



**NATIONAL AEROSPACE SCIENCE & TECHNOLOGY PARK
(NASTP)**

CORRIGENDUM – I

**PROVISIONING OF NETWORK SERVICES AND COMMUNICATIONS
INFRASTRUCTURE FOR THE CONCEPT DEMONSTRATION OF GREENAI
ECOSYSTEM**

1. Reference NASTP-GREENAI-NSCI/RFP-02/2026 dated 24 February, 2026.
2. Submission and Bid opening against subject tender will be opened on **26 March, 2026** with same timings. However, as per the RFP clause 12 (f) the Bid shall remain valid for ninety (90) calendar days from technical bid opening date.
3. Submitted.

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

Date:- 13 March, 2026



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

**REQUEST FOR PROPOSAL
NASTP-GREENAI-NSCI/RFP-02/2026**

**FOR
PROVISIONING OF NETWORK SERVICES AND COMMUNICATIONS
INFRASTRUCTURE FOR THE CONCEPT DEMONSTRATION OF GREENAI ECOSYSTEM**

**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: 24 February, 2026

1. The procuring agency invites sealed bids from Firms, companies, distributors / suppliers registered with Income Tax and Sales Tax Department for Provisioning of Network Services and Communications Infrastructure for the concept demonstration of GreenAI Ecosystem.
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 be uploaded on e-Pak acquisition & disposal system (EPADS) before **16 March, 2026 at 11:00 hrs**. Bids will be opened on same day **16 March, 2026 at 11:30 hrs** 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: - 24 February, 2026

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, be required to make their own investigations and assumptions wherever required and satisfy themselves that the RFP document is complete in all aspects. 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 aspects 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.

INDEX LIST OF CLAUSES AND ANNEXURES GENERAL PARTICULARS

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BIDDING PROCESS INSTRUCTIONS

1. **Bid Reference No. NASTP-GREENAI-NSCI/RFP-02/2026**
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 **PROVISIONING OF NETWORK SERVICES AND COMMUNICATIONS INFRASTRUCTURE FOR THE CONCEPT DEMONSTRATION OF GREENAI ECOSYSTEM.**
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. **09 March, 2026 at 11:00 AM at NASTP Alpha-19, Old Airport Road, Rawalpindi.** Participating firms are requested to provide particulars of their reps on Ph. No. 03244447655/03065216673 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: 16 March, 2026 at 1100hrs**

6. **Bid Opening Date & Time:** 16 March, 2026 at 1130hrs

7. **Bid Opening Address**

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

Tel: 03244411999 / 03244447655

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., Network Infrastructure & Hardware Availability, Network Architecture & Technical Capability, Services Provisioning & Management, Solution Design & Integration Approach, Deployment & Operational Readiness, and Functional Proof-of-Concept Demonstration), in addition to the fulfilment of mandatory requirements, shall be considered qualified, and assigned a technical score **St**.
- (j) Financial bids of only the technically qualified bidders shall be opened and assigned a financial score **Sf** 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 Provisioning of Network Services and Communications Infrastructure for the Concept Demonstration of GreenAI Ecosystem.

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) A milestone-based payment disbursement procedure will be adopted. The milestones will comprise a set of trials demonstrating end-to-end connectivity between sites with acceptable network performance for the task at hand.

(b) Acceptance criteria against milestones will be finalized as per network requirement 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 favour 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	Milestone	Conditions	Payment
1.	Release of Mobilization Advance	Up to 20% of total contract amount after receipt of bank guarantee / CDR of the same amount of mobilization advance from a Scheduled Bank of Pakistan in prescribed form (Annex “VII”)	20%
2.	Successful Establishment of End-to-end Communication Link for AgriVerse Ecosystem Trials 1, 2, 3, 4	A further 40% of the total contractual amount will be paid after the successful completion of the first four network trials, subject to the signing of acceptance tests (corresponding to each trial) demonstrating compliance with prescribed performance parameters.	40%
3.	Provisioning of Successful Services for Complete AgriVerse Ecosystem Demonstration	The remaining 40% of the total contractual amount will be released within 20 days of the final successful demonstration of the all-encompassing AgriVerse ecosystem. (100% of the total contract amount will be released and BG / CDR will also be returned).	40%

* **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 services of the tender shall be delivered on the dates specified by the Purchaser (i.e. PMU GreenAI) to the winning bidder after signing of Letter(s) of Acceptance (LoAs).

(b) Specified trial dates may be adjusted (except for the final one) with mutual consent of both parties in case of events beyond the reasonable control of Bidder. Bidder shall inform in writing to procuring agency of any such event well in advance.

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 un- authorized/ 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 access 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: 03322379731
 - 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 'Julian DC', is written over a diagonal line that extends from the bottom left towards the top right.

