



**MINISTRY OF DEFENCE THROUGH THE PROJECT DIRECTOR OF ITS GREENAI
PROJECT MANAGEMENT UNIT (“PROCURING AGENCY”)**

**REQUEST FOR PROPOSAL
NASTP-GREENAI-GPSAR-UAS/04/2025**

**FOR
DESIGN & DEVELOPMENT OF AGRICULTURAL UNMANNED AIRCRAFT
SYSTEM (UAS) FOR GPSAR APPLICATIONS**

**AS A COMPONENT OF PSDP APPROVED PROJECT TITLED “DEVELOPMENT
OF ICT AND ARTIFICIAL INTELLIGENCE (AI) BASED PRECISION
AGRICULTURE SYSTEMS UTILIZING DUAL-USE AEROSPACE
TECHNOLOGIES - GREEN-AI”**

Issue Date: 23 December, 2025

1. The procuring agency invites sealed bids from Firms, companies, distributors / suppliers registered with Income Tax and Sales Tax Department for Design and Development of Agricultural Unmanned Aircraft System (UAS) for GPSAR Applications.
2. A complete set of bidding documents, containing detailed terms and conditions are available for the interested bidders at Project GreenAI NASTP, Alpha-19, Old Airport Road, Rawalpindi. Bidding documents may also be downloaded from PPRA’s website. Bids prepared in accordance with instructions in the bidding document must upload on e-Pak acquisition & disposal system (EPADS) before **12 January, 2026** at **03:00 pm**. Bids will be opened on same day **12 January, 2026** at **03:30 pm** in presence of bidders or their authorized representatives. The advertisement along with bidding document is also available on PPRA web address www.ppra.org.pk

Project Director (GreenAI)
NASTP, Alpha 19,
Old Airport Road, Rawalpindi
pd@greenai.org.pk

Date: - 23 December, 2025

DISCLAIMER

All information provided/ clarified in this Request for Proposal (RFP) is in the best interest and faith of the parties involved. This RFP is neither an agreement nor an offer/ invitation of agreement by the procuring agency to the prospective bidders or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their proposals pursuant to this RFP. The information published in this document is not intended to be exhaustive. Though adequate care has been taken in the presentation of this RFP document, the assumptions, assessments, statements, and information contained in this RFP, may not be complete, accurate, adequate, or correct. Interested bidders shall, therefore, required to make their own investigations and assumptions wherever required and satisfy themselves that the RFP document is complete in all respects. Intimation of discrepancy, if any, should be given to the specified office immediately. If no intimation is received by the office till the date mentioned in the document, it shall be deemed that the RFP document is complete in all respects and parties submitting their proposals are satisfied that the RFP document is complete in all respects.

Information provided in this document or imparted to any respondent as part of RFP process is confidential to the procuring agency and shall not be used by the bidders for any other purpose, distributed to, or shared with any other person or organization.

ABBREVIATIONS

AGL	Above Ground Level
CAD	Computer Aided Design
FCC	Federal Communications Commission
LiDAR	Light Detection and Ranging
GCS	Ground Control Station
GP-SAR	Ground Penetrating – Synthetic Aperture Radar
GSD	Ground Sampling Distance
IP	Ingress Protection
ISM	Industrial, Scientific, and Medical
ITU	International Telecommunication Union
MSL	Mean Sea Level
P-Ag	Precision Agriculture
PPRA	Public Procurement Regulatory Authority
PPR 2004	Public Procurement Rules, 2004
RTH	Return To Home
TDP	Technical Data Pack
ToF	Time of Flight
UAV	Unmanned Aerial Vehicle
UAS	Unmanned Aircraft System

INDEX

LIST OF CLAUSES AND ANNEXURES GENERAL PARTICULARS

Clause No	Title
1.	Bid Reference No –
2.	Procurement Agency
3.	Invitation of Bid
4.	Pre-bid Meeting
5.	Last Date & Time of Submission of Bid
6.	Bid Opening Date & Time
7.	Bid Opening Address
8.	General Instructions to Bidders
9.	Procurement Procedure
10.	Language of Bid
11.	Submission of Proposals
12.	Evaluation Process
13.	Bidder's Eligibility
14.	Bid Security
15.	Performance Guarantee
16.	Payment Procedure
17.	Delivery / Completion Period
18.	Litigation
19.	Force Majeure
20.	Arbitration
21.	Risk Purchase
22.	Application of Official Secret Act 1923
23.	Withdrawal of Offer
24.	Disqualifications
25.	Termination of contract
26.	Authority to Sign Documents
27.	Grievances Redressal Committee
28.	Bidding Clarifications
29.	Rights Reserved

ANNEX "A"	:	SRS-01
ANNEX "B"	:	Evaluation Criteria
ANNEX "C"	:	Financial Proposal
ANNEX "D"	:	Undertaking
ANNEX "E"	:	Affidavit
ANNEX "F"	:	Non-disclosure agreement (NDA)
ANNEX "G"	:	Certificate for Correctness

BIDDING PROCESS INSTRUCTIONS

1. **Bid Reference No.** NASTP-GREENAI-GPSAR-UAS/04/2025
2. **Procurement Agency**

Ministry of Defense through the Project Director of its Green-AI Project Management Unit.
3. **Invitation of Bid**

PMU GREENAI invites sealed bids for **DESIGN & DEVELOPMENT OF AGRICULTURAL UNMANNED AIRCRAFT SYSTEM (UAS) FOR GPSAR APPLICATIONS.**
4. **Pre-bid Meeting**

To clarify any ambiguity / lack of understanding before submission of final bids, a meeting is planned for convenience of bidders on i.e. **05 January, 2026 at 11:30 AM at NASTP Alpha-19, Old Airport Road, Rawalpindi.** Participating firms are requested to provide particulars of their reps on Ph. No. 03369196161/03300252852 at least one (01) day prior to tender opening date and the pre-bid meeting date for necessary arrangements. The bidders' representatives should attend, at their own cost, expense and arrangement (including obtaining visas and travel documents, if required), the meeting(s) to obtain clarifications and any other information required for preparation of the Bid. Moreover, the procuring agency may organize more than one (01) pre-bid meeting.
5. **Last Date & Time of Submission of Bid:** 12 January, 2026 at 1500hrs
6. **Bid Opening Date & Time:** 12 January, 2026 at 1530hrs
7. **Bid Opening Address**

Project Management Unit (PMU), Project GreenAI, NASTP, Alpha 19, Old Airport Road, Rawalpindi.

