

OIL INDIA LIMITED

KGB & MBP

Notice Inviting Expression of Interest

Supply, Installation and Commissioning of Integrated Video Conferencing and Audio System for Conference Room of KG Basin Project Office, Kakinada, Andhra Pradesh

OIL INDIA LIMITED (OIL) is Maharatna Public Sector Enterprise of the Government of India under the Ministry of Petroleum and Natural Gas. The KG Basin Project Office of OIL, located at OIL INDIA LIMITED, 70-14-16/4 (3rd Floor), Down Town Building, Next to D Mart, Venkatnagar, Kakinada, PIN 533004, Andhra Pradesh would like to procure an Integrated Video Conferencing and Audio System with components of reputed make for the Conference Hall. The Integrated System for the Conference Hall of size 34 feet by 26 feet should comprise of the components broadly specified herein.

Experienced System Integrators should forward their “Expression of Interest” addressed to Executive Director (OFFSHORE) OALP, MBP, KG, DSF over email communication (email id kg_passage@oilindia.in) stating their past experiences on or before 27.08.2026. The Expression of Interest should also comprise of budgetary quotes under the following heads:

1. Supply, installation and commissioning of the Integrated Video Conferencing and Audio System;
2. Annual Maintenance Charges (including cost of spares, if any) for second and third year after completion of 1 (one) year warranty;
3. Annual Maintenance Charges (including cost of spares, if any) for fourth and fifth year.

The Integrated Video Conferencing and Audio System should comprise the following components:

I. DISPLAY AND SWITCHING

1. **1 (one) no.** 98 inches Interactive Display of reputed make supporting all major types of multi-media files, standardized human-computer interaction (HCI) & touch accessibility and software supporting all basic features like pen selection, width selection, color change, background change, erase, multiple page navigation, saving of file in PDF & JPEG and split-screen. The specifications should be as below:
 - Resolution – 3840 x 2160 or better
 - Aspect Ratio – 16:09
 - Brightness – 440nit or higher
 - Contrast Ratio – 1200:1 or higher
 - Touchpoints in Embedded OS - >= 50 touchpoints or better

- Panel Response Time: 8 ms or better
 - Touch response time : ≤5 ms or better
 - Maximum AudioPower Output – 2 x 15 watts or better
 - Android Version - Android 14 or higher
 - Minimum Ports – 2 x HDMI 2.0 (In) or better, 1x VGA, RJ45 LAN, RS232C In/Out, 2xUSB 2.0 or better, 1xUSB Type-C, Audio In, Audio Out, 1xHDMI Out
 - RAM - 8GB minimum or higher
 - Storage - 128 GB or higher
 - Mounting: VESA mounting (Wall mount bracket must be provided)
2. Cable Cubby: **21 (twenty-one) nos.**
- No. of holes for AV connectivity – 4
 - Wireless Charging Facility - Required
 - 2 × Universal AC power sockets, 230 V AC, 50 Hz, suitable for Indian standards.
 - 1 × USB-A charging ports, minimum 5 V DC.
 - 1 × USB-C charging ports, preferably supporting USB Power Delivery.
 - 1 × RJ45 LAN port, Cat6A, Gigabit Ethernet minimum.
3. 4 x 4 HDMI Switcher: **1 (one) no.**
- Input connector - 4x HDMI, 1x IR EYE (3.5mm Jack), 1x RS232, 1x TCP/IP (RJ45) or better,
 - Output connector - 4x HDMI (4x downscaling), 4x Analog Stereo (2x L/R RCA), 4 x digital audio or better
 - HDMI Version: 2.0 and HDCP Version: 2.3 or better.
 - Resolution - Up to 4K@60Hz 4:4:4
 - Supports - 18Gbps for resolutions up to 4K UltraHD @ 60Hz or Higher
 - SNR - > 80dB, 20Hz-20KHz bandwidth
 - IR sensor - Built-in IR sensor, receives IR signal sent from IR remote
 - TCP/IP - RJ45 port to connect the control device (e.g. PC) to control the matrix by GUI
 - Power - Connect with 24VDC 2.7 A power adaptor
 - Control - Control via TCP/IP, web-GUI, CEC, RS232 and IR or better
4. HDMI Tx Rx Extender: **21 (twenty-one) nos.**
- Input Connectors - TX: Minimum 1x HDMI, Minimum 1x IR (3.5mm Jack), Minimum 1x RS232 (3 pin); RX: Minimum 1x HD BaseT (RJ45), Minimum 1x IR (3.5mm Jack), Minimum 1x RS232 (3 pin)
 - Output Connectors - TX: Minimum 1x HDBaseT (RJ45), Minimum 1x IR (3.5mm Jack) | RX: Minimum 1x HDMI, 1x IR (3.5 mm jack)

