



GOA ELECTRONICS LIMITED
(A Subsidiary of EDC Ltd. A Government of Goa Undertaking)

TENDER

FOR

**SUPPLY, INSTALLATION AND COMMISSIONING OF
SURVEILLANCE SYSTEM FOR COLVALE JAIL,
INSPECTOR GENERAL OF PRISONS, GOA**

Tender No: GEL/PRI/SUR-02

Date : 02 JULY 2013



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TENDER DOCUMENT

1	No. GEL/PRI/SUR-02	Date: 02-Jul-2013
2	Name and Address of the party	
3	Tender Document for	Supply, Installation and Commissioning of Surveillance System for Colvale Jail.
4	Earnest money	Rs.500000 /-
5	Cost of tender document	Rs.10,000/-
6	Cost of tender processing fee	Rs.1500/-
7	Last date for submission of tender.	22nd July, 2013 upto 2.30 PM.
8	The Technical Tender online will be opened on	22nd July, 2013 at 3.30 PM.
9	The date of opening of financial bid will be	Communicated later .
10	Last date for submission of written Queries for clarifications	12 th July, 2013
11	Pre-bid Meeting with IG Prisons, Goa (mandatory for all the bidders)	17 th July at 3:30 P.M.
12	Contact Person	Chief Executive Officer Goa Electronics Limited Ph No. 0832-2435019, 0832-2425019
13	Addressee and Address at which Tenders to be submitted	Goa Electronics Limited, Mezzanine floor, Block 'B', EDC House, Dr.Dada Vaidya Road, Panaji, Goa- 403001

All the Pre Bid Queries would be accepted in written form (and a copy through mail also) only at below address:

Chief Executive Officer,
Goa Electronics Limited,
Mezzanine floor, Block 'B',
EDC House, Dr. Dada Vaidya Road,
Panaji, Goa-403001
Mail: revati@goaelectronics.co.in



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GEL on behalf of Government of Goa is in the process of establishing Video Surveillance System for COLVALE CENTRAL JAIL, for which tenders are hereby invited from the well reputed firms/vendors as per Terms & Conditions mentioned in the Bid Documents.

Tender documents can be downloaded from website www.goaelectronics.co.in or <http://www.etender.goa.gov.in> as per the dates mentioned in the Tender Document. For participation in e-tender please visit our e-tender website <http://www.etender.goa.gov.in>. The vendors are expected to examine all instructions, forms, terms and other information in the tender documents. Failure to furnish all information required as mentioned in the tender documents or submission of a proposal not substantially responsive to the tender documents in every respect will be at the vendor's risk and may result in rejection of the proposal and forfeiture of the bid.

The tender fees shall not be refunded even if the bid is not submitted. The vendors can also obtain the Tender document at the address mentioned below:

M/s. GOA ELECTRONICS LIMITED
Block "B", Mezzanine floor, EDC House,
Dr. Dada Vaidya Road,
Opp. Talaulikar Hospital,
Panaji, Goa.403001.
Phone: 08322435019

The technical bid and financial bid will be opened on two different dates. The technical bid will be opened on due date as mentioned in the tender document. The financial bid will be opened in respect of only those tenderers whose documents are found in order and whose items qualify technically.



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1. PROJECT PROFILE

Surveillance Cameras will be installed in Colvale Central Prisons. These cameras will be used to monitor inmate activity in the main entrance of the Jail, barracks, and other areas, as decided by Jail authorities. These cameras will all be connected to a matrix switch. In addition to using the cameras for real-time surveillance, it is necessary to record camera viewed activity on digital media recorders. The primary intent of this RFP is to procure Surveillance Cameras, Camera mounts, Camera housings, Digital Media Recording equipment and software that will record camera images, archiving equipment (jukeboxes), UPS systems and any other equipment needed to accomplish uninterrupted recording and viewing of images and audio for these cameras.

The GEL requires two types of recording media. These shall be short term server based, hard-drive storage and long term, digital archiving tape storage.

The GEL proposes to design, supply, install, integrate & implement various security solution, in its 1st phase at Colvale Jail, Goa, by providing video surveillance solution, coupled with Access control system for staff, prisoners & visitors, various security checks such as X-ray checking, Metal detectors along with state of the art public address system.



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2 SCOPE OF WORK

In the light of above and the present scenario, the Government of Goa has initiated the process for Supply, Installation and Commissioning of Video Surveillance system for Colvale Jail. The project is required to be completed on a Turnkey basis.

Proposed Solution

A. IP Based Real Time Video Surveillance Solution

Proposed CCTV system shall be an open standard based integrated system with IP network centric functional and management architecture aimed at providing high-speed manual/automatic operation for best performance. The Cameras have IR capabilities and can function during nights. High speed Dome Cameras are weather proof and can monitor 360 degrees of area even during night.

Advantages of the Video Surveillance Solution are

- Fully integrated IP based Video Surveillance
- Real Time Alerts thru Email
- Centralized Monitoring System
- Extensive Reduction in Human Interference
- Mission Critical Availability
- Event driven surveillance

1. IP Based CCTV Camera

- Infra Red Cameras for Night Surveillance
- Weather Proof Enclosure IP66 rated
- Cameras with PAN, Tilt, Zoom control for 360 degrees
- MPEG4 / MJPEG Compression format
- External varifocal lens adjustment
- High Speed Dome Camera
- Remote Management
- Motion Detection

2. Central Monitoring System

- All the Cameras will be managed & monitored centrally
- Real Time Alarms will be generated Automatically
- Offers 24x7 monitoring of a Facility

3. Video Recording with Central Server

- All the video data will be stored at Central Server
- Backup can be planned in consultation with Customer

4. Video Analytics

- Trigger Alerts (user defined)
- Automatic Capture of still image & video clip for each event
- Ability to handle multiple cameras



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B. Hand Held & Metal Detectors

The Hand Held Metal Detectors are useful for Weapon Screening & Asset Protection. It effectively detects minute quantities of Gold, Platinum, Brass, Copper, and Stainless Steel

- Ultra High Sensitivity & Stability
- Operates on disposable dry Batteries or rechargeable Batteries
- Built in Battery charger
- Indication – ON, Metal Detected, Battery Low
- Continuous operation for 80 Hrs

C. X – Ray Screening System

The X-Ray Screening system provides inclusive environment screening for explosives, metals, weapons, etc.

- Automated Explosives / Metal Detection
- Digital Image processing
- Mails & Parcels checking
- Visitors baggage screening for Explosives, Metals, Weapons, etc
- Image Presentation: B/W, Pseudo Color, Image super enhancement

D. Public Address System

It is a Centralized amplifier based system that has been designed to provide voice paging & to broadcast Alarm tone during emergencies. The system can transmit alarm tone & routine voice messages, from Central location, to selected areas of facility, in a reliable & same manner, by the use of loud speakers.

The entire operational area / facility can be divided into one or more zones, which can be accessed independently either for announcements or for alarm broadcasting

2.1. Detailed Scope of Work

The detailed scope of work would involve execution of the following:

2.1.1. Design/ Supply / Install / Commission equipment :

Bidder is required to Design/Supply / Install / Commission all the equipments, as per the specifications mentioned in the Bid document. Installation shall include all aspects necessary to make the cameras and recording equipments and all associated surveillance system operational. This includes Designing, supply and installation of Network equipments for connecting the equipments from the switch to the recording and archiving equipment, installing the software, connecting the recording equipment to the remote file server and testing the system for functionality. The bidder will carry



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out programming for the system to set up parameters that will provide a fully functional system. The works are to be completed on turnkey basis. All goods or materials shall be supplied strictly in accordance with the specifications, drawings, datasheets, other attachments and conditions stated in the Order / LOI. All materials supplied by the Vendor shall be guaranteed to be of the best quality of their respective kinds and shall be free from design fault, workmanship and materials. The scope is deemed to include all components, accessories and equipment required to implement a fully functional CCTV system regardless of whether they are explicitly mentioned or not.

- a) System shall use video signals from various types of indoor/outdoor IP colour cameras installed at different locations, process them for viewing on workstations/monitors at Central Control Room/local control rooms and simultaneously record all the cameras after compression using H.264 / MPEG 4 or better standard. Joystick or Mouse-Keyboard controllers shall be used for Pan, Tilt, Zoom, and other functions of desired cameras.
- b) Central Server shall offer both video stream management and video stream storage management. Recording frame rate & resolution in respect of individual channel shall be programmable
- c) System should ensure that once recorded, the video cannot be altered, ensuring the audit trail is intact for evidential purposes.
- d) System shall provide sufficient storage of all the camera recordings for a period of 30 days or more @ 30/25 FPS, at 4 CIF or better quality using necessary compression techniques for all cameras.
- e) The system shall be programmed such that operator's intervention if required, shall be minimal and the system should provide features like guard tour, present positions. The Server shall allow for recording of events both continuous and motor triggered as per requirements and recording should be able to create evidences and support past event analysis.
- f) The recording resolution and frame rate for each camera shall be user programmable.
- g) The Area under surveillance shall be monitored and controlled from Central/Local Control Room(s) through workstations and Joystick controllers.
- h) Surveillance CCTV System shall operate on 230 V, 50 Hz single-phase power supply. Power for all the equipment will be conditioned using on-line UPS with minimum 4(four) hours back up. If any equipment operates on any voltage other than the supply voltage and supply frequency, necessary conversion/correction device for supply shall be supplied along with the equipment.
- i) All the control equipments eg. Servers, backup device, switches etc. shall be provided in standard Racks.



