# Standard Bidding Document

## Provision of Services for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH)
## (Non-Consultancy Services)

National

Two Stage-Two Envelope  (First Phase)

| CORRIGENDUM # 1 | CORR-P57167-001 |
|---|---|
| Initiation Date | September 17, 2026 |

*September 17, 2026*

*IGNITE-National Technology Fund (IGNITE-National Technology Fund),Assistant Manager Procurement*
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# PROCUREMENT NOTICE

## PROCUREMENT OF NON-CONSULTANCY SERVICES

1. The **IGNITE-National Technology Fund (IGNITE-National Technology Fund)** has reserved Funds for the procurement planned for FY **2026-27**. The **IGNITE-National Technology Fund (IGNITE-National Technology Fund)** intends to apply part of the proceeds of this Fund to cover eligible payments under the contract for the "**Provision of Services for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH)**" with the reference of **"P57167"**

2. The **IGNITE-National Technology Fund (IGNITE-National Technology Fund)** invites Bids through **EPADS v2.0** from eligible Bidders registered on **EPADS v2.0** for provision of Non-Consultancy Services.

3. **Two Stage-Two Envelope** Procedure of Principal Method of Procurement (i.e. Open Competitive Bidding) will be used by adopting **Quality and Cost Based Selection (QCBS)**Technique for the subject procurement, in line with the Public Procurement Rules, 2004 and any Regulations, and Instructions issued by the Authority (from time to time).

4. All Bids must be accompanied by a Bid Security described in Bid Security Section in Bidding Document in the form of **Bid Security Not Applicable** or Bid Securing Declaration on the prescribed format described.

5. E-Bidding documents, containing detailed terms & conditions, specifications and requirements etc. are available on **e-Pak Acquisition and Disposal System (EPADS)** at **https://epads.gov.pk/opportunities/federal/procurements/57167**.

6. The e-bids, prepared in accordance with the instructions in the e-Bidding documents, must be submitted through **EPADS v2.0** on or before **Monday, October 5, 2026 03:00 PM**. E-bids will be opened on the same day at **Monday, October 5, 2026 03:30 PM**. Manual submission of Bids shall not be entertained. Those vendors who have not yet registered on the new

version of **EPADS v2.0,** may register themselves on https://vendors.epads.gov.pk/. A tutorial to explain the registration process is available at https://www.youtube.com/watch?v=MNW6T38v7tc

7. In terms of Rules 48 of Public Procurement Rules, 2004 Grievance Redressal Committee (GRC) is notified for the subject procurement and notification copy is available on the procuring agency's website and also available on **EPADS v2.0** as well as Authority's website at (www.ppra.org.pk).

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# Instructions to Bidders

# A. Introduction

1. **Scope of Bids**

1.1. The Procuring Agency (PA), as indicated in the **Bids Data Sheet (BDS)** invites Bids through **EPADS v2.0** for the provision of Non-Consultancy Services for as specified in the BDS and **in Section Evaluation Criteria, Specifications & Schedule of Requirements**. The name, identification, and number of items/deliverables are provided in the **BDS**. **Two Stage-Two Envelope** procedure of the open competitive method shall be used. The successful Bidders will be expected to provide the services within the specified period and timeline(s) as stated in the **BDS**.

2. **Source of Funds**

2.1. Source of funds is referred in Clause-1 of Invitation for Bids.

3. **Fraudualent & Corrupt Practices**

3.1. As defined under Rule 2(1)(f) of the Public Procurement Rules, 2004.

4. **Eligible Bidders**

4.1. A bidder is eligible to participate in a procurement process if the bidder:

4.1.1. possesses or has access to the technical competence, financial resources, equipment and other physical facilities, personnel, managerial capability, experience and reputation necessary to complete the procurement contract;

4.1.2. has the legal capacity to enter into a procurement contract;

4.1.3. is not insolvent, in receivership, bankrupt or being wound up and its activities or affairs are not suspended or being administered under any Act, by a court or by a judicial officer;

4.1.4. is not the subject of legal proceedings for any of the matters mentioned in sub-rule (c);

4.1.5. has fulfilled or has made substantial arrangements satisfactory to the relevant authorities, to fulfil its obligations to pay taxes and social security (where applicable) other contributions of its employees; and

4.1.6. has not, or in the case of a company, its owners and beneficial owners, directors or officers have not, been convicted of a criminal offence related to:

4.1.6.1. its professional conduct; or

4.1.6.2. a bidder (or, in the case of a company, its key individuals such as owners, beneficial owners, directors, or officers) must not have engaged in any prohibited practice, such as fraud, corruption, collusion, or coercion, within the time period stated in the bidding documents, which can be up to three years before the start of the procurement process. Additionally, the bidder must not have been debarred (i.e., banned) from participating in public procurement processes in Pakistan or by any international organization or country. If they have, they are ineligible to participate in the current bidding.

4.2. The procuring agency may require a bidder participating in the procurement process to provide the prescribed documentary evidence or other information to satisfy itself that the bidder is qualified in accordance with the criteria in sub-clause (1).

4.3. A procuring agency shall set out in the bidding document all the criteria for qualification to be applied in accordance with sub-clause (1).

4.4. Except as permitted under the Ordinance, Rules and Regulations, the procuring agency shall not establish a criterion for eligibility of a bidder that:

4.4.1. discriminates against or among a bidder or against categories of bidders; or

4.4.2. is not required for the performance of the procurement contract; or

4.4.3. is not related to the avoidance or management of legal, reputational or economic risk to the procuring agency unless it is in the national interest to do so, and the criteria is set out in the bidding documents.

4.5. A procuring agency shall assess the eligibility of a bidder for participation in the procurement process against the criteria for qualification under sub-clause (1).

4.6. In the case of a joint venture, consortium, or association, all members shall be jointly and severely liable for the execution of the contract in accordance with the terms and conditions of the contract. The joint venture, consortium, or association shall nominate a lead member as nominated in the BDS,

4.7. who shall have the Authority to conduct all business for and on behalf of any and all the members of Joint venture, consortium, or association during the bidding process, and in case of award of contract, during the execution of the contract.

4.8. The appointment of the lead Member in the joint venture, consortium, or association shall be confirmed by submission of valid power of Attorney to the procuring agency.

4.9. Subject to the limits specified in the BDS, the procuring agency may allow bidders to participate in the form of a Joint Venture (JV). However, each party in the JV must individually meet the eligibility criteria specified in the BDS

4.10. No Bidder can be a sub-contractor while submitting a Bids individually or as a member of a joint venture in the same Bidding process.

5. **Qualification of the Bidder**

5.1. All Bidders shall provide in Section VI, Bid Forms, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

# B. Bidding Documents

6. **Contents of Standard Bidding Document**

6.1. The Services required, bidding procedure, and terms and conditions of the contract are prescribed in the bidding document. In addition to the Invitation for Bids, the bidding document which should be read in conjunction with any addendum issued by the Procuring Agency include:

**Section I -**Invitation to Bid
**Section II** Instructions to Bidders (ITB)
**Section III** Bid Data Sheet (BDS)
**Section IV** Eligible Countries
**Section V** Evaluation Criteria, Specifications, Schedule of Requirements, and Technical Specifications.
**Section VI** Bidding Forms
**Section VII** Fraudaulent & Corrupt Practices
**Section VIII – Material & Non-material deviation**
**Section IX** General Conditions of Contract (GCC)
**Section X** Special Conditions of Contract (SCC)
**Section XI** Contract Forms

6.2. The Bidder is expected to examine all instructions, requirements, forms, terms and specifications in the bidding documents. Failure to furnish all the information required in the bidding document will be at the Service provider's risk and may result in the rejection of his bids.

7. **Clarifications**

7.1. Clarifications of the bidding documents may be requested in writing through EPADS v2.0 by any bidder up to three days prior to the deadline for the submission of bids.

The procuring agency shall respond promptly and in writing to any request by a bidder for clarification of the bidding documents and, in any event, no later than two days prior to the deadline for the submission of bids or proposals.

Responses to requests for clarification shall be communicated simultaneously and in writing to all bidders participating in the procurement proceedings.

No bidder shall be allowed to alter or modify his bid after the bids have been opened however, the procuring agency may seek and accept clarification to the bid that do not change the substance of the bid, through EPADS v2.0.

7.2. Procuring Agency's response will be uploaded on the EPADS v2.0, including a description of the inquiry.

7.3. Should the Procuring Agency deem it necessary to amend the bidding document as a result of a clarification, it shall do so following the procedure under **ITB 1.1.**

7.4. If indicated **in the BDS**, the bidder’s designated representative is invited at the bidder’s cost to attend a pre-bid meeting at the place, date and time mentioned **in the BDS**. During this pre-bid meeting, prospective bidder(s) may request clarification(s) regarding the schedule of requirements, the Evaluation Criteria or any other aspects of the bidding document.

7.5. Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by bidders, and the responses given, together with any responses prepared after the meeting will be uploaded on EPADS v2.0. Any modification to the bidding document that may become necessary as a result of the pre-bid meeting shall be made by the Procuring Agency exclusively through the use of an Addendum.

7.6. To assist in the examination, evaluation and comparison of Bids of the Bidders, the Procuring Agency may, ask any Bidder for a clarification of its bid including breakdown of prices, through EPADS v2.0. Any clarification submitted by a bidder that is not in response to a request by the Procuring Agency shall not be considered.
No change in the prices or substance of the bid shall be sought, offered, or permitted.
The alteration or modification in the bid which in any way affect the following parameters will be considered as a change in the substance of a

bid:

7.6.1. evaluation & qualification criteria;

7.6.2. required scope of work or specifications;

7.6.3. all securities requirements;

7.6.4. tax requirements;

7.6.5. terms and conditions of bidding documents; and

7.6.6. change in the ranking of the bidders.

From the time of bid(s) opening to the time of contract award, if any bidder wishes to contact the procuring agency on any matter related to the bid, it should do so in writing or through electronic form that provides record of the content of communication.

8. **Amendment of Bidding documents**

8.1. Before the deadline for submission of bids, the procuring agency for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder or pre-bid meeting may modify the bidding documents by issuing addendum.

8.2. Any addendum issued including the notice of any extension of the deadline shall be part of the bidding document and shall be uploaded on EPADS v2.0 as well as Authority's website. The procuring agency shall promptly publish the addendum at the procuring agency's website indicated in the **BDS**:

Provided that the bidder who had either already submitted his bid, shall have the right to withdraw his already submitted bid and submit the revised bid, prior to the original or extended bid submission deadline.

8.3. To give prospective bidders reasonable time in which to take an addendum/corrigendum into account in preparing their bids, the Procuring Agency may, at its discretion, extend the deadline for the submission of bids:

Provided that the Procuring Agency shall extend the deadline for submission of bids, if such an addendum is issued within last three (03) days of the bid submission deadline.

# C. Preparation of Bids

9. Documents Constituting the Bids

9.1. The bids prepared by the bidders shall constitute the following components: -

9.1.1. Forms of bid and Bid Prices completed in accordance with ITB BDS, GCC and SCC;

9.1.2. Documentary evidence established in accordance with BDS that services to be provided by the bidder are eligible services, and conform to the bidding documents;

9.1.3. Documentary evidence established in accordance with BDS that the bidder is eligible and/or qualified for the subject bidding process;

9.1.4. Documentary evidence established, that the bidder has been authorized to provide the services;

9.1.5. Bid security or Bids Securing Declaration furnished in accordance with BDS; and

9.1.6. Any other document required in the BDS.

10. **Documents Establishing Eligibility of the Services and Conformity to bidding documents**

10.1. To establish the conformity of the Non-Consulting Services to the Bidding document, the bidder shall furnish as part of its bid the documentary evidence that services provided conform to the requirements.

10.2. Standards for the provision of the Non-Consulting Services are intended to be descriptive only and not restrictive.

11. **Documents Establishing Eligibility and Qualification of the Bidder**

11.1. Pursuant to BDS, the bidder shall furnish, as part of itsbid, all those documents establishing the bidder's eligibility to participate in the bidding process and/or its qualification to perform the contract if its bid is accepted.

11.2. The documentary evidence of the bidder's eligibility to bids shall establish to the satisfaction of the procuring agency that the bidder, at the time of submission of its bid, is from an eligible country as defined in Section-IV titled as "Eligible Countries".

11.3. The documentary evidence of the bidder's qualifications to perform the contract if its bid is accepted shall establish to the satisfaction of procuring agency that:

11.3.1. the bidder has the financial, technical, and supply/production capability necessary to perform the Contract, meets the qualification criteria specified in BDS.

11.3.2. that the bidder meets the qualification criteria listed in the Bids Data Sheet.

12. **Form of Bid**

12.1. **The bidder shall fill the Form of Bid furnished in the bidding documents. The Bid Forms must be completed without any alterations to its format and no substitute shall be accepted.**

13. **Bids Prices**

13.1. The Bids Prices quoted by the bidder in the Forms of Bid and in the price schedule shall conform to the requirements specified or exclusively mentioned hereafter in the bidding document.

13.2. All items in the Schedule of Requirements must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced and neither explicitly mentioned, their prices shall be construed to be included in the prices of other items.

13.3. The Bid price to be quoted in the Forms of Bid shall be the total price of the bid, excluding any discounts offered.

13.4. The bidder shall indicate on the appropriate Price Schedule, the unit prices (where applicable) and total bid price of the services, it proposes to provide under the contract.

13.5. Prices quoted by the bidder shall be fixed during the currency of the contract and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and shall be rejected, unless otherwise price adjustment is permissible under Conditions of the Contract. (May be reviewed)

14. **Price Adjustment**

14.1. Price adjustment shall not be applicable.

14.2. Procuring agency may increase the remuneration of the human resources involved in non-consultancy services on annual basis as per agreement.

14.3. **Procuring agency shall incorporate the provisions to allow wage rate in compliance with Federal Government's minimum wage notification, subject to the applicability in that case.**

15. **Bids Currencies**

15.1. Prices shall be quoted in Pakistani Rupees unless otherwise specified in the BDS.

16. **Bid Validity Period**

16.1. Bid(s) shall remain valid for the period specified in the BDS after the bid submission deadline prescribed by the Procuring Agency. A Bid valid for a shorter period shall be rejected by the Procuring Agency as non-responsive. The period of bid validity will be determined from the complementary bid securing instrument i.e. the expiry period of bid security or bid securing declaration as the case may be.

17. **Bid Security or Bid Securing Declaration**

17.1. Unless otherwise specified in the BDS, the bidder shall furnish as part of its bid, in the amount and currency specified in the BDS or Bid Securing Declaration on the format provided in Section VI (Bid Forms) The scanned copy of the Bids Security shall be uploaded in the EPADS v2.0 while submitting bid, whereas the original forms of Bid Security shall be submitted to the procuring agency before the bid submission deadline. The bidder who failed to submit the original bid security before the submission deadline shall be disqualified straightaway.

17.2. The Bid Security or Bid Securing Declaration is required to protect the Procuring Agency against the risk of Bidder's conduct which would warrant the security's forfeiture.

17.3. The Bid Security shall be payable promptly upon written demand by the Procuring Agency in case any of the conditions listed in BDS, GCC and SCC are invoked.

17.4. Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible after the award of contract, however in no case later than thirty (30) days after the expiration of the period of Bid Validity prescribed by the Procuring Agency. The Procuring Agency shall make no claim to the amount of the Bid Security, and shall promptly return the Bid Security document, whichever of the following that occurs earliest:

17.4.1. the expiry of the Bid Security;

17.4.2. the entry into force of a procurement contract and the provision of a Performance Guarantee, for the performance of the contract if such a guarantee, is required by the bidding document;

17.4.3. the rejection by the Procuring Agency of all Bids;

17.4.4. the withdrawal of the Bid prior to the deadline for the submission of bids, unless the bidding document stipulate that no such withdrawal is permitted.

17.5. The Bid Security may be forfeited or the Bid Securing Declaration executed:

17.5.1. if a bidder:

17.5.1.1. withdraws its bid during the period of bid validity as specified by the Procuring Agency, and referred by the bidder in the Forms of Bid, except as provided for in the ITBs; or

17.5.1.2. does not accept the correction of errors, or

17.5.2. in the case of a successful bidder fails:

17.5.2.1. **to sign the contract in accordance with SCC; or**

17.5.2.2. **to furnish Performance Guarantee in accordance with BDS and SCC.**

17.6. **The bid security shall be valid for a period specified in BDS. Bids with shorter bid security validity period shall be rejected straight away.**

18. **Alternative Bids by Bidders**

18.1. Alternatives will not be considered, unless specifically allowed for in the BDS.

18.2. When alternative times for completion are explicitly invited, a statement to that effect will be included in the BDS and the method of evaluating different time schedules will be described in Evaluation and Qualification Criteria.

19. **Withdrawal, Substitution, and Modification of Bids**

19.1. Before Bids submission deadline, any bidder may withdraw, substitute, or modify his bid after it has been submitted.

20. **Format and Signing of Bids**

20.1. The bidder shall prepare and submit his bid with due diligence after carefully reading all the terms and conditions before submission through

EPADS v2.0.

20.2. Any interlineations, erasures, or overwriting shall be valid only if they are signed by the person(s) signing the forms of bid.

# D. Submission of Bids

21. **Submission of Bids through EPADS v2.0 before Dead deadline**

21.1. The Technical and Financial Bids as the case may be, shall be submitted in the due portion of the EPADS v2.0, before bid submission deadline. The bid submission option shall be automatically disabled once the deadline is over.

21.2. The Procuring Agency may, under exceptional circumstances and at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents. In such a case, all rights and obligations of the Procuring Agency and the Bidders that were previously subject to the original deadline shall thereafter be subject to the revised deadline.

# E. Opening and Evaluation of Bids

22. **Opening & Evaluation of Bids by the Procurement Cell/Evaluation Committee**

22.1. The Procuring Agencies to constitute odd number Bid Evaluation Committee for the purpose of bid opening and evaluation of all procurements. As per Rules 29 & 30 of Public Procurement Rules, 2004,
The Procuring Agencyis required to establish a Procurement Cell/Evaluation Committee which shall Evaluate the Bids inaccordance with the evaluation criteria, terms and conditions given in the bidding documents.

23. **Opening of Bids**

23.1. The Bid Evaluation Committee of the Procuring Agency will open all bids through EPADS, in the presence of bidders' or their representatives who choose to attend, and other parties with a legitimate interest in the bid proceedings at the place, on the date and at the time, specified in the **BDS**. The Bidders' representatives present shall sign attendance sheet as proof of their attendance.

23.2. The bids shall be opened one at a time, and the following read out and recorded: (a) the name of the bidder; (c) the presence of a bid security, if required; and (d) any other details as the procuring agency may consider appropriate.

23.3. No bid will be rejected at the time of bid opening except for bids whose bid security has not been provided to the procuring agency before submission deadline**.**

23.4. The procuring agency shall prepare minutes of the bid opening. The record of the bid opening shall include, as a minimum: the name of the bidder and the bid price, if applicable.

## 24. **Confidentiality**

24.1. Information relating to the examination, clarification, evaluation and comparison of bids and recommendation of contract award shall not be disclosed to bidders or any other person(s) not officially concerned with such process, until the time of the announcement of the respective evaluation report.

24.2. Any effort by a bidder to influence the procuring agency processing of bids or award decision may result in the rejection of his bid.

## 25. **Preliminary Examination of Bids**

25.1. Prior to the detailed evaluation of bids, the procuring agency will determine whether each bid:

25.1.1. meets the eligibility criteria defined in **BDS**;

25.1.2. has been prepared as per the format and contents defined by the procuring agency in the bidding document;

25.1.3. is accompanied by the required securities; and

25.1.4. is substantially responsive to the requirements of the bidding document.

25.2. The procuring agency will confirm that the documents and information specified under **BDS, GCC and SCC** have been provided in the bids. If any of these documents or information is missing, or is not provided in accordance with the Instructions to Bidders, the bids shall be rejected.

25.3. If a bid is not substantially responsive, it will be rejected by the procuring agency and may not subsequently be evaluated for complete technical responsiveness.

26. **Examination of Terms and Conditions, Technical Evaluation**

26.1. The procuring agency shall evaluate the technical aspects of the bids submitted in accordance with **BDS,** to confirm that all requirements specified in **Evaluation Criteria, Technical Specifications and Schedule of Requirements**, prescribed inthe bidding document have been met without material deviation or reservation.

26.2. If after the examination of the terms and conditions and the technical evaluation, the procuring agency determines that the bid is not substantially responsive in accordance with BDS**,** it shall reject the bids.

27. **Correction of Errors**

27.1. Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: -

27.1.1. if there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the procuring agency there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;

27.1.2. if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and the total shall be corrected; and

27.1.3. where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.

27.1.4. Where there is discrepancy between grand total of price schedule and amount mentioned on the Forms of bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.

27.2. The amount stated in the bid will be adjusted by the procuring agency in accordance with the above procedure for the correction of errors and, with the concurrence of the bidder that shall be considered as binding upon the bidder. If the Bidder does not accept the corrected amount, his bid will then be rejected, and the Bid Security may be forfeited or the Bid Securing Declaration may be executed.

28. **Conversion to Single Currency**

28.1. As per Rule 30 of Public Procurement Rules, 2004.

29. **Evaluation of Bids**

29.1. The procuring agency shall evaluate bids in accordance with Rule 30 of Public Procurement Rules, 2004 and compare only those bids determined to be substantially responsive.

29.2. In evaluating the Technical Bids of each Bidder, the Procuring Agency shall apply the evaluation criteria and methodologies specified in the Bid Data Sheet (BDS) and in accordance with the Statement of Requirements and Technical Specifications. No other evaluation criteria or methodologies shall be permitted.

29.3. In case of tie of bids, the bidders shall be provided an opportunity to offer their best and final monetary offer through EPADS. However, in no case the rates shall be higher than the original financial bids.

29.4. The Procuring agency evaluation of a bid will take into account:

29.4.1. the bid price, excluding provisional sums and the provision, if any, for contingencies in the summary bill of quantities, but including day work items, where priced competitively;

29.4.2. price adjustment for correction of arithmetic errors in accordance with **ITB 6;**

29.5. converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with **ITB 7**;

29.6. The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.

29.7. If these bidding documents allow bidders to quote separate prices for different lots, and the award to a successful bidder of multiple lots, the methodology of evaluation to determine the lowest evaluated lot combinations in the Form of Bid, is specified in the **BDS.**

30. **Determination of Most Advantageous Bids**

30.1. Selection technique will be adopted for determining the Successful Bid in accordance with the criteria referred in the **BDS** or prescribed in the separate section titled as Evaluation Criteria.

31. **Abnormally Low Financial Bids**

31.1. Procuring agency may reject a bid if it has determined that the price, in combination with other constituent elements of the bid, is abnormally low in relation to the subject matter of the procurement, such that it raises material concerns on the part of the procuring agency, as to the ability of the bidder to perform the procurement contract satisfactorily for the offered price.

A procuring agency shall not reject a bid as abnormally low under sub-clause (1) above unless the procuring agency –

31.1.1. requested in writing through EPADS from the bidder a written clarification of his bid, including a detailed price analysis of his bid price in relation to the subject matter of the procurement contract, scope, methodology, schedule, allocation of risks and responsibilities and any other requirements of the bidding document; and

31.1.2. having taken account, the information provided by the bidder in response to a request under paragraph (a) and the information included in the bid, the procuring agency determines that the bidder has failed to demonstrate its ability to perform the procurement contract satisfactorily for the offered price.

The procuring agency shall promptly communicate to the bidder concerned its decision to reject the bid, including the reasons for the decision.

32. **Rejection of Bids**

32.1. As per Rule 33 of the Public Procurement Rules, 2004

33. **Single Responsive Bid**

33.1. The procuring agency may consider single responsive bid subject to underlying conditions of Rule 38(b) of the Public Procurement Rules, 2004.

34. **Arbitration**

34.1. As per Rule 49 of Public Procurement Rules, 2004.

# F. Award of Contract

43. **Criteria of Award**

43.1. The procuring agency will award the Contract to the bidder whose bid has been determined to be substantially responsive to the bidding document and who has been declared as most advantageous Bid.

44. **Procuring Agency's Right to reject All Bids**

44.1. The procuring agency reserves the right to reject all the Bids and to annul the procurement process at any time prior to acceptance of the bid(s), without thereby incurring any liability to the affected bidder(s).

44.2. Notice of the rejection of all bids shall be given promptly to all bidders that have submitted the bids. The procuring agency shall upon request communicate to any bidder the grounds for the rejection of his bid, but is not required to justify those grounds.

45. **Notification of Award**

45.1. Prior to the award of contract, the procuring agency shall issue a Final Evaluation Report giving justification for acceptance or rejection of the bids.

45.2. Bidder whose bid has been accepted, will be notified for the award by the Procuring Agency prior to expiration of the Bid Validity period through EPADS. The Letter of Acceptance will state the sum that the procuring agency will pay the successful bidder in consideration for the execution of the scope of works as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price).

45.3. The notification of award will constitute the formation of the Contract, subject to the condition that bidder furnish the Performance Guarantee and signing of the contract.

46. **Signing of Contract**

46.1. Promptly after notification of award, Procuring Agency shall send the successful bidder the draft agreement, incorporating all terms and conditions as agreed by the parties to the contract. The successful bidder and the procuring agency shall sign the contract.

47. **Performance Guarantee**

47.1. After the receipt of the Letter of Acceptance, the successful bidder, within the specified time, shall deliver to the Procuring Agency a Performance Guarantee in the amount and in the form stipulated in the **BDS**

**and SCC**, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the Conditions of Contract.

47.2. Failure of the successful bidder to comply with the requirement of **BDS, SCC and GCC** shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the procuring agency may make the award to the next ranked bidder or call for new bids.

48. **Corrupt & Fraudulent Practices**

48.1. Procuring Agencies (including beneficiaries of Government funded projects and procurement) as well as Bidders/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts, and will avoid to engage in any corrupt and fraudulent practices.

# G. Grievance Redressal & Complaint Review Mechanism

53. **Constitution of Grievance Redressal**

53.1. Procuring agency shall constitute a Grievance Redressal Committee (GRC) comprising of an odd number of persons with proper power and authorization to address the complaint. The GRC shall not have any of the members of Procurement Evaluation Committee.

54. **GRC Procedure**

54.1. Any aggrieved party or bidder as the case may be, may file grievance in accordance with Rule 48 of the Public Procurement Rules, 2004 and Redressal of Grievance Regulations, 2022

# H. Blacklisting/ Debarment

55. **Procedure for Blacklisting/Debarment**

55.1. The procuring agency may initiate blacklisting proceedings against contractor/supplier in accordance with Rule-19 of the Public Procurement

Rules, 2004 , Mechanism for Blacklisting, Debarment Regulations, 2024 and Regulation on “procedure for filling and disposal of review petition under rule-19(3) of the Public Procurement Rules, 2004.

