

**APPENDIX I**  
**BUSINESS AND TECHNICAL REQUIREMENTS**  
**A. DELIVERABLES**

No	Lot/Equipment*	Number of units	Deadline for delivery
<b>Lot 1</b>			21 October 2024
1.	All-in-One Device for human identification in the Probation Management Information System (e-probation system)	30	
<b>Lot 2</b>			
1.	All-in-One Desktop PC	15	
2.	Mirrorless camera	1	
<b>Lot 3</b>			
1.	All in one Video conferencing system	2	
2.	Television	2	

\* All listed equipment should be delivered to the Probation Service of the Ministry of Justice of the Republic of Armenia to the following address: 23 Arshakunyats, Yerevan 0023, Armenia

**B. TECHNICAL SPECIFICATIONS**

**Lot 1**

**1. All-in-One Device for human identification in the Probation Management Information System (e-probation system)**

<b>General:</b>	<p>Device shall be used for human identification in the Probation Management Information System (e-probation system)</p> <p>Device shall include a fingerprint scanner, camera with face recognition capabilities, and a touch screen interface</p> <p>Device should be compact and user-friendly</p> <p>Condition: New (not refurbished)</p>
<b>Biometric Capture:</b>	<p>Device should be able to capture high-quality fingerprints and facial images.</p> <p>Geolocation functionality may be included to enhance data accuracy.</p>
<b>API Connectivity:</b>	<p>Device must have an API for seamless integration with the Probation Management Information System (e-probation system).</p>

	API should allow for the transmission of captured biometric data securely.
<b>Outdoor Use:</b>	Device should be designed to work reliably in outdoor environments, with considerations for weather and lighting conditions.
<b>Support and Maintenance:</b>	A supplier should provide adequate support and maintenance services for the device. Availability of spare parts and technical support should be ensured.
<b>Color:</b>	Black, other dark colors
<b>Warranty:</b>	Minimum: 2 years standard warranty

## Lot 2

### 1. All-in-One Desktop PC

<b>General:</b>	Form Factor: All-in-One Desktop PC Condition: New (not refurbished) Operating System: Windows 11 Professional (latest version) pre-installed
<b>Processor:</b>	Minimum: Intel® Core™ i5 processor or equivalent AMD Ryzen™ 5 processor
<b>Memory (RAM):</b>	Minimum: 16 GB
<b>Storage:</b>	Minimum: 512 GB SSD
<b>Display:</b>	Minimum: 23.8" Full HD (1920 x 1080) IPS anti-glare display
<b>Graphics:</b>	Minimum: Integrated Intel® UHD Graphics or equivalent AMD Radeon™ Graphics
<b>Networking:</b>	Gigabit Ethernet (10/100/1000 Mbps) Wi-Fi 6 (802.11ax)
<b>Ports:</b>	Minimum: 2 x USB 3.2 Gen 1 Type-A, 1 x USB 3.2 Gen 2 Type-C (with DisplayPort), 1 x HDMI 1.4, 1 x Headphone/Microphone combo jack, 1 x RJ-45 (Ethernet)
<b>Camera:</b>	Minimum: 720p HD webcam with privacy shutter
<b>Security:</b>	TPM 2.0 chip for hardware-based security
<b>Additional Features:</b>	Integrated stereo speakers with microphone Keyboard and mouse included
<b>Voltage:</b>	Compatible with 220-240V AC at 50Hz or 60Hz
<b>Warranty:</b>	Minimum: 3 years standard warranty

## 2. Mirrorless camera

<b>General:</b>	<p>Camera Type: Mirrorless interchangeable-lens camera (MILC)</p> <p>Sensor: APS-C CMOS sensor with at least 24.1 megapixels (preferably higher)</p> <p>Image Processor: Advanced image processor (e.g., DIGIC 8 or equivalent) capable of handling high-resolution images and fast processing speeds</p> <p>Condition: New (not refurbished)</p>
<b>Image features:</b>	<p>Video Recording:</p> <ul style="list-style-type: none"> <li>• 4K UHD video recording at least 25 fps (preferably higher frame rates like 30 fps or more)</li> <li>• Full HD video recording at least 60 fps (preferably higher frame rates like 120 fps or more)</li> </ul> <p>Continuous Shooting: At least 10 fps (preferably higher burst rates)</p> <p>Autofocus: Hybrid CMOS AF system with face and eye detection, offering fast and accurate focusing capabilities</p> <p>ISO Range: 100 - 25600 (minimum) with good performance at high ISO settings</p> <p>Image Stabilization: In-body image stabilization (IBIS) for sharper images and smoother video</p>
<b>Exposure Control:</b>	<p>Metering Modes: Evaluative metering, center-weighted metering, spot metering</p> <p>Exposure Modes: P, A, S, M, Bulb</p>
<b>Viewfinder:</b>	<p>Electronic viewfinder (EVF) with at least 2.36 million dots (preferably with higher resolution for a clearer view)</p>
<b>LCD Screen:</b>	<p>Fully articulating touchscreen LCD screen with at least 3.0 inches and 1.04 million dots (preferably higher resolution for better image viewing)</p>
<b>Connectivity:</b>	<p>Wi-Fi and Bluetooth connectivity for easy sharing and remote control</p> <p>HDMI port for connecting to external displays</p> <p>USB-C port for charging and high-speed data transfer</p>
<b>Warranty:</b>	<p>Minimum: 2 years standard warranty</p>