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- j) All the indoor cameras & control equipment shall be suitable for operation from 10°C - 40°C and relative humidity up to 80 % non-condensing. Cameras & other equipment, meant for outdoor installations, shall be suitable to work from (-)10°C to (+)50°C with RH up to 90% non-condensing. This temperature range may be achieved with or without heater.
- k) The bidder will carry out programming for the system to set up parameters that will provide a fully functional system. The works are to be completed on turnkey basis. All goods or materials shall be supplied strictly in accordance with the specifications, drawings, datasheets, other attachments and conditions stated in the RFP/ Order / LOI. All materials supplied by the Vendor shall be guaranteed to be of the best quality of their respective kinds and shall be free from design fault, workmanship and materials. The scope is deemed to include all components, accessories and equipment required to implement a fully functional surveillance system regardless of whether they are explicitly mentioned or not.
- l) System Requirements
- i. IP Day/Night Colour Camera shall be used for image capture.
 - ii. Indoor/Outdoor cameras shall be either with fixed or varifocal length lens or with Pan/Tilt & Zoom lens as per site requirement. All outdoor Cameras shall be Day/Night cameras.
 - iii. Housing of cameras meant for indoor and outdoor camera housing shall be of IP 66 or better rating. These must be integrated by the camera manufacturer. PTZ Cameras shall be environmental model which includes sun shield, fan and heater and shall be vandal resistant with aluminium construction.
 - iv. System must provide built-in facility of watermarking or Digital certificate to ensure tamperproof recording so that these can be used as evidence at a later date, if so desired. The recording shall support audit trail feature.
 - v. All camera recordings shall have Camera ID & location/area of recording as well as date/time stamp. Camera ID, Location/Area of recording & date/time shall be programmable by the system administrator with User ID & Password.
 - vi. Facility of camera recording in real-time mode (30/25 FPS)/15/12.5/10 or lower FPS as well as in any desired combination must be available in the system.
 - vii. Facility of Camera recording in CIF, 2CIF, 4 CIF as well as in any combination i.e. any camera can be recorded in any quality - Selective or Group of cameras must be available in the system.
 - viii. System to have facility of additional camera installation beyond the originally planned capacity and shall be expandable. It shall be possible to view, manage and record all cameras simultaneously.
 - ix. In order to optimize the memory, while recording, video shall be compressed using H.264/MPEG-4 or better standard and streamed over the IP network. Once on the network, video can be viewed on a Control room workstation and shall be recorded on CENTRAL SERVER and shall be backed up on NAS/RAID Backup device.
 - x. System shall be triplex i.e. it should provide facility of Viewing, Recording & Replay simultaneously.



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- x. The offered system shall have facility to export the desired portion of clipping (from a desired date/time to another desired date/time) on CD or DVD. Viewing of this recording shall be possible on standard PC using standard software like windows media player etc.
 - xi. PTZ Cameras shall have 90 or more pre-defined positions, to be selected through suitable input alarm.
 - xii. System shall have provision of WAN connectivity for remote monitoring.
 - xiii. All cameras shall conform to relevant EN, FCC and CE regulations for electromagnetic compatibility (EMC) and UL, EN regulations for product safety.
- m) System Design
- i. Each camera shall be IP based, UTP ready without a need for external encoders.
 - ii. Central/Local Control Room will have workstations along with controllers for Camera operation. For monitoring purposes, LCD monitors shall be setup with suitable mounting arrangements, as per user requirements. Facility for viewing and controlling all the cameras at various other locations, as required, shall be provided.
 - iii. Monitoring at Local control rooms may be restricted to operation of certain cameras only & system administrator should be able to configure the system, accordingly. More than one Local Control rooms may be required in the proposed system with individual configuration.
 - iv. Each control room may have one or more Operators simultaneously using the installed monitors. Operator control on cameras shall be on a static basis or rotary basis depending on the policies to be decided at site.
 - v. There shall be a Control System with Video Control Software to manage all the video surveillance devices.
 - vi. Database Server shall keep track of all configurations & events. This will help in proper System administration & management of redundancies etc.
 - vii. Video stream from individual cameras shall be recorded on respective Central Server &, subsequently, archived to NAS box/RAID backup device. System shall have provision to automatically over-write the new information after the period of 30/31 days & necessary script/algorithm must be available in the Application.
 - viii. It should be possible for all workstations in LAN to view and control the Cameras and retrieve the recorded video images from the CENTRAL SERVER/NAS/Raid backup device seamlessly.
 - ix. All outdoor LAN switches shall be industrial type with POE facility and shall be mounted in suitable outdoor IP66 enclosures.
 - x. For pole mounted cameras (Fixed/PTZ) the LIU, media converters, power supply etc. shall be mounted in vandal resistant/non-rusting IP66 enclosures.
 - xi. It should be possible to control all the PTZ cameras simultaneously from the Central Server without any downgrading of system performance and its ability to view, control and record the images simultaneously.
 - xii. The Server shall provide TCP/IP network connectivity for GUI workstations and it shall show the number of connected workstations, their address and



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workstation name. It shall be able to log all system activity including operator-initiated commands. Such logs shall detail time and date, user names, keyboard address, command and command parameters.

- xiii. If the controlling PC equipped with the remote monitoring software fails, then the camera's encoder's built-in web server should enable any PC on the network to monitor camera position for mission critical application.

n. Video Management Software

- i. The software shall operate on open architecture for integration with perimeter safety, access control, PA and fire / safety systems based on open standards.
- ii. Digital video surveillance control/management software should be capable to display and manage the entire surveillance system. It should be capable of supporting variety of devices such as cameras, PTZ controller, NAS boxes/Raid backup device etc.
- iii. The software should have inbuilt facility to store configuration of all cameras.
- iv. The software should support flexible Windows Split screen display mode or scroll mode on the PC monitor or on preview monitor as per site requirement.
- v. The software should be able to control all cameras i.e. PTZ control, Iris control, auto/manual focus, and color balance of camera, Selection of presets, Video tour selection etc.
- vi. The video management software is required to generate reports of stored device configuration. The control software is required to provide alarm and alarm log. The log shall be able to be achieved, printed and displayed using a device filter, a device group filter and/or a time window.
- vii. The software should have user access authority configurable on per device or per device group basis. The user shall have the facility to request the access of any camera and can control the camera for a reservation period. Control of camera is released after the reservation period.
- viii. The system shall provide User activity log (audit trail) with user id, time stamp, and action performed, etc.
- ix. The administrator should be able to add, edit & delete users with rights. It shall be possible to view ability / rights of each user or the cameras which can be viewed & controlled as per the permission assigned by the administrator.
- x. The users should be on a hierarchical basis as assigned by the administrator. The higher priority person can take control of cameras, which are already being controlled by a lower priority user. There should be minimum 3 hierarchical levels of security for providing user level log in.
- xi. It should have recording modes viz. continuous, manual, or programmed modes on date, time and camera-wise. All modes should be disabled and enabled using scheduled configuration. It should also be possible to search and replay the recorded images on date, time and camera-wise. It should provide onscreen controls for remote operation of PTZ cameras. It should have the facility for scheduled recording. Different recording speeds (fps) and resolution for each recording mode for each camera should be possible.
- xii. It should provide programmable motion detection and recording, to be defined



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- area-wise. System must be able to support video motion detection algorithms to detect and track objects, Learn the scene, Adapt to a changing outdoor environment, Ignore environmental changes including rain, hail, wind, swaying trees and gradual light changes.
- xiii. The settings shall be individually configurable for each alarm and each camera pre-record duration. This shall allow the Central Server to capture video prior to the alarm/event, as well as after the alarm/event. Shall be selectable from a list of values ranging between 0 seconds and 5 minutes.
 - xiv. The software for clients should also be working on a browser based system for remote users. This will allow any authorized user to display the video of any desired camera on the monitor with full PTZ and associated controls.
 - xv. Retrieval: The CCTV application should allow retrieval of data instantaneously or any date / time interval chosen through search functionality of the application software. In case data is older than 30 days and available, the retrieval should be possible. The system should also allow for backup of specific data on any drives like CD/DVD/Blu ray Recorders or any other device in a format which can be replayed through a standard PC based software. Log of any such activity should be maintained by the system which can be audited at a later date.
 - xvi. Backup: Online backup should be maintained to protect against storage failure.
 - xvii. Storage: Data storage should be at a central control room. The capacity of the storage should be equal to 30 days of recoding of all cameras at 25/30 fps/4 CIF. The system should follow FIFO on recording.
 - xviii. Artificial Intelligence: It shall have image tracking facility. If any object is found to be stationary for a pre-defined period the system shall track the event and alert the operator. This facility shall be provided on select cameras as defined by the tenderer. The system must have the features for identifying tail-gating, vehicle detection features, unattended baggage identification, queuing analysis, external text insertion feature and intruder detection.
- o. Central Video Management Software
- i. Software shall provide centralized remote management of an unlimited number of Servers - Live viewing and control, Search and playback, Export video, Export snapshot, User management and Event notification.
 - ii. Configuration Tool shall provide complete remote configuration and health monitoring of Servers - Configure system settings, Save a system configuration, Load system configuration, View live health status information and Log book access.
 - iii. Archive Player shall play back exported video without requiring additional software and shall provide image authentication (watermarking) to rule out video tampering in legal disputes.
 - a. Add, modify or delete Servers from the list.
 - b. Change the name and IP address of a selected unit.
 - c. To automatically detect all enabled Servers on the network.
 - d. To view live video.
 - e. To select different multiscreen displays.
 - f. To assign cameras to cameos.



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- g. To open an instant playback window of the active cameo.
 - h. To take a snapshot of the active cameo.
 - i. To control cameras.
 - j. To monitor unit status and alarm conditions.
 - k. To log in to other units on the network.
 - l. To set up logical groups and views.
- iv. **Other supporting functions shall be:** Playback button, Camera views, Capturing a still image, Instant playback, Selecting units/Servers cameras, groups & views, Drop-down menu, Controlling cameras, Date and time of selected image area, Time line scale, Time line display, Date/time axis, Selecting recordings and Exporting recordings to a PC hard disk.
- v. It shall be used to make a logical set of cameras, or views that can easily be recalled; for example, all cameras on one floor of a building. Groups shall be nested and arranged for immediate recall of a logically named set.
- vi. It shall be possible to assign a single camera picture in a multiscreen display.
- vii. The playback window shall provide a graphical representation of the video recorded on the storage system. Play back this video or make a selection for authenticity checking, archiving, exporting, deletion, or protection.
- viii. It shall set up a search filter for events on the Search tab of the playback window.
- ix. When the search is completed, a list of video clips that match the filter criteria shall be displayed.
- p. Video Software Licence**
- a) The video management system (VMS) specified shall be a centrally managed, scalable client/server based architecture. The VMS shall be designed to use a facility's existing IT infrastructure and require no special cabling.
 - b) The VMS shall provide a built-in command script editor that allows customized command scripts to be written to control virtually all the system functions. Command scripts may be activated by system operators or automatically in response to alarms or system events.
 - c) The VMS shall provide up to 10 different and independent programmable recording schedules. The schedules may be programmed to provide different record frames rates for day, night, and weekend periods as well as special days. Advanced task schedules may also be programmed that could specify allowed log-on times for user groups, when events may trigger alarms, and when data backups should occur.
 - d) Management of digital video having full virtual matrix switching and control capability, audio and data across the IP network.
 - e) Central Server Software Configuration Client software, Operator Client software.
 - f) Add or remove any components and/or controlled functions, in the event when operating requirements changes as system expands.
 - g) Monitors the status of cameras, inputs/outputs and system peripherals and alert the SMS of any faults if due necessary.
 - h) Access rights to specific cameras, priority for pan/tilt/zoom control, rights for



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exporting video, and access rights to system log files. Access to live, playback, audio, PTZ control, preset control, and auxiliary commands be programmable on an individual camera basis.