# Bid Data Sheet

# Bids Data Sheet (BDS)

The following specific data for the procurement of Non-Consultancy Services to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

**BDS Clause Number**
**ITB Number**

**Amendments of, and Supplements to, Clauses in the Instruction to Bidders**

## A. Introduction

**BDS Clause Number 1**

Name of Procuring Agency: **IGNITE-National Technology Fund (IGNITE-National Technology Fund)**

The subject of procurement is: **Provision of Services for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH)**

Expected commencement date:

**BDS Clause Number 2**

Financial year for the operations of the Procuring Agency: **2026-27**

Name and identification number of the Contract: **P57167**

**BDS Clause Number 3**

JV/Consortium or Association Allowed: **Yes**
Number of JV/Consortium Members: **5**

## B. Bidding Documents

**BDS Clause Number 4**

The Bidders may seek clarifications through **EPADS v2.0**: Clarification Date: Monday, August 10, 2026
Pre-Bid Meeting: Wednesday, August 12, 2026 11:00 AM
Venue: National Incubation Center, NITB Building, 24-B, Street 6, Sector H-9/1
Meeting Link: https://us06web.zoom.us/j/5191074415?pwd=tzJT6uuPrHHlfouPVY0f6dpYlwjuFg.1

**BDS Clause Number 5**

Any addendum, in case issued, shall be published on **IGNITE-National Technology Fund (IGNITE-National Technology Fund)** website and on **EPADS v2.0**.

**BDS Clause Number 6**

List of documents required along with the bid: No

**BDS Clause Number 7**

The qualification criteria to establish the supply / production capability of the bidder.

*see Eligibility Criteria*

**BDS Clause Number 8**

**Services and Their related documents:**
*See section Required Services and Scope of Work*

**BDS Clause Number 9**

Price schedule will be provided according to the format defined and acquired.
*see section price schedule.*

**BDS Clause Number 10**

**Specifications:**

*see section of specifications.*

## C. Preparation of Bids

**BDS Clause Number 11**

The price shall be **Fixed**.

**BDS Clause Number 12**

Currency of the Bids shall be : **PKR**

**BDS Clause Number 13**

The Bids/Bid Validity period shall be: **360 Days**

**BDS Clause Number 14**

The amount of Bid Security shall be as defined in Bid Security Section for items and lots given in **BDS 6**
The Bid Security shall be in the form of:

**BDS Clause Number 15**

The Bids security shall be valid for twenty-eight (28) days beyond the expiry of the Bids validity period specified in the bidding documents, for example the bid validity is 90 days so the bid security shall be valid for 90+28 = 118 days.

**BDS Clause Number 16**

Alternative Bids to the requirements of the bidding documents will not be permitted.

## D. Submission of Bids

**BDS Clause Number 17**

Bid shall be submitted online on EPADS v2.0 whereas hard copy of the bid security should be submitted to the following;

**Plot # 7, Mauve Area, 3rd Floor, Telecom Foundation Complex., Islamabad Capital Territory**

Bids that are not submitted on EPADS v2.0 shall be disqualified.

The deadline for Bids submission is: **Monday, October 5, 2026 03:00 PM**

## E. Opening and Evaluation of Bids

**BDS Clause Number 18**

The Bids opening shall take place on **EPADS v2.0**.

Day *: **Monday***

Date: ***Monday, October 5, 2026***

Time *: **03:30 PM***

**BDS Clause Number 19**

Selection technique adopted will be: **Quality and Cost Based Selection (QCBS)**
*see Evaluation Criteria*

## F. Award of Contract

**BDS Clause Number 20**

The Performance guarantee shall: **0%**.

The Performance Guarantee shall be acceptable in the form of: **Nil**

**21.**

**51.1**

Arbitrator shall be appointed by mutual consent of the both parties.

## G. Review of Procurement Decisions

**BDS Clause Number 22**

Grievence against this procurement shall be submitted online on EPADS v2.0.

# Eligibility Criteria

| Bidder's Type | Required Registration |
| --- | --- |
| Any | FBR (NTN)<br>FBR (GSTN)<br>SECP<br>Registrar of Firms |

| Eligibility Criteria | Document |
| --- | --- |
| In case of proposal being submitted as consortium/Joint Venture (JV), attach consent letter of each partner organization clearly specifying its roles and responsibilities in the project. Letter should be issued by the competent authority of the partner organization. | Yes |
| Original affidavit (not older than one month at the time of proposal submission) on Stamp Paper(s) of worth PKR 100 or more that Bidder is not insolvent, bankrupt and is not blacklisted or debarred by Public Procurement Regulatory Authority (PPRA), Government, Semi-Government, Private, Autonomous body or any other international organization. | Yes |
| Original affidavit (not older than one month at the time of proposal submission) on Stamp Paper(s) of worth PKR 100 or more that the Bidder is an active taxpayer and has submitted its tax return for the preceding fiscal year. Taxpayer list serial number (downloadable from FBR’s website) is also to be mentioned. | Yes |

| | |
|---|---|
| Please provide soft copy of the original technical proposal and mandatory eligibility documents in USB. Bidders are to make sure that Financial Proposal is not part of the Technical Proposal in any form. | Yes |
| Affidavit on letterhead that the lead bidder satisfies the financing capacity criteria in annexure AC | Yes |
| Affidavit on Lead bidder letterhead that the Bidder shall comply with and fulfill all requirements of the TORs and that the information, terms, and conditions stated therein shall be binding upon the Bidder and shall be deemed an integral part of the Contract. | Yes |
| CONFLICT OF INTEREST - DISCLOSURE FORM (attached as Annexure-B) | Yes |
| Declaration of Ultimate Beneficial Owners Information for Public Procurement Contracts in accordance with provisions of Forms-16, 17 and 18 of the Securities & Exchange Commission of Pakistan Regulations as amended upto 2025 | Yes |

# Evaluation Criteria

**Quality and Cost Based Selection (QCBS)**

**Weightage**

| Technical Evaluation % | Financial Evaluation % |
|---|---|
| 60 | 40 |

| Technical Marks | 1000 |
|---|---|
| Passing Marks | 750 |
| Profile of the Lead Bidder – (Form B2) | |
| Registered Age General experience of less than 5 years will carry no marks. For experience exceeding 5 years: 2 marks shall be awarded for each additional year, up to a maximum of 20 marks (Qualitative)(Doc Required) | 20 |
| Financial Position – Net Worth of the Lead Bidder (in Million PKR) Net worth of up to PKR 500 Million carries no marks. Every additional PKR 50 Million in the Net Worth (most recent audited financial with period ended not older than 18 months) carries 1 mark. Maximum marks 40. Evaluation shall consider the bidder’s financial capacity to sustain long-term infrastructure operations, support commitments, and lifecycle management obligations under this project. (Qualitative)(Doc Required) | 40 |
| Co-location and Physical Infrastructure– (Form B3) | |
| a. Facility Resiliency & Certification (Qualitative)(Doc Required) | 25 |
| b. Power & Cooling (Qualitative)(Doc Required) | 20 |

| | |
|---|---|
| c. Security & Sovereignty (Qualitative)(Doc Required) | 15 |
| d. Disaster Recovery / Secondary Site (Qualitative)(Doc Required) | 20 |
| e. Service & Commercial Terms Certification documents and architecture diagrams shall be evaluated over narrative descriptions. Both Primary and DR facility details must be provided. Individual item scores within Form B3 are tiered. (Qualitative)(Doc Required) | 10 |
| Proven Capability & Delivery Track Record Of The Firm/Bidder– (Form B4) | |
| All references must be verifiable with a named client contact. Marks are awarded on a binary basis (full marks or zero) per criterion. References may be drawn from the lead bidder or named consortium partners. Narrative assertions without documentary evidence score zero. (Qualitative)(Doc Required) | 100 |
| All references must be verifiable with a named client contact. Marks are awarded on a binary basis (full marks or zero) per criterion. References may be drawn from the lead bidder or named consortium partners. Narrative assertions without documentary evidence score zero. (This section carries total 100+20=120 marks) (Qualitative)(Doc Required) | 20 |
| Proposed AI Compute Infrastructure (Form B5) | |
| a. AI Accelerators (Qualitative)(Doc Required) | 60 |
| b. AI Interconnect & Networking Fabric (Qualitative)(Doc Required) | 45 |
| c. Compute Infrastructure: Host, Control-Plane & Data-Pipeline Tiers (Qualitative)(Doc Required) | 45 |
| d. Parallel Storage System (Qualitative)(Doc Required) | 40 |
| e. Infrastructure & Equipment Management Scoring shall prioritise sustained training performance, scaling efficiency, and upgrade path over peak theoretical specifications. No specific vendor, product, or technology is mandated — any architecture meeting the stated outcome thresholds is acceptable. Individual item scores within Form B5 are tiered. (Qualitative)(Doc Required) | 30 |
| Sovereign AI Language Model Capability, Data pipelines &Tiered Inference Services (Form B6) | |

| | |
|---|---|
| a. Model Training & Fine-Tuning Platform (Qualitative)(Doc Required) | 25 |
| b. Governed Data Pipelines & Local-Context Datasets (Qualitative)(Doc Required) | 25 |
| c. Sovereign Fine-Tuned LLM (the national model) (Qualitative)(Doc Required) | 35 |
| d. Tiered Public Inference Service (≥ 20 open-weight models) Ignite must receive full IP assignment of model weights, training code, and datasets — a licence is not acceptable as a substitute. Individual item scores within the form B6 are tiered. (Qualitative)(Doc Required) | 25 |
| Proposed AI Software Stack – Sovereignty & Architecture (Form B7) | |
| a. AI Software Stack Requirements (Qualitative)(Doc Required) | 100 |
| a. AI Software Stack Requirements (This section carries total 100+10=110 marks) (Qualitative)(Doc Required) | 10 |
| b. Ecosystem Adoption & Software Maturity Individual item scores within the form B7 are tiered. (Qualitative)(Doc Required) | 30 |
| User Facing Access Portal & AI Innovation Market Place (Form B8) | |
| a. NAIIH User-Facing Access Portal Architecture, features, sovereignty, integration with AI stack (Qualitative)(Doc Required) | 20 |
| a. AI Innovation Marketplace Architecture, features, catalog & program management, governance, integration (Qualitative)(Doc Required) | 20 |
| Proposed Methodology & Project Management Plan – (Form B9) | |
| i. Deployment plan & timelines (Qualitative)(Doc Required) | 15 |
| ii. Commissioning & testing strategy (Qualitative)(Doc Required) | 10 |
| iii. Operations & SLA framework (Qualitative)(Doc Required) | 15 |

| | |
|---|---|
| iv. Stakeholder engagement & workload onboarding (Qualitative)(Doc Required) | 10 |
| v. Security & Compliance approach (Qualitative)(Doc Required) | 10 |
| vi. Platform Sustainability & Resource Monetization Model (Qualitative)(Doc Required) | 10 |
| vii. Exit, migration & handover readiness Responses must be implementation-oriented and cover the full project lifecycle from deployment through operations, onboarding, security, Responses must be implementation-oriented and cover the full project lifecycle from deployment through operations, onboarding, security, sustainability, and exit. A Gantt Chart, SLA framework, and handover roadmap are mandatory supporting evidence. (Qualitative)(Doc Required) | 10 |
| Capacity Building & Knowledge Transfer – (Form B10) | |
| a. Capacity Building Methodology Approach (Qualitative)(Doc Required) | 15 |
| b. Operational Enablement, Shadowing and Transition Strategy (Qualitative)(Doc Required) | 15 |
| c. Training Infrastructure, Certification & Output Metrics (Qualitative)(Doc Required) | 15 |
| d. Capacity Building Output Metrics Proposals must cover the full capacity-building lifecycle. Committed output targets become contractual obligations upon award. (Qualitative)(Doc Required) | 15 |
| Proposed Project Team – (Form B11) | |
| a. Proposed team structure & Deployment Model (Qualitative)(Doc Required) | 10 |
| b. Key Personnel Profiles (Qualitative)(Doc Required) | 20 |
| c. Team Capability & Experience (Qualitative)(Doc Required) | 10 |
| d. Consortium / Partner Structure The proposed team must collectively cover all key disciplines. Signed CVs and an organisational chart are mandatory. Full-time staff must be 100% dedicated to this project (Qualitative)(Doc Required) | 10 |
| Sovereignty & Supply-Chain Assurance (Form B12) | |

| | |
|---|---|
| Commitments must be binding — best-efforts assurances do not qualify. Evidence must be specific and verifiable. (Qualitative)(Doc Required) | 30 |

# Required Services

**Positions Without Lots :**

| Position | Delivery Schedule | Quantity | Bid Security |
|---|---|---|---|
| Provision of Services for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH) | **Address:** Plot # 7, Mauve Area, 3rd Floor, Telecom Foundation Complex., Islamabad Capital Territory<br>**Schedule:** 200 Days **Quantity:** 1/job | 1/job | 20000000 PKR |

# Related Services :

No

# Services Specifications

## Positions Without Lots :

**Position:** Provision of Services for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH)

## Specifications / Requirements:

SCOPE OVERVIEW & DELIVERY MODEL i. In-scope / out-of-scope summary In scope: all six ecosystem layers and cross-cutting capabilities; primary and DR colocation hosting; sovereign-model development; affordable and subsidised tiered inference services; Compute-as-a-Service; enterprise hosting of third-party (locally-developed) models; the national developer ecosystem; the AI marketplace including investor-connection mechanisms; the impact-measurement and feedback capability; and all integration, commissioning, operations, and capability transfer. Out-of-scope items, if any, shall be explicitly listed by the procuring authority; absent such listing, the Successful Bidder shall assume end-to-end responsibility. ii. End-to-end stack responsibility The Successful Bidder shall be responsible for delivering and integrating every layer of the Ecosystem into one operational system, irrespective of how many sub-vendors or partners contribute components. iii. Single prime accountability Bids may be submitted by a single entity or by a consortium. Where a consortium bids, a single prime Successful Bidder shall hold end-to-end contractual accountability for delivery, integration, and all service levels across every layer. The procuring authority shall deal solely with the prime Successful Bidder for all obligations under these TORs. iv. Parallel-track delivery model The Successful Bidder shall deliver early-value services (notably the tiered open-weight inference service) in parallel with longer-duration tracks (notably sovereign-model training and facility build-out), in accordance with the phased delivery plan required later in these TORs. v. Relationship between TORs and Evaluation Criteria These TORs state the binding requirements of the program. The Technical Evaluation Criteria score a bidder’s proposed capability to meet them. Every measurable threshold in the Evaluation Criteria is reflected in these TORs.

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# Scope of Work

Please see Annexure AB

# Price Schedule

### For Individual Positions

| # | Position Title | Quantity | Unit Price (PKR) | Total Price (PKR) | Delivery Location | Delivery Period / Year | Country of Origin |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | | |

### For Lots

| # | Lot Title | Total Lot Price (PKR) | Country of Origin |
|---|---|---|---|
| 1 | [Lot 1 Title] | | |

# General Conditions of Contract

# A. General

1. **Definitions**

1.1. Unless the context otherwise requires, the following terms whenever used in this Contract shall have the same meaning and shall be interpreted as indicated

1.1.1. “Applicable Law” means the laws and any other instruments having the force of law in the Government’s Country, or in such other country as may be specified in the Special Conditions of the Contract (SC), as they may be issued and in force from time to time;

1.1.2. “The Contract” means an agreement enforceable by law;

1.1.3. “The Contract Price” means the price payable to the Contractor under the Contract for the full and proper performance of its contractual obligations;

1.1.4. “The Services” means the work to be performed by the Contractor pursuant to this Contract and as prescribed in the Specifications and Schedule of Activities included in the Contractor’s Bid;

1.1.5. “Ancillary Services” means those services ancillary to the provision of Services, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Contractor covered under the Contract;

1.1.6. “GCC” means the General Conditions of Contract contained in this section;

1.1.7. “SCC” means the Special Conditions of Contract by which the GCC may be amended or supplemented;

1.1.8. **“**Day” means calendar day unless indicated otherwise;

1.1.9. “Effective Date” means the date on which this Contract comes into force and effect;

1.1.10. “The Contractor” means the individual or corporate body whose Bids to provide the Services has been accepted by the Procuring Agency;

1.1.11. “The Project Site,” where applicable, means the place or places named in Bid Data Sheet and technical Specifications;

1.1.12. “Government” means the Government of Pakistan;

1.1.13. “Local Currency” means the currency of Pakistan;

1.1.14. “In Writing” means communicated in written form with proof of receipt;

1.1.15. “Completion Date” means the date of completion of the Services by the Contractor as certified by the Procuring Agency;

1.1.16. “Foreign Currency” means any currency other than the currency of the country of the Procuring Agency;

1.1.17. “Party” means the Procuring Agency or the Contractor, as the case may be, and “Parties” means both of them;

1.1.18. "Service" means any object of procurement other than goods or works;

1.1.19. “Subcontractor” means any entity to which the Bidder subcontracts any part of the Services.

2. **Applicable Law**

2.1. The contract shall be governed and interpreted in accordance with the laws of Pakistan, unless otherwise specified in SCC.

3. **Language**

3.1. The Contract as well as all correspondence and documents relating to the Contract exchanged between the Contractorand the Procuring Agency, shall be written in the **English language** unless otherwise stated in the **SCC** . Supporting documents and printed literature that are part of the Contract may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, this translation shall govern.

4. **Notices**

4.1. Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address specified in the **SCC**.

5. **Location**

5.1. The Services shall be performed at such locations as the Procuring Agency may approve and as specified in **SCC.**

6. **Authorized Representatives / Authority of Member in charge**

6.1. Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Procuring Agency or the Contractor may be taken or executed by the officials specified in the **SCC**.

# B. Commencement, Completion, Modification, and Termination of Contract

7. **Effectiveness of Contract**

7.1. This Contract shall come into effect on the date the Contract is signed by both parties and such other later date as may be stated in the **SCC.**

8. **Commencement of Services**

8.1. The Contractor shall confirm availability of Key Experts and begin carrying out the Services not later than the number of days after the Effective Date specified in the **SCC.**

9. **Program schedule**

9.1. Before commencement of the Services, the Contractor shall submit to the Procuring Agency for approval a Program showing the general methods, arrangements, order and timing for all activities. The Services shall be carried out in accordance with the approved Program as updated.

10. **Starting Date/Expiration Date**

10.1. The Contractor shall start carrying out the Services Five (05) days after the date the Contract becomes effective, or at such other date as may be specified in the **SCC.**

10.2. Unless terminated earlier pursuant to Clause **GCC 14** hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the **SCC.**

11. **Entire Agreement**

11.1. This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

12. **Modification**

12.1. Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any modification(s) or variation(s) made by the other Party.

12.2. In cases of any modification(s) or variation(s), the prior written consent of the Procuring Agency is required.

13. **Force Majeure**

13.1. **Definition**
For the purposes of this Contract, “Force Majeure” means an event which is beyond the reasonable control of a Contractor and which makes a Contractor’s performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

13.2. **No Breach of Contract**
The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract in so far as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

13.3. **Extension of Time**

Any period within which a Contractor shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

13.4. **Payments**

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Contractor shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

14. **Termination**

14.1. **By the Procuring Agency**

The Procuring Agency may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (e) of this Clause. In such an occurrence the Procuring Agency shall give at least thirty (30) calendar days' written notice of termination to the Contractor in case of the events referred to in (a) through (d); at least sixty (60) calendar days' written notice in case of the event referred to in (e);

14.1.1. If the Contractor fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension;

14.1.2. If the Contractor becomes (or, if the Contractor consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;

14.1.3. If the Contractor fails to comply with any final decision reached as a result of arbitration proceedings;

14.1.4. If, as the result of Force Majeure, the Contractor is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;

14.1.5. If the Procuring Agency, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;

14.2. **By the Contractor**

The Contractor may terminate this Contract, by not less than thirty (30) calendar days' written notice to the Procuring Agency, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

14.2.1. If the Procuring Agency fails to pay any money due to the Contractor pursuant to this Contract and not subject to dispute within forty-five (45) calendar days after receiving written notice from the Contractor that such payment is overdue;

14.2.2. If, as the result of Force Majeure, the Contractor is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;

14.2.3. If the Procuring Agency fails to comply with any final decision reached as a result of arbitration;

14.2.4. If the Procuring Agency is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Bidder may have subsequently approved in writing) following the receipt by the Procuring Agency of the Contractor's notice specifying such breach.

# C. Obligations of the Contractor

15. **General**

15.1. **Standard of Performance**

15.1.1. The Contractor shall perform the Services and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Contractor shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Procuring Agency, and shall at all times support and safeguard the Procuring Agency's legitimate interests in any dealings with the third parties;

15.1.2. The Contractor shall employ and provide such qualified and experienced Experts and Sub-Contractors as are required to carry out the Services.

15.2. **Law Applicable to Services**
The Contractor shall perform the Services in accordance with the Contract and in accordance with the Law of Pakistan and shall take all practicable steps to ensure that any of its Experts and Sub-Bidders, comply with the Applicable Law.

16. **Conflict of Interests**

16.1. **Contractor Not to Benefit from Commissions and Discounts**
The remuneration of the Contractor shall constitute the Contractor's sole remuneration in connection with this Contract or the Services, and the Contractor shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Contractor shall use their best efforts to ensure that the Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

16.2. **Contractor and Affiliates Not to be Otherwise Interested in Project**
The Contractor agree that, during the term of this Contract and after its termination, the Contractor and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing Services (other than the Services and any continuation thereof) for any project resulting from or closely related to the Services.

16.3. **Prohibition of Conflicting Activities**
Neither the Bidder nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

16.3.1. during the term of this Contract, any business or professional activities in the Government's country which would conflict with the activities assigned to them under this Contract;

16.3.2. during the term of this Contract, neither the Contractor nor their Subcontractors shall hire public employees in active duty or on any type of leave, to perform any activity under this Contract;

16.3.3. after the termination of this Contract, such other activities as may be specified in the **SCC.**

17. **Insurance to be Taken Out by the Contractor**

17.1. The Contractor(a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Sub-contractors', as the case may be) own cost but on terms and conditions approved by the Procuring Agency, insurance against the risks, and for the coverage, as shall be specified in the **SCC**; and (b) at the Procuring Agency's request, shall provide evidence to the Procuring Agency showing that such insurance has been taken out and maintained and that the current premiums have been paid.

18. **Contractor's Actions Requiring Procuring Agency's Prior Approval**

18.1. The Contractor shall obtain the Procuring Agency's prior approval in writing before taking any of the following actions:

18.1.1. appointing such members of the Personnel not provided by the Contractor;

18.1.2. changing the Program of activities; and

18.1.3. any other action that may be specified in the **SCC.**

19. **Reporting Obligations**

19.1. The Contractor shall submit to the Procuring Agency the reports and documents in the numbers, and within the periods as prescribed by the Procuring Agency.

20. **Liquidated Damages**

20.1. **Payments of Liquidated Damages**
The Contractor shall pay liquidated damages to the Procuring Agency at the rate per day stated in the **SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the **SCC**. The Procuring Agency may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

20.2. **Correction for Over-payment**
If the Intended Completion Date is extended after liquidated damages have been paid, the Procuring Agency shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in **SCC.**

20.3. **Lack of performance penalty**

If the Contractor has not corrected a Defect within the time specified in the Procuring Agency's notice, a penalty for Lack of performance will be paid by the Contractor. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as specified in the Contractor

21. **Performance Guarantee**

21.1. Within the time stipulated in the acceptance letter from the Procuring Agency, the successful Bidder shall furnish the Performance Guarantee in shape and amount **specified in SCC.**

21.2. The proceeds of the Performance Guarantee shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

21.3. The Performance Guarantee shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Procuring agency and shall be in the acceptable form as specified in **SCC**.

21.4. The Performance Guarantee will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC.**

22. **Sustainable Procurement**

22.1. The Contractor shall conform to the sustainable procurement contractual provisions, if and as specified in the **SCC.**

# D. Contractor's Personnel

23. **Description of Personnel**

23.1. The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Contractor's Key Personnel. The Key Personnel listed by title as well as by name are hereby approved by the Procuring Agency.

24. **Removal and / or Replacement of Personnel**

24.1. Except as the Procuring Agency may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Contractor, it becomes necessary to replace any of the Key Personnel, the Contractor shall provide as a replacement a person of equivalent or better qualifications.

24.2. If the Procuring Agency finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Contractor shall, at the Procuring Agency's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Procuring Agency.

24.3. The Contractor shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

# E. Obligations of the Procuring Agency

25. **Change in the Applicable Law**

25.1. If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the Services rendered by the Contractor, then the remuneration and reimbursable expenses otherwise payable to the Contractor under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred in the **SCC.**

26. **Services and Facilities**

26.1. The Procuring Agency shall make available to the Contractor and the Experts, for the purposes of the Services and free of any charge, the services, facilities and property described in the Terms of Reference, at the times and in the manner specified in the Terms of Reference.

26.2. In case that such services, facilities and property shall not be made available to the Contractor, the Parties shall agree on (i) any time extension that it may be appropriate to grant to the Contractor for the performance of the Services, (ii) the manner in which the Contractor shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any, to be made to the Contractor as a result thereof.

# F. Payments to the Contractor

27. **Contract Price**

27.1. The price payable shall be in Pakistani Rupees unless otherwise specified in the **SCC**.

28. **Terms and Conditions of Payment**

28.1. Payments will be made to the Contractor according to the payment schedule stated in the **SCC** and as per actual invoice submitted by the Contractor.

28.2. Unless otherwise stated in the **SCC**, the advance payment shall be made against the provision by the Contractor of a bank guarantee for the same amount, and shall be valid for the period stated in the **SCC.** Any other payment shall be made after the conditions listed in the **SCC** for such payment have been met, and the Contractor have submitted an invoice to the Procuring Agency specifying the amount due.

29. **Quality Control Identifying Defects**

29.1. The principle and modalities of Inspection of the Services by the Procuring Agency shall be as indicated in the **SCC.** The Procuring Agency shall check the Contractor's performance and notify him of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Procuring Agency may instruct the Contractor to search for a Defect and to uncover and test any service that the Procuring Agency considers may have a Defect. Defect Liability Period is as defined in the **SCC**.

30. **Correction of Defects, and Lack of Performance Penalty**

30.1. The Procuring Agency shall give notice to the contractor of any Defects before the end of the Contract.  The Defects liability period shall be extended for as long as Defects remain to be corrected.

30.2. Every time notice a Defect is given; the contractor shall correct the notified Defect within the length of time specified by the Procuring Agency's notice.

30.3. If the contractor has not corrected a Defect within the time specified in the Procuring Agency's notice, the Procuring Agency will assess the cost of having the Defect corrected, the contractor will pay this amount, and a Penalty for Lack of Performance.

31. **Settlement of Disputes Amicable Settlement**

31.1. The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation.

32. **Dispute Settlement**

32.1. **Arbitration**

If any dispute of any kind whatsoever shall arise between the procuring agency and the contractor in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity or termination, or the execution of the contract, the parties shall seek to resolve any such dispute or difference by mutual consultation. If the parties fail to resolve such a dispute or difference even after negotiations or mediation, then the dispute shall be referred within fourteen (14) days in writing by either party to the Arbitrator, with a copy to the other party.

