

## Short range Fixed Thermal/CCTV cameras and Fiber-Optic network installation

Item No.	Specifications Required	
1	<p><b>Fixed Surveillance Camera x 48 sets</b>  <b>Required Model: Mobotix MX-M15D-Sec-Thermal-L43 - MX-SM-D51PW (25 angle of view )</b></p>	
	<p>A set of CCTV daylight and thermal visual cameras: for detecting (80-150 m), recognition (50-100 m); and identification (10-50 m) of the moving object on short distance; Product software shall process the data from cameras and show an alarm on computer of duty officer; Daylight and thermal visual cameras must be combined within one protective (outdoor) package (jacket/housing) and the software shall display the images from both cameras within one frame, side by side; The product set includes: thermal camera, daylight camera, outdoor housing, horizontal or vertical brackets, power unit (220 VAC), the relevant communication cables for binding to the network, Software; at the same time connecting to the Ethernet of both cameras shall be made on one communication point (port). Contractor shall provide appropriate network information registry servers (NAS - servers) relevant to the product set, including the necessary software for 4 (four) command centers; The product shall have the ISO, origin and quality certificates, which shall be submitted in the course of tender; Contractor shall be an official dealer of the given brand. It is necessary to submit the official certificate of the dealer; Contractor shall ensure the proper packaging of the procured object that will protect it from damage during transportation; The product shall be subject to manufacturer's warranty for at least 1-year. In the case of defective/damaged equipment (while observing the rules of operation) the Contractor shall replace the product at his/her own expense (including the costs for international transportation) no later than within 30 calendar days from the date of receiving the notification (written or oral) from beneficiary. The final beneficiary (MIA) is authorized to decide the different technical specification of the sensors (Horizontal angle of view 25°) regarding the terrain and distance between points.</p>	
	<p align="center"><b>Description</b></p>	<p align="center"><b>Specifications</b></p>
	Thermal Sensor Temperature measuring range	-40° to +550°C
	Thermal Sensor Horizontal angle of view	25°
	Frame Rate with optional Color Sensor & Lens Module	Not less than 8 frames per second
	Thermal Sensor Image compression	MxPEG, M-JPEG
	Compression	H.264 and MJPEG
	Daylight Camera resolution	Not less than 6 Megapixel (3072 x 2048)
	Daylight Camera horizontal angle of view	25° (combined with thermal sensor)
	Daylight Camera operating Conditions	-30 to +60°C , dust and water resistance IP certified
	Integrated Microphone	Voice recording, 2 way voice communication and alarm triggers on noise
	Integrated Speaker	2 way voice communication, Activation of Voice Messages or Siren during alarms

	Integrated Sensors	Passive Infrared Motion detector, detection distance 10m. Outside Temperature Sensor, Shock Sensor
	Internal storage	At least 4 GB
	Micro USB port	Yes (for local storage on Flash USB stick or External HDD)
	Power Source	PoE IEEE802.3af compliant
	Ethernet Port	At least 100BASE-TX
	Operating Conditions	-30 to +60°C , dust and water resistance IP certified
	Integrated Video-Analytics algorithm	Software-based image analyses function for detecting movement of people and objects in a monitored area. Sensor distinguishes between movements of vehicles, people or objects that trigger an alarm and movements that are not relevant for alarms, such as shadows, changes in illumination, trees swaying in the wind, snow or rain directly at the lens.
2	<b>Fixed Surveillance Camera x 26 sets</b> <b>Required Model: Mobotix MX-M15D-Sec-Thermal-L43 - MX-SM-D51PW (45 angle of view )</b>	
	<p>A set of CCTV daylight and thermal visual cameras: for detecting (80-150 m), recognition (50-100 m); and identification (10-50 m) of the moving object on short distance; Product software shall process the data from cameras and show an alarm on computer of duty officer; Daylight and thermal visual cameras must be combined within one protective (outdoor) package (jacket/housing) and the software would display the images from both cameras within one frame, side by side; The product set includes: thermal camera, daylight camera, outdoor housing, horizontal or vertical brackets, power unit (220 VAC), the relevant communication cables for binding to the network, Software; at the same time connecting to the Ethernet of both cameras shall be made on one communication point (port). Contractor shall provide appropriate network information registry servers (NAS - servers) relevant to the product set, including the necessary software for 4 (four) command centers; The product shall have the ISO, origin and quality certificates, which shall be submitted in the course of tender; Contractor shall be an official dealer of the given brand. It is necessary to submit the official certificate of the dealer; Contractor shall ensure the proper packaging of the procured object that will protect it from damage during transportation; The product shall be subject to manufacturer's warranty for at least 1-year. In the case of defective/damaged equipment (while observing the rules of operation) the Contractor shall replace the product at his/her own expense (including the costs for international transportation) no later than within 30 calendar days from the date of receiving the notification (written or oral) from beneficiary. The final beneficiary (MIA) is authorized to decide the different technical specification of the sensors (Horizontal angle of view 45°) regarding the terrain and distance between points.</p>	
	<b>Description</b>	<b>Specifications</b>
	Thermal Sensor Temperature measuring range	-40° to +550°C

