- Zoom: 16X Optical + 15X Digital Zoom (Total = 240X)
- RGB Input/Output: 15-Pins D-sub (VGA) x 2 (2 out cloned)
- HDMI Output

9. Desktop: (1 unit)

- 21.5" Display size
- 3.4GHz quad-core 7th-generation Intel Core i5 processor
- Turbo Boost up to 3.8GHz
- 8GB 2400MHz memory, configurable up to 32GB
- 1TB Fusion Drive1
- Radeon Pro 560 with 4GB video memory
- Two Thunderbolt 3 ports
- Retina 4K 4096x2304 P3 display

10. Presenter: (1 unit)

- Connectivity: USB wireless receiver
- With cursor control
- Long range 2.4GHz wireless technology
- Storable ultra-slim wireless receiver

11. With high-grade HDMI interface cables

- Supports 4K60 4:4:4 video, 18Gbps bandwidth @ up to 20 ft (6.1 m)
- Supports 4K60 4:2:0 and 4K30 4:4:4 video @ 30 ft (9.1 m)
- Guaranteed end-to-end system performance
- High-flex CL3-rated jacket
- RoHS compliant

12. 10 RU Metallic Equipment Rack

II. MEETING ROOMS

- 1. Executive Meeting Room
- 2. BDOG Meeting Room
- 3. Subsidiary Meeting Room
- 4. CSG Meeting Room

EACH ROOM MUST HAVE:

1. Display:

Screen Size: 65"

Resolution: 3,840 x 2,160 (UHD)

Panel Technology: IPS

Brightness: 500 cd/m²

Input: HDMI, DP, DVI-D, USB 3.0, SD Card



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Output: Audio, DP

External Control: RS232C, RJ45

- Picture-in-picture and Picture-by-picture
- Contrast Ratio: 1,000:1
- Dynamic CR: 1,000,000: 1
- Viewing Angle (H x V): 178 x 178
- Orientation: Portrait & Landscape
- Input: HDMI, DP, DVI-D, Audio, USB 3.0, SD Card
- Output: DP, Audio, External Speaker out
- External Control: RS232C, RJ45, IR Receiver, Pixel Sensor
- External Media player Attachable: Yes
- Power Consumption Smart Energy Saving: 90W
- Safety: UL / cUL / CB / TUV / KC
- EMC: FCC Class "A" / CE / KCC
- ErP / Energy Star: NA / EPA7.0

2. Connectivity: Table-Mount Modular

- Must have one (1) unit Table Mount Multi–Connection
 Solution Retractable lid
- With High-grade cables.
- With VGA/Audio to HDMI Converter
- With HDMI and Ethernet Cable Retractor
- With USB and Power (Universal) Socket, Inner Frame
- Power Source: Single socket: 100–240V AC 50/60Hz, 5A
- Dimensions: 21.4cm x 19.2cm x 13.6cm (8.42" x 7.56" x 5.35") W, D, H
- Weight: TBUS-1N: 2kg (4.4lbs) approx.
- With additional multi-port adapter/connector (USB-C, Thunderbolt, Mini-HDMI, etc.)

3. Streaming Media Player

 Stream 4K content from smartphone / Tablet / PC / Mac Built-in Wi-Fi & Ethernet, Optimizes 4K & HDR content for TV Access

III. MINI-AUDITORIUM

1. Video System

A. Display (1 unit):

- Ultra HD 3.0 Display
- Screen Size: 97.52 inches (2476.95 mm) diagonal
- Native Resolution: 3840 x 2160 (UHD)
- Brightness: 500



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- Connectivity: Input: HDMI, DP, DVI-D, USB, Audio, SD Card; Output: Audio, External speaker
- External Control: RS232C In/Out, RJ45, IR Receiver, Pixel Sensor
- HDTV Formats: HDMI: 720p, 1080i, 1080p, 2160p
- Digital (w/ HDCP): Yes (1) w/ HDCP: DP, w/o HDCP: HDMI3/DVI/OPS
- VESA™ Standard Mount Interface: 800x400
- With Wall Bracket and Frame.

