



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF BUDGET AND MANAGEMENT
GENERAL SOLANO STREET, SAN MIGUEL, MANILA

SUPPLEMENTAL/BID BULLETIN (SBB) NO. 2

This SBB No. 2 dated October 29, 2024 for **Project ID No. DBM-2024-82, “Supply, Delivery, Installation, Configuration, Testing, and Commissioning of LED Wall Display System,”** is issued pursuant to Section 22.5 of the 2016 Revised Implementing Rules and Regulations of Republic Act No. 9184, to clarify, modify or amend items in the Bidding Documents. Accordingly, this shall form an integral part of the Bidding Documents.

PARTICULARS		AMENDMENTS/CLARIFICATIONS	
Bid Data Sheet		Bid Data Sheet	
ITB Clause		ITB Clause	
xxx	xxx	xxx	xxx
20	<p>The bidder with the Lowest Calculated Bid shall submit ALL of the following post-qualification requirements:</p> <p style="text-align: center;">xxx</p> <p>6. Manufacturer Certificate or Authorized Distributor Certificate for the LED Wall.</p> <p>7. Manufacturer Certificate or Authorized Distributor Certificate for Portable Video Streaming Device.</p>	20	<p>The bidder with the Lowest Calculated Bid shall submit ALL of the following post-qualification requirements:</p> <p style="text-align: center;">xxx</p> <p>6. Manufacturer Certificate or Authorized Distributor Certificate OR AUTHORIZED DEALERSHIP CERTIFICATE ISSUED BY THE MANUFACTURER OR DISTRIBUTOR for the LED Wall.</p> <p>7. Manufacturer Certificate or Authorized Distributor Certificate OR AUTHORIZED DEALERSHIP CERTIFICATE ISSUED BY THE MANUFACTURER OR DISTRIBUTOR for Portable Video Streaming Device.</p>

	<p>8. Manufacturer Certificate or Authorized Distributor Certificate for Wireless Presentation Device.</p> <p>9. Manufacturer Certificate or Authorized Distributor Certificate for PTZ Camera.</p> <p style="text-align: center;">xxx</p>
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	<p>8. Manufacturer Certificate or Authorized Distributor Certificate OR AUTHORIZED DEALERSHIP CERTIFICATE ISSUED BY THE MANUFACTURER OR DISTRIBUTOR for Wireless Presentation Device.</p> <p>9. Manufacturer Certificate or Authorized Distributor Certificate OR AUTHORIZED DEALERSHIP CERTIFICATE ISSUED BY THE MANUFACTURER OR DISTRIBUTOR for PTZ Camera.</p> <p style="text-align: center;">xxx</p>
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Special Conditions of Contract

GCC Clause	
xxx	xxx
2.2	The terms of payment shall be in accordance with item 7.0 of Annex "A" (Detailed Technical Specifications).
xxx	xxx

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	<p>PURSUANT TO THE BUREAU OF INTERNAL REVENUE REGULATION NO. 017-2024 DATED SEPTEMBER 17, 2024, THE SUPPLIER SHALL PRESENT THEIR VALID AND UPDATED TAX CLEARANCE CERTIFICATE TO THE ADMINISTRATIVE SERVICE-GENERAL SERVICES DIVISION, AS THE END-USER UNIT, PRIOR TO THE FINAL PAYMENT OF THE CONTRACT. FAILURE TO PRESENT A VALID AND UPDATED TAX CLEARANCE SHALL ENTITLE THE DBM TO SUSPEND THE</p>

	<table border="1"> <tr> <td data-bbox="778 123 927 237"></td> <td data-bbox="927 123 1501 237">FINAL PAYMENT DUE TO THE SUPPLIER.</td> </tr> <tr> <td data-bbox="778 237 927 315">xxx</td> <td data-bbox="927 237 1501 315">xxx</td> </tr> </table>		FINAL PAYMENT DUE TO THE SUPPLIER.	xxx	xxx
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xxx	xxx				
<p style="text-align: center;">Annex "A"</p> <p>DETAILED TECHNICAL SPECIFICATIONS</p> <p style="text-align: center;">xxx</p> <p>4.0 SPECIFICATIONS AND SCOPE OF WORK</p> <p style="text-align: center;">xxx</p> <p>4.1.1 Multipurpose Hall</p> <p style="text-align: center;">xxx</p> <p>4.1.1.5 One (1) set Wireless Presentation Device with minimum specifications, such as but not limited to the following, and compatible with Mobile Tablet per item 4.1.1.6 hereof:</p> <p style="text-align: center;">xxx</p> <p>4.1.1.5.3 App based connectivity:</p> <p style="text-align: center;">xxx</p> <p>4.1.2 Boncodin Hall</p> <p style="text-align: center;">xxx</p> <p>4.1.2.4 One (1) unit Wireless Presentation Device with the following minimum specifications, such as but not limited to:</p> <p style="text-align: center;">xxx</p> <p>4.1.2.4.3 App based connectivity:</p> <p>4.1.2.4.4 Button/dongle to connect user devices:</p> <p style="text-align: center;">xxx</p>	<p style="text-align: center;">Annex "A"</p> <p>DETAILED TECHNICAL SPECIFICATIONS (REVISED)</p> <p style="text-align: center;">xxx</p> <p>4.0 SPECIFICATIONS AND SCOPE OF WORK</p> <p style="text-align: center;">xxx</p> <p>4.1.1 Multipurpose Hall</p> <p style="text-align: center;">xxx</p> <p>4.1.1.5 One (1) set Wireless Presentation Device with minimum specifications, such as but not limited to the following, and compatible with Mobile Tablet per item 4.1.1.6 hereof:</p> <p style="text-align: center;">xxx</p> <p>4.1.1.5.3 App based connectivity: NONE REQUIRED</p> <p style="text-align: center;">xxx</p> <p>4.1.2 Boncodin Hall</p> <p style="text-align: center;">xxx</p> <p>4.1.2.4 One (1) unit Wireless Presentation Device with the following minimum specifications, such as but not limited to:</p> <p style="text-align: center;">xxx</p> <p>4.1.2.4.3 App based connectivity: NONE REQUIRED</p> <p>4.1.2.4.4 Button/dongle to connect user devices: NO BUTTON OR DONGLE REQUIRED</p> <p style="text-align: center;">xxx</p>				

4.1.3 DBM Executive Lounge

xxx

4.1.3.2 One (1) unit Video Processor with the following minimum specifications, such as but not limited to:

- 4.1.3.2.1 All-in-One controller
- 4.1.3.2.2 Loading capacity 6.5 million pixels with the maximum output width and height up to 10,240 pixels and 8192 pixels
- 4.1.3.2.3 A single card supports 16x 2K layers, 8x DL layers or 4x 4K layers
- 4.1.3.2.4 Input connectors 1x 3G SDI, 2x HDMI 1.4, 2x DVI (HDMI 1.4), 1x OPT1
- 4.1.3.2.5 Output connectors 10x Ethernet ports, 1x HDMI 1.3, 1x HDMI 1.4 LOOP, 1x DVI LOOP, 1x 3GSDI LOOP, 2x OPT
- 4.1.3.2.6 Presets 10
- 4.1.3.2.7 Control Connectors 1x Ethernet Port, 2x USB (input and output), 1x GENLOCK (in and loop)

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- ~~4.1.3.2.7 Control Connectors 1x Ethernet Port, 2x USB (input and output), 1x GENLOCK (in and loop)~~

