

INTERNATIONAL INDIAN SCHOOL DAMMAM (IISD)

SCOPE OF WORK (SOW): CAMPUS-WIDE IP CCTV SURVEILLANCE SYSTEM INTEGRATION

Client: International Indian School Dammam (IISD)

Project Year: 2026–2027

Campuses Covered: UNITY Campus & VISION Campus

1. Project Overview & Objectives

This project outlines the supply, civil works, installation, testing, and technical configuration of a high-resolution, campus-wide IP CCTV surveillance system across both the UNITY and VISION buildings of IISD.

Key Objectives:

- **Unified Platform:** Integrate all newly proposed cameras and **existing camera interfaces** into a single, cohesive, and scalable Video Management Software (VMS) platform.
- **Future-Proof Network:** Deploy a robust Local Area Network (LAN) utilizing high-performance Power over Ethernet (PoE) switches to power and connect the entire surveillance footprint.
- **24/7 Security:** Ensure continuous high-definition recording, smart playback, and secure remote monitoring capability.

2. Camera Distribution Requirements

The system must scale to accommodate exactly **634 IP Cameras** distributed as follows:

A. UNITY Campus (Total: 321 Cameras)

B. VISION Campus (Total: 313 Cameras)

3. Brand Options & Technical Specifications

Bidders must provide hardware pricing and system design based on **one** of the following approved tier-1 brands. Intermixing brands for new hardware is not permitted to ensure seamless ecosystem compatibility.

Approved Hardware Brands:

1. **Option A: HIKVISION**
2. **Option B: DAHUA**

Minimum Equipment and Material Requirements:

- **IP Cameras (634 Units):** High-resolution (Minimum 8MP / 4K) IP Dome cameras for indoor classrooms/offices, and weatherproof, vandal-proof Bullet cameras (IP67 rated) for grounds, corridors, and campus boundaries. Camera visibility should be standard as follows, Classrooms minimum 10 meters coverage and Parking and corridors areas: minimum 20 meters or Maximum coverage.



UPS backup power is required for the main system unit to ensure operation during emergency power failures

- **Network Video Recorders (NVRs):** Enterprise-grade, 64-channel or 128-channel NVRs (Hikvision DS-9664NI-M8 / Dahua equivalent) featuring redundant power supplies and RAID configuration capability to manage 634 streams.
- **Storage:** Surveillance-grade Hard Drives (WD Purple / Seagate SkyHawk) provisioned to sustain 24/7 continuous recording for a minimum of 30 days across all 634 cameras.
- **Monitoring Displays:** Existing displays to be used.

4. LAN & PoE Network Infrastructure

The contractor is responsible for building a dedicated, high-speed CCTV LAN infrastructure.

- **LAN PoE Switches:** Enterprise-grade managed/unmanaged PoE (Power over Ethernet) switches must be included.
 - Switches must support standard IEEE 802.3af/at protocols to fulfill the wattage requirements of 8MP cameras.
 - An appropriate combination of **24-Port and 16-Port PoE switches** must be distributed into strategic intermediate distribution frames (IDFs) across both buildings to minimize cable run lengths.
 - Every switch must account for a minimum **20% spare port capacity** for future scaling.
- **Uplinks & Backbone:** Backbone connectivity between IDF switches and the central MDF (NVR location) must utilize high-throughput Gigabit uplink ports or fiber-optic patches where distances exceed 100 meters.
- **Cabling:** Shielded Twisted Pair (STP) **CAT6 cables** must be used for all runs to mitigate electromagnetic interference.

5. Existing System Integration (Unified Platform)

A core requirement of this project is the unification of legacy and new infrastructure.

- **Platform Accommodation:** The contractor must evaluate IISD's existing camera interfaces and successfully bridge them onto the new head-end platform.
- **Centralized VMS:** Whether deploying **HikCentral (Hikvision)** or **DSS Pro (Dahua)**, the software must seamlessly discover, view, and manage both the newly installed 634 cameras and the existing operational cameras within a single control panel.
- **Interoperability:** If the existing cameras are third-party brands, the new NVRs/VMS must utilize ONVIF protocols to guarantee video streaming, PTZ control (if applicable), and frame rate synchronization.



6. Civil Works & Installation Methodology

- **Cable Routing & Management:** All CAT6 cables must be enclosed neatly within heavy-duty EMT conduits, surface trunking, or metal cable trays. No exposed or hanging wires are permitted. Proper Ferruling to be followed for tracking at both ends of the cables.
- **Mounting & Weatherproofing:** Cameras must be securely mounted using native wall/ceiling brackets. Outdoor boundary and ground cameras must feature weatherproof junction boxes and waterproofing seals.
- **Labeling:** Rigorous, standardized labeling must be applied to both ends of every network cable, switch port, camera chassis, and NVR channel for rapid troubleshooting.

7. Testing, Commissioning, & Deliverables

- **Functional Testing:** Verify day/night vision clarity, motion detection zones, optimized frame rates, and consistent video analytics performance for all 634 units.
- **Handover Documentation:** Provide complete as-built drawings detailing camera locations, IP address schemas, network topology maps, product manuals, and administrative credentials.
- **Training:** Conduct thorough operational and troubleshooting training for the school's IT and security personnel.

8. Warranty & Compliance

- **Warranty:** Minimum **2-year comprehensive warranty** covering all new hardware components, PoE switches, NVRs, storage, and installation workmanship. Minimum of 3 years service to be included in the proposal.
- **Safety Standard:** All civil works, elevations, and electrical routing must comply strictly with local building and safety regulations. Technicians must utilize appropriate PPE at all times during the project execution.

