Ministry of Public Security of Sri Lanka

Department of Immigration and Emigration

BIDDING DOCUMENT (Volume 2 - Section VI: Schedule of Requirement)

(Two Envelope System)

Procurement of Supply of Five (5) Million e-Passports to the Department of Immigration and Emigration Sri Lanka

IFB No: PS/03/PB/PR/05/28/23

Employer: Controller General
Department of Immigration and Emigration
5th Floor,
"Suhurupaya",
Sri Subhuthipura Road,
Battaramulla.
Sri Lanka.

Contents

1. Introduction

The Department of Immigration and Emigration in Sri Lanka was established in 1948. The Department of Immigration and Emigration Sri Lanka oversees the regulations of the country's border control and manages the movement of individuals in and out of Sri Lanka while issuing passports to Sri Lankan nationals. To execute the main functions of border control system of Sri Lanka the Department uses its own Border Control System with a reliable and standard passport issuing system, which serves as the identity of Sri Lankans while they are in overseas and facilitates them to cross international borders. The Department of Immigration and Emigration intends to commission the issuance of electronic passports (e-Passports) in compliance with ICAO standards, improve efficiency and effectiveness, and streamline the passport issuance process.

2. Scope of Work

The key activities and services to be carried under the project described in this document include the following general scope

a. Technical design, manufacture and supply of pre-printed e-passport blanks (passport booklets) of different passport categories as per the specifications and requirements provided by the employer.

b. Supply of passport feature demonstration kits (contain a forensic description of the passport features, security instruments and verification methods) to be shared with other country emigration authorities through employer's diplomatic partner channels.

c. The Bidder should design the PKI infrastructure with employer and install, test, commission all required components at the employer's site as part of this contract.

d. Upgrading the existing passport forensic examination laboratory of the employer with capacity for verification of the new passports issued under this service contract.

e. The selected bidder is expected to sign a Long-term supply agreement (LTSA) with the employer related to the services rendered under the contract. The LTSA will include penalties that will be applicable when the contract fails to maintain the required service levels and service qualities as per the delivery schedule.

f. However the title and the ownership of the components related to the PKI infrastructure (including but not limited to the HSM components) shall be with the employer. The title and the ownership shall remain with the employer even after the completion / termination of this contract.

3. Government Regulation

All goods supplied under this contract shall be in compliance with ICAO standards.

4. Implementation (Delivery) Schedule

The service contract includes the security features and design based on the artwork given by the employer and manufacture and supply of passport blanks for personalization. The passport blanks must be manufactured in batches and delivered to the employer's site.

Batches of Delivery	Quantity	Delivery Date/ From Date of Commencement
1st	500,000	8 months
2nd	1,000,000	10 months
3rd	500,000	15 Months
4th	500,000	20 Months
5th	500,000	30 Months
6th	500,000	36 months
7th	500,000	40 months
8th	500,000	50 Months
9th	500,000	60 Months
Total	**5,000,000**	

5. Exiting Printing Machine details

Printers	Model	Manufacture Year	Quantity
Diletta	900i	2021	17
Diletta	600i	2013	03
Trigenion	E3000M	2015	04

Laminating	Model	Manufacture Year	Quantity
Laminator	6061P	2018	11

QA Readers	Model	Manufacture Year	Quantity
Access	OCR315-E	2018	07

6. Acceptance and Testing

The laboratory testing, among other criterions for material and construction must include the tests and test methods that are described in the ICAO technical report titled "DURABILITY OF MACHINE READABLE PASSPORTS" (Version 3.2 or the latest available at the time of testing).