4.1.3.2.1 INDUSTRY-STANDARD INPUT CONNECTORS: 2 X 3G-SDI; 1 X HDMI 2.0; 4 X SL-DVI

4.1.3.2.2 16 ETHERNET OUTPUT PORTS LOAD UP TO 10,400,000 PIXELS

4.1.3.2.3 3 INDEPENDENT LAYERS: 1 X 4KX2K MAIN LAYER; 2 X 2KX1K PIPS (PIP 1 AND PIP 2); ADJUSTABLE LAYER PRIORITIES

4.1.3.2.4 DVI MOSAIC: UP TO 4 DVI INPUTS

4.1.3.2.5 DECIMAL FRAME RATE SUPPORTED: 23.98 HZ, 29.97 HZ, 47.95 HZ, 59.94 HZ, 71.93 HZ AND 119.88 HZ.

4.1.3.2.6 SUPPORTS 3D DISPLAY EFFECT ON THE LED SCREEN.

<p>4.1.3.5 One (1) unit Wireless Presentation Device with the following minimum specifications, such as but not limited to:</p> <p style="text-align: center;">xxx</p> <p>4.1.3.5.3 App based connectivity: 4.1.3.5.4 Button/dongle to connect user devices:</p> <p style="text-align: center;">xxx</p> <p>4.10 Vendor Qualification</p> <p style="text-align: center;">xxx</p> <p>4.10.2 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate for the LED Wall to be submitted as a post-qualification requirement.</p> <p>4.10.3 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate for Portable Video Streaming Device to be submitted as a post-qualification requirement.</p>	<p>4.1.3.2.7 THREE SCALING OPTIONS ARE PIXEL-TO-PIXEL, FULL SCREEN AND CUSTOM SCALING</p> <p>4.1.3.2.8 IMAGE MOSAIC UP TO 4 DEVICES CAN BE LINKED</p> <p>4.1.3.2.9 UP TO 10 PRESETS CAN BE SAVED FOR FUTURE USE</p> <p>4.1.3.2.10 EDID MANAGEMENT</p> <p>4.1.3.2.11 INTERNET CONNECTIVITY BACKUP</p> <p style="text-align: center;">xxx</p> <p>4.1.3.5 One (1) unit Wireless Presentation Device with the following minimum specifications, such as but not limited to:</p> <p style="text-align: center;">xxx</p> <p>4.1.3.5.3 App based connectivity: NONE REQUIRED 4.1.3.5.4 Button/dongle to connect user devices: NO BUTTON OR DONGLE REQUIRED</p> <p style="text-align: center;">xxx</p> <p>4.10 Vendor Qualification</p> <p style="text-align: center;">xxx</p> <p>4.10.2 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate OR AUTHORIZED DEALERSHIP CERTIFICATE ISSUED BY THE MANUFACTURER OR DISTRIBUTOR for the LED Wall to be submitted as a post-qualification requirement.</p> <p>4.10.3 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate OR AUTHORIZED DEALERSHIP CERTIFICATE ISSUED BY THE MANUFACTURER OR DISTRIBUTOR for Portable Video Streaming Device to be submitted as a post-qualification requirement.</p>
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<p>4.10.4 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate for Wireless Presentation Device to be submitted as a post-qualification requirement.</p> <p>4.10.5 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate for PTZ Camera to be submitted as a post-qualification requirement.</p>	<p>4.10.4 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate OR AUTHORIZED DEALERSHIP CERTIFICATE ISSUED BY THE MANUFACTURER OR DISTRIBUTOR for Wireless Presentation Device to be submitted as a post-qualification requirement.</p> <p>4.10.5 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate OR AUTHORIZED DEALERSHIP CERTIFICATE ISSUED BY THE MANUFACTURER OR DISTRIBUTOR for PTZ Camera to be submitted as a post-qualification requirement.</p>
<p>Queries:</p> <p>1) Can the required loading capacity of 6.5 million pixels under item 4.1.3.2.2 of the Video Processor of the DBM Executive Lounge be revised to have a similar requirement under the Multipurpose Hall and Boncodin Hall?</p>	<p>Clarifications:</p> <p>1) Yes. This requirement is revised to expand the maximum capacity of the video processor and for uniformity of all the video processor units under the DBM Executive Lounge, Multipurpose Hall, and Boncodin Hall.</p>
<p>2) Can the DBM provide a system diagram for the connection of the area?</p>	<p>2) The Supplier shall provide the system diagrams for the Multipurpose Hall, Executive Lounge, and Boncodin Hall, to be submitted along with the workplan.</p>
<p>3) Does the “no button or dongle” requirement mentioned under item 4.1.1.5.4 of the Wireless Presentation Device of Multipurpose Hall similarly apply to others?</p>	<p>3) Yes, this requirement shall also apply to the Wireless Presentation Device of the DBM Executive Lounge and Boncodin Hall. In addition, for the app-based connectivity, the phrase of “none required” shall also be included.</p>
<p>4) Can the DBM provide a floor plan for purposes of determining the necessary cables and other requirements for this project?</p>	<p>4) Yes. Said floor plan is attached herewith as “Annex A.1”</p>
<p>5) Can the “Authorized Dealership Certificate” issued by the manufacturer or distributor be accepted in lieu of the required “Manufacturer Certificate or Authorized Distributor Certificate” under items 4.10.2 to 4.10.5 of the Vendor Qualification?</p>	<p>5) Yes, the “Authorized Dealership Certificate” issued by the manufacturer or distributor shall be accepted.</p>

	<p>Note:</p> <p><u>Attached is Section VI. Schedule of Requirements (Revised) which should be used as part of the Bidding Documents to be submitted by the bidders.</u></p> <p><u>Also, attached for guidance of the bidders are the Detailed Technical Specifications (Revised) and its Annex A.1 (DBM LED Wall System Floor Plan) which shall form part of the Bidding Documents.</u></p>
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Other matters:

- The “No Contact Rule” shall be strictly observed. Bidders are not allowed to communicate with any member of the Bids and Awards Committee, Technical Working Group or Secretariat effective November 5, 2024 right after the opening of bids.

- For guidance and information of all concerned.

RAMON VICENTE B. ASUNCION

Assistant Secretary

Vice Chairperson, DBM-BAC

Section VI. Schedule of Requirements

(Revised)

The delivery schedule stipulates hereafter the date of delivery to the project site.

Item	Description	Delivery Schedule
1	Supply, delivery, installation, configuration, testing, and commissioning of the LED Wall Display System	Within ninety (90) calendar days upon receipt of the Notice to Proceed (NTP)
2	Conduct of Pre-implementation Meeting with Administrative Service (AS)	Within fifteen (15) calendar days from the receipt of NTP
3	Submission of work plan and system diagrams for the Multipurpose Hall, Executive Lounge, and Boncodin Hall	Within seven (7) calendar days from the conduct of the pre-implementation meeting
4	LED Wall Display System Operation and Basic Troubleshooting Training	Within five (5) calendar days upon completion of Item 1 hereof or ninety (90) calendar days upon receipt of the NTP, whichever comes first.
5	Submission of the Warranty Certificate: A warranty period of twenty-four (24) months from the date of acceptance by the AS for the LED wall and portable video streaming studio device, cables and accessories by the AS, and twelve (12) months warranty for wireless presentation device, mobile tablet, and USB 4k PTZ camera that shall include support, provision of the service unit, and parts replacement by the AS.	Within seven (7) calendar days from the date of acceptance by the AS

* The period for the performance of the obligations under the Contract shall not be beyond the validity of the appropriation for the Project.

