Request for Proposal (RFP) –
Supply, Installation, and Maintenance of High-Quality Smart Security IP Cameras, Infrastructure and Control Center Setup

Ref: PWC/2023/RFP/001   Date: 15-06-2023

Contents

1. Introduction

Provident Welworth City, a prestigious residential condominium located in Marasandra, Bangalore, spans over 41 acres and consists of 61 towers with a basement, ground floor, and 7 additional floors, with a total of 3360 flats, a club house with ground 2 floors. Provident Welworth City is home to one of a large community of residents in North Bangalore. To ensure the safety and security of the residents and the premises, we are seeking proposals for the supply, installation, and maintenance of high-quality smart security IP cameras throughout the condominium. Additionally, we require the setup of a data centre for efficient data retention and management. NVM, data storage and monitoring will be from club house.

2. Project Scope

The project aims to implement a comprehensive closed-circuit television (CCTV) surveillance system that covers various areas within Provident Welworth City, including entry/exit gates, all public/common areas, roads, each tower basement areas, lifts, and terraces. The security cameras should provide maximum coverage, ensuring the safety and security of the residents and their belongings. The network infrastructure, including optical fibre cabling and end-point distribution, should support the expansion of the number of security cameras as the need arises. Project layout map is enclosed for your reference.

2.a. Security Camera Requirements

The security cameras should meet the following specifications:

- **High Resolution:** The cameras should have a minimum resolution of 4MP, providing clear and detailed images and video footage. Inbuilt microphone will be a value add. Long range cameras should have minimum of 8MP resolution.
- **Coverage:** The cameras should cover all critical areas, including the common area, facilities, roads, parking, parks, basement areas, lifts, and terraces. The placement of cameras should be strategic to ensure optimal coverage and visibility.

- **Expandability:** The network devices and cabling infrastructure should support the future expansion of the number of security cameras, allowing for scalability as the community grows or as per demand of residents.

2.b. Network Infrastructure

The network infrastructure should be designed to support the CCTV surveillance system and accommodate the data transfer requirements of the security cameras. The following considerations should be taken into account:

- **Optical Fiber Cabling:** The majority of the network infrastructure should be implemented using optical fiber cabling (OFC) to ensure high-speed and reliable data transmission. Cabling should be underground, along with ducts laid for cabling purposes.

- **End-Point Distribution:** Cat6 or better network cabling can be used for the end-point distribution within the flats and designated areas.

- **Bandwidth:** The network devices and cables should support high-bandwidth requirements, ensuring smooth and uninterrupted data transmission.

- **Scalability:** The network infrastructure should be scalable to accommodate additional security cameras as the need arises.

- **Reliability:** The network devices and cables should be of high quality, ensuring reliable and consistent connectivity throughout the premises.

- **Integration:** The network infrastructure should seamlessly integrate with the existing IT infrastructure, if applicable, to ensure compatibility and efficient operation.

2.c. Data Center Setup

To facilitate efficient data storage and retrieval, a dedicated data center should be established within Provident Welworth City. The data center should meet the following requirements:

- **Storage Capacity:** The data center should have sufficient storage capacity to retain CCTV footage for a period of 30 days.

- **Redundancy:** The data center should incorporate redundant power supplies, cooling systems, and fire suppression mechanisms to ensure uninterrupted operation and protect critical equipment.

- **Scalability:** The data center setup should allow for future expansion, accommodating additional storage requirements if needed.

- **Security:** The data center should have appropriate access controls, surveillance systems, and backup systems to ensure the security and integrity of the stored data.

3. Technical Specifications

3.a. Security Cameras:

The security cameras should meet the following technical specifications:

- **Minimum Resolution:** The cameras should have a minimum resolution of 4MP, providing clear and detailed images and video footage.

- **Camera Types:** A variety of camera types, including dome cameras, bullet cameras, and PTZ cameras, should be considered based on the specific surveillance requirements of different areas within the condominium.

- **Night Vision:** The cameras should have infrared (IR) capabilities to ensure optimal image quality in low-light or night time conditions.

- **Motion Detection**: The cameras should be equipped with motion detection features to trigger alerts and notifications in the event of any suspicious activities.

- **Weather Resistance:** The cameras should be weatherproof and able to withstand varying environmental conditions, ensuring long-term durability.

3.b. Network Infrastructure:

The network infrastructure should meet the following technical specifications:

- **Optical Fiber Cabling (OFC):** The majority of the network infrastructure should be implemented using optical fiber cabling (OFC) to ensure high-speed and reliable data transmission.

