

## Annex II to the Invitation to Tender

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## Purchase of multifunctional scanning peripherals

Lot 1 - Fingerprint scanner device

Lot 2 - Combined document and fingerprint scanner device



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## 1. Acronyms and Definitions

Acronym	Definition
BAC	Basic Access Control
CM	Contract Manager
DDP	Delivery Duty Paid (incoterms)
EAC	Extended Access Control
EBCG	European Border and Coast Guard
EU	European Union
ETIAS	European Travel Information and Authorization System
FCM	Frontex Contract Manager
FWC	Framework Contract
ICAO	International Civil Aviation Organization
IPI	Invisible Personal Information
IR	InfraRed
LED	Light Emitting Diode
M	Mandatory
MRTD	Machine Readable Travel Documents
MRZ	Machine Readable Zone
MS	A Member State of the European Union
NFC	Near Field Communication
NIST	National Institute of Standards and Technology
NTWG	New Technologies Working Group
O	Optional
OCR	Optical Character Recognition
OVD	Optically Variable Device
RFID	Radio Frequency Identification
SAC	Schengen Associated Country
SIS	Schengen Information System (currently 2nd generation - SIS II)
SO/SOs	Specific Order/Specific Orders
TS	Tender Specifications
USB	Universal Serial Bus
UV	Ultra Violet
VIZ	Visual Inspection Zone

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## 2. Introduction to Frontex

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The European Border and Coast Guard Agency - Frontex (hereinafter referred to as “Frontex”) functions under the mandate of the Council Regulation (EC) Regulation (EU) 2019/1896 with a view to improve the integrated management of the external borders of the Member States of the European Union.

The Regulation (EU) 1896/2019 lays down in Article 10 that the Agency shall contribute to an efficient, high and uniform level of border control and return including by setting up a technical equipment pool to be deployed in joint operations, rapid border interventions and in the framework of migration management support teams, as well as in return operations and return interventions.

Further information about Frontex origin, organisation, its mandate, fields of activities, strategy and planned activities can be read on the Agency’s web site: [www.frontex.europa.eu](http://www.frontex.europa.eu)

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### 3. General Information

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#### 3.1. Aim of the document

This document defines the terms and conditions to procure different types of document inspection and fingerprint scanner equipment. It describes the minimum requirements for the requested devices and it ensures that the delivered goods comply with Frontex requirements.

These Technical Specifications shall become an integral part of the contract that may be awarded as a result of this tender procedure.

All information delivered in this document, its annexes and other referred documents shall be taken into consideration by the Tenderers in preparation of the offer and by the Contractor during the contract's implementation.

#### 3.2. Target Situation

In order to achieve the optimal technical equipment availability Frontex is looking to establish a FWC for purchasing of different types of document inspection and fingerprint scanner equipment. The overall duration of the FWC shall be limited to four (4) years.

The possible quantity of equipment to be ordered during the lifetime of the contract is estimated to be as follows:

	Lot 1	Lot 2
1st year:	30	30
2nd year:	280	150
3rd year:	20	50
4th year:	20	30

The information given in the table above is indicative and cannot be considered as automatically constituting any form of commitment by Frontex.

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## **4. Scope of the FWC and Lots**

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The objective of this FWC is to provide Frontex with the capacity to obtain different quantities of any type of equipment, as listed below each time the need arises according to the terms and conditions described in the tender documentation.

The tender is divided into 2 lots per type of equipment needed, as follows:

- Lot 1 - Fingerprint scanner device
- Lot 2 - Combined document and fingerprint scanner device

## 5. Minimal technical requirements

Minimal technical requirements have been divided into two main sets of features:

- Mandatory features (described under points 5.1.1., 5.1.2, 5.1.3 and 5.1.4 for Lot-1 and points 5.2.1, 5.2.2, 5.2.3 and 5.2.4 for Lot-2)
- Optional features (described under point 5.1.5 for Lot 1 and 5.2.5 for Lot 2)

**Mandatory features** are composed of definition, general requirements, compliance requirements and minimal technical requirements (MTR). The equipment offered and delivered under the contract must comply with all requirements included in this set of mandatory features. The compliance will be checked at the stage of offers evaluation as indicated in point III.5 of Tender Specifications.

Optional features are defined in points 5.1.5 and 5.2.5 below. Those criteria are not obligatory. The features offered within the scope of those criteria will be assessed in offers evaluation stage as defined in point III.6.1 of Tender Specifications.