B. HDMI Switch: (1 unit)

- Allows up to 4 HDMI sources to be connected to one HDMI display
- HDMI 2.0(3D, Deep Color, 4K); HDCP 2.2 compliant
- Superior video quality- True 4k resolutions of 4096 x 2160 / 3840 x 2160 @ 60 Hz (4:4:4)
- Compliance: HDMI 2.0 (3D, Deep Color, 4K)
- Built-in bi-directional RS-232 serial port for high-end system control
- Data rates up to 18 Gbps (6 Gbps Per Lane)
- HD lossless audio formats
- Instant Switching for a smooth video transition between HDMI ports, bi-directional RS-232, and IR for remote device control

2. Audio System

A. Ceiling Speaker: (6 units)

Speaker type: 2-way coaxial

Max. Power: 160 WRMS Power: 80 W

• Impedance: 8 Ω

Sensitivity (1W/1m): 89 dB

Dispersion: Conical 135°

Frequency Response (± 3 dB): 46 Hz - 20 kHz

• Frequency Range (-10 dB): 32 Hz - 20 kHz

Drivers: HF 1" Aluminum membrane; LF 8" Aluminum membrane

B. Ceiling Sub-woofer: (2 units)

Max. Power: 200WRMS Power: 100w



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- Impedance: 8 Ω
- Sound Pressure (Max. W/1m): 108 dB
- Frequency Response (± 3 dB): 50 Hz 250 Hz
- Frequency Range (-10 dB): 28 Hz 300 Hz
- Crossover Frequency: 250 Hz / Type: Passive built-in
- Dispersion Horizontal: 180° / Vertical: 180°
- Drivers: LF 10"

C. Power Amplifier: (1 unit)

- Quad-Channel
- Signal / Noise: > 95 dB
- THD+N (@ 1 kHz): < 0.05% (1/2 Rated Power)
- Crosstalk (@ 1 kHz): > 70 dB
- Common mode rejection ratio: 70 dB
- Cooling: Temperature controlled FAN
- RMS Power: @ 4 Ω Stereo 4 x 350 W; @ 8 Ω Stereo
 4 x 220 W; @ 8 Ω Bridge 2 x 700 W
- Frequency Response (± 3 dB): 20 Hz 20 kHz
- Sensitivity (1W/1m): -19.5 dB ~ 27 dB
- Impedance: 10 kΩ balanced
- Inputs: Connector: XLR & 3-pin Euro Terminal Block (3.81 mm)
- Outputs: Connector: Speakon compatible & 2-pin Euro Terminal Block (5.08 mm)
- Protection: Amplifier: DC Short circuit / Over heating / Over load / Signal limiting; Loudspeaker: Power limiter; Access: User & Administrator level (Through password and USB-key protection)
- Power: Supply: Switching mode; Source: 230 ~ 240 V
 AC / 50 ~ 60 Hz

D. Signal Processor:

- 3-Channel
- AD/DA converter: 24bit
- Sampling frequency: 48 kHz
- Frequency response: 20 20,000 Hz
- Filter type: Linkwitz-Riley, Butterworth, Bessel
- Delay: Max. 12.5mS
- Filter slew rate: 18dB/oct, 24dB/oct, 12dB/oct, 6dB/oct
- Dynamic range: > 100 dB
- Signal-to-noise ratio: 87dB
- Crosstalk: >80dB
- Input impedance: 22 kΩ



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Output impedance: 300 Ω

Controls: Recall, Parameter, Edit, Power

Indicators: Multifunction LC display

• Line inputs: 2

Line input connector: XLR

• Line outputs: 3

• Line output connector XLR (balanced)