Any dispute in respect of which a notice of intention to commence arbitration has been given, in accordance with **GCC sub-clause 32.1**, shall be finally settled by arbitration. Arbitration may be commenced prior to or after completion of the Contract. Arbitration proceedings shall be conducted in accordance with Arbitration Act 1940.

Notwithstanding any reference to arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless otherwise agreed. The Procuring Agency shall continue to pay the Contractor any undisputed amounts due under the Contract during the resolution of any dispute.

# Special Conditions of Contract

# *SECTION VIII. SPECIAL CONDITIONS OF CONTRACT*

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

**Number of GC Clause**

**Amendments of, and Supplements to, Clauses in the General Conditions of Contract**

**Definitions**

**The Procuring Agency is:** IGNITE-National Technology Fund (IGNITE-National Technology Fund), Assistant Manager Procurement Plot # 7, Mauve Area, 3rd Floor, Telecom Foundation Complex., Islamabad Capital Territory

**The Supplier is:**

**The title of the subject procurement is:Provision of Services for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH)**

**Number of GC Clause 2**

**Applicable/Governing Law:**

The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan

**Number of GC Clause 3**

**Language:**

The language of the Contract, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be in **English.**

**Number of GC Clause 4**

**Notices:**

**The addresses for the notices are:**

Procuring Agency:

IGNITE-National Technology Fund (IGNITE-National Technology Fund), Assistant Manager Procurement
Plot # 7, Mauve Area, 3rd Floor, Telecom Foundation Complex., Islamabad Capital Territory
+92-344-944-4314
samiullah@ignite.org.pk

Contractor/ Bidder:

[Name, address and telephone number].

The Contractor/ Bidder’s Representative(s)

[Name, address, telephone number and e-mail address]

**Number of GC Clause 6.1**

**The Authorized Representatives are:**

**For the Procuring Agency:**

IGNITE-National Technology Fund (IGNITE-National Technology Fund), Assistant Manager Procurement
Plot # 7, Mauve Area, 3rd Floor, Telecom Foundation Complex., Islamabad Capital Territory
+92-344-944-4314
samiullah@ignite.org.pk

**For the Bidder:**

**Name: ………………………**

**Designation: ……………..**

**Address: ……………………………..**

**Number of GC Clause 7**

**Effectiveness of the contract**

The Contractor/Bidder shall be effective within ….. days from the date of signature of the Contract by both parties

**Number of GC Clause 8**

**Commencement of Contract:**

The Contractor/ Bidder shall provide Non-Consultancy Services from the effective date of contract.

**Number of GC Clause 10.2**

**Expiration of Contract:**

The time period shall be ………………….

**Number of GC Clause 14**

**Termination**

In the event of termination of the contract due to any reason as already defined in the General Conditions of Contract, the Bidder shall be responsible for providing to the Authority the Services till the time of alternate arrangements.

**Number of GC Clause 16**

**Conflict of Interest:**

The Procuring Agency reserves the right to determine on a case-by-case basis whether the Bidder should be disqualified from providing services due to a conflict of a nature described in Clause GCC C2**.**

**Number of GC Clause 20**

**Liquidated Damages**

If the Bidder fails to provide services as required under the contract or in case of any data loss/data breach or any incident compromising the data security or other such failures related to any services, the Bidder shall pay to the Procuring Agency as Liquidated Damages at a rate of **0.00%** to **1.00%** of the Contract value, in accordance with the extent of performance failure & the cost of investigating such incidents as judged by the Authority.

**Number of GC Clause 21**

**Performance Guarantee:**

The amount of performance guarantee shall be 0% of the contract price in acceptable form of Nil

**Number of GC Clause 27**

**Currency of Payment:**

All the payment to be released to the contractor/Bidder shall be in Pakistani Rupees.

**Number of GC Clause F**

**Payment terms:**

Payment will be made to the Bidder against the procured Goods and services according to the actual invoice or running bills submitted by the Bidder against the services provided within the time given in the conditions of the contract.

**Number of GC Clause F**

**Identifying Defects:**

The Authority reserves the right at any time to inspect the premises of the provider to inspect the goods and monitor the goods being provided.

**Number of GC Clause F 5 & 6**

**Following is the guidance for Dispute Resolution**

i. If any dispute of any kind whatsoever shall arise between the Authority and the Bidder in connection with or arising out of the Contract, including without prejudice to the generality of foregoing, any question regarding its existence, validity, termination and the execution of the Contract – whether during developing phase or after their completion and whether before or after the termination, abandonment or breach of the Contract – the parties shall seek to resolve any such dispute or difference by mutual diligent negotiations in good faith within 14 (fourteen) days following a notice sent by one Party to the other Party in this regard**.**

ii. At future of negotiation the dispute shall be resolved through mediation and mediator shall be appointed with the mutual consent of the both parties**.**

iii. At the event of failure of mediation to resolve the dispute relating to this contract such dispute shall finally be resolved through binding Arbitration by sole arbitrator in accordance with Arbitration Act 1940. The arbitrator shall be appointed by mutual consent of the both parties**.** The Arbitration shall take place in Islamabad, Pakistan and proceedings will be conducted in English language.

iv. The cost of the mediation and arbitration shall be shared by the parties in equal proportion however the both parties shall bear their own costs and lawyer's fees regarding their own participation in the mediation and arbitration. However, the Arbitrator may make an award of costs upon the conclusion of the arbitration making any party to the dispute liable to pay the costs of another party to the dispute**.**

v. Arbitration proceedings as mentioned in the above clause regarding resolution of disputes may be commenced prior to, during or after completion of the contract.

Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree that the Authority shall pay the Bidder any monies due to the Bidder.

**Arbitrator's fee:**

The fee shall be specified in Pak Rupees, as determined by the Arbitrator, which shall be shared equally by both parties**.**

**Appointing Authority for Arbitrator:**

By the Mutual Consent or in accordance with the provisions of Arbitration Act, 1940, in case the parties fail to reach a consensus on the name of sole arbitrator, any party may submit an application to the Chief Justice Islamabad High Court for appointment of sole arbitrator. The Chief Justice IHC may appoint a former judge of any High Court or Supreme Court as the sole arbitrator to resolve the dispute between the parties.

**Rules of procedure for arbitration proceedings:**

Any dispute between the Authority and a Bidder who is a national of the Islamic Republic of Pakistan arising in connection with the present Contract shall be referred to adjudication or arbitration in accordance with the laws of the Islamic Republic of Pakistan including Arbitration Act 1940, however above provision shall prevail in referring the case to the Arbitrator.

**Place of Arbitration and Award:**

The arbitration shall be conducted in English language and place of arbitration shall be at Islamabad. The award of the arbitrator shall be final and shall be binding on the parties.

# Bid Securing Declaration

# Form 9: Bid Securing Declaration

Date: *[insert date (as day, month and year)]*

Bid No.:***P57167***

To: **IGNITE-National Technology Fund (IGNITE-National Technology Fund), Assistant Manager Procurement Plot # 7, Mauve Area, 3rd Floor, Telecom Foundation Complex., Islamabad Capital Territory**

We, the undersigned, declare that:

We understand that, according to your conditions, Bids must be supported by a Bid Securing Declaration.

We accept that we will be blacklisted and henceforth cross debarred for participating in respective category of public procurement proceedings for a period of (not more than) six months, if fail to abide with a bid securing declaration, however without indulging in corrupt and fraudulent practices, if we are in breach of our obligation(s) under the Bid conditions, because we:

1. have withdrawn or modified our Bid during the period of Bid Validity specified in the Form of Bid;

2. Disagreement to arithmetical correction made to the Bid price; or

3. having been notified of the acceptance of our Bid by the Procuring Agency during the period of Bid Validity, (i) failure to sign the contract if required by Procuring Agency to do so or (ii) fail or refuse to furnish the Performance Security or to comply with any other condition precedent to signing the contract specified in the Bidding Documents.

We understand this Bid Securing Declaration shall expire if we are not the successful

Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight (28) days after the expiration of our Bid.

# Contract Form

# *SECTION IX: CONTRACT FORMS*

THIS AGREEMENT made the _____ day of __________ 20_____ between **IGNITE-National Technology Fund (IGNITE-National Technology Fund), Assistant Manager Procurement Plot # 7, Mauve Area, 3rd Floor, Telecom Foundation Complex., Islamabad Capital Territory**

(hereinafter called "the Procuring Agency") of the one part and *[name of Bidder]* of *[city and country of Bidder]* (hereinafter called "the Bidder") of the other part:

WHEREAS the Procuring Agency invited Bids for provision of goods, viz., **Provision of Services for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH) (*P57167*)** and has accepted a Bids by the Bidder for the provision of Goods in the sum of *[contract price in words and figures]* (hereinafter called "the Contract Price").

**NOW THIS CONTRACT WITNESSETH AS FOLLOWS:**

1. In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Contract, In the event of any ambiguity or conflict between the Contract Documents listed below, the order of precedence shall be the order in which the Contract Documents are listed below:-

1. This form of Contract;
2. the Form of Bids and the Price Schedule submitted by the Bidder;
3. the Schedule of Requirements;
4. the Technical Specifications;
5. the Special Conditions of Contract;
6. the General Conditions of the Contract;
7. the Procuring Agency's Letter of Acceptance; and
8. [*add here: any other documents*]

3. In consideration of the payments to be made by the Procuring Agency to the Bidder as hereinafter mentioned, the Bidder hereby covenants with the Procuring Agency to provide the Goods related services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Procuring Agency hereby covenants to pay the Bidder in consideration of the provision of Goods and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS whereof the parties hereto have caused this Contract to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed, delivered by __________________the ________________ (for the Procuring Agency)

Witness to the signatures of the Procuring Agency:

………………………………………………

Signed, sealed, delivered by __________________the ________________ (for the Procuring Agency)

Witness to the signatures of the Bidder: ………………………………………………

# Integrity Pact

Integrity Pact

# DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BYTHE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS.10.00 MILLION OR MORE

**Contract** Number: Contract Value: Contract Title:

Dated:

[Name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing [Name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [Name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten time the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

# Performance Guarantee Form

# Performance Guarantee Form

To: **IGNITE-National Technology Fund (IGNITE-National Technology Fund), Assistant Manager Procurement Plot # 7, Mauve Area, 3rd Floor, Telecom Foundation Complex., Islamabad Capital Territory**

WHEREAS *[name of Bidder]* (hereinafter called "the Bidder") has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated *[insert date]* for provision of Goods*(*hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Bidder shall furnish you with a Bank Guarantee by a reputable bank for the sum specified therein as security for compliance with the Bidder's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Bidders guarantee:

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Bidder, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Bidder to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the: *[insert date]*

Signature and seal of the Guarantors

______________________________________________

*[name of bank or financial institution]*

*[address]*

*[date}*

# Annexure

# Annexure AC

Information (Read-Only)

See Form Under Additional Forms and Documents: **Annexure AC** (page number: 74)

## Technical Submission Forms

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Technical Submission Forms** (page number: 75)

## Financial Submission Forms

Financial Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Financial Submission Forms** (page number: 123)

## Annexure AB - ToRs NAIIH

Information (Read-Only)

See Form Under Additional Forms and Documents: **Annexure AB - ToRs NAIIH** (page number: 136)

## Annexure D -Draft Agreement

Information (Read-Only)

See Form Under Additional Forms and Documents: **Annexure D -Draft Agreement** (page number: 196)

## Appendix H - SLA

Information (Read-Only)

See Form Under Additional Forms and Documents: **Appendix H - SLA** (page number: 228)

## Appendix G - NDA

Information (Read-Only)

See Form Under Additional Forms and Documents: **Appendix G - NDA** (page number: 243)

## Annexure B

Information (Read-Only)

See Form Under Additional Forms and Documents: **Annexure B** (page number: 255)

# Procurement Forms

# Additional Forms and Documents

# Annexure AC

The lead bidder MUST satisfy the Company that it has sufficient financing capacity for the investments required for the Design, Deployment, Operation, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH) and to provide all the relevant services without any interruption. The **technical evaluation of the lead bidder will not be carried out if the lead bidder does not meet the following minimum financing capacity requirements.** The criteria to determine whether the lead bidder has sufficient financing capacity for the project are:

a) A net worth of not less than Rs.500,000,000; or

b) Possession or access to a line of credit (from AA+/AAA financial institution) equal to Rs.500,000,000.

Audited Financial statements of the lead bidder for the preceding 18 months, including an income statement and balance sheet, prepared in accordance with International Financial Reporting Standards;

***<u>Affidavit on letterhead that the lead bidder satisfies the financing capacity criteria outlined above.</u>***

# PART C

# FORMS TO BE SUBMITTED WITH PROPOSAL

## Technical Proposal - Standard Forms

- **Form B1. Technical Proposal Submission Form**
- **Form B2. Profile of lead bidder**
- **Form B3: Co-location & Hosting Facility (Primary +DR)**
- **Form B4: Proven Capability & Delivery Track Record of the Firm/Bidder**
- **Form B5: Proposed AI Compute Infrastructure**
- **Form B6: Sovereign AI Language Model Capability, Data Pipelines & Tiered Inference Services**
- **Form B7: Proposed AI Stack- Sovereignty & Architecture**
- **Form B8-: NAIIH User-facing Access Portal and AI Innovation Marketplace**

  B8-1: -: NAIIH User-facing Access Portal

  B8-2: AI Innovation Marketplace
- **Form B9: Proposed Methodology & Project Management Plan**

  B9-1: Deployment plan and timelines

  B9-2: Commissioning & Testing Strategy

  B9-3: Operations & SLA Framework

  B9-4: Stakeholder Engagement & Workload Onboarding

  B9-5: Security & Compliance Approach

  B9-6: Platform Sustainability & Resource Monetisation Model

  B9-7: Exit, Migration & Handover Strategy
- **Form B10: Capacity Building & Knowledge Transfer**

  B10-1: Capacity Building Methodology Approach

  B10-2: Operational Enablement, Shadowing and Transition Strategy

  B10-3: Training Infrastructure, Certification & Output Metrics

  B10-4: Capacity Building & Output Metrics
- **Form B11: Proposed AI Infrastructure Project Team**

  B11-1: Team Structure & Deployment Model

  B11-2: Key Personnel Profiles

  B11-3: Team Capability & Experience

  B11-4: Consortium / Partner Roles
- **Form B12: Sovereignty & Supply-Chain Assurance**

## B1. Technical Proposal Submission Form (to be submitted on BIDDER'S letter head)

[*Location, Date*]

To:

Manager Procurement

Ignite – National Technology Fund

3rd Floor, TF Complex, 7 Mauve Area, G-9/4

Islamabad, Pakistan

Tel: +92-51- 910 7441 - 46

Cell: +92-306-199-1234

Fax: +92-51- 910 7447

Email: procurement@ignite.org.pk

Sir,

We, the undersigned, offer to provide the services for the **Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH)**in accordance with your Request for Proposal dated [ADVERTISEMENT DATE]. We are hereby submitting our Proposal, which includes this Technical Proposal and Financial Proposal sealed under a separate envelope.

Our Technical Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal, which is 180 calendar days from the date of submission.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature:

**Name and Title of Signatory:**

Name of Firm:

Address:

## B2. Profile of Lead Bidder

| S # | Criteria | Bidder Response |
|---|---|---|
| 1 | **Profile of the lead bidder:**<br>i. Registered age of Company (in years) - Duly verified from certificate of incorporation or equivalent.<br>ii. Legal status<br>iii. Ownership structure<br>iv. Names of Managers/ Owners/ CEO/ Directors/ Partners | |
| 2 | **Operational Capability**<br>i. Location of agency office/sub office<br>ii. Number of branches and their contact numbers.<br>iii. Total number of employees at different branches. | |
| 3 | **Financial Position**<br>i. Name of Banks<br>ii. Certificate of Financial position ***(to be Issued by relevant Bank)***<br>iii. Copy of audited Annual Accounts (of last 3 years)<br>iv. Tax Registration (NTN/STN/FTN) | |

## B3: Colocation & Hosting Facility (Primary + DR)

**Total: 90 Marks**

Instructions to Bidders:
• *Complete all sub-sections (A through E) in full. Incomplete responses will be scored zero for affected criteria.*
• *Every scored criterion must be substantiated by the specific evidence type listed. Narrative descriptions without supporting documents will not be accepted.*
• *Both Primary and DR facility details must be provided where sub-sections apply to both sites.*
• *Power and cooling thresholds are outcome-matched to the hardware declared in Form B5 Section A and Section E.*

### Section A — Facility Resiliency & Certification
25 marks

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Resiliency tier — Primary | Minimum Uptime Institute Tier III, or TIA-942 Rated-3, or independently-audited equivalent — certified for the constructed/operational facility, not design-only; concurrently maintainable (N+1 power and cooling) | Certificate for the built facility; auditor identity | 6 |
| 2 | Committed availability SLA | ≥ 99.982% annual facility availability (Tier III-class), with defined service-credit remedies for breach | Binding SLA with remedy schedule | 4 |
| 3 | Concurrent maintainability | Any single power-path, cooling unit, UPS, or generator maintainable/replaceable with zero IT-load downtime | Maintainability design; single-path-isolation analysis | 3 |
| 4 | Backup power autonomy | N+1 generators with ≥ 48 hours on-site fuel at full IT load, plus a fuel-replenishment contract | Generator/fuel design; replenishment SLA | 3 |

| | | | | |
|---|---|---|---|---|
| 5 | UPS ride-through | UPS sized to carry full IT load through generator start/transfer, ≥ N+1 redundancy | UPS design and redundancy statement | 3 |
| 6 | Operational track record | Evidence the facility has operated to its tier in production (uptime history / references); facilities in active certification may qualify conditionally with certification as a contract milestone | Operational history; references; certification roadmap if applicable | 3 |
| 7 | Cloud Office Accreditation | The co-location partner must have initiated the Cloud office accreditations under Pakistans Cloud First Policy | Evidence of accreditation process initiation/ documents submission. | 3 |

## Section B — Power & Cooling — Outcome-Matched to Delivered Hardware

20 marks

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Power matched to load + headroom | Facility guarantees power capacity ≥ the bidder's delivered hardware peak draw + 25% growth headroom, at the per-rack/per-cabinet density the delivered systems require | Power-commitment letter reconciled against Form B5 Section E declared power envelope | 6 |
| 2 | High-density cooling matched to load | Facility cools the delivered hardware at full sustained load with no throttling, supporting the bidder's cooling method — direct-liquid (CDU/facility water loop), rear-door heat exchanger, or high-density air — as the hardware requires | Cooling design; capacity calculation at full delivered load | 6 |
| 3 | Floor loading & form-factor accommodation | Facility accommodates the physical dimensions, weight/floor-loading (including heavy integrated super-node cabinets, often 1,500+ kg), busbar, and cooling-interface of the delivered systems | Floor-loading and form-factor compatibility statement reconciled with Form B5 Section E | 3 |
| 4 | Power usage effectiveness | Design PUE ≤ 1.5 (climate-adjusted for Pakistan; ≤ 1.4 Preferred), reported monthly | PUE figure and measurement methodology | 3 |

| | | | | |
|---|---|---|---|---|
| 5 | Metered power billing | Transparent per-circuit metered power billing; no flat-rate over-provisioning charges | Metering and billing methodology | 2 |

*All thresholds are matched to the bidder's declared hardware in Form B5 — not prescriptive fixed standards.*

## Section C — Security & Sovereignty

15 marks

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | In-country location (sovereignty gate) | Both Primary and DR facilities physically located within Pakistan; all hosted data and equipment subject solely to Pakistani jurisdiction; foreign-only siting fails this criterion | Site addresses; jurisdiction attestation | 4 |
| 2 | Physical access control | Multi-factor access, 24×7 manned security, mantrap/airlock entry, CCTV with ≥ 90-day retention, full visitor logging | Security design; access-control and CCTV documentation | 3 |
| 3 | Dedicated caged/suite space | Dedicated locked cage or private suite for the deployment, physically segregated from other tenants, at both sites | Floor plan; segregation statement | 3 |
| 4 | Facility certifications | ISO 27001 (or recognised equivalent) for information security; compliance with applicable Pakistani data-protection regulation | Certification documents | 3 |
| 5 | Diverse network entry | ≥ 2 physically diverse fibre/carrier entry paths per facility | Connectivity/diversity design | 2 |

## Section D — Disaster Recovery / Secondary Site

20 marks

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | DR site tier | Secondary site at minimum Tier III-equivalent (same standard basis as B3 Section A #1), in-country | DR facility certificate | 6 |

| | | | | |
|---|---|---|---|---|
| 2 | Geographic separation | DR site separated from Primary by sufficient distance to survive a regional event (flood/seismic/grid), while supporting the required replication — bidder states distance and justifies | Site separation rationale; risk-zone analysis | 4 |
| 3 | Replication & data protection | Inter-site replication with stated RPO; bidder declares replication architecture and bandwidth between sites | Replication design; committed RPO | 4 |
| 4 | Failover capability & RTO | Defined failover process with committed RTO for resuming critical services at the DR site | DR runbook; committed RTO; test methodology | 3 |
| 5 | DR readiness testing | Scheduled DR failover testing (≥ annually) with documented results | DR test plan and reporting commitment | 3 |

## Section E — Service & Commercial Terms

10 marks

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Remote-hands / smart-hands | 24×7×365 on-site technical support at both sites; Severity-1 response ≤ 1 hour with defined escalation | Service catalogue and SLA | 3 |
| 2 | Lease term & escalation caps | Committed hosting term matching the equipment lifecycle, with defined renewal and price-escalation caps | Lease/contract terms | 3 |
| 3 | Onboarding & commissioning | Installation/commissioning plan and timeline for racking, powering, and bringing the infrastructure online at both sites | Onboarding plan with milestones | 2 |
| 4 | Exit & decommissioning | At term end: secure equipment removal and certified data destruction (recognised sanitisation standard), no hostage-data or punitive exit fees | Exit plan; data-destruction standard | 2 |

## B4: Proven Capability & Delivery Track Record of the firm/bidder

Total: 120 Marks

Instructions to Bidders:
• *Provide a separate reference entry for each scored criterion where a qualifying reference exists.*
• *All references must be verifiable: provide a named client contact with current email/phone. Unverified entries score zero.*
• *References may be drawn from the lead bidder or named consortium partners.*

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Large-scale AI/HPC infrastructure delivery | ≥ 2 reference deployments where the bidder (or named partner) delivered and commissioned accelerator/HPC clusters of comparable scale (state accelerator count and scale of each) | Reference list with scope, scale, dates, client, contactable referee | 20 |
| 2 | Production LLM training / fine-tuning delivery | ≥ 1 reference where the bidder (or named partner/ OEM) has successfully trained and deployed a production LLM of 100B+ parameters using the proposed AI platform, ideally the reference should include a low-resource or non-English language | Project description; model/scale; model company certification/ letter; outcome; contactable referee | 20 |
| 3 | Multi-tenant AI platform / AIaaS operation | ≥ 1 reference operating a multi-tenant AI platform or AI-as-a-Service offering with tiered users at scale (state user/tenant count) | Reference with tenancy model, scale, uptime achieved, referee | 15 |
| 4 | Marketplace / developer-ecosystem delivery | ≥ 1 reference building and operating an AI/software marketplace, API marketplace, or developer ecosystem (catalogue, onboarding, monetisation, SDKs) | Reference with ecosystem scope, adoption metrics, referee | 15 |

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 5 | Data-pipeline & governance delivery | ≥ 1 reference establishing large-scale data pipelines with multi-organisation data sourcing under a governance/consent framework | Reference with data scope, governance model, referee | 15 |
| 6 | Sovereign / government-scale programme | ≥ 1 reference delivering a sovereign, government, or regulated-sector platform with data-residency and sovereignty obligations | Reference with the scope of sovereignty, jurisdiction, and referee | 15 |
| 7 | Local presence & delivery footprint | Demonstrated in-country (Pakistan) delivery, support, or partner presence capable of sustaining the programme; named local entities/partners | Local-presence evidence; partner agreements/LOIs | 10 |
| 8 | Operational maturity (certifications) | Organisational delivery/operations certifications (e.g. ISO 9001, ISO 20000, ISO 27001, or recognised equivalents) for bidder and key partners | Certificates | 10 |

*Note: All marks are awarded on a per-criterion binary basis (0 or full marks) except where the criterion specifies a tiered approach. Evidence must be submitted; narrative assertions without documentary support score zero.*

## Reference Submission Templates

Complete a separate table below for each reference being submitted against criteria 1–7

| | |
|---|---|
| **Reference number (e.g. Ref 9.1-A)** | |
| **Criterion reference(s) claimed (e.g. 9.1, 9.3)** | |
| **Client / organisation name** | |
| **Project / programme title** | |
| **Project scope and scale (accelerator count, user count, data volume, etc.)** | |
| **Your organisation's specific role** | |
| **Project duration (start and end dates)** | |
| **Project status (Completed / Ongoing)** | |
| **Client contact name, title, email, telephone** | |
| **Any consortium partner involved in this reference** | |

*Duplicate the above table as needed for additional references.*

## B5: Proposed AI Compute Infrastructure

Total: 220 Marks

Instructions to Bidders:
- *Sections A-E must each be completed in full.*
- *All specifications must be substantiated by the evidence type listed. OEM datasheets, architecture diagrams, and calculation sheets are mandatory for threshold claims.*
- *Scoring prioritises sustained performance, scaling efficiency, and sovereignty compliance over peak theoretical specifications.*
- *Individual item scores are tiered (partial marks awarded for meeting lower thresholds) unless otherwise stated.*

