



TOM MBOYA UNIVERSITY

KNOWLEDGE FOR SUSTAINABLE INNOVATION ENTERPRISE

OFFICE OF THE VICE-CHANCELLOR

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HOMA-BAY

REF: TMU/OT/02/2025/2026

DATE: 26th May, 2026

**RE: ADDENDUM NO.1 TO THE TENDER TMU/OT/02/2025/2026 FOR PROPOSED PROVISION
INSTALLATION AND CONFIGURATION OF ICT INFRASTRUCTURE FOR
KNOWLEDGE HUB BUILDING AND ASSOCIATED WORKS**

Please refer to the above tender.

We make the following clarifications and amendments to the Principal Tender Document (hereinafter abbreviated as the (PTD) for Proposed Provision Installation and Configuration of ICT Infrastructure for Knowledge Hub Building and Associated Works at Tom Mboya University.

NO. 1. CLARIFICATIONS

NO.	CLARIFICATIONS	RESPONSE
1.	Audio visual and Conference System Model Requirements Some audiovisual and conference system specifications appear to be highly specific. Kindly confirm whether bidders are required to strictly match the stated specifications exactly, or whether equivalent products from other reputable OEMs will be accepted, provided they meet or exceed the technical requirements.	Audio visual and Conference System Model Requirements Bidders are required to meet the stated specifications. Products from any OEMs will be accepted.
2.	NVR Storage and Redundancy Kindly confirm whether the required 32TB storage should be usable storage after RAID configuration, or raw installed HDD capacity before RAID.	NVR Storage and Redundancy The specified 32TB storage requirement refers to usable storage capacity after RAID configuration. Bidders are therefore expected to size the installed drives appropriately to achieve a minimum usable capacity of 32TB while maintaining the required RAID redundancy.

NO. 2. AMMENDMENTS

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

➤ STAGE 1: PRELIMINARY EVALUATION STAGE

Previous Requirement

S/NO	MANDATORY REQUIREMENTS(MR)
MR13	Provide Manufacturer's Authorization for Audio-Visual Equipment. Original Equipment Manufacturer must email authorization directly to ictinfrastructure@tmu.ac.ke and copy to contractor's email

Current Requirement

S/NO	MANDATORY REQUIREMENTS(MR)
MR13	Provide Manufacturer's Authorization for Audio-Visual Equipment. Manufacturer Authorization obtained through recognized and authorized distributors, partners, or regional representatives of the Original Equipment Manufacturer (OEM) shall also be acceptable for this tender. The Authorization provided shall clearly indicate the relationship between the OEM and the distributor/partner; be specific to the tender.

➤ STAGE 2: TECHNICAL EVALUATION

Under

TECHNICAL EQUIPMENT SCHEDULE (PROVIDE BRONCHURES/DATASHEETS)

➤ Previous Requirement

S.NO	TECHNICAL DESCRIPTION	EQUIPMENT TO BE DELIVERED (Indicate equipment that conforms to the technical description)	DATASHEET ATTACHED (YES/NO)	COMPLIANCE (YES/NO)
	IP CCTV			
Outdoor, IP POE, Vandal resistant PTZ camera complete with housing, appropriate mounting" brackets and all other accessories to engineer's approval	8MP Indoor PTZ Network Camera – Technical Specifications 1. Imaging & Sensor Image Sensor: 1/1.8" Progressive Scan CMOS Maximum Resolution: Minimum 3840 × 2160 (8MP / 4K) Minimum Illumination: Color: ≤ 0.005 Lux @ F1.6 (or better) 0 Lux with IR Day/Night Mode: IR cut filter with auto switch Shutter Speed: 1/1 s to 1/100,000 s 2. Lens & Zoom Lens Type: Motorized varifocal PTZ lens Focal Length: Approx. 6 mm – 200+ mm range Optical Zoom: Minimum 30× (preferably 32× or higher) Digital Zoom: Minimum 16× Field of View: Wide: ≥ 55° horizontal Tele: ≤ 3° horizontal 3. PTZ Functionality Pan Range: 360° continuous (endless rotation) Tilt Range: Minimum -15° to +90° Pan Speed: Configurable, up to ≥ 200°/s Presets: Minimum 300 presets Patrols/Tours: Supported Pattern			