I hereby certify to comply and deliver all the above requirements

_____	_____	_____
Name of Company/Bidder	Signature Over Printed Name of Representative	Date

**DETAILED TECHNICAL SPECIFICATIONS
(Revised)**

1.0 PROJECT TITLE

Supply, delivery, installation, configuration, testing, and commissioning of LED Wall Display System.

2.0 OBJECTIVE

The LED wall will serve as a digital display platform for showcasing multimedia content, advertisements, and informational materials. The project aims to provide an immersive and visually appealing experience for visitors and enhance communication within the premises.

3.0 IMPLEMENTATION PERIOD

The supply, delivery, installation, configuration, testing, and commissioning of LED Wall Display System shall be within ninety (90) calendar days from the receipt of the Notice to Proceed (NTP).

4.0 SPECIFICATIONS AND SCOPE OF WORK

4.1 The Supplier shall supply, deliver, install, configure, test, and commission LED Wall Display System and its components in the following DBM locations:

4.1.1 Multipurpose Hall

4.1.1.1 One (1) set of Indoor LED Wall Display with the following minimum specifications, such as but not limited to:

4.1.1.1.1 Module

4.1.1.1.1.1 Encapsulation: COB (Common Anode)

4.1.1.1.1.2 Pixel Pitch: 1.56mm

4.1.1.1.1.3 Module Resolution (WxH): 96 x 108

4.1.1.1.1.4 Module Size (mm): 150 x 168.75

4.1.1.1.2 Forty-nine (49) Cabinets of 7 (W) x 7(H) units

4.1.1.1.2.1 Module Quantity/Cabinet (WxH): 4 x 2 = 8 modules/cabinet

4.1.1.1.2.2 Resolution (WxH): 384 x 216

4.1.1.1.2.3 Cabinet Size: 600mm (W) x 337.5mm (H) x 39.5mm (D)

4.1.1.1.2.4 Cabinet Area: 0.2025m²

4.1.1.1.2.5 Weight (kg/Cabinet): 4.6kg

4.1.1.1.2.6 Flatness: 0.01mm

4.1.1.1.2.7 Pixel Density (dot/m²): 409600 dots/m²

4.1.1.1.2.8 IP Grade: Front IP54

4.1.1.1.2.9 Material: Die-casting Aluminum

4.1.1.1.2.10 Lamp life: 100,000 hours

4.1.1.1.3 Display

- 4.1.1.1.3.1 Brightness: 600 CD/m²
- 4.1.1.1.3.2 Display Size: 4.2m (W) x 2.36m (H) = 9.9m²
- 4.1.1.1.3.3 Color temperature: 9300K Adjustable
- 4.1.1.1.3.4 Viewing angle: H/V 160°
- 4.1.1.1.3.5 Contrast Ratio: 10,000:1
- 4.1.1.1.3.6 Brightness uniformity: 97%

4.1.1.1.4 Processing Performance

- 4.1.1.1.4.1 Frame rate: 60 Hz
- 4.1.1.1.4.2 Refresh rate: 1920-3840 Hz
- 4.1.1.1.4.3 Display color: 22 bit
- 4.1.1.1.4.4 Peak power: 346 W/m²
- 4.1.1.1.4.5 Average power: 115 W/m²
- 4.1.1.1.4.6 Power supply: AC100-240V (50-60 Hz)
- 4.1.1.1.4.7 Operating temperature: -10-40°C
- 4.1.1.1.4.8 Storage temperature: --20-60°C

4.1.1.2 One (1) unit Video Processor with the following minimum specifications, such as but not limited to:

- 4.1.1.2.1 Industry-standard input connectors: 2 x 3G-SDI; 1 x HDMI 2.0; 4 x SL-DVI
- 4.1.1.2.2 16 Ethernet output ports load up to 10,400,000 pixels
- 4.1.1.2.3 3 Independent layers: 1 x 4Kx2K main layer; 2 x 2Kx1K PIPs (PIP 1 and PIP 2); Adjustable layer priorities
- 4.1.1.2.4 DVI mosaic: Up to 4 DVI inputs
- 4.1.1.2.5 Decimal frame rate supported: 23.98 Hz, 29.97 Hz, 47.95 Hz, 59.94 Hz, 71.93 Hz and 119.88 Hz.
- 4.1.1.2.6 Supports 3D display effect on the LED screen.
- 4.1.1.2.7 Three scaling options are pixel-to-pixel, full screen and custom scaling
- 4.1.1.2.8 Image mosaic up to 4 devices can be linked
- 4.1.1.2.9 Up to 10 presets
- 4.1.1.2.10 EDID management: Custom EDID and standard EDID supported
- 4.1.1.2.11 Internet connectivity backup

4.1.1.3 One (1) unit Portable Video Streaming Studio Device with the following minimum specifications, such as but not limited to:

- 4.1.1.3.1 Video standard: HD
- 4.1.1.3.2 Video format: 1080i 50/59, 94/60Hz / 720p 50/59.94/60Hz
- 4.1.1.3.3 Input routable / crosspoint: All 6, repeatable
- 4.1.1.3.4 Video input: 4 x HD-SDI / 2 x HDMI
- 4.1.1.3.5 Computer Graphic Interface: 2 via HDMI
- 4.1.1.3.6 Video output: 3 x HDMI + 2 x SDI assignable: AUX 1-6, PGM, PVW, PGM Clean or Multiview
- 4.1.1.3.7 Audio input: 2 x Balanced XLR
- 4.1.1.3.8 Audio output: 1 x Stereo headphone

- 4.1.1.3.9 Digital embedded audio support: input 2 channels, output 2 channels
 - 4.1.1.3.10 A+V Switching: Yes
 - 4.1.1.3.11 USK: 2 x USK support Chromakey
 - 4.1.1.3.12 DSK: 2 x DSK support Lumakey & linear key (Key/Fill)
 - 4.1.1.3.13 Picture in picture: 1
 - 4.1.1.3.14 Built-in monitor display: 17.3" HD TFT LED backlit, 1600x900 pix
 - 4.1.1.3.15 Streaming protocol: TS over TCP/UDP (unicast & multicast); RTSP over HTTP/TCP/UDP (RTSP) Elementary Streaming; RTMP/RTMPS (Publish); HLS; SRT
 - 4.1.1.3.16 Streaming control: Web browser UI
 - 4.1.1.3.17 Recording File System: FAT, exFAT, NTFS
 - 4.1.1.3.18 Recording File Format: MP4
 - 4.1.1.3.19 Recording Setting Control: Web UI for system configuration and control
 - 4.1.1.3.20 Special features: Streaming encoder and recorder; 2 chromakey virtual studio; 9 stinger transition and 30 virtual sets included
- 4.1.1.4 One (1) unit USB 4K PTZ Camera with the following minimum specifications, such as but not limited to:
- 4.1.1.4.1 Face camera tracking or auto framing
 - 4.1.1.4.2 4K Ultra HD video, 12x optical zoom
 - 4.1.1.4.3 Control the camera's functions via IR remote, RS-232, or UVC protocol
 - 4.1.1.4.4 Lens: 12x maximum zoom, Focal length: 4.4mm – 52.8mm, F1.8 – F2.6
 - 4.1.1.4.5 Super-high SNR with advanced 2D and 3D noise reduction
 - 4.1.1.4.6 Sensor: ½.5 inch, CMOS; Effective Pixels: 8.51 million
 - 4.1.1.4.7 Compatible with popular applications such as Zoom, WebEx, Google Meet, and more
 - 4.1.1.4.8 Simple USB 3.0/2.0 compatibility with UVC and UAC protocols support
- 4.1.1.5 One (1) set Wireless Presentation Device with minimum specifications, such as but not limited to the following, and compatible with Mobile Tablet per item 4.1.1.6 hereof:
- 4.1.1.5.1 Max output resolution: Up to 4096 x 2160 at 60 fps HDMI 2.0
 - 4.1.1.5.2 Max simultaneous presenters on screen: 8 simultaneous mirroring devices, each at 1080 60fps
 - 4.1.1.5.3 App based connectivity: None Required
 - 4.1.1.5.4 Button/dongle to connect user devices: No button or dongle required
- 4.1.1.6 One (1) unit Mobile Tablet with the following minimum specifications, such as but not limited to:

