

Project Case Study

BUSINESS CENTRE - PRESIDENTIAL COURT

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The Project

The Business Centre at the Presidential Court, developed for the Ministry of Presidential Affairs (MOPA), is a high-profile, multi-functional facility designed to host VIP engagements, high-level governmental meetings, and international events. The development serves as a strategic venue to support diplomatic functions, executive conferences, and large-scale ceremonial gatherings within a secure and technologically advanced environment.

The facility comprises a diverse range of spaces including a 1,200-seat auditorium, 1,100-capacity multipurpose hall, training halls, classrooms, VIP majalis, and high-level conference suites. Each space is designed to accommodate different operational scenarios, ranging from large public addresses and media broadcasts to private executive meetings and training sessions.

Given the critical nature of the venue, the project required the deployment of high-availability, mission-critical ELV and Audio-Visual systems, ensuring uninterrupted operation, superior user experience, and full compliance with international standards for safety, security, and performance.



Scope of Work

Oasis Enterprises was responsible for the design, supply, installation, integration, and commissioning of a comprehensive suite of Extra Low Voltage (ELV) and Audio-Visual (AV) systems across the facility. The scope covered multiple subsystems, all integrated into a unified control and monitoring environment.

a) ELV Infrastructure & Core Systems

- **Structured Cabling System (SCS):**

Deployment of a high-performance fiber optic and copper-based network backbone to support AV-over-IP, security systems, and building management integration. The infrastructure was designed for high bandwidth, low latency, and scalability, ensuring future system expansion without major reconfiguration.

- **CCTV Surveillance System:**

Installation of IP-based high-definition cameras with centralized video management, incorporating intelligent video analytics for enhanced security monitoring. Coverage includes all public areas, VIP zones, and critical access points.

- **Access Control System:**

Implementation of a secure, multi-tier access control system using card readers and biometric integration (where applicable), ensuring controlled access to restricted and high-security areas.

- **Lighting Control System:**

Integration of programmable lighting control with scene-setting capabilities, enabling dynamic adjustment of lighting conditions based on event requirements.

- **Disabled Toilet Alarm System:**

Installation of compliant emergency assistance systems to ensure accessibility and safety for all users.

- **Audio & Video Intercom System:**

Deployment of IP-based intercom systems for secure communication between key operational and security zones.

Scope of Work

b) Audio-Visual Systems

1. Auditorium (1,200 PAX)

- **Large-Scale LED Display:**

A 126 sqm direct-view LED screen with ultra-high resolution (approx. 12K x 8K) designed for high-brightness, high-contrast visual performance suitable for live events and broadcasts.

- **Professional Audio System:**

A 7.1 surround sound system engineered to deliver uniform sound pressure levels (SPL) and speech intelligibility across all seating areas, supported by digital signal processing (DSP) and acoustic tuning.

- **Broadcasting Infrastructure:**

Fully integrated broadcast system including PTZ cameras, video switching, signal routing, and recording systems to support live streaming and media production.

- **Theatrical Lighting System:**

Installation of over 76 lighting fixtures across FOH and BOH, including intelligent lighting, dimming systems, and control consoles for dynamic stage lighting.

- **Audience Interaction Systems:**

Integration of wireless voting systems and simultaneous interpretation/translation systems, supporting multilingual events and audience engagement.

- **AV-over-IP Distribution:**

Centralized AV-over-IP architecture enabling flexible routing, switching, and distribution of audio and video signals across the facility.

- **Master Control System:**

Unified control platform allowing centralized operation of all AV systems, ensuring simplified user interaction and operational efficiency.

Scope of Work

2. Multipurpose Hall (1,100 PAX)

- **Suspended LED Displays:**

Multiple ceiling-rigged LED displays designed for visibility across flexible seating configurations.

- **Line Array Speaker System:**

High-output line array speakers engineered for large-volume coverage, ensuring consistent audio performance across varying event layouts.

- **Broadcast & Streaming Systems:**

Integration of PTZ cameras and AV infrastructure for live streaming, recording, and hybrid event capabilities.

- **Entertainment Lighting:**

Advanced lighting system supporting concerts, events, and dynamic presentations.

3. Training Halls & Classrooms

- **Interactive Display Systems:**

Deployment of LED interactive panels supporting collaborative learning and presentations.

- **Lecture Capture Systems:**

Integrated recording systems enabling session capture, archiving, and remote access.

