



Office of the Commissioner: Border Management Authority
909 Arcadia Street, DHA Ministry
012 432 6629

USER REQUIREMENT STATEMENT (URS):

THE PROCUREMENT OF UNMANNED AIRCRAFT SYSTEMS (UAS) FOR THE BORDER MANAGEMENT AUTHORITY (BMA)

SUMMARY: This User Requirement Specification establishes the requirements for the procurement of Unmanned Aircraft Systems (UAS) for the Border Management Authority (BMA).

CONTENTS

1.	INTRODUCTION	3
2.	AIM	3
3.	SCOPE	Error! Bookmark not defined.
4.	ABBREVIATIONS/ACRONYMS	4
5.	SYSTEM DESCRIPTION	4
6.	Operational Environment and Employment	5
7.	DURATION	5
8.	Detailed Scope	5
9.	Delivery Details	6
10.	Cost Implication and Available Budget	7
11.	Appendices:	7
	APPENDIX A TO USER REQUIREMENT STATEMENT	8
	APPENDIX B TO USER REQUIREMENT STATEMENT	9

1. INTRODUCTION

- 1.1. South Africa has been using a multi-agency approach in its border management which comprises of seven Departments and Agencies). All these Departments and Agencies have a physical presence in the border environment.
- 1.2. However, this multi-agency approach was not exclusively effective in addressing the national security threats and challenges that currently exists in the border environment. Therefore, a decision was taken for an integrated border management approach and subsequent to that, the establishment of a Border Management Authority (BMA).
- 1.3. The Authority will be responsible for the execution of the following frontline border law enforcement functions:
 - 1.3.1. Port Health;
 - 1.3.2. Immigration Control;
 - 1.3.3. Access Control;
 - 1.3.4. Biosecurity; Food Safety and Phyto-sanitary Control;
 - 1.3.5. Land Border Infrastructure Development and Maintenance; and
 - 1.3.6. Border Information and Risk Management.
- 1.4. It is intended that this new approach will adapt and respond effectively to the challenges, threats and opportunities that exist in the border environment whilst safeguarding South Africa's borders and meeting the country's national, regional and global developmental responsibilities; and human rights imperatives.

2. AIM

- 2.1. The aim of this User Requirement Statement (URS) is to establish the User Requirements for The Procurement of Unmanned Aircraft Systems for the Border Management Authority (BMA) in support of law enforcement operations,

3. ABBREVIATIONS/ACRONYMS

For the purpose of this URS the following Abbreviations/Acronyms will be used:

Item	Abbreviation	Description
	ADS-B	Aircraft Dependent Surveillance – Broadcaster
	BMA	Border Management Authority.
	EMI	Electromagnetic Interference
	GCS	Ground Control Station
	IP	Ingress Protection
	GNSS	Global Navigation Satellite System
	GPS	Global Positioning System
	OEM	Original Equipment Manufacturer.
	PoE	Port of Entry.
	RFI	Radio Frequency Interference
	RSA	Republic of South Africa.
	SANDF	South African National Defence Force.
	SAPS	South African Police Service.
	UAS	Unmanned Aerial System
	URS	User Requirement Statement.
	VTOL	Vertical Take-off and Landing

4. SYSTEM DESCRIPTION

4.1. Origin of Requirement

- 4.1.1. The BMA, in fulfilment of its mandate of safeguarding the borders of the Republic of South Africa (RSA), requires acquisition of various systems and equipment in order to respond effectively to the security needs of the most critical ports of entry in South Africa.

- 4.1.2. The BMA Officers in performing their function will work closely with the South African Police Service (SAPS), South African National Defence Force (SANDF) and the Department of Home Affairs, as such; it is expected that their concept of operation will overlap or coincide with that of the other security entities.
- 4.1.3. BMA is to procure Unmanned Aircraft Systems that can be deployed at key ports of entry (PoE). The equipment will be utilised by BMA officers in their daily duties and will facilitate safe and effective operations.