- 4.1.1.6.1 With mobile tablet charger and cable for easy and fast control capable in controlling the presentation device with at least the following specifications: 11” XDR display, 2420x1668-pixel resolution at 262 ppi, 9-core CPU with 3 performance cores and 6 efficiency cores, 10-core GPU, hardware-accelerated ray tracing, 120GB/s memory bandwidth, 8GB RAM, at least 512GB storage, with appropriate charge cable, power adapter
 - 4.1.1.6.2 Must be compatible with Wireless Presentation Device (Item 4.1.1.5 hereof)
- 4.1.1.7 One (1) unit Mirrorless Camera complete with lens, tripod, memory card, and other accessories with the following minimum specifications, such as but not limited to:
- 4.1.1.7.1 Aspect ratio: 3:2
 - 4.1.1.7.2 Number of effective pixels: Approx. 61 MP
 - 4.1.1.7.3 Sensor Type: 35mm full frame, Exmore R CMOS sensor
 - 4.1.1.7.4 Anti-dust system: Yes (Charge protection coating on Optical Filter and ultrasonic vibration mechanism)
 - 4.1.1.7.5 Recording format: JPEG (D CF Ver. 2.0m Exif Ver. 2.32m MPF Baseline compliant), HEIF (MPEG-A MIAF compliant)
 - 4.1.1.7.6 Image size (Pixels) (3:2): 35mm full frame L: 9504 x 6336 (60M), M: 6240 x 4160 (26M), S: 4752 x 3168 (15M), APSC-C M: 6240 x 4160 (26M), S: 4752 x 3168 (15M)
 - 4.1.1.7.7 Image quality modes: RAW (Compressed / Lossless compressed (L / M / S) / Uncompressed), JPEG (Extra fine / Fine / Standard / Light), HEIF (4:2:0 / 4:2:2) (Extra fine / Fine / Standard / Light), RAW & JPEG, RAW & HEIF
 - 4.1.1.7.8 Video compression: XAVC S: MPEG-4 AVC / H.264; XAVCHS: MPEG-H HEVC / H.265
 - 4.1.1.7.9 Video resolution: 3840 x 2160 (15p/12.5p) / 1920 x 1080 (60p/50p/30p/25p) / 1280 x 720 (30p/25p)
 - 4.1.1.7.10 Audio data format: LPCM 2 ch (16 bit 48 kHz)
 - 4.1.1.7.11 Media Recording System: SD Memory card, SDHC memory card (UHS-I/II compliant), SDXC memory card (UHS-I/II compliant), Cfexpress Type A memory card
 - 4.1.1.7.12 Memory Card Slot: Slot 1 and 2:Multi slot for SD (UHS-I/II compliant) memory card / CFexpress Type A card
 - 4.1.1.7.13 Focus type: Fast hybrid AF (phase-detection AF / contrast-detection AF)
 - 4.1.1.7.14 Focus sensor: Exmore R CMOS sensor
 - 4.1.1.7.15 Metering Type: 1200-zone evaluate metering

- 4.1.1.7.16 Exposure compensation: +/- 5.0 EV (1/3 EV, 1/2 EV steps selectable)
- 4.1.1.7.17 ISO sensitivity (Still images: ISO 100-32000, Auto; Movies: ISO 100-32000 equivalent, Auto)
- 4.1.1.7.18 Viewfinder Type: 1.6cm electronic viewfinder
- 4.1.1.7.19 Monitor Type: 8.0cm type TFT with 2,095,104 dots
- 4.1.1.7.20 Interface: PC interface: Mass-storage / MTP, Multi/micro USB terminal: Yes, USB Type-C terminal: Yes, Bluetooth: Yes, Multi Interface Shoe: Yes (with digital audio interface), Wireless LAN: Yes, built-in (Wi-fi compatible, IEEE 802.11a/b/g/n/ac (2.4/5 GHz Band), Mic terminal: 3.5mm Stereo Mini-jack, Vertical Grip Connector: Yes, Functions: FTP transfer function (Wired LAN (USB-LAN), USB Tethering, Wi-fi), View on Smartphone, Remote Control via Smartphone, PC Remote, Photo TV HD
- 4.1.1.7.21 Battery: One rechargeable battery pack with 1 spare set and charger
- 4.1.1.7.22 USB Power Supply: Yes
- 4.1.1.7.23 Lens: 16-25mm wide-angle zoom G Lens, Three ED glass elements, three aspherical elements, one ED Aspherical glass element for high resolution, Full creative control with independent focus, zoom, and aperture rings, Minimum focus distance 0.18(W) – 0.24(T)(AF), 0.17(W)-0.22(T)(MF) m (0.59(W)-0.79(T)(AF), 0.56(W)-0.73(T)(MF) ft), Maximum Magnification Ratio (x) 0.20 (AF), 0.23 (MF), Filter Diameter 67mm
- 4.1.1.7.24 Tripod: Tilt and lock the fluid head steplessly from -75° to +90°, 36-° base, 75mm bowl on the spider, center spreader, leg buckle, retractable metal spikes, aluminum material, 3 sections, max load 10kg, retracted height: 959mm
- 4.1.1.7.25 Memory Card: Capacity 128gb, SD Card, branded and brand new
- 4.1.1.7.26 Rechargeable Battery Pack: Capacity: 7.2 V / 16.4 Wh (2,280 mAh)

4.1.1.8 One (1) unit new and branded High Quality 15m HDMI Cable with Ethernet

4.1.1.9 One (1) unit new and branded High Quality 10m USB 3.1 Extender Cable

4.1.2 Boncodin Hall

4.1.2.1 One (1) set of Indoor LED Wall Display with the following minimum specifications, such as but not limited to:

4.1.2.1.1 Module

4.1.2.1.1.1 Encapsulation: COB (Common Anode)

- 4.1.2.1.1.2 Pixel Pitch: 1.56mm
- 4.1.2.1.1.3 Module Resolution (WxH): 96 x 108
- 4.1.2.1.1.4 Module Size (mm): 150 x 168.75

4.1.2.1.2 Eighty (80) Cabinets of 8(W) x 10(H) units

- 4.1.2.1.2.1 Module Quantity/Cabinet (WxH): 4 x 2 = 8 modules/cabinet
- 4.1.2.1.2.2 Resolution (WxH): 384 x 216
- 4.1.2.1.2.3 Cabinet Size: 600mm (W) x 337.5mm (H) x 39.5mm (D)
- 4.1.2.1.2.4 Cabinet Area: 0.2025m²
- 4.1.2.1.2.5 Weight (kg/Cabinet): 4.6kg
- 4.1.2.1.2.6 Flatness: 0.01mm
- 4.1.2.1.2.7 Pixel Density (dot/m²): 409600 dots/m²
- 4.1.2.1.2.8 IP Grade: Front IP54
- 4.1.2.1.2.9 Material: Die-casting Aluminum
- 4.1.2.1.2.10 Lamp life: 100,000 hours