The selected sample must be sent to an independent laboratory proposed by the employer for testing. The bidder may propose 3 test laboratories which are internationally accredited and quality certified for testing of travel documents. The employer will select a laboratory from this list for each test batch. (Note: the employer reserves the right to reject all three laboratories if their certification is not proved. In this case employer will propose a laboratory for testing)

The batch of passport blanks should be delivered to the employer only after receiving a positive test report from the laboratory. The report of the laboratory test must be addressed and delivered directly to eh employer. If the test report fails to establish the quality and durability of the sample, the entire batch will be rejected without any cost to the employer. In such situation, the bidder

must re-produce the entire batch at no additional cost to the employer. In the event of a partially complying (with minor deviations) or non-conclusive test report, the employer reserves the sole right to either accept or reject the batch. Bidder shall facilitate a production site visit to the employer.

The testing procedure must be carried out without any cost to the Employer (including the cost of material, passport blanks, transport charges, laboratory charges, etc.)

Technical Specification & Compliance

e- Passport

[The Technical specification may be provided in the following format. The bidder shall fill the columns 4 and 5, and **must submit with the Technical Proposal**. The bidder's failure to provide the information request in columns 4 and 5 may be a reason for the rejection of the Bid. If any discrepancy is observed between the information provided by the bidder in columns 4 and 5 and the other technical information attached to the bid, the information provided herein shall take precedence.]

	(1)	*(2)*	*(3)*	*(4)*	*(5)*
	Subcomponent	*Technical Specifications and Standards*			
		Purchaser's Requirements		*Bidder's Offer*	
		Detail	*Priority*	*Yes (Y)/ No (N)*	*Remarks*
	1. General				
1.1	Number of Pages	48 with laser perforated serial number, and the hole size of the SN shall vary depending on the page number	Critical		
1.2	The page structure	The composition, size, layout, and other related parameters of the e-passport must comply with the ICAO DOC 9303 specifications.	Critical		
1.3	Data page	The 2nd page and thin (Not thicker than 15 microns) security lamination are attached to the 2nd page.	Critical		
1.4	e- cover	Consists with an e-Cover.	Critical		
1.5	Dimensions	ID-3 125mm x 88mm (B7)	Critical		
1.6	Lifetime	shall be 10 years.	Critical		
2. Security Paper (Paper data page)					

2.1	Paper data page	must be made using 85 gsm (+/- 5%) security paper made using 100% chemical wood pulp	Critical		
2.2	The pages	It should be UV dull (i.e., free of optical brightening agents). The material used must be intended for security documents and security printing and shouldbecompatiblewithallsecurityinstrumentsselectedforthepasspor t	Critical		
2.3	The passport numbers	Should be printed and laser perforated during manufacturing of e-Passport	Critical		
2.4	The background artwork of the pages.	must include a guilloches artwork pattern and rainbow printing	Critical		
2.5	All pages	Shall have cylinder mold multi-tone watermark. The image of the watermark will remain the same in all inner pages. The details of the watermark, including the size and position shall be decided by DEPARTMENT OF IMMIGRATION AND EMGRATION.	Critical		
2.6	**The data page of the passport must include minimum security features as follows.**				
2.6.1	Level-1security features	i. Kinetic effect	Critical		
		ii. Dual channel	Critical		
		iii.Multi-Color Visible fibers	Critical		
		iv. Optical Variable Ink (OVI)	Critical		
		v. Rainbow printing	Critical		
		vi. Two- Orlof printing	Critical		
	Level-2 security feature	i. Relief-like Design Pattern.	Critical		
		ii. Anti-copy grounding	Critical		
		iii. Positive and negative (Reverse printing) microtext	Critical		
		iv. UV Fluorescent design elements	Critical		

2.6.2		v. Multi-color UV visible fibers			
		vi. The data page shall be compatible with inkjet printing and security laminate attachment after the graphical personalization. Laminate shall detect alteration or tampering attacks for the data page front side.	Critical		
		vii. Bidders need to propose some strong security feature or laminate on the back side of the data page to detect alteration or grinding of the data page from the back side. This feature should not be easily reproducible in the field, and the bidder needs to explain how this security can be achieved in their offer. This feature shall be a combined level 2 and level 3 security feature.	Critical		
		viii. Apart from the security features listed earlier in this data page specification, the pre-printed background must include a deliberate error as a level-3 and/or Level 2 security feature.	Critical		
		ix. The data page shall have all the preprinted static captions printed during the manufacturing. Captions will be decided after the award.	Critical		
3. Cover Material					
		i. Durable for the 10-year lifetime of the passport	Critical		
		ii. Flexible to support mechanical stresses during normal usage.	Critical		
		iii. Resistant to chemicals, shear, damp and sweat that may occur in normal usage.	Critical		