### 5.1. Lot 1 - Fingerprint scanner device

#### 5.1.1. Definition

The fingerprint scanner device shall be portable and composed of a Tenprint fingers scanner and software capable to perform fingerprint scanning and recording at all types of environments.

#### 5.1.2. General Requirements

REQ NR	Requirement description
GR-1	The device has to be self-sufficient and be fully functional without connectivity to the external resources, it shall be simple and straightforward to operate without extensive technical training
GR-2	The device is usable (portable) with single-handed operation
GR-3	Fingerprint scanner shall allow to scan up to 10 fingerprints as: <ul style="list-style-type: none"><li>• flat fingerprints - from 1 to 10 of individual fingerprints</li><li>• rolled fingerprints - from 1 to 10 of individual fingerprints</li><li>• slap fingerprint images - from 1 to 4 slaps (1 right thumb, 1 left thumb, 4 right hand fingers, 4 left hand fingers)</li></ul>
GR-4	The settings shall be flexible for Scan Capabilities allowing to capture various fingerprint types (1x4, 4x1, 1x2, 2x1, 2x2 scanning method)
GR-5	Allow a fast and easy capture of wet, dry and dirty fingers
GR-6	Automatic Scan support
GR-7	Externally connected to computer via USB 2.0 (or faster) port
GR-8	Available as a standalone fingerprint scanner

GR-9	Scratch resistant device surface
GR-10	AC (100-240V)
GR-11	Allow at least 8 h or uninterrupted use.  In case the device is connected directly to the computer via USB and does not require any batteries or additional power supply for operation the batteries would not be needed. Otherwise, the batteries are required to give sufficient electrical power to the device for its minimal operational time which is set to 8 hours
GR-12	Min 3 years warranty, including full replacement in case of DOA
GR-13	All markings or display of information shall be in English language  Operation manuals, user training materials (tutorials and manuals) for users (in electronic format) min in English language
GR-14	The device shall be packed in a solid carry-case for international transport

#### 5.1.3. Compliance Requirements

REQ NR	Requirement description
CR-1	Full compliance with FBI IAFIS IQS Appendix F
CR-2	Scanning devices shall fully support ANSI/NIST-ITL 1-2011 Update 2015 or newer version
CR-3	Compliance to FCC, CE, RoHS

#### 5.1.4. Minimal Technical Requirements (MTR)

REQ NR	Area	Requirement description
MTR-1	Scan Time	Scanning of 4 fingerprint (1x4) within 5s
MTR-2	Image resolution	≥ 500 dpi
MTR-3	Image formats	BMP, JPEG, WSQ, with FBI certificated WSQ compression (ISO/IEC 19794 or ISO/IEC 15444-1)
MTR-4	Quality management algorithm	NIST NFIQ 2.0 or newer
MTR-5	Firmware upgrade	via USB, automatic
MTR-6	SDK and libraries	Programming languages: C/C++ and Java Libraries: Windows DLL



MTR-7	Source code	for drivers required to communicate with the device
MTR-8	Operating software support/compatibility	Windows 10 or higher 64 bit OS WebAPI enabling access to device from Web Browser, using JavaScript
MTR-9	Device weight	max 5 kg
MTR-10	Device resistency	Water resistant min. IP53 Dust resistant min. IP53 Drop from min 1m
MTR-11	Device robustness	Minimum operation temperature is between 5C° and +45C° Minimum storage temperature is between -20C° and +50C° Minimum operating humidity is between 10% and 90%
MTR-12	Connectivity	Minimum USB 2.0 port is required connected by USB cable with Type A physical connector

#### 5.1.5. Optional Requirements

REQ NR	Requirement description
OR-1	Compliance with ISO/IEC 19784-1:2018 requirements
OR-2	Compliance to IDENT requirements
<del>OR-3</del>	<del>Compliance to DHS requirements</del> - requirement removed
OR-4	Possibility to manually adjust exposure for the whole sensor
OR-5	SDK and libraries for additional programming languages: C#, VB.NET (SDK)
OR-6	Operating software support/compatibility to Mac OS, Linux (or Android, ios)
OR-7	Fingerprint Liveness Detection
OR-8	Device cover: metal
OR-9	Possibility to add a document reader
OR-10	Possibility to add a photo camera
OR-11	Replacement time in case of DOA - 7 days
OR-12	Operation manuals, user training materials (tutorials and manuals) for users (in pdf) in other European languages than English

## 5.2. Lot 2 - Document and fingerprint scanner device

### 5.2.1. Definition

Document and fingerprint scanner device composed of a full-page document scanner/reader and software capable to perform optical, electronic, and combined checks for authenticity verification of passports, ID cards, resident permits, visas, stamps and other security documents for document checks and Tenprint fingers scanner and software capable to perform fingerprint scanning and recording at all types of environments.

