout for ready display</li> </ul>
<ul style="list-style-type: none"> <li>Using Extra Windows to Display Video Sources,</li> </ul>
<ul style="list-style-type: none"> <li>Simultaneous Live and Playback for Video in Separate Layouts</li> </ul>
<ul style="list-style-type: none"> <li>Sequencers to Automatically Switch Cameras or Layouts</li> </ul>
<ul style="list-style-type: none"> <li>Monitoring Video Wall to Control System, Unlimited Monitor and Layouts.</li> </ul>
<ul style="list-style-type: none"> <li>Live Audio with Lip sync Video</li> </ul>
<ul style="list-style-type: none"> <li>Setting an Audio Path for Paging / Accouchements on Camera or Camera's</li> </ul>
<ul style="list-style-type: none"> <li>Audio Communication through Camera in Duplex.</li> </ul>
<ul style="list-style-type: none"> <li>Display Modes of 360 Hemispheric Cameras</li> </ul>
<ul style="list-style-type: none"> <li>Image Area: Delivers a zoomed section of the full image</li> </ul>
<ul style="list-style-type: none"> <li>Area Corrected: Delivers a section of the image, where the distorted lines have been corrected</li> </ul>
<ul style="list-style-type: none"> <li>Surround: Delivers a virtual Quad view as if four cameras would be pointing into four different directions</li> </ul>
<ul style="list-style-type: none"> <li>Panorama: Delivers one horizontal 180 degree view</li> </ul>
<ul style="list-style-type: none"> <li>Panorama/Focus: Delivers one horizontal 180 degree view on top and two additional Windows on Zoomed Area</li> </ul>
<ul style="list-style-type: none"> <li>Double Panorama: Delivers one horizontal 180 degree view on top and one 180 degree view pointing downwards</li> </ul>
<ul style="list-style-type: none"> <li>Multiple Layout of the Same Camera, with Playback in the focused area, independent of each layout.</li> </ul>
<ul style="list-style-type: none"> <li>Live Recording Feature, for operator to record incidents.</li> </ul>
<ul style="list-style-type: none"> <li>Wakeup from Minimized on Alarm or Event</li> </ul>
<ul style="list-style-type: none"> <li>Title Bar Colors and Types of Alarm List Images</li> </ul>
<ul style="list-style-type: none"> <li>Alarm Player Window in a Layout</li> </ul>
<ul style="list-style-type: none"> <li>Reacting To Alarms</li> </ul>
<ul style="list-style-type: none"> <li>Acknowledging Alarms</li> </ul>
<ul style="list-style-type: none"> <li>Display Options of the Alarm List (Hide Images, List, Filter)</li> </ul>
<ul style="list-style-type: none"> <li>Showing the Alarm Instructions Of A Video Source</li> </ul>
<ul style="list-style-type: none"> <li>Reference Image of a Video Source</li> </ul>

• Playing Back and Evaluating Recordings
• Synchronized Playback of Recordings
• Finding All Recorded Events for specific periods, one click
• Post VM on Continuous Recordings
• Filtering on Events
• Creating an Ad-Hoc Event Search
• Time Range for Searching
• Grouped Video Source Search for Events or TimeLine
• Sorting Events on date/time, video source, etc.
• Playback of all Camera in Layout
• Saving, Printing and Exporting
• Saving Single Images
• Exporting Recorded Video Footage in AVI, MOV, MPEG4 or File Structure
• Export by Timeline / Events
• Export by Camera Group's, for time Lines
• Changing the Order of The Video Sequences in the Export List
• Export with SubTitles
• Status Monitoring For Multiple Operators, Control Room, Clients.
• Layout Buttons in the Toolbar
• Configurable Extra Windows for Display
• Configuring and Monitoring the Action Log of Operators
• Configuration of the in Camera Features and System Parameters
• Update Assistant - Software Updates and Firmware / Configuration Updates, Backup and Restore.
• Backup & Restore of the Control Center Configuration
• Network Time Server in full redundancy upto three servers, to sync all the device time, GPS Time Receiver is also required to ensure the Video System Time is in Sync with the World Time
• Syslog Server for Logging events on the NAS, Camera, Network Switches

#### **B-6:- PC Specification**

<b>Operating system</b>	Latest Windows 10 or similar latest version of OS like Mac, etc.
<b>Processor</b>	Intel® Core i5 or Higher
<b>Chipset</b>	Intel H81 or Compatible
<b>Memory, standard</b>	1 x 4 GB DDR3 or Higher
<b>Hard drive description</b>	500 GB SATA or Higher
<b>Graphics</b>	2GB Graphics Card or Higher
<b>Network interface</b>	Integrated 10/100/1000 Gigabit Ethernet LAN
<b>Keyboard</b>	USB keyboard
<b>Pointing device</b>	USB optical mouse
<b>Optical drive</b>	R/W DVD Burner
<b>Ports</b>	6 USB 2.0; 2 USB 3.0; 1

<b>Warranty</b>	Minimum 3 year
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**B-7:- 1000 VA UPS Specification**

<b>Output Power Capacity</b>	600 Watts / 1000 VA or higher
<b>Max Configurable Power</b>	600 Watts / 1000 VA or higher
<b>Nominal Output Voltage</b>	230V
<b>Efficiency at Full Load</b>	84.00%
<b>Output Frequency (sync to mains)</b>	50/60 Hz +/-1 Hz
<b>Topology Line</b>	Interactive
<b>Waveform Type</b>	sine wave
<b>Output Connections</b>	Surge Protection enabled Output
<b>Warranty</b>	Minimum 3 year