Tel: 03244411999 / 03369196161

Email: sm_scm@greenai.org.pk
8. **General Instructions to Bidders**
 - (a) The bidder shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by the procuring agency, or any other costs incurred in connection with or relating to its Proposal.
 - (b) The procuring agency reserves the right to reject any or all of the bids submitted in response to this RFP document at any stage without assigning any reasons whatsoever. The procuring agency also reserves the right to withhold or withdraw the process at any stage with intimation to all who have submitted their proposals in response to this RFP.
 - (c) Any time prior to the deadline for submission of bids, the procuring agency may change/ modify/ amend any or all of the provisions of this RFP document without assigning any reason. All addenda/ corrigenda shall form part of the RFP documents and shall be notified in writing to all prospective bidders and will be binding on them. The prospective bidders should acknowledge receipt of any such addendum/ amendment in the RFP document(s).
 - (d) The Bidder may modify or withdraw its Bid after the Bid submission but prior to deadline for submission of the Bids, provided that written notice of the modification or withdrawal is received by procuring agency.

(e) No Bid may be modified subsequent to the deadline for submission of the Bids.

(f) No Bid may be withdrawn in the interval between the deadline for submission of Bids and the expiry of the period of Bid validity specified by the Bidder on the Bid Form. Withdrawal of a Bid during this interval may result in forfeiture/encashment of the Bid Security.

9. **Procurement Procedure:** The procuring agency is adopting a 'single stage-two envelope' bid procedure as specified in rule 36(b) of PPR 2004.

10. **Language of Bid:** The Bid prepared by the bidder and all correspondence and documents relating to the Bid exchanged between the Bidder and procuring agency and/ or any representative of procuring agency, shall be written in English language. Any supporting printed literature furnished by the Bidder written in another language should be accompanied by an English translation of its pertinent pages in which case, for purposes of interpretation of the Bid, the English translation shall govern.

11. **Submission of Proposals**

(i) Proposals are to be submitted as hard copy via post or by-hand sealed as under. The same is to be uploaded on EPADS

(ii) The Bid shall comprise a single package containing two (02) separate envelopes. Each envelope shall contain separately the technical proposal and the financial proposal.

(iii) **Technical Proposal:** Technical proposal is to be submitted in **duplicate** in a separate sealed envelope and clearly marked "**Technical Proposal without prices**", The same is to be uploaded on EPADS; Tender number and date of opening. The Technical Proposal Envelope shall contain: -

- Technical Proposal as per System Requirement Specifications **Annexure 'A'**

- Bidding Forms & **Annexure 'D'** to **Annexure 'F'** (Duly filled & signed by authorized signatory)

- Bid Security in a separate sealed envelope clearly marked **Bid Security**, Tender Number.

- Soft copy of Technical Proposal in the form of USB in a separate sealed envelope clearly marked "**Soft Copy of Technical Proposal**", Tender Number.

(iv) **Financial Proposal:** It shall contain Financial Proposal Form **Annexure 'C'** filled and dully signed in a separate sealed envelope clearly marked on the face "**Financial Proposal with prices**", tender number.

(v) Both the "**Envelopes**" of Technical and Financial proposals should be enclosed in one cover, properly sealed, and bear the address of procuring agency with tender number and opening date.

(vi) Both **Technical Proposal and Financial Proposal must be submitted on EPADS.**

(a) Failure to provide any of the required information specified in the RFP document with the 'Technical Proposal' (Envelope 1), and in the prescribed format (where applicable), may lead to disqualification of the Bid and the affected Bidder's 'Financial Proposal' (Envelope 2) will be returned unopened.

(b) The procuring agency reserves the right to verify the letters, documents or information provided by any bidder from issuing parties and may (together with its advisers) visit and hold meetings with them which shall be facilitated by the bidder. Furthermore, failure to provide the Financial Proposal in the form required under this RFP document may also result in disqualification of the Bid.

12. Evaluation Process

(a) The procuring agency intends to exercise the most advantageous bid in conformance with PPR 2004.

(b) The Bid shall comprise a single package containing two (02) separate envelopes. Each envelope shall contain separately the technical proposal and the financial proposal.

(c) The envelopes shall be marked clearly as "TECHNICAL PROPOSAL" and "FINANCIAL PROPOSAL" in bold and legible letters to avoid confusion.

(d) Initially, only the envelope marked "TECHNICAL PROPOSAL" shall be opened.

(e) The envelope marked as "FINANCIAL PROPOSAL" shall be retained in the custody of the procuring agency without being opened.

(f) Procuring agency shall evaluate the technical proposal in the manner prescribed herein, without reference to the price and reject any proposal which does not conform to the specified requirements.

(g) During the technical evaluation no amendments in the technical proposal shall be permitted.

(h) Technical Qualification evaluation shall be based on the criteria given in **Annexure 'B' Evaluation Criteria**, regarding Bidder's Technical Experience, Product Capabilities, Design Process and Solution Presentation, etc. as demonstrated in the qualification documents submitted by the Bidder.

(i) The Bidders securing **at least seventy percent (70%)** overall marks and minimum passing marks in each category (i.e., Technical Capability, Product Capabilities, Design Process, Airborne Ready Solutions, Solution Presentation and Flight Demonstration), in addition to the fulfilment of mandatory requirements, shall be considered qualified, and assigned a technical score **S_t**.

(j) Financial bids of only the technically qualified bidders shall be opened and assigned a financial score **S_f** evaluated by procurement committee as per the formula described in **Annexure "B"**.

(k) Work will be awarded to the bidder offering most advantageous bid evaluated as the highest ranked bid based on cost and quality as described in **Annexure "B"**.

(l) Prior to the expiration of the period of bid validity, procuring agency will notify the successful bidder in writing of its intent to award the contract. The contract will be executed subject to satisfactory discussion of the terms and conditions of the contract. The discussion shall be in accordance with PPR 2004 provisions of Pakistan. The form of contract is attached as **Annexure 'G'**.

