CASE STUDY

Brihaspathi Technologies High-Performance
IP Bullet Cameras
Enable the Detection of Unauthorized Access and Criminal Activities at
IDA Bollaram

Project Objective:

IDA Bollaram, a key industrial development area, recognized the need for robust surveillance solutions to monitor various aspects such as theft prevention, vehicle tracking, detection of unusual activities, people observation, and handling accident cases.

The goal was to deploy top-end solutions that incorporated advanced technologies to ensure comprehensive surveillance and security coverage. This case study explores the project's challenges faced, the solutions implemented, and the achieved results.

Solutions Implemented:

Brihaspathi Technologies, the chosen solution provider, implemented a comprehensive security and surveillance system at IDA Bollaram. The key solutions included:

IP 2MP Motorized Varifocal Bullet Cameras (42 Units):

• 42 units of high-resolution cameras with motorized varifocal lenses provided clear and detailed images.

• 32GB SD card slots facilitated local storage for backup and retrieval of footage inside the cameras.

Cloud-Based Feature:

• Leveraging cloud technology allowed for remote access to live feeds and recorded footage.
• Enhanced scalability and ensured data redundancy and security.

Lane Assist Technology:

• Implemented Lane Assist Technology for efficient monitoring of vehicular movements.
• Improved traffic management and assisted in tracking vehicles within the designated lanes.

Powerful Intrusion Detection System:

• Integrated a robust intrusion detection system to identify and alert authorities about unauthorized access.
• Customizable sensitivity settings for different areas within the premises.

Project Challenges:

The implementation encountered several challenges:

1. Wiring Challenges due to 12KM Pole-to-Pole Distance:

The extensive distance between poles posed difficulties in wiring, leading to potential connectivity issues.

2. Difficulty Working with Existing Poles and Transformers:

Working around current poles and transformers created logistical challenges and potential safety concerns for the installation team, making it difficult to navigate and execute the wiring work seamlessly.

3. Low Height of Power Cables:

The low height of power cables introduced risks of damage and accessibility issues.

4. Difficulty in Pole Drilling due to Galvanized Poles:

Galvanized poles presented challenges in terms of pole drilling, affecting the efficiency of the installation process.

5. Complications in Wire Crossing:

Wire crossing difficulties at various points introduced the risk of damage and signal interference.

Solutions to the Challenges:

To address the multifaceted security challenges, the project implemented a comprehensive set of solutions:

1. We implemented specialized long-distance wiring techniques, such as signal boosters and high-quality FIBER CABLES, to ensure reliable data transmission across the 12KM distance.

2. We conducted a thorough site survey to plan installations around existing configuration, ensuring minimal disruption and adhering to safety protocols. Collaborated closely with utility services to coordinate activities.

3. We elevated the height of power cables using additional support structures or pole extensions, reducing the risk of damage and ensuring better accessibility for maintenance and repairs.

4. We utilized specialized drilling equipment and techniques suited for 6m galvanized poles with Silver Paint, ensuring efficient and precise pole drilling without compromising structural integrity.

5. We implemented meticulous planning for wire routes, incorporating proper elevation and separation techniques to avoid crossing issues. Utilized stay wires and cable management systems to organize and secure wiring.

6. We installed 2 cameras at other locations and connected through the static IP for the successful completion of cable laying.

The Other Valuable Solutions Provided:

Some other solutions related to the challenges include:

1. Outdoor Fiber Cable Deployment:

Objective: To provide reliable and high-speed connectivity for surveillance systems.

Solution: We installed outdoor fiber cables at each location point-to-point, ensuring seamless data transmission between cameras and central monitoring. The outdoor fiber cables enhance the reliability of data transmission and power supply.

2. Laying of 6-Core and 12-Core Cables:

Objective: To establish a robust cabling infrastructure to support data and power requirements.

Solution: We laid 6-core and 12-core cables, catering to different data and power needs across the surveillance network.

3. Media Converter for Camera Viewing:

Objective: To facilitate efficient data transfer from fiber optics to the viewing system.

Solution: We implemented 14 Slot Media Converter Chassis and UPS (power backup for cameras) to ensure seamless communication between fiber cables and the cameras for real-time monitoring.