- Standards - HDMI 1.4, HDCP 2.2/1.4 or better
- Transmission Distance: Minimum 70 m over Cat6A cable for 4K video, or better
- Digital video formats- Support video Up to 4K@60Hz (4:4:4) or better
- HDCP, CEC, EDID – Yes
- Operating temperature- 0°C - 40°C or better

5. HDMI Cables

i. **10 meters – 1(one) no.**

ii. **1 (one) meter – 1 (one) no.**

- HDMI Version 2.0 or better, supports 18 Gbps for resolutions up to 4K Ultra HD 60Hz or better
- Power connector(s) – 1 x micro-USB female
- Digital video format- HDMI High Speed with Ethernet compatible or better
- Digital audio format - HDMI High Speed with Ethernet compatible
- HDCP, CEC - Yes or better
- Power - 5V HDMI or micro-USB
- Maximum resolution - 3840x2160 pixels or better

6. Wireless Presenter:

The wireless presentation device set (receiver paired with wireless USB C dongle) should be able to facilitate presenting the screen (including video conferencing) of a presenting device (laptop / desktop) to the large displays wirelessly. The USB C Dongle shall be able to connect to the presenting device (laptop / desktop) in a plug and play manner without having to install any firmware / driver / software. The system shall support integration with the Soft VC system such that shared content can be displayed locally and, where required, transmitted to remote conference participants.

A) Wireless USB C Dongle: **2 (two) nos.**

- Connector: Minimum one no. of USB C male
- Input Audio / Video signal type: as required over USB-C
- Output Audio / Video signal type: Network stream over Dual-band WiFi 6 802.11a/b/g/n/ac/ax (2.4 GHz & 5 GHz) or better, received by a paired receiver
- Power: powered via USB-C connection to personal device (no external power)
- OS Support: Android™, Windows 10, Windows 11, Chrome OS™

B) Wireless Receiver: **(1 no.)**

- Connectors
 - ✓ Minimum 1 no. of HDMI Type A connector

- ✓ Minimum 2 nos. of USB 2.0 / 3.0 host port for USB conferencing peripheral
- Input Audio / Video signal type: Dual Band Wi-Fi 6 802.11/b/g/n/ac/ax, (2.4 GHz or 5 GHz) or better
- Output Audio / Video signal type: HDMI supporting 3840x2160@60Hz (4K: 2160p60) or better
- Power: power over ethernet or external power adaptor
- OS Support: Android™, Windows 10, Windows 11, Chrome OS™

II. CAMERA AND SOFT VC SOLUTION

1. PTZ Camera (12x) – **1 (one) no.**

- Zoom - 12x Optical Zoom or better
- Resolution – 1080p @ 60fps or better
- Video Output Port - HDMI, Ethernet, USB3.0 or better
- Network Interface - RJ-45, 100Mbps Ethernet or better
- Network Protocol Support - RTSP, RTMP, ONVIF, GB/T 28181
- Preset Positions - Up to 256 or higher
- Control Protocol - VISCA over IP/ Pelco-D/ Pelco-P or better
- Control Port - RS-232 / Ethernet / USB 3.0
- Pan / Tilt Rotation - (-)170° to (+)170° / (-)30° to 90° or better
- Shutter Speed - 1/25 to 1/10,000 sec
- Pan speed - Adjustable from 0.1°/second to at least 100°/second (or better)
- Tilt speed - Adjustable from 0.1°/second to at least 50°/second (or better)
- Video S/N Ratio - > 50dB
- Video Compression- H.264, H.265 or better
- Iris - F1.5 to F3.0 or better
- Power - PoE (802.3af)

