

TECHNICAL REQUIREMENTS

Specialized equipment - Integrated Operator Workstation for enrolment of the biometric data in the process of documenting citizens, the process that is assisted and performed within the multifunctional centers by the Contracting Authority officers(not to be confused with the self-service kiosk used at the Border crossing posts), and biometric data collection with the ability to capture high-quality facial images, fingerprints and signature, enabling the issuance of identity electronic documents in accordance with relevant international regulations such as ICAO Doc 9303 - <https://www.icao.int/publications/pages/publication.aspx?docnum=9303>

1.1	Integrated Operator Workstation	
	Equipment and accessories – Non-refurbished, produced after 01.01.2023. All requirements are minimum and mandatory; All components must be current and not advertised as EOS (End of Support) / EOL (End of Life)	
a)	<i>Included peripherals</i>	- Face Capturer, - min. 2 x single fingerprint scanners, - Signature Capturer.
b)	<i>Face Image Capturing and Processing</i>	
*	Resolution	min. 4224 x 3156 pixels (13 Mp)
*	Distance range	from 60 cm to 150 cm
*	Height adjustment	Automatic adjustment
*		Height range: min. 350mm
*	Illumination	Integrated diffuse light
*		Dynamic ambient light intensity adjustment
*		min. 2 independent quadrants (autonomously adjustable by the operator/engineer) for compensation of the differences in light source direction (e.g. window nearby or roof lamps)
*		Light colour: 6000-6500K white
c)	User guidance	Colored light ring around the camera with effects(optional)
d)	Biometric algorithms	min. Face detection, quality analysis and capturing algorithms
e)	User display	
*	Screen size	min. 7"(inch)
*	Aspect ratio	5:3
*	Resolution	min. 800 x 480
*	Display colours	min. 16.7 million
*	Luminance	min. 420 cd/m ²
*	Touchscreen	Capacitive technology
*	User Guidance	Instructions to user on how to properly use the device
f)	Officer Guidance	
	Status semaphore	Light positioned at the top of the unit with 360° visibility

g)	Fingerprint readers	
*	Configuration	min. 2 x single-fingerprint scanners
*	Optical scanning area	min. 24 mm x 16 mm
*	Scan resolution	min. 500 DPI
*	Grey scale	8 bit, 256 grey levels
*	Quality standards	FBI EFTS/F, BSI TR-PDÜ, CE, EMV, GS
h)	Signature pad	
*	Display type	F-STN
*	Cover plate surface	Tempered glass
*	Native resolution	min. 320 x 200 pixel
*	Reading technology	Electromagnetic Resonance (EMR)
*	Active area size	min. 96 mm x 60 mm
*	Coordinate resolution	min. 2540 lpi / 0.01 mm/pt (non-interpolated)
*	Coordinate accuracy	±0.5 mm (centre)
*	Report rate	200 points per second (non-interpolated)
*	Pressure levels	min. 1024 (non-interpolated)
i)	Electrical characteristics	
*	Power supply	External 110V-230V Illuminated power button on panel
*	Data interface	Ethernet 10/100/1000 Mbps
*	Compliance	CE, RoHS
j)	Physical characteristics and operating conditions	
*	Dimensions	Height: max. 910 mm
*		Width: max. 320 mm
*		Depth: max. 500 mm
*	Netto Weight	max. 25 Kg
*	Interfaces for external devices	min. 1 x HDMI
*		min. 3 x USB
*		1 x RJ45 Ethernet
*	Installation mode	Desktop
*	Security	Keyed lock with sensor to access the internal components
*		Keyed lock to access back cabling interfaces and power button
*	Temperature	Operation: min. range 10° C to 30° C
*		Storage: min. range 0° C to 40° C
*	Humidity	Operation: 20% to 80% RH non-condensed
*		Storage: 10% to 90% RH non-condensed
k)	Hardware requirements for integrated operating software	CPU / RAM / Storage in accordance with minimum requirements from the manufacturer in order to assure smooth and agile performance.
	Integrated operating software functional requirements	
a)	Capturing the image of the face	Integrated operating software must be able to automatically checks the quality of the capture, confirming the correspondence of each image created with the standards mentioned above according to the parameters:

		<ul style="list-style-type: none"> - degree of reliability of eye detection; - checking closed eyes; - checking the open mouth; - the distance between the eyes; - head tilt; - turning the head; - the brightness of the face; - the clarity of the face; - face contrast; - the color balance of the face; - face size; - placing the face on the center; - shadow under the eyes (not mandatory); - shadows on the face (not mandatory); - background brightness; - shadows on the background; - background stability.
b)	Fingerprint capturing	<ul style="list-style-type: none"> - automatically checks the quality of captured fingerprints in real time; - AF3S fingerprint identification based on the NIST standard software package Fingerprint Image Software 2 (NFIS2).
c)	Signature capturing	<ul style="list-style-type: none"> - the weight of the signature line for both weak and strong pressure is fully configurable along with the signature retention and printing area in accordance with ICAO recommendations.
d)	API System integration	<p>Modular interface configuration system; Web-services must be able to use several methods, as for example:</p> <ul style="list-style-type: none"> - Adjusts actuator height to the desired position: Post /CameraActuator/Height; - Gets actuator current state: Get /CameraActuator/Height; - Starts a Face Capture or a Finger Capture: Post /FaceCapture/Capture AND Post /FingerCapture/Capture; - Get available capture types: Get /FaceCapture/CaptureTypes AND Get /FingerCapture/CaptureTypes; - Get default metrics performed on each capture: Get /FaceCapture/Metrics and Get /FingerCapture/Metrics; - Creates a NIST file: Post /Nist; - Error responses; - Bad request responses.
Support and maintenance requirements		
<p>Support services at the Beneficiary's premises and/or remotely (as the case may be) for the adjustment and integration with the centralized software of the Contracting Authority via API, of the integrated operating system during the preparation period for equipment commissioning and training the staff according to the Beneficiary's requirements within a period of up to 45 calendar days after the delivery of the goods for each installment separately.</p>		

	<p>Warranty period: min. 36 months (after delivery and commissioning) with maintenance at the service center authorized by the manufacturer in the Republic of Moldova or in the EU. Resolution of warranty cases within a period of up to 45 calendar days.</p> <p>All the costs of solving warranty cases are borne by the manufacturer or the authorized distributor.</p>
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1.2	Illuminated Backdrop, fully compatible with Integrated Operator Workstation
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a)	<p>Technical specifications of the illumination background for integrated workstation - <i>Smart frame of illuminated white LEDs that serve as a backdrop for the face capture for fully ICAO-compliant capture results.</i></p> <p><i>illumination should meet the requirements of SMV ISO/CEI 19794-5:2011 "Information technologies - Formats of exchange of biometric data - Part 5: Face image data "</i> <i>To prevent hot spots, reflections and shadows, in accordance with ICAO recommendations (Doc 9303);</i></p>
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	<p>The height of the background screen: min. 1.3 m.- max. 1.7 m. Screen dimensions: Height-1.2 m.; Width- 0.6 m. Screen backlight: - Lighting screen: matte finish, - Lighting technology: LEDs, - Light temperature LED: 4000 – 4500K, - Power LED: 4,8 W/m, - Lighting angle LED: 120 degrees, - Screen power (power adapter included): external 220V.</p>
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b)	<p>Warranty period: min. 36 months (after delivery and commissioning) with maintenance at the service center authorized by the manufacturer in the Republic of Moldova or in the EU. Resolution of warranty cases within a period of up to 45 calendar days.</p> <p>All the costs of solving warranty cases are borne by the manufacturer or the authorized distributor.</p>
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