Interfaces: USBMains: IEC socket

Operating voltage: 90 V AC - 250 V AC, 50 - 60 Hz

E. Mixing Control: (1 unit)

- 12-Channel
- With DFX and Compressor
- Controls Mono Mic and Line Input Channels:
 Compressor, PFL, AUX 1 umschaltbar Pre/Post, Low
 Cut (75 Hz), Gain, 3-band EQ (High, Mid, Low), AUX
 2 (DFX) Post, DFX/AUX 1
- Controls Stereo Line Input Channels: Low Cut, DFX/AUX 1, Balance, AUX 2 (DFX) Post, AUX 1 umschaltbar Pre/Post, Gain, 3-band EQ (High, Mid, Low), 2-band EQ (High, Low), Channel Volume
- Main section controls: Group 1-2 Volume, CTRL / Phones assignment (Main/Group 1-2), Volume Control CTRL / Phones, DFX Mute Schalter, DFX TO AUX Volume, 2-track Assignment (Main, Contr. Room), Stereo Return to MAIN Volume, Phantom Power, Group 1-2 assignment to Main MIX, PFL, AUX 2 Send Volume, presets, 2-track In Volume, Power, DFX To Main Volume, Stereo Return to AUX Volume, Master Volume
- Indicators: DFX TO MAIN, Power, Phantom Power, DFX Peak, PFL
- Operating voltage: 100 V AC 240 V AC, 50 60 Hz

F. Wireless Handheld Microphones: (2 units)

- True diversity half-rack receiver in a full-metal housing with intuitive LCD display for full control
- Easy and flexible wireless synchronization between transmitter and receiver via infrared
- Fast frequency allocation for up to 12 receivers via new linking functionality



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- Up to 20 compatible channels
- Up to 42 MHz bandwidth with 1680 selectable frequencies, fully tunable in a stable UHF range
- Transmission Range: up to 100 meters / 300 feet
- Frequency ranges: A1: 470 516 MHz; A: 516 558 MHz; AS: 520 - 558 MHz
- Switching the bandwidth up to 42 MHz
- AF frequency of response: 80 18,000hz
- Signal to noise ratio: 110dba
- G. Cardioid Microphones: (2 units)
 - Vocal Dynamic
 - Connector XLR 3
 - Frequency response (Microphone): 40 16000 Hz
 - Sensitivity in free field, no load (1kHz): 1,8 mV/Pa
 - Nominal impedance: 350 Ω
 - Min. terminating impedance: 1000 Ω
- H. Microphone Stands: (4 units)
 - Base material Zinc die-cast
 - Tubing material steel
 - Tubing surface powder coated
 - Height adjustment yes
 - Base type Tripod
 - Boom model 2-point adjustment
 - 5 year Warranty

3. Laptop (for presentations): (1 unit)

- Processor: Intel Core i7-7700HQ
- Operating System: Windows 10
- Memory: 8GB
- Graphics Card: GTX1050 4GB
- Storage: 1 TB + 128 GB SSD
- Display size: 15" FHD

4. Power Conditioner with Rack Lighting: (1 unit)

- 19" / 1U
- Number of Outlets (IEC C14): 9
- Nominal Impedance: max 10A
- Protection Against Impulse Voltage neutral conductor to earth, outer conductor to neutral, outer conductors to protection light
- Response Time 1 ns
- Max. Surge Current 6000A (8x20 µs pulse)

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- Max. Surge Energy 70 joules per contact
- Noise Cancelling <20 dB, 1.5 MHz-200 MHz
- Mains connector IEC mains cord
- Features incl. telescopic rack light, including 4 power cords

5. Others:

- 1. VGA/Audio to HDMI Converter
- 2. Frame for Wall Plate, HDMI Wall Plate, XLR Wall Plate
- 3. 10 RU Metallic Equipment Rack
- 4. UPS 10KVA