### Section A — AI Accelerators

60 marks

| # | Requirement | Quantified Threshold | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Accelerator class, quantity & form factor | Brand-new, training-class AI accelerator suitable for both large-scale distributed training and high-throughput inference. ≥ 64 accelerators. Must be a baseboard/module-integrated form factor (SXM, OAM, or proprietary integrated module). Standalone PCIe add-in-card-only configurations not meeting interconnect/ form-factor are not acceptable. Rack-scale / super-node architectures are explicitly permitted. | OEM datasheets confirming training-class designation; architecture documentation; cluster interconnect topology diagram | 8 |
| 2 | Low-precision tensor throughput (per accelerator) | ≥ 1.5 PFLOPS low-precision tensor throughput per accelerator at a vendor-declared datatype (FP8, FP6, FP4, INT8, or equivalent). Vendor must state the datatype and whether dense or sparse; sparse claims must also disclose the equivalent dense figure. | OEM datasheet stating throughput, datatype, and dense/sparse basis | 4 |

| | | | | |
|---|---|---|---|---|
| 3 | 16-bit training compute (per accelerator) | ≥ 0.4 PFLOPS dense BF16/FP16 (or vendor-equivalent 16-bit floating-point) per accelerator, ensuring compatibility with established training frameworks dependent on 16-bit precision. | OEM datasheet | 4 |
| 3.1 | Enhanced 16-bit training compute (per accelerator) | ≥ 0.8 PFLOPS dense BF16/FP16 (or vendor-equivalent 16-bit floating-point) per accelerator, ensuring compatibility with established training frameworks dependent on 16-bit precision.<br><br>Scored only if mandatory threshold (3) is met. | OEM datasheet | 2 |
| 3.2 | Premium 16-bit training compute (per accelerator) | ≥ 1.2 PFLOPS dense BF16/FP16 (or vendor-equivalent 16-bit floating-point) per accelerator, ensuring compatibility with established training frameworks dependent on 16-bit precision.<br><br>Scored only if mandatory threshold (3) is met. | OEM datasheet | 4 |
| 4 | Per-accelerator high-bandwidth memory | ≥ 96 GB on-package high-bandwidth memory (HBM or vendor-equivalent on-package high-bandwidth memory) per accelerator. Capacity and memory type must be stated; every accelerator in the configuration must meet this threshold. | OEM accelerator datasheets and memory specifications. | 4 |
| 4.1 | Enhanced Per-accelerator high-bandwidth memory | ≥ 128 GB on-package high-bandwidth memory (HBM or vendor-equivalent on-package high-bandwidth memory) per accelerator. Capacity and memory type must be stated; every accelerator in the configuration must meet this threshold.<br><br>Scored only if mandatory threshold (4) is met | OEM accelerator datasheets and memory specifications. | 2 |
| 4.2 | Premium Per-accelerator high-bandwidth memory | ≥ 144 GB on-package high-bandwidth memory (HBM or vendor-equivalent on-package high-bandwidth memory) per accelerator. Capacity and memory type must be stated; every accelerator in the configuration must meet this threshold.<br><br>Scored only if mandatory threshold (4) is met | OEM accelerator datasheets and memory specifications. | 4 |

| | | | | |
|---|---|---|---|---|
| 5 | Per-accelerator memory bandwidth | ≥ 3.5 TB/s sustained on-package memory bandwidth per accelerator | OEM datasheet | 4 |
| 6 | Aggregate cluster high-bandwidth memory | ≥ 6 TB aggregate on-package high-bandwidth memory across the proposed cluster (= per-device capacity × device count). Host DRAM is explicitly excluded; the calculation must be shown. | Cluster sizing calculation; architecture design; OEM datasheets. | 4 |
| 6.1 | Enhanced Aggregate cluster high-bandwidth memory | ≥ 12 TB aggregate on-package high-bandwidth memory across the proposed cluster (= per-device capacity × device count). Host DRAM is explicitly excluded; the calculation must be shown.<br><br>Scored only if mandatory threshold (6) is met | Cluster sizing calculation; architecture design; OEM datasheets. | 2 |
| 6.2 | Premium Aggregate cluster high-bandwidth memory | ≥ 18 TB aggregate on-package high-bandwidth memory across the proposed cluster (= per-device capacity × device count). Host DRAM is explicitly excluded; the calculation must be shown.<br><br>Scored only if mandatory threshold (6) is met | Cluster sizing calculation; architecture design; OEM datasheets. | 4 |
| 7 | Scale-up (intra-node) accelerator interconnect | All accelerators within a node/super-node shall be directly interconnected by a high-bandwidth, low-latency fabric providing ≥ 700 GB/s accelerator-to-accelerator bandwidth per accelerator (any topology: all-to-all, switched mesh, or fabric, or equivalent), supporting direct peer-to-peer memory access between accelerators without host CPU/DRAM staging. This minimum reflects the tight intra-domain coupling required for efficient large-model (tensor- and pipeline-parallel) training at national scale; architectures whose intra-node accelerator-to-accelerator bandwidth falls below this threshold cannot sustain the required collective-communication efficiency and are not acceptable. | OEM/architecture documentation stating per-accelerator aggregate interconnect bandwidth and topology | 4 |

| | | | | |
|---|---|---|---|---|
| 8 | Scale-out (inter-node) connectivity | High-speed, RDMA-capable inter-node connectivity (any standards-based or proprietary RDMA transport — e.g., RoCEv2, InfiniBand, UBoE, or vendor-equivalent) sufficient for distributed multi-node training, with direct accelerator-to-network data paths that bypass host CPU staging. Per-node injection bandwidth must be declared. | Architecture documentation; NIC/fabric datasheet; declared per-node injection bandwidth | 4 |
| 9 | Hardware partitioning / multi-tenant isolation | Hardware-enforced partitioning into ≥ 2 isolated instances per accelerator, each with dedicated compute and memory. Minimum partitioning granularity declared. | OEM documentation describing partitioning mechanism and isolation guarantees | 2 |
| 10 | Confidential computing / trusted execution | Accelerator supports hardware-isolated trusted execution environment protecting model weights and data in use from privileged host administrators. | OEM security documentation | 2 |
| 11 | Power & thermal envelope | Per-accelerator and per-node maximum power draw and supported cooling method (air and/or direct liquid) declared. | OEM thermal/power datasheets; rack integration documentation | 2 |
| 12 | Software ecosystem & toolchain | Complete supported software toolchain: compiler, drivers, optimised libraries, and framework integration for PyTorch plus ≥ 1 other major framework. Migration/portability tooling documented. | Toolchain documentation; supported framework matrix; support/lifecycle statement | 2 |
| 13 | Product availability & authorised supply channel | Latest-generation hardware in current production (not end-of-life/end-of-sale), supplied through authorised official OEM channels. | OEM letter of authorisation; product lifecycle/availability statement | 4 |

## Section B — AI Interconnect & Networking Fabric

45 marks

| # | Requirement | Quantified Threshold | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Fabric oversubscription ratio | 1:1 (zero oversubscription) bisectional, non-blocking across all switch tiers at full cluster scale | Formal non-blocking / bisectional-bandwidth analysis signed by OEM; topology diagram showing every tier with port and link counts | 6 |
| 2 | Path diversity (resilience) | ≥ 4 equal-cost independent (disjoint) paths between any two accelerator endpoints | Routing/topology analysis demonstrating disjoint-path count for worst-case endpoint pair | 4 |
| 3 | Single-switch fault domain | Failure of any single switch isolates ≤ 12.5% of accelerators (≥ 7/8 remain connected) | Fault-domain analysis mapping each switch to its dependent accelerators | 4 |
| 4 | Topology scale ceiling | Proposed topology supports ≥ 100% accelerator growth beyond delivered count without adding switch tiers or re-architecting. Accelerator bandwidth between two nodes should be ≥ 580GB/s. | Scalability analysis stating maximum supported endpoints at the delivered tier count | 4 |
| 5 | Per-node fabric injection bandwidth | ≥ 3.2 Tb/s aggregate per accelerator node into the scale-out fabric | NIC/port OEM datasheets; per-node bandwidth calculation | 6 |
| 6 | RDMA losslessness | Zero packet loss for RDMA traffic under full congestion | Protocol documentation; hardware flow-control and congestion-control mechanism description; lossless validation/test method | 4 |
| 7 | Collective-operation efficiency | Sustained ≥ 90% of theoretical bisectional bandwidth on all-reduce at full cluster scale | All-reduce benchmark results at stated scale, OR OEM-validated performance model with all assumptions disclosed | 5 |
| 8 | Inter-node small-message latency | ≤ 3 µs end-to-end accelerator-to-accelerator for messages < 4 KB | Latency benchmark report or OEM-validated figure with test conditions stated | 4 |

| | | | | |
|---|---|---|---|---|
| 9 | Storage-plane aggregate reach | All accelerator nodes simultaneously reach 100% of aggregate storage bandwidth (non-blocking storage plane) | Storage-fabric design with bandwidth calculation; non-blocking analysis for the storage plane | 4 |
| 10 | Direct accelerator-to-network DMA | Host-CPU/DRAM-bypass DMA path present on inter-node accelerator-to-accelerator transfers | OEM architecture documentation describing the direct-DMA data path | 4 |

## Section C — Compute Infrastructure: Host, Control-Plane & Data-Pipeline Tiers

45 marks

### a — Accelerator Compute Host Tier (15 marks)

| # | Requirement | Quantified Threshold | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Host CPU provision | Dual-socket (or vendor-equivalent multi-socket) hosts; ≥ 128 physical cores per accelerator host, aggregate across sockets (x86-64 or Arm) | OEM CPU datasheet; aggregate per-host core calculation | 3 |
| 2 | Host system memory | ≥ 1.5 TB DDR5/equivalent per accelerator host; ≥ 8-channel memory subsystem; ≥ 4,800 MT/s or equivalent effective bandwidth | OEM memory configuration and population diagram | 2 |
| 3 | Host-to-accelerator I/O | ≥ PCIe Gen5 (or vendor-equivalent coherent link) to every accelerator; full host-to-device bandwidth stated | OEM block diagram showing host-to-accelerator lanes/links | 2 |
| 4 | Local NVMe data cache | Aggregate ≥ 240 TB raw NVMe across the accelerator-compute tier, distributed so every accelerator has a local high-speed staging path supporting direct-to-accelerator DMA | OEM drive datasheets; aggregate capacity calculation; DMA-path documentation | 2 |

| # | Requirement | Quantified Threshold | Substantiation Required | Marks |
|---|---|---|---|---|
| 5 | Boot/OS storage redundancy | Dedicated mirrored (RAID 1) OS media per host, separate from data NVMe | OEM storage configuration | 2 |
| 6 | Host network (data plane) | ≥ 2× 100 GbE (or equivalent) host-plane ports per host, separate from accelerator-fabric NICs | OEM NIC datasheet; port allocation diagram | 2 |
| 7 | Power redundancy | Titanium-grade PSUs, N+N or A/B-grid redundant, sized to peak node draw | OEM PSU datasheet; node power-budget calculation | 2 |

## b — Management & Control-Plane Node Tier (15 marks)

| # | Requirement | Quantified Threshold | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Cluster lifecycle nodes | ≥ 2 physical nodes in HA pair; automatic failover ≤ 60 s | OEM HA documentation; failover validation method | 3 |
| 2 | Orchestration control-plane nodes | ≥ 3 physical nodes forming a quorum (tolerates ≥ 1 node failure with no loss of control-plane availability) | Control-plane HA architecture; quorum design | 3 |
| 3 | Control-plane CPU & memory | Each node: ≥ 96 physical cores per node; ≥ 512 GB DDR5/equivalent | OEM CPU/memory datasheets; aggregate per-node core calculation | 3 |
| 4 | Control-plane local storage | Each node: mirrored (RAID 1) OS media + ≥ 15 TB raw NVMe data, SED-capable | OEM storage datasheet; encryption-capability statement | 2 |
| 5 | Control-plane network | Each node ≥ 4× 25 GbE (or equivalent) + ≥ 2× 1 GbE dedicated OOB management ports | OEM NIC datasheet; port allocation | 2 |
| 6 | Physical fault separation | Control-plane nodes distributed across ≥ 2 racks and separate PDU circuits | Rack elevation and power-distribution diagram | 2 |

### c — Data-Pipeline / General-Purpose Compute Tier (15 marks)

| # | Requirement | Quantified Threshold | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Dedicated data-pipeline tier | A dedicated, physically separate compute tier (no accelerators required) that tolerates the failure of any single node without halting pipeline processing | OEM server datasheets; tier role statement; single-node-failure tolerance description | 3 |
| 2 | Aggregate pipeline CPU cores | ≥ 1,500 physical cores aggregate across the data-pipeline tier (x86-64 or Arm) | Per-node × node-count core calculation; OEM CPU datasheets | 3 |
| 3 | Pipeline memory | ≥ 1 TB DDR5/equivalent per data-pipeline node for in-memory dataset transforms | OEM memory configuration | 3 |
| 4 | Working / scratch storage | ≥ 500 TB raw flash-class (NVMe or vendor-equivalent) storage for staging and shuffling datasets; sustained aggregate ≥ 100 GB/s read and ≥ 100 GB/s write | OEM storage datasheet; aggregate throughput figure with test/measurement basis | 2 |
| 5 | Pipeline-to-fabric connectivity | Each node ≥ 2× 25 GbE (or equivalent) into the storage/data plane | OEM NIC datasheet; port allocation | 2 |
| 6 | Pipeline-to-storage path | Demonstrated continuous data path from the pipeline tier to the parallel storage system and onward to accelerators (no architectural dead-ends) | End-to-end data-flow diagram | 2 |

## Section D — Parallel Storage System

40 marks

| # | Requirement | Quantified Threshold | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Total raw capacity | ≥ 1 PB raw across the external parallel storage system | OEM capacity configuration; drive count × capacity calculation | 4 |
| 2 | Hot-tier performance capacity | ≥ 200 TB usable (post-data-protection) for the active training working set (shards, checkpoints, KV cache);non-disruptively expandable to ≥ 1 PB | Tier design; usable-capacity calculation explicitly showing erasure-coding/data-protection overhead | 4 |
| 3glob | Bulk-tier capacity | A capacity tier providing the remainder of the ≥ 1 PB pool for datasets and archived checkpoints, within a tiered namespace shared with the hot tier | Namespace/architecture documentation; capacity breakdown | 4 |
| 4 | Aggregate read throughput | ≥ 380 GB/s sustained aggregate read to the accelerator fleet at full cluster scale | Benchmark or OEM-validated aggregate-throughput figure with test conditions | 4 |
| 5 | Aggregate write throughput | ≥ 190 GB/s sustained aggregate write (checkpoint-class workload) at full cluster scale | Benchmark or OEM-validated figure with test conditions | 3 |
| 6 | Simultaneous per-node delivery | ≥ 6 GB/s sustained storage bandwidth deliverable to every accelerator node concurrently under full all-node load, with no node falling below this floor | Per-node bandwidth analysis under simultaneous all-node read load | 3 |
| 7 | Direct storage-to-accelerator DMA | A direct DMA data path from storage to accelerator memory that bypasses host CPU and system DRAM; any implementation accepted | Architecture documentation describing the direct-DMA path and accelerator-memory target | 3 |
| 8 | Parallel tiered namespace | A single parallel/distributed filesystem presenting tiered namespaces across all tiers and nodes, concurrently mountable by all accelerator and pipeline nodes | Filesystem architecture; concurrent-mount and namespace documentation | 3 |

| | | | | |
|---|---|---|---|---|
| 9 | Linear scalability | Capacity and aggregate throughput scale together at ≥ 80% of linear efficiency up to ≥ 2× delivered capacity, with no single-namespace re-architecting required | Scalability analysis; throughput-vs-nodes data or OEM-validated statement | 3 |
| 10 | Multi-tenancy & QoS | Enforcement of per-tenant capacity quotas and bandwidth/IOPS QoS limits, plus RBAC, within the shared namespace | Multi-tenancy and QoS feature documentation | 3 |
| 11 | Data protection | Erasure coding or equivalent, tolerating ≥ 2 concurrent device failures with no data loss and no namespace outage during rebuild | Data-protection scheme; failure-tolerance and rebuild-behaviour statement | 3 |
| 12 | Storage-fabric independence | Storage connects over a standards-based RDMA-capable fabric; storage-fabric switches NOT required to share a vendor with the compute fabric, provided an interoperable solution is demonstrated | Storage-network design; interoperability and single-point-of-support statement | 3 |

## Section E — Infrastructure & Equipment Management

30 marks

### a — Out-of-Band Management (12 marks)

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Dedicated OOB network | Physically isolated management network (dedicated switches, separate cabling) carrying no AI-compute, storage, or tenant data-plane traffic; redundant (≥ 2 switches, hot-standby) | Network isolation design; switch redundancy statement | 2 |

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 2 | Per-node BMC access | Every node (compute, control-plane, storage, pipeline) reachable via dedicated BMC ports (primary + failover) on the OOB network only | Port allocation; OOB connectivity diagram | 2 |
| 3 | Open management API | Open, standards-based RESTful management API (DMTF Redfish or equivalent) on all BMCs for provisioning, power control, inventory, sensor telemetry, and firmware updates | BMC documentation; management-API version statement | 2 |
| 4 | Remote console | HTML5 KVM-over-IP with session recording and audit logging | BMC/KVM documentation | 2 |
| 5 | Hardware telemetry & alerting | Per-node and per-accelerator telemetry (temperature, power, fan, ECC/error counters, utilisation) with threshold-based alerting forwarded to NOC/SOC within ≤ 30 s of breach | Telemetry/alerting documentation; forwarding-latency statement | 2 |
| 6 | Smart PDU management | Per-outlet metered PDUs with remote power cycling, manageable over the OOB network via open protocol (Redfish/SNMP) | PDU datasheet; management-protocol statement | 2 |
| 7 | DCIM / inventory | Automated hardware inventory/CMDB (serials, accelerator/NIC IDs, firmware versions, rack location) updated on hardware-change events | DCIM/CMDB documentation | 2 |

### b — Equipment Power (6 marks)

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Redundant power delivery | Titanium-grade PSUs; N+N or A/B-grid redundancy across all node classes; sized to peak draw with no single PSU/feed as a single point of failure | Power architecture; redundancy and peak-draw calculation | 2 |
| 2 | OOB power independence | All OOB switches and remote-console devices on UPS-protected, electrically separate circuits, maintaining management access during a primary-power event | Power-distribution diagram for the management plane | 2 |
| 3 | Declared power envelope | Per-rack/per-cabinet and total-solution peak power declared and reconciled against the capacity guaranteed in Form B3 (Colocation & Hosting Facility) | Power-budget document | 2 |

## c — Thermal & Cooling (Equipment) (6 marks)

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Thermal dissipation | Cooling solution dissipates the full declared per-rack/per-cabinet thermal load with no accelerator/CPU throttling at sustained 100% load; any method (air, direct-liquid, hybrid) accepted | Thermal design; heat-load and cooling-capacity calculation | 2 |
| 2 | Cooling redundancy | Redundant, hot-swappable cooling components such that a single fan/pump/CDU failure does not cause throttling or shutdown | Cooling redundancy statement; failure-mode analysis | 2 |

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 3 | Facility integration | Equipment physically compatible with, and deployable within, the floor-loading, dimensional, power, and cooling envelope guaranteed in Form B3. Any non-standard rack/cabinet form factor, busbar, or liquid-cooling interface must be fully specified. | Form-factor, weight/floor-loading, and cooling-interface specification; facility-compatibility statement | 2 |

### d — Physical & Hardware Security (6 marks)

| # | Requirement | Threshold / Outcome | Substantiation Required | Marks |
|---|---|---|---|---|
| 1 | Hardware root of trust | Silicon root of trust + UEFI Secure Boot + TPM 2.0 (or recognised equivalent) on all node classes | Security architecture; component statement | 2 |
| 2 | Signed firmware & lockdown | Cryptographically signed firmware verified at every boot; system lockdown preventing unauthorised configuration drift; SOC alert on attestation failure | Firmware-security documentation | 2 |
| 3 | Physical tamper detection | Chassis intrusion detection logged and alerted via the OOB management plane | Intrusion-detection documentation | 2 |

# B6: Sovereign AI Language Model Capability, Data Pipelines & Tiered Inference Services

Total: 110 Marks

This form evaluates the bidder's capability to provide, deploy, and operate **sovereign AI Language model(s)** under full ownership and control of the Government of Pakistan, suitable for national-scale training, fine-tuning, and inference within NAIIH.

## Key Definitions

| Term | Definition |
|---|---|
| **Sovereign AI Model** | A large language model for which the Government of Pakistan holds full intellectual property ownership of the delivered weights, owns the national training corpus assembled under the contract, controls all deployment infrastructure, and retains unrestricted rights to maintain, extend, redistribute, and rebrand the model independently of the original developer — in perpetuity. |
| **Large Language Model (LLM)** | For the purposes of this RFP, an LLM is a transformer-based language model with a minimum of 30 billion parameters (dense equivalent or MoE active parameters per forward pass). The target model scale for this engagement is 70 billion parameters. |
| **Open-Weight Model** | A model whose trained weight parameters are publicly downloadable. Apache 2.0 and MIT or equivalent are the only base licences acceptable under this RFP for sovereign redistribution and national branding. Licences with volume caps, revenue triggers, mandatory name attribution, or redistribution restrictions do not qualify. |
| **Dense vs. MoE Parameters** | Dense models activate all parameters for every token processed. Mixture-of-Experts (MoE) models activate only a subset of parameters per token. For this RFP, parameters per forward pass is the relevant measure for compute and capability comparison. Vendors must declare both figures if proposing an MoE architecture. |
| **IP Assignment** | Full legal transfer of intellectual property ownership of model weights to the Government of Pakistan — not a licence. Only an assignment gives the government unrestricted rights to use, modify, redistribute, and rebrand the model without reference to the original developer. |
| **Technology Transfer** | The structured transfer of knowledge, skills, training code, data pipelines, and institutional capability to Pakistani engineers and national institutions, enabling Pakistan to develop, maintain, and extend AI models independently after the contract period. |

### Section A — Model Training & Fine-Tuning Platform (25 marks)

| # | Requirement | Threshold / outcome | Substantiation required | Marks |
|---|---|---|---|---|
| **1** | Operational training platform | A fully configured, end-to-end training and fine-tuning platform deployed on the procured infrastructure, supporting distributed pre-training, continued pre-training, and fine-tuning (full and parameter-efficient) | Platform architecture; deployment/acceptance plan | 8 |
| **2** | Experiment & lifecycle management | Experiment tracking, dataset/version lineage, model registry, checkpoint management, and reproducible training runs | Tooling documentation | 6 |
| **3** | Evaluation harness | Automated evaluation framework for benchmarking models, including Urdu/local-language and domain-specific evaluation sets | Evaluation methodology; sample eval sets | 5 |
| **4** | Platform handover & independence | Platform fully operable by the in-country team without bidder dependency at contract end; no licensing or technical lock preventing continued independent fine-tuning | Handover plan; dependency/lock-in disclosure | 6 |

### Section B — Governed Data Pipelines & Local-Context Datasets (25 Marks)

| # | Requirement | Threshold / outcome | Substantiation required | Marks |
|---|---|---|---|---|
| **1** | Data-partnership framework | A working framework and signed initial/ data-sharing arrangements with willing Pakistani organisations, operating under MoITT/Ignite governance and consent/legal compliance | Partnership engagement plan; governance/consent model | 5 |

| # | Requirement | Threshold / outcome | Substantiation required | Marks |
|---|---|---|---|---|
| **2** | Urdu & local-language corpora | Assembly, cleansing, and curation of Urdu language corpora and other local-context datasets (regional languages, domain data) to a stated minimum scale and quality | Dataset specification; scale (tokens/documents) and quality methodology | 10 |
| **3** | End-to-end pipeline operation | Production data pipelines (ingestion → cleansing → de-duplication → PII handling → curation → training-ready) running on the platform, integrated with the B5 Section C compute tier and Section D storage | Pipeline architecture; data-flow documentation | 5 |
| **4** | Data sovereignty & governance | All collected/curated data resident in-country, owned by GoP, with full provenance, audit trail, and consent/withdrawal handling under MoITT/Ignite governance | Data-governance and residency documentation | 5 |

## Section C — Sovereign Fine-Tuned LLM (the national model) (35 Marks)

| # | Requirement | Threshold / outcome | Substantiation required | Marks |
|---|---|---|---|---|
| **1** | Base-model license (sovereignty foundation) | Base model under Apache 2.0, or an equivalent OSI-approved permissive license providing an explicit patent grant, with an unbroken permissive license chain from base weights through every intermediate artefact to the delivered model — such that the resulting model is freely modifiable, redistributable, and commercialisable by GoP with no foreign veto, MAU cap, geographic, field-of-use, or output restriction | Full license chain documentation for base + all derivative artefacts; legal attestation of permissive continuity | 10 |

| # | Requirement | Threshold / outcome | Substantiation required | Marks |
|---|---|---|---|---|
| **2** | Fine-tuning for Urdu & local context | Model fine-tuned/aligned on the Urdu corpora and local-context datasets of Section B, with demonstrated capability uplift on Urdu/local evaluation sets versus the untuned base | Before/after evaluation results on Urdu/local benchmarks | 8 |
| **3** | Full sovereignty transfer | Complete transfer to GoP of: model weights, training/fine-tuning code, datasets, configs, and documentation — sufficient for GoP to independently retrain, re-fine-tune, and redeploy | Sovereignty transfer package manifest; rights-assignment instrument | 7 |
| **4** | Alignment, safety & local values | Safety alignment, content controls, and bias/appropriateness handling tuned to the Pakistani legal and cultural context | Alignment methodology; safety evaluation | 5 |
| **5** | Model documentation & card | Full model card: architecture, training data summary, capabilities, limitations, eval results, intended-use and licensing statement | Model card document | 5 |

## Section D — Tiered Public Inference Service (≥ 20 open-weight models) (25 Marks)

| # | Requirement | Threshold / outcome | Substantiation required | Marks |
|---|---|---|---|---|
| **1** | Model catalogue (≥ 20) | ≥ 20 open-weight models in production inference, stood up in parallel with (not after) the sovereign-model training; catalogue spans sizes/capabilities (general, coding, reasoning, multilingual). These need not be permissively licensed, provided each model's license permits the intended hosted-inference service | Model list with per-model license and intended-tier mapping; deployment evidence | 6 |

| # | Requirement | Threshold / outcome | Substantiation required | Marks |
|---|---|---|---|---|
| **2** | Four-tier access model | Distinct access tiers — Academia/Researchers, Startups, Public Sector, Private Sector — each with defined eligibility, quota/rate limits, data-handling/residency terms, and SLA. Tier definitions enforced via the multi-tenancy/RBAC of Section 5 | Tier specification matrix; enforcement mechanism | 6 |
| **3** | Inference availability & launch | Inference service live and publicly accessible within a stated timeline from contract start (parallel track), with committed uptime SLA | Launch plan with milestone date; uptime SLA | 6 |
| **4** | API & access management | Standards-based API (OpenAI-compatible or documented equivalent per 5.6), self-service onboarding, authentication, per-tier metering and quota enforcement | API and access-management documentation | 4 |
| **5** | Usage metering & reporting | Per-tier, per-model usage metering and reporting to MoITT/Ignite (utilisation, adoption, cost-allocation), aligned with the FinOps capability of 5.16 | Metering and reporting specification | 3 |

## B7: Proposed AI Stack & Architecture

Form B7 constitutes the **core technical submission** of the bidder and shall form the primary basis for evaluation of the proposed AI stack, its sovereignty, functional completeness, and readiness for production deployment under the National AI Innovation Hub (NAIIH).

