Minimum Specifications: Unified Video Conferencing & Streaming System
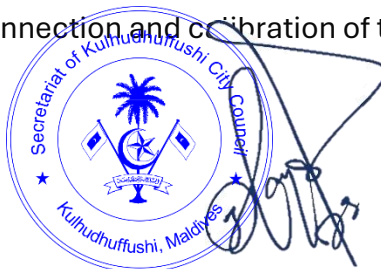
1. General Requirements & Compliance

- **Authorized Supply:** Items must be procured directly from the manufacturer or an authorized distributor/partner. A supporting document confirming this authorization, obtainable from the supplier, must be submitted together with the proposal.

- **System Uniformity:** All core hardware (Cameras, Hub, and Speakerphones) must be from the same manufacturer to ensure seamless AI integration and 3D audio tracking.

2. Scope of Work

The contractor shall provide a complete, "turn-key" solution including the supply, installation, wiring, and technical configuration of a professional-grade video conferencing, streaming, and training for relevant staff.

Installation & Integration Requirements

- **Device Mounting:** Secure installation of **two (2) separate camera units** and **three (3) ceiling-mounted speakerphones** (one base unit and two expansion units).

- **Camera Configuration:** One (1) camera shall be **Model A** (Standard Dual-Lens) and one (1) camera shall be **Model B** (Advanced Dual-Lens with Audio Tracking).

- **Mounting Locations:** One camera shall be wall-mounted and one camera shall be ceiling-mounted. Assistance will be provided by council if the ceiling needs to be reinforced to hold the camera's weight.

- **Central Hub Setup:** Installation of the connectivity hub to interface with the Council-provided PC/Laptop.

- **Display Integration:** Full connection and calibration of the existing Council-provided TV/Display.

- **Wiring & Electrical:**

  o Supply and installation of all necessary cabling (USB 3.0, HDMI, Cat6/PoE+, etc.) per the provided room drawing.

  o Installation of dedicated electrical power points for the cameras and the hub will be provided by the council.
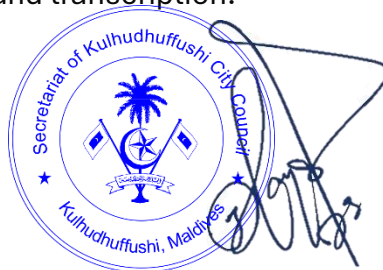
- **Platform Configuration:**

  o **YouTube Live Streaming:** Configure hardware for direct RTMP/RTSP streaming to YouTube.

  o **Platform Agnostic Setup:** Ensure full "plug-and-play" compatibility for future use with Microsoft Teams, Zoom, and Google Meet.

- **Testing & Optimization:**

  o **AI Camera Tuning:** Calibrate features (SmartFrame, Smart Gallery, and Smart ViewShift) for the specific room layout.

  o **Transcription Calibration:** Calibrate audio levels for AI transcription accuracy, ensuring minimal background noise and clear voice separation for 12 participants.

- **Training & Documentation:**

  o **Training:** Provide in-person physical training for Council staff on using the hardware and starting/managing AI transcriptions.

    - The cost incurred for conducting the training must be included in the bid. This must include all expenses related to the trainers' travel, accommodation, and meals.
    - Council will provide a hall for conducting the training. Furthermore, the training must be arranged within 10 days of the completion of this work.

  o **Documentation:** Provide an "As-Built" wiring diagram and a "Quick Start" guide for streaming and transcription.
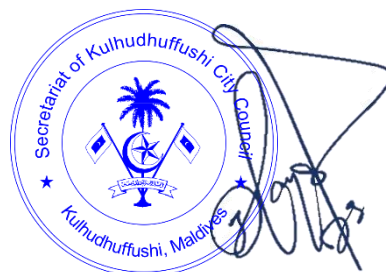
3. Hardware Specifications

- *Keep the Camera and Speakerphone Specification tables as provided.*

- **Manufacturer Consistency**: All proposed hardware in this section (Camera Model A, Camera Model B, and the Speakerphone System) must belong to a single unified product ecosystem from the same manufacturer to support proprietary AI synchronization and 3D audio tracking.