3.1	The cover material (front-cover and back-cover) must have these characteristics to ensure quality and durability	iv. The e-MRTD cover page must have an e-chip embedded into the cover page (e-Cover). The location of the chip and the antenna must be placed according to the industry best practices and the specifications of the ICAO DOC 9303 requirements to avoid damage to the chip during gold foil hot stamping.	Critical		
		v. The cover material should be latex saturated cellulose with acrylic base coated. 1) Shall be specifically made for e Cover 2) Shall be made of Virgin (not recycled) fibers. 3) Shall be made of Chemical (not Mechanical) pulp. 4) Shall consists with appropriate amount of synthetic fiber (the amount which does not adversely affect the visual appearance of coating) to provide extra strength to the paper base of the cover material. 5) Paper Weight : 350gsm +/- 10 6) Thickness : 340 micron +/- 10 7) Tensile Strength : MD 10 , CD 6 kN/m 8) Folding endurance : 10000 times MD and CD Minimum 9) Delamination resistance : MD 3700 mN CD 2750 mN 10) Mullen Burst : 890 KPa 11) Laminator/Coating : Shall withstand 180o Centigrade and no deterioration of coating. 12) Foil blocking : Shall achieve a clean and fine details of the Sri Lanka Government Crest(emblem) and other features given. Note : A certificate of analysis shall be provided	Critical		

		vi. The cover page must be gold foil hot-stamped with the artwork prescribed by the Purchaser. In addition, gold lettering and an international standard icon for e-passport must be printed according to the specifications and artwork provided by the Purchaser. All these printing must be carried out at the stage of manufacturing / pre-printing of the passport booklet. Shall be spine squared and blind embossed. Emboss design will be provided by DEPARTMENT OF IMMIGRATION AND EMGRATION	Critical		
4. Security Lamination on the Data Page					
4.1	Security Lamination on Data Page	i. Shall consists of Overt, Covert, and Forensic verification. The thickness shall be less than 15 microns. Must be sewn-in to the passport, and thermal application must be capable with commercially available laminators at 170 C to180 C +/- 5 C	Critical		

5. Front Cover inside and Back Cover Inside (Flyleaf)					
5.1	The end pages (i.e., inner side of the cover pages)	i. shall be made using 85 gsm (+/- 5%) security paper made using 100% chemical wood pulp material.	Critical		
		ii. should be UV dull (i.e., free of optical brightening agents). The material used for end pages must be intended for security documents, security printing. and shouldbecompatiblewithallsecurityinstrumentsselectedforthepass port.	Critical		
		iii. The end-pages must be permanently attached to the cover page with tamper-evident features against any attempt to disassemble or disintegrate	Critical		
5.2	**The end pages of the passport must include minimum security features as,**				
5.2.1	Level-1 security features	i. Latent image printing			
		ii. 3 Color Intaglio printing, including latent image. Also, one feature with OVI using intaglio printing.	Critical		
5.2.2	Level-2 security features	i. Positive and negative (Reverse) microtext	Critical		
		ii. Serial number in letterpress printing			
		iii. Relief-like Design Pattern.	Critical		
		iv. Micro text with deliberate spelling mistake	Critical		
		v. UV fluorescent variable size micro text with deliberate spelling mistake	Critical		
		vi. IR visible Character motif or design element	Critical		
		vii. The end page background should include a guilloches artwork with rainbow printing. The artwork must be designed using specialized tools for security printing.	Critical		
5.2.3	Level-3 security features	i. Paper should be resistant to chemicals	Critical		