	Thermal Sensor Horizontal angle of view	45°
	Frame Rate with optional Color Sensor & Lens Module	Not less than 8 frames per second
	Thermal Sensor Image compression	MxPEG, M-JPEG
	Compression	H.264 and MJPEG
	Daylight Camera resolution	Not less than 6 Megapixel (3072 x 2048)
	Daylight Camera horizontal angle of view	45° (combined with thermal sensor)
	Daylight Camera operating Conditions	-30 to +60°C , dust and water resistance IP certified
	Integrated Microphone	Voice recording, 2 way voice communication and alarm triggers on noise
	Integrated Speaker	2 way voice communication, Activation of Voice Messages or Siren during alarms
	Integrated Sensors	Passive Infrared Motion detector and detection distance 10m. Outside Temperature Sensor, Shock Sensor
	Internal storage	At least 4 GB
	Micro USB port	Yes (for local storage on Flash USB stick or External HDD)
	Power Source	PoE IEEE802.3af compliant
	Ethernet Port	At least 100BASE-TX
	Operating Conditions	-30 to +60°C , dust and water resistance IP certified
	Integrated Video-Analytics algorithm	Software-based image analyses function for detecting movement of people and objects in a monitored area. Sensor distinguishes between movements of vehicles, people or objects that trigger an alarm and movements that are not relevant for alarms, such as shadows, changes in illumination, trees swaying in the wind, snow or rain directly at the lens.
3	<b>Network Attached Server (Storages 12TB x 1 unit; 8TB x 1 unit; 4TB x 2 unit)</b>	
4	<b>Technical requirements for the installation of 3000 m fiber-optic cable</b>	
	a) Contractor shall install of fiber-optic cable approx. 3000 m. into the existing cable-channel. b) Contractor shall provide connection of cables and extension/installation of the necessary number of ends between main and peripheral connection points.	

	<ul style="list-style-type: none"><li>- Main connection point – 1</li><li>- Peripheral connection points – 34</li><li>c) More technical information on the type of network topology and about all technical details will be provided by the working group of the Border Operational Management System Project through email: <a href="mailto:boms@mia.gov.ge">boms@mia.gov.ge</a>.</li><li>d) All necessary active network equipment (Switches, fiber-optic patch cords, optical patch boxes, fiber-optic patch panels, cable splice distribution enclosures, drop fiber-optic cables) for connection points will be provided by the beneficiary, except fiber-optic-cable - Cable type: SM72 core, armored outdoor cable.</li><li>e) Contractor shall provide the (3) three waterproof or concrete connection pit with drainage in the points where the fiber-optic cable will be spliced.</li><li>f) The IOM Technical Working Group (TWG) is authorized to monitor the working process; in the case of detecting certain defects, or if the performed work is in no compliance with the relevant standards, the IOM TWG is authorized not to accept the work and to refuse formalizing the acceptance act.</li></ul>
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