IV. INTERACTIVE / EXHIBIT AREA

1. Video System

A. Display:

- a. Video Wall (front): (15 units), 5 x 3 Orientation (L x H)
- Screen size: 55" class (54.64" diagonal)
- Panel Technology: In-Plane Switching
- Aspect Ratio: 16:09
- Viewing Angle: 178 x 178 degrees
- Response time: 8ms (G to G BW)
- Native Resolution: 1920 x 1080 (FHD)
- Brightness: 700 cd/m2
- Contrast Ratio: 1,400:1
- Dynamic CR: 500,000: 1
- Orientation: Portrait & Landscape
- Connectivity: Input: HDMI, DP, DVI-D, OPS, Analog, RGB, RS232 IN, RJ45 IN, IR Receiver, USB (USB3.0, USB2.0), HDTV Formats, HDMI: 720p, 1080i, 1080p Output: DP Out, DP1.2a/HDCP1.3, Audio Out, RS232C
- With Frame and Wall Brackets
- b. Side Displays (left and right wall): 3 units each side (6 units total)
- Screen Size: 65"
- Panel Technology: IPS
- Aspect Ratio: 16:09
- Native Resolution: 3,840 x 2,160 (UHD)
- Brightness: 500cd/m2
- Contrast Ratio: 1,000:1
- Viewing Angle (H x V): 178 x 178
- Orientation: Portrait & Landscape



1. B

- Input: HDMI, DP, DVI-D, Audio, USB 3.0, SD Card
- Output: DP, External Speaker out
- External Control: RS232C, RJ45, IR Receiver, Pixel Sensor
- Power Supply: 100-240V~, 50/60Hz
- Bezel Color: Black
- External Media player Attachable: Yes
- c. With Advanced Signage Content Management Solution for Twenty-one (21) Displays:
- All-in-one solution for editing, scheduling, and distribution of displays operation
- Seamless management of different content for multiple displays
- · With multi-channel content scheduling feature
- Ease of account management, content group and related admin options for better management
- d. Streaming Media Player (6 units)
- Stream 4K content from smartphone / Tablet / PC / Mac Built-in Wi-Fi & Ethernet, Optimizes 4K & HDR content for TV Access

2. Audio system:

- A. Ceiling Speaker (6 units)
 - High-end 2-way Ceiling Speaker
 - Conical dispersion: 140 degrees
 - Max. Power: 120W
 - RMS Power: 60W
 - Impedance: 8 Ω
 - Sensitivity (1W/1m): 88 dB
 - Sound Pressure (Max. W/1m): 106 dB
 - Frequency Response (± 3 dB): 55 Hz 20 kHz
 - Frequency Range (-10 dB): 44 Hz 20 kHz
 - Crossover: Passive built-in / Frequency: 3kHz
 - Dispersion: Conical 140°
 - Drivers: HF, 1" Aluminum membrane / LF, 6"
 Aluminum membrane
 - Front finish: Thin edged white grill
 - Mounting & handling: 4 Screw quick-fixing mechanism

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B. Ceiling Subwoofers (2 units)

Max. Power: 200W
RMS Power: 100w
Impedance: 8 Ω

• Sound Pressure (Max. W/1m): 108 dB

Connectors: Cable clamps

Frequency Response (± 3 dB): 50 Hz - 250 Hz
Frequency Range (-10 dB): 28 Hz - 300 Hz

 Crossover Frequency: 250 Hz / Type: Passive builtin

Dispersion Horizontal: 180° / Vertical: 180°

Drivers: LF 10"Construction: ABS

Front finish: White aluminum grill

C. Power Amplifier (1 unit)

- Quad-Channel
- Signal / Noise: > 95 dB
- THD+N (@ 1 kHz): < 0.05% (1/2 Rated Power)
- Crosstalk (@ 1 kHz): > 70 dB
- Common mode rejection ratio: 70 dB
- Damping factor: > 200
- Cooling: Temperature controlled FAN
- Operating temperature: 0° ~ 40° @ 95% Humidity
- Frequency Response (± 3 dB): 20 Hz 20 kHz
- Sensitivity (1W/1m): -19.5 dB ~ 27 dB
- Impedance: 10 kΩ balanced
- RMS Power: @ 4 Ω Stereo 4 x 350 W