6. Inside pages					
6.1	Inside pages	i. All inner pages must be made using 85 gsm (+/- 5%) security paper made using 100% chemical wood pulp.	Critical		
		ii. The pages should be UV dull (i.e., free of optical brightening agents). The material used for inner pages must be intended security documents, security printing. and shouldbecompatiblewithallsecurityinstrumentsselectedforthe passport.	Critical		
		iii. The passport number (i.e., passport document serial number) should be perforated through all inner pages and the back-cover pages.	Critical		
		iv. The background of the inner pages must include a guilloche's artwork pattern and rainbow printing.	Critical		
		v. Paper should be resistant to chemicals.	Critical		
		vi. All inner paper pages in the booklet must be serially numbered.	Critical		
		vii. All the inner pages shall have cylinder mold multi tone watermark. The image of watermark will remain same in all inner pages. The details of the watermark including the size and position shall be decided by the Department of Immigration and Emigration	Critical		
6.2	**The inner paper pages of the passport must include minimum security features as follows.**				
	Level-1security features	i. Visible fibers	Critical		

6.2.1		ii. Shifting index marks or page number	Critical		
6.2.2	Level-2 security features	i. Relief-like Design Pattern.			
		ii. Positive and negative (Reverse) microtext	Critical		
		iii. UV Fluorescence design elements	Critical		
		iv. UV visible fibers added at the paper making process	Critical		
		v. Character motif (or design element) printed with Optical Variable Ink	Critical		
		vi. Character motif (or design element) printed with Iridescent Ink	Critical		
		vii. Character motif (or design element) printed with UV Florescence Ink	Critical		
		viii. Character motif (or design element) printed with IR Visible Ink	Critical		
		ix. Design element created with Line Width Modulation	Critical		
6.2.3	Level-3 security features	Apart from the security features listed earlier for paper pages here, the pre-printed background must include a deliberate error as a level-3 and/or level 2 security feature	Critical		
6.4	Background design	shall NOT be printed with commercially available CMYK and/or standard spot colors. Unique Mixed Security Inks shall be used which can be verified by laboratory equipment (Forensic) for inks authenticity.	Critical		
7. Stitching					
	Stitching	i. The booklet should be bound using interlock stitching method.	Critical		

7.1		ii. Sewing thread used for stitching should be multi-coloured under normal light and shall have UV visiblefeatures.	Critical		

8. Security Management Process					
8.1	Security Management Process	i. Security Printer's site and laminate supplier shall be certified with ISO 14298 – Government Level.	Critical		
		ii. The total quantity of passport contracts should be produced using the same security papers. When delivering each order, it must be ensured that the paper and other raw materials used were the same. Change of supplier/s shall only be allowed with Prior Approval by DEPARTMENT OF IMMIGRATION AND EMGRATION. Additionally, details of the paper suppliers should be provided to the Department of Emigration and Immigration of Sri Lanka with each supply, along with the certification issued by the supplier.	Critical		
8. Inlay					
8.1	Inlay and chip	shall meet the minimum ICAO requirements / Specifications.	Critical		
8.2	Certification	Shall be certified by a third-party certifying body that the inlay and the chip comply with ICAO requirements / specifications.	Critical		
8.3	Standards	Shall comply with ISO/IEC 7810, ISO / IEC 10373, ISO / IEC 14443	Critical		
8.4	Antenna and the chip module	module shall be micro welded by Themo Compression bonding (TCB)	Critical		
8.5	Chip module	shall be armed itself to protect from mechanical stress.	Critical		

8.6	Peeled off	Inlay shall not be peeled off.	Critical		
8.7	Temperature	Shall be resistance to high temperature when expose to heat lamination	Critical		