	<p>Scans: Supported Power-off memory and auto-return</p> <p>4. Illumination Built-in infrared (IR) LEDs IR Range: Minimum 50 meters (indoor optimized) Smart IR with automatic adjustment</p> <p>5. Video Features Video Compression: H.265+, H.265, H.264+, H.264 Frame Rate: Up to 25/30 fps at 8MP Multi-stream Support: Minimum 3 streams Wide Dynamic Range (WDR): ≥ 120 dB Image Enhancements: 3D Digital Noise Reduction (3D DNR) Backlight Compensation (BLC) Highlight Compensation (HLC) Electronic Image Stabilization (EIS)</p> <p>6. Intelligent Features Motion Detection with human and vehicle classification Smart analytics including: Line crossing detection Intrusion detection Region entrance/exit Auto-tracking capability (target tracking) 34 Face detection and capture</p> <p>7. Audio Audio Input/Output: Minimum 1 input / 1 output Two-way audio communication supported Audio Compression: G.711, G.722.1, AAC or equivalent</p> <p>8. Network & Integration Ethernet: 1 \times RJ45 (10/100/1000 Mbps) Supported Protocols: TCP/IP, HTTP, HTTPS, FTP, DHCP, DNS, RTSP, NTP, SNMP, IPv4/IPv6 ONVIF Compliance: Profile S, G, T API/SDK for integration Simultaneous Users: Minimum 20 users</p> <p>9. Storage Onboard Storage: MicroSD slot supporting up to 256 GB or higher Network Storage: NAS (NFS/SMB) Automatic Network Replenishment (ANR)</p> <p>10. Interfaces Alarm Interface: Minimum 2 inputs / 1 output Audio Interface: Line in/out Reset Button: Required</p> <p>11. Security Features User authentication with role-based access HTTPS and TLS encryption IP filtering and access logs Secure firmware and boot protection</p> <p>12. Mechanical & Environmental Form Factor: Indoor PTZ dome camera Mounting: Ceiling or pendant mount Operating Temperature: -10°C to $+50^{\circ}\text{C}$ Humidity: $\leq 90\%$ non-condensing</p> <p>13. Power Power Supply: PoE+ (IEEE 802.3at) 24 VAC (optional) Power Consumption: $\leq 25\text{W}$</p> <p>14. Software & Management Web browser support (Chrome, Edge, Firefox) Mobile application support Compatible with centralized Video Management Systems (VMS) Supports remote configuration and firmware upgrade</p>			
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➤ **Current Requirement**

S.NO	TECHNICAL DESCRIPTION	EQUIPMENT TO BE DELIVERED (Indicate equipment that conforms to the technical description)	DATASHEET ATTACHED (YES/NO)	COMPLIANCE (YES/NO)
Outdoor, IP POE, Vandal resistant PTZ camera complete with housing, appropriate mounting" brackets and all other accessories to engineers approval	<p>The camera shall be 8MP and shall be a high-performance network PTZ (Pan-Tilt-Zoom) outdoor surveillance applications. It shall incorporate DarkFighter low-light technology, deep learning AI analytics, and long-range infrared illumination for high-quality imaging in both day and night conditions.</p> <p>2. Imaging System The camera shall provide 8 megapixel (3840 × 2160) ultra-high-definition resolution Image sensor shall be 1/1.8" progressive scan CMOS Minimum illumination shall be: Color: ≤ 0.005 lux @ (F1.5, AGC ON) B/W: ≤ 0.001 lux @ (F1.5, AGC ON) 0 lux with IR illumination Shall support True Day/Night (ICR cut filter)</p> <p>3. Optical System The camera shall provide 25× optical zoom and 16× digital zoom Focal length shall range approximately 5.9 mm to 147.5 mm Fast and accurate autofocus with manual, semi-auto, and auto modes Aperture shall be F1.5 or better Zoom transition speed approximately ≤ 5 seconds</p> <p>4. Infrared (IR) Illumination Built-in high-performance IR LEDs IR effective distance shall be up to 200 meters Intelligent IR intensity adjustment to avoid overexposure at close range</p> <p>5. PTZ Performance Pan range: 360° endless rotation Tilt range: -15° to +90° (auto-flip supported) Pan speed: up to 240°/s preset Tilt speed: up to 200°/s preset Supports: 300 preset positions 8 patrol routes 4 pattern scans Auto scan, random scan, panorama scan 3D intelligent positioning support</p> <p>6. Smart AI / Analytics</p> <p>The camera shall support built-in deep learning analytics including:</p> <p>Human and vehicle classification Perimeter protection (line crossing, intrusion, region entry/exit) Auto-tracking of moving targets (human/vehicle)</p>			