### 5.2.2. General requirements

REQ NR	Requirement description
GR-1	Document & fingerprint scanner shall be integrated in a combined device portable by one person in a suitcase. It shouldn't be a set of separate devices.
GR-2	Offer the following document scanning functionalities: <ul style="list-style-type: none"><li>• electronical scan (RFID scan) of the different types of electronic machine readable travel documents (eMRTD): alphanumeric part (including alphanumeric text) and biometric part (including fingerprints and face image)</li><li>• automatic comparison of information present in the VIZ and the MRZ;</li><li>• scanning of the documents compliant with ISO (doc 7501) and ICAO Doc 9303 MRTD standard Seventh Edition, 2015 ID1, ID2 and ID3 documents (MRZ code) or newer edition;</li><li>• chips compliant to ISO 14443 type A and B</li></ul>
GR-3	Offer the following fingerprint scanning functionalities: <ul style="list-style-type: none"><li>• Scanning of the fingerprints compliant with ANSI/NIST-ITL 1-2011 Update: 2015 standard</li><li>• Available of Tenprint fingerprint scanning in 1x4, 4x1, 1x2, 2x1, 2x2 scanning method</li><li>• Finger roll support</li><li>• Colour camera/sensor providing constant/uniform image quality</li></ul>
GR-4	The device shall be externally connected to computer via USB. The connection must remain strong and the device always visible by the operator
GR-5	Power supply - AC (100-240V)
GR-6	Min 3 years warranty period, including: <ul style="list-style-type: none"><li>- maintenance (hardware and software)</li><li>- full replacement in case of DOA</li></ul>
GR-7	All markings or display of information shall be in English language  Provided operation manuals, user training materials (tutorials and manuals) for users (in electronic format) in English language
GR-8	Packed in fitting carry case allowing international transport

### 5.2.3. Compliance Requirements

REQ NR	Requirement description
CR-1	Full compliance with BSI TR-03135 when not otherwise specified
CR-2	Full compliance with FBI IAFIS IQS Appendix
CR-3	Compliance to FCC, CE, RoHS

### 5.2.4. Minimal Technical Requirements

REQ NR	Area	Requirement description
MTR-1	Device weight	Max 5 kg
MTR-2	Device resistency	To water resistant min IP 53 To dust resistant min IP 53
MTR-3	Device robustness	Drop from min 1m Minimum operation temperature is between 5C° and +45C° Minimum storage temperature is between -20C° and +50C° Minimum operation humidity is between 10% and 90%
MTR-4	Hardware	Provide mechanism to press the document flat onto the capture area
MTR-5	Scanning Area size	≥ 125 x 88 mm
MTR-6	Initialisation and recycling time for reading MRZ	≤ 2s
MTR-7	Initialisation and recycling time for reading biometric data (facial data)	≤ 10s
MTR-8	Image quality	Capture all areas with the same quality (≥ 500dpi)
MTR-9	UV light	365 nm
MTR-10	IR light	≥ 850nm, incident
MTR-11	Visible (white) light	430-650 nm, incident
MTR-12	Image resolution	≥ 500 dpi
MTR-13	Scanning resolution	≥ 1280 x 768
MTR-14	Image formats	BMP, JPEG, JPEG2000, PNG, WSQ, with FBI certificated WSQ compression (ISO/IEC 19794 or ISO/IEC 15444-1)