- **End-Point Distribution:** Cat6 or better network cabling can be used for the end-point distribution within the flats and designated areas.

- **Network Devices:** High-quality network switches, routers, and other network devices should be used to ensure reliable and efficient data transmission.

- **Connectivity:** The network cabling should provide seamless connectivity between the security cameras and the central command center.
- **Expandability:** The network infrastructure should support the future expansion of the number of security cameras, allowing for scalability as the community grows.
- **Reliability:** The network devices and cables should be of high quality, ensuring reliable and consistent connectivity throughout the premises.
- **Integration:** The network infrastructure should seamlessly integrate with the existing IT infrastructure, if applicable, to ensure compatibility and efficient operation.

3.c. Data Center:

The data center setup should meet the following technical specifications:
- **Storage Systems:** High-capacity storage systems, such as network-attached storage (NAS) or storage area network (SAN), should be deployed to accommodate the 30-day data retention requirement.
- **Backup and Recovery:** Robust backup and disaster recovery mechanisms should be implemented to ensure data integrity and availability.
- **Server Hardware:** The data center should be equipped with reliable server hardware to support the storage and retrieval of CCTV footage.
- **Networking Infrastructure:** The networking infrastructure within the data center should be designed to provide high-speed connectivity and seamless integration with the surveillance system and the existing IT infrastructure, if applicable.
- **Security:** The data center should have appropriate access controls, surveillance systems, and backup systems to ensure the security and integrity of the stored data.

4. Proposal Submission

Interested vendors are requested to submit their proposals in accordance with the guidelines provided in this RFP. The proposal should include the following sections:

- **Company Overview:**

  An introduction to the vendor's company, including its background, expertise, and experience in handling similar projects.

- **Technical Proposal:**

  A detailed technical proposal addressing the project requirements and specifications outlined in this RFP.

  Information about the proposed security cameras, network infrastructure, and data center setup, including their specifications and compatibility with the project scope.

- **Implementation Plan:**

  A comprehensive implementation plan detailing the proposed approach, timelines with Gantt chart, milestones, and resources required for the successful execution of the project.

- **Experience and References:**

  A summary of the vendor's experience in handling similar projects, including references from previous clients, if available.

- **Pricing and Payment Terms:**

  A detailed breakdown of the costs associated with the project, including the supply, installation, and maintenance of the security cameras, network infrastructure, and data center setup.

  Proposed payment terms and schedule.

5. Evaluation and Selection

Proposals will be evaluated based on the following criteria:

- Compliance with the technical requirements and specifications outlined in this RFP [30 points).

- Demonstrated experience and expertise in handling similar projects [20 points].

- References from previous clients for similar projects (15 points).

- Proposed solution's scalability, reliability, and ease of maintenance [20 points].

- Competitive pricing and value for money [15 points].

The selection process will include the evaluation of the submitted proposals, presentations or demonstrations (if required), and reference checks. The final selection and contract award will be based on the vendor that best meets the project requirements and offers the most competitive and comprehensive solution.

6. Timeline

The timeline for the proposal process is as follows:

- Release of RFP: 15 June 2023

- Pre-proposal conference (optional)

- Deadline for submission of proposals: [within 5 days from the release of RFP]

- Evaluation and shortlisting of proposals: [within 2 days after submission of proposals]

- Presentations/demonstrations (if required)

- Contract award and notification: [within a week after shortlisting of proposals]

7. Non-Disclosure Agreement

All vendors participating in the RFP process will be required to sign a non-disclosure agreement to ensure the confidentiality of any proprietary or sensitive information shared during the evaluation process.

8. Non-Refundable Deposit:

A non-refundable deposit of INR 5,000 in the form of a Demand Draft (DD) payable to "Provident Welworth City Apartment Owners Association" is required to cover administrative costs associated with the proposal review process. The DD should be submitted along with the technical bid. If payment is made via IMPS/NEFT/UPI, proof of payment along with UTR should be submitted. Our bank details are available on contact-us page of our website https://welworthcity.in/#contact

9. Contact Information

For any clarifications or inquiries regarding this RFP, please contact:

The Secretary
PWCAOA, Club House,
Provident Welworth City,
Marasandra, Bangalore – 561203
Email: secretary@welworthcity.in & tenders@welworthcity.in

We look forward to receiving your comprehensive proposals and partnering with a vendor that can deliver a reliable, scalable, and high-quality security camera and data center solution for Provident Welworth City. Interested vendors can visit the site for identification of strategic CCTV locations, and measurements. To be noted that Technical and Financial proposals will be shared with all stakeholders of the association on an open forum for evaluation.