@ 8 Ω Stereo 4 x 220 W @ 8 Ω Bridge 2 x 700 W

- Inputs: Connector: XLR & 3-pin Euro Terminal Block (3.81 mm)
- Outputs: Connector: Speakon compatible & 2-pin Euro Terminal Block (5.08 mm)
- Power: Supply: Switching mode; Source: 230 ~ 240
 V AC / 50 ~ 60 Hz

D. Mixing Console: (1 unit)

- 6-Channel with DFX
- Type: Live

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- Controls Mono Mic and Line Input Channels: Gain, 3band EQ (High, Mid, Low), AUX (DFX) Post, Channel Volume, pan
- Controls Stereo Line Input Channels: Channel Volume, Balance, AUX (DFX) Post, 2-band EQ (High, Low)
- Main section controls: Phones / Control Room Volume, Stereo Return Volume, DFX Mute Schalter, Phantom Power, DFX to Main Volume, 2-track Assignment (Main, Contr. Room), 2-track In Volume, Master Volume, DFX Presets
- Digital Effects Processor: Yes, 24-bit AD/DA Resolution
- Operating voltage: 18 V AC 1 A, External PSU

3. Virtual Reality Box: (6 units)

- Stand-alone VR headset
- With high-resolution 2560 x 1440 graphics screen
- With built-in integrated spatial audio
- With Qualcomm Snapdragon CPU
- With standard 3.5 mm headphone jack
- With wireless controller: single trigger, trackpad, and a back and menu button.
- Field of View: 100 °
- Sensors: Orientational Tracking
- Material: Fabric, Plastic
- Globally known brand

4. Ethernet Switch: (1 unit)

8-ports, Managed switch

5. Laptop (for presentations): (1 unit)

Processor: Intel Core i7-7700HQOperating System: Windows 10

Memory: 8GB

Graphics Card: GTX1050 4GBStorage: 1 TB + 128 GB SSD

Display size: 15" FHD

V. PA/BGM SYSTEM

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1. In-Ceiling Loud Speaker: (25 units)

- 2-way coaxial
- RMS Power: 40 W
- Sensitivity (1W/1m): 94 dB
- Sound Pressure (Max. W/1m): 112 dB
- Dispersion: 130° (Half space (flush mounted in ceiling), average 100 Hz to 10 kHz @ -6 dB) Range (-10 dB) 55 Hz – 16 KHz
- Construction: ABS
- Mounting & Handling: Quick-fit installation system

2. Digital Paging Microphone: (1 unit)

- Polar Pattern: Cardioid (unidirectional)
- Sensitivity (1W/1m): -42 dB
- Level & status indication LEDs
- Internal Storage: 10-minute audio or messages spread over max of 30 files.
- Gooseneck type
- Connection Standard: TIA/EIA T568B
- Connectors: RJ45 (data + power)

3. All-in-one Digital Audio Player: (1 unit)

- Control Front panel, RS-232
- Inputs: CD loader, USB memory drive, SD/MMC memory card
- Outputs: Tuner audio, CD/MP3, Selectable audio (variable level)
- Frequency response: (± 3dB) 20 Hz 20 kHz
- Tuning range: FM 87.5 ~ 108 MHz / MW 522 ~ 1620 kHz
- Supported file types: Playback, WAV, MP3, WMA
- Power Source: 110 ~ 240 V AC / 50 ~ 60 Hz

4. Power Conditioner: (1 unit)

- 19" / 1U
- Protection Against Impulse Voltage neutral conductor to earth, outer conductor to neutral, outer conductors to protection light
- Max. Surge Current 6000A (8x20 µs pulse)
- Max. Surge Energy 70 joules per contact
- Noise Cancelling <20 dB, 1.5 MHz-200 MHz