### Section A - AI Software Stack Requirements (110 Marks)

| # | Requirement | Capability threshold (outcome) | Substantiation required | Marks |
|---|---|---|---|---|
| **1** | Accelerator runtime & operator library | A supported low-level runtime and optimised operator/kernel library for the proposed accelerator, exposing a documented programming interface | Runtime/library documentation; supported-version statement | 8 |
| **2** | Training framework | A distributed training framework supporting multi-node data/tensor/pipeline parallelism, with native support for — or a documented supported import path from — PyTorch, and at least one of TensorFlow/ONNX | Framework documentation; parallelism and framework-compatibility matrix | 8 |
| **3** | Model alignment & customisation | Tooling for fine-tuning and alignment (e.g. SFT, RLHF, DPO, or equivalent) and dataset curation/preparation | Tooling documentation | 6 |
| **4** | Inference serving engine | A production serving engine supporting dynamic/continuous batching, concurrent multi-model execution, multi-accelerator/multi-node parallelism, exposing gRPC and HTTP/REST endpoints with a metrics interface | Serving-engine documentation; endpoint and metrics specification | 8 |

| # | Requirement | Capability threshold (outcome) | Substantiation required | Marks |
|---|---|---|---|---|
| **5** | Inference optimisation | Quantisation (vendor-declared low-precision formats), KV-cache management, and throughput/latency optimisation (e.g. in-flight batching, speculative decoding, or equivalent) | Optimisation feature documentation | 6 |
| **6** | OpenAI-compatible API surface | Inference services exposable via an OpenAI-compatible (or documented equivalent open) API for client portability | API documentation | 4 |
| **7** | Accelerated data-science libraries | Accelerator-native libraries for dataframe/ETL operations, classical ML, and/or graph analytics for pipeline acceleration | Library documentation | 4 |
| **8** | Kubernetes-native (or equivalent) orchestration | The full stack runs on a conformant container-orchestration platform (CNCF-conformant Kubernetes distribution or equivalent); container runtime and accelerator device-plugin integration provided | Orchestration architecture; device-plugin documentation | 8 |
| **9** | Accelerator lifecycle operator | Automated deployment/management of accelerator drivers, runtime, and device plugins across the cluster (driver/firmware lifecycle) | Operator/automation documentation | 5 |
| **10** | High-performance network operator | Automated deployment of RDMA drivers and fabric-management components for the proposed interconnect | Network-automation documentation | 6 |
| **11** | Serverless inference, autoscaling & model versioning | Concurrency/throughput-based autoscaling, scale-to-zero, and versioned model | Autoscaling, versioning, and rollout documentation | 6 |

| # | Requirement | Capability threshold (outcome) | Substantiation required | Marks |
|---|---|---|---|---|
| | | management with traffic-splitting/canary rollout and instant rollback | | |
| **12** | Accelerator fractioning & isolation | Fractional accelerator allocation with hardware- or software-enforced memory isolation between co-located workloads, supporting ≥ 4 isolated workloads per accelerator; mechanism is vendor's choice | Partitioning/QoS documentation; isolation-guarantee statement | 5 |
| **13** | Multi-tenancy & RBAC | Isolated tenant namespaces/virtual clusters with resource quotas, network policy, and role-based access control | Multi-tenancy architecture | 5 |
| **14** | Zero-trust control plane | Control plane operable without inbound open ports to the cluster API (outbound-only / mutually-authenticated), API not exposed to public internet; full user-level audit trail | Security architecture; audit-logging documentation | 5 |
| **15** | Air-gapped operation | Full core operation in an air-gapped/on-premises environment: offline container registry and model/artifact distribution, no dependency on external public-cloud services | Air-gap deployment documentation | 8 |
| **16** | FinOps metering & chargeback | Real-time per-tenant/project utilisation metering (accelerator/CPU/memory) with token-level inference metering and chargeback/cost-allocation APIs | Metering and billing-API documentation | 4 |

| # | Requirement | Capability threshold (outcome) | Substantiation required | Marks |
|---|---|---|---|---|
| **17** | Support SLA & long-term support | 24×7×365 enterprise support with defined Severity-1 response time; a long-term-support branch with stated API-stability duration | SLA terms; LTS/lifecycle policy | 6 |
| **18** | Distributed-training fault tolerance | Automatic checkpointing and resumption of distributed training after a worker/node failure without loss of completed progress; maximum lost-work window stated (≤ last checkpoint interval) | Fault-tolerance/elastic-training documentation; stated lost-work window | 4 |
| **19** | Unified observability | Cluster-wide observability providing metrics, logging, and accelerator/job telemetry through standards-based interfaces (Prometheus-compatible, OpenTelemetry, or equivalent) | Observability-stack documentation; interface specification | 4 |

## Section B - Ecosystem Adoption & Software Maturity (30 Marks)

*This section evaluates the maturity, breadth, and real-world adoption of the accelerator's software ecosystem and developer base — the factors that most determine whether the platform can be productively used, maintained, and built upon. Each criterion is scored on three levels (Poor / Moderate / Good) against the evidence stated. Marks per level: Poor = 0, Moderate = half, Good = full.*

| # | Criterion | Poor (0 marks) | Moderate (50% marks) | Good (full marks) | Evidence required | Max |
|---|---|---|---|---|---|---|
| 1 | Framework & toolchain maturity | Limited/experimental support for major frameworks; frequent porting needed | Supports major frameworks with some gaps; periodic porting/tuning required | Native, day-zero support across major frameworks (training & inference) with maintained, production-grade toolchain | Supported-framework matrix; release/maintenance history; third-party validation | 5 |

| # | Criterion | Poor (0 marks) | Moderate (50% marks) | Good (full marks) | Evidence required | Max |
|---|---|---|---|---|---|---|
| 2 | Developer adoption & community | Small/niche developer base; sparse documentation and community support | Growing developer base; reasonable documentation; some community activity | Large, active global developer base; extensive documentation, forums, and trained talent pool | Evidence of community size, repositories, contributors, available skilled-talent indicators | 5 |
| **3** | Pre-optimised models, libraries & kernels | Few optimised models/libraries; most work must be hand-tuned | Moderate library of optimised models, kernels, and reference implementations | Comprehensive, continuously updated library of optimised models, kernels, and reference solutions available out-of-the-box | Catalogue of optimised models/libraries; update cadence | 5 |
| **4** | Third-party & ISV ecosystem | Minimal third-party/ISV integration or partner tooling | Some third-party tools, integrations, and partner solutions | Broad third-party/ISV ecosystem with mature integrations across the stack | List of integrations, ISV partners, marketplace presence | 5 |
| **5** | Proven production deployments at scale | Few or no comparable large-scale production references | Some production deployments at moderate scale | Multiple, verifiable large-scale production deployments comparable to this programme | Reference deployments with scale, dates, contactable referees | 5 |
| **6** | Migration & interoperability tooling | Little or no tooling to migrate from common ecosystems; high lock-in | Partial migration/portability tooling; some friction | Mature migration and interoperability tooling enabling low-friction portability to/from common ecosystems | Migration tooling documentation; portability evidence | 5 |

## B8 – NAIIH User-Facing Access Portal and AI Innovation Marketplace

Bidders must provide detailed proposals for both platforms in the tables below. Both must be fully sovereign, deployed within Pakistan, with complete source code ownership vested in the Government of Pakistan and no external dependencies.

### B8.1: NAIIH User-Facing Access Portal & Developer Platform
(20 marks)

Provide details of the proposed user-facing portal supporting onboarding, access management, workload submission and monitoring, and interaction with NAIIH services.

| # | Requirement | Description | Supporting Evidence / Documents | Marks | Bidder Response |
|---|---|---|---|---|---|
| **1** | Proposed Architecture & Technology approach | Proposed platform architecture, modularity, scalability, and technology stack | Architecture diagram, technology list | 4 | |
| **2** | Key Features & Functionality | User onboarding, authentication, workload submission, dashboards, quota management, experiment tracking, managed developer environments, self-service training/ fine-tuning workspace provisioning and monitoring. | Detailed description + wireframes/screenshots | 6 | |
| **3** | Sovereignty, Security & Compliance | Data residency, IAM, audit logging, deployment sovereignty, security approach | Security architecture, compliance approach description | 4 | |
| **4** | Integration with AI Infrastructure & Software Stack | Approach for integration with compute, orchestration, APIs and AI stack components | Integration methodology and diagrams | 3 | |
| **5** | Deployment Maturity & Handover Readiness | Production readiness, deployment evidence, documentation, source code transfer approach | Client references/screenshots/document list | 3 | |

*B8.2: AI Innovation Marketplace*
(20 marks)

Provide details of the proposed marketplace platform supporting AI ecosystem participation, innovation programs, and solution catalog management.

| # | Requirement | Description | Supporting Evidence / Documents | Marks | Bidder Response |
|---|---|---|---|---|---|
| **1** | Proposed Architecture & Technology approach | Platform architecture, extensibility, modularity, and technology approach | Architecture diagram, technology list | 4 | |
| **2** | Key Features & catalogue management | Searchable catalog, solution showcasing, program/hackathon management, demo days, investor matching, recommendation engine. | Detailed description, Feature list, screenshots, wireframes | 6 | |
| **3** | Governance, Transparency & Compliance | Workflow approvals, audit capability, transparency mechanisms | Governance model and compliance approach | 4 | |
| **4** | Integration with NAIIH Access Portal & AI Infrastructure | Integration with portal and infrastructure services | Integration methodology and diagrams | 3 | |
| **5** | Deployment Maturity & Handover Readiness | Deployment Maturity & Handover Readiness | Client references/ screenshots/deployment proof | 3 | |

- All claims regarding deployment status must be supported by verifiable evidence.
- Both platforms must be delivered with **full source code**, configuration files, APIs, and complete documentation.
- No proprietary or externally hosted components that compromise sovereignty will be accepted.

## B9 – Proposed Methodology & Project Management Plan

Bidders shall provide a complete, practical, and realistic lifecycle methodology covering deployment, commissioning, operations, governance, security, onboarding, sustainability, and exit strategy for the Sovereign AI Infrastructure.

Responses must be **implementation-oriented**, with strong technical narrative as the primary evaluation basis. Diagrams and supporting documents are important evidence but shall not override the quality of the technical response.

### B9-1: Deployment Plan & Timelines

(15 Marks)

Describe the phased deployment strategy for the 6-month implementation period, including sequencing, key milestones, integration approach, dependencies, and risk management.

**Bidder Response**

- End-to-end phased deployment including OEM backed LLD (design →Responsibility matrix→ procurement → installation → integration → testing → go-live)
- Key milestones and delivery roadmap
- Hardware, software, AI stack, and Colocation deployment (and DR)
- Dependencies, assumptions, and constraints
- Risk identification and mitigation strategy

**Supporting Evidence (mandatory)**

- Detailed **Gantt Chart**
- High-level deployment architecture diagram

### B9-2: Commissioning &Testing Strategy

(10 Marks)

Describe the approach to validation, benchmarking, scalability, disaster recovery, security validation, and acceptance procedures. Acceptance criteria must reference and meet the minimum standards declared in Form B5.

**Bidder Response**

- Performance benchmarking (training & inference workloads)
- Scalability and stress testing methodology (multi-node / cluster scale)
- Disaster recovery and failover testing (RPO/RTO defined)
- Security validation approach
- Go-live acceptance criteria and readiness process
- Core Component Implementation and Testing (should be done by OEM)

**Supporting Evidence (mandatory)**

- Testing & Commissioning Plan
- Benchmarking methodology summary

## B9-3: Operations & SLA Framework

(15 Marks)

Describe the operational approach ensuring stable, secure, and scalable production operations. KPIs mentioned in TORs section 33 must also be addressed.

**Bidder Response**

**1. Monitoring, Observability & Alerting**

- Metrics collection framework (compute, storage, accelerator utilization)
- Centralized logging and observability platform
- Real-time alerting and dashboarding approach

**2. Incident Management**

- L1/L2/L3 escalation model
- Incident classification and response workflow
- Root cause analysis and resolution tracking

**3. Patch, Upgrade & Change Management**

- OS, firmware, accelerator driver, and AI stack update process
- Hardware replacement
- Maintenance windows and rollback strategy
- Change approval workflow

**4. Multi-Tenant Governance & Resource Isolation**

- Tenant separation model (logical / physical where applicable)
- Resource quota management
- Scheduling and allocation policy for AI workloads
- O&M administration capability to manage and maintain resources across assigned tenants

**5. SLA Framework & Enforcement**

- Availability and uptime commitments
- SLA monitoring methodology
- Breach handling and enforcement mechanism

**6. Reporting & Operational Governance**

- Monthly operational reports (performance, utilization, incidents)
- Quarterly service reviews with government stakeholders
- Continuous improvement mechanism
- Real-time dashboards for usage analytics and performance monitoring, as well as documented methodology for impact measurement and governance reporting.

**Supporting Evidence (mandatory)**

- SLA Framework (including targets and enforcement approach)
- Administrator role hierarchy and delegated permission model
- List of key operational policies and procedures
    - Access control usage policies;
    - Security, incident response & risk management;
    - Data handling & compliance;
    - Change/upgrade/config management;
    - Ops & maintenance procedures.
- Sample dashboard architecture/mock-up and impact-measurement methodology note

## B9-4: Stakeholder Engagement & Workload Onboarding

(10 Marks)

Describe the onboarding approach for government, academia, startups, and industry users.

**Bidder Response**

- Stakeholder engagement and workload onboarding model (including community forums/ knowledge base, outreach, helpdesk with defined SLA response time and workshop, data pipelines)
- User onboarding and access provisioning workflow
- Identity integration (SSO / IAM / federation)
- Workload lifecycle support (data ingestion → training → deployment → inference)
- Usage and allocation (including quotas, resource tracking and billing/ chargeback support)
- Feedback collection systems (dashboard)

**Supporting Evidence (mandatory)**

- Onboarding workflow diagram
- Sample user journey
- Dashboard architecture

## B9-5: Security & Compliance Approach

(10 Marks)

The bidder shall describe their approach to securing the AI infrastructure platform across all layers. Responses must be supported by the evidence listed under each area.

**Bidder Response**

- Data protection (encryption at rest/in transit, Pakistan data residency enforcement, data classification and handling policy)

- Logging, audit, and monitoring framework (including threat detection capability, real-time alerting on anomalous access or activity)
- AI security controls, including model theft/extraction protection, dataset poisoning mitigation, adversarial attack defenses, and model misuse/API exploitation controls

**Supporting Evidence (mandatory)**

- Security architecture diagram
- Summary of security controls (IAM, data protection, logging, AI risks)

### B9-6: Platform Sustainability & Resource Monetization Model

(10 Marks)

Describe the proposed model for platform cost recovery, resource pricing, and sustainable access across user categories.

**Bidder Response**

- User tiering model (government, academic, startup, commercial etc.)
- Quota allocation and usage governance
- Pricing and cost recovery approach (subsidised + commercial mix)
- Capacity utilization, optimization, and demand balancing strategy
- Governance model for pricing and concessional access approvals
- Revenue reinvestment strategy

**Supporting Evidence (mandatory)**

- User tier & pricing summary
- Indicative 3-year cost recovery projection (assumption-based)
- Governance framework description

### B9-7: Exit, Migration & Handover Strategy

(10 Marks)

Describe how full operational independence will be achieved at the end of contract

**Bidder Response**

- Knowledge transfer milestones
- Reduction of operational dependency strategy
- Final handover criteria
- Migration readiness to alternate infrastructure
- Infrastructure-as-Code (IaC) / automation frameworks — all configs delivered as reproducible code

**Supporting Evidence (mandatory)**

- Handover roadmap and checklist

- Knowledge transfer plan
- Infrastructure-as-Code (IaC) Delivery Plan

## B10 – Capacity Building & Knowledge Transfer

### B10-1: Capacity Building Methodology Approach

(15 Marks)

The bidder shall propose a comprehensive capacity building and knowledge transfer methodology for NAIIH, covering the full lifecycle of training, operational enablement, and transition to independent operations.

| # | Requirements | Evidence Required | Description |
|---|---|---|---|
| 1 | Overall training strategy | Detailed written strategy document (max 5 pages) including sample curriculum, & high-level roadmap diagram, | |
| 2 | Target audience (TOT, Relevant Ignite staff, capability + external ecosystem) | Clear breakdown table showing number of participants per category and role | |
| 3 | Skill levels to be developed | Skill matrix / competency framework table (beginner, intermediate, advanced) | |
| 4 | Training delivery approach (hands-on, labs, etc.) | Training delivery methodology with mode-wise breakdown | |
| 5 | Tools, platforms & environments to be used | List of tools/platforms with justification and integration with proposed AI stack | |
| 6 | Approach for real-world operational exposure | Plan showing how trainees will access live NAIIH infrastructure for practical exposure | |
| 7 | Approach for continuous learning & upskilling | Post-training upskilling and refresher program plan | |

### B10-2: Operational Enablement, Shadowing and Transition Strategy

(15 Marks)

The bidder shall describe their approach for enabling trained resource/ teams to progressively take over operations, including knowledge transfer, joint operations, and full independence.

| # | Requirements | Evidence Required | Description |
|---|---|---|---|
| 1 | Approach for knowledge transfer | Knowledge transfer methodology document + topics matrix | |
| 2 | Shadowing / joint operations model | Detailed shadowing plan with roles, duration, and weekly schedule | |
| 3 | Transition phases & timelines | Phased transition timeline (Gantt chart or table with clear start/end dates) | |

| | | | |
|---|---|---|---|
| **4** | Reduction of dependency on bidder | Declining dependency schedule (table or graph showing % responsibility shift over months) | |
| **5** | Criteria for operational handover | Measurable handover readiness criteria checklist (with success indicators) | |
| **6** | Risk mitigation during transition | Transition risk register with mitigation measures and responsible parties | |

### B10-3 Training Infrastructure, Certification & Output Metrics

(15 Marks)

The bidder shall define the training ecosystem, certification approach, and measurable outcomes of the capacity-building program.

| # | Requirements | Evidence Required | Bidder Response |
|---|---|---|---|
| **1** | Training infrastructure (labs, sandbox, etc.) | Description + architecture diagram of proposed training labs / sandbox environment | |
| **2** | Access to real compute resources | Access policy and schedule showing how trainees will use the actual AI compute cluster | |
| **3** | Practical training approach (labs, simulations, etc.) | List of hands-on labs / practical modules with objectives | |
| **4** | Certification methodology | Certification framework document (including issuing authority and validity) | |
| **5** | Assessment & evaluation mechanisms | Assessment methodology + sample evaluation rubrics / test formats | |
| **6** | Documentation & knowledge assets to be delivered | List of all documents/runbooks/manuals to be delivered with delivery timeline | |
| **7** | National talent development approach (beyond NAIIH) | Strategy for external ecosystem (academia, startups, industry) with outreach plan | |

### B10-4 Capacity Building Output Metrics

(15 Marks)

The bidder must commit to the following:

| # | Metric | Evidence Required | Target to be filled by the bidder |
|---|---|---|---|
| **1** | No. of staff trained | Supporting justification | |
| **2** | Training of Trainers (ToT) | Strategy for ToT and pathway to further trainings for capability development | |
| **3** | No. of certified professionals | Certification pathway explanation | |

| | | | |
|---|---|---|---|
| **4** | No. of training hours | Breakdown by module / phase | |
| **5** | No. of lab sessions | List of proposed lab sessions | |
| **6** | % staff ready for independent ops | Definition + measurement methodology for "ready" | |
| **7** | No. of external ecosystem participants trained | Outreach and selection criteria/ justification for total trained | |

## B11 – Proposed AI Infrastructure Project Team

The bidder shall propose a **complete team structure** for deployment, operations, security, and management of the AI infrastructure

### B11-1: Team Structure & Deployment Model

(10 Marks)

| Role / Function | No. of Resources | Full-Time / Part-Time | Key Responsibilities | Location |
|---|---|---|---|---|
| **A. Core Management & Architecture** | | | | |
| AI/HPC Architect | | FT | | |
| AI Platform Lead | | FT | | |
| LLM / Foundation Model Lead | | FT | | |
| **B. Engineering & Technical Staff** | | | | |
| Infrastructure Engineer- Compute | | FT | | |
| Infrastructure Engineer- Storage & Network | | FT | | |
| Infrastructure Engineer- MLOps & Monitoring | | FT | | |
| **C. Capacity Building & Enablement** | | | | |
| Capacity Building & Training Lead | | FT | | |
| **D. Part-time Staff** | | | | |
| (Specify Position) | | PT | | |
| (Specify Position) | | PT | | |
| **E. On-call / Specialist Consultants** | | | | |
| DR/ BCP Specialist | | On-call | | |
| AI Safety & Alignment Specialist | | On-call | | |
| Legal & Regulatory Consultant | | On-call | | |
| *(Add rows where required)* | | | | |
| **TOTAL TEAM (all categories)** | | | | |

**Mandatory Attachments**: Organizational Chart showing all roles and reporting lines. Role mapping to project phases (deployment vs operations)

B11-2: Key Personnel Profiles

(20 Marks)

| Name | Role | Years of Experience | Relevant Projects | Certifications | Availability (%) |
|---|---|---|---|---|---|
| **A. Regular Full-time Staff** | | | | | |
| | AI/HPC Architect | | | | **100%** |
| | AI Platform Lead | | | | **100%** |
| | LLM / Foundation Model Lead | | | | **100%** |
| | Infrastructure Engineer- Compute | | | | **100%** |
| | Infrastructure Engineer- Storage & Network | | | | **100%** |
| | Infrastructure Engineer- MLOps & Monitoring | | | | **100%** |
| | Capacity Building & Training Lead | | | | **100%** |
| B. **Part-time Staff** | | | | | |
| | (PT Position 1) | | | | |
| | (PT Position 2) | | | | |
| **C. On-call / Specialist Consultants** | | | | | |
| | DR/ BCP Specialist | | | | |
| | AI Safety & Alignment Specialist | | | | |
| | Legal & Regulatory Consultant | | | | |

(Add rows in form where necessary.)

The bidder shall ensure continuity of key personnel throughout the contract period and propose a mitigation plan for resource unavailability.

Mandatory Attachments:

- Signed CVs (template provided)
- Certifications
- Experience references (with project names)

B11-3: Team Capability & Experience

(10 Marks)

| Capability Area | Minimum Experience | Experience Description |
|---|---|---|
| **AI / HPC Architecture** | ≥ 5–7 years | |
| **LLM / Foundation Model** | ≥ 5–7 years | |
| **Distributed training systems** | ≥ 5–7 years | |
| **AI platform / MLOps** | ≥ 3–5 years | |
| **Infrastructure operations (24/7)** | ≥ 5–7 years | |
| **Capacity Building** | ≥ 3 years | |
| **Systems Engineers** | ≥ 3 years | |

The bidder shall demonstrate that the proposed team possesses the required expertise in AI infrastructure design, deployment, and operations

B11-4: Consortium / Partner Structure

(10 Marks)

| Partner | Role | Scope of Work | Key Responsibilities | Accountability |
|---|---|---|---|---|
| Lead Bidder | | | | |
| Co-Location Partner | | | | |
| **Any other partner** | | | | |

Please add rows where applicable.

The bidder shall share a mandatory signed declaration on the letterhead from all partners confirming:

- Lead bidder is **fully responsible for delivery**
- Clear separation between:
    - Infrastructure hosting (data centres)
    - AI platform control
    - Any other consortium partner's responsibilities
- AI platform remains under **Ignite / Government control**

## B12 – Sovereignty & Supply-Chain Assurance

*This section evaluates the degree to which the proposed solution delivers genuine national sovereignty: independence from foreign export-control or supply interruption, the strength of binding high-level continuity commitments, technology and capability transfer, and freedom from foreign operational control. Each criterion is scored on three levels (Poor / Moderate / Good) against the evidence stated. Marks per level: Poor = 0, Moderate = half, Good = full.. Commitments scored here shall be at the highest available level (e.g. binding OEM and, where applicable, government-backed undertakings).*

| # | Criterion | Poor (0 marks) | Moderate (50% marks) | Good (full marks) | Evidence required | Max |
|---|---|---|---|---|---|---|
| **1** | Freedom from foreign export-control / supply interruption | Supply subject to foreign export licensing that can restrict or halt delivery; no mitigation | Some exposure to foreign licensing, with partial mitigation or alternative paths | Supply demonstrably free of any single foreign government's export-control veto; no foreign kill-switch over supply | Supply-chain/jurisdiction analysis; export-control exposure statement; mitigation evidence | 5 |
| **2** | Binding continuity-of-supply commitment (highest level) | No binding commitment; best-efforts only | Binding OEM commitment of limited scope/duration | Binding OEM and, where applicable, government-backed continuity-of-supply commitment covering the full programme lifecycle, incl. spares and replacements | Signed/committed undertakings; duration and scope; backing level | 5 |
| **3** | Domestic / sovereign supply & assembly | Fully foreign-manufactured with no local content or assembly | Partial local assembly, integration, or in-country stocking | Substantial in-country assembly/integration and/or committed local supply, reducing external dependency | Local-content/assembly plan; in-country stocking commitments | 5 |
| **4** | Technology & capability transfer | No meaningful transfer; full dependence on vendor | Partial transfer (operations/training) with residual dependence | Comprehensive transfer enabling independent national operation, including documentation, training, and (where applicable) source/IP access for sovereign components | Transfer plan; scope of IP/source/documentation; independence acceptance | 5 |
| **5** | Freedom from foreign operational control | Operation depends on foreign-controlled services, licences, or remote dependencies that could be withdrawn | Some foreign operational dependencies with mitigation | Fully operable under national control with no foreign-controlled runtime dependency, licence check-in, or remote kill-switch; air-gap capable | Operational-dependency analysis; air-gap capability evidence | 5 |
| **6** | Data & model sovereignty alignment | Architecture impedes in-country data/model ownership or residency | Supports residency with some external dependencies | Fully supports in-country data and model residency and Government of Pakistan ownership of sovereign artefacts, with no external dependency | Residency/ownership architecture; alignment with sovereign-model requirements | 5 |

## Financial Proposal - Standard Forms

**Form C1.** Financial Proposal submission form

**Form C2.** Summary of costs

**Form C3**. Breakdown of Major CAPEX & OPEX.

**Form C4.** Breakdown of Remuneration of Proposed Team Members (Regular & Part Time/on Call)

**Form C5.** Detailed itemized breakup (including what kind of expenses will be charged to each sub head to avoid any kind of misclassification issues) of each CAPEX and OPEX head as mentioned in Form C-3.

## C1. – FINANCIAL PROPOSAL SUBMISSION FORM (ON BIDDER'S LETTER HEAD)

[*Location, Date*]

To:

Manager Procurement

IGNITE – National Technology Fund

3rd Floor, TF Complex, 7 Mauve Area, G-9/4,

Islamabad, Pakistan

Tel: +92-51- 910 7441 - 46

Cell: +92-306-199-1234

Fax: +92-51- 910 7447

Email: procurement@ignite.org.pk

Sir,

We, the undersigned, offer to provide services for the **Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH)** in accordance with your Request for Proposal dated [ADVERTISEMENT DATE] and our Proposal (Technical and Financial Proposals). Our attached Financial Proposal is for the sum of [Amount in words and figures]. This amount is inclusive of all the local taxes, duties, fees, levies and other charges applicable on our company, our sub-Successful Bidders and collaborations under the Pakistani law.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal, which is 180 calendar days from the date of advertisement.