(m) Upon the successful bidder's furnishing of performance guarantee pursuant to this RFP, procuring agency will promptly notify each unsuccessful

Bidder and will discharge their respective bid security(s). The technical and financial proposals of both successful and unsuccessful bidders will be retained by the procuring agency.

(n) The bid sum as submitted and read out during financial bid opening shall be absolute and final and shall not be the subject of correction, adjustment or amendment in any way by any person or entity except that if the Bid is substantially responsive, the procuring agency shall handle only the undermentioned errors on the following basis:

(i) Bidders shall be notified of any correctable error detected in their bid during the notification of award.

(ii) Any arithmetic errors in the submitted bid arising from a miscalculation of unit price, quantity, subtotal and total bid price shall be rectified on the following basis:

- If there is a discrepancy between words and figures, the lowest amount, either in words or figures, shall be considered.
- If there is discrepancy between the unit price and the total price which is obtained by multiplying the unit price and quantity, or between sub-total and the total price, the unit or sub-total price shall prevail, and the total price shall be corrected.
- In case of discrepancy between sub-total price obtained by adding various prices in the schedule and the sub-total price indicated for that particular schedule, the sub-total obtained by addition of various arithmetically corrected prices would be considered for evaluation.
- In case of any discrepancy in the applicable rates or calculation of applicable taxes discussed, agreed and added to the contract amount in separate lines, as needed, corrections in item and subtotal prices may be allowed as per applicable Govt. rates / rules.
- The procuring agency shall be entitled to award the contract to the most advantageous bidder after applying permissible arithmetic / tax corrections in the bid proposal sheets. If the bidder does not accept the correction of the errors as above, his bid will be rejected.

13. **Bidder's Eligibility:** The Firms, companies, distributors / suppliers registered with Income Tax and Sales Tax Department for Design and Development of Agricultural Unmanned Aircraft System (UAS) and Drones for GPSAR Applications.

14. **Bid Security**

(a) Bid security will be equal to **Rupees 200,000/-** and will be in the shape of pay order / demand draft in favor of Project Director Green-AI, Alpha-19, Old Airport Road, NASTP Rawalpindi. Bid security shall be attached with the technical proposal otherwise proposal will not be accepted.

(b) Bids without required Bid security will be rejected without any right of appeal.

(c) The bid security shall be forfeited in case of occurrence of any one of the following:

(i) If a bidder withdraws its bid during the period of bid validity

specified in this RFP document; or

(ii) In the case of successful bidder, if it fails:

- To furnish performance guarantee in accordance with the RFP document; and
- To sign the contract.

(d) Bid security of unsuccessful bidders will be returned upon the award of contract to successful bidder, and after furnishing of the performance guarantee.

15. **Performance Guarantee**

(a) Performance Guarantee (PG) equal to **10%** of total contract amount will be submitted before signing of contract. PG will be kept against SLA/support and will only be released after completion of warranty/technical support period (1 year) as per the contract.

(b) The Performance Guarantee shall be as Bank Guarantee Form (attached with draft contract) or CDR from any Scheduled Bank in Pakistan in favor of Project Director Green-AI, Alpha-19, Old Airport Road, NASTP Rawalpindi.

(c) In case of cancellation of contract due to default of the supplier, the performance guarantee shall be forfeited in favor of procuring agency.

(d) The bidder should quote its rates clearly in Pak Rupees in the Financial Proposal in both figures and words as per format attached at **Annex 'C'**.

(e) The rates for each UAV platform offered shall be quoted on separate lines.

(f) The Bid shall remain valid for **ninety (90) calendar days** from technical bid opening date and further it may be requested to be extended by procuring agency.

(g) A bid valid for a shorter period shall be rejected by procuring agency as non-responsive.

(h) Price and all other terms and conditions shall be fixed and firm throughout Bid validity period.

(i) No currency exchange rate will be applicable and bids with a condition of currency exchange rate applicability will be rejected without any right of appeal.

(j) Bid(s) shall be inclusive of all applicable taxes, duties, charges, levies, etc.

16. **Payment Procedure**

(a) Milestone based payment disbursement procedure will be adopted on per-platform basis.

(b) Acceptance criteria against milestones will be finalized as per platform specifications and made part of the contract document. All payments will be subject to acceptance of milestones against the acceptance criteria which is made part of the final contract.

(c) Bidder is to present a Sales Tax invoice (where applicable) / numbered bill upon completion of each milestone for disbursement of the amount agreed upon for the completed milestone as per the final contract.

(d) All taxes applicable on the amount of bill will be deducted at source.

(e) Crossed cheques of applicable amount (in the favor of the respective bidder) will be issued from Project Director (**GreenAI**).

(f) Milestones and deliverables are as follows and apply to each platform being offered individually.

(g) Bank charges incidental to the withdrawal of payment shall be borne by the Supplier.

Table 1. Schedule of Payment*

MS. No	Conditions	Payment to be made
1.	<ul style="list-style-type: none"> Delivery & Acceptance of production Ready UAV Design Documents, Production documents & drawings. against submission of CDR of Equal amount To be submitted within 20 days of award of contract	20%
2.	<ul style="list-style-type: none"> Delivery of 02 Production-ready UAS and complete equipment / accessories as mentioned in BoM [Table-07 (a & b)] Payload integration Storage Box (including extra set of propellers) Flight Testing and Verification by Authority (minimum 15 sorties of UAS) Acceptance criteria as per Table 1,2 & 4 of SRS-01 (Delivery within 45 working days of award of contract) Bank Guarantee/CDR against UAV design documents shall be returned with a total payment of 80% against contracted value.	60%
3.	Delivery of: <ul style="list-style-type: none"> Complete opensource software package (Mission planner, Q Ground Control etc.) Project completion report Training of technical staff 	20%

* **Note:** Partial payments against each milestone may be processed by the successful bidder depending upon the requirements and after approval of the procuring agency.

17. Delivery/Completion Period

(a) All components of the tender shall be delivered within two (02) months' time after effective date of signing of Letter(s) of Acceptance (LoAs).

(b) Delivery period may be extended in case of events beyond the reasonable control of Bidder. Bidder shall inform in writing to procuring agency of any such event and may request for extension in delivery period.

18. **Litigation:** In case of any dispute only Court of Jurisdiction at Islamabad Pakistan will have the Jurisdiction to decide the matter.