	<p>Face capture capability (up to 5 faces simultaneously)</p> <p>False alarm reduction through target filtering</p> <p>7. Video & Compression</p> <p>Compression: H.265 / H.264 / MJPEG</p> <p>Multiple stream support (at least 3 streams)</p> <p>Maximum frame rate: 25 fps at 8MP resolution</p> <p>Wide Dynamic Range (WDR): ≥ 120 dB</p> <p>3D Digital Noise Reduction (3D DNR)</p> <p>8. Network & Integration</p> <p>Protocol support: IPv4/IPv6, RTSP, HTTP/HTTPS, SNMP, FTP, SMTP, etc.</p> <p>ONVIF compliance (Profile S/G/T)</p> <p>Compatible with VMS platforms such as HikCentral Pro / iVMS-4200</p> <p>Support for up to 32 users with role-based access control</p> <p>9. Storage</p> <p>Support for network storage (NAS: NFS/SMB/CIFS)</p> <p>Edge storage via microSD card (if applicable, up to manufacturer limit)</p> <p>10. Physical & Environmental</p> <p>Outdoor-rated housing: IP66 minimum, IK10 vandal resistance</p> <p>Operating temperature: -30°C to $+65^{\circ}\text{C}$</p> <p>Surge protection: TVS 6000V lightning protection or better</p> <p>Housing material: aluminum alloy or equivalent corrosion-resistant material</p> <p>Approximate weight: ~ 5 kg</p> <p>11. Power Supply</p> <p>Supports Hi-PoE or 24 VAC</p> <p>Maximum power consumption approximately $\leq 42\text{W}$</p> <p>12. Compliance Summary</p> <p>The camera shall be an 8MP PTZ IR DarkFighter network speed dome camera with 25\times optical zoom, 200 m IR range, AI analytics (human/vehicle detection, auto-tracking, face capture), IP66/IK10 protection, and ONVIF compatibility.</p>			
<p>Indoor, IP POE, Vandal resistant PTZ camera complete with housing, appropriate mounting" brackets and all other accessories to engineers approval</p>	<p>8MP Indoor PTZ Network Camera – Technical Specifications</p> <p>1. Imaging & Sensor</p> <p>Image Sensor: 1/1.8" Progressive Scan CMOS</p> <p>Maximum Resolution: Minimum 3840 \times 2160 (8MP / 4K)</p> <p>Minimum Illumination:</p> <p>Color: ≤ 0.005 Lux @ F1.6 (or better)</p> <p>0 Lux with IR</p> <p>Day/Night Mode: IR cut filter with auto switch</p> <p>Shutter Speed: 1/1 s to 1/100,000 s</p> <p>2. Lens & Zoom</p> <p>Lens Type: Motorized varifocal PTZ lens</p> <p>Focal Length: Approx. 6 mm – 200+ mm range</p> <p>Optical Zoom: Minimum 30\times (preferably 32\times or higher)</p> <p>Digital Zoom: Minimum 16\times</p> <p>Field of View:</p> <p>Wide: $\geq 55^{\circ}$ horizontal</p>			