2. Full HD Output Capture Card – **1 (one) no.**

- Input - 1 x HDMI Type A Female or better
- USB Port - USB 3.0 or better Type C
- Video Output - 1 x HDMI or better
- Audio Inputs - 3.5mm Microphone Input
- Audio outputs - 3.5mm audio output
- Video Resolution - Maximum Input: 3840 x2160 (4K UHD) at 30/60 fps
- ✓ High-Frame Input: 1920 x1080 (Full HD) at 60 fps
- ✓ Standard Video Formats: 1080p, 1080i, 720p, 576p, 480p

- Audio Sampling - Sampling Rate: Fixed at 48 kHz for standard operation.
 - ✓ Bit Depth: 16-bit digital audio processing or better
 - ✓ Channels: 2-channel stereo (Left/Right).
 - ✓ Audio Format: Uncompressed Linear PCM (LPCM)
- OS Support - Windows: Windows 7, 8, 8.1, 10, 11 (both 32-bit and 64-bit architectures) / Linux: Ubuntu, CentOS, or Fedora running Linux Kernel 2.6.38 or higher / Android: Android 5.0 or later (requires an OTG adapter cable and a compatible UVC)

3. HDMI Cable - **3 (three) meters-6 Nos**

- HDMI version - 2.0 —supports 18 Gbps for resolutions up to 4K Ultra HD 60Hz or better
- Power connector(s) - 1x micro-USB female
- Digital video format - HDMI High Speed with Ethernet compatible or better
- Digital audio format- HDMI High Speed with Ethernet compatible
- HDCP, CEC - YES or better
- Power - 5V HDMI or micro-USB
- Resolution- 3840 x 2160 pixels or better

4. HDMI Tx Rx Extender – **2 (two) nos.**

- Input connector(s) - TX: Minimum 1x HDMI, Minimum 1x IR (3.5mm Jack), Minimum 1x RS232 (3 pin Phoenix); RX: Minimum 1x HDBaseT (RJ45), Minimum 1x IR (3.5mm Jack), Minimum 1x RS232, (3 pin)
- Output connector - TX: Minimum 1x HDBaseT (RJ45), Minimum 1x IR (3.5mm Jack); RX: Minimum 1x HDMI, Minimum 1x IR (3.5mm Jack)
- Standards - HDMI 1.4, HDCP 2.2/1.4 or better
- Digital video formats- Support video Up to 4K@60Hz (4:4:4) or better
- HDCP, CEC, EDID - Yes
- Operating temperature- 0°C - 40°C or better

5. Video conference UC engine package – **1 (one) no.**

- Video Standard and Protocols: H.264 AVC, H.264 High Profile, H.265 Or better.
- Video Input: 1xHDMI, 3xUSB Or better.
- Video Outputs: Minimum 2 × HDMI outputs, supporting up to 1920 × 1080 @ 60 Hz.
- Resolution: UHD (3840x2160), HD (1920x1080).
- USB Ports: Min. 2× USB 3.0/3.2 (incl. 1× USB-C with DP/PD)
- Audio Output: 1xHDMI, 1x3.5 mm stereo line-out or better.
- Content frame rate: 5-60 fps (up to 4K resolution at 15 fps in call).
- Network: IPV4 & IPV6, 1x10/100/1000 Ethernet, H.323 and SIP up to 6 Mbps, if required.