19. **Force Majeure**

(a) "Force Majeure" means an exceptional event or circumstance, which is beyond a Party's control; which such Party could not reasonably have provided against before entering into the Contract; which, having arisen, such Party could not reasonably have avoided or overcome; and, which is not substantially attributable to the other Party.

(b) The developing agency / firm / vendor shall, within fifteen (15) days of its commencement, notify the Procuring Agency of any such event, act or circumstance which is relied upon by the Supplier for its inability to comply with its obligation. The Purchaser shall have the right to conduct investigations to satisfy itself about the genuineness of the "Force Majeure" event, act or circumstance. Non-availability of raw material for the manufacture of the Goods or export permit for the export of the Goods from the country of its origin shall not constitute "Force Majeure."

(c) If by reason of "Force Majeure" the Goods are not delivered by the due date, then the Delivery Period may be extended appropriately for the purpose, provided the said Goods shall be ready to be delivered within one (1) month of the stipulated delivery date. If the said Goods are not ready to be delivered after the lapse of one (1) month as aforementioned, then the Purchaser shall have the right to cancel the Contract by informing the Supplier of the cancellation in writing. This, however, will not apply to consignments of Goods already accepted and delivered according to the terms of the Contract. The Supplier shall not be entitled to any compensation whatsoever as a result of this cancellation.

20. **Arbitration:** All matters of dispute or difference, except regarding rejection of stores / Services by the inspector and or cancellation of the contract by the Purchaser arising out of this contract between the parties hereto, shall be settled by mutual agreement, failing which they shall refer for Arbitration to Project Director Green AI who will be the sole arbitrator of the disputed matter and two representatives, one to be nominated by each party, will assist PD Green AI for decision. The award/decision of PD Green AI (The Sole Arbitrator) will be final and binding on all parties such as Supplier, Purchaser and related party (if any).

21. **Risk Purchase:** In the event of failure on the part of the developing agency to comply with the contractual obligations, the contract is liable to be cancelled at his risk and expense of Successful bidder.

22. **Application of Official Secret Act 1923:** All matters connected with this inquiry and subsequent actions arising there after fall within the scope of the Pakistan Official Secret Act 1923 which forbids providing contractual information to unauthorized/ un-concerned person/ organization. It is therefore, requested to ensure complete secrecy regarding documents and stores concerned with the inquiry to limit the number of employees having accesses to this information.

23. **Withdrawal of Offer:** If the bidder withdraws its bid or backs out from providing items won by the bidder within validity period at any stage of contract finalization, procuring agency may place such bidder under embargo for a period of twelve months, which may extend up to eighteen months and forfeiture of Bid Security or Performance Guarantee, as applicable.

24. **Disqualifications:** Proposals will be liable to be rejected if any deviation is found from the instructions as laid down in the bid document i.e.

(i) Technical bid is submitted without the required bid security.

- (ii) Proposals are found conditional or incomplete in any respect.
- (iii) Multiple rates are quoted against one item.
- (iv) Bids are received after specified date and time.
- (v) Mandatory requirements of Evaluation Criteria are not fulfilled.
- (vi) Mandatory Technical Requirements of UAS are not properly adhered to.
- (vii) Bidder is not the principal manufacturer of proposed & baseline platforms.
- (viii) Any inferior product/specifications than the specifications provided in SRS-01 document.

25. **Termination of Contract:** If at any time during the pendency of the Contract, the Purchaser decides to terminate the Contract for any reason whatsoever (other than for reason of failure to Deliver the Goods), it shall have the right to do so by giving the Supplier a notice to that effect. In that event, the Purchaser will accept delivery, at the itemized price and terms, of such of the Goods then in the actual possession of the Purchaser.

- (a) In the case of remainder of the undelivered Goods, the Purchaser may select either:
 - (i) To have any part thereof completed and take the delivery thereof at the itemized prices, or
 - (ii) To cancel the residue and pay to the Supplier for the Goods or components thereof in the actual possession of Supplier at the prices to be determined by the Purchaser in which case Goods in the possession of Supplier shall be delivered by the Supplier.
- (b) No payment shall, however, be made for any Goods not yet in the actual possession of Supplier on the date notice of termination is received

26. **Authority to Sign Documents:** Proposal must be accompanied by Letter of Authorization to sign the Tender on behalf of the Bidder. Bidder must prove that the person who signs this Tender is fully authorized to bind his establishment / company.

27. **Grievances Redressal Committee**

- (a) After submission of bid and prior to award of the contract, any bidder feeling aggrieved by any act of procuring agency may lodge a written complaint concerning his grievances to GRC constituted under Rule 48 of PPRA within 07 days of announcement of the technical evaluation report and 05 days after issuance of final evaluation report.
- (b) GRC will immediately initiate the investigative action and decide the complaint within ten days of its receipt. The decision of GRC shall be intimated to the complainant / aggrieved bidder. The decision of the GRC shall be binding upon all the parties.

28. **Bidding Clarifications**

- (a) In case any clarification is required regarding RFP, bidder may contact on following address till one week prior to the deadline for submission of tenders.

Technical Clarification: 0336-9196161 / 0330-0252852

Bidding Procedure: 0324-4411999

- (b) A prospective bidder requiring any clarification of the RFP documents which is essential to enable the prospective bidder to submit its Bid, may notify

the procuring agency in writing through on email address of the Project Director GreenAI mentioned below.

(c) The procuring agency may reach out to the prospective bidders for additional information or clarification during the submission, evaluation, and discussion periods.

29. **Rights Reserved:** Procuring Agency reserves the right to accept or reject any proposal and to annul the procurement process and reject all proposals at any time prior to contract award as per rule 33 of PPR 2004 without there by incurring any liability to the affected Bidder.

A handwritten signature in black ink, appearing to read 'Amir Khan DC', written over a horizontal line.