Annexure 1. Fixed Focus Dome Camera

Fixed Focus Smart IP ExIR Dome Camera	Compliance Yes / No	Reasons / Details (if any)
General Characteristics		
Camera should be pure day/night dome camera with built-in smart function and high-end resolution image quality.		
The camera should have progressive scan CMOS-based sensor for a sharper, more detailed picture with 16:9 image format.		
Cameras should have super H.265+, H.265, H.264, MJPEG triple hardware compression and it support configurable streaming/ compression.		
Camera should have super wide dynamic ration (WDR) Min.100dB and dynamic noise reduction (3DNR), which actively analyses contents of a scene and reduces noise/light exposure artifacts accordingly.		
Should have built-in IR and capable to capture colour images at 0.05lux light condition and IR should support min.25M at 0 lux conditions.		
Third-party software/hardware ONVIF compatibility and also have supported directly VLC player monitor by RTSP. It should support multiple brands ONVIF/RTSP equipment.		
Camera should support dual power. i.e PoE and external power at same time, in-case one fails, the other should take over.		
Technical Requirements (minimum):		

		Compliance Yes / No	Reasons / Details (if any)
Sensor type	1 / 2.8-inch CMOS		
Sensor pixels	Effective 1920 x 1080 Px		
Lux Sensitivity	0.05 lux at color, 0.01 lux at B/W, 0.0 lux (IR)		
Wide dynamic range	Super >= 100dB		
True Day/Night	Auto, colour, B&W, Smart IR		
Shutter Speed	Auto / Manual (1/30 [1/25] to 1/10000)		
Video Compression	H.265+, H.264 MP, HP, BP, M-JPEG		
Main Stream	25fps@ 1920x1080P, 1280x960P, 1280x720P		
Second Stream	15/25/30fps @D1/CIF/QCIF		
Triple Stream	Main Stream, Second Stream, Third Stream		
Bitrate	>= 128 kbps ~ 16 mbps, VBR & CBR		
Night Vision Distance	Min 25m (82ft), IR 850 nm		

Night Vision Function	IR Cut Filter, Smart IR Control		
Lens type	Fixed Focus 2.8nm		
Coverage Angle	>102 degrees		
White Balance	ATW/AWB/Manual		
Alarms & Triggers			
Other intelligent detection	Motion Detection, Port Alarm, IP & MAC conflict, Network Lost Detection, Privacy Masking		
Alarm Trigger Out	On-Screen Alerts / PTZ Trigger/Link Out, FTP, EMAIL		
Network & Control			
Unit configuration	Via Web Browser, PC Surveillance Software, NVR		
Protocols	TCP (IPv4) / UDP / HTTP / HTTPS / RTSP / FTP / NTP / DHCP / DNS / SMTP / SNMP / UPnP		
Ethernet	10/100/1000 Base-T, auto-sensing, half/full duplex, RJ45		
3rd party NVR / Software	ONVIF, SDK, RTSP		
User/ Remote Access	Min 4 Level / 8 Users, Min 4 Simultaneous Access		
Electrical			
Input Voltage	+12 VDC and PoE		
Power Consumption	Less than 6W		
PoE	IEEE 802.3af		
Lighting/TVS Protection	TVS 4KV, Lightning / Surge Protection LAN and Power		
Mechanical			
Pan/Tilt	Pan 0 ~ 355 degrees, Tilt 0 ~ 75 degrees		
Enclosure	Durable IP66 Std		
Environmental			
Operating Temperature	-30 to +60 degree Celsius		
Humidity	20% 50 90% relative humidity		
Ingress Protection	IP66		
Water Proof / Resistant	Water from heavy rains		
Certifications			

Certifications	CE, FCC/UL/RoHS Complaint		
Origin / manufactured at?			