- i) Dual Authorization Logon function for operator access group.
- j) Generate a report any modification done to the system; what was changed, who & when.
- k) Allow other software applications or system to generate alarms or events in the video management system.
- l) Group of cameras to display in sequencing mode when activated both on the client work station image panes and/or directly on the analogue monitor connected to a video decoder graphical user interface (GUI) that provides an administrator-configured logical tree. The logical tree shall be freely configurable with any tree structure, with nodes consisting of devices such as, cameras, inputs, and relays or folders, maps, sequences, documents, URLs, or command scripts.
- m) The site maps shall be capable of being zoomed and panned to show a desired location simply using a standard PC mouse and there shall be a separate Overview Map that shows the operator the portion of the zoomed site map currently in view.
- n) An area in the center of the image pane shall be used for zoom-in/zoom-out control. Once zoom is initiated, likewise the zoom speed shall increase as the mouse cursor moves further from the center of the image pane.
- o) The software shall have graphically display device status on its icons in the logical tree structure and on site maps. The following status shall be provided:
 - a) Loss of the video signal.
 - b) Network connection loss.
 - c) Video signal too noisy.
 - d) Video signal too bright.
 - e) Video signal too dark.
 - f) Video includes associated audio.
 - g) Open or close status for relay or contact inputs.
- p) It shall have a simple and efficient way to handle any incoming alarms, Alarm activation and notification based on specific time schedule, Alarm videos shall be displayed in a separate Alarm Image Window so that operators do not have to search their display screens to find the video images related to the alarm. The VMS shall support up to 100 alarm priorities settings and wave file per alarm e-mail or SMS message to respective personnel in response to an alarm if necessary.
- q) Displays recorded images on one or multiple image panes. Support pause, play forward, play reverse, single step forward, single step reverse, fast-forward, and fast-reverse.
- r) Support simultaneous time-synchronous playback of up to 32 cameras.
- s) Based on any combination of time/date-range, event type(s), alarm priority, alarm state, and device(s).



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q. Housing for Cameras

- i. The environmental camera housings shall be constructed from die-cast, extruded, sheet aluminium of suitable thickness to provide excellent barrier against outdoor environment, as these cameras need to be mounted close to the sea and will be exposed to corrosive salty atmosphere in addition to rain, wind and sea. The entire housing including the screws shall be of non-rusting construction. It shall provide maximum environmental protection against dust, smog, salt air and humidity. All accessories including the screws shall be of non-rusting material.
- ii. The housing shall be of the same make as that of the camera and suitable for the model numbers offered, as specified by the manufacturer and shall be an integrated unit.
- iii. It shall conform to IP66 or better class of protection.
- iv. The camera mount shall be designed to effortlessly support the weight of the camera and its accessories like housing, pan and tilt, head etc.
- v. The housing shall have weatherproof cable entry glands for easy installation of power and video cables.
- vi. The environmental camera housing / camera manufacturer shall offer the housing with factory installed sunshield, heater and blower and pre-packaged with wall mount.

2.1.2. Maintenance of the System

The Bidder has to ensure Maintenance and uptime of the System for a period of **Three Years (24 Hrs, 7 Days a Week)**. The Maintenance Activity would include the following;

- a) Comprehensive maintenance of the equipments and accessories installed during warranty and post Warranty period, as specified in the bid.
- b) The understanding of the comprehensive maintenance under warranty period is as follows;
 - In case of failure, the Bidder needs to replace or repair the faulty Part /component /device to restore the services at the earliest (details to be listed in the Scope of Indicative work)
 - The cost of the repairing or replacement of faulty part/component/device has to be entirely born by the Bidder.
 - All expenses related to part/component/device, including hiring of specialized technical expertise, in case required, has to be born by the Bidder as part of comprehensive maintenance.
 - The Bidder also need to make alternate arrangement in case of major failure happens in the network, due to which services may be effected for longer period.
 - After repairing or replacement of the art/component/device, the Bidder needs to put the same into operation.
- c) The bidder should pro-actively monitor the health of equipments installed. A report to this effect should be submitted on a monthly basis



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- d) It is very necessary to manage and maintain necessary logs / records of System running in the Jail.
- e) The bidder would manage all the operating System for necessary optimization and trouble-shooting.
- f) The bidder will have to prepare & provide the technical documentation regarding configuration process of various equipments installed.
- g) The bidder needs to submit the monthly report to GEL, which constitutes the action taken on various issues handled during that month.
- h) The bidder also needs to submit the report on best security practices & further improvement & enhancement of the system installed.
- i) In case of any major changes taken place at the setup and at configuration level in system installed, the necessary document update in form of Upgrade should be submitted to GEL from time-to-time.
- j) The bidder has to ensure that a robust backup and archival and retrieval procedure is put in place and maintained, so as to ensure that the required data feeds are available to the authorities as per requirement.

2.1.3. Manpower support for Operation Maintenance and Management of proposed system.

- a) The bidder will have to deploy Qualified and Experienced Engineer's team to ensure required technical support as per the Team Profile Format specified.
- b) The bidder has to deploy a Team of Engineers for Operation, Maintenance and Management of the equipments /system installed (24 x 7). GEL reserves the right to instruct bidder to increase manpower requirement anytime. It is mandatory for the Bidder to provide specialist service staff for all the critical items such as Servers, Storage, Network in the tender.
- c) The bidder needs to co-ordinate with other agencies, in case problem relates to their Services or products, if situation demand.

2.1.4. Integration with PRISMS:

- a) The bidder should integrate surveillance system with existing Prison Management System (PRISMS) at Colvale Jail.
- b) PRISMS is a web based Prisons Management Software with point & click access to all functions of the Jail. The extremely high level of system wide integration increases efficiency by eliminating redundant data entry.
- c) The software serves as a one point information outlet for jails. It includes all the functions & services of the departments with detailed description of status & statistics of inmates under various categories.

2.1.5. Capacity Building of the Jail Staff:

Onsite training is to be given by the Bidder on operation and troubleshooting of all items of the system during the time of installation. Training schedules have to be planned and all training reports have to be documented. The complete staff of the Jail has to be trained for the operations of the system.



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3. Specifications And Deliverables:

Bidder is required to Supply / Install / Commission equipment, as per the minimum hardware list mentioned in enclosed Annexure I and specifications mentioned in enclosed Annexure II.



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4. Terms and Conditions

1. All materials supplied by the Vendor shall be guaranteed to be of the best quality of their respective kinds and shall be free from faulty design, workmanship and materials. In event of default originating with the design, material arising at any time during the Warranty period of 12 months from the date of Installation, the Vendor shall replace as may be necessary to ensure the material should function in accordance with the specification and to fulfill the foregoing Warranty without any delay. The Vendor shall warrant that every work executed under the contract shall be free from all defects and faults in material, workmanship etc. for a period of 12 (Twelve) months for from the date of Acceptance test or 15 (Fifteen) months from the date of supply of goods, whichever is earlier.
2. In the event that the materials supplied do not meet the specifications and/or are not in accordance with the drawings data in terms of this order, and rectification is required at site, GEL shall notify the Vendor giving full details of difference. The Vendor shall attend the site within seven (7) days of receipt of such notice to meet and agree with representatives of GEL, the action required to correct the deficiency.
3. The Bidder will provide three years onsite warranty without which their offer will not be accepted.
4. The Bidder will have to carry out reinstallation of the equipments 'Free of Cost', if required.
5. The Bidder will implement the project strictly as per the plan approved by GEL. The Bidder shall install and implement the proposed system at such locations as may be jointly selected by GEL and Bidder, within a period of 30 days from the date of issuing of LOI and complete their provisional Acceptance Test to the satisfaction of GEL Authority within 60 days from the date of the Issue of LOI. This period may be extended depending upon the fulfillment of Conditions Precedent.
6. Jail Superintendent will be In-Charge of the Project and all inspection, installation, commissioning and acceptance of work will be undertaken by him. All Invoices, Vouchers, Bills for supplied goods and services by the Bidder under the scope of the work will be verified measured and accepted by the In-Charge for release of payment.
7. As part of implementation process the Bidder shall provide details of equipment that will be incorporated in the proposed system, material and manpower as required. The location for storing spare parts and quantity there on should also be clearly indicated.
8. The Bidder shall provide the necessary technical support, Standard Operating Procedure (SOP) and other information to GEL and its user organizations in implementing the proposed system applications. GEL at any time during the currency of the Agreement should have access to the proposed sites.



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9. The Bidder shall provide training to GEL at no extra cost. The training schedule, content and modalities will be defined jointly by both the parties.
10. The Bidder shall not disturb or damage the existing Jail infrastructure. If in case any damage is done, the same shall be corrected with no extra cost. The Bidder shall also be responsible for paying penalty, as imposed by the service owner to which the damage is incurred.
11. In case of the material/solution supplied and installed is rejected owing to its non-conformity to the specification or due to the poor quality of workmanship, the same shall be replaced within three working days.
12. Bidder shall treat all matters connected with the contract strictly confidential and shall undertake not to disclose, in any way, information, documents, technical data, experience and know how, without prior written permission from GEL.
13. Any damage caused to the property of Government of Goa while executing the job shall be solely Bidder's responsibility. In case any damage to the property is caused, the same will be recovered from the Bidders. No any extra cost shall be paid to the Bidder for such reasons.
14. The Bidder shall have to furnish the documentation of the work undertaken in consultation with Engineer-in-charge/GEL representative 3 sets of such documentation should be provided before the issue of completion certificate.
15. In the event of the delay in delivery of contracted services or services are not satisfactory GEL may procure goods from elsewhere as prescribed in bid and Bidder shall be liable without limitations for the difference between the cost of such substitution and the price set forth in the contract for the goods involved i.e. at the risk and cost of the Bidder.
16. GEL reserves the right to visit any working site of the Bidder with prior intimation. The concerned Bidder has to make necessary arrangement for the same.
17. The Bidder shall be responsible and take required insurance for all of their representations working on the site at their own cost. GEL will not be responsible for any loss or damage to any of the representatives of the Bidder during the said contract.
18. All work shall be performed and executed by the Bidder in strict conformity with the project in-charge / representative from GEL and any relative instruction issued to the Bidder by the project in-charge time to time.
19. GEL shall associate few engineers / technicians during installation and commissioning work. The Bidder shall ensure proper participation of the nominated personnel from GEL and train them on the system related. Also Bidder shall organize the systematic training of selected personnel from GEL on the operation /



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management of equipments.