Project Director (GreenAI)
NASTP, Alpha 19,
Old Airport Road, Rawalpindi
pd@greenai.org.pk

Date: - 23 December, 2025

SRS-01

**SYSTEM REQUIREMENT SPECIFICATION
FOR
DESIGN AND DEVELOPMENT OF AGRICULTURAL UNMANNED
AIRCRAFT SYSTEM FOR GPSAR APPLICATIONS
AS A COMPONENT OF PSDP APPROVED PROJECT TITLED “DEVELOPMENT
OF ICT AND ARTIFICIAL INTELLIGENCE (AI) BASED PRECISION
AGRICULTURE SYSTEMS UTILIZING DUAL-USE AEROSPACE
TECHNOLOGIES - GREEN-AI”**

1. Project Description

The requirements described in this RFP are tailored to UAV for conducting GPSAR (To be provided by procuring agency with dimensions and weight given below) operations on various field sizes. Developers may submit proposals for the development of UAS for use in agriculture, which meets the specifications described in this RFP. The selected developer will be offered a contract for early adoption and large-scale purchase upon provision of UAS that meets the requirements.

2. Scope of Project

The project aims to indigenize or modify already developed UAS for GPSAR based remote sensing operations in agricultural fields. The Bidder shall provide fully assembled and operational UAS with professional grade capabilities. The delivery will consist of UAS, Technical Support Package(s). Maintenance & specific operational Training of technical staff is required.

3. Technical Requirements of UAS: Technical requirements of UAS are described in the subsequent sections.

(a) **Mandatory Requirements:** This section enlists the mandatory requirements that must be fulfilled by the bidder in their design and development of UAS. All proposed platforms must comply with the requirements in Table 1, Table 2 & Table 3. Adequate description & supporting materials shall be provided on how the Bidder's design fulfil these requirements. Proposals failing to meet any mandatory requirement or furnishing inadequate details as required may be disqualified at the discretion of the procuring agency.

**Table 1. Mandatory Technical Requirements of UAV
(Sensor Payload \geq 5 kg)**

S No	Attribute / Parameter	Required Specifications
		Multi Rotor UAV
1.	Mission Profile/	Low Altitude Remote Sensing - GPSAR as payload
2.	Operational Area (Effective)	Small to Medium Farms - Size \leq 25 acres
3.	Payloads Integration	Cameras and sensors: - Optical (FPV) - Ground Penetrating Synthetic Aperture Radar (GPSAR) to be provided by the procuring agency
4.	*Endurance	Minimum: 20 Minutes at full operational conditions (Preference will be given to the bidder(s) offering 20+ minutes in evaluation scoring) (With 5 Kg Payload)
5.	*Payload Capacity	Minimum 5 Kg
6.	Operating Speed	Cruise Speed: 0.5 ~ 1 m/s at 0.5 m AGL Max Speed \geq 15 m/s
7.	Wind Tolerance	Sustained Wind 12 m/s Gust 16 m/s
8.	Flight Altitude	Minimum 0.5m AGL
9.	RTK Enabled Platform	Minimum 10 cm of Accuracy
10.	Data Link Range	Minimum 4 Km
11.	Data Rate	12 ~ 18 Mbps
12.	Operating Environment	-5 °C to 55 °C
13.	Landing Gears	Retractable Landing Gears

*Given are the minimum requirements. Preference will be given to higher specifications.

A comprehensive specification of GPSAR Module is provided below:

Table 2. General Specification of GPSAR

External Power	Not Required by GPSAR
Environmental Protection	IP (Ingress Protection) 44 or better
Interfaces	1 configurable GPIO: select from trigger input, PPS input, PPS output, and top of frame signals. Host virtual button. USB 2.0 port for Wi-Fi. Serial. 10/100/1000 Ethernet.
GPS logging	Enable
Dimensions	330x250x500mm (LxWxH)
Payload Interfacing	OEM to support End-User for Payload Mounting
Ground Clearance	0.5 m from ground
Payload Weight	5 Kg
Triggering mechanism	GPS / Distance based
<p>The UAS platform and all onboard subsystems including GNSS module / RTK and communication modules including IMUs shall not generate Electro-Magnetic Interference within the 100-800 MHz frequency Band reserved for GPSAR operation.</p>	

Table 3. Mandatory Operational Requirements for UAS

S No	Attribute	Required Specifications
1.	Autonomous Navigation	GPS based waypoint navigation by selecting area of operation on the Ground Station software. Autonomous Navigation system shall be capable of operating both in plain & hilly areas & support high resolution DTED for Navigation.
2.	Collision Avoidance	Vision or TOF based obstacle detection & avoidance system shall be integrated into the UAV. The system should be capable of detecting and avoiding both stationary objects and objects moving towards the UAV.
3.	Flight Safety Features	The UAV shall be equipped with multiple failsafe options for emergency handling & return to home features on failsafe activation (like loss of communication, low battery etc.).
4.	Payload Integration	Platform shall support GPSAR as a fixed payload. A set of additional payloads (including sensors, encryption devices (GEM-A), comm modules etc.)

S No	Attribute	Required Specifications
		may be provided by the Procuring Agency during UAS development process by the successful bidder. Integration of all such payloads with the UAV shall be mutually discussed and ensured by the successful bidder as part of this work order.
5.	Design Modularity	UAVs shall adopt a modular design approach with detachable and/or foldable airframes for improved handling & portability and economic repairs.
6.	Geofence Options	Aircraft shall not operate in the un-authorized areas marked by fence.
7.	Data Link	Communication data link shall be compliant with FCC or equivalent certification standard & operate in ISM band as per ITU specifications. Multiple datalinks shall be able to operate in close vicinity without interference related link degradation.
8.	Navigation Lights	The UAV shall feature strobe lights to aid in visibility and navigation of the UAV in low light conditions.
9.	Remote Identification Module	The system shall broadcast live Remote Identification data including position, attitude, altitude, battery health / diagnostic information, and mission profile parameters of UAV through its GCS for integration with UAS Airspace Management. Detailed data format, encoding and communication protocol shall be finalized in coordination with the successful bidder.
10.	Transportation	The UAS (including UAVs & GCS) must be safely transportable to the field in Hard-sided, hand towed travel case.
11.	Ground Control Station & Mission Planning	The UAV platform must be compatible with open-source Mission Planning software (Mission Planner and QGC) and all GCS functionality to operate the UAS via laptop.

(b) **Additional Requirements:** This section enlists the requirements that are preferred to be fulfilled by the bidder in their design and development of UAS. Proposals meeting these requirements may get preference as per the provisions of evaluation criteria.