MTR-15	Radio Frequency Identification (RFID)/Chip module	Chip type: ISO 14443 type A and B and ISO 7816 (contact chip on smart cards)
MTR-16	Authentication	<ul style="list-style-type: none"> <li>- Password Authenticated Connection Establishment Chip Authentication Mapping</li> <li>- Terminal Authentication</li> <li>- Active Authentication</li> <li>- Passive Authentication</li> </ul>
MTR-17	Baud rate (speed)	ISO 14443 A/B 848Kbps Supports asymmetrical communication speeds
MTR-18	Required output information	Comparison: <ul style="list-style-type: none"> <li>- Data from MRZ and RFID (DG1)</li> <li>- Data from EF.SOD and EF.COM</li> <li>- Possibility to manually select document type, retrieve reference information, and display side by side</li> <li>- Fingerprints with VIS</li> </ul>
MTR-19	Required output information	Results: <ul style="list-style-type: none"> <li>- Proceeded check overall result (Optical/electronic checks)</li> <li>- Result indication of all proceeded checks in one page</li> <li>- Select more details via one click</li> <li>- Highlight only Irregularities</li> <li>- Terminology used for results should be straightforward and understandable (no codes)</li> <li>- Display and describe type of (Document/Chip) Errors</li> </ul>
MTR-20	USB port	Minimum USB 2.0 port is required connected by USB cable with Type A physical connector.
MTR-21	SDK and libraries	Programming languages: C/C++ and Java Libraries: Windows DLL
MTR-22	Source code	for drivers required to communicate with the device
MTR-23	Operating software support/compatibility	Windows 10 or higher 64 bit OS WebAPI enabling access to device from Web Browser, using JavaScript

#### 5.2.5. Optional Requirements

REQ NR	Requirement description
OR-1	Compliance with ISO/IEC 19784-1:2018 requirements
OR-2	Compliance with ISO/IEC 19794-4:2011 requirements
OR-3	Compliance to IDENT requirements
<del>OR-4</del>	<del>Compliance to DHS requirements</del> - requirement removed
OR-5	Read and decode barcode on latest version of Syrian passports
OR-6	Reading function of the travel documents (e.g. emergency travel documents) which do not strictly comply with ICAO standards
OR-7	Automatic scan support

OR-8	SDK and libraries for additional programming languages: C#, VB.NET (SDK)
OR-9	Operating software support/compatibility to Mac OS, Linux (or Android, iOS)
OR-10	Fingerprint Liveness Detection
OR-11	Image resolution: 1000 dpi
OR-12	Magnification under all light sources $\geq 15x$
OR-13	Possibility to capture multiple images under visible (write) light
OR-14	Possibility to capture multiple images under UV light
OR-15	Possibility to capture multiple images under IR light
OR-16	The device is expected to operate for at least 8 h or uninterrupted use, hence the power supply shall be adequate to guarantee the full functioning of the device (USB connection, batteries or combination).
OR-17	Required output information (software allows to display the following information when device is connected to the computer) - comparison: <ul style="list-style-type: none"> <li>a. VIZ-Chip, VIZ Barcode, Barcode-Chip</li> <li>b. Automatic comparison with reference database with images side by side</li> </ul>
OR-18	Operation manuals, user training materials (tutorials and manuals) for users (in pdf) in other European languages than English
OR-19	wireless connectivity to the device, e.g. thru Wi-Fi or Bluetooth, with physical switch (protected from accidental switch) which turns it on/off or with possibility to switch it on/off on the software level, e.g. by uploading proper configuration file
OR-20	Minimum maintenance and replacement times (react to request - within 24 h; fix or replace -1 week; full replacement in case of DOA within 1 week)

### 5.3. Data Security

In order not to store the data longer than needed for the process, the devices provided under Lot 1 and Lot 2 shall not store the scanned data in the non-volatile memory for longer than for processing the ongoing request.

The device API should allow the command to erase/overwrite the data buffer on application request ("clear after use"). This command would be issued after the application receives the requested data. No personal data shall remain in the device neither on an unplugged device nor after the data is received.

The device shall allow to read its status (via API) including the state of device physical interfaces (enabled/ disabled/ operating, etc.).

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## **6. Delivery, training, warranty and maintenance**

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### **6.1. Delivery**

The Contractor will be responsible for the timely delivery of requested products. The Contractor will also be responsible to address customs and all import related issues if any.

The equipment shall be:

- delivered the soonest possible but not later than 2 months after the specific contract signature;
- transported (DDP) and delivered to Frontex headquarters.

The delivery address is Frontex, Plac Europejski 6, 00-844 Warsaw - Poland.

The delivery shall take place during working hours (Monday - Friday 09:00-17:00 excluding holidays).

The delivery price shall be included in the product price with no additional charges required for the shipment.

### **6.2. Training and manuals**

In addition to the provided operational manuals and user training materials, the Contractor may also be asked to provide the necessary hands-on train-the-trainer training to the staff identified by Frontex on the handling of the purchased equipment. Frontex reserves the right to request such training either together with the delivery of the equipment or at any other moment during the contract duration. The number of Frontex trainees per 1 training session shall not exceed 10 persons. Such training may be organised either as face-to-face training or an on-line training.