20. Turnkey Project Basis: - The Bidder shall act as single Bidder to organize and manage the entire project – including design, supply, installation and commissioning of all required hardware, software, networking, accessory items and local wiring for electrical power supply etc. at strategic locations. The Bidder shall be in a position to test, demonstrate and certify the basic requirements in accordance with the contract.
21. The Bidder shall be responsible for all technical and commercial transaction and liaison with concerned governmental and regulatory agencies (Like PWD, NIC, DOIT, GBBN Provider, Police)if any. The Bidder shall provide technical services to obtain all statutory clearances.
22. Earthing Arrangement: - The Bidder shall provide wiring and pit specifications for earthing.
23. Warranty and Post-Warranty Support: - The Bidder shall be solely responsible for the warranty support for three years and also for the post warranty support and as required by the Jail.
24. Documents: - The Bidder shall provide 1 set of documents and manuals (hard copy, soft copy with each item of the unit supplied).
25. Training: - Onsite training is to be given by the Bidder on operation and troubleshooting of all items of the system during the time of installation.



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5. Penalty:

The time schedule for the entire project and for the major activities will be agreed upon for the project between the GEL and the Vendor. In case of any delay solely on account of Vendors fault, a penalty of 5% will be imposed for delay of every three (3) weeks' or part thereof, subject to a maximum of Eight (8) weeks' delay from the scheduled target date. Beyond a delay of Eight (8) weeks, State reserves the right to either terminate the contract or ask the Vendor to complete the pending job without any extra fee.

- In the event of GEL deciding to continue the contract, the penalty so computed based on the number of weeks' of actual delay will be deducted from the balance fee payable to the Vendor.
- In the event of GEL deciding to terminate the project, the Vendor will have to return the mobilization advance (if applicable) along with an interest of 9% p.a. plus the penalty so computed based on the number of weeks' of actual delay, failing which Goa Electronics Limited reserves the right to invoke bank guarantee submitted by the Vendor and initiate action to recover the balance amount if any

In case of delays in the project not attributable to the Vendor, State may take final decision on the additional costs for the time overrun on a monthly basis (computation will be as per the quarterly payment). In case of inordinate delays beyond 3 months from the date of issue of the work order, not attributable to the Vendor, the Vendor would be permitted to hand over the due project deliverables at that point of time to GEL. and withdraw from the project after receiving the fees based on completed milestones. Further, in case of inordinate delay beyond 3 months of the allotted time schedule of the project, if State feels that the vendor may not be able to complete the project, then GEL may terminate the Vendor from the respective project. GEL shall have a right to prematurely close this Project without assigning any reason. In case of premature closure of the project by GEL., it shall reimburse to the Vendor the fee based on the milestone percentages as per the Work Order and or milestone for which only part of the work has been completed by the Vendor at the time of foreclosure, fee based on the proportion of the effort completed by the Vendor, shall be paid.



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6. GENERAL BIDDING AND COMMERCIAL TERMS:

1. Tender documents should be downloaded from website www.goaelectronics.co.in or <http://www.etender.goa.gov.in> as per the dates mentioned in the Tender Document.
2. The vendor should use the electronic mode of tendering using the website www.etender.goa.gov.in to submit his best possible quotes for the items given therein.
3. Each bidder shall submit only one proposal. The bidder who submits or participates in more than one proposal shall be disqualified
4. Late submission will not be entertained and will not be permitted by the e-Tendering System
5. Last minute submission should be avoided. As such GEL will not be responsible for any failures in submission of bids.
6. The bidder should abide by the terms and conditions specified in the tender document. Incomplete or conditional bids will be summarily rejected. Modification or withdrawal of offers will not be allowed after submission. If the offer is withdrawn before validity period, the EMD will stand forfeited.
7. The bid is liable to disqualify if not submitted in accordance with this tender and during the validity of the bid or its extended period, if any, the bidder increases his quoted prices without the consent of GEL to change the bid quote.
8. The offers received should be valid for a period of twelve months from the date of release of purchase order & shall be extended to another eighteen months if required.
9. The vendors are expected to examine all instructions, forms, terms and other information in the tender documents.
10. Bidders are advised to exercise greatest care in entering the pricing figures. No excuse that mistakes have been made or requests for prices to be corrected will be entertained after the tenders are opened.
11. Tender shall be uploaded separately through the e-Tendering System under Two Bid System viz Technical bid & Financial bid, as per the prescribed formats only. Failure to comply with these requirements may result in the bid being rejected.
12. The tender fees shall not be refunded even if the bid is not submitted.
13. The tender should be uploaded by **22nd July 2013 upto 2.30 PM**. Along with the scanned copy of the DDs. The tenders without the mentioned DD's will not be entertained and shall be rejected straightway.
14. To assist in the scrutiny, evaluation and comparison of offers, GEL may, at their discretion, ask some or all tenderers for clarification of their offer. The request for such clarifications and the response will necessarily be in writing.
15. The Technical Bid and the Financial bid as per Annexure –A and Annexure-B to be strictly uploaded to the e-tendering website mentioned. Additionally, a hard copy of the Technical Bid along with the Three DD's mentioned in the Technical Bid Format (Annexure-A) needs to be submitted to the above mentioned address. The hardcopy



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of the technical bid along with the DD's shall be placed in single envelope superscripted as "Technical Bid and DD's towards Tender No GEL/PRI/SUR-02 for "SUPPLY, INSTALLATION AND COMMISSIONING OF SURVEILLANCE SYSTEM FOR COLVALE JAIL" and the due date of opening of the bid. **Hard copy of the Financial Bid is not to be submitted. Financial bid to be only uploaded to the website mentioned.**

16. If any vendor does not qualify in technical evaluation, the Commercial Proposal shall not be opened.
17. The price should not be mentioned in the Technical bid in any form or manner. In case the prices are mentioned in the technical bid, the offer will be liable for rejection.
18. The technical bid and financial bid will be opened on two different dates. The technical bid will be opened on due date as mentioned in the tender document.
19. The financial bid will be opened in respect of only those vendors whose all requisite documents are found in order and whose items qualify technically. The price comparisons in deciding lowest quotation for the **complete value of all the items** shall be made only over the rates quoted inclusive of all taxes and with 3 years comprehensive on-site warranty support. The lowest evaluated valid quotation will be selected.
20. Hard copy of the Technical Bid to be scanned and uploaded to the e-tendering website as-well.
21. The successful vendor shall extend minimum three years onsite warranty on all supplied hardware.
22. The vendor shall submit bank guarantee equal to 10% of the total cost of surveillance system. GEL shall be at liberty to enforce such bank guarantee in case the vendor fails to provide warranty of supplied hardware during warranty period or any other defaults in the execution of the order.
23. The successful vendor shall supply the prescribed hardware within 30 days from the issue of supply letter.
24. The EMD of successful vendor will be converted into security till the complete supply is made and will be refunded without any interest. The EMD of unsuccessful vendors will be returned after completion of tender process.
25. The payment will be released after 30 days on installation of complete supply of material based on duly certified installation reports from GEL.
26. If the tenders opening day happens to be holiday, the same will be accepted and opened on the next working day.
27. The make / brand of the quoted hardware must be mentioned.
28. The person signing the tender form (or any other document forming part of the contract) on behalf of another, shall be deemed to warranty that he has the authority to sign such documents and if, on inquiry it appears that the person so signing had no authority to do so, the purchaser, may without prejudice to other civil and criminal remedies against the contract, holds the signatory liable for all



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- costs and damages and forfeiture of the earnest money.
29. The attempt on the part of the vendor, to negotiate directly or indirectly, with the authority to whom the tender is being submitted or with the tender accepting authority, before the finalization of tenders, will make vendor liable for exclusion from the consideration of his/her tender.
 30. The Bid is liable to be disqualified if the Bidder fails to enter into a contract within 30 days of the date of notice of the award of tender or within such extended period, as may be specified by an authorized representative.
 31. GEL reserves the right to reject all or any tender without assigning any reason.
 32. The approximate quantity to be purchased along with minimum hardware requirement / specifications required have been mentioned at Annexure I and Annexure II. However, GEL reserves the right to modify the quantity as per requirements.
 33. The Pre-bid meeting scheduled on 17th July at 3:30 P.M. **is mandatory for all the bidders participating in the tender.** The meeting will be chaired by IG Prisons of Goa. Absenteeism from the meeting may result in disqualification of the Bidder.



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ANNEXUR- A : TECHNICAL BID FORMAT

The technical bid should contain the following documents which must be attached with the technical bid:-

1. The vendor needs to submit the following payments in the form of Demand Draft from any Nationalized/scheduled bank, payable at Panaji, which must be scanned and uploaded to the e-tendering website within the period of tender application submission and the originals to be deposited in the office of the Goa Electronics, Panaji on or before the tender submission date.
 - a. A Demand Draft of Rs. 5,00,000/- (Rupees Five Lakh only) drawn on any Nationalized / Scheduled Bank in favour of Goa Electronics Limited payable at Panaji , Goa towards **Earnest Money Deposit (EMD)**.
 - b. A Demand Draft of Rs. 10,000/- (Rupees Ten Thousand only) drawn on any Nationalized / Scheduled Bank in favour of Goa Electronics Limited payable at Panaji , Goa towards **Cost of tender document**.
 - c. A Demand Draft for Rs.1500/- (Rupees One Thousand Five Hundred only) drawn on any Nationalized / Scheduled Bank in favour of Infotech Corporation of Goa Ltd. payable at Panaji – Goa towards **Cost of tender processing fee**.

All the demand drafts shall be scanned and uploaded to the e-tendering website within the period of tender application submission.

All the three demand drafts along with the Hard Copy of the **Technical Bid Only** (Hard copy of the Financial Bid is not to be submitted. Financial bid to be uploaded only to the website mentioned) shall be placed in single envelope superscripted as “**Technical Bid and DD’s towards Tender No GEL/PRI/SUR-02 for “SUPPLY, INSTALLATION AND COMMISSIONING OF SURVEILLANCE SYSTEM FOR COLVALE JAIL”** and the due date of opening of the bid mentioned and to be deposited in the office of the Goa Electronics, Panaji on or before the tender submission date.

2. The person signing the tender shall be deemed that he/she has the authority to sign the tender on behalf of the said company. Letter of Authority to be attached.