Table 4. Preferred Features / Capabilities for UAS

S No	Attribute / Parameter	Preferred Specifications
1.	Environmental Protection	Ingress Protection Rating for UAS systems as IP64 and for propulsion IP44 or better.
2.	Lost Vehicle Tracking System	GPS/GSM/Radio based tracking system in case of crash or lost vehicle.

3.	Data Link	Integrated Data Link with 5-10Km Range
4.	Handheld Controller / GCS	The bidder may offer a handheld controller for managing flight operations in the field.
5.	Propulsion System	UAS solution with Electric battery power train will be preferred.

(c) **Autopilot / Flight Control Software**

(i) The complete autopilot software should be based on open-source architecture. Any black-box solution or licensed product of another OEM distributed or redistributed by the Bidder will be rejected.

(ii) The source code of all flight control and mission planning software components should be made available along with documentation.

(iii) The source code should be modifiable/upgradable and expandable in capability by the Bidder or 3rd party for future developments and requirements of procuring agency.

(d) **Originality of Product**

(i) The UAV proposed under this RFP must be an original design/product of the bidder, with all major sub-systems designed in-house and production ready design documents delivered to the purchaser.

(ii) The UAV proposed under this RFP must not be a commercial (COTS) product developed by another National/International Company, or re-branded product of another OEM or Partner.

(iii) The Bidder cannot outsource sub-let design or development of the UAV as a whole to another entity under the contract awarded through this RFP.

(e) **Payload Integration:** The developer must ensure that the sensor provided is conforming to the specified requirements and shall ensure the integration of provided sensor with UAS after due coordination with pertinent teams of GreenAI project.

(f) **Data Encryption:** The design should incorporate strong encryption and authentication mechanisms (at least FIPS Level 3) for datalink security between UAV and GCS. Additionally, the design of UAV is to support carrying and interfacing custom built data encryption module to be provided by the procuring agency. The encryption protocols and relevant technical specifications of baseline module for secure data communication between GCS and UAV is given below:

Table 5. Technical Specification of GreenAI Ecosystem Module - Airborne (GEM-A)

S No	Specification	Requirement
1.	Casing	Single Rugged Box
2.	Data Security	Encrypted during Storage
3.	Physical Interface Connector	RJ-45
4.	Key Loading Interface	*M55116/10
5.	Input Interface	**Ethernet
6.	Output Interface	Ethernet
7.	Power Connector	***MS3112E8-4P
8.	Data Rate Capability	Up to 20Mbps
9.	Size (LxWxH)	140mm x 100mm x 55mm
10.	Weight	500 ~ 600 gram
11.	Input power Supply	5VDC, 2 Amp

* Key loading interface must be provided on the external body through ruggedized loom so that for loading of keys pay load area in which Data Link Encryptor (DLE) is installed must not be accesses.

** All sensor data must be combined and provided to DLE on Ethernet interface.

*** MS3116F8-4S is the mating connector of MS3112E8-4P for manufacturing of power loom.

Table 6. General Specification of Radio Controller & Spares

S. No	Attributes	Specifications
1.	RC- Controller	<ul style="list-style-type: none"> Technology: 2x2 MIMO or better Frequency: 2402 – 2482 MHz Power: min 20 dBm or better Data Rate: Minimum 12 Mbps
2.	Battery Packs	<ul style="list-style-type: none"> Two spare battery packs of same specs compatible with UAS
3.	Propellers	<ul style="list-style-type: none"> One complete set of spare propellers of the same vendor and quality

(g) **Project Tracking Mechanism:** The bidder shall possess adequate project management system and information regarding work in pipeline,

milestones achieved, work in progress and future tasks must be updated at online project tracking tool (Trello, Redmine etc.).

4. **List of Goods or Bill of Quantities**

Table 7(a). Bill of Quantities for UAS Platform

S No	Description	Quantity
1.	Production Ready Multirotor UAV Package <ul style="list-style-type: none"> - Multirotor UAV - Datalink - Transport Case - Production ready design documents, drawings & manuals (training, operational, maintenance) (04 copies each) - Software Package (all essential software package for the aerial platform as per the requirements and for the GCS) Final list of UAS package will be made part of the contract as per the bidders offer.	02
2.	01 Year Technical Support Services <ul style="list-style-type: none"> - Operational & Maintenance support - Spares support - Personnel Capability Building - All other aspects mentioned in warranty clause in contract: Annexure 'G' 	01

Table 7(b). Bill of Quantities for GCS and Spares

S. No	Description	Quantities
Multirotor UAV		
1	RC Controller	02
2	Spare Battery Pack	02
3	Set of Spare Propellers	02

Note: The Procuring Agency reserves the right to drop the order of any given accessory (Sensors, GCS, Support Equipment, Spares, etc.) without defining any reason. Additionally, the procuring agency may vary the quantities specified for the UAS equipment within a range of 15% in accordance with PPRA Rules 2004.

PREPARATION OF PROPOSAL

1. Format of the Technical Offer is as follows:
 - (a) All Forms and applicable Annexures completed & signed with no information missing.
 - (b) Company Profile - Provide a thorough description of the Bidder's business, expertise, developed products/services, mission and how this proposal is compatible with the Bidder's overall business objectives.
 - (c) Design Plans
 - (i) A full description of the proposed UAV platforms against requirements outlined in SRS-01 along with appropriate justification for selection of specific platform configurations.
 - (ii) Include specifications and data for meeting all the technical requirements in SRS-01, along with any other relevant information.
 - (iii) Visual content in the form of model images of the projected aircraft showing dimensions, interior/exterior design etc. These may include but are not limited to photographs, videos, and computer-generated CAD models.
2. A description of the Bidder's design process as well as a basic description of intended pathways to deployment, maintenance, and operator training.
3. **Supporting Material**
 - (a) Supporting material may include CAD models, Product videos and/or Flight logs as per requirements of the Evaluation Criteria.
 - (b) All soft copies (that cannot be printed) shall be submitted on a USB drive as part of the technical proposal.
 - (c) A list of all media/soft items submitted on the USB drive shall be attached in print form with the Technical Proposal.
4. **Timeline**
 - (a) Estimated time required to complete each stage of the project.
 - (b) Stages may include design, prototyping, manufacturing, and any other milestones.
 - (c) Estimated total time to complete the project from the design to the presentation of a viable product for purchase.
5. **Human & Technical Resources**
 - (a) A description of the relevant experience of key team members in Form A-2.
 - (b) A description of the relevant technical resources in Form 3 of pre-qualification RFP.
 - (c) The purpose of this section is to show that the Bidder has enough expertise to complete the project.
6. **Additional information:** Bidders may include any additional information or documentation they deem necessary.
7. The Technical Proposal Envelope shall contain the following:

- (a) **Form A-12 Letter of Proposal** dully filled and signed by authorized signatory
- (b) **Form A-1** Bidder's General Data Information Form
- (c) **Form A-2** Professional Profiles for Key Resources
- (d) **Form A-3** Technical Resource Record
- (e) **Annexure D to Annexure G** dully filled & signed by authorized signatory.
- (f) Bid Security in the form described in Bidding Process Instructions.
- (g) Letter of Authorization to sign the contract on behalf of the Bidder.
- (h) All Digital media on a USB drive with list of contents attached in hard copy.

8. The Bidder will submit its Financial Proposal in the form as provided in **Annexure – C**. The Financial Proposal Envelope shall consist of one (1) original copy and two (2) hard copies. The original and two (2) hard copies of the Financial Proposal are required to have the signature of a duly authorized person of the Bidder with the Bidder's seal/ stamp.

9. Any Bid received by the procuring agency after the Deadline for Submission of Bids shall be rejected and returned unopened to the Bidder. Delays in the mail/courier, delays of person in transit, or delivery of a Bid to the wrong office shall not be accepted as an excuse for failure to deliver a Bid at the proper place and time. It shall be the Bidder's responsibility to determine the way timely delivery of its Bid will be accomplished either in person, by messenger or by mail/ courier.

(LETTER OF PROPOSAL)

[On Letterhead paper of the Bidder including full postal address, telephone no., fax no., e-mail address etc.]

Dated _____

Project Director, GreenAI
NASTP Alpha 19.
Old Airport Road, Rawalpindi
Email: pd@greenai.org.pk

Dear Sir,

1. Reference is made to the tender Enquiry No. _____.
2. Attached to this letter are documents listed below defining:
 - (a) The principal place of business.
 - (b) Duly filled-in all Proposal Forms along with required supporting documents and all other documents required to be submitted along with proposal.
3. We agree to abide by this Bid for a period of 90 days after the date fixed for technical proposal opening, or as extended, as per instructions given in RFP and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
4. We have submitted the Bid Security for an amount provided for in the RFP which is part of our Bid, issued in accordance with the provisions of the RFP, along with our technical proposal.
5. If our Bid is accepted, we will submit the Performance Guarantee for the required sum on the form as provided for in the RFP issued in accordance with the provisions of the RFP.
6. The procuring agency reserves the right to annul the procurement process. Further, procuring agency may reject all bids or proposal at any time prior to award of contract without incurring any liability to the affected bidders or any obligation to inform the affected bidders of the justification for procuring agency' action.
7. The procuring agency and its authorized representatives may contact the following persons for further information, if needed: -

Contact 1	Tel:
Contact 2	Tel:

8. This Proposal is made with the full understanding that:
- (a) Bids will be subject to verification of all information submitted for Request for Proposal at the time of bidding.
 - (b) The procuring agency reserves the right to amend the scope and value of any Contract under this project.
9. The undersigned declare that the statements made, and the information provided in the duly completed Proposal are complete, true, and correct in every detail.

Stamp & Signatures

(In capacity of)

Duly authorized to sign bid for and on behalf of

WITNESS:

Signature

Address _____

BIDDER INFORMATION

Company Name	
Company Owner	
Company Registration	
Company Registration Date	
Company Address	
Workshop Address (if applicable)	
Phone Number	
Email Address	
Company Website (URL)	

Focal Person Details:

Full Name	
Position/Title	
City	
Phone Number	
Email Address	
Other Contact Info	

(Name)
(Designation)

PROFESSIONAL PROFILES FOR KEY RESOURCES

a) Resource Person Information

Name of Firm	
Name of Resource Person	
Proposed Position	
Highest Qualification	
Years of Experience	
Area(s) of Expertise	
PEC no: (applicable to engineers)	

2. Education:

[Summarize college/university and other specialized education of staff member, giving names of institutions, dates attended, and degrees obtained.]

Name of Institution	Degree Title	Year of passing

3. Key Skills:

[Give an outline of staff member's technical, soft, and hard skills that are pertinent to tasks assigned on this project. Use up to one page].

4. Professional Experience:

[Summarize professional experience in reverse chronological order]

Organization	Year	Position	Project / Assignment	Description of tasks performed by resource person

5. Certifications / Workshops and Short courses

[Enlist the certifications obtained, workshops and short courses attended that are pertinent to tasks assigned on this project]

6. Details of Tasks Assigned on this Project

7. Certificate

I, the undersigned, certify that to the best of my knowledge and belief, these biodatas correctly describe myself, my qualifications, and my experience.

Signature of Staff Member

Authorized official of firm

***Note:** Provide the details of all currently hired work force involve in this project including engineers, technicians as well.

Form 'A-3'

TECHNICAL RESOURCES RECORD

Name of Bidder: _____

S. No.	Equipment / Resource	Role / Use	Owned / Outsourced

(Name)

(Designation)

EVALUATION CRITERIA

The evaluation committee appointed by the Project Director GreenAI project shall carry out its evaluation, applying the evaluation criteria and point system specified hereunder:

1. Mandatory Requirements

All mandatory requirements / documents have already been received and accepted by the procuring agency during pre-qualification phase. However, the bidder is to fill all the forms and meet other proposal preparation requirements as given in **Annexure 'A'**. Procuring Agency reserves the right to disqualify a bidder in case if desired documents / forms or data is found incomplete / missing.