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

Date: - 24 February, 2026

**SRS-01 SYSTEM REQUIREMENT SPECIFICATION
FOR
NETWORK SERVICES AND COMMUNICATIONS INFRASTRUCTURE
FOR THE CONCEPT DEMONSTRATION OF GREENAI ECOSYSTEM**

**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

Project GreenAI is an approved PSDP initiative aimed at modernizing Pakistan's agricultural system by introducing advanced farming practices and machinery. Central to this effort is the GreenAI Ecosystem — a farming ecosystem that integrates smart farms, IoT-enabled sensors, unmanned aerial systems, artificial intelligence, and data driven decision support tools to enable Precision Agriculture (P-Ag), optimize resource use, enhance productivity, and promote sustainable and climate-resilient farming.

The GreenAI Ecosystem is designed to collect real-time data from multiple agricultural sites, analyze it to generate actionable insights, and facilitate live monitoring and decision-making across farms. The Proof of Concept (PoC) demonstration will showcase the ecosystem's ability to connect remote field locations with a central hub, enabling interactive sessions, sensor data collection, and live audio video monitoring.

2. Scope of Project

The scope of this RFP focuses on implementing the communications and technical support infrastructure required to demonstrate the GreenAI Ecosystem PoC. Bidding agencies are invited to provide bi-directional communication links in a star-topology configuration connecting up to four remote agricultural sites in Punjab province with the main hub at NASTP Alpha, Rawalpindi.

The successful bidder will ensure the links are robust, dual-redundant, high-speed, and reliable to support live interactive sessions, including sensor data, HMI data, and real-time audio-video feeds, with unified aggregation and visualization of all data at the central hub (located at NASTP Alpha). Additionally, the bidder will provide comprehensive end-to-end technical support (including installation, configuration, integration, testing, fault diagnosis, and rectification) as well as the necessary infrastructure such as bandwidth, networking, power (along with backup power such as UPS), and allied equipment to enable end-to-end testing during all trials and the final demonstration of the agricultural ecosystem concept, ensuring seamless connectivity between AgriVerse (the cloud-native precision agriculture framework) and field-deployed end devices.

3. Overview of the Requirements

- (a) PMU GreenAI requires a secure, high-availability, and redundant connectivity solution to transport live video, audio, HMI data, and application data from multiple remote agricultural locations to the Central Command and Control Room at NASTP Alpha, Rawalpindi.
- (b) The solution shall provide reliable real-time data transmission across all sites, with centralized reception, decoding, aggregation, and visualization at the central hub, ensuring uninterrupted monitoring and operational control.
- (c) Given the geographic spread and varying infrastructure availability, the following primary and backup transmission paths shall be implemented per site:
- **Primary Transmission:** DSNG satellite uplink (KU-band, 2.5 MHz per site) to relay live audio-video feeds.
 - **Backup Transmission:** LiveU bonded IP/cellular transmission units for fully redundant coverage in case of primary link failure.
- (d) The following technical infrastructure will be required at the remote field sites:
- Professional ENG camera systems and operational crew to capture live video and audio of drone flight demonstrations.
 - DSNG uplink systems for primary transmission of live feeds.
 - LiveU transmission units for backup, IP-based data transfer.
- (e) The following technical infrastructure will be required at central hub (NASTP Alpha, Rawalpindi):
- Satellite downlink systems (antennas, IRDs, RF infrastructure)
 - LiveU reception and decoding systems
 - Video decoding and signal conversion equipment
 - Signal routing, switching, and distribution systems
- (f) **Signal Aggregation and Visualization**
- Centralized aggregation and visualization of all feeds at NASTP managed video wall and monitoring displays.
 - Multiview output combining all four remote locations.
 - Individual discrete outputs for each location, ensuring flexibility for monitoring and analysis.
- (g) **HMI Data Transmission:**
- Point-to-point IP-based transmission from each remote site to the central hub, integrated with video and audio feeds.
- (h) **System Redundancy and Reliability:**
- Dual-redundant architecture with primary DSNG satellite transmission and secondary LiveU bonded IP backup.
 - Continuous monitoring of link health to ensure uninterrupted transmission.
- (i) **System Integration, Installation, and Commissioning:**
- Complete setup and testing of uplink systems at all remote locations.