- Security: Media encryption (H.323, SIP) AES-128, AES-256.
- Interoperability: Shall support standards-based SIP and H.323 interoperability where applicable.
- Should be Zoom/Microsoft Teams Certified,
- Support for native 3rd party applications includes Zoom Rooms, Microsoft Teams, Webex Etc.
- Licensing: All required operating system, VC application, codec and interoperability licenses shall be included for the specified contract/license period.
- Should comply to CE, FCC & BIS.

III. AUDIO SYSTEM

1. Chairman and Delegate Unit Microphones – **21 (twenty-one) nos.**

- Gooseneck Stem - 430 mm or above
- Audio Quality - 24 bits/48 kHz or better
- Technology - Double layer pop filter and RFI shielding
- Microphone Polar pattern- Hypercardioid
- Maximum Input sound level- 134 dB SPL or better
- Dynamic Range - 107 dB A-weighted or better
- Frequency - 20Hz - 20kHz
- Integrated Loudspeaker - In-built
- LED display for Volume control and channel selection - required
- Individual Automated Gain Control - required
- Multicolour LED indicator, LED on the talk button- required
- Headphone Output - Yes
- RJ-45 for connecting - 2 ports
- Phantom power - DC +12 V to +24 V

2. Control Unit for Chairman and Delegate Unit Microphone- **1(one) no**

- No of Chairman & Delegates Unit to be connected - 100 or better
- Audio processing by the feedback processor - Required
- Recording - Built-in recorder for up to 4 channels recording on USB
- Dynamic range - 110 dB A-weighted or better
- Signal-to-noise - 90 dB, A-weighted or better
- Inputs - Minimum: 2 Mic/Line In, 2 Aux In, 2 x Interpretation Return
- Outputs - Minimum: 4 balanced outputs, 1 unbalanced output

- Selectable conference mode - 3 nos.: Free Talk Mode, Request Talk Mode, and Full Remote Mode
- Priority Mode - First-press priority and later-press (FIFO, LIFO) priority
- Control - Web Remote and an external control device

3. **Wireless Handheld Microphones – 4 (four) nos.**

- Microphone - Single Channel Wireless Microphone System or better
- Operating Frequency- 134MHz or shall comply with applicable Indian WPC/DoT frequency regulations.
- Carrier Frequency - 522MHz to 930MHz
- Polar Pattern - Cardioid
- RF Power Output - 10mW to 40mW
- Current - 110mA (Typical) or better
- Operating Hours - Approximately 14 hours or better
- Operating Range - 80 to 100 M typical (in open space)
- Power Supply - DC 12V/12w
- Output Connector - XLR balanced or 6.3 mm phone jack unbalanced
- Compatible system - Maximum 24 set can be used simultaneously by using multiple frequency bands in one venue or better.

4. **Digital Signal Processor - 1 (one) no.**

- Input - 12 mic/line inputs or better
- Output - 10 lines outputs or better
- AEC Number of Channels - Ten (10) or better
- Minimum 2-channel bidirectional USB audio or better
- Signal-to-noise ratio - 90dB or better
- Dynamic Range - 110dB or better
- Mic Input Level – (-) 20 dBu or better
- Line Input Level – (+) 24dBu or better
- USB audio interface for soft codec - Required
- Digital Network Link Port for future - Required
- Dante Network - Connected for input and output audio with Dante devices
- Phantom Power - Variable from 12V-48V phantom power on first 8 mic inputs
- Control - IP / RS232 port for third-party control

5. **Audio Power Amplifier – 1 (one) no.**

- Power - 4 x 150W @ 8/4 Ohm or better power

- Type - Class D
- Channel - 4 Channel or better
- Frequency Range - 20Hz – 20KHz
- S/N Rate - >96dB
- Gain - 28dB or better
- Input sensitivity - 2.21dBu or better