4. Use of Stay Wire for Fiber Cable Laying:

Objective: To ensure stability and longevity of the fiber cable infrastructure.

Solution: We employed stay wire during the fiber cable laying process, addressing cable crossing and fold-to-fold scenarios to enhance durability and prevent damage.

5. Industrial Standard Galvanized Poles with Foundations:

Objective: To provide stable and secure mounting for surveillance cameras.

Solution: We erected industrial standard galvanized poles with proper foundations to support the weight of bullet cameras. This ensures a stable platform for cameras and enhances the field of view.

6. 2-Core Power Cables with MCB Module Sockets:

Objective: To supply reliable power to surveillance cameras at each location.

Solution: We deployed 2-core power cables with 5 AMPS MCB (Miniature Circuit Breaker) module sockets to ensure a safe and controlled power supply for camera operation.

Project Closure:

Upon successful completion, the project Underwent a thorough review, included a final assessment of system functionality, user training, and documentation hand overed to the IDA Bollaram Security Department. The project closure marked by a formal sign-off from the project sponsor and key stakeholders.

1. Risk Management:

Identified risks included potential system compatibility issues, delays in equipment delivery, and challenges in configuring AI-based recognition. Mitigation strategies included thorough testing, proactive communication with the vendor, and contingency plans for unexpected delays.

2. Quality Assurance:

Regular quality checks conducted during and after the installation phase to make sure that the surveillance system meets predefined standards and effectively addresses the identified security challenges.
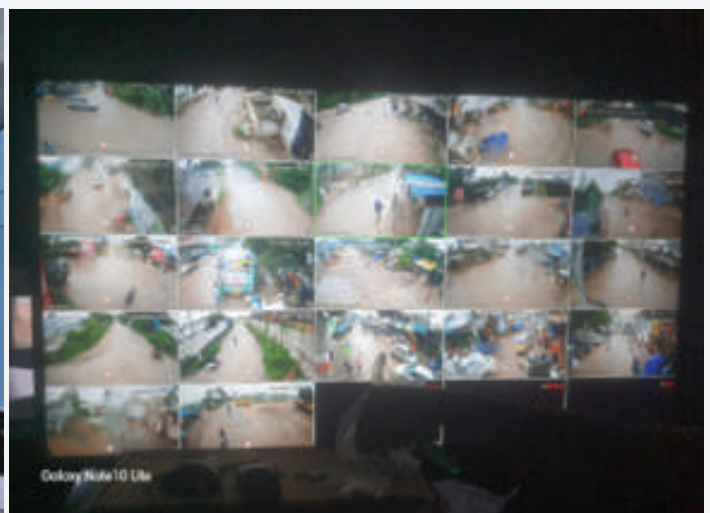
Control or Server Room Setup:

Setting up the control room for the IDA Bollaram project involves careful integration of components to ensure efficient monitoring and management of the surveillance system. Here's a detailed breakdown of the control room setup:

- 32CH NVR 4 SATA to record and store video feeds from surveillance cameras.

- 4TB Hard Disk to store footages for review, analysis, and potential investigations.

- 55" large LED monitor for real-time monitoring of camera feeds.

- PoE Switch to simplify power and data transmission to connected surveillance cameras.

- Fiber Termination Box to Facilitate the termination, splicing, and distribution of fiber optic cables.

- 10KA Power Surge Protector to safeguard electronic equipment from power surges and voltage spikes.

- Power Cable 2 Core to supply power to critical components within the control room setup.

Project Outcome:

The implementation of the above solutions resulted in a significant improvement in the overall security posture of IDA Bollaram. Key outcomes include:

- The IDA Bollaram project successfully implemented top-end surveillance solutions, combining advanced technology with strategic planning to create a secure environment for its stakeholders.

- The IDA Bollaram project successfully addressed the client's concerns by implementing security framework. The challenges related to wiring, infrastructure constraints, and difficult terrain were effectively overcome through the use of innovative solutions.

- The deployment of advanced cameras with AI-based features and the integration of fiber optics for connectivity resulted in a comprehensive security system that met the client's objectives. The project showcased the ability to adapt and provide tailored solutions in challenging environments, ensuring the safety and security of the Bollaram region.