4.1.2.1.3 Display

- 4.1.2.1.3.1 Brightness: 600 CD/m²
- 4.1.2.1.3.2 Display Size: 4.8m (W) x 3.375m (H) = 16.20m²
- 4.1.2.1.3.3 Color temperature: 9300K Adjustable
- 4.1.2.1.3.4 Viewing angle: H/V 160°
- 4.1.2.1.3.5 Contrast Ratio: 10,000:1
- 4.1.2.1.3.6 Brightness uniformity: 97%

4.1.2.1.4 Processing Performance

- 4.1.2.1.4.1 Frame rate: 60 Hz
- 4.1.2.1.4.2 Refresh rate: 1920-3840 Hz
- 4.1.2.1.4.3 Display color: 22 bit
- 4.1.2.1.4.4 Peak power: 346 W/m²
- 4.1.2.1.4.5 Average power: 115 W/m²
- 4.1.2.1.4.6 Power supply: AC100-240V (50-60 Hz)
- 4.1.2.1.4.7 Operating temperature: -10-40°C
- 4.1.2.1.4.8 Storage temperature: --20-60°C

4.1.2.2 One (1) unit Video Processor with the following minimum specifications, such as but not limited to:

- 4.1.2.2.1 Industry-standard input connectors: 2 x 3G-SDI; 1 x HDMI 2.0; 4 x SL-DVI
- 4.1.2.2.2 16 Ethernet output ports load up to 10,400,000 pixels
- 4.1.2.2.3 3 Independent layers: 1 x 4Kx2K main layer; 2 x 2Kx1K PIPs (PIP 1 and PIP 2); Adjustable layer priorities
- 4.1.2.2.4 DVI mosaic: Up to 4 DVI inputs
- 4.1.2.2.5 Decimal frame rate supported: 23.98 Hz, 29.97 Hz, 47.95 Hz, 59.94 Hz, 71.93 Hz and 119.88 Hz.
- 4.1.2.2.6 Supports 3D display effect on the LED screen.
- 4.1.2.2.7 Three scaling options are pixel-to-pixel, full screen and custom scaling
- 4.1.2.2.8 Image mosaic up to 4 devices can be linked
- 4.1.2.2.9 Up to 10 presets can be saved for future use

- 4.1.2.2.10 EDID management:
- 4.1.2.2.11 Internet connectivity backup

4.1.2.3 One (1) unit Portable Video Streaming Studio Device with the following minimum specifications, such as but not limited to:

- 4.1.2.3.1 Video standard: Full HD
- 4.1.2.3.2 Video format: 1080p 50/59.94/60Hz; 1080i 50/59.94/60Hz; 720p 50/59.94/60Hz
- 4.1.2.3.3 Input routable / crosspoint: All 12, repeatable
- 4.1.2.3.4 Video input: 8 x SDI, 4 x HDMI
- 4.1.2.3.5 Computer Graphic Interface: 4 via HDMI
- 4.1.2.3.6 Down-converted output: 1 x SDI
- 4.1.2.3.7 Video output: 5 SDI, 1 x HDMI assignable: Multiview, PGM, PVW, PGM+DSK, Clean PGM, Clean PVW, Input 1-12, STILL 1, STILL 2, Flex source 3 x HDMI PGM only
- 4.1.2.3.8 Analogue Audio input: 4 x Balanced XLR
- 4.1.2.3.9 Analogue Audio output: 2 x Balanced XLR
- 4.1.2.3.10 Digital embedded audio support: input 2 channels, output 4 channels: Audio delay calibration: up to 16 frames
- 4.1.2.3.11 Built-in monitor display: 17.3" HD TFT LED backlit, 1920 x 1080 pix

4.1.2.4 One (1) unit Wireless Presentation Device with the following minimum specifications, such as but not limited to:

- 4.1.2.4.1 Max output resolution: Up to 4096 x 2160 at 60 fps HDMI 2.0
- 4.1.2.4.2 Max simultaneous presenters on screen: 8 simultaneous mirroring devices, each at 1080 60fps
- 4.1.2.4.3 App based connectivity: None Required
- 4.1.2.4.4 Button/dongle to connect user devices: No button or dongle required

4.1.2.5 One (1) unit Mobile Tablet with the following minimum specifications, such as but not limited to:

- 4.1.2.5.1 With mobile tablet charger and cable for easy and fast control capable in controlling the presentation device with at least the following specifications: 11" XDR display, 2420x1668-pixel resolution at 262 ppi, 9-core CPU with 3 performance cores and 6 efficiency cores, 10-core GPU, hardware-accelerated ray tracing, 120GB/s memory bandwidth, 8GB RAM, at least 512GB storage, with appropriate charge cable, power adapter
- 4.1.2.5.2 Must be compatible with Wireless Presentation Device (per Item 4.1.2.4 hereof)

4.1.2.6 One (1) unit Mirrorless Camera complete with lens, tripod, memory card, and other accessories with the following minimum specifications, such as but not limited to:

- 4.1.2.6.1 Aspect ratio: 3:2
- 4.1.2.6.2 Number of effective pixels: Approx. 61 MP
- 4.1.2.6.3 Sensor Type: 35mm full frame, Exmore R CMOS sensor
- 4.1.2.6.4 Anti-dust system: Yes (Charge protection coating on Optical Filter and ultrasonic vibration mechanism)
- 4.1.2.6.5 Recording format: JPEG (D CF Ver. 2.0m Exif Ver. 2.32m MPF Baseline compliant), HEIF (MPEG-A MIAF compliant)
- 4.1.2.6.6 Image size (Pixels) (3:2): 35mm full frame L: 9504 x 6336 (60M), M: 6240 x 4160 (26M), S: 4752 x 3168 (15M), APSC-C M: 6240 x 4160 (26M), S: 4752 x 3168 (15M)
- 4.1.2.6.7 Image quality modes: RAW (Compressed / Lossless compressed (L / M / S) / Uncompressed), JPEG (Extra fine / Fine / Standard / Light), HEIF (4:2:0 / 4:2:2) (Extra fine / Fine / Standard / Light), RAW & JPEG, RAW & HEIF
- 4.1.2.6.8 Video compression: XAVC S: MPEG-4 AVC / H.264; XAVCHS: MPEG-H HEVC / H.265
- 4.1.2.6.9 Video resolution: 3840 x 2160 (15p/12.5p) / 1920 x 1080 (60p/50p/30p/25p) / 1280 x 720 (30p/25p)
- 4.1.2.6.10 Audio data format: LPCM 2 ch (16 bit 48 kHz)
- 4.1.2.6.11 Media Recording System: SD Memory card, SDHC memory card (UHS-I/II compliant), SDXC memory card (UHS-I/II compliant), Cfexpress Type A memory card
- 4.1.2.6.12 Memory Card Slot: Slot 1 and 2:Multi slot for SD (UHS-I/II compliant) memory card / CFexpress Type A card
- 4.1.2.6.13 Focus type: Fast hybrid AF (phase-detection AF / contrast-detection AF)
- 4.1.2.6.14 Focus sensor: Exmore R CMOS sensor
- 4.1.2.6.15 Metering Type: 1200-zone evaluate metering
- 4.1.2.6.16 Exposure compensation: +/- 5.0 EV (1/3 EV, 1/2 EV steps selectable)
- 4.1.2.6.17 ISO sensitivity (Still images: ISO 100-32000, Auto; Movies: ISO 100-32000 equivalent, Auto)
- 4.1.2.6.18 Viewfinder Type: 1.6cm electronic viewfinder
- 4.1.2.6.19 Monitor Type: 8.0cm type TFT with 2,095,104 dots
- 4.1.2.6.20 Interface: PC interface: Mass-storage / MTP, Multi/micro USB terminal: Yes, USB Type-C terminal: Yes, Bluetooth: Yes, Multi Interface Shoe: Yes (with digital audio interface), Wireless LAN: Yes, built-in (Wi-fi compatible, IEEE 802.11a/b/g/n/ac (2.4/5 GHz Band), Mic terminal: 3.5mm Stereo Mini-jack, Vertical Grip Connector: Yes, Functions: FTP transfer function (Wired LAN (USB-LAN), USB Tethering, Wi-fi), View on