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Response Time	1 ns		
5. Metallic Equipment Rack (1 set): 10 RU			
VI. GENERAL SERVICES			
brackets, Pullbox cables, Connect Junction boxes, other Hardware accessories to c as masonry, car 2. Mobilization/Den Drawings, Progra Commissioning,	, and Installation of IMC pipes, Display kes, Speaker wires and brackets, Signal ors, Patch panel, Hangers/supports, Screws, Nuts and bolts, End-connectors and materials. Roughing-ins, Misc. and other omplete the installation. Includes labor, such centry, and drilling works. nobilization, Tools, Installation, Meetings, amming, Tuning, Calibration, Testing & Engineering Supervision.		0,
 VI. Training / Knowledge Transfer The winning bidder must provide Technology Transfer for two (2) or more IT personnel and/or BCDA end-users after commissioning. The winning bidder must provide Trainings for video conferencing solution, content management system and control systems. 			
VII. Documentation			
5. Complete doe utility and oth	tem manuals,		
VIII. Warranty and Sup	pport		
	s shall cover a warranty of 3 years (labor	THE STATE OF THE S	





Speakers and major hardware appliance shall cover a warranty of 1 year. Warranty must include firmware updates, software patches, and driver updates, if available, during the duration of the warranty. • On-call support shall be available during office hours. A two (2) hours response time of the call (through telephone call) shall be provided. Onsite support must have a response time of not more than four (4) hours from the time of the call in case where in the phone support could not solve the problem. • The winning bidder must provide procedures on support and problem escalation. Full replacement of defective unit/s should be 30 working days from receipt of notice. If full replacement is not yet possible, a service unit shall be provided by the supplier within 48 hours from receipt of notice of defective unit. IX. Certificates • As built plan, must be duly signed by authorized Professional Electronics Engineer (PECE). Bidder must have an in-house licensed Professional ECE that has been with the company for at least a year. X. Notes • All specifications are minimum requirements. Proponents may propose equivalent or higher specifications. The obligation for the warranty shall be covered by Retention money in an amount equivalent to at least one percent (1%) of every progress payment. The said amounts shall only be released after the lapse of the warranty period indicated per item of the TOR.

Bidder's Authorized Representative:	
Signature over Printed Name	
Principal Bidder / Supplier	





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Checklist of Requirements for Bidders

"EACH AND EVERY PAGE OF THE BID FORM, INCLUDING THE SCHEDULE
OF PRICES, UNDER SECTION IX HEREOF, SHALL BE SIGNED BY THE
DULY AUTHORIZED REPRESENTATIVE/S OF THE BIDDER. FAILURE TO
DO SO SHALL BE A GROUND FOR THE REJECTION OF THE BID AND
PROPERLY TABBED AS FOLLOWS:"

ELIGIBILITY DOCUMENTS' ENVELOPE

- Tab A PhilGEPS Certificate of Registration under Platinum Membership
- **Tab B** Notarized Omnibus Sworn Statement/Affidavit of the prospective bidder (of its background, affiliations, responsibilities as Bidder, authorizations, etc.) (Section IX, Bidding Forms)
- **Tab C** Statement / List of all on-going, and completed government and private contracts, similar in nature to the contract/project subject of the bidding at hand, within at least the past **three (3) years** (July 2015 to July 2018) using the following forms and support documents:
 - (FORM SF-GOOD-13a) Statement of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid.
 - (FORM SF-GOOD-13b) Statement / List of at least one (1) COMPLETED government and/or private contracts (Section IX, Bidding Forms) similar in nature as the contract subject of bidding with a value of at least fifty (50%) of the Approved Budget for the Contract (ABC); or two (2) similar contracts with the aggregate contract amount equivalent to at least fifty percent (50%) of the ABC of the contract subject of bidding at hand supported with the following documents (in accordance to BDS Clause 5.4 of the BDS):
 - 1. Contract; AND
 - 2. Certificate of Completion or Official Receipt of last payment received
- **Tab D** Computation of Net Financial Contracting Capacity (NFCC) in accordance with ITB Clause 5 (Section IX, Bidding Forms)
- **Tab E** Bid Security (use **Section IX, Bidding Forms** in case of Bid Securing Declaration)
- Tab F Technical Specifications Compliance Form (<u>Use the supplied</u>

 <u>Technical Specifications Compliance Form found in the Bid</u>

 <u>Documents as Tab H)</u>

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