Annexure 2. Fixed Focus Bullet Camera

Fixed Focus Smart IP ExIR Bullet Camera	Compliance Yes / No	Reasons / Details (if any)
General Characteristics		
Camera should be pure day/night dome camera with built-in smart function and high-end resolution image quality.		
The camera should have progressive scan CMOS-based sensor for a sharper, more detailed picture with 16:9 image format.		
Cameras should have super H.265+, H.265, H.264, MJPEG triple hardware compression and it support configurable streaming/ compression.		
Camera should have super wide dynamic ration (WDR) Min.100dB and dynamic noise reduction (3DNR), which actively analyses contents of a scene and reduces noise/light exposure artifacts accordingly.		
Should have built-in IR and capable to capture colour images at 0.05lux light condition and IR should support min.25M at 0 lux conditions.		
Third-party software/hardware ONVIF compatibility and also have supported directly VLC player monitor by RTSP. It should support multiple brands ONVIF/RTSP equipment.		
Camera should support dual power. i.e PoE and external power at same time, in-case one fails, the other should take over.		
Technical Requirements (minimum):		
Sensor type	1 / 2.8-inch CMOS		
Sensor pixels	Effective 1920 x 1080 Px		
Lux Sensitivity	0.05 lux at color, 0.01 lux at B/W, 0.0 lux (IR)		
Wide dynamic range	Super >= 100dB		
True Day/Night	Auto, colour, B&W, Smart IR		
Shutter Speed	Auto / Manual (1/30 [1/25] to 1/10000)		
Video Compression	H.265+, H.264 MP, HP, BP, M-JPEG		
Main Stream	25fps@ 1920x1080P, 1280x960P, 1280x720P		

Second Stream	15/25/30fps @D1/CIF/QCIF		
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Unit configuration	Via Web Browser, PC Surveillance Software, NVR		
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Input Voltage	+12 VDC and PoE		
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Mechanical			
Pan/Tilt	Pan 0 ~ 355 degrees, Tilt 0 ~ 75 degrees		
Enclosure	Durable IP66 Std		
Environmental			
Operating Temperature	-30 to +60 degree Celsius		

Humidity	20% 50 90% relative humidity		
Ingress Protection	IP66		
Water Proof / Resistant	Water from heavy rains		
Certifications			
Certifications	CE, FCC/UL/RoHS Complaint		
Origin / manufactured at?			

Annexure 3. NVR and Embedded Storage System

H.265+ Embedded Storage Network Video Recorder	Compliance (Yes / No)	Details / Comments (if any)
General Characteristics		
Embedded NVR should support triple compression record profile H.265+, H.265, H.264 (MP, HP, BP), MJPEG hardware compression and configurable for compression and streaming. H.265+ should save at least 50% lower space than H.264 compression.		
NVR should support and process advanced IVA functions such as face detection, people counting, tripwire, perimeter, crowd, object detection, video quality detection, lens/scene switch detection, etc and against event it generates the notification, alarm, screen alert, 3rd party system activation and so-on.		
NVR should have smart recording function wherein user can set different modes like IVA, schedule, motion, port, resolution, i-frame record and it should also have the function of smart playback wherein it should target IVA in recorded video footage and it can be search by filtering such as face detection tripwire, perimeter and many more.		
Each NVR should have at least 100mbps incoming and 100mbps outgoing bandwidth throughput, and it can connect up to min. 30 user simultaneously to NVR.		
NVR should be capable to encode upto 4K (8MP) IP camera resolution, each channel must support realtime 25/30 frame rate which can be set with different bit rate between 64kbps ~16Mbps.		
NVR should have ANR (Automatic Network Replenishment) function to support offline stored videos of IP Camera automatically download from NVR Hard Drive when network is re-established.		
Technical Specifications (Minimum):		
NVR Specification		
Video Compression	H.265+, H.265, H.264+, H.264 Compression		
Audio Compression	ADPCM-DV14/G.711A/G.711U		