Smartphone, Remote Control via Smartphone, PC Remote, Photo TV HD

- 4.1.2.6.21 Battery: One rechargeable battery pack with 1 spare set and charger
- 4.1.2.6.22 USB Power Supply: Yes
- 4.1.2.6.23 Lens: 16-25mm wide-angle zoom G Lens, Three ED glass elements, three aspherical elements, one ED Aspherical glass element for high resolution, Full creative control with independent focus, zoom, and aperture rings, Minimum focus distance 0.18(W) – 0.24(T)(AF), 0.17(W)-0.22(T)(MF) m (0.59(W)-0.79(T)(AF), 0.56(W)-0.73(T)(MF) ft), Maximum Magnification Ratio (x) 0.20 (AF), 0.23 (MF), Filter Diameter 67mm
- 4.1.2.6.24 Tripod: Tilt and lock the fluid head steplessly from -75° to +90°, 36-° base, 75mm bowl on the spider, center spreader, leg buckle, retractable metal spikes, aluminum material, 3 sections, max load 10kg, retracted height: 959mm
- 4.1.2.6.25 Memory Card: Capacity 128gb, SD Card, branded and brand new
- 4.1.2.6.26 Rechargeable Battery Pack: Capacity: 7.2 V / 16.4 Wh (2,280 mAh)

4.1.2.7 One (1) unit new and branded High Quality 15m HDMI Cable with Ethernet

4.1.3 DBM Executive Lounge

4.1.3.1 One (1) set of Indoor LED Wall Display with a specifications of at least but not limited to the following:

4.1.3.1.1 Module

- 4.1.3.1.1.1 Encapsulation: COB (Common Anode)
- 4.1.3.1.1.2 Pixel Pitch: 0.9mm
- 4.1.3.1.1.3 Module Resolution (WxH): 160 x 108
- 4.1.3.1.1.4 Module Size (mm): 150 x 168.75

4.1.3.1.2 24 Cabinets of 6 (W) x 4 (H) units

- 4.1.3.1.2.1 Module Quantity/Cabinet (WxH): 4 x 2 = 8 modules/cabinet
- 4.1.3.1.2.2 Resolution (WxH): 640 x 360
- 4.1.3.1.2.3 Cabinet Size: 600mm (W) x 337.5mm (H) x 39.5mm (D)
- 4.1.3.1.2.4 Cabinet Area: 0.2025m²
- 4.1.3.1.2.5 Weight (kg/Cabinet): 4.6kg
- 4.1.3.1.2.6 Flatness: 0.01mm
- 4.1.3.1.2.7 Pixel Density (dot/m²): 1,137,777 dots/m²
- 4.1.3.1.2.8 IP Grade: Front IP54
- 4.1.3.1.2.9 Material: Die-casting Aluminum
- 4.1.3.1.2.10 Lamp life: 100,000 hours

4.1.3.1.3 Display

- 4.1.3.1.3.1 Brightness: 600 CD/m²

- 4.1.3.1.3.2 Display Size: 3.6m (W) x 1.35m (H) = 4.9m²
- 4.1.3.1.3.3 Color temperature: 9300K Adjustable
- 4.1.3.1.3.4 Viewing angle: H/V 160°
- 4.1.3.1.3.5 Contrast Ratio: 10,000:1
- 4.1.3.1.3.6 Brightness uniformity: 97%

4.1.3.1.4 Processing Performance

- 4.1.3.1.4.1 Frame rate: 60 Hz
- 4.1.3.1.4.2 Refresh rate: 1920-3840 Hz
- 4.1.3.1.4.3 Display color: 22 bit
- 4.1.3.1.4.4 Peak power: 370 W/m²
- 4.1.3.1.4.5 Average power: 123 W/m²
- 4.1.3.1.4.6 Power supply: AC100-240V (50-60 Hz)
- 4.1.3.1.4.7 Operating temperature: -10-40°C
- 4.1.3.1.4.8 Storage temperature: --20-60°C

4.1.3.2 One (1) unit Video Processor with the following minimum specifications, such as but not limited to:

- 4.1.3.2.1 Industry-standard input connectors: 2 x 3G-SDI; 1 x HDMI 2.0; 4 x SL-DVI
- 4.1.3.2.2 16 Ethernet output ports load up to 10,400,000 pixels
- 4.1.3.2.3 3 Independent layers: 1 x 4Kx2K main layer; 2 x 2Kx1K PIPs (PIP 1 and PIP 2); adjustable layer priorities
- 4.1.3.2.4 DVI mosaic: up to 4 DVI inputs
- 4.1.3.2.5 Decimal frame rate supported: 23.98 Hz, 29.97 Hz, 47.95 Hz, 59.94 Hz, 71.93 Hz and 119.88 Hz.
- 4.1.3.2.6 Supports 3D display effect on the LED screen.
- 4.1.3.2.7 Three scaling options are pixel-to-pixel, full screen and custom scaling
- 4.1.3.2.8 Image mosaic up to 4 devices can be linked
- 4.1.3.2.9 Up to 10 presets can be saved for future use
- 4.1.3.2.10 EDID management
- 4.1.3.2.11 Internet connectivity backup

4.1.3.3 One (1) unit Portable Video Streaming Studio Device with the following minimum specifications, such as but not limited to:

- 4.1.3.3.1 Video standard: HD
- 4.1.3.3.2 Video format: 1080i 50/59, 94/60Hz / 720p 50/59.94/60Hz
- 4.1.3.3.3 Input routable / crosspoint: All 6, repeatable
- 4.1.3.3.4 Video input: 4 x HD-SDI / 2 x HDMI
- 4.1.3.3.5 Computer Graphic Interface: 2 via HDMI
- 4.1.3.3.6 Video output: 3 x HDMI + 2 x SDI assignable: AUX 1-6, PGM, PVW, PGM Clean or Multiview
- 4.1.3.3.7 Audio input: 2 x Balanced XLR
- 4.1.3.3.8 Audio output: 1 x Stereo headphone
- 4.1.3.3.9 Digital embedded audio support: input 2 channels, output 2 channels
- 4.1.3.3.10 A+V Switching: Yes
- 4.1.3.3.11 USK: 2 x USK support Chromakey