Though included in the above-mentioned fee, Commissions and gratuities, if any, paid or to be paid by us to agents relating to this Proposal and Contract execution, if we are awarded the Contract, are listed below:

Yours sincerely,
Authorized Signature:
Name and Title of Signatory:
Name of Firm:
Address:

## C2. – Summary of Costs

*This summary must reconcile exactly with the detailed breakdowns in Form C3. All amounts are in Pakistani Rupees (PKR) and inclusive of all applicable taxes.*

| Particulars | Amount (PKR, incl. all taxes) |
|---|---|
| **A. CAPEX — AI Hardware, Networking, Storage, Software Stack & Co-location Setup** | |
| A1. AI Compute Hardware (Accelerators, CPUs, Memory) | |
| A2. High-Speed Networking & Interconnect | |
| A3. High-Performance Storage Systems | |
| A4. Sovereign AI Language Model | |
| A5. AI Software Stack & Licensing (if any) | |
| A6. Co-location Facility Setup, Rack Installation & Cabling (Primary +DR) | |
| A7. Commissioning, Testing & Acceptance Activities | |
| A8. User-facing Access Portal & AI Innovation Marketplace Development | |
| A9. Contingencies (CAPEX) | |
| A10. Any Other Items (please specify in Form C5) | |
| **Sub-Total CAPEX (A)** | |
| **B. OPEX — Operations Support Period (up to 36 months from commissioning)** | |
| B1. Co-location Charges (Power, Cooling, Rack Space, Physical Security) | |
| B2. AI Infrastructure Management Team — Salaries & Benefits | |
| B3. Platform Operations, Monitoring & Maintenance | |
| B4. Sovereign AI Language Model — Ongoing Operations | |
| B5. Security, Vulnerability Management & Compliance | |
| B6. Capacity Building, Training & Knowledge Transfer | |
| B7. Workload Onboarding & Stakeholder Technical Enablement | |
| B8. User-facing Access Portal & AI Innovation Marketplace — Operations & Maintenance | |
| B9. Insurance (Equipment, Transit, Operational Risk) | |
| B10. Professional Fees (Internal Audit, Legal, Tax) | |
| B11. Management Fee (not to exceed 20% of annual OPEX) | |
| B12. Contingencies (OPEX, max 5%) | |
| B13. Any Other Items (please specify in Form C5) | |
| **Sub-Total OPEX (B)** | |
| **GRAND TOTAL OF FINANCIAL PROPOSAL (A + B)** | **PKR** ____________________ |

**Notes:** *(1) All amounts must be in PKR inclusive of all applicable taxes. (2) Management fee and profit must not exceed 20% of annual OPEX. Management fee payments will be proportional to the percentage of KPIs achieved in the relevant period. (3) No costs will be payable for budget heads where N/A is stated in Form C3. (4) The Grand Total above must match Form C1 exactly.*

## C3. – Breakdown of Major CAPEX & OPEX

Please include all Capital and Operational expenditures in their respective tables.

*Include all capital and operational expenditures in their respective tables. Amounts in PKR inclusive of all applicable taxes. All costs must relate directly to the NAIIH AI Infrastructure TOR scope.*

### CAPEX — Capital Expenditure

| CAPEX Item | Deploy Phase (PKR) | Y1 (PKR) | Y2 (PKR) | Y3 (PKR) | Y4 (PKR) | Total (PKR) |
|---|---|---|---|---|---|---|
| **A1. AI Compute Hardware** | | | | | | |
| *AI Accelerators (GPUs / NPUs / equivalent)* | | | | | | |
| *CPU Compute Nodes* | | | | | | |
| *Host Memory (DRAM)* | | | | | | |
| **A2. High-Speed Networking & Interconnect** | | | | | | |
| *Interconnect Fabric (InfiniBand, HCCS, or equivalent high-bandwidth fabric)* | | | | | | |
| *Top-of-Rack & Spine Switches* | | | | | | |
| *Cabling & Connectors* | | | | | | |
| **A3. High-Performance Storage Systems** | | | | | | |
| *Storage Tier 0 — Inference Context & Model Serving Store (NVMe/flash, high-IOPS)* | | | | | | |
| *Storage Tier 1 — Active Fine-Tuning Working Set (NVMe/flash, high-throughput)* | | | | | | |
| *Storage Tier 2 — Staged Dataset & Model Registry (shared parallel file / object)* | | | | | | |
| *Storage Tier 3 — Cold Archive, Compliance & DR (cold storage + DR replication)* | | | | | | |
| **A4. Sovereign AI Language Model (including inference service stand-up)** | | | | | | |
| *Base model deployment & initial configuration* | | | | | | |
| *Fine-tuning & continued pre-training services* | | | | | | |
| *Urdu corpus acquisition, cleaning & tokenisation* | | | | | | |
| *Model evaluation, alignment & benchmark validation* | | | | | | |
| *Reproducibility package development & delivery* | | | | | | |
| *Inference service stand-up (≥20 open-weight models, parallel deployment)* | | | | | | |
| **A5. AI Software Stack** | | | | | | |

| CAPEX Item | Deploy Phase (PKR) | Y1 (PKR) | Y2 (PKR) | Y3 (PKR) | Y4 (PKR) | Total (PKR) |
|---|---|---|---|---|---|---|
| *Cluster Orchestration & Management Platform* | | | | | | |
| *Air-gap tooling: offline container registry & model artifact distribution* | | | | | | |
| *Licences / Support Subscriptions (if any)* | | | | | | |
| **A6. Co-location Setup & Physical Installation** | | | | | | |
| *Rack / Cluster Installation, PDU & Power Cabling (power per B3 commitment, kW stated* | | | | | | |
| *Co-location Initial Setup / Site Preparation* | | | | | | |
| **A7. Commissioning, Testing & Acceptance** | | | | | | |
| *System Integration & Configuration* | | | | | | |
| *Benchmarking, Stress Testing & Acceptance Validation* | | | | | | |
| **A8. User-facing Access Portal & AI Innovation Marketplace Development** | | | | | | |
| *Portal Design, Development & Deployment* | | | | | | |
| *AI Innovation Marketplace Design, Development & Deployment* | | | | | | |
| **A9. Contingencies (CAPEX, max 5%)** | | | | | | |
| *Contingency provision — must not be used for asset purchases without prior written approval* | | | | | | |
| **A10. Any Other Items (please specify in Form C5)** | | | | | | |
| *Describe in Form C5* | | | | | | |
| **SUB-TOTAL CAPEX** | | | | | | |
| *Note: All amounts in PKR inclusive of all applicable taxes. CAPEX spans the deployment phase and may include multi-year hardware refresh provisions. Y1–Y4 columns cover hardware warranty renewals, software subscription renewals, and any planned capital refresh items.* | | | | | | |

## OPEX — Operational Expenditure (Initial Operations Support Period, up to 36 months from commissioning)

| OPEX Item | Deploy Phase (PKR) | Year 1 (PKR) | Year 2 (PKR) | Year 3 (PKR) | Year 4 (PKR) | Total (PKR) |
|---|---|---|---|---|---|---|
| *OPEX covers the Initial Operations Support Period of up to 36 months from commissioning. The Deployment Phase column covers costs incurred before commissioning. Year 1, 2, and 3 cover the 36-month operations period. Bidders must confirm Year 4 costs are N/A unless a contractual extension is proposed.* | | | | | | |
| **B1. Co-location Charges** | | | | | | |
| *Rack Space / Cabinet Rental* | | | | | | |
| *Power Capacity & Distribution Charges (state kW committed; separate/dedicated metering mechanism required)* | | | | | | |
| *Cooling Charges* | | | | | | |

| OPEX Item | Deploy Phase (PKR) | Year 1 (PKR) | Year 2 (PKR) | Year 3 (PKR) | Year 4 (PKR) | Total (PKR) |
|---|---|---|---|---|---|---|
| *Physical Security & Access Management* | | | | | | |
| *Remote Hands & Smart Hands Services* | | | | | | |
| *Cross-Connect & Carrier Access Charges* | | | | | | |
| *Co-location Partner Management Overhead (if charged separately — declare basis in C5 B1)* | | | | | | |
| **B2. AI Infrastructure Management Team** | | | | | | |
| *Salaries & Allowances (see Form C4 for breakdown)* | | | | | | |
| *Employer Contributions (EOBI, PESSI, etc.)* | | | | | | |
| *Staff Benefits & Allowances* | | | | | | |
| **B3. Platform Operations, Monitoring & Maintenance** | | | | | | |
| *Monitoring Tools & Observability Platform (incl. FinOps metering & chargeback tooling — name platform in C5 B3)* | | | | | | |
| *System Administration & Operations* | | | | | | |
| *Hardware Maintenance & Spare Parts* | | | | | | |
| *Firmware, Driver & Software Updates* | | | | | | |
| **B4. Sovereign AI Language Model — Ongoing Operations** | | | | | | |
| *Periodic fine-tuning / continued pre-training runs* | | | | | | |
| *Model evaluation, benchmarking & safety monitoring* | | | | | | |
| *Inference serving operations & model governance* | | | | | | |
| *Inference tier access management & quota enforcement (4-tier RBAC — Academia, Startups, Public Sector, Private Sector)* | | | | | | |
| **B5. Security, Compliance & Vulnerability Management** | | | | | | |
| *Cybersecurity Tools & Licences* | | | | | | |
| *Periodic Vulnerability Assessments & Penetration Testing* | | | | | | |
| *Compliance & Audit Support* | | | | | | |
| **B6. Capacity Building, Training & Knowledge Transfer** | | | | | | |
| *Training Programme Delivery (ToT, Staff , technical resources etc. )* | | | | | | |
| *Certification-Based National Training Programmes* | | | | | | |
| *Knowledge Transfer & Documentation* | | | | | | |
| **B7. Workload Onboarding & Stakeholder Enablement** | | | | | | |
| *Technical Onboarding Support for Ecosystem Users* | | | | | | |

| OPEX Item | Deploy Phase (PKR) | Year 1 (PKR) | Year 2 (PKR) | Year 3 (PKR) | Year 4 (PKR) | Total (PKR) |
|---|---|---|---|---|---|---|
| *Workshops, Demonstrations & Technical Seminars* | | | | | | |
| *Travel & Logistics (Onboarding & Liaison Activities)* | | | | | | |
| **B8. User-facing Access Portal & AI Innovation Marketplace — Operations & Maintenance** | | | | | | |
| *Hosting, updates & security patching* | | | | | | |
| *User support and helpdesk for portal / marketplace* | | | | | | |
| *Feature enhancements & iterative improvements* | | | | | | |
| **B9. Insurance** | | | | | | |
| *Equipment Insurance (hardware at co-location)* | | | | | | |
| *Transit Insurance (hardware import and delivery)* | | | | | | |
| *Operational Risk & Liability Insurance* | | | | | | |
| **B10. Professional Fees** | | | | | | |
| *Internal Audit* | | | | | | |
| *Legal & Regulatory Consultancy* | | | | | | |
| *Tax Consultancy* | | | | | | |
| **B11. Management Fee (not to exceed 20% of annual OPEX)** | | | | | | |
| *Management fee — basis of calculation must be stated in Form C5* | | | | | | |
| **B12. Contingencies (OPEX, max 5%)** | | | | | | |
| *Contingency provision — basis for percentage applied must be stated* | | | | | | |
| **B13. Any Other Items (please specify in Form C5)** | | | | | | |
| *Describe in Form C5* | | | | | | |
| **SUB-TOTAL OPEX** | | | | | | |
| **GRAND TOTAL (CAPEX + OPEX)** | | | | | | |

**Notes:** *(1) All amounts in PKR inclusive of all applicable taxes. (2) Management fee must not exceed 20% of annual OPEX and will be paid proportionally to KPIs achieved. (3) No cost will be allowed for heads marked N/A. (4) Contingencies must not be used for asset purchases without prior written approval of the Company. (5) Utility charges will be based on actual usage — bidders must propose a verifiable measurement mechanism (separate/dedicated meter, sub-meter, or equivalent).*

## C4. – Breakdown of Remuneration of Proposed Team Members (Regular & Part Time/On Call)

*This remuneration breakdown must correspond to the team structure and key personnel proposed in Form B11. All amounts in PKR per calendar month. Regular (full-time) team members must be 100% dedicated to this project.*

| # | Role / Position | Name of Proposed Staff Member | Engagement (FT / PT) | Hours / Week | Per Month Gross (PKR) | Annual Gross (PKR) | Remarks / Benefits |
|---|---|---|---|---|---|---|---|
| **A — Regular (Full-Time) Staff \| 100% dedicated to this project** | | | | | | | |
| 1 | **AI / HPC Architect**<br>*Lead architect; infrastructure design & scaling* | | | | | | |
| 2 | **AI Platform Lead**<br>*AI software stack management & deployment* | | | | | | |
| 3 | **LLM / Foundation Model Lead**<br>*Foundation model deployment, fine-tuning & optimization* | | | | | | |
| 4 | **Infrastructure Engineer — Compute**<br>*Accelerator, CPU & memory systems* | | | | | | |
| 5 | **Infrastructure Engineer — Storage & Network**<br>*Storage systems & network fabric* | | | | | | |
| 6 | **Infrastructure Engineer — MLOps & Monitoring**<br>*Monitoring, observability & MLOps tooling* | | | | | | |
| 7 | **Capacity Building & Training Lead**<br>*Training programme delivery & KT coordination* | | | | | | |
| 8 | [Add rows as required] | | | | | | |
| **B — Part-Time Staff** | | | | | | | |
| 1 | [Position] | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| **C — On-Call / Specialist Consultants** | | | | | | | |
| 1 | **Disaster Recovery & BCP Specialist**<br>*On-call; engaged as needed* | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | **AI Safety & Alignment Specialist** *On-call; model governance support* | | | | | | |
| 3 | **Legal & Regulatory Consultant** *For compliance, contracts & IP matters* | | | | | | |
| 4 | [Add rows as required] | | | | | | |
| **D — Co-location Partner Personnel –*(If the co-location partner charges personnel costs separately, list staff here. If included in facility fees, state 'Included in B1 co-location charges' and mark all cells N/A.)*** | | | | | | | |
| 1 | *[Co-location partner role]* | | | | | | |
| 2 | *[Co-location partner role]* | | | | | | |
| **GRAND TOTAL — ANNUAL TEAM COST** | | | | | | | |

**Notes:** *(1) This remuneration must be based on the team proposed in Form B11. (2) Full-time staff must be 100% dedicated to this project and may not work on any other assignment during the contract period. (3) For part-time staff, hours per month must be stated and compensation calculated accordingly. (4) Provide a detailed breakdown of benefits (EOBI, PESSI, medical, transport, etc.) in Form C5. (5) In case of vacancy in any approved position, the Successful Bidder must fill the position within two (2) months with staff of equivalent technical strength.*

## C5. – All Operational Expenses (Itemized List)

*Provide a detailed itemised breakup for each CAPEX and OPEX head listed in Form C3, specifying exactly what expenses will be charged under each sub-head. The purpose of this form is to prevent misclassification and ensure full transparency. All amounts in PKR inclusive of all applicable taxes.*

| Ref. | Cost Head / Sub-Head | Description of What Is Included | Basis of Estimation | Amount (PKR) | Remarks / Justification |
|---|---|---|---|---|---|
| *Provide a detailed itemised breakup for every CAPEX and OPEX head listed in Form C3. Specify exactly what expenses will be charged under each sub-head. The purpose of this form is to prevent misclassification and ensure full transparency. All amounts in PKR inclusive of all applicable taxes. References match Form C3 exactly.* | | | | | |
| **CAPEX — Capital Expenditure** | | | | | |
| **A1** | **AI Compute Hardware** | | | | |
| A1 | AI Accelerators | *Make, model, quantity, unit cost, warranty period, OEM authorisation reference* | | | |
| A1 | CPU Compute Nodes | *Make, model, core count, quantity, unit cost* | | | |
| A1 | Host Memory | *Type (DDR5 or equivalent), capacity per node, quantity, unit cost* | | | |
| **A2** | **High-Speed Networking & Interconnect** | | | | |
| A2 | Interconnect Fabric | *Technology (InfiniBand, HCCS, or equivalent), switch model, port count, cables, unit cost; confirm vendor-neutral designation* | | | |
| A2 | Top-of-Rack & Spine Switches | *Model, quantity, unit cost* | | | |
| A2 | Cabling & Connectors | *Type, quantity, unit cost* | | | |
| **A3** | **High-Performance Storage Systems** | | | | |
| A3 | Storage Tier 0 — Inference Context & Model Serving Store | *OEM model, usable vs raw capacity, IOPS, latency spec, redundancy scheme, support scope, total cost and recurring annual cost if any* | | | |
| A3 | Storage Tier 1 — Active Fine-Tuning Working Set | *OEM model, usable vs raw capacity, performance profile, backup policy, total cost and recurring annual cost if any* | | | |
| A3 | Storage Tier 2 — Staged Dataset & Model Registry | *OEM model, usable capacity, retention policy, RPO/RTO alignment, total cost and recurring annual cost if any* | | | |
| A3 | Storage Tier 3 — Cold Archive, Compliance & DR | *OEM model, archive capacity, retention period, retrieval policy, compliance provisions, DR replication method, total cost; recurring annual cost if any* | | | |
| **A4** | **Sovereign AI Language Model** | | | | |
| A4 | Base Model Deployment & Initial Configuration | *Model name, parameter count, licence type, compute hours for deployment, configuration effort (person-days)* | | | |
| A4 | Fine-Tuning & Continued Pre-Training Services | *Training compute hours, data volume (tokens), infrastructure used, person-days, tooling costs* | | | |
| A4 | Urdu Corpus Acquisition, Cleaning & Tokenisation | *Corpus sources, total token volume, acquisition cost, processing and tooling cost* | | | |
| A4 | Model Evaluation, Alignment & Benchmark Validation | *Benchmark suite used, compute hours, evaluation cost, safety alignment methodology cost* | | | |

| Ref. | Cost Head / Sub-Head | Description of What Is Included | Basis of Estimation | Amount (PKR) | Remarks / Justification |
|---|---|---|---|---|---|
| A4 | Reproducibility Package Development & Delivery | *Contents of package: training scripts, config files, data pipelines, environment specs; delivery milestone and effort* | | | |
| A4 | Inference Service Stand-Up (≥20 open-weight models, parallel deployment) | *Number of models, compute hours for deployment, integration effort (person-days), API layer build cost, timeline relative to contract start — must demonstrate parallel track with sovereign model training* | | | |
| **A5** | **AI Software Stack** | | | | |
| A5 | Cluster Orchestration & Management Platform | *Platform name, licence type (open-source / proprietary), annual subscription cost if any* | | | |
| A5 | Air-Gap Tooling: Offline Container Registry & Model Artifact Distribution | *Tool/platform name, licence type, one-time setup cost, annual maintenance cost if any; confirm no runtime dependency on external public-cloud services* | | | |
| A5 | Other Licences / Support Subscriptions | *List each component; confirm open-source or proprietary; annual cost if any* | | | |
| **A6** | **Co-location Setup & Physical Installation** | | | | |
| A6 | Rack / Cluster Installation, PDU & Power Cabling | *Architecture, PDU config, cabling, setup charge; confirm cluster or standard rack* | | | |
| A6 | Site Preparation | *Any facility-side preparation agreed with data centre provider; one-time charge* | | | |
| **A7** | **Commissioning, Testing & Acceptance** | | | | |
| A7 | System Integration & Configuration | *Person-days, tooling, milestone-linked deliverables* | | | |
| A7 | Benchmarking, Stress Testing & Acceptance Validation | *Tools, test scope, acceptance criteria reference (Form B5 minimum standards)* | | | |
| **A8** | **User-facing Access Portal & AI Innovation Marketplace Development** | | | | |
| A8 | Portal Design, Development & Deployment | *Technology stack, development approach, person-days, delivery milestone* | | | |
| A8 | AI Innovation Marketplace Design, Development & Deployment | *Technology stack, development approach, person-days, delivery milestone* | | | |
| **A9** | **Contingencies (CAPEX, max 5%)** | | | | |
| A9 | CAPEX Contingency Provision | *Basis for percentage applied; must not exceed 5% of Sub-Total CAPEX* | | | |
| **A10** | **Any Other CAPEX Items** | | | | |
| A10 | Other CAPEX Items | *Describe in full; confirm TOR alignment; reference section of TOR* | | | |
| **OPEX — Operational Expenditure** | | | | | |
| **B1** | **Co-location Charges** | | | | |
| B1 | Co-location — Space | *Monthly rack/cabinet/suite charge, number of racks or equivalent, term; confirm committed vs burstable* | | | |
| B1 | Co-Location — Power & Cooling | *kW committed, rate per kW, redundancy tier; metering mechanism* | | | |

| Ref. | Cost Head / Sub-Head | Description of What Is Included | Basis of Estimation | Amount (PKR) | Remarks / Justification |
|---|---|---|---|---|---|
| B1 | Co-location — Physical Security & Access | *Included in SLA or charged separately; per-incident or monthly retainer* | | | |
| B1 | Co-location — Remote / Smart Hands | *Monthly retainer or per-incident rate; SLA terms* | | | |
| B1 | Cross-Connect & Carrier Access | *Per carrier, monthly recurring charge, one-time setup* | | | |
| B1 | Co-location Partner Management Overhead | *State basis of charge (% of facility fee or fixed monthly fee); if included in facility charges above, write 'Included — no separate line'. Disclosure is mandatory under the consortium prime accountability requirement.* | | | |
| **B2** | **AI Infrastructure Management Team** | | | | |
| B2 | Management Team — Salaries | *See Form C4; aggregate and breakdown by staff category* | | | |
| B2 | Management Team — Employer Contributions | *EOBI, PESSI, medical, transport — itemise each* | | | |
| **B3** | **Platform Operations, Monitoring & Maintenance** | | | | |
| B3 | Platform Ops — Monitoring Tools | *Platform name, licence model, annual cost* | | | |
| B3 | Platform Ops — Hardware Maintenance | *Spare parts budget, AMC/warranty basis, annual estimate* | | | |
| B3 | Platform Ops — Software Updates | *Patching schedule, tooling, person-hours per cycle* | | | |
| **B4** | **Sovereign AI Language Model — Ongoing Operations** | | | | |
| B4 | Periodic Fine-Tuning / Continued Pre-Training | *Frequency, compute hours per run, estimated annual cost* | | | |
| B4 | Model Evaluation & Benchmarking | *Benchmark frequency, compute hours, evaluation tooling cost* | | | |
| B4 | Inference Serving Operations | *Serving infrastructure costs, scaling events, annual estimate* | | | |
| B4 | Model Governance & Safety Monitoring | *Tools, person-hours, annual cost* | | | |
| B4 | Inference Tier Access Management & Quota Enforcement (4-tier RBAC) | *Tools/platform supporting RBAC enforcement for the four access tiers (Academia, Startups, Public Sector, Private Sector) mandated in Form B6 Section D; annual licence cost if separate from orchestration stack; person-hours for tier administration* | | | |
| **B5** | **Security, Compliance & Vulnerability Management** | | | | |
| B5 | Security — Cybersecurity Tools | *Tool names, licence model, annual cost* | | | |
| B5 | Security — Vulnerability Assessments | *Frequency, scope, provider, per-assessment cost* | | | |
| B5 | Security — Compliance & Audit Support | *Annual audit scope, external auditor cost if any* | | | |
| **B6** | **Capacity Building, Training & Knowledge Transfer** | | | | |

| Ref. | Cost Head / Sub-Head | Description of What Is Included | Basis of Estimation | Amount (PKR) | Remarks / Justification |
|---|---|---|---|---|---|
| B6 | Capacity Building — (Staff, ToT, technical resources) | *Curriculum scope, number of trainees, delivery cost per cohort* | | | |
| B6 | Capacity Building — National Training Programme | *Certification tracks, lab costs, assessment costs, participant count* | | | |
| B6 | Knowledge Transfer — Documentation | *Technical manuals, SOPs, runbooks; delivery milestones and effort* | | | |
| **B7** | **Workload Onboarding & Stakeholder Enablement** | | | | |
| B7 | Stakeholder Enablement — Onboarding Support | *Per-organisation cost estimate, number of organisations per year* | | | |
| B7 | Stakeholder Enablement — Workshops & Seminars | *Frequency, venue, materials, travel, annual cost* | | | |
| **B8** | **User-facing Access Portal & AI Innovation Marketplace — Operations & Maintenance** | | | | |
| B8 | Portal O&M — Hosting, Updates & Security Patching | *Hosting model (cloud/on-prem/co-located), patch frequency, annual cost* | | | |
| B8 | Portal O&M — User Support & Helpdesk | *Support model, FTE equivalent or per-ticket cost, annual estimate* | | | |
| B8 | Portal O&M — Feature Enhancements | *Development hours per year, tooling, annual cost* | | | |
| **B9** | **Insurance** | | | | |
| B9 | Equipment Insurance | *Insured value (hardware), premium, coverage type, insurer* | | | |
| B9 | Transit Insurance | *Coverage scope for hardware import and delivery, premium* | | | |
| B9 | Operational Risk & Liability Insurance | *Coverage scope, premium, renewal basis* | | | |
| **B10** | **Professional Fees** | | | | |
| B10 | Internal Audit | *Annual estimated cost, scope, frequency* | | | |
| B10 | Legal & Regulatory Consultancy | *Annual estimated cost, retainer or per-matter basis* | | | |
| B10 | Tax Consultancy | *Annual estimated cost, scope* | | | |
| **B11** | **Management Fee** | | | | |
| B11 | Management Fee | *Basis of calculation; confirm does not exceed 20% of annual OPEX; year-by-year breakdown* | | | |
| **B12** | **Contingencies (OPEX, max 5%)** | | | | |
| B12 | OPEX Contingency Provision | *Basis for percentage applied; must not exceed 5% of annual OPEX* | | | |
| **B13** | **Any Other OPEX Items** | | | | |
| B13 | Other OPEX Items | *Describe in full; confirm TOR alignment; reference section of TOR* | | | |

*Attach additional sheets as necessary. Each additional sheet must reference the Form C5 cost head and the bidder's name and proposal reference number. All items in Form C3 must have a corresponding row in Form C5.*

# ANNEXURE AB

# TERMS OF REFERENCE

# 1 BACKGROUND & INTRODUCTION

The Government of Pakistan, under its broader Digital Pakistan Vision, aims to leverage digital and emerging technologies to drive inclusive economic growth, improve public service delivery, enhance innovation & governance, and position the country competitively in the global digital economy. Within this vision, Artificial Intelligence (AI) has been identified as a transformative general-purpose technology with the potential to significantly impact productivity, innovation, and national competitiveness across multiple sectors.

To operationalize this vision, the Government of Pakistan, through Ignite – National Technology Fund under the Ministry of Information Technology & Telecommunication (MoITT), is establishing the National AI Innovation Hub (NAIIH). Ignite's mandate is to enable and strengthen Pakistan's innovation and entrepreneurship ecosystem by supporting applied research, technology commercialization, entrepreneurship, and industry–academia collaboration. NAIIH will build directly on this mandate by serving as a national platform that translates AI research into real-world solutions, fosters AI-driven startups, and supports national priorities including healthcare, agriculture, governance, education, finance and climate resilience.