6. Speakers:

Ceiling Mount – **6 (six) nos.**

- Type - Ceiling Mount
- Woofer - 16.5cm or better
- Tweeter - 1.9 cm or better
- Power Handling - 30 Watts or more RMS (continuous power handling in direct 8Ω mode)
- Frequency - 94 Hz to 18 kHz or better
- Frequency Range - 65 Hz to 20 kHz or better
- Dispersion - 130° or better

OR

Wall Mount – **4 (four) nos.**

- Type - Wall mount
- Woofer - 5.25 inch or better
- Tweeter - 0.5 inch or better
- Power Rating - 40 W @ 8 Ohm or better
- SPL - Maximum 107 dB or better
- Frequency - 94 Hz to 20 kHz or better
- Coverage angle - 90° x 70° or better
- Sensitivity - 91 dB or better

IV. CONTROL SYSTEM

1. Controller – **1 (one) no.**

- Operating Platform - Dedicated, hardware-based control appliance running an embedded OS with a configuration engine
- Physical Interface - Minimum: 1x HDMI output, 1x Mini Display Port, 2x USB 3.0 Type-A host ports and 1x USB Type-C.
- Compliant encryption - SSL, TLS, SSH
- Protocol - IEEE 802.1x, SNMP, BACnet, IPv6, TCP, UDP, DHCP.
- Control – IP, Relay, RS-232, RS-422, or RS-485, infrared (IR) serial two-way device control

- Power - PoE
 - License - Required from first day of configuration
2. Tabletop Touch Panel – **1 (one) no.**
- Panel Size - 11" Diagonal or more
 - Storage - Minimum 128 GB
 - Display: Full HD or better
 - Connectivity - Wi-Fi
 - Power Adapter - 30W or Higher
 - Power Cable - USB - C of minimum 2 mtrs.
3. Touch Panel Sleeve / Cover and Docking / Base Station – **1 (one) no.**
- Charging Option - Wireless
 - Power - 24V DC Power Supply
 - Cover / Case - Include a Case Lock for added security
 - Compatible - Shall be compatible with Tabletop Touch Panel
4. Wireless Dual Band Access Point – **2 (two) nos.**
- Wi-Fi Technology - Support IEEE 802.11ax (Wi-Fi 6) on both the 2.4 GHz and 5.0 GHz bands
 - Max Theoretical Throughput - 3.6 Gbps (1,200 Mbps at 2.4 GHz, 2,400 / 1bps at 5 GHz)
 - Device Capacity - Up to 256 client devices
 - Ethernet & Power - 1x 100/1000/2.5 G BASE-T RJ-45 port; IEEE 802.3at PoE+
5. PoE + Switch – **1 (one) no.**
- Types – Managed PoE+
 - Ports - 16-port 10/100/1000 Mbps RJ45 ports, Minimum 2 × 10G SFP+ uplink ports populated with SFP+ module.
 - PoE Power Budget - 240W or Higher
 - PoE-per Port Power - 15.4 W or Higher
 - Switching Capacity - Minimum 56 Gbps
 - Forwarding Rate - 2.38 Mpps or Higher
 - Packet Buffer Size - 128 Kb or better
 - Protocol - IEEE 802.3, 802.3u, 802.3x, IEEE 802.3af/at
 - Layer 2 features: The switch shall support 802.1Q VLAN tagging, STP (802.1D), Rapid-Spanning Tree (802.1w), MSTP (802.1s) VTP/802.1ak, LACP (IEEE 802.3ad), LLDP (802.1AB), IGMP Snooping v1/v2/v3.