NVR OS	Embedded Linux		
Input Resolution	IP Camera Input at 4K/6MP/5MP/4MP/3MP/ 1080P/960P/720P/4CIF/ DCIF/ 2CIF/CIF/QCIF		
Display Live & Record Ch	20CH/16CH/10CH/9CH/8CH/ 6CH/4CH/1CH		
Record Resolution	4K(3840x2160,3264x2448,3296x2472) /6MP(2752x2208,3008x2008,2408x2008)/ 5MP(2560x1920,2592x1944,2592x1920,252 8x2128/4MP(2560x1440,2592x1520)/ 3MP(2048x1536)/1920x1080/1280x960/ 1280x720/VGA/4CIF/CIF/QCIF		
Record Frame Rate	Each Channel Mainstream 25fps(P)/30fps(N), Sub stream 25fps(P)/30fps(N)		
Record Stream Mode	VBR / CBR		
Record Stream Rate	Min 32kbps ~ to 16384 LBPS Auto/Manual Selectable		
Second Stream & Mode	D1/CIF/QCIF/ & VBR / CBR		
Recording Method	IVA Alarm, Schedule, Manual, Alarm, Motion		
Playback Channel	Min 32CH/16CH/8CH/4CH/1CH		
Smart Function	Smart record, Smart playback, Record Tag, IVA Record		
Alarm Pre & Post Record	10~600sec (pre), 5~60 sec (post)		
Audio Output	Yes, 1CH input & Output		
Playback Function	Play, Pause, Stop, Rewind, Fast & Slow Play, Next & Previous File, Next & Previous Camera, Full Screen, Repeat, Shuffle, Backup Selection, Digital Zoom		
ANR	Auto download stored video of camera SD card when camera online		
VGA and Video Output	HDMI – 4K, VGA up to 1080P		
Bandwidth throughput	100M Incoming, 100M Outgoing		
Remote Connection	32		
Intelligent Video Analysis	Auto tracking / People Counting / Face Detection / Crowd / Foreign or Missing Object / Tripwire / Perimeter / Running / Loitering / Parking / Scene Change / Blur Image/ Abnormal Audio/ Vehicle Number Plate Reading		
Motion Detection	Zones:396 (22x18) Sensitivity level 1~6		
Event Support	Snap, Audio Hint, OSD, Video Recording, Alarm Out, PTZ Trigger		

Network Port	10/100/1000MBPS – RJ45		
USB	2 Ports		
Email & FTP	Video Loss, Video Blind, Motion Detection		

Technical Specification for Fibre Optic Cable Installation in Provident Welworth City Condominium Campus

1. Scope

This technical specification outlines the requirements for the survey, planning, coordination with suppliers' equipment, engineering, supply, laying, installation, termination, testing, and commissioning of Fibre Optic Cables (OFC) along with associated hardware, accessories, and Fibre Optic Distribution Panel (FODP) in Provident Welworth City condominium campus.

2. Fibre Optic Cable Requirements

- The cable shall contain 24/48 Dual Window Single Mode (DWSM) fibres.
- All fibre optic cables shall have a minimum service life span of 25 years.
- The cable shall be armoured for added protection.
- The armoured cable shall be UV resistant, fire-retardant, and rodent-proof.
- The cable should have steel tape, corrugated tube, or galvanized wire type armour construction.
- Suitable marking shall be applied to identify this cable from other cables.
- The cable shall be suitable for direct burial, laying in trenches & PVC/Hume ducts, laying under false flooring, and on indoor or outdoor cable raceways.
- The cable shall have a minimum 2.0 mm HDPE outer jacket thickness.

3. Cable Installation

- The 24F/48F Armoured Fibre Optic cable shall be laid along the Power Cable or ISP Cable using suitable hangers or other appropriate methods.
- The cable installation should adhere to the relevant industry standards (latest IEC/IEEE/IS/EIA/ASTM).

4. Type Test Performance

- Provide documented evidence of satisfactory Type Test performance of a similar type of Armoured Fibre Optic cable to PWCAOA board.

5. Optical Performance

- The overall optical fibre path attenuation, including all optical cable losses caused by bending, compression, splicing, and terminations, shall be less than 0.25dB/km @ 1500nm.
- Excessive splice or coupling losses resulting from fibre mismatch with dissimilar fibre shall be documented and submitted.

6. Fibre Connectors and Couplings

- Optical fibres shall be connectorized with FC-PC type connectors.
- Fibre optic couplings supplied with FODPs shall be appropriate for the fibre connectors to be supported.

7. Training

- Provide training to PWCAOA personnel in the installation of fibre cables, splicing of fibres, and the use of test equipment.

8. Documentation and Compliance

- The fibre/cable shall conform to the latest relevant IEC/IEEE/IS/EIA/ASTM standards.
- Maintain proper documentation of compliance with standards and specifications.

9. Layout Reference

- Refer to the Master Plan Layout of Provident Welworth City: [Master Plan Layout]: https://t.ly/zOjT
- Google Maps link to the property: [Google Maps link]: https://t.ly/g829

10. Quotation and Cost

- If a physical survey for the estimated distance of OFC length is not possible, provide a tentative quotation for cabling separately per meter or kilometer.
- The cost should include OFC, connectors, CAT6 termination, networking devices, and any other necessary components, making it all-inclusive.