Despite growing interest and pockets of excellence, Pakistan's current AI and innovation landscape faces significant structural challenges. The country lacks sovereign AI compute capacity and remains heavily dependent on foreign cloud infrastructure for advanced AI development and deployment. This dependence limits the ability to securely develop, scale, and govern AI systems, constrains long-term control over technology evolution, and weakens the development of local AI engineering and operations capabilities. At the same time, AI research and innovation efforts in Pakistan remain fragmented and insufficiently connected to commercialization pathways, resulting in a weak transition from research outputs to scalable products and public-sector solutions.

The absence of domestic high-performance AI compute capacity also exposes national innovation programs to external supply chain, pricing, regulatory, and geopolitical risks, reinforcing the strategic importance of sovereign AI infrastructure as a national capability.

These challenges are reflected in Pakistan's performance in the Global Innovation Index (GII) 2025, published by the World Intellectual Property Organization (WIPO). Pakistan is ranked 99th out of 139 economies, with a particularly low ranking of 124th in the Innovation Input Sub-Index, which measures foundational enablers such as institutions, human capital, research, infrastructure, market sophistication, and business sophistication. By contrast, Pakistan's Innovation Output Sub-Index ranking of 75th indicates that the country generates innovation outcomes disproportionate to its level of ecosystem support. This persistent input–output gap suggests substantial untapped potential that remains unrealized due to systemic constraints, especially in infrastructure, skills, and coordinated innovation platforms.

Global labor market and skills trends further reinforce the urgency of targeted intervention. The World Economic Forum's Future of Jobs Report 2025 highlights AI and big data as among the fastest-growing job categories globally, with approximately 75% of companies worldwide expected to adopt AI technologies by 2028. Demand for roles such as AI and Machine Learning Specialists and Data Scientists is projected to grow by over 40%, yet only about 50% of the global workforce is currently considered ready for AI-driven job transformation, with readiness levels significantly lower in developing economies. Complementary global skills analyses, including large-scale online learning platforms, indicate rapid growth in demand for AI-related competencies, further underscoring the need for structured national capacity-building pipelines.

Within this context, the National AI Innovation Hub (NAIIH) is conceived as Pakistan's flagship, long-term, system-level intervention to address national AI readiness and innovation gaps through a unified and solution-driven framework. The NAIIH integrates skills development, applied research, commercialization, technology adoption, governance, and international collaboration within a single coordinated ecosystem, with a strategic emphasis on building sustainable pipelines for AI talent, research translation, and market-ready solutions rather than isolated or short-term initiatives. Central to this vision is the establishment of sovereign AI infrastructure as a foundational enabler, including government-owned AI compute capacity and an open, vendor-neutral AI software stack to support advanced research and experimentation, enable secure and scalable model training and inference, reduce long-term dependency on external platforms, and retain national control over the evolution of AI systems. This comprehensive approach is fully aligned with the National AI Policy 2025, particularly its priorities on AI innovation ecosystems, workforce readiness, secure and responsible AI, national infrastructure development, and global partnerships, collectively positioning NAIIH as a cornerstone for Pakistan's sustainable and sovereign AI advancement.

## 22.1 Growing Domestic Demand for Sovereign AI Compute and Services

Pakistan is already witnessing significant and demonstrable demand for sovereign AI infrastructure across academia, startups, public institutions, regulated industries, and compute-intensive national sectors. The National Centre of Artificial Intelligence (NCAI) consortium and leading universities, including NUST, COMSATS, LUMS, UET Lahore, and NED, increasingly require advanced accelerator infrastructure for sovereign Urdu and regional language large language models (LLMs), financial market prediction, climate intelligence, healthcare AI, judicial analytics, and advanced scientific research. However, current access to large-scale AI compute remains fragmented, expensive, and heavily dependent on overseas hyperscale cloud providers, resulting in high USD-denominated costs, limited accessibility, data sovereignty concerns, and latency challenges for Pakistani institutions and enterprises.

Pakistan's emerging AI startup ecosystem, including companies such as Metric, Metal, and Vyro Systems, increasingly relies on AI-native products, large-scale inference, multilingual LLMs, and accelerator-intensive generative AI systems. Yet, the absence of affordable domestic AI compute infrastructure constrains product scaling, weakens cost competitiveness, and limits the ability of startups to commercialise locally relevant AI solutions. Similarly, Pakistan's growing gaming, animation, and digital content industries are increasingly adopting AI for procedural content generation, Urdu-language NPCs, real-time inference, esports analytics, and advanced rendering workloads, all of which require scalable and affordable accelerator infrastructure.

Strategic national sectors including WAPDA, the Pakistan Meteorological Department (PMD), OGDCL, and SUPARCO increasingly require high-performance compute for flood forecasting, hydrological modelling, seismic inversion, reservoir simulation, satellite imagery analytics, crop monitoring, and disaster assessment while ensuring sensitive national datasets remain within Pakistan. The devastating impact of recurring climate events, energy security challenges, and the growing need for precision agriculture underscore the urgency of establishing sovereign compute capabilities for national resilience and evidence-based planning.

At the same time, regulated sectors including banking, financial services, telecommunications, healthcare, and critical infrastructure are increasingly seeking secure sovereign AI capabilities for credit scoring, fraud detection, anti-money laundering (AML), Urdu-language customer support, network optimisation, healthcare diagnostics, and enterprise automation. Organisations such as HBL, Telenor, and PTCL are already exploring AI-driven transformation while operating within increasingly stringent domestic data governance, confidentiality, and regulatory requirements. The inability to securely process sensitive financial, citizen, telecom, healthcare, and enterprise data on foreign platforms further reinforces the need for sovereign AI infrastructure hosted on Pakistani soil.

Pakistan’s National AI Policy 2025 and broader digital transformation agenda recognise AI as a strategic national capability with the potential to transform agriculture, industry, services, governance, and productivity. However, achieving these ambitions requires foundational digital public infrastructure capable of providing trusted compute, sovereign data processing, secure inference, and scalable access to academia, startups, enterprises, and public institutions alike. These emerging use cases collectively demonstrate a strong, immediate, and cross-sectoral national demand for sovereign, Pakistan-hosted AI infrastructure capable of supporting secure, scalable, and locally governed AI innovation, commercialization, and public service transformation.

The growing national demand for sovereign AI infrastructure spans multiple sectors of Pakistan’s economy, including academia, startups, strategic public institutions, regulated industries, and emerging digital sectors. The table below provides an illustrative overview of key demand areas, representative institutions, and the corresponding AI and compute requirements that necessitate secure, sovereign, and scalable national AI infrastructure.

| Sector / Vertical | Illustrative Demand in Pakistan | Named Organisations / Beneficiaries | Key AI / Compute Requirement |
|---|---|---|---|
| **Academia & Research** | Sovereign Urdu/Pashto LLMs, climate modelling, healthcare AI, judicial analytics, financial market prediction | NCAI, NUST, COMSATS, LUMS, UET Lahore, NED, Punjab University | Multi-accelerator model training, sovereign research compute, inference APIs |
| **AI Startups & Digital Economy** | AI-native products, bilingual LLM inference, venture intelligence, creative AI | Metric, Metal, Vyro Systems, AI startups, SMEs | Affordable PKR-denominated inference, compute, low-latency APIs |
| **Gaming & Animation** | AI-powered NPCs, procedural content generation, esports analytics, rendering workloads | CEGA, Gamer Pakistan, gaming startups | Accelerator burst compute, real-time inference, rendering clusters |
| **Climate, Water & Disaster Management** | Flood prediction, monsoon forecasting, hydrological and climate simulation | WAPDA, PMD, NDMA | HPC-scale accelerator simulation, air-gapped sovereign processing |
| **Agriculture & Space** | Satellite imagery analysis, crop disease detection, yield forecasting, disaster assessment | SUPARCO, NARC, Provincial Agriculture Departments | Large-scale imagery analytics and inference |
| **Oil & Gas / Energy** | Seismic inversion, reservoir simulation, geological modelling | OGDCL, PPL, MPCL | High-performance confidential compute and air-gapped storage |
| **Banking & Finance** | SME credit scoring, fraud detection, AML/KYC, regulatory reporting | HBL, UBL, Meezan Bank, SBP, PSX | Confidential AI, explainable models, secure inference |

| | | | |
|---|---|---|---|
| **Telecom & Digital Services** | Urdu conversational AI, churn prediction, network optimisation, fraud detection | PTCL, Telenor, Jazz, Zong | Low-latency inference and sovereign language models |
| **Healthcare & Pharma** | Medical imaging, patient outcome prediction, Urdu clinical NLP | Aga Khan, Shaukat Khanum, PIMS, Ferozsons | Confidential AI and secure healthcare inference |
| **Manufacturing, Logistics & Retail** | Predictive maintenance, route optimisation, demand forecasting, customer intelligence | Lucky Cement, Packages Ltd, TCS, Daraz, Leopards | AI inference, analytics, computer vision, enterprise AI |

# 2 Overview of the Proposal

Establishing sovereign Artificial Intelligence (AI) capabilities is critical for Pakistan's long-term economic growth, public-sector transformation, and global competitiveness. AI-driven innovation has the potential to significantly enhance productivity, enable high-value entrepreneurship, and support evidence-based decision-making across key national sectors. However, the absence of sovereign AI infrastructure and reliance on foreign cloud platforms currently limits Pakistan's ability to securely develop, scale, and govern advanced AI solutions.

The NAIIH initiative is aligned with the United Nations Sustainable Development Goals (SDGs), particularly Goal 4 (Quality Education), Goal 8 (Decent Work and Economic Growth), Goal 9 (Industry, Innovation and Infrastructure), Goal 16 (Strong Institutions), and Goal 17 (Partnerships for the Goals). By enabling access to advanced AI compute, strengthening local capabilities, and reducing dependency on external platforms, NAIIH aims to build a resilient and inclusive national AI ecosystem while contributing to sustainable economic development.

The salient features of the NAIIH AI Infrastructure are given below:

23.1 Provision of Sovereign AI Compute Infrastructure

There shall be provision of AI compute infrastructure, including associated AI accelerators, CPUs, memory, storage, and high-speed networking, capable of supporting advanced AI training, fine-tuning, and inference workloads. All AI compute infrastructure procured under this project shall be owned by Ignite under the Ministry of IT and Telecom.

23.2 Co-Location of AI Infrastructure in an Existing Data Center

The AI compute infrastructure, through partnership, shall be co-located in an existing Tier-III or above data center facility in Pakistan, with adequate power, cooling, physical security, and network connectivity. The co-location partner must have initiated the Cloud office accreditations process under Pakistan's Cloud First Policy. The co-location arrangement shall strictly be limited to hosting services, while ownership and control of AI systems shall remain with the Company under the ambit of NAIIH.

23.3 Deployment of Open and Vendor-Neutral AI Software Stack

The AI infrastructure shall be deployed with an open, modular, and vendor-neutral AI software stack to support orchestration, training, inference, monitoring, and governance of AI workloads. The software stack shall ensure portability, replaceability, and long-term flexibility, avoiding proprietary lock-in.

23.4 Funding and Monitoring by the Company

Funding and monitoring of the NAIIH AI Infrastructure shall be conducted by the Company (Ignite – National Technology Fund) or its authorized company for monitoring & evaluation of the project in accordance with its mandate, approved budgets, and applicable public procurement rules.

23.5 Procurement, Deployment, and Initial Operations by the Successful Bidder

Procurement, deployment, commissioning, and initial operations support of the AI infrastructure shall be carried out by the Successful Bidder. The Successful Bidder shall also be responsible for providing structured capacity building and knowledge transfer to NAIIH technical teams during the operations support period.

23.6 Nature of the Setup as National AI Infrastructure

The established setup shall function as national AI infrastructure, not as a commercial cloud or managed service. The infrastructure shall support government-led AI initiatives, startups, applied research, innovation programs, and sectoral AI use cases under NAIIH.

23.7 Policy-Governed and Non-Discriminatory Access

The NAIIH AI Infrastructure shall be an open platform for eligible users, including public-sector entities, research institutions, startups, and ecosystem partners, subject to defined access policies, security requirements, and capacity constraints approved by the Company. Access to the AI infrastructure may be governed through quota-based allocation, priority policies, and usage-based cost allocation models as defined by the Company.

23.8 Support for AI Workloads and Innovation Programs

The AI infrastructure shall support onboarding and execution of multiple concurrent AI workloads, including experimentation, training, inference, pilots, and proof-of-concept deployments, aligned with NAIIH objectives and national priorities.

23.9 User-Facing Access Portal

A user-facing access platform (NAIIH Access Portal) shall be developed to enable controlled access to AI infrastructure, services, datasets, and models for approved users. The platform shall operate entirely within Pakistan, integrate with Government identity systems, and be delivered with full source code ownership, without dependency on external or vendor-controlled services.

23.10 AI Innovation Marketplace

A sovereign NAIIH Innovation Marketplace shall be developed to support innovation, ecosystem engagement, and commercialization of AI solutions built on NAIIH infrastructure. All platform data, and operations shall remain under full control of the Company while the solutions build will belong to the innovator.

23.11 Data Sovereignty and Air-Gapped Operation

All AI workloads and platform operations shall be executed within sovereign infrastructure in Pakistan. The AI stack shall support fully air-gapped deployment with no external connectivity, telemetry, or remote license enforcement, and no Government data shall be transmitted offshore.

23.12 Billing, Metering, and Cost Allocation

The AI platform shall support resource accounting, usage metering, and reporting to enable quota-based allocation and cost management. All such mechanisms shall operate within sovereign infrastructure under full Company control.

23.13 Capacity Building and Knowledge Transfer

A core objective of the project is to build local AI engineering and operations capacity. The Successful Bidder shall ensure structured training, hands-on operational exposure, and progressive transfer of responsibilities to NAIIH teams.

23.14 Progress Reporting Requirements

The Successful Bidder shall be required to submit regular progress and performance reports covering infrastructure deployment, operations, utilization, incidents, and capacity-building activities to the Company on a regular basis.

Within this context, the present RFP represents a foundational step in operationalizing NAIIH by establishing sovereign AI compute infrastructure coupled with an open, vendor-neutral AI software stack, supported by initial operations and capacity building. This infrastructure will serve as the backbone for NAIIH's research, innovation, commercialization, and adoption activities, while remaining fully aligned with Pakistan's long-term national AI and digital sovereignty objectives.

# 3 PROGRAM OBJECTIVES & GUIDING PRINCIPLES

## 24.1 PROGRAM OBJECTIVES

The Ecosystem is established to deliver the following seven programme objectives. These objectives are binding statements of intent and shall govern the design, configuration, pricing model, and operation of every layer of the solution. Each requirement elsewhere in these TORs shall be read as being in service of one or more of these objectives.

### Objective 1 — Affordable, Subsidised Inference for the Nation

Once the required infrastructure and compute are deployed, the Ecosystem shall provide AI inference services at rates cheaper than prevailing international market rates. The solution shall additionally provide subsidised (concessional) access to the open-weight model catalogue for Academia & Researchers and for Startups, available immediately upon operational readiness of the relevant infrastructure. The solution shall include the metering, quota, and billing capabilities necessary to operate affordable and subsidised access across the beneficiary tiers.

### Objective 2 — Enterprise Hosting of Locally-Developed AI Models

The Ecosystem shall provide enterprise-grade hosting capability for AI models developed by Startups, Researchers, and Public- and Private-Sector organisations, enabling such third-party models to be served through the national inference layer. This capability shall extend and enrich the inference layer beyond the open-weight catalogue, providing a managed, secure, multi-tenant home for home-grown models with appropriate isolation, service levels, and intellectual-property protection for model owners.

### Objective 3 — Compute-as-a-Service Below International Rates

The Ecosystem shall offer Compute-as-a-Service (access to accelerated and general-purpose compute) to eligible beneficiaries at rates cheaper than prevailing international market rates. The Successful Bidder shall provide the metering, quota, allocation, and billing capabilities necessary to operate this service across the four beneficiary tiers.

### Objective 4 — Sovereign LLM Fine-Tuned for Urdu and Local Context

The Ecosystem shall develop, fine-tune, and deliver a fully sovereign large language model adapted to the Urdu language, other local and regional languages, and the cultural context of Pakistan. The sovereign model and all associated artefacts shall be owned by Ignite under an unbroken permissive license chain, free of any foreign veto, usage cap, geographic, field-of-use, or output restriction.

### Objective 5 — A National Developer & Innovation Ecosystem

The Ecosystem shall enable a national developer and innovation community by providing developer environments, tooling, self-service platforms, documentation, training, and the means for developers across the country to build, test, deploy, and scale AI solutions on national infrastructure.

### Objective 6 — An AI Marketplace Connecting Solutions, Adopters & Investors

The Ecosystem shall operate a national AI marketplace in which AI solutions are listed with their complete technical detail, including standards-based interface documentation (e.g. OpenAPI-style specifications or equivalent) and working demonstrations, enabling discovery, evaluation, and adoption by public- and private-sector buyers. The marketplace shall additionally provide a mechanism to connect solution developers with investors, supporting commercialisation, funding, and growth of the national AI sector.

### Objective 7 — Impact, Performance & Economic Measurement

The Ecosystem shall provide a comprehensive dashboard and feedback mechanism to measure adoption, performance, and the economic and sectoral impact of the national investment. This capability shall enable Ignite to monitor service performance and to analyse and report the return and impact of the programme across the economy and across sectors.

## 24.2 Guiding Principles

### Sovereignty & data-residency principles

All data, models designated sovereign, and primary and disaster-recovery hosting shall reside within Pakistani territory and under Pakistani jurisdiction. Ownership of the sovereign model and all associated artefacts shall vest in Ignite.

### Vendor- and technology-neutrality principles

The solution shall be procured and evaluated on fair, vendor-neutral terms, free from requirements that mandate or favour any particular manufacturer, product, or technology. The solution shall remain under the purchaser's control and free from dependence on any foreign-controlled service, licence, or remote facility for its continued operation. Open, published standards shall be preferred at integration boundaries between the major layers of the Ecosystem.

### Open-standards & anti-lock-in principles

The Contractor shall prefer open, published, and interoperable standards and interfaces throughout. Proprietary interfaces, where used, shall be documented and accompanied by an equivalent open or standards-based access path wherever technically feasible.

### Sustainability & efficiency principles

The solution shall be designed for energy and cooling efficiency appropriate to the local climate, with declared and measurable efficiency metrics.

# 4 SCOPE OVERVIEW & DELIVERY MODEL

i. **In-scope / out-of-scope summary**

**In scope:** all six ecosystem layers and cross-cutting capabilities; primary and DR colocation hosting; sovereign-model development; affordable and subsidised tiered inference services; Compute-as-a-Service; enterprise hosting of third-party (locally-developed) models; the national developer ecosystem; the AI marketplace including investor-connection mechanisms; the impact-measurement and feedback capability; and all integration, commissioning, operations, and capability transfer.

**Out-of-scope** items, if any, shall be explicitly listed by the procuring authority; absent such listing, the Successful Bidder shall assume end-to-end responsibility.

ii. **End-to-end stack responsibility**

The Successful Bidder shall be responsible for delivering and integrating every layer of the Ecosystem into one operational system, irrespective of how many sub-vendors or partners contribute components.

iii. **Single prime accountability**

Bids may be submitted by a single entity or by a consortium. Where a consortium bids, a single prime Successful Bidder shall hold end-to-end contractual accountability for delivery, integration, and all service levels across every layer. The procuring authority shall deal solely with the prime Successful Bidder for all obligations under these TORs.

iv. **Parallel-track delivery model**

The Successful Bidder shall deliver early-value services (notably the tiered open-weight inference service) in parallel with longer-duration tracks (notably sovereign-model training and facility build-out), in accordance with the phased delivery plan required later in these TORs.

v. **Relationship between TORs and Evaluation Criteria**

These TORs state the binding requirements of the programme. The Technical Evaluation Criteria score a bidder’s proposed capability to meet them. Every measurable threshold in the Evaluation Criteria is reflected in these TORs.

# 5 Terms of Reference

The NAIIH AI Infrastructure Project shall be implemented as a national-level AI compute and operations initiative under the National AI Innovation Hub (NAIIH). The project shall comprise of a fully integrated end-to-end ecosystem, structured into six functional layers - (1) National AI Compute Infrastructure (Foundation); (2) AI Platform & Model Stack; (3) Resource Orchestration & Access; (4) Development & Deployment; (5) AI Marketplace & Adoption; (6) Analytics, Impact & Feedback — supported by cross-cutting capabilities (security, governance & compliance, monitoring & logging, and external-systems integration) and serving the four beneficiary groups. The successful bidder shall deliver all six layers and all cross-cutting capabilities as a single integrated system. The reference architecture diagram provided in Figure 1 is indicative of function only.

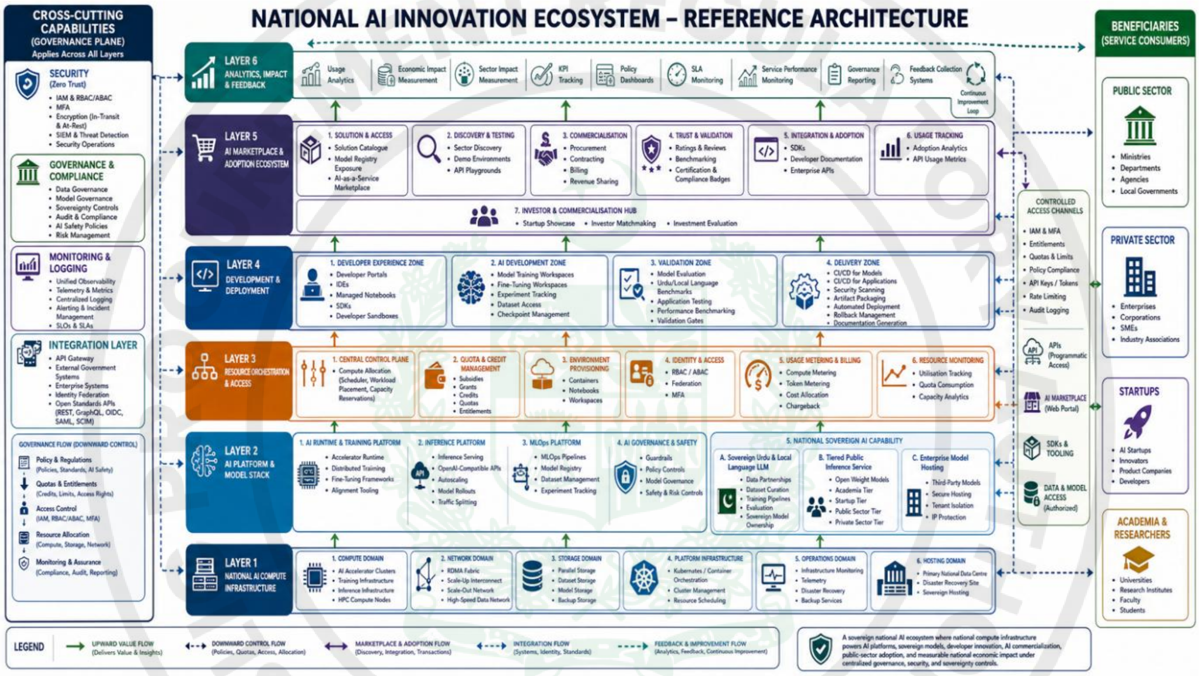


*Figure 1: National AI Ecosystem Reference Architecture*

The technical thresholds specified in this TOR have been sized to support the minimum viable national AI programme scope: distributed pre-training and fine-tuning of a sovereign LLM at 70 billion parameters; concurrent inference serving of at least 20 open-weight models; and simultaneous access by at least four beneficiary tiers. The 64-accelerator floor reflects the minimum cluster scale at which efficient tensor- and pipeline-parallel training of a 70B-parameter model is achievable without architectural compromise. The 1 PB parallel storage floor reflects the combined working-set requirements of active fine-tuning data, model checkpoints, and the inference context store at this scale. All thresholds are binding minimums; bidders proposing configurations that exceed these figures will be scored accordingly under the tiered evaluation criteria.

The Successful Bidder shall be responsible for the end-to-end design, supply, installation, integration, commissioning, operation, maintenance, and structured transfer of a production-grade, sovereign, and scalable AI infrastructure platform in accordance with the Company's requirements and international best practices.

The scope of work shall encompass the complete AI Stack as a single integrated system, including all six layers and cross-cutting capabilities comprising AI infrastructure, colocation, AI software platform deployment, operations, security, governance, and structured capacity building. The Successful Bidder shall ensure full interoperability, operational readiness, and seamless integration across all components.

All hardware procured under this RFP shall be owned solely by the Company and shall be free from vendor-imposed usage restrictions, remote enforcement mechanisms, proprietary lock-ins, or kill-switches, ensuring full operational sovereignty and long-term national control over the infrastructure. The scope of work under this RFP includes, but is not limited to, the following components:

## 26.1 Layer 1: National AI Compute Infrastructure (Foundation)

This Part defines the foundational compute, interconnect, storage, equipment-management, orchestration, monitoring, and infrastructure-resilience requirements. All numeric thresholds in this Part are binding minimums and correspond exactly to the Technical Evaluation Criteria. All requirements are technology- and vendor-neutral; any architecture, datatype, memory technology, interconnect, or file system meeting the stated outcome, evidenced by manufacturer documentation, is acceptable.