- **Translation & Interpretation Systems:**

Support for multilingual training sessions with real-time interpretation capabilities.

- **Broadcast Integration:**

Capability to stream or record training sessions for remote participants.

Scope of Work

4. Public Areas & Digital Systems

- **Digital Signage Network:**

Strategically placed displays in lobbies and gathering areas for information dissemination, event updates, and branding.

- **Wayfinding Kiosks:**

Interactive kiosks in atrium spaces providing navigation and facility information.

- **Background Music System (BGM):**

Zoned audio system delivering ambient sound across public areas, integrated with central control.

Client Requirements



The client required a fully integrated, high-performance ELV and AV ecosystem capable of supporting the operational, security, and experiential demands of a presidential-level facility.

Key technical deliverables included:

- Seamless system integration across all ELV and AV platforms through a unified network infrastructure
- High reliability and redundancy, ensuring uninterrupted operation during critical events
- Broadcast-grade AV systems capable of supporting international media standards
- High speech intelligibility and acoustic performance, particularly in large venues
- Advanced security systems aligned with government-level protocols
- Scalability and future readiness, allowing upgrades without disruption to operations
- Compliance with international standards (e.g., IEC, NFPA where applicable, and local authority regulations)

Project Challenges

The project presented several complex engineering challenges due to the scale, security requirements, and multi-functional nature of the facility:

- **System Integration Complexity:**

Integration of multiple ELV and AV systems across diverse spaces required careful coordination to ensure interoperability and avoid signal conflicts or latency issues.

- **Acoustic and Audio Distribution Constraints:**

Large-volume spaces such as the auditorium and multipurpose hall required detailed acoustic modeling to achieve uniform sound coverage and avoid reverberation and echo.

- **High-Resolution Content Distribution:**

Managing ultra-high-resolution video (12K) required robust bandwidth planning, high-capacity switching infrastructure, and low-latency signal distribution.

- **Structural Coordination for Equipment Installation:**

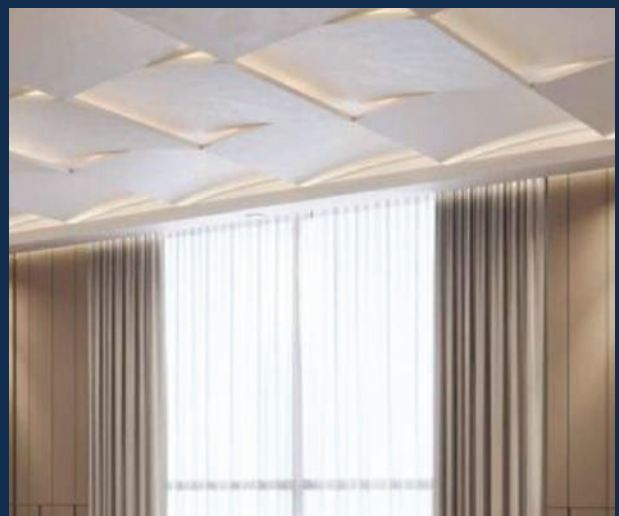
Ceiling-mounted LED displays, line array speakers, and lighting rigs required precise coordination with structural and MEP teams to ensure load compliance and safe installation.

- **Security and Access Restrictions:**

Working within a high-security environment necessitated strict adherence to access protocols, impacting installation scheduling and logistics.

- **Operational Flexibility:**

The need to support multiple event types required systems to be highly configurable while maintaining ease of use for operators.





Project Outcomes

The proposed solutions were successfully reviewed and approved, with implementation currently progressing in alignment with project timelines.

Key outcomes include:

- **Integrated Technology Ecosystem:**

A fully unified ELV and AV infrastructure enabling seamless communication between systems and centralized control.

- **High-Performance Audio-Visual Experience:**

Optimized audio and visual systems delivering consistent performance across all venue types, ensuring clarity, reliability, and user satisfaction.

- **Enhanced Operational Efficiency:**

Centralized control systems and AV-over-IP architecture simplify system management, reducing operational complexity and response times.

- **Broadcast-Ready Facility:**

The facility is equipped to support high-quality live broadcasting and hybrid events, meeting international standards.

- **Robust Security and Safety Systems:**

Advanced CCTV, access control, and emergency systems ensure a secure environment aligned with governmental requirements.

- **Future-Proof Infrastructure:**

Scalable network and AV systems allow for future upgrades and expansion without significant redesign.

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