Technical requirements for the specialized equipment (system) for personalizing passports/travel documents with polycarbonate data page

Equipment and accessories – non-refurbished, produced after 01.01.2025. All requirements are minimum and mandatory.
Field of use: Personalization of passports, ID-3 format, having a polycarbonate data page (page 2) using laser engraving technology, applies a full color print on the observation paper page (page 3) using inkjet printing technology, enables the encoding of personal data into the integrated contactless chip and integral inspection of the personalized passports.

General technical requirements for the specialized equipment (system) for personalizing passports/travel documents with polycarbonate data page:

I. The main components of the specialized equipment (system):

1.	**Built-in computer with hard disk, licensed operating system on which software from the manufacturer will run for operating the personalizing system and the integrated equipment**	
	1.1	Integrated digital control panel (touchscreen) min.8"(inch);
	1.2	TCP/IP system connection via Ethernet, LAN (1Gbit);
	1.3	Licensed operating system: min. Windows 10;
	1.4	External connectivity: min. HDMI, USB (optional)
	1.5	The parameters of the computer (computing unit) CPU/RAM/Storage must correspond, and have sufficient redundancy, to the minimum cumulative operating requirements of the Windows operating system and the integrated software system set by the manufacturer.
2.	**Input unit:** with capacity of hold minimum 30 pre-opened booklets (34 pages passport).	
3.	**Identification unit:** for reading a barcode printed on a label located at the outside back cover of the booklet or pre-programmed number from the chip.	
4.	**Chip encoding unit:** with programming heads for contactless chip encoding. *NOTE* ** There are no restrictions related to the manufacture of the chip encoding component exclusively by the equipment supplier. This component can be made either by the equipment vendor or by using a third-party integrated component.* *** Regardless of who is the manufacturer of the chip encoding component used in the specialized equipment delivered for the personalization of passports, they must be accompanied by all necessary licenses, if applicable, related to the Intellectual Property Rights throughout the stated lifetime and without any limitations of the number of documents produced (type ID-3) through this equipment.*	
5.	**Laser engraving unit:** for applying photograph, personal data and MRZ onto the polycarbonate data page (page 2 of the passport). This unit should contain a fiber laser, which can automatically apply the MLI security feature. *NOTE* ** There are no restrictions of engineering design and fabrication during manufacturing of the laser engraving component to apply the security features. This component can be made either by the equipment vendor or by using a third-party integrated component.* *** Regardless of who is the manufacturer of the laser engraving components used in the specialized equipment supplied for the personalization of passport, they must be accompanied by all necessary licenses, if applicable, relating to Intellectual Property Rights for the entire stated life period and without limitation of the number of documents produced (type ID-3) through this equipment.*	
6.	**Inkjet printing unit:** for applying the photograph and personal data onto the observation page (page 3) of the passport. This unit should contain a DoD Inkjet industrial printer, using inks CMYK and UV to print on the observation page (page 3) in full color and full color UV or monochrome	

	UV.
7.	**Verification of the applied data:** The system should ensure the quality control and assurance of personalization by verification of the personalized data.
8.	**Output unit:** with capacity of hold minimum 30 pre-opened booklets (34 pages passport).

II. Functional technical requirements of personalization equipment:

- Automated passport personalization system with a polycarbonate data page using laser engraving technology, full color printing of the observation page using inkjet printing technology, encoding of personal data in integrated contactless chip and full inspection of the personalized passport.
- Personalization of ID-3 format passports with polycarbonate data pages (ICAO 9303 compliant): Width: 88±0.75 mm, Height 125±0.75 mm. according to ISO/IEC 7810.
- Markup of textual data (TTF fonts), vector, raster graphics (images, signatures), as well as one- and two dimensional barcodes (including QR codes).
- Ensure the precise engrave alignment for the data page (page 2) and the precise print alignment for the observation page (page 3).
- Standard laser personalization features such as: transparent window, ghost image, tactile elements; advanced security features such as MLI.
- Coding system for contactless microcircuits according to ISO 14443.
- Data transfer rate: up to 424 kBit/sec.
- Production capacity: minimum 100 passports per hour.
- The data format regarding the personalization and reporting works will be in XML format (min. UTF-8 (mandatory), Unicode (optional)).
- Power supply: 230VAC± 10%, protection min. 10A, frequency 50/60 Hz.
- Noise level: maximum 70 dB(A).

III. Technical requirements for the Laser system:

- Fiber laser with a minimum power of 20W.
- Impulse width and/or power: adjustable.
- Resolution: minimum 600 dpi.
- Cooling: air – air.
- Lifetime: min. 60 000 hours of operation.
- Compliance with environmental conditions: room temperature min. 20 °C to 26 °C; humidity: min. 40% to a maximum of 60%.

IV. Technical requirements for the Inkjet Printer system:

- Type: Drop on Demand printer (DoD).
- Resolution: minimum 600 dpi.
- Number of colors: 4 (yellow, magenta, cyan, black) and support of full color UV or monochrome UV printing.

V. Work desk support for each specialized equipment:

- Work desk with integrated slots for cable management,

- Mounted on rollers with locking brakes.

- Open shelves for rack-mounted device.

VI. Commissioning services and support:

Support services at the Beneficiary's premises and/or remotely (as applicable) for the adjustment and integration of the integrated operating system during the period of equipment preparation for commissioning according to the Beneficiary's requirements, including:

- Adaptation support with the national document production system at the Buyer's headquarters and remotely (if applicable) at the equipment commissioning stage;

- Supply of spare parts kit (both tools and spare parts) which will enable the Buyer's technical team to perform level 1 and 2 interventions to replace any defective items that could stop the equipment from working;

- Training on the operation of new equipment and interventions for the primary remediation of level 1 and level 2 technical deficiencies, as well as the replacement of spare parts by the technical specialists of the Buyer;

- Providing accompanying documentation:
  - The technical passport, including the manual(s) for the use and maintenance of the equipment in English;
  - Technical documentation related to the software product used, including equipment interfaces with examples of integration into the personalization system:

- Configuration and personalization of passport models (polycarbonate data page and personal data onto the observation page (page 3) provided by the Buyer (personalized model for each type of document):

- The Bidder shall include in its bid SDK (software development kit), proper integration documentation and support services for integration with a third-party software developer of the customization system contracted by the contracting authority.

VII. Warranty

Warranty: min. 36 months (after delivery, commissioning and signing of the act of receiving and handing over the goods).
All costs of resolving warranty cases including spare parts are borne by the manufacturer.
For the resolution of warranty cases as well as in the case of receiving technical assistance requests, the following reaction times will be observed:
- Telephone response time – up to 2 business hours;
Reaction time for diagnosing the equipment and determining the cause of the malfunction, including remotely (if applicable) - up to 8 working hours;
- Reaction time for restoring the functionality of the equipment including remotely (if applicable) with the use of spare parts available in stock - up to 5 working days;
- Reaction time for restoring the functionality of the equipment with the use of spare parts not available in stock - up to 15 working days, except for the time used for customs procedures;
   Working hours - from 8.00 a.m. to 5.00 p.m., according to the time zone of the Republic of Moldova.
   Working days - according to the calendar of the Republic of Moldova.

The supplier shall present a statement that the equipment will be maintained and repaired for a period of at least 10 years with the assurance of the availability of parts during this period.