- 4.1.3.3.12 DSK: 2 x DSK support Lumakey & linear key (Key/Fill)
 - 4.1.3.3.13 Picture in picture: 1
 - 4.1.3.3.14 Built-in monitor display: 17.3" HD TFT LED backlit, 1600x900 pix
 - 4.1.3.3.15 Streaming protocol: TS over TCP/UDP (unicast & multicast); RTSP over HTTP/TCP/UDP (RTSP) Elementary Streaming; RTMP/RTMPS (Publish); HLS; SRT
 - 4.1.3.3.16 Streaming control: Web browser
 - 4.1.3.3.17 Recording File System: FAT, exFAT, NTFS
 - 4.1.3.3.18 Recording File Format: MP4
 - 4.1.3.3.19 Recording Setting Control: Web UI
 - 4.1.3.3.20 Special features: Streaming encoder and recorder; 2 chromakey virtual studio; 9 stinger transition and 30 virtual sets included
- 4.1.3.4 One (1) unit USB 4K PTZ Camera with the following minimum specifications, such as but not limited to:
- 4.1.3.4.1 Face camera tracking or auto framing
 - 4.1.3.4.2 4K Ultra HD video, 12x optical zoom
 - 4.1.3.4.3 Control the camera's functions via IR remote, RS-232, or UVC protocol
 - 4.1.3.4.4 Lens: 12x maximum zoom, Focal length: 4.4mm – 52.8mm, F1.8 – F2.6
 - 4.1.3.4.5 Super-high SNR with advanced 2D and 3D noise reduction
 - 4.1.3.4.6 Sensor: ½.5 inch, CMOS; Effective Pixels: 8.51 million
 - 4.1.3.4.7 Compatible with popular applications such as Zoom, WebEx, Google Meet, and more
 - 4.1.3.4.8 Simple USB 3.0/2.0 compatibility with UVC and UAC protocols support
- 4.1.3.5 One (1) unit Wireless Presentation Device with the following minimum specifications, such as but not limited to:
- 4.1.3.5.1 Max output resolution: Up to 4096 x 2160 at 60 fps HDMI 2.0
 - 4.1.3.5.2 Max simultaneous presenters on screen: 8 simultaneous mirroring devices, each at 1080 60fps
 - 4.1.3.5.3 App based connectivity: None required
 - 4.1.3.5.4 Button/dongle to connect user devices: No button or dongle required
- 4.1.3.6 One (1) unit Mobile Tablet with the following minimum specifications, such as but not limited to:
- 4.1.3.6.1 With mobile tablet charger and cable for easy and fast control capable in controlling the presentation device with at least the following specifications: 11" XDR display, 2420x1668-pixel resolution at 262 ppi, 9-core CPU with 3 performance cores and 6

efficiency cores, 10-core GPU, hardware-accelerated ray tracing, 120GB/s memory bandwidth, 8GB RAM, at least 512GB storage, with appropriate charge cable, power adapter

4.1.3.6.2 Must be compatible with Wireless Presentation Device (per Item 4.1.3.5 hereof)

4.1.3.7 One (1) unit Mirrorless Camera complete with lens, tripod, memory card, and other accessories with at least of the following specifications such as but not limited to:

- 4.1.3.7.1 Aspect ratio: 3:2
- 4.1.3.7.2 Number of effective pixels: Approx. 61 MP
- 4.1.3.7.3 Sensor Type: 35mm full frame, Exmore R CMOS sensor
- 4.1.3.7.4 Anti-dust system: Yes (Charge protection coating on Optical Filter and ultrasonic vibration mechanism)
- 4.1.3.7.5 Recording format: JPEG (D CF Ver. 2.0m Exif Ver. 2.32m MPF Baseline compliant), HEIF (MPEG-A MIAF compliant)
- 4.1.3.7.6 Image size (Pixels) (3:2): 35mm full frame L: 9504 x 6336 (60M), M: 6240 x 4160 (26M), S: 4752 x 3168 (15M), APSC-C M: 6240 x 4160 (26M), S: 4752 x 3168 (15M)
- 4.1.3.7.7 Image quality modes: RAW (Compressed / Lossless compressed (L / M / S) / Uncompressed), JPEG (Extra fine / Fine / Standard / Light), HEIF (4:2:0 / 4:2:2) (Extra fine / Fine / Standard / Light), RAW & JPEG, RAW & HEIF
- 4.1.3.7.8 Video compression: XAVC S: MPEG-4 AVC / H.264; XAVCHS: MPEG-H HEVC / H.265
- 4.1.3.7.9 Video resolution: 3840 x 2160 (15p/12.5p) / 1920 x 1080 (60p/50p/30p/25p) / 1280 x 720 (30p/25p)
- 4.1.3.7.10 Audio data format: LPCM 2 ch (16 bit 48 kHz)
- 4.1.3.7.11 Media Recording System: SD Memory card, SDHC memory card (UHS-I/II compliant), SDXC memory card (UHS-I/II compliant), CFexpress Type A memory card
- 4.1.3.7.12 Memory Card Slot: Slot 1 and 2: Multi slot for SD (UHS-I/II compliant) memory card / CFexpress Type A card
- 4.1.3.7.13 Focus type: Fast hybrid AF (phase-detection AF / contrast-detection AF)
- 4.1.3.7.14 Focus sensor: Exmore R CMOS sensor
- 4.1.3.7.15 Metering Type: 1200-zone evaluate metering
- 4.1.3.7.16 Exposure compensation: +/- 5.0 EV (1/3 EV, 1/2 EV steps selectable)
- 4.1.3.7.17 ISO sensitivity (Still images: ISO 100-32000, Auto; Movies: ISO 100-32000 equivalent, Auto)
- 4.1.3.7.18 Viewfinder Type: 1.6cm electronic viewfinder

- 4.1.3.7.19 Monitor Type: 8.0cm type TFT with 2,095,104 dots
- 4.1.3.7.20 Interface: PC interface: Mass-storage / MTP, Multi/micro USB terminal: Yes, USB Type-C terminal: Yes, Bluetooth: Yes, Multi Interface Shoe: Yes (with digital audio interface), Wireless LAN: Yes, built-in (Wi-fi compatible, IEEE 802.11a/b/g/n/ac (2.4/5 GHz Band), Mic terminal: 3.5mm Stereo Mini-jack, Vertical Grip Connector: Yes, Functions: FTP transfer function (Wired LAN (USB-LAN), USB Tethering, Wi-fi), View on Smartphone, Remote Control via Smartphone, PC Remote, Photo TV HD
- 4.1.3.7.21 Battery: One rechargeable battery pack with 1 spare set and charger
- 4.1.3.7.22 USB Power Supply: Yes
- 4.1.3.7.23 Lens: 16-25mm wide-angle zoom G Lens, Three ED glass elements, three aspherical elements, one ED Aspherical glass element for high resolution, Full creative control with independent focus, zoom, and aperture rings, Minimum focus distance 0.18(W) – 0.24(T)(AF), 0.17(W)-0.22(T)(MF) m (0.59(W)-0.79(T)(AF), 0.56(W)-0.73(T)(MF) ft), Maximum Magnification Ratio (x) 0.20 (AF), 0.23 (MF), Filter Diameter 67mm
- 4.1.3.7.24 Tripod:Tilt and lock the fluid head steplessly from -75° to +90°, 36-° base, 75mm bowl on the spider, center spreader, leg buckle, retractable metal spikes, aluminum material, 3 sections, max load 10kg, retracted height: 959mm
- 4.1.3.7.25 Memory Card: Capacity 128gb, SD Card, branded and brand new
- 4.1.3.7.26 Rechargeable Battery Pack: Capacity: 7.2 V / 16.4 Wh (2,280 mAh)

4.1.3.8 One (1) unit new and branded High Quality 15m HDMI Cable with Ethernet

4.1.3.9 One (1) unit new and branded High Quality 10m USB 3.1 Extender Cable

4.2 The DBM-AS shall conduct a pre-implementation meeting within fifteen (15) calendar days from the receipt of NTP with Supplier so that all the necessary preparations, ideal set-up, Supplier’s familiarization, and other implementation matters are discussed and finalized.