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3. Prequalification Criteria

The invitation for bids is open to all entities registered in India who fulfill prequalification criteria as specified below

- a. Bidders declared by **GEL** to be ineligible to participate for unsatisfactory past performance, corrupt, fraudulent or any other unethical business practices shall not be eligible.
- b. Bidders declared blacklisted/ ineligible to participate for bidding during last five years by any State/ Central Government or PSU due to corrupt, fraudulent or any other unethical business practices shall not be eligible.
- c. Breach of general or specific instructions for bidding, general and special conditions of contract with State of Goa or any of its other client organizations during the past 5 years may make a firm ineligible to participate in bidding process
- d. GEL reserves its right to subject the bidders to security clearances as it deems necessary.
- e. The participation is restricted to companies registered in India. The Bidder for the state implementation should satisfy all of the criteria below:

Sr. No	The Bidder shall satisfy all of the criteria below	Supporting Document Required
a.	The Bidder should be an Agency with a registered office and operations in India. The company should be operational in India for at least the last three financial years as on 31st March 2013. The Bidder have to be a single legal entity.	Certificate of Incorporation/ Registration.
b.	The Bidder must have an office in Goa, or an undertaking needs to be submitted that the same would be set up within 1 month of award of contract.	Rent Receipt/ Agreement copy/ Electricity Bill or undertaking.
c.	The bidder must be a single legal entity registered in India and must be a profit making firm having an annual turnover of not less than Rs. 25 crores in each of the last three financial years not before 2009-10 and should be a profitable firm for last three financial years.	Audited/Certified Annual Financial Statements in the form of balance sheet and P & L account..



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d.	The bidder must have successfully supplied, installed and commissioned atleast 3 Surveillance Projects with atleast one comprehensive CCTV based surveillance which may include associated system such as hand held & metal detectors, X – ray & screening system and public address system in any prison in India amounting to total order of not less than 80% of the total estimated value in the last 3 years.	Bidder must provide supporting documentary proof in form of work orders confirming year and area of activity, value of services delivered for that project, Completion / Partial Completion Certificate from Client confirming year and value of Bidder's scope of work completed by the Bidder and its value along with Reference details of the Client .
g.	The Bidder must have been assessed and must possess a valid ISO 9001: 2008 or above certificate as on the date submission of bids	ISO 9001: 2008 or above compliance certificates
h.	The bidder should not have any of their contracts terminated or blacklisted in the last three years by any State or Central Government / PSU/ BFSI/ Private Sector	(Affidavit duly notarized to be submitted).
i.	The Bidder should have a minimum of 100 employees on payroll. Additionally the bidder should have minimum 20 employees in the Goa Office or an undertaking needs to be submitted that the same would be set up within 1 month of award of contract.	Undertaking from the Bidder.



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3.1 TECHNICAL EVALUATION SCORING MATRIX

Sr. No	Evaluation Criteria	Point System	Max Score	Supporting Documents
1	Past Experiences and Organizational Strength			
A.	Number of years of experience executing Surveillance Projects	1 year to 3years ---- 10 Points > 3 years -----15 Points	15	Bidder must provide supporting documentary proof in form of work orders confirming year and area of activity, value of services delivered for the projects depicting the period
B.	Experience in terms of number of years dealing with Government of Goa for hardware Supply / maintenance/ Installation	One project of 80% of the total estimated value ----- 20 Two projects of 50% of the total estimated value ----- 10	20	Bidder must provide supporting documentary proof in form of work orders confirming year and area of activity, value of services delivered for the projects depicting the period
C.	Financial strength	The Bidder's Annual Turn Over in the last three financial years shall be evaluated on the following basis:- Annual turnover for each of last three financial years but not before 2009-10. > = 25 Crores and < 30 Crores --- 3 Points per year >= 30 Crores ----- 5 points per year	15	Balance sheet and profit and loss account
D.	Qualifications and experience of the resources proposed.	All the key profiles should fulfil the mandatory qualification and experience requirements as mentioned in the clause 3.3. In addition to the mandatory qualification all the key profiles will be evaluated as per the	10	Each resource qualification and experience as per clause 3.3



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		<p>following. The Minimum resources required to be deployed are as follows Project Manager –1 No. Technical Support Engineers – 2 No.</p> <p>Note : The above resource requirement is indicative and GEL may ask for additional resource deployment depending on the operational requirements.</p>		
		<p>No of Resources Provided =No of resources mentioned in the indicative list -- ----- 5 points</p> <p>No of Resources Provided > 25% of No of resources mentioned in the indicative list + No of resources mentioned in the indicative list ----- 10 points</p>		
E	Experience in terms of number of projects executed in CCTV based surveillance system which may include hand held & metal detectors, X – ray & screening system and public address system.	<p><=3 Projects ---- 10 Points</p> <p>> 3 projects -----15 Points</p>	15	
F	Product Demo		5	Demo on the camera recording quality and overall system functionality
2	Approach and Methodology			



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A	Project Understanding		5	<p>A write-up addressing each work area in sufficient detail to demonstrate a clear understanding of the statement of work, including operations and maintenance phase. The following parameters will be examined for evaluation:-</p> <ul style="list-style-type: none">· Clarity and depth of understanding of the project's objectives, scope of work· Requirements and goal set forth in the scope of work
B	Handholding approach and methodology		5	<p>A write-up on Proposed methodology for Handholding. Following parameters shall be considered for evaluation:-</p> <ul style="list-style-type: none">· Schedule· Delivery Strategy· Personnel Deployment Plan
C	Solution Design and Architecture		5	<p>A write-up detailing out the solution offered on the following parameters:-</p> <ul style="list-style-type: none">· Solution meeting the business requirements· Solution meeting the technical requirements· Network Architecture· Security Architecture· Integration Architecture· Clarity on solution offered· Availability and Scalability of solution· Any improvement or innovation in the proposed solution
D	Work Plan		5	<p>A detailed Project Plan with following</p>



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				parameters:- <ul style="list-style-type: none">· Adherence to the proposed timelines· Activities, Sequencing and dependencies among activities· Application Deployment Plan· Risk Management Plan· Communication Plan· Proposed Monitoring and Assurance· Quality Assurance and Escalation Mechanism
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3.2 TECHNICAL PROPOSAL FORMAT

The technical proposal should consist of all documents mentioned in the column 5 of the technical evaluation scoring matrix and in the same sequence. In addition the technical proposal should also include the following:-

- a. Should contain all the mandatory undertakings
- b. The technical proposal should address all the areas/ sections as specified by the RFP and should contain a detailed description of how the bidder will provide the required services outlined in this RFP. The technical proposal must not contain any pricing information. In submitting additional information, please mark it as “supplementary” to the required response. If the bidder wishes to propose additional services (or enhanced levels of services) beyond the scope of this RFP, the proposal must include a description of such services as a separate and distinct attachment to the proposal
- c. GEL is also open to any suggestions that the bidder may want to render with respect to the approach adopted for the assignment in the light of their expertise or experience from similar assignments. However, this should not lead to the submission date being missed or extended.



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3.3 MANDATORY QUALIFICATION CRITERIA FOR KEY PROFILES

For each profile bidder shall comply with the minimum qualification requirement as mentioned in the table below. Noncompliance with any of the mentioned requirement may lead to disqualification of the bidder from the bidding process.

S. No.	Key Profile	Minimum Requirement
1	Project Manager	<ul style="list-style-type: none">• The person suggested should be a BE with additional technical qualification like CCNA, MCSC or equivalent recognized certification.• The person should have an overall experience of 10 years and above working in projects related to implementation of IT with an experience of 5 years or more in at least two software implementation projects in project management role leading a team of 10 or more members.• Should have overall experience of 2 or more years in Surveillance management projects
2	Technical Support Engineer	<ul style="list-style-type: none">• Should have a minimum technical educational qualification of Diploma in computer hardware or graduate with Certificate in Computer Hardware and networking or equivalent.• Should have an overall experience of more than a year or above in maintenance and operations of hardware.



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ANNEXURE B- Part I: Financial Bid Format

Financial Bid Terms and Conditions

1. Please Mention Rates Inclusive of all taxes and other levies AND 3 years comprehensive maintenance.
2. Financial proposals of all the firms that meet the technical qualifications would be opened.
3. Agency achieving the highest combined technical and financial score based on QCBS of **70:30** would be invited for negotiations for awarding the contract.
4. The financial bid evaluation will be based on the following criteria:
 - i. The lowest financial proposal (Fm) after taking into account the out-of pocket expenses and existing taxes will be given a financial score (Sf) of 100.
 - ii. The financial scores of all the other proposals will be determined by $Sf = 100 * Fm/F$ (F = value of financial proposal)
 - iii. Proposals will be finally ranked according to their combined technical (St) and financial (Sf) scores using a weight of 70% for Technical proposal and 30% for Financial proposal.
 - iv. The overall score (S) will be computed as follows:
$$S = St (0.7) + Sf (0.3)$$
 - v. In case of a tie, agency with the higher technical score will be invited for negotiations.
5. For Networking accessories like fibre optic, Cat 6 cables etc Quantity shall be calculated on actual basis & billing will be done on the quantity consumed.
6. Please Mention Rates Inclusive of all taxes and other levies AND 3 years comprehensive maintenance.

	Bill of Material			
Sr. No.	Product Description	Quantity	Rate	Amount
A	IP Based CCTV			
1	IP Based IR Camera with IR Distance of 30 Mtrs	20		
2	30X IP Based Speed Dome Camera	4		
3	Video Management Software	1		
4	Server for IP Camera with Analytical Software	1		
5	Server Operating System	1		
6	Storage for Online Data	1		
7	Desktops or Clients	3		
8	Tape Drive	1		



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9	Network Equipments - Switches	2		
10	Racks & Other Accessories	2		
11	Camera mounting devices	24		
12	32" LCD TV	4		
13	UPS 3 KVA with 30 Minutes Back up	2		
14	CAT 6 Cable, Fiber Cables & other accessories	Total Qty of Annexure B-Part II		
B	Hand held & Metal Detectors			
1	Hand Held Metal Detectors	6		
2	Metal Detectors – Door Frame	2		
3	Under Vehicle Scanning Mirror	4		
C	X-Ray Machines			
1	X-ray System	1		
2	Installation & Commissioning			
D	Public Address System			
1	Public Address System	1		
2	Other Accessories & wiring			
E	Total integration charges			
1	Integration of independent Hardware & Software Systems & Interoperability	1		
2	Testing, Commissioning Charges	1		
3	Training of 4 Persons for 1 week	1		
F	Onsite Support			
1	Project Manager (SLA With 24 x 7 x 3 YEARS)			
2	Technical Support Engineer (SLA With 24 x 7 x 3 YEARS)			
Total Amount including Taxes and 3 years warranty and including complete scope of work mentioned in the tender				



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ANNEXURE B :Part-II : Financial Bid for CAT 6 Cable, Fiber Cables & other accessories