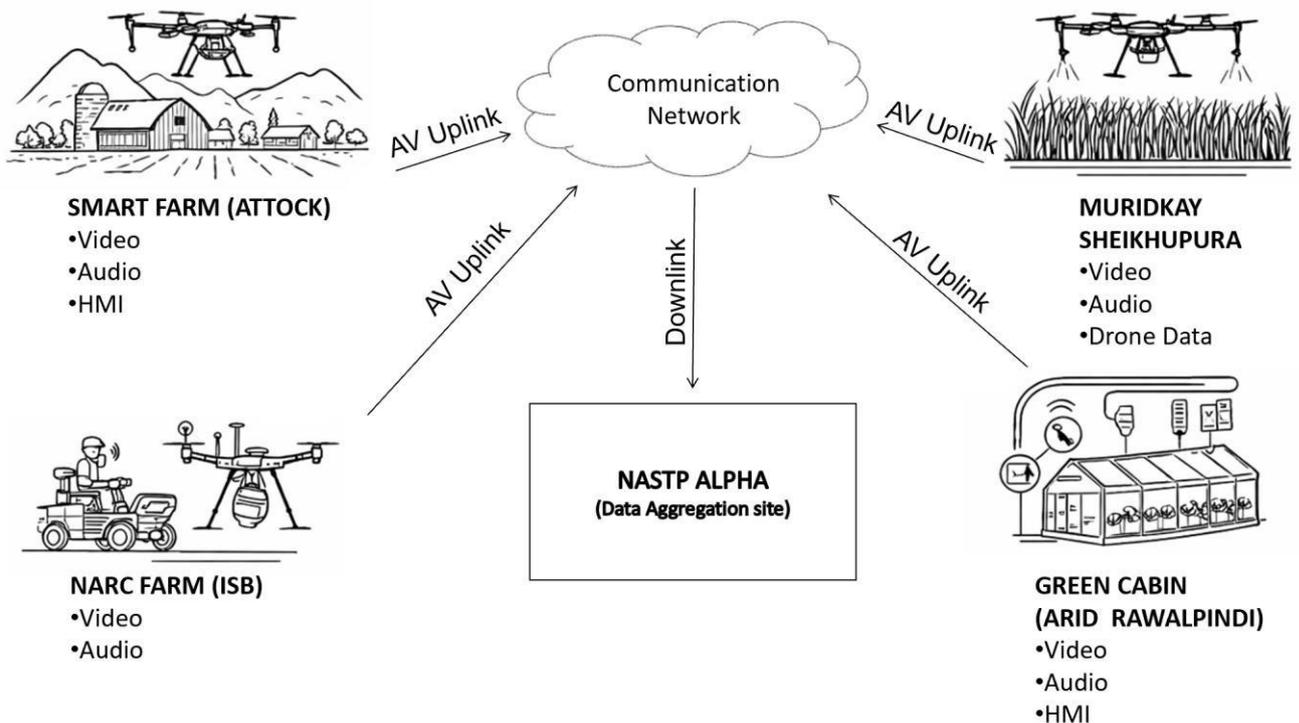
- Installation, configuration, and commissioning of downlink, decoding, and routing systems at central hub.
- Integration and testing of LiveU transmission and reception systems.
- Verification of signal distribution to NASTP visualization interfaces.

(j) The site locations are as follows:

- **Location 1:** Arid Agriculture University, Rawalpindi
- **Location 2:** Smart Farms, Attock
- **Location 3:** NARC, Islamabad
- **Location 4:** Muridkey, Sheikhpura
- **Location 5:** Central Command Room - NASTP Alpha, Rawalpindi

(k) All remote site feeds (video, HMI and application data) must be securely transported and centralized at the Aggregation Site to enable end-to-end testing during all trials and the final demonstration of the GreenAI Ecosystem.

(l) The requisite network architecture is shown below in the following figure



(m) **Additional Considerations:**

- PMU GreenAI will provide stable mains AC power (220VAC) along with a backup power source (i.e. a generator) for all equipment connected to its Central Command and Control Room.
- 30+30 Mbps main and backup internet connectivity at the Central Command and Control Room will also be provided by PMU GreenAI
- The video wall will be managed and operated by the winning bidder as per the requirements raised by PMU GreenAI, NASTP. He will also be responsible for terminating the required audio / video connections and ensuring the display of audio-video signals on it.

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 networking solution 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 network connectivity diagram of the projected solution showing devices, media, links, etc. This may include but are not limited to CAD diagram.
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 diagram, Product descriptions and/or brochures 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 prequalification 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) **From 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., email 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

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.

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.	Network Solution Design & Architecture (proposed solution, scalability, security, redundancy)	35	
3.	Pooling of Resources (hardware)	10	
4.	Compliance & Value Addition	10	
5.	Implementation Methodology & Project Management	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 abovementioned 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-NSCI/RFP-02/2026**
2. Time and Date of opening: **16 March, 2026 at 1130hrs**

i. TECHNICAL SOLUTION FOR NETWORKING SERVICES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
S No	Proposed Solution	Item / Component	Description / Specifications	Cost in Fig	Sales Tax in Fig	Total Price in Fig	Total Price in Words
1	Network	Networking equipment					
		Power equipment					
		Bandwidth costs					
		HR and services costs					
		Administrative costs					
		Overhead costs					

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 “network services and communications infrastructure for the concept demonstration of GREENAI ecosystem” 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 120 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/s is 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: _____