### Lot 3

#### 1. All in one Video conferencing system

<p><b>General:</b></p>	<p>Form factor: Sleek and modern design with a compact form factor for discreet integration within the meeting room environment.</p> <p>Room capacity: Optimized for medium to large meeting rooms, ideally accommodating 15-25 participants.</p> <p>User experience:</p> <ul style="list-style-type: none"> <li>• Intuitive user interface for easy control of camera settings, audio adjustments, and volume levels</li> </ul> <p>Management:</p> <ul style="list-style-type: none"> <li>• Web-based platform and dedicated mobile app for remote configuration, monitoring, and firmware updates</li> <li>• Integration with existing room management systems (if applicable)</li> </ul> <p>Condition: New (not refurbished)</p>
<p><b>Video:</b></p>	<p>Resolution: 4K UltraHD (3840x2160) at 60fps, exceeding the standard for exceptional video clarity and smoother motion.</p> <p>Field of view:</p> <ul style="list-style-type: none"> <li>• Wide horizontal field of view (at least 170°) to capture the entire meeting space, even in wide-format rooms</li> <li>• Adjustable vertical field of view for optimal framing and flexibility</li> </ul> <p>Zoom:</p> <ul style="list-style-type: none"> <li>• Enhanced optical zoom: Minimum of 10x lossless zoom for superior detail and focus on presenters or objects</li> <li>• Hybrid zoom: Combining optical and high-quality digital zoom to achieve a total magnification exceeding 20x</li> </ul> <p>Advanced framing:</p> <ul style="list-style-type: none"> <li>• AI-powered framing with speaker tracking to automatically keep participants in focus and adjust the view dynamically based on who is speaking</li> <li>• Preset framing options for different meeting scenarios (e.g., group shot, presenter focus, whiteboard view)</li> </ul> <p>Content sharing: High-resolution content sharing capabilities with smooth rendering and low latency for presentations and collaboration.</p> <p>Low-light performance: Exceptional image quality in any lighting condition, exceeding Logitech RightLight™ performance with advanced image processing and noise reduction algorithms.</p>
<p><b>Audio:</b></p>	<p>Microphone array: High-fidelity microphone array with beamforming technology optimized for extended pickup range (up to 25 feet), capturing clear audio even from distant participants.</p>

	<p>Speaker system: Powerful, full-duplex speakers with 360° sound distribution for clear and natural audio across the entire room, even in large spaces.</p> <p>Advanced audio processing:</p> <ul style="list-style-type: none"> <li>• Echo cancellation and noise reduction: Eliminate audio echo and background noise for crystal-clear communication</li> <li>• Automatic gain control (AGC): Adjust microphone volume automatically to ensure consistent audio levels across participants</li> <li>• Voice leveling: Reduce volume disparity between quiet and loudspeakers for a balanced audio experience</li> </ul>
<b>Connectivity:</b>	<p>Standard USB-C connection: Compatible with most modern PCs and Macs for easy plug-and-play setup.</p> <p>Additional connectivity options:</p> <ul style="list-style-type: none"> <li>• HDMI input/output for connecting external displays or presentation sources</li> <li>• Gigabit Ethernet port for reliable network connectivity and potential Power over Ethernet (PoE) support</li> <li>• Bluetooth for pairing wireless microphones or headsets (optional)</li> </ul>
<b>Security:</b>	<p>End-to-end encryption: Secure video and audio transmission with industry-standard encryption protocols.</p> <p>User authentication: Secure login and access control features to prevent unauthorized use.</p> <p>Compliance: Adherence to relevant security regulations and data privacy standards.</p>
<b>Compatible Operating Systems:</b>	<p>Windows 7, 8.1 or Windows 10 or higher</p> <p>macOS: 10.10 or higher</p> <p>ChromeOS</p>
<b>Voltage:</b>	Compatible with 220-240V AC at 50Hz or 60Hz
<b>Warranty:</b>	Minimum: 2 years standard warranty

**2. Television**

<b>General:</b>	Condition: New (not refurbished)
<b>Display:</b>	<p>Screen Size: Minimum 65 inches (diagonal)</p> <p>Resolution: 3840 x 2160 pixels (UHD)</p> <p>Panel Technology: LED or OLED (Open Lever Display)</p>

	<p>Backlight Type: Direct LED or Full Array Local Dimming (FALD) preferred</p> <p>Viewing Angle: Wide viewing angle (greater than 170 degrees)</p> <p>Contrast Ratio: Minimum 10,000:1, preferably higher for HDR content</p>
<b>Video Processing:</b>	<p>High Dynamic Range (HDR) Compatibility: HDR10 and HLG (Hybrid Log-Gamma) mandatory, Dolby Vision and HDR10+ desirable</p> <p>Motion Handling: Motion blur reduction technology (e.g., MEMC)</p> <p>Upscaling: Ability to upscale lower resolution content to near-4K quality</p>
<b>Smart TV Features:</b>	<p>Smart TV Platform: Established platform with user-friendly interface and app store (e.g., Android TV, LG webOS, Samsung Tizen)</p> <p>Streaming Services: Support for popular streaming services (e.g., Netflix, YouTube, Amazon Prime Video)</p> <p>Built-in Wi-Fi and Ethernet: For internet connectivity and content streaming</p>
<b>Connectivity:</b>	<p>Minimum 4x HDMI ports: At least one HDMI 2.1 with support for 4K @ 120Hz and eARC (enhanced Audio Return Channel)</p> <p>USB ports: At least 2x USB ports for media playback and software updates</p> <p>Optical audio output: For connection to external audio systems</p>
<b>Compatibility:</b>	Wall mount compatible
<b>Voltage:</b>	Compatible with 220-240V AC at 50Hz or 60Hz
<b>Warranty:</b>	Minimum: 2 years standard warranty