SI No	CAT 6 Cable, Fiber Cables & other accessories	Unit	Quantity	Rate	Amount
1	Single Mode Fiber Optic Cable	Meter	125		
2	Single Mode Fiber Optic Pigtail	No	6		
3	Single Mode Fiber Optic Coupler	No	6		
4	Single Mode Fiber Optic Patch Cord	No	2		
5	Light Interface Unit (LIU)	No	2		
6	Cat6 UTP Cable (R Meters)	Meter	5		
7	Information Outlet	Meter	5		
8	7 Feet Patch Chord	No	8		
9	3 Feet Patch Chord	No	8		
10	24 Port Patch Panel	No	1		
11	2" Casing Capping (Meters)	Meter	0		
12	2" C Class GI Pipe (Meters)	Meter	0		
13	1" Casing Capping (Meters)	Meter	100		
14	1" C Class GI Pipe (Meters)	Meter	375		
15	9U Rack	No	1		
16	24 port Manageable Switch + 4 SFP	No	1		
17	LAYING OF CABLE CAT 6 NETWORK	Meter	500		
18	TERMINATION IOS & SURFACE BOX	No	8		
19	TERMINATION PATCH PANEL 24 PORT	No	1		
20	INSTALLATION RACK	No	1		
21	LYING OF FIBER	Meter	125		
22	INSTALLATION LIU	No	2		
23	TERMINATION OF FIBER	No	6		
24	FIBER TESTING	No	6		
25	DIGGING HARD SOIL & REFILLING	No	25		
26	DIGGING CONCRETE SOIL & REFILLING	No	25		

Date: _____

Seal & Signature of the Bidder

Place: _____



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ANNEXURE I – Part-I Minimum Hardware Requirement List

	Bill of Material	
Sr. No.	Product Description	Quantity
A	IP Based CCTV	
1	IP Based IR Camera with IR Distance of 30 Mtrs	20
2	30X IP Based Speed Dome Camera	4
3	Video Management Software	1
4	Server for IP Camera with Analytical Software	1
5	Server Operating System	1
6	Storage for Online Data	1
7	Desktops or Clients	3
8	Tape Drive	1
9	Network Equipments - Switches	2
10	Racks & Other Accessories	2
11	Camera mounting devices	24
12	32" LCD TV	4
13	UPS 3 KVA with 30 Minutes Back up	2
14	CAT 6 Cable, Fiber Cables & other accessories	
B	Hand held & Metal Detectors	
1	Hand Held Metal Detectors	6
2	Metal Detectors – Door Frame	2
3	Under Vehicle Scanning Mirror	4
C	X-Ray Machines	
1	X-ray System	1
2	Installation & Commissioning	
D	Public Address System	
1	Public Address System	1
2	Other Accessories & wiring	
E	Total integration charges	
1	Integration of independent Hardware & Software Systems & Interoperability	1
2	Testing, Commissioning Charges	1
3	Training of 4 Persons for 1 week	1



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ANNEXURE I – Part-II- Minimum Hardware Requirement List

SI No	CAT 6 Cable, Fiber Cables & other accessories	Unit	Quantity
1	Single Mode Fiber Optic Cable	Meter	125
2	Single Mode Fiber Optic Pigtail	No	6
3	Single Mode Fiber Optic Coupler	No	6
4	Single Mode Fiber Optic Patch Cord	No	2
5	Light Interface Unit (LIU)	No	2
6	Cat6 UTP Cable (R Meters)	Meter	5
7	Information Outlet	Meter	5
8	7 Feet Patch Chord	No	8
9	3 Feet Patch Chord	No	8
10	24 Port Patch Panel	No	1
11	2" Casing Capping (Meters)	Meter	0
12	2" C Class GI Pipe (Meters)	Meter	0
13	1" Casing Capping (Meters)	Meter	100
14	1" C Class GI Pipe (Meters)	Meter	375
15	9U Rack	No	1
16	24 port Manageable Switch + 4 SFP	No	1
17	LAYING OF CABLE CAT 6 NETWORK	Meter	500
18	TERMINATION IOS & SURFACE BOX	No	8
19	TERMINATION PATCH PANEL 24 PORT	No	1
20	INSTALLATION RACK	No	1
21	LYING OF FIBER	Meter	125
22	INSTALLATION LIU	No	2
23	TERMINATION OF FIBER	No	6
24	FIBER TESTING	No	6
25	DIGGING HARD SOIL & REFILLING	No	25
26	DIGGING CONCRETE SOIL & REFILLING	No	25



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ANNEXURE II - Specifications

Camera & Software Specifications

Item	Specification	Remarks
IP Fixed Outdoor Camera		
Image Device	1/3" Micron Progressive Scan CMOS	
Minimum Illumination		
Color	0.5 Lux	
B/W	0 Lux (LED on)	
IR Sensitivity	850 nM	
IR LED	IR LED x 35 pcs	
CDS Sensor	Yes, with automatic switch over	
IR Distance	30 M	
Lens		
Lens	Varifocal 3.6 ~16mm	
Viewing Angle	100° (D)	
	75.4° (H)	
	54.9° (V)	
Synchronization		
Sync. System	Internal	
Day/Night Functions		
Mechanical IR Cut Filter	Yes	
Functions		
Video Setting	Brightness, Contrast, Sharpness, Night Mode	
Motion Detection	Yes (3 Windows)	
Electronic Shutter	Auto	
Flickerless	Yes	
BLC	Yes (ON/OFF)	
AGC	Auto	
White Balance	Auto	
S/N Ratio	>42 dB	
Video Quality		
Network Compression	H.264 / JPEG /MPEG4 Compression Format	
Picture Resolution	1600x1200, 1280x1024, 1280x960, 1280x720, 800x600, 640x480, 320x240, 176x 120	
Bit Rate	VBR, CBR	
Image Frame Rate	1600x1200@15FPS	
	1280x1024@22FPS	
	1280x960@25FPS	



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	1280X720@30fps	
Video Streaming		
Streaming 1	H.264 or MJPEG	
Streaming 2	H.264 or MJPEG	
Streaming 3	MPEG4	
Audio Input		
Compression	G.711	
Audio Line Input	1	
Audio Output		
Compression	G.711	
Audio Line Output	1	
External I/O		
Reset Button	Yes	
LED	Network LED	
IO	1 relay in/1 relay out	
IP66 Rated	Weatherproof casing with IP66 standard	
Network		
Ethernet	Ethernet (10/100 Base-T), RJ45 Connector	
Protocol	HTTP,TCP/IP, UDP,SMTP,FTP, PPPoE,DHCP, DNS, NTP,3GPP,UPnP,RTP,RTSP,ICMP,ARP	
Software		
Web Browser	Microsoft Internet Explorer 6.0 or above	
SDK	Yes	
Security	Password Protection: Configured by the Administrator	
Operating Temperature	0°C ~40°C	
Power		
Power Requirement	DC 12V & PoE(IEEE802.3af) with class 3	
Power Consumption	450mA, 6.2W	
Certificate	FCC,CE	
ONVIF	Yes	

IP Outdoor WDR PTZ Camera		
Image Sensor	1/4" Exview HAD CCD	
TV System	PAL: 752 (H) x 582 (V) ; 2:1 Interlace NTSC: 768 (H) x 494 (V) ; 2:1 Interlace	
Horizontal Resolution	Internal / External V-lock	
Optical Lens	30X Optical Zoom, f=3.5mm(wide)-91.0mm (tele), F1.6-3.8	
Digital Zoom	16X (up to 312X with optical zoom)	
Video Output	1.0Vp-p (sync negative)	
Gain Control	Auto/Manual (-3 to 28dB, 16 steps)	



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Minimum Illumination	0.09 Lux (Color)	
	0 Lux : B/W	
S/N Ratio	> 50 dB	
BLC	ON/OFF	
ELC	Auto; 1/50 - 1/10,000 sec. ; Manual : 22 steps	
White Balance	Auto (3000°K-7500°K) ATW (2000°K-10,500°K)	
	Indoor, Outdoor, One-Push, Manual	
AE Compensation	Auto, Manual, Backlight compensation, EV compensation, priority mode, Bright	
EV Compensation	{ -10.5+10.5dB (1.5dB steps) }	
Focusing System	Auto (sensitivity: normal, low), One-push AF, manual, infinity, Interval AF, Zoom Trigger AF	
Day Night Function	Yes, with ICR Cut Filter	
Aperture Control	Auto/Manual	
Preset	220 Positions	
Focus	Auto/Manual	
OSD language	English, Italian, Spanish, German, French, Russian & Portuguese	
Operating Temperature	Indoor: 10°C to +50°C (14° to 122°F)	
	Outdoor: 40°C to +70°C (-40° to 158°F)	
Storage Temperature	(-20°C to +60°C (-4° to 140°F))	
Power Supply	AC24V, 50/60Hz	
Power Consumption	Indoor 10w, outdoor 50w	
Network		
Ethernet	10/100 Base-T	
Network Protocols	TCP/IP, DHCP, HTTP, PPPoE, FTP, RTSP, DDNS, NTP	
Image Frame Rate	30/25 fps (NTSC/PAL)	
Compression Format	H.264/ JPEG/ MPEG4	
Video Bit Rate Adjust	CBR, VBR	
Motion Detection	Yes, 3 different areas	
Triggered Action	Yes, configurable	
Simultaneous Connection	Up to 10 users	
Software SDK	Provided upon customer request	
Mechanical Specification		
Pan Range	360° continuous	
Tilt Range	90° degrees	
Manual Pan Speed	0.1-160 degree/sec.	
Manual Tilt Speed	0.1-160 degree/sec.	
Preset Speeds	Pan: more than 360 degrees, tilt; more than 360 degrees	
IP66 Rated	Yes	
ONVIF Compliance	Yes	



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Built in Lightning & surge proof	1500W lightning & surge proof	
Support multiple protocols	Pelco P/D, VCI, Vicon, Molyntx, Daimond, Kalatel	
	Ernitec, Lilin, Panasonic (Pelco-Coaxitron, Manchester, Bi-phase)	
3GPP/PDA Support	Yes	
Mini SD Memory Card	Manual Rec./ Alarm Rec.	
	Compatible SDHC Standard Cards	
User/Host Control	3 Levels: Administrator, Camera control, Live only	
Security Measures	User authentication (ID and PW), Host authentication (MAC address)	
Fiber Optical Interface	Data Mode 10M / 100M Network data	
	Physical Interface FC/SC optional	
	Fiber Wavelength 1310/1550nm	
	Fiber Type Single Fiber/Single mode	
	Transmission Distance 20Km, with 40Km, 60Km and 80Km selectable	

