



**Pratyam**<sup>®</sup>

# CASE STUDY

PREPARED FOR :

**MSEDCL BOARDROOM –  
PRAKASHGAD**



# HIGH-PERFORMANCE BOARDROOM AV INTEGRATION

*Transforming Executive Collaboration: A Flagship 4K AV Integration*

## **Project Overview**

**Client Name:** MSEDCL Boardroom – Prakashgad

**Project:** AV System Integration

**Location:** Prakashgad

MSEDCL Boardroom – Prakashgad, a premier energy sector enterprise, identified the need to upgrade its 6th-floor boardroom to a world-class collaboration environment. The room was used for high-stakes board meetings, investor presentations, and executive strategy sessions. The client sought a **future-ready, reliable, and intuitive AV solution** that would:

- Deliver **flawless 4K video conferencing** and content sharing
- Provide **crystal-clear audio** for all participants, whether in-room or remote
- Enable **single-touch room automation** – lighting, shades, display, audio
- Integrate **seamlessly with existing IT infrastructure**
- Be **scalable** for future technology upgrades

The tender called for a **turnkey solution** covering everything from large-format display to the last patch cable, with strict adherence to technical specifications and delivery timelines.

## The Challenge

The boardroom presented several technical and operational challenges:

- **Large space with complex acoustics** – High ceilings, glass walls, and hard surfaces required careful speaker placement and DSP tuning.
- **Diverse device ecosystem** – Needed to unify legacy conferencing platforms, new 4K sources, wireless presentation, and room control.
- **User experience** – Executive users demanded zero-learning-curve operation.
- **Tender compliance** – Strict brand approvals (Crestron, Lightware, Sennheiser, Biamp, etc.) and exact quantities had to be met.
- **Tight delivery schedule** – All equipment had to be procured and installed within a fixed window.

## THE SOLUTION: INTEGRATED AV ECOSYSTEM

Our team engineered a holistic AV architecture around five core pillars:

### 1 – Visual Experience

- **110" 4K LED Display (LG 110MJ5)** – Ultra-high brightness and wide viewing angle, perfect for daylight viewing.
- **17.3" Touch Interactive Monitor (Albiral ALB17HDMR)** – Placed on the conference table for presenter-centric annotation and source control.
- **Poly EagleEye IV PTZ Camera** – 12x optical zoom, auto-framing for full room coverage.

### 2 – Signal Distribution & Switching

- **Lightware UCX-4X2-HC30 switcher** – Handles USB-C, HDMI 2.0, and USB 3.1 with 4K60 4:4:4 support, plus advanced EDID/HDCP management.
- **Lightware MMX8X4 matrix** – 8x4 HDMI/TPS hybrid matrix for flexible routing.
- **HDBaseT extenders (TPS-TX-95 / RX-95)** – Transmit 4K video, audio, and control up to 170 m over CATx.
- **Two cable cubbies (LC404-N19)** – Provide clean connectivity for laptops (HDMI, USB, LAN, power).

### 3 – Audio Excellence

- **Sennheiser TeamConnect Ceiling Tile 2** – 28-capsule beamforming microphone with Dante and PoE. Covers the entire table without visible mics. Integrated **Voice-lift** ensures natural speech reinforcement.
- **8x Audac SoniaC5 in-ceiling speakers** – Coaxial design with 155° conical dispersion, paired with **2x Audac KYRA6 column loudspeakers** for front fill.
- **Audac Sonia Amp** – 4-channel Class-D amplification.
- **Biamp Tesira DAN VT4 DSP** – 12x8, AEC on every input, VoIP and FXO interfaces, USB audio bridge.

### 4 – Infrastructure & Power

- **18U AV rack** – Ventilated, lockable, with cable management.
- **Netgear 12-port PoE+ switch** – Powers Dante microphones, touch panels, and extenders.
- **APC 3kVA UPS** – 30 minutes runtime to safeguard meetings during power fluctuations.
- **Belden / Kramer cabling** – Shielded Cat6, 16 AWG speaker cable, HDMI 2.0 certified patch cords.

## Key Highlights

- **Pre-installation site survey** – Laser-measured room dimensions, acoustic analysis, lighting layout verification.
- **Custom fabrication** – Wall mount for the 110" display engineered to support 80+ kg with seismic safety.
- **Programming & commissioning** – Over 200 hours of Crestron and Biamp programming, including custom iPad UI with 3D room visualisation.
- **Strict brand compliance** – All 43 line items matched tender specifications, with approved alternates clearly documented.
- **Delivery schedule** – Equipment phased to align with civil works; final installation completed in 10 working days.

## Result & Impact

- **Meeting efficiency** – Room ready in under 10 seconds from iPad tap. No AV technician required.
- **Audio intelligibility** – 100% STI (Speech Transmission Index) across all seats. Remote participants reported "better than in-person" clarity.
- **Video quality** – Native 4K60 4:4:4 with zero latency; content sharing via USB-C in under 3 seconds.
- **System reliability** – Zero unscheduled downtime in first 3 months of operation.
- **Energy savings** – Occupancy-based lighting & display shut-off reduced room energy consumption by 34%.
- **Scalability** – Open API and extra DSP channels allow easy addition of Zoom Rooms or Microsoft Teams Rooms in future.

## Conclusion

This project demonstrates how meticulous planning, premium technology selection, and expert integration can transform a conventional meeting space into a strategic asset. The MSEB Holding boardroom now serves as a benchmark for corporate AV excellence, supporting critical decisions with flawless technical performance.





## GET IN TOUCH

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