

Project Case Study

**KING ABDULAZIZ CENTER FOR WORLD CULTURE (ITHRA)
MAIN AUDITORIUM - DHAHRAN, KINGDOM OF SAUDI ARABIA**

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The Project

The King Abdulaziz Center for World Culture (Ithra) is a flagship cultural development initiated by Saudi Aramco, serving as a national platform for arts, education, and cultural exchange. The facility includes multiple performance venues, with the main auditorium designed to host international theatre productions, concerts, and large-scale cultural events.

The auditorium required a fully integrated, production-grade lighting system capable of supporting a wide range of performance types, from touring theatrical productions to locally produced events. Given the strategic importance of Ithra as a cultural landmark, the system needed to align with international theatre standards, offering both technical flexibility and long-term operational reliability.

Oasis Enterprises was commissioned to deliver the complete production lighting and control infrastructure, working in accordance with the detailed design brief and specifications developed by Theatre Projects Consultants. The scope required strict adherence to design intent, while ensuring constructability, integration with building systems, and readiness for long-term operation.



Scope of Work

The project scope covered the supply, installation, integration, testing, and commissioning of the production lighting system and associated infrastructure for the main auditorium.

a. Production Lighting System

- Installation of a comprehensive stage lighting rig, including intelligent luminaires and conventional fixtures
- Provision of Production Lighting Boxes (PLBs) strategically distributed across the auditorium, stage, and technical galleries, allowing flexible connection points for touring productions
- Integration of lighting positions across front-of-house (FOH), stage, and overhead rigging systems

b. Lighting Control System

- Deployment of a network-based lighting control system utilizing sACN (Streaming ACN) protocol for high-speed, scalable data distribution
- Integration with industry-standard theatrical control consoles, enabling compatibility with international touring productions
- Configuration of DMX universes and network segmentation to ensure stable and conflict-free signal distribution

c. Dimming and Power Distribution

- Installation of centralized dimming systems and power distribution units to support both conventional and intelligent fixtures
- Load balancing and circuit allocation to ensure efficient power utilization and system safety
- Compliance with international electrical standards and local authority regulations

Scope of Work

d. House and Work Lighting Systems

- Implementation of house lighting control integrated with the main lighting system, allowing coordinated control during performances and events
- Installation of work lighting systems for backstage and maintenance operations, ensuring adequate illumination levels for technical staff
- Integration of these systems into a unified control platform for ease of operation

e. Infrastructure and Integration

- Installation of data and power cabling infrastructure, including structured cabling for lighting control networks
- Coordination with MEP systems to ensure proper routing, containment, and segregation of services
- Integration with building systems where required, including provision for future expansion

f. Testing and Commissioning

- Execution of comprehensive system testing, including:
 - Signal integrity and network performance validation
 - Functional testing of all lighting circuits and control interfaces
 - System stress testing under simulated operational conditions
- Final commissioning carried out in coordination with Theatre Projects Consultants to ensure compliance with design intent

Client Requirements



The client's brief, developed in conjunction with Theatre Projects Consultants, was translated into the following technical deliverables:

- **International Standard Compliance:** A lighting system aligned with global theatre standards to accommodate touring productions
- **System Flexibility:** Provision of adaptable infrastructure, including PLBs and distributed control points
- **Integrated Control:** Unified control of production, house, and work lighting systems
- **Reliability:** High system uptime with robust network architecture and quality components
- **Ease of Operation:** User-friendly system enabling efficient operation by in-house technical teams
- **Future Readiness:** Scalable infrastructure capable of accommodating future upgrades and additional technologies
- **Coordination with Design Intent:** Strict adherence to consultant specifications while ensuring practical implementation

Project Challenges

a. Coordination with Detailed Consultant Specifications

The project required precise implementation of an established design:

- Ensuring full compliance with Theatre Projects Consultants' specifications without deviation
- Translating design intent into coordinated installation drawings and site execution plans
- Managing interface points between lighting systems and other theatre infrastructure

b. Complex System Integration

The integration of multiple subsystems required careful planning:

- Synchronization between lighting control, dimming systems, and distributed connection points
- Network design to support large channel counts and multiple universes
- Avoidance of signal interference and data conflicts across the control network

c. High Performance Requirements

As a venue intended for international productions:

- Ensuring compatibility with a wide range of external equipment and touring systems
- Providing sufficient capacity and redundancy within power and control systems

d. Installation Within a Complex Building Environment

The auditorium is part of a larger, architecturally complex facility:

- Routing of cabling through constrained pathways while maintaining integrity
- Alignment with structural and architectural finishes





Project Outcomes

The completed system delivers a fully integrated, production-grade lighting infrastructure that meets the operational demands of a world-class performance venue.

Key outcomes include:

- **Operational Flexibility:** The auditorium is capable of hosting a wide range of productions, from small-scale performances to technically complex international shows.
- **System Reliability:** Robust network architecture and high-quality components ensure consistent performance with minimal downtime.
- **Seamless Integration:** Production lighting, house lighting, and work lighting systems operate within a unified control environment.
- **Enhanced Usability:** The system provides intuitive control for technical staff, reducing setup time and operational complexity.
- **Future-Proof Design:** Scalable infrastructure allows for straightforward upgrades and integration of emerging technologies.
- **Compliance and Performance Assurance:** All systems were tested and commissioned in accordance with international standards and consultant requirements, ensuring readiness for operational use.

Installed Items/BOQ

POWER CONTROLS

ETC	Sensor 3 48 Power control	10
HOUSE & WORKLIGHT		
ETC	Paradigm Architectural Control Processor	3
ETC	Custom Buttom Station	83
GDS	GDS Blues Controller	9
NETWORK		
DLINK	24 port fibre switches	3
Extreme	48 port Ethernet switches	5
ETC	DMX Gateway 2 Port	20
ETC	DMX Gateway 1 Port	10
PRODUCTION LIGHTING DISTRIBUTION		
Custom	Production Lighting Boxes	96
Production lighting control		
MA Lighting	GrandMA2 lite	1
MA Lighting	GrandMA2 full-size	1
MA Lighting	GrandMA2 replay unit	1
MA Lighting	GrandMA2 faderwing	1
FIXTURES		
ETC	Source 4 ZOOM 25-50 DEG	18
ETC	Source 4 ZOOM 15-30DEG	18
ETC	Source 4 10 Degree	12
ETC	Source 4 10 Degree	36
ETC	Source 4 19 Degree	36
ETC	Source 4 26 Degree	36
ETC	Source 4 36 Degree	24
ETC	Source 4 50 Degree	12
Robert Juliat	614 CSX 16/35	24
Selecon	Acclaim Fresnel	24
Robert Juliat	310HF	48
Robert Juliat	Cin'k - 325LF	24
Robert Juliat	Le Cin'Q 5000 Theatre	6
Robert Juliat	310THPB	36
Robert Juliat	329HPC	12
ETC	Source 4 PAR	36
Robert Juliat	Aramis - 1013+ Follow Spot	2
DELTA	Worklight 500W	20

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