Video Management Software		
Number of Camera	4/8/16/32/64 channel	
Audio Support	Max. 64 audio in	
Monitoring mode	1/4/6/9/10/13/16 N type (25,36,49,64) divided screen	
Camera Display	Rotation window, Dual Monitor Display Support	
Recording mode	Continuous Recording	
	Record by Event	
	Record by Schedule	
	Record by Motion	
	Record by Audio	
Auto Recycle Support	Auto recycling when storage disk is full	
Recording FPS	30 FPS	
Video Analytics	General Motion	
	Missing object	
	Foreign Object	
	Lose Focus	
	Counting Application	
	Camera Occlusion	
Alerting	Email, Phone call, Sound Playing, IO Control, Alert on screen, PTZ preset go	
Playback	Simultaneous Playback 16 channel	
	Regular Playback Mode	



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	Search Mode with Analytical Feature	
	Video Enhancement Too Supported	
Remote	Remote Live View Client 16 Channel	
	Remote Playback Client 16 Channel	
	IE Browser Client	
User Account	Password restriction on user rights	
OS Supported	Windows 2000 / Windows XP / Windows 2003/ Windows 2008/ Windows Vista / Windows 7	
Joystick Support	Yes	
E-map	A map view of where each camera and I/O devices are located with a convenient pre view window.	
Remote Support	Remote live viewer, remote playback, remote backup, remote I/O control and remote desktop configuration	
Camera Model Detection	Automatically search for all of the IP cameras in the network (camera must support UPnP protocol). For cameras that don't support UPnP, user can manually insert the IP camera. The auto detection function will help the user to find the brand and model of the camera after specifying its IP address	
SDK Integration	Yes	
Bandwidth Monitor	Monitor and display the bandwidth usage of individual cameras and remote viewing clients.	
Remote Backup	Backup the video into .DAT format with a player attached for easy achieve and viewing purposes.	
Support All Series IP Camera	Yes	
CMS Support	Yes	

Server Specifications

Item	Specification	Remarks
Form factor/height	2U Rack	
Processor (max)	Up to two 8-core Intel Xeon E5-2600 series processors	
Graphics	Dedicated Graphics Card	
Number of Processors	2	
Cache (max)	20 MB per processor	
Memory(max)	32GB RDIMM & Up to 768 GB via 24 slots (UDIMM/RDIMM/LRDIMM/Hyper Cloud DIMM)	
Media bays	Optional ODD and tape drive bay	



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Disk bays (total/hot-swap)	Sixteen 2.5" or six 3.5" HDDs or thirty-two 1.8" SSDsRAID	
Internal Storage Capacity	2 TB minimum	
RAID support	RAID 5	
Power supply (std/max)	2 nos. redundant 550 W ac, 750 W ac, 900 W ac, or 750 W dc	
Hot-swap components	Power supplies, fan modules and hard disk drives	
Network interface	4 × 1 GbE (std.), 2 × 10 GbE embedded adapter (slot less opt.)/Trusted Platform Module	
Expansion Slots	4 - 6 PCIe 3.0 ports, optional 4 PCI-X or 2 double-width PCIe (for GPU	
USB Ports	2 front/4 back/2 internal	
VGA ports	1 front/1 back	
Energy-efficiency compliance	Compliant with 80 PLUS® Platinum and ENERGY STAR® (model dependent)	
Systems management	IBM IMM2 with optional FoD remote presence, Predictive Failure Analysis, Diagnostic LEDs, light path diagnostics panel, Automatic Server Restart, IBM Systems Director and Active Energy Manager™	
Operating systems supported	Microsoft®Windows Server,Red Hat Enterprise Linux®,SUSE Linux Enterprise Server and VMware vSphere	

Server Operating System

Item	Specification	Remarks
Windows Server	Windows Server 2012 Operating System	

Storage Specifications

Item	Specification	Remarks
Controller	Single/Dual Controller Storage System	
RAID controller	Dual Active, hot-swappable controllers	
Cache	1 GB cache per controller with 2 GB upgrade (battery-backed)	
Host Interface	Four or eight 6 Gbps SAS ports Eight 8 Gbps FC ports and four 6 Gbps SAS ports Eight 1 Gbps iSCSI ports and four 6 Gbps SAS ports Four 10 Gbps iSCSI ports and four 6 Gbps SAS ports	



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Storage Capacity	Minimum 16TB	
RAID levels	5	
Storage partitions	Support for up to 128 storage partitions (levels: 4 standard with upgrades to 8, 16, 32, 64 and 128)	
Maximum drives supported	Up to 192 drives—high-performance SAS drives, nearline SAS drives, SSDs and SED SAS drives	
Fans and power supplies	Dual redundant, hot-swappable	
Rack support	2U, 19-inch, industry-standard rack	
Management software	System Storage Manager	
SAN support	Supported FC switches and directors, and IP switches	

Desktop Configurations:

Item	Specification	Remarks
Processor	Intel® Core i3 2 nd Gen Processor (2120Processor)	
Preloaded Operating System	Genuine Windows®8 Professional 32bit*	
Chipset	Intel® Chipset	
Serial ATA Hard Drive	500GB / 7200rpm	
Memory	3GB DDR3	
Optical Drive	DVD-ROM, DVD Recordable	
Integrated Communications	Marvell 10M100M/1000M Gigabit Ethernet	
Ports	(6) USB 2.0 (2 Front/4 Rear) (1) Serial Port (2) Front audio ports: Headphone and Microphone (3) Rear audio ports: Line in, Line out and Microphone (1) VGA (1) RJ-45	
Slots	(2) Full Height PCI slots	
	(1) Full Height PCI-e x 1 slot	
	(1) Full Height PCI-e x 16 slot	
Bays	(1) ODD bay (1) HDD bay	
Power Supply	180W Manual Switch	



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Dimensions	H x W x D : 378 mm x 175 mm x 439 mm	
Keyboard	Preferred Pro Full Size Keyboard (USB)	
Mouse	Optical Wheel Mouse (USB)	
Graphic Card	Intel® Graphic Media Accelerator x 3100 (DX 9)	
Included Software (preloaded)	Automatic Recovery Power Management System Toolbox Intervideo® WinDVD® Roxio® Creator™ Business Edition	
Monitor	19" TFT	

Tape/Backup Drive Specifications

Item	Specification	Remarks
Physical Capacity	1.5 TB Native; 3.0 TB with 2:1 compression	
Number of tape drives	1	
Number of tape cartridges	1	
Data transfer rate	Up to 140 MBPs native	
Media Type	LTO 5 Data Cartridge, LTO Cleaning Cartridge	
Power requirements	100 - 240 V ac, 50 - 60 Hz autoranging	

Network Equipments – Switches

Item	Specification	Remarks
Physical Ports	20 10/100/1000BASE-T,	
	4 Combo	
	10/100/1000BASE-T/SFP	
	2 10-G CX4	
	RJ-45 Console Port	
Stacking Port		2
Performance	Switching Capacity: 88Gbps Forwarding Rate: 65.48 Mpps Flash Memory: 32MB Packet Buffer Memory: 2 MB	
PoE	Standards	
	IEEE 802.3af and 802.3at	



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	Power Budget	
	370 watts	
	740 watts	
	(with DPS-700 RPS)	
Stackability	Physical Stacking	
	Up to 40G Stacking Bandwidth	
	Up to 6 units per Stack	
	Virtual Stacking	
	Single IP Management (SIM)	
	Up to 32 units per Virtual Stack	
L2 Features	MAC Address Table: 16K	
	802.3x Flow Control	
	HOL Blocking Prevention	
	802.1D STP <i>ff</i>	
	802.1w RSTP	
	802.1s MSTP <i>f</i>	
	BPDU Filtering	
	Root Restriction	
	Loopback Detection	
	802.3ad Link Aggregation	
	Port Mirroring Support One-to-One/Many-to-One, Flow-based, RSPAN Mirroring	
L2 Multicasting	IGMP Snooping	
	IGMP V1/V2/V3 Snooping	
	Supports 1024 IGMP groups	
	Port/Host-based IGMP Snooping Fast Leave	
	IGMP Snooping Querier	
	Limited IP Multicast	
	Up to 24 IGMP filtering profiles, 32 ranges per profile	
	MLD Snooping	
	MLD V1/V2 Snooping	
	Support 1024 MLD Groups	
	Host-based MLD	
	MLD Snooping Querier	
	Snooping Fast Leave	
VLANs:	Max. 4K VLAN Groups	
	Max. 255 Dynamic VLAN Groups	
	802.1Q Tagged VLAN	
	Port-based VLAN	
	802.1v Protocol VLAN	
	Voice VLAN	



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	MAC-based VLAN	
	ISM VLAN	
	Asymmetric VLAN	
	Private VLAN	
	VLAN Trunking	
QoS Features	802.1p, 8 queues per port	
	Queue Handling	
	Strict ,Weighted Round Robin (WRR), Strict + WRR	
	CoS based on	
	Switch Port, VLAN ID, 802.1p Priority Queues, MAC Address, Ether Type, IPv4 Address, DSCP, Protocol Type, TCP/UDP Port, User-Defined Packet Content,IPv6 Address,IPv6 Traffic Class,IPv6 Flow Label	
	fBandwidth Control	
	Port-based (Ingress/Egress, min. granularity 64Kbps),Flow-based (Ingress/Egress, min. granularity 64Kbps)	
Access Control List (ACL)	Supports up to 1.5K Ingress	
	access rules	
	ACL Based on	
	802.1p Priority, VLAN ID,ff Ether Type,MAC Address,ff IPv4 Address, ffDSCP,ff Protocol Type,ff TCP/UDP Port Number,User-Defined Packet Content,IPv6 Address,IPv6 Flow Label,IPv6 Traffic Class	
	Time-based ACL, CPU Interface Filtering	
Security	SSL v1/v2/v3 (for WebGUI)	
	ARP Spoofing Prevention	
	Port Security: up to 64 MAC addresses per port/VLAN	
	Broadcast/Multicast/Unicast Storm Control	
	Traffic Segmentation	
	NetBIOS/NetBEUI Filtering	
	DHCP Server Screening	
	ARP Spoofing Prevention	
	BPDU Attack Protection	
	Safeguard Engine	
AAA	802.1X	
	Port-Based Access Control	



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	Host-Based Access Control	
	Identity-driven Policy (VLAN, ACL or QoS) Assignment	
	Authentication Database Failover	
	Web-based Access Control (WAC):	
	Port-based Access Control	
	Host-based Access Control	
	Identity-driven Policy (VLAN, ACL or QoS) Assignment	
	Authentication Database Failover	
	MAC-based Access Control (MAC):	
	Port-based Access Control	
	Host-based Access Control	
	Identity-driven Policy (VLAN, ACL or QoS) Assignment	
	Authentication Database Failover	
	Japan Web-based Access Control (Host-based JWAC)4	
	Guest VLAN	
	Microsoft® NAP	
	Support 802.1X NAP	
	Support DHCP NAP	
	RADIUS Accounting	
	RADIUS and TACACS authentication for switch access	
	4 Level User Account	
Management	Web-based GUI	
	Command Line Interface (CLI)	
	Telnet Server/Client	
	<i>ff</i> TFTP Client, SSH	
	<i>ff</i> LLDP	
	<i>ff</i> DHCP Relay Option 82	
	<i>ff</i> SNMP v1/v2c/v3	
	<i>ff</i> SNMP Trap	
	<i>ff</i> System Log	
	<i>ff</i> RMON v1	
	<i>ff</i> Support 1,2,3,9 Groups	
	<i>ff</i> BootP/DHCP Client	
	<i>ff</i> DHCP Auto-Configuration, Relay	
	DHCP Relay Option 12	
	DHCP Relay Option 82	
	Flash File System	
	Multiple Images	
	Multiple Configurations	