In case of the face-to-face training is required, the training location shall be at Frontex HQ premises in Warsaw. The costs of Frontex staff participation will be covered by Frontex.

In case of on-line training, it shall be delivered remotely using the existing on-line tools on the agreed time.

Both types of training shall be carried out in English language. All training related documents (manuals, presentations, etc.) shall be in electronic and paper format in English language, one copy for each participant.

The duration of the training should be app. 4 hours. The fee for the training must be indicated separately in the financial offer and must cover all costs related with providing the training and the necessary training materials by the Contractor (in case of the face-to-face training it shall also include travel and subsistence, preparation fee, etc).

### **6.3. Warranty and maintenance**

The purchased equipment shall be covered by the warranty period and maintenance activities as they are requested under point 5 above. The required maintenance shall be of the corrective type and cover the correction of all identified defects either through repair or through replacement.

In case of an identified failure the Contracting Authority shall notify the Contractor and send the concerned device(s) to the indicated maintenance centre within EU. The contractor shall perform the diagnosis and eliminate the causes of the failure either through replacement or through repair as well as the necessary testing allowing to confirm the proper functioning of the repaired device(s). The repaired/replaced device(s) after maintenance shall be returned to the Contracting Authority.

The maintenance shall be provided throughout the entire warranty period.

#### **6.4.     Obsolescence Management**

The tender shall declare that in the case of cessation of the production of any of the models (or one of its versions), the contractor shall inform Frontex and offer a replacement model. After Frontex selects the new model that meets the required minimum technical criteria, this new model will enter as the main device for the remaining duration of the contract, unless such a situation happens again. If so, another model that meets the required minimum technical criteria will be chosen by Frontex.

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## **7. Quality monitoring and acceptance procedures**

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### **7.1. Quality control procedure**

For all products delivered by this contract, the Contractor(s) shall provide the quality certificates. Frontex will monitor the quality of the products provided by the Contractor. Elements that will be monitored include:

- Compliance of the product with the Contractor's offer;
- Quick response to delivery requests and adherence to deadlines and terms stipulated in point 6 above.

The Contractor will be immediately informed in case the quality is not in line with the Contractor's offer in any of the criteria and will be requested to remedy to the identified failure immediately.

### **7.2. Acceptance procedure**

Based on quality monitoring and control, all products delivered under the FWC will be subject to the Frontex acceptance.

Upon delivery of the products which are part of the SOs Frontex shall evaluate them and provide the Contractor with written notice of Acceptance, Partial Acceptance or Non-acceptance.

In the event Frontex provided notice of partial or non-acceptance to Contractor, it shall have the continuing right, at its sole option, to:

- refuse to pay any fees or other amounts associated with such products;
- accept such products on the condition that any fees or other amounts payable with respect thereto shall be reduced or discounted to reflect, to Frontex' satisfaction, the deficiencies present therein or the costs likely to be incurred by Frontex to correct such deficiencies; or
- terminate the contract and/or seek any and all available remedies, including damages.

In case of non-acceptance or partial acceptance of the delivered equipment by Frontex the Contractor shall be obliged to recover it at his expense from Frontex premises within an indicated deadline, which as a rule shall not exceed 5 working days.



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## **8. Implementation of FWC**

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### **8.1. Indicative implementation plan for the FWC**

The list below presents the indicative plan of the implementation of the FWC, which is not binding on Frontex and may be adapted during the contractual period.

- First Orders for each lot are scheduled to start upon the signature of the FWC;
- Estimated number of Orders per year - 2 for each lot;
- Occasionally, more than one Order may run at the same time.

### **8.2. Language**

All the documentation delivered within the contract shall be in English. Moreover all communication, whether written or spoken, shall be in English.

### **8.3. Contract management personnel**

#### **8.3.1. Contractor's personnel**

The Contractor shall be responsible for providing all necessary personnel to ensure the satisfactory performance of its obligations under the FWC and shall supervise and be fully responsible and liable for all the services performed by its personnel and for their compliance with the terms and conditions of the FWC.

During the implementation of the FWC and its Orders the Contractor shall nominate a Contract Manager (CM) for all contractual matters. CM will act as a single contractual contact point. All the correspondence related to the FWC (including the implementation of the Orders) will be addressed to him/her.

#### **8.3.2. Frontex personnel**

For the proper implementation of the FWC and its Orders Frontex will nominate a Frontex Contract Manager (FCM), who will act as a single contact point for all the matters related to the FWC implementation, including the implementation of the Orders.