5. OPERATIONAL ENVIRONMENT AND EMPLOYMENT

- 5.1. The operational environment for the proposed product system/equipment is in the various PoE, as well as along the border environments.

6. DURATION

The equipment is expected to operate for at least 5 to 10 years.

7. DETAILED SCOPE

The equipment and quantities required is as per Appendix A.

7.1. Critical Requirements of a Multi-rotor, Tactical Unmanned Aircraft System

<u>No.</u>	<u>Aircraft Specifications</u>
7.1.1.	Maximum Take-off Weight: 2kg
7.1.2.	Maximum Dimensions: Length, Width, Height Unfolded:: 700mm,,: 700mm: 150mm Folded: 260mm, 150mm, 140mm
7.1.3.	Minimum Flight Time:- 3 hours
7.1.4.	Minimum GNSS supported: 2 (At least one to be a GPS)
7.1.5.	Aircraft must be able to operate in GPS Denied Environment
7.1.6.	Anti-Jam (GPS Spoofing) capabilities
7.1.7.	Anti-Interface (RFI and EMI) capabilities
7.1.8.	Minimum IP Rating: IP 43 or better

7.1.9.	Maximum wind resistance during VTOL: 12 m/s
7.1.10.	Operating Temperature: -05C to 50C
7.1.11.	Hot-Swappable Batteries
7.1.12.	Aircraft must be able to operate in a Mesh Networking enabling UAS-to-UAS autonomous communication, connection and collaboration
<u>No.</u>	<u>Payload Specifications</u>
7.1.13.	Wide Camera: Resolution: Minimum 50 MP
7.1.14.	Zoom Camera: Resolution: 48MP Minimum Zoom: 8k 10x optical zoom 160x Max Hybrid zoom
7.1.15.	Thermal Camera: Minimum Resolution: 640 x 512 Minimum Zoom: 16 x Digital
7.1.16.	Laser Rangefinder: Measuring range: 5m to 1000km
7.1.17.	Night Vision Camera: Resolution: Minimum 2MP Zoom: 8x zoom
7.1.18.	- Flight duration/ time to at least more 3 hours - Engine type- hybrid collectorless electric and gasoline - Maximum take weight 22kg - Maximum flight altitude 4000meters - Flight range up to 10km - Operating temperature range from 30 degrees to 50 degrees - Video transmission range up to 20km - Pay load cameras (grabber compatibility, night vision, number plate recognition) - Be able to monitor video, photo, laser and all type of scans - Logistics- long range.
<u>No</u>	Training
7.1.19.	Provision of specific drone training

8. DELIVERY DETAILS

8.1. Delivery address: Identified Ports of Entry.

8.2. Delivery date: 30 November 2024

9. COST IMPLICATION AND AVAILABLE BUDGET

The cost for the procurement of the Equipment is estimated at:

S/N	EQUIPMENT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	Multi-Rotor UAS	4		
2	Training	8		

Note:

1. UAS training will be centralised at a delivery point that will be determined by the supplier or at a venue requested by the BMA.
2. Subsistence and travel costs are not included.

10. APPENDICES:

- 10.1. A complete list of proposed minimum equipment which will be required is attached as Appendix A.
- 10.2. A complete list of all Key PoE to which the equipment will be deployed or expected to operate is supplied as Appendix B.

URS APPROVED BY:	
DESIGNATION:	
SIGNATURE:	
DATE:	

**APPENDIX A TO
USER REQUIREMENT STATEMENT**

LIST OF PROPOSED EQUIPMENT

S/N	EQUIPMENT	QUANTITY
2	Multi-Rotor UAS	4
3	Training	8

**APPENDIX B TO
USER REQUIREMENT STATEMENT**

LIST OF PORTS WHERE ASSETS WILL BE DEPLOYED

S/NR	Port of Entry	Quantities
1.	Beitbrige	2 X Multirotor UAS
2.	Lebombo	2 X Multirotor