	<p>Tele: $\leq 3^\circ$ horizontal</p> <p>3. PTZ Functionality</p> <p>Pan Range: 360° continuous (endless rotation)</p> <p>Tilt Range: Minimum -15° to $+90^\circ$</p> <p>Pan Speed: Configurable, up to $\geq 200^\circ/s$</p> <p>Presets: Minimum 300 presets</p> <p>Patrols/Tours: Supported</p> <p>Pattern Scans: Supported</p> <p>Power-off memory and auto-return</p> <p>4. Illumination</p> <p>Built-in infrared (IR) LEDs</p> <p>IR Range: Minimum 50 meters (indoor optimized)</p> <p>Smart IR with automatic adjustment</p> <p>5. Video Features</p> <p>Video Compression: H.265+, H.265, H.264+, H.264</p> <p>Frame Rate: Up to 25/30 fps at 8MP</p> <p>Multi-stream Support: Minimum 3 streams</p> <p>Wide Dynamic Range (WDR): ≥ 120 dB</p> <p>Image Enhancements:</p> <p>3D Digital Noise Reduction (3D DNR)</p> <p>Backlight Compensation (BLC)</p> <p>Highlight Compensation (HLC)</p> <p>Electronic Image Stabilization (EIS)</p> <p>6. Intelligent Features</p> <p>Motion Detection with human and vehicle classification</p> <p>Smart analytics including:</p> <p>Line crossing detection</p> <p>Intrusion detection</p> <p>Region entrance/exit</p> <p>Auto-tracking capability (target tracking)</p> <p>Face detection and capture</p> <p>7. Audio</p> <p>Audio Input/Output: Minimum 1 input / 1 output</p> <p>Two-way audio communication supported</p> <p>Audio Compression: G.711, G.722.1, AAC or equivalent</p> <p>8. Network & Integration</p> <p>Ethernet: $1 \times$ RJ45 (10/100/1000 Mbps)</p> <p>Supported Protocols: TCP/IP, HTTP, HTTPS, FTP, DHCP, DNS, RTSP, NTP, SNMP, IPv4/IPv6</p> <p>ONVIF Compliance: Profile S, G, T</p> <p>API/SDK for integration</p> <p>Simultaneous Users: Minimum 20 users</p> <p>9. Storage</p> <p>Onboard Storage: MicroSD slot supporting up to 256 GB or higher</p> <p>Network Storage: NAS (NFS/SMB)</p> <p>Automatic Network Replenishment (ANR)</p> <p>10. Interfaces</p> <p>Alarm Interface: Minimum 2 inputs / 1 output</p> <p>Audio Interface: Line in/out</p> <p>Reset Button: Required</p> <p>11. Security Features</p> <p>User authentication with role-based access</p> <p>HTTPS and TLS encryption</p> <p>IP filtering and access logs</p> <p>Secure firmware and boot protection</p> <p>12. Mechanical & Environmental</p>			
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	<p>Form Factor: Indoor PTZ dome camera Mounting: Ceiling or pendant mount Operating Temperature: -10°C to +50°C Humidity: ≤ 90% non-condensing</p> <p>13. Power Power Supply: PoE+ (IEEE 802.3at) 24 VAC (optional) Power Consumption: ≤ 25W</p> <p>14. Software & Management Web browser support (Chrome, Edge, Firefox) Mobile application support Compatible with centralized Video Management Systems (VMS) Supports remote configuration and firmware upgrade</p>			
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• **Previous Requirement**

S.NO	TECHNICAL DESCRIPTION	EQUIPMENT TO BE DELIVERED (Indicate equipment that conforms to the technical description)	DATASHEET ATTACHED (YES/NO)	COMPLIANCE (YES/NO)
	STRUCTURED CABLING			
12HU wall mount metal cabinet/ with glass door complete with Cable Managers, fans, power outlet points, grounding kits and castors. The data cabinet to be complete with 1No. APC Power Distribution Units (PDU) to accommodate power for the active devices to engineers approval	<p>Standard-Depth 12U 19-inch Server Cabinet Rack Enclosure including vertical mounting rails and mesh door with the following minimum specifications:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Rack Enclosure depth of 800 mm <input type="checkbox"/> Rack height of 15U <input type="checkbox"/> Support mounting of 19-inch copper patch panels, optical distribution frames, network switches, rack-mountable UPS <input type="checkbox"/> 1 No. 4 Way UK Plug Power Distribution Unit Horizontal <input type="checkbox"/> Floor Standing Steel Rack Enclosure with 4 No. castor wheels or Wall-mountable rack enclosure with fan venting at the top (fan included) <p>Attach data sheet</p>			
Construct 600mm x 600mm x 600mm deep concrete manhole complete with cast iron waterproof cover	<ul style="list-style-type: none"> <input type="checkbox"/> Dig the manhole pit which is fit for the manhole installation. <input type="checkbox"/> This reinforced concrete manhole can be pre-casted or cast-in-place. <input type="checkbox"/> Install the manhole and passive components such as bolts, nuts, brackets <input type="checkbox"/> Polymer cover installation. <input type="checkbox"/> Labelling shall be painted on both cover and body after installation, the serial number will follow design. <input type="checkbox"/> Backfill and compact the soil after manhole installation. <input type="checkbox"/> The size of the manhole is 1000mm*800mm*1300mm (L*W*D) <input type="checkbox"/> Concrete grade to be C20. 			

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➤ **CHANGE IN TENDER OPENING DATE**

<i>Previous Requirement</i>	<i>Current Requirement</i>
Opening & Closing date 29.05.2026 at 10:00am	Opening & Closing date 02.06.2026 at 10:00am

Except as clarified herein, all the other terms and conditions of the tender remain as is and are unchanged.

VICE-CHANCELLOR