Camera Model A Specifications

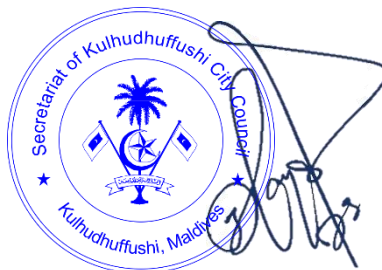- This model is characterized by 24X zoom and specific AI features.

Feature	Primary PTZ Lens	Secondary AI Lens
Image Sensor	4K EXMOR type sensor	4K EXMOR type sensor
Max Resolution	4K at 30fps; 1080p up to 60fps	4K at 30fps (follows PTZ)
Field of View	**DFOV 85° / HFOV 76° / VFOV 46°** (Minimum)	**DFOV 95° / HFOV 82° / VFOV 52°** (Minimum)
Zoom	**24X Total** (12X Optical / 2X Digital Minimum)	Fixed Focal Length
Aperture (F#)	f/1.8 (wide) ~ f/2.8 (tele)	f/2.0
AI Features	Auto-framing, multi-participant gallery view (**Smart Gallery**), gesture control, dynamic framing	Dynamic Framing (detects newcomers)
Connectivity	USB 3.1 Type-B, HDMI 1.3, IP (RJ45 with PoE+)	Integrated via Main Body
Imaging	True WDR up to 120dB	Supported

Camera Model B Specifications

This model is characterized by enhanced 36X zoom, integrated audio sensors, and specific AI feature upgrades.
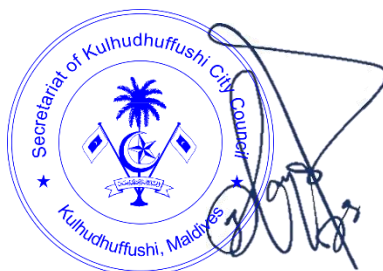
Feature	Primary PTZ Lens	Secondary AI Lens
Image Sensor	4K EXMOR type sensor (High performance in low light)	4K EXMOR type sensor
Max Resolution	4K at 30fps; 1080p up to 60fps	4K at 30fps
Field of View	**DFOV 90° / HFOV 78° / VFOV 50°** (Minimum)	**DFOV 95° / HFOV 82° / VFOV 52°** (Minimum)
Zoom	**36X Total** (12X Optical / 3X Digital Minimum)	Fixed Focal Length
Aperture (F#)	f/1.8 (wide) ~ f/3.6 (tele)	f/2.0
AI Features	Auto-framing, multi-participant gallery view (**Smart Gallery**), gesture control, advanced movement sensitivity reduction (**Smart ViewShift**)	Dynamic Framing (detects newcomers)
Audio Tracking	**Minimum 3 Built-in Audio Sensor pairs** for Voice Tracking	N/A
Connectivity	USB 3.1 Type-B, HDMI, IP (RJ45 with PoE+)	Integrated via Main Body
Imaging	True WDR up to 120dB	Supported

Ceiling-mounted Speakerphone System Specifications

The system must provide 360-degree coverage and act as a central AV hub:

Feature	Specification Details
System Components	1 x Connectivity Hub; 1 x Base Ceiling Speakerphone; 2 x Expansion Speakerphones
Microphone Array	Minimum 21 microphones total per unit; 360-degree pickup
Acoustic Pickup	3.5m (11.5 ft) radius per unit
Audio Processing	AI Noise Suppression, Voice Fencing/Gating, Acoustic Echo Cancellation (AEC), and De-reverberation
Audio Tracking	3D Audio Tracking capable of guiding compatible USB cameras
Video Integration	Hub must feature minimum 2x USB ports for cameras and 1x 4K HDMI-out for display
PC Connectivity	1x USB 3.0 Type-C port for single-cable connection to a computer
Power Supply	Hub must provide sufficient power (PoE) for all 3 daisy-chained units

4. Warranty and Support

Hardware Warranty: Minimum 1-year comprehensive hardware replacement warranty

5. Layout and Drawing Compliance