- Support IEEE 802.1x, MAC Authentication Bypass (MAB), Web-Based Authentication, Change of Authorization (CoA), RADIUS, TACACS+, Port based & VLAN-based ACLs for IPv4 as well as IPv6 MAC based security on per port.
- Certifications - CE, FCC, RoHS, UL,

V. CABLES AND ACCESSORIES

1. Audio Cables

- Conductor Size - 24 AWG
- Conductor Material - High-Conductivity Bare Copper (BC)
- Insulation Material - Polyvinyl Chloride (PVC)
- Nominal Conductor DCR - 22.8 ohm /1000ft or better
- Voltage Rating - 100 V RMS (Non-UL) or better

2. Speaker Cable

- Conductor Size - 14 AWG
- Conductor Material - High Conductivity Tinned Copper
- Insulation Material - Polyvinyl Chloride (PVC)
- Shielding Type - Unshielded (UTP)

3. Control Cable

- Conductor Size - 22AWG
- Conductor Material - Solid Tinned Copper (TC)
- Insulation Material - Polyvinyl Chloride (PVC)
- Nominal Conductor DCR - 16.5 ohm/1000ft or better

4. Miscellaneous Connectors

- Type - XLR, Shielded RJ45 (for high quality audio signal)

5. LAN Cable

- Cable Type - Category 6 Solid UTP
- Outer Diameter - Maximum 6mm
- Conductor Diameter - Maximum 0.6 mm
- Number of Pair - 4 Pair
- Conductor type - 23 AWG bare solid copper
- Characteristic - Impedance Maximum 100 ± 10 OHM@250Mhz
- DC Resistance - Maximum 75 OHM/km
- Insulation Resistance - Minimum 500MOhm/km
- Jacket Material - LSZH
- Transmission Distance - 1 Gbps upto 100 Meter or better

- Compliance - ANSI/TIA-568-C.2 latest or ISO/IEC:11801 latest, RoHS Complaint

6. 18 U Floor Mount Rack – **1 (one) no.**

- Types of Racks - Rack Enclosures
- Size of Server rack Enclosure - 18U or better
- Depth of the Rack (mm) - Upto 600
- Mount Type - Floor mount (mounting Accessories must be provided)
- Front glass door - Should be available
- Type of glass used in front door - Transparent Toughened Glass or better
- Body Material Used - CRCA Steel or better
- Secure Locks - Should be available
- Cable channel on the rear side - should be available
- Load Bearing capacity (Kgs) - 50 kilograms or higher
- PDU Power Strips - Should be available
- Wheel - Should be available

VI. INSTALLATION AND COMMISSIONING – BIDDERS RESPONSIBILITIES

1. The bidder shall carry out complete Installation, Testing and Commissioning (I&C) of the Integrated Audio-Video Conferencing & Collaboration System as a fully functional, turnkey solution comprising Display and Switching, Camera and Soft VC Solution, Audio System, Control System along with all associated cabling, connectors, cable cubbies, mounts and accessories specified in this document.
2. The bidder shall deliver & execute the whole solution in totality. However, if any item/service which is required to complete the solution but not mentioned explicitly shall also be part of the supply/service. No additional payment shall be made if the amount towards the same has not been considered by the vendor in their offer.
3. All signal, network, audio, control and power cabling shall be run through concealed conduits / cable trays / floor-boxes, dressed, bundled and labelled at both ends as per an approved cable schedule.
4. The Contractor shall integrate all sub-systems into a single, unified, user-operable solution.
5. On completion, the Contractor shall conduct a Site Acceptance Test (SAT) in the presence of the Owner's representative demonstrating, at minimum: end-to-end 4K@60Hz video across all sources and displays; full-duplex audio with no echo, feedback or clipping; correct AEC performance during live VC calls; PTZ preset recall and tracking; conference-mode and priority-mode operation across all delegate units; wireless mic and presentation performance across the specified coverage; Dante audio routing integrity; and single-touch

control-panel operation of every function. All test results shall be recorded in a signed SAT report. Any defect, signal degradation, latency, sync or usability issue observed during SAT shall be rectified by the Contractor at no extra cost before acceptance.

6. The bidder shall impart on-site operational and basic administrative training to the Owner's designated personnel. System handover shall be deemed complete only upon successful SAT, submission of all documentation and issuance of a commissioning/handover certificate by the Owner.