### 26.1.1 AI Accelerators

The Successful Bidder shall supply brand-new, training-class AI accelerators suitable for both large-scale distributed training and high-throughput inference. The accelerators may be of any architecture and from any manufacturer, provided every threshold below is met and substantiated by manufacturer datasheets. Standalone add-in-card-only configurations that do not meet the form-factor and interconnect requirements are not acceptable. Rack-scale or super-node architectures are expressly permitted.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide training-class AI accelerators in a baseboard/module-integrated form factor (integrated baseboard, mezzanine, or proprietary integrated module, or equivalent), suitable for training and inference. PCIe add-in-card-only configurations not meeting interconnect/form-factor requirements are not acceptable. | ≥ 64 accelerators |
| **2** | Provide low-precision tensor compute throughput per accelerator, at a vendor-declared datatype (8-bit, 6-bit, 4-bit floating-point, 8-bit integer, or equivalent), with dense/sparse basis disclosed. | ≥ 1.5 PFLOPS per accelerator |
| **3** | Provide 16-bit floating-point (or equivalent) dense training compute per accelerator. | Range ≥ 0.4 PFLOPS to ≥ 1.2 PFLOPS per accelerator |
| **4** | Provide on-package high-bandwidth memory (or equivalent on-package memory) per accelerator; every accelerator shall meet this. | Range ≥ 96 GB to ≥ 144 GB per accelerator |
| **5** | Provide sustained on-package memory bandwidth per accelerator. | ≥ 3.5 TB/s per accelerator |
| **6** | Provide aggregate on-package high-bandwidth memory across the delivered fleet (host memory excluded). | Range ≥ 6TB to ≥ 18 TB aggregate |
| **7** | Provide a high-bandwidth, low-latency intra-node (scale-up) accelerator-to-accelerator interconnect of any topology, supporting direct peer memory access without host staging. This minimum reflects the tight intra-domain coupling | ≥ 700 GB/s per accelerator |

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| | required for efficient large-model (tensor- and pipeline-parallel) training at national scale; architectures whose intra-node accelerator-to-accelerator bandwidth falls below this threshold cannot sustain the required collective-communication efficiency and are not acceptable. | |
| **8** | Provide high-speed, RDMA-capable inter-node (scale-out) connectivity using any standards-based or proprietary RDMA transport (or equivalent), with direct accelerator-to-network paths. | RDMA-capable; per-node injection declared |
| **9** | Provide hardware-enforced partitioning of each accelerator into multiple isolated instances with dedicated compute and memory. | Hardware partitioning supported |
| **10** | Provide a hardware-isolated trusted execution environment protecting model weights and data in use from privileged host administrators. | Confidential computing / TEE supported |
| **11** | Declare per-accelerator and per-node maximum power draw and supported cooling method (air, direct-liquid, or hybrid, or equivalent). | Declared; deployable in standard or integrated racks |
| **12** | Provide a complete, supported software toolchain (compiler, drivers, optimised libraries, integration with ≥ 2 major training frameworks). Dependence on any single closed ecosystem shall not be a precondition of operation. | Complete toolchain; portability documented |
| **13** | Supply latest-generation, in-production hardware (not end-of-life/end-of-sale) through authorised official channels. | Manufacturer authorisation provided |

### 26.1.2 AI Interconnect & Networking Fabric

The Successful Bidder shall provide a high-performance interconnect fabric linking all accelerator nodes. The bidder may propose any topology (fat-tree/Clos, mesh, dragonfly, torus, or equivalent); the fabric shall be evaluated solely on the quantified properties below, not on its architectural form. Any RDMA-capable transport (standards-based or proprietary, or equivalent) is acceptable. No specific switch, transport, or topology is mandated. All figures apply at full delivered cluster scale.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide a non-blocking fabric with no oversubscription on the AI plane, across all tiers, at full cluster scale. | 1:1 (zero oversubscription) |
| **2** | Provide multiple equal-cost independent (disjoint) paths between any two accelerator endpoints. | ≥ 4 disjoint paths |
| **3** | Limit the single-switch fault domain. | ≤ 12.5% of accelerators per switch |
| **4** | Provide topology growth headroom without adding switch tiers or re-architecting. | ≥ 25% growth headroom |
| **5** | Provide aggregate fabric injection bandwidth per accelerator node. | ≥ 3.2 Tb/s per node |

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **6** | Guarantee lossless RDMA transport with zero packet loss under full congestion (hardware flow/congestion control, or equivalent). | Zero RDMA packet loss under congestion |
| **7** | Sustain a high proportion of theoretical bisectional bandwidth on collective operations (e.g. all-reduce), by any mechanism (in-network, host/accelerator-based, or equivalent). | ≥ 90% of bisectional bandwidth |
| **8** | Deliver low end-to-end accelerator-to-accelerator latency for small messages. | ≤ 3 µs for messages < 4 KB |
| **9** | Provide a non-blocking storage plane allowing all nodes to reach full aggregate storage bandwidth simultaneously. | 100% simultaneous reach |
| **10** | Provide a direct accelerator-to-network data path bypassing host CPU and system memory. | Host-bypass DMA path present |

### 26.1.3 Compute Infrastructure — Host, Control-Plane & Data-Pipeline Tiers

The Successful Bidder shall provide the server infrastructure hosting the accelerators, the management/control-plane nodes, and a dedicated data-pipeline (general-purpose CPU) tier. Processor architecture is open: any current-generation enterprise server processor (64-bit x86 or Arm-based, or equivalent) from any manufacturer is acceptable. Core-count requirements are stated as aggregate per host/node so that no socket-packing or processor architecture is excluded.

i. **Accelerator Compute Host Tier**

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1.1** | Provide accelerator host servers with sufficient processor cores per host (aggregate across sockets). | ≥ 128 cores per host (aggregate) |
| **1.2** | Provide host system memory per accelerator host with a multi-channel memory subsystem (8-channel or equivalent). | ≥ 1.5 TB per host |
| **1.3** | Provide high-bandwidth host-to-accelerator I/O (PCIe Gen5 or equivalent coherent link) to every accelerator. | ≥ PCIe Gen5 or equivalent |
| **1.4** | Provide aggregate local high-speed (NVMe or equivalent) data-cache storage across the accelerator-host tier, supporting direct-to-accelerator staging. | ≥ 240 TB aggregate (raw) |
| **1.5** | Provide mirrored, redundant OS media per host, separate from data storage. | RAID-1 (or equivalent) OS media |
| **1.6** | Provide host data-plane network ports per host, separate from the accelerator-fabric adapters. | ≥ 2 × 100 GbE or equivalent |
| **1.7** | Provide redundant, high-efficiency power supplies sized to peak node draw. | N+N or A/B redundant; Titanium-grade or equivalent |

ii. **Management & Control-Plane Node Tier**

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **2.1** | Provide cluster lifecycle-management nodes in a high-availability pair with rapid automatic failover. | ≥ 2 nodes; failover ≤ 60 s |
| **2.2** | Provide orchestration control-plane nodes forming a fault-tolerant quorum. | ≥ 3 nodes; tolerate ≥ 1 failure |
| **2.3** | Provide processor cores (aggregate per node) and memory per control-plane node. | ≥ 96 cores/node; ≥ 512 GB/node |
| **2.4** | Provide mirrored OS media plus encryption-capable local data storage per control-plane node. | RAID-1 + ≥ 15 TB; SED-capable |
| **2.5** | Provide control-plane data and dedicated out-of-band management network ports per node. | ≥ 4 × 25 GbE + ≥ 2 × 1 GbE OOB or equivalent |
| **2.6** | Distribute control-plane nodes across separate racks/cabinets and power circuits. | ≥ 2 racks/cabinets; separate circuits |

iii. **Data-Pipeline / General-Purpose Compute Tier**

*This tier supports data ingestion, cleansing, ETL, tokenisation, and dataset curation. It need not contain accelerators.*

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **3.1** | Provide a dedicated, physically separate compute tier for ingestion, cleansing, ETL, tokenisation and curation, tolerant of any single-node failure without halting pipeline processing. | Dedicated tier; single-node-failure tolerant |
| **3.2** | Provide aggregate processor cores across the data-pipeline tier. | ≥ 1,500 cores (aggregate) |
| **3.3** | Provide memory per data-pipeline node for in-memory dataset transforms. | ≥ 1 TB per node |
| **3.4** | Provide high-throughput working/scratch distributed block storage (flash-class, NVMe or equivalent) with sustained aggregate read and write throughput. The offered hardware and software should support deduplication, compression function, as well as two-copy, three copy and EC data protection modes. | ≥ 500 TB raw; ≥ 100 GB/s read and write (aggregate) |
| **3.5** | Provide data-plane network connectivity per data-pipeline node. | ≥ 2 × 25 GbE or equivalent |
| **3.6** | Provide a continuous data path from the pipeline tier to the parallel storage system and onward to the accelerators. | End-to-end data path demonstrated |

### 26.1.4 Parallel Storage System

The Successful Bidder shall provide an external, shared, parallel storage system presenting tiered namespaces. The system is specified by capacity, performance, and data-path outcomes, not by vendor, product, controller architecture, node count, or file-system internals. Tiers are defined by performance role and capacity, not by media type; any media (NVMe, high-density flash, hybrid, or equivalent) meeting the figures is acceptable. Storage-fabric switches are not required to share a vendor with the compute fabric. Performance floors are anchored to the minimum delivered scale (≥ 64 accelerators).

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide total raw capacity across the external parallel storage system. | ≥ 1 PB raw |
| 2 | Provide a high-performance hot tier (usable, post-data-protection) for the active training working set. | ≥ 200 TB usable; non-disruptively expandable to ≥ 1 PB |
| 3 | Provide a bulk-capacity tier for the remainder of the pool with policy driven tiered namespaces shared with the hot tier. | Parallel Tiered namespace |
| 4 | Provide sustained aggregate read throughput to the accelerator fleet at full scale. | ≥ 380 GB/s read |
| 5 | Provide sustained aggregate write throughput (checkpoint-class) at full scale. | ≥ 190 GB/s write |
| 6 | Deliver sustained storage bandwidth to every accelerator node concurrently, with no node starved under full all-node load. | ≥ 6 GB/s per node concurrently |
| 7 | Provide a direct storage-to-accelerator DMA path bypassing host CPU and system memory (any implementation, or equivalent). | Host-bypass DMA path present |
| 8 | Present a single parallel/distributed file-system namespace concurrently mountable by all accelerator and pipeline nodes. | Parallel tiered namespace |
| 9 | Scale capacity and throughput together near-linearly without re-architecting the namespace. | ≥ 80% linear efficiency to ≥ 2× capacity |
| 10 | Enforce per-tenant capacity quotas and bandwidth/IOPS QoS (hardware-offloaded or software-defined, or equivalent), plus role-based access control. | Multi-tenancy & QoS enforced |
| 11 | Provide data protection (erasure coding/RAID Protection or equivalent) tolerating concurrent disks failure/device failures with no data loss and no namespace outage during rebuild. | ≥ 2 concurrent device failures |
| 12 | Connect storage over a standards-based RDMA-capable fabric; storage switches need not share a vendor with the compute fabric, provided an interoperable, single-support-accountable solution is delivered. | Standards-based RDMA fabric |

### 26.1.5 Infrastructure & Equipment Management

The Successful Bidder shall provide out-of-band management, equipment-level power and cooling, and hardware security for all delivered equipment. Facility-level power and cooling capacity are addressed under the colocation requirements. Management interfaces shall be open and standards-based; any equivalent open management standard is acceptable.

## i. Out-of-Band Management

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1.1** | Provide a physically isolated, redundant management network carrying no compute, storage, or tenant data-plane traffic. | Dedicated; ≥ 2 switches, hot-standby |
| **1.2** | Provide dedicated management-controller access (primary + failover) for every node on the management network only. | Per-node management access |
| **1.3** | Provide an open, standards-based management API (Redfish or equivalent) on all controllers for provisioning, power control, inventory, telemetry, and firmware updates. | Open management API (Redfish or equivalent) |
| **1.4** | Provide remote console access with session recording and audit logging. | KVM-over-IP with audit |
| **1.5** | Provide per-node and per-accelerator telemetry with threshold alerting forwarded to operations promptly. | Alert forwarding ≤ 30 s of breach |
| **1.6** | Provide per-outlet metered power-distribution units, remotely manageable via an open protocol. | Metered, remotely managed PDUs |
| **1.7** | Provide automated hardware inventory/configuration management updated on hardware-change events. | Automated inventory / CMDB |

## ii. Equipment Power, Thermal & Cooling

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **2.1** | Provide redundant, high-efficiency power delivery across all node classes, with no single supply or feed as a single point of failure. | N+N or A/B; Titanium-grade or equivalent |
| **2.2** | Maintain management-plane power independence (UPS-protected, separate circuits) during a primary-power event. | OOB power independence |
| **2.3** | Declare per-rack/per-cabinet and total peak power, reconciled with the colocation facility capacity. | Declared and reconciled |
| **2.4** | Dissipate the full declared per-rack/per-cabinet thermal load at sustained full load with no throttling, by any cooling method (air, direct-liquid, hybrid, or equivalent). | No throttling at sustained 100% load |
| **2.5** | Provide redundant, hot-swappable cooling components so a single cooling-component failure causes no throttling or shutdown. | Cooling redundancy |
| **2.6** | Ensure equipment (standard-rack or integrated-cabinet/super-node form) is physically compatible with facility floor-loading, dimensions, busbar, and cooling interfaces. | Facility-compatible; form-factor declared |

iii. **Physical & Hardware Security**

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **3.1** | Provide a hardware root of trust with secure boot and a hardware security/trusted platform module (TPM 2.0 or recognised equivalent) on all node classes. | Hardware root of trust + secure boot |
| **3.2** | Verify cryptographically signed firmware at every boot, with lockdown and alerting on attestation failure. | Signed firmware; attestation alerting |
| **3.3** | Provide chassis intrusion detection logged and alerted via the management plane. | Tamper detection |

### 26.1.6 Container Orchestration (Foundation Level)

The Successful Bidder shall provide a container-orchestration platform as the foundation for the platform and application layers — a conformant, open container-orchestration system (a CNCF-conformant Kubernetes distribution or equivalent). No specific distribution or vendor is mandated.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide a conformant, production-grade container-orchestration platform across the cluster (Kubernetes-conformant or equivalent). | Conformant orchestration platform |
| **2** | Provide accelerator device-plugin (or equivalent) integration so accelerators are schedulable resources. | Accelerator scheduling integrated |
| **3** | Provide a container runtime and an offline-capable container registry. | Runtime + registry (air-gap capable) |

### 26.1.7 Infrastructure Monitoring & Telemetry

The Successful Bidder shall provide infrastructure-level monitoring, telemetry, and alerting spanning all delivered equipment, using standards-based interfaces (Prometheus-compatible metrics, Open Telemetry, or equivalent).

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide cluster-wide infrastructure monitoring (compute, accelerator, network, storage, power, cooling) through standards-based interfaces (or equivalent). | Standards-based monitoring |
| **2** | Provide telemetry collection, retention, and threshold-based alerting to a central operations function. | Centralised telemetry & alerting |

### 26.1.8 Disaster Recovery & Backup (Infrastructure)

The Successful Bidder shall provide infrastructure-level backup and disaster-recovery capability. Facility-level disaster recovery (primary and secondary sites) is specified under the colocation requirements; this section addresses data and system protection operating across those sites.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide a backup architecture for system state, configurations, datasets, and model artefacts, with defined retention. | Backup architecture with retention |
| **2** | Provide infrastructure-level disaster-recovery mechanisms operating with the primary and secondary facilities (see colocation requirements). | Infra-level DR integrated with sites |

## 26.2 Layer 2: AI Platform & Model Stack

This Part defines the AI software stack, MLOps and data-pipeline platform, the sovereign large language model, the tiered public inference service, the enterprise hosting capability for locally-developed models, and knowledge transfer. It directly serves Objectives 1 (affordable/subsidised inference), 2 (enterprise hosting), 4 (sovereign Urdu/local-context model), and 5 (developer ecosystem). All capability requirements are evaluated by function, not by product; any vendor-native, third-party, or open-source implementation that delivers the stated function is acceptable, and reliance on any single closed ecosystem shall not be a precondition of compliance.

### 26.2.1 AI Software & Orchestration Stack

The Successful Bidder shall provide a complete AI software stack covering the model lifecycle from training through optimised, multi-tenant inference. Each capability may be satisfied by any implementation (vendor-native, third-party, or open-source, or equivalent). Framework compatibility may be met by native support or by a documented, supported import/conversion path.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide a supported low-level accelerator runtime and optimised operator/kernel library with a documented programming interface. | Runtime + operator library |
| **2** | Provide a distributed training framework supporting multi-node data/tensor/pipeline parallelism, with native support for or a documented import path from a widely-used framework and at least one other. | Distributed training; ≥ 2 frameworks |
| **3** | Provide tooling for fine-tuning and alignment (supervised fine-tuning, preference/reinforcement methods, or equivalent) and dataset curation. | Fine-tuning & alignment tooling |
| **4** | Provide a production inference serving engine with dynamic/continuous batching, concurrent multi-model execution, multi-accelerator/multi-node parallelism, and standards-based endpoints with a metrics interface. | Production serving engine |
| **5** | Provide inference optimisation: quantisation (vendor-declared low-precision formats), key-value cache management, and throughput/latency optimisation (in-flight batching, speculative decoding, or equivalent). | Inference optimisation |
| **6** | Expose inference via an OpenAI-compatible (or documented equivalent open) API for client portability. | Open, portable inference API |
| **7** | Provide accelerator-native libraries for dataframe/ETL, classical ML, and/or graph analytics to accelerate pipelines. | Accelerated data-science libraries |
| **8** | Run the full stack on the container-orchestration platform with accelerator device-plugin (or equivalent) integration. | Orchestration-native |
| **9** | Provide automated lifecycle operators for accelerator drivers/runtime and for the high-performance network/RDMA components. | Accelerator & network operators |
| **10** | Provide serverless inference with concurrency/throughput-based autoscaling, scale-to-zero, versioned model management, and traffic-splitting/canary rollout with rollback. | Autoscaling + versioned rollout |

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **11** | Provide fractional accelerator allocation with hardware- or software-enforced memory isolation between co-located workloads. | ≥ 4 isolated workloads per accelerator |
| **12** | Provide multi-tenant isolation (tenant namespaces/virtual clusters), resource quotas, network policy, and role-based access control. | Multi-tenancy & RBAC |
| **13** | Provide a zero-trust control plane (no inbound open ports to the cluster API; not exposed to the public internet) with a full user-level audit trail. | Zero-trust control plane |
| **14** | Operate fully in an air-gapped/on-premises environment with an offline registry and offline model/artifact distribution. | Air-gapped operation |
| **15** | Provide real-time per-tenant/project utilisation metering (accelerator/CPU/memory) and token-level inference metering with chargeback/cost-allocation APIs. | FinOps metering & chargeback |
| **16** | Provide 24×7×365 enterprise support with a defined Severity-1 response time and a long-term-support branch with a stated API-stability duration. | Enterprise SLA + LTS |
| **17** | Provide automatic checkpointing and resumption of distributed training after worker/node failure, with a stated maximum lost-work window. | Fault-tolerant training |
| **18** | Provide cluster-wide observability (metrics, logging, accelerator/job telemetry) via standards-based interfaces (Prometheus-compatible, OpenTelemetry, or equivalent). | Unified observability |

### 26.2.2 AI Cluster Operations & Management Platform (Full-Stack)

The Successful Bidder shall provide a unified, full-stack AI cluster operations and management platform (an “AI factory control plane”, full-stack cluster lifecycle manager, or equivalent) that manages the entire cluster end-to-end through a single pane of glass. The platform shall integrate provisioning, scheduling, monitoring, fault recovery, multi-tenancy, and operations across all delivered infrastructure. It is specified by function; any vendor-native, third-party, or open-source implementation that delivers the stated capabilities is acceptable, and no specific product is mandated.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide unified, single-pane-of-glass management of the entire cluster (compute, accelerators, network, storage) from a single administrative control plane. | Single-pane full-cluster management |
| **2** | Automate end-to-end provisioning, configuration, imaging, and scaling of nodes from a few to many thousands of accelerators. | Automated provisioning at scale |
| **3** | Provide integrated workload scheduling/orchestration for both batch (HPC/training) and container (inference/services) workloads, with quota and priority across tenants/tiers. | Integrated scheduling (batch + container) |
| **4** | Provide cluster-wide telemetry, observability, and health monitoring via standards-based interfaces (or equivalent). | Cluster-wide telemetry & observability |

| | | |
|---|---|---|
| **5** | Provide automated failure detection and autonomous self-recovery to minimise downtime and time-to-recovery for node/job failures. | Automated fault detection & self-recovery |
| **6** | Provide validation and diagnostics (pre-flight checks, burn-in, continuous health-checks) for the cluster and its components. | Validation & diagnostics |
| **7** | Provide multi-tenant operations: tenant isolation, role-based administration, quota/chargeback, and per-tenant operational views. | Multi-tenant operations & chargeback |
| **8** | Operate fully on-premises/air-gapped with no dependency on external cloud services for core management functions. | Air-gapped operability |
| **9** | Integrate with the orchestration (Layer 3), software stack (Sec. 26.2.1), and monitoring (Sec.26.1.7) layers as one coherent operations capability. | Integrated with platform layers |

### 26.2.3 MLOps, Model Registry & Data Pipelines

The Successful Bidder shall provide the MLOps platform, model registry, dataset management, and AI safety controls underpinning model development and operation.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide MLOps pipelines for reproducible training, fine-tuning, evaluation, and deployment. | MLOps pipelines |
| **2** | Provide a model registry with versioning, lineage, and stage promotion. | Model registry & versioning |
| **3** | Provide dataset management and data-pipeline tooling integrated with the data-pipeline compute tier and parallel storage. | Dataset management & pipelines |
| **4** | Provide AI safety and guardrail capabilities (content controls, policy enforcement) applicable to served models. | AI safety & guardrails |

### 26.2.4 Sovereign LLM Development (Objective 4)

The Successful Bidder shall develop and deliver a fully sovereign large language model fine-tuned for the Urdu language, other local and regional languages, and the cultural context of Pakistan, together with the governed data pipelines and partnerships required to build it. The defining requirement is sovereignty: the delivered model and all artefacts shall be owned by Ignite under an unbroken permissive license chain, free of any foreign veto, usage cap, geographic, field-of-use, or output restriction.

#### i. Training & fine-tuning platform

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1.1** | Provide a fully configured end-to-end training and fine-tuning platform on the delivered infrastructure (pre-training, continued pre-training, full and parameter-efficient fine-tuning). | Operational training platform |
| **1.2** | Provide experiment tracking, dataset/version lineage, model registry, checkpointing, and reproducible runs. | Experiment & lifecycle management |

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1.3** | Provide an automated evaluation harness including Urdu/local-language and domain-specific evaluation sets. | Evaluation harness |
| **1.4** | Ensure the platform is fully operable by the in-country team at contract end, with no licensing or technical lock preventing independent fine-tuning. | Handover-ready; no lock-in |

### ii. Governed data pipelines & local-context datasets

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **2.1** | Establish a working data-partnership framework and arrangements with willing Pakistani organisations under Ignite governance and consent/legal compliance. | Partnership framework + governance |
| **2.2** | Assemble, cleanse, and curate Urdu and other local-language corpora and local-context datasets to a stated minimum scale and quality. | Urdu & local corpora (scale/quality stated) |
| **2.3** | Operate production data pipelines (ingestion, cleansing, de-duplication, PII handling, curation, training-ready) integrated with the compute and storage tiers. | End-to-end pipelines operational |
| **2.4** | Ensure all collected/curated data is resident in-country and owned by the Government of Pakistan, with full provenance, audit trail, and consent/withdrawal handling. | In-country; GoP-owned; auditable |

### iii. Sovereign fine-tuned model

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **3.1** | Base the sovereign model on a base model under Apache 2.0, or an equivalent OSI-approved permissive license providing an explicit patent grant, with an unbroken permissive license chain from base weights through every intermediate artefact to the delivered model, such that the result is freely modifiable, redistributable, and commercialisable by the Government of Pakistan with no foreign veto, usage cap, geographic, field-of-use, or output restriction. | Apache 2.0 or equivalent permissive; unbroken chain |
| **3.2** | Fine-tune/align the model on the Urdu and local-context datasets, with demonstrated capability uplift on Urdu/local evaluation sets versus the un-tuned base. | Measured Urdu/local uplift |
| **3.3** | Transfer to Ignite the complete artefact set: model weights, training/fine-tuning code, datasets, configurations, and documentation, sufficient for independent retraining and redeployment. | Full sovereignty transfer |
| **3.4** | Apply safety alignment, content controls, and bias/appropriateness handling tuned to the Pakistani legal and cultural context. | Local-context alignment & safety |
| **3.5** | Provide a full model card (architecture, training-data summary, capabilities, limitations, evaluation results, intended-use and licensing statement). | Model card delivered |

### 26.2.5 Tiered Public Inference Service (Objective 1)

The Successful Bidder shall stand up a public, tiered inference service offering a catalogue of open-weight models, launched in parallel with sovereign-model training so that public value is delivered early. Consistent with Objective 1, the service shall be priced below prevailing international market rates, with subsidised (concessional) access for Academia & Researchers and for Startups. The open-weight models in the catalogue need not be permissively licensed, provided each model's license permits the intended hosted-inference service.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide a catalogue of open-weight models in production inference, launched in parallel with (not after) sovereign-model training, spanning a range of sizes and capabilities (general, coding, reasoning, multilingual). | ≥ 20 open-weight models |
| 2 | Operate four distinct access tiers — Academia & Researchers, Startups, Public Sector, Private Sector — each with defined eligibility, quota/rate limits, data-handling/residency terms, and service levels, enforced via platform multi-tenancy/RBAC. | Four-tier access model |
| 3 | Provide subsidised (concessional) access for Academia & Researchers and Startups, and overall service rates cheaper than prevailing international market rates. | Subsidised + below-international pricing |
| 4 | Make the inference service live and publicly accessible within a stated timeline from contract start, with a committed uptime SLA. | Parallel launch; uptime SLA committed |
| 5 | Provide a standards-based API (OpenAI-compatible or documented equivalent), self-service onboarding, authentication, and per-tier metering and quota enforcement. | Open API + per-tier metering |
| 6 | Provide per-tier, per-model usage metering and reporting to Ignite (utilisation, adoption, cost allocation). | Usage metering & reporting |

### 26.2.6 Enterprise Hosting of Locally-Developed Models (Objective 2)

The Successful Bidder shall provide the capability to host, on the national inference layer, AI models developed by Startups, Researchers, and Public- and Private-Sector organisations, enriching the inference layer beyond the open-weight catalogue. The commercial terms for any hosted third-party model are determined case-by-case once operational and are not fixed by these TORs; the Successful Bidder's obligation is to provide the hosting capability and controls.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide a managed, secure, multi-tenant hosting capability enabling third-party (locally-developed) models to be deployed and served through the national inference layer. | Third-party model hosting capability |
| 2 | Provide tenant isolation and intellectual-property protection appropriate to model owners (isolation of weights, data, and endpoints). | Isolation + IP protection |

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 3 | Provide onboarding, deployment, versioning, metering, and service-level controls for hosted third-party models, supporting flexible commercial arrangements. | Hosting lifecycle & metering controls |
| 4 | Support configurable access and pricing arrangements per hosted model (subsidised, tiered, or owner-governed), without fixing such terms in advance. | Configurable access/pricing support |

### 26.2.7 Knowledge Transfer, Skilling & Ecosystem Capability Building

The Successful Bidder shall transfer the knowledge, skills, and institutional capacity required for Pakistan to operate, sustain, and grow the entire Ecosystem independently — fulfilling Objective 5 (a national developer and innovation ecosystem) and reinforcing the programme's sovereignty goals. This obligation extends beyond the operations team to the wider national developer, research, and startup community, and continues through a defined post-go-live support and mentoring period as set out in the SLA schedule. All capability-building shall be designed for local self-sufficiency, including the propagation of training capacity to Pakistani trainers and institutions ensuring the curricula is designed for heterogeneous accelerator and software-stack environments, and shall not be limited to the stack of the delivered platform.

#### i. Operations Team Capability Transfer

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1.1 | Provide structured training for the in-country team covering platform operation, pipeline management, fine-tuning, and inference-service operation. | Operator & developer training |
| 1.2 | Demonstrate, before contract close, that the in-country team can run a full fine-tuning cycle and operate the inference service independently (acceptance gate). | Independent-operation acceptance gate |

#### ii. National Developer Skilling & Curriculum

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| 2.1 | Develop a structured, tiered curriculum (foundational, advanced, and specialist levels) covering platform use, model fine-tuning, inference, data pipelines, and AI application development on the Ecosystem. | Tiered national curriculum |
| 2.2 | Develop accredited training modules and certification pathways for Pakistani developers