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	CPU Monitoring	
	Debug Command	
	SNTP	
	Password Recovery	
	Password Encryption	
	Trusted Host	
	Microsoft® NLB (Network Load Balancing) Support	

Rack Specifications




Specification	Remarks
ModuCab LAN 42U x 800W x 1000D	
Moducab Front Glass Door - 42U - 800W - Cam Lock – Ventilation	
Moducab Rear Door - 42U - 800W - Cam Lock - Square Slot Ventilation	
Moducab Side Panel - 42U - 1000D - Cam Lock - 1/3 Ventilation	
Fan's - AC - 90 Cfm	
Metal Cable Manager - 01U - Plastic Cable Loop's Mountable	
Mounting Hardware Packet	
Power Distribution Unit - 06/16 Amp - 10 Socket - Single Pole /	
Screw Mountable / 32 Amp MCB / Alternating Current – Indicator	
Key Board Tray - 19" Width - Rotatory	
Monitor Tray - Ventilation - 495W - 700D	
Metal Cable Channel- 100 mm Width - 1600 mm Height	
2 Pkt 1 set (containing 20 nos each of 3)	
19" Keyboard Rotatory on slides.	
Earthing Strip - 150mm - Nickel Plating	
Adjustable Leg - 90 mm Height - Zink Plating	
Castor - 3 Inch Hight - With Brake	
Castor - 3 Inch Hight - With Out Brake	



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UPS Specifications

Item	Specification	Remarks
Output		
Output Power Capacity	2100 Watts / 3000 VA	
Max Configurable Power	2100 Watts / 3000 VA	
Nominal Output Voltage	230V	
Output Voltage Note	Configurable for 220 : 230 or 240 nominal output voltage	
Efficiency at Full Load	91%	
Output Voltage Distortion	Less than 3%	
Output Frequency (sync to mains)	50/60 Hz +/- 3 Hz user adjustable +/- 0.1	
Crest Factor	3:01	
Waveform Type	Sine wave 	
Output Connections	(8) IEC 320 C13 	
	(2) IEC 320 C19 	
	(2) IEC Jumpers	
Bypass	Internal Bypass (Automatic and Manual)	
Input		
Nominal Input Voltage	230V	
Input Frequency	50/60 Hz +/- 5 Hz (auto sensing)	
Input Connections	IEC-320 C20	
Input voltage range for main operations	160 - 280V	
Input voltage adjustable range for mains operation	100 - 280V	
Other Input Voltages	220,240	
Batteries & Runtime		
External SMF batteries		
Capacity	SMF 12V/18 AH	
Backup Time	30 Mins.	
Communications & Management		
Interface Port(s)	RJ-45 10 Base-T, SmartSlot	
Available SmartSlot™ Interface Quantity	1	
Control panel	LED status display with load and battery bar-graphs and On Line : On Battery : Replace Battery : Overload and Bypass Indicators	



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Audible Alarm	Alarm when on battery : distinctive low battery alarm : overload continuous tone alarm	
Emergency Power Off (EPO)	Yes	
Surge Protection and Filtering		
Surge energy rating	480 Joules	
Filtering	Full time multi-pole noise filtering : 0.3% IEEE surge let-through : zero clamping response time : meets UL	

Networking Items

Single Mode Fiber Optic Cable

Specification	Remarks
Make (To be specified by Vendor)	
Model (To be specified by Vendor)	
6 Core Tera Speed Outdoor Single Mode Fiber Optic Armored Cable	
Core Diameter 9mm with armored Coating	
Core Size 9/10 Micron	
Single Mode	
Standard Compliance – G.652	
Meter marked	
Core Construction - Central Loose Tube	
Cable armoring – Stainless Steel Type	
Bandwidth – In 10 Gigabits	
Must be of enhance/superior low-attenuated SMF and must provide Cable Distance of 100 Kms. at 1,550 nm	



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Fiber Optic Connector

Specification	Remarks
Make (To be specified by Vendor)	
Model (To be specified by Vendor)	
Suitable for the above mentioned Fiber Optic Cable Configuration	
SC Connector, 9/125 micron	
Phosphore Bronze Construction/Zirconia Sleeves	

Single Mode Fiber Optic Patch Cord

Specification	Remarks
Make (To be specified by Vendor)	
Model (To be specified by Vendor)	
Suitable for the mentioned Fiber Optic Cable/LIU Box Configuration	
Connectors – 4 Nos. attached	
SC-SC duplex type, 3 Meters	

Light Interface Unit (LIU)

Specification	Remarks
Make (To be specified by Vendor)	
Model (To be specified by Vendor)	
Suitable for the above mentioned Fiber Optic Switch/Cable Configuration	
Splicing tray suitable for at least 24 Core required	
Support for 24 core fiber with suitable connector plates and blank plates	
Color – Gray/Black	



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19" rack mount	
Must be fully loaded with couplers	

24 Port Patch Panel

Specification	Remarks
Make (to be specified by vendor)	
Model (to be specified by vendor)	
Rack mounted, 19 inch, 1U Size patch panel	
CAT-6 performance	
Printed color coding to make termination easy	
ISO 11801 and EIA / TIA 568A standards	

Cat 6 UTP Cable

Specification	Remarks
Make (to be specified by vendor)	
Model (to be specified by vendor)	
Cat 6 (4 pair cable)	
Meets EIA/TIA 568A and ISO/IEC 11801	
Box containing 305mtr	
Meter marked	
Min. bandwidth support 550Mhz	
UL listed / UL verified (certified)	
24 AWG	

Information Outlet

Specification	Remarks
Make (to be specified by vendor)	



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Model (to be specified by vendor)	
Surface mount box with Keystone Jack	
CAT-6 performance exceeding ISO/IEC 11801 & EIA/TIA 568A standards	
Color coding	
Integrated shutters to avoid dust	
Single port	
Support upto 550Mhz channel bandwidth	
UL listed / UL verified (certified)	

7 Feet Patch Chord

Specification	Remarks
Make (to be specified by vendor)	
Model (to be specified by vendor)	
Cat6 4 pair cable	
Length – 7 feet	
Factory crimped and molded boots	
ISO/IEC 11801 & EIA/TIA 568A CAT-6 standards	
Jacks fitted with colored boots	
Support upto 550Mhz channel bandwidth	
UL listed / UL verified (certified)	

3 Feet Patch Chord

Specification	Remarks
Make (to be specified by vendor)	
Model (to be specified by vendor)	
Cat6 4 pair cable	



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Length – 3 feet	
Factory crimped and molded boots	
ISO/IEC 11801 & EIA/TIA 568A CAT-6 standards	
Jacks fitted with colored boots	
Support upto 550Mhz channel bandwidth	
UL listed / UL verified (certified)	

2" Casing Capping (Meters)

Specification	Remarks
Make (to be specified by vendor)	
Model (to be specified by vendor)	
Size – 2"	
White Color	
Standard Compliance ISI	

2" C Class GI Pipe (Meters)

Specification	Remarks
Make (to be specified by vendor)	
Model (to be specified by vendor)	
Size – 1"	
White Color	
Standard Compliance ISI	

1" Casing Capping (Meters)

Specification	Remarks
Make (to be specified by vendor)	
Model (to be specified by vendor)	



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Specification	Remarks
C Class	
Size – 2" diameter	
Standard Compliance ISI	

1" C Class GI Pipe (Meters)

Specification	Remarks
Make (to be specified by vendor)	
Model (to be specified by vendor)	
C Class	
Size – 2" diameter	
Standard Compliance ISI	

Hand Held Metal Detectors

Item	Specification	Remarks
Hand Held & Metal Detectors	Sensitivity- 0.1 gm of Metal from 25 mm distance, light weight, operates on 9 volt battery	

Multiple Zone Door Frame Metal Detectors

Specifications	Remarks
Multi Zone Door Frame Metal Detector	
Key pad (password protected)	
Sensitivity setting for Individual zones and overall (from 0 to 255).	
Threshold setting for Individual zones and overall (from 0 to 255).	
Continuous detection	
Audio visual indication for metal detection by LED on the side arrays	
Continuous display of sensitivity and threshold for all zones	
Choice of indication average or maximum metal detection	



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Operating frequency below 20 KHz (As per NIJ Standards 0601.02) safe for cardiac Pace maker, Film and magnetic recording material	
WALK-STOP indicator to control the flow of traffic on walk side	
SMD Technology. Ease of maintenance. Large walk-through area	

Under Vehicle Scanner Mirror

Item	Specification	Remarks
Under Vehicle Scanning Mirror	Heavy Duty Metallic Power Duty Frame, Glass protection for non-working hours	

X-Ray Scanner Specifications

Item	Specification	Remarks
Technical Data		
General Specifications		
Tunnel Dimension	610 (W) mm x 450 (H) mm	
Max object size	610 (W) mm x 440 (H) mm	
Conveyor speed	0.22 m/s	
Max conveyor load	165 kg	
Conveyor height	approx. 700 mm	
Resolution	38 AWG (0.1 mm) guaranteed, 40 AWG typical	
Penetration (steel)	27 mm guaranteed, > 30 mm in high penetration mode (HPM)	
Safety		
Film Safety	guaranteed up to ISO 1600	
Radiation Safety		
X-ray dose / inspection	not more than 1,8 µSv	
Max. leakage radiation	less than 1 µSv	
Duty cycle	100%	
CE compliance	Yes	
X-Ray Generator		
Anode voltage	140 kV / 160 kV HPM	
Tube current	0.7 mA typical / 0.5 mA HPM	
Orientation	vertically upward	
Cooling	sealed oil bath	
X-ray Image Detector		
Type	L - shaped linear detector	
Imaging System		
Monitor	17 I color monitor	
Gray level stored	16384 gray color levels	
Roller Table		
Stabilizer		
Computer Specifications	Intel Core 2 Duo 3.0 Ghz	



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Public Address System

Item	Specification	Remarks
Public Address System	Plug & Play System, Multi zone with integrated voice Alarms	