4.3 The SUPPLIER shall provide a work plan of activities for the duration of the project and the system diagrams for the Multipurpose Hall, Executive Lounge, and Boncodin Hall within seven (7) calendar days from the conduct of the pre-implementation meeting with DBM representatives. Said work plan and system diagrams shall be validated and subject to approval by the DBM-AS.

- 4.4 The SUPPLIER shall supply, deliver, install, configure, test, and commission the video wall systems as detailed in item 4.1 within ninety (90) calendar days from the receipt of the Notice to ProceedNTP.
- 4.5 The SUPPLIER shall provide and install all electrical requirements, such as but not limited to, new and commercial-grade electrical wires, isolation circuit breakers, switches, etc., necessary for the proper operation of the LED wall display systems and at no additional cost to the DBM.
- 4.6 The SUPPLIER shall conform with all existing structural and architectural elements in the DBM.
- 4.7 The SUPPLIER shall provide all civil and structural reinforcements and other mountings not indicated in these technical specifications but is necessary for the proper operation of the LED wall display systems and restore all affected areas for approval and to the satisfaction of the DBM, at no additional cost.

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- 4.8 The Supplier shall provide on-site assistance for video wall system operation as deemed necessary by the DBM and for the duration of the warranty period. Problems reported on software and hardware components shall be resolved to the satisfaction of the DBM within four (4) hours from receipt of the report.
- 4.9 The Supplier shall conduct hands-on-equipment operation training to ensure proper equipment usage, maintenance and operations. Classroom type based on the timetable below:

Technical Training	Schedule	No. of Participants	Duration
LED Wall Display System Operation and Basic Troubleshooting Training	Within five (5) calendar days upon completion of items 4.4 to 4.7 hereof or ninety (90) calendar days from the receipt of the NTP, whichever comes first.	Minimum of Fifteen (15) participants	Minimum of one (1) day

4.10 Vendor Qualification

- 4.10.1 The Supplier must have at least ten (10) years of experience in the Audio-Visual industry based on the Bureau of Internal Revenue (BIR) Certificate of Registration (COR) Form 2303 (BIR COR Form 2303 is to be submitted as a post-qualification requirement).
- 4.10.2 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate or Authorized Dealership Certificate issued by the manufacturer or distributor for the LED Wall to be submitted as a post-qualification requirement.
- 4.10.3 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate or Authorized Dealership Certificate issued by the manufacturer or distributor for Portable Video Streaming Device to be submitted as a post-qualification requirement.
- 4.10.4 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate or Authorized Dealership Certificate issued by the manufacturer or distributor for Wireless Presentation Device to be submitted as a post-qualification requirement.

4.10.5 The Supplier must have a Manufacturer Certificate or Authorized Distributor Certificate or Authorized Dealership Certificate issued by the manufacturer or distributor for PTZ Camera to be submitted as a post-qualification requirement.

5.0 SERVICE LEVEL AGREEMENT

The DBM shall maintain a Service Level Agreement with the Supplier, with provisions for liquidated damages as indicated below for their non-compliance. Liquidated damages shall be charged against any money due or which may become due to the Supplier, or collected from any securities or warranties posted by the Supplier.

Component	Description	Liquidated Damages
Supply, delivery, installation, configuration, testing, and commissioning	The Supplier shall supply, deliver, install, configure, test, and commission the LED Wall System components, as detailed in item 4.1 to 4.7	1/10th of 1% of the total contract price shall be imposed per day of delay.
Technical and on-site Support	The Supplier shall provide technical support, as detailed in item 4.8	1/10th of 1% of the total contract price shall be imposed per day of delay.
Replacement of defective parts	The Supplier shall replace defective parts of the video equipment, as detailed in section 6	1/10th of 1% of the total contract price shall be imposed per day of delay.
Provision of service unit	The Supplier shall provide a service unit in case of equipment breakdown, as detailed in item 6.1.5	1/10th of 1% of the total contract price shall be imposed per day of delay.

6.0 WARRANTIES OF THE SUPPLIER

6.1 For the support services, the warranties shall include the following:

6.1.1 Support and Maintenance - the Supplier shall submit a warranty certificate within seven (7) calendar days upon issuance of acceptance by the AS, which states that the Supplier shall provide a twenty-four (24) months warranty for the LED wall and portable video streaming studio device, cables and accessories by the AS, and twelve (12) months warranty for wireless presentation device, mobile tablet, and USB 4k PTZ camera that shall include support, provision of the service unit, and parts replacement by the AS.

6.1.2 During the warranty period, the Supplier shall provide/render technical support service, and fulfilling service requests. Technical support can be delivered in the form of a telephone call, electronic mail, and/or on-site support as requested by the DBM-AS.

Problems reported on software and hardware components shall be resolved to the satisfaction of the DBM within four (4) hours from receipt of the report.

- 6.1.3 During the warranty period, the Suppliers shall provide adequate spare modules and tools to the DBM-AS for immediate on-site replacement.
- 6.1.4 During the warranty period, defective parts/accessories of the subject /video equipment shall be replaced, at no additional cost to the DBM, with the same or better specifications, model features, quality, and functionalities that remain compatible with the provided LED wall system, subject to the approval by the DBM-AS, if the same is not repaired within the allowable resolution time of four (4) hours.
- 6.1.5 During the warranty period, a service unit of at least the same brand, model, features, and functionalities, or its equivalent in case of equipment breakdown, shall be provided, at no additional cost to the DBM. The service unit shall be made available and operational within four (4) hours from the time the problem has been reported by the DBM.

However, mandatory replacement of the defective unit with a brand-new unit of the same or better specifications that are still compatible with the provided LED wall system shall be made, if not repaired beyond one (1) month from the time the service unit was provided, at no additional cost to the DBM.

- 6.1.6 The Supplier warrants that it shall strictly conform to the terms and conditions of this Detailed Technical Specifications.
- 6.1.7 The Supplier warrants that the technical staff assigned are qualified to provide the deliverables required to the satisfaction of the DBM.
- 6.1.8 The Supplier shall secure, maintain at its own expense all registration, licenses, or permits required by national or local laws and shall comply with the rules, regulations, and directives of regulatory authorities and Commissions.
- 6.1.9 The Supplier's technical staff assigned to support DBM shall take all necessary precautions for the safety of all persons and properties at or near their area of work and shall comply with all the standard and established safety regulations, rules and practices.
- 6.1.10 The Supplier's technical staff assigned to support DBM shall coordinate with the AS in the implementation of this project.
- 6.1.11 The Supplier shall be liable for loss, damage, or injury caused directly or indirectly through the fault or negligence of its technical staff assigned. It shall assume full responsibility therefore and the DBM shall be fully released from any liability arising therefrom.
- 6.1.12 The Supplier shall neither assign, transfer, pledge, nor subcontract any part or interest to the contract being bidded out.
- 6.1.13 The Supplier shall identify the certified technical staff who will be given authority to access and operate the specified equipment. The Supplier shall

inform the DBM, through the AS, not less than five (5) calendar days before the deployment, through a formal notice, of any change or replacement of the authorized certified technical staff.

7.0 TERMS OF PAYMENT

7.1 One-time payment shall be made, subject to the submission of the following documentary requirements, and in accordance with budgeting, and auditing laws, rules, and regulations:

- 7.1.1 Delivery Receipts
- 7.1.2 Sales Invoice/Billings
- 7.1.3 Valid and updated Tax Clearance
- 7.1.4 Certificate of Acceptance issued by the AS Director once all the requirements are fully met by the Supplier.

Annex A.1
(DBM LED Wall System Floor Plan)