9. COS (Chip operating system), Application and chip hardware					
9.1	Note	Legitimate application provider and card issuer is DEPARTMENT OF IMMIGRATION AND EMGRATION Sri Lanka	Critical		
9.2	COS (Chip operating system), Application and chip hardware	i. Certification levels EAL5+ (Chip) ad levels EAL 5+ (OS) As per common criteria for information technology security evaluation (CC)	Critical		
		ii. Shall support cryptographic algorithms such as ECC (Elliptic-Curve Cryptography, RSA DES, Triple DES AES etc.	Critical		
		iii. Shall support for VHBR- Very High Bit Rate Data Exchange	Critical		
		iv. Shall support cryptographic algorithms such as ECC of 521 bits (Elliptic- Curve Cryptography), RSA of 4096 bits, DES, Triple DES, AES of 256 bits, hash algorithms of SHA1 and SHA2(up to SHA-512) etc.	Critical		
		v. Shall be a single or multi-application chip.	Critical		
		vi. APDU shall comply with ISO / IEC 7816 -4	Critical		

		vii. 32 Bit CPU running at 3.7Mhz, with 8KB of RAM and more than 100KB of non- Volatile memory (EEPROM or Flash)- Or chip capacity shall be adequate to accommodate Data Group 1 and Data Group 2 with BAC (Basic Authentication and PACE (Password Authentication connection establishment) after the all transformations Hashing and signing	Critical		
		viii. Shall comply with ISO 14443-1,2,3,4.	Critical		
9.3		i. Support for not less than 450,000 read cycles with data retention for not less than 20 years at 25C	Critical		
		ii. The chip module must be installed and integrated into the cover page of the passport using copper wire antenna. The chip module and its associated components (such as the antenna etc.) must be embedded in an inner layer of the cover and should use durable inlay.	Critical		
		iii. The operating system in the chip must comply with ICAO Doc 9303 (including, but not limited to Part 9 and Part 10) requirements, specifications, and operational parameters. The chip and its operating system must be based on ICAO Logical Data Structure LDS Ver 1.8 or later based on the latest edition of the specifications for storage.	Critical		

	The chip module must comply with these requirements at minimum.	iv.	The system operating in the chip module must implement all ICAO9303 mandatory authentication requirements. The chip module and the operating system must support and implement BAC (Basic access control) with full support and capability for Supplemental Access Control (SAC) as an alternative. Further, the specification of the chip module must adhere to the current (latest) edition of ICAO 9303 and comply with ISO 14443 standard.	Critical		
		v.	The chip operating system must be Common Criteria certified according to the following levels:	Critical		
		vi.	EAL4+ Protection Profile for Machine Readable Travel Document with ICAO Application, Basic Access Control (BSI-CC-PP-055)	Critical		
		vii.	EAL4+ Protection Profile for Machine Readable Travel Document using standard inspection procedure with PACE (PACE PP) - Supplementary Access Control (SAC) (BSI-CC-PP-068-V2-2011)	Critical		
		viii.	EAL4+ Protection Profile for Machine Readable Travel Document with ICAO Application, Extended Access Control (BSI-CC-PP-056)	Critical		
		ix.	EAL4+ Protection Profile for Machine Readable Travel Document with ICAO Application, Extended Access Control with PACE (BSI-CC-PP-056-V2-2012)	Critical		
		x.	Valid certificate shall be provided along with proposal	Critical		
10. Providing Sample						

10.1	Sample	The bidder shall submit real specimens of e passports offered by them to their customers and real specimens of security materials obtained by their security material suppliers.	Critical		
11 Support on Personalization using Existing printing Machineries					
11.1	i. The passport shall be Personalized with chip using existing machineries. (*The Existing Personalization printing machineries are referred above 5.)* ii. Bidder shall provide the specifications for laminating machines to the Department of Immigration and Emigration		Critical		

Name of Bidder : ……..…… Signature of Bidder : …….. Date : ……..

[Insult complete name of Bidder] *[Signature of person signing the Bid]* *(Insert Date)*

Annexure I

Schematic Drawing of the TDPS