BALAJI WAFERS PRIVATE LIMITED
CASE STUDY

Comprehensive IT Infrastructure Solution for Balaji Wafers Private Limited by D-TECH

PROJECT OVERVIEW

Client: Balaji Wafers Private Limited

Industry: Food Manufacturing

Location: Valsad GUJARAT (INDIA),

Service Provider: D-TECH

OBJECTIVE

To enhance the IT infrastructure of Balaji Wafers Private Limited by installing a comprehensive network of surveillance systems, networking equipment, and power backup solutions.

SCOPE

The project involved deploying an advanced IT infrastructure to enhance security and operational efficiency. Key components included:

- **High-Resolution IP Cameras:** For superior video surveillance.
- **Network Video Recorders (NVRs):** For efficient video recording and retrieval.
- **Advanced Storage Solutions:** For robust data management.
- **High-Performance Network Switches:** For seamless connectivity.
- **Professional-Grade Racks**: For organized equipment setup.
- **Reliable Power Backup Systems:** For uninterrupted operation.

PRODUCTS INSTALLED

Surveillance Excellence

- **HIKVISION 5MP IP Cameras:**
    - DS2CD2T55FWD-I8
    - DS2CD2TSSFWD-1S
    - DS2CD2T55FWD-I
- HIKVISION 32-Channel 4K NVR (DS9632 NI-I8) for top-tier video recording.
- SEAGATE 6TB Hard Disk to ensure ample storage capacity.

Network and Connectivity

- **NETGEAR PoE Switches:**
    - 28-Port GS728TP for extensive network connectivity.
    - 10-Port GS110TP for compact and efficient power distribution.
- **Legrand Network Solutions:**
    - 6-Core Armoured Cable (632724)
    - Cat 6 Cable (332001)
    - 12-Port Fiber Module (32141+32114)
    - 6-Port Fiber Module (32141+32113)
    - Fiber Patch Cord (32608)
    - Pigtail SM-LC (32241)
    - Cat 6 I/O (33764)
    - Cat 6 Patch Cord (632750)
    - Module Panel Blank (33791)
    - Cable Manager (33759)
    - Cat 6 I/O Module

Mounting and Hardware

- 42U Full Loaded CCTV Rack for comprehensive equipment organization.
- 6U Networking Rack with all necessary accessories.
- Pole Mount Stand and Ceiling Mount Stand for flexible installation options.
- RJ 45 Connectors (100-pack) ensuring reliable connections.
- Junction Box (Standard Make) for secure wiring.
- SINTEC 1ft*1ft Junction Box Power for efficient power management.
- **Casing:**

   25mm and 50mm (Standard Make) for neat cable routing.

   Display and Power

Display and Power

- LG 43" LED TV (43SE3JD) for clear and vivid video display.
- **APC Power Solutions:**

   UPS 600VA (BX600C-IN) & UPS 6KVA (SRC6KUXI) for uninterrupted power.

   APC Batteries (7AH/72 AH) ensuring long-lasting performance.

   APC Rack and Link for streamlined power distribution.

IMPLEMENTATION DETAILS

Planning:

- Detailed assessment of Balaji Wafers' requirements to identify critical areas for surveillance and IT infrastructure.
- Designing a network layout that ensures efficient data transmission and connectivity across the facility.

Installation:

- **Surveillance System:** Deployment of high-resolution HIKVISION IP cameras (5MP) at strategic locations for comprehensive coverage. Cameras were mounted using pole mount and ceiling mount stands.
- **NVR and Storage:** Installation of HIKVISION 32-channel 4K NVRs for managing camera feeds, paired with SEAGATE 6TB hard disks for ample storage.
- **Network Infrastructure:** Setup of NETGEAR PoE switches (28 port GS728TP and 10 port GS110TP) for powering IP cameras and other devices. Legrand CAT6 cables and fiber modules were used for robust connectivity.
- **Racks and Cabling:** Equipment organization in a 42U full-loaded CCTV rack and a 6U networking rack. Legrand cable management solutions were employed for neat and efficient cabling.
- **Monitoring:** An LG 43 LED TV was installed for real-time monitoring of surveillance feeds.
- **Power Backup:** APC UPS systems (600VA and 6KVA) along with APC batteries were installed to ensure continuous operation during power outages.

CHALLENGES AND SOLUTIONS

1. Integration with Existing Systems

Challenge: Integrating new systems with existing infrastructure without causing disruptions.

Solution: Phased implementation and careful coordination with the client's IT team ensured seamless integration.

2. Coverage in Large Areas

Challenge: Ensuring full coverage in expansive production and storage areas.

Solution: Strategic placement of multiple high-resolution cameras to cover all critical zones.

3. Data Transmission and Network Load

Challenge: Managing high data loads from numerous cameras and ensuring network stability.

Solution: Use of high-capacity PoE switches and fiber optic modules to handle large data volumes efficiently.

4. Power Backup

Challenge: Providing reliable power backup to prevent downtime during outages.

Solution: Installation of high-capacity APC UPS systems with robust batteries for uninterrupted power supply.

OUTCOMES

- **Enhanced Security:** Significant improvement in surveillance capabilities, allowing for better monitoring and quick incident response.
- **Operational Efficiency:** The new IT infrastructure supports efficient data management and monitoring, improving overall operational efficiency.
- **Reliability:** The robust setup ensures continuous operation, minimizing downtime and disruptions.
- **Scalability:** The modular design allows for easy expansion, accommodating future growth and additional infrastructure needs.

Feedback

Client Satisfaction:

Balaji Wafers expressed high satisfaction with the performance and reliability of the new IT infrastructure. They particularly appreciated the enhanced security measures and the efficiency of the installation process.

Thank You!

Hopefully, we can work together and this project will be successful.

Let's Get In Touch

Contact Us

sales@dtechindia.com