2. Detailed Requirements

(a) Only the pre-qualified firms will be considered for detailed evaluation of technical bids. The detailed evaluation shall be carried out based on the criteria for the different categories and minimum passing marks prescribed hereunder:

S No	Category	Maximum Marks	Passing Marks
1.	Technical Experience	25	70%
2.	Product Capability	35	
3.	Design Process	10	
4.	Indigenization Plan	10	
5.	Solution Presentation	20	
Total		100	

***Minimum passing criteria in each category is 70%.**

(b) Technical bid of firms scoring less than seventy percent (70%) overall marks or failing to obtain minimum passing marks against any of the above-mentioned category shall be rejected and their financial bids will be returned unopened. Each responsive technical bid shall be attributed a technical score (**S_t**).

(c) The evaluation committee shall determine whether the financial bids are complete and without computational errors. The lowest financial bid (F_m) shall be given a financial score (**S_f**) of 100 points. The financial scores of the bids shall be computed as follows:

$$S_f = 100 * \frac{F_m}{F} \quad (F = \text{amount of specific financial bid})$$

(d) Bids, in the quality cum cost-based selection (QCBS) shall finally be ranked according to their combined technical (S_t) and financial (S_f) scores using the weights (T= **60%** is the weight given to the technical bid, **P=40%** is the weight given to the financial bid, T+P=100):

$$S = S_t * T\% + S_f * P\%$$

(e) Work will be awarded to the firm offering most advantageous bid evaluated as the highest ranked bid based on cost and quality.

FINANCIAL PROPOSAL FORM

1. TENDER INQUIRY No: **NASTP-GREENAI-GPSAR-UAS/04/2025**
2. Time and Date of opening: **12 January, 2026 at 1530hrs**

i. PRODUCTION READY UAV

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
S No	Proposed Platform	Item / Component	Description / Specifications	Cost in Fig	Sales Tax in Fig	Total Price in Fig	Total Price in Words
1	2x Production Ready Multirotor UAVs Package	Multirotor UAV (Complete Functional Platform)					
		RC Controller (GCS)					
		Spare Battery Pack (GCS)					
		Transport Case					
		Data Link equipment					
		Open-source Software Package					
		Accessories [Separately mention each with description and cost]					
		Spares [Separately mention each with description and cost]					
		Others. [Mention separately any other modules, components, subsystems, items etc.]					

ii. TRAININGS / TRIALS / SERVICES FOR PRODUCTION READY PLATFORMS

S No	Proposed Platform (Multirotor)	Services Category	Description	Frequency / Duration / No of Trainees etc.	Charges / Cost in Fig	Applicable Tax in Fig	Total Cost in Fig	Total Cost in words
1		Specific Trainings (All modules)						
2		Technical Support Services [Mention details separately]						
3		Operational Support Services [Mention details separately]						
4		Others [Mention separately any other services / support etc.]						

***Note:** All sub-modules and services are to be quoted separately. Taxes on Services like Flight trials, trainings etc. are to be quoted as per GoP rules. Financial quotes for Modules to separately include at least following sub-categories: Baseline UAV, Production Ready UAV, Sensors (separate for Baseline and Production Ready), Datalink, GCS, and Accessories (carrying case, spares, etc.). Quote for trainings, trials, etc. to be quoted separately.

Grand Total _____ **Rs.**
In Words _____

(Name)

(Designation)

UNDERTAKING
(Fill in and Return)

To

Project Director (Green AI)
Project Management Unit
NASTP A-19, Rawalpindi

Dear Sir,

I/We hereby submit our bid to supply “DESIGN & DEVELOPMENT OF AGRICULTURAL UNMANNED AIRCRAFT SYSTEM (UAS) AND DRONES FOR GPSAR APPLICATIONS” detailed in the SRS as you may specify in the contract at the prices given in Annex “C” and further agree that this bid will remain valid up to 90 days from the date of bid opening and will not be withdrawn or altered in terms of rates quoted and the condition stated therein on or before this date.

I/We understood the instructions to Tenders and condition of contract as laid down in tender document and thoroughly examine specification / drawing and / or patterns quoted in the Schedule to Tender and am/are fully aware to the nature of the goods required and my/our offer is to supply goods strictly in accordance with the requirements.

Witness’s Signature:

Name:

N.I.C No.

Address:

Date:

Signature of Bidder:

Name:

N.I.C No.

Capacity in which Signing:

Address:

Date:

Tel: Telex/Fax

**FORMAT OF AFFIDAVIT /
UNDERTAKING**

**Bidder must submit following undertaking (on stamp paper of Rs.100),
failing which the bid may be rejected at the discretion of procuring agency:**

(a) I, Mr. S/o..... holding CNIC#
..... from M/s Having Its business office at
....., do hereby solemnly affirm and declare as under;

(b) That M/sis not engaged, under investigation or
offences or no proceedings are pending before FBR, Customs, NAB, any
Judicial form, FIA or any other Govt. authority with respect to fraud, terror
financing, money laundering etc.

(c) We also confirm that our firm has not been blacklisted by any
National/International organization or forum and is entitled to carry out its
business activities to the standard business ethics.

(d) That the Partner(s) / Officers of M/s..... have not
been subject to financial crime. Nor they every compounded with their creditors
in any capacity.

(e) The above statement is true to the best of my knowledge and belief
and nothing has been concealed or is false.

Note: In case any bidder is found in the list of “Blacklisted Firms-Pakistan” or
related links at <https://www.ppra.org.pk/> then its bid shall be rejected

Name: _____

Signature: _____

Stamp: _____

**NON-DISCLOSURE AGREEMENT (NDA) OF
CONFIDENTIAL INFORMATION**

Except as required to further the relationship between the procuring agency and M/s_____ or as expressly authorized in writing on behalf of procuring agency, M/s_____, its shareholders/partners, directors, advisors, officers, and employees shall not disclose, provide or share directly or indirectly by any mean (verbal, writing, social media), any Confidential Information (partial or complete) during the period of his/her relationship with the procuring agency or any time after the termination of such relationship.

Signed

Signed

Bidder

Bidder

Dated:

Dated:

**CERTIFICATE FOR CORRECTNESS OF
DATA / DOCUMENTS / INFORMATION**

(Date:.....)

It is certified that the data/ documents/ information submitted in our Proposal is absolutely correct to best of our knowledge and we accept full responsibility for its accuracy.

We understand that any false or incorrect data/ documents/ information may result in disqualification of our bid at any stage of procurement process.

Signature of Authorized Representative: _____

Name/Designation of Authorized Representative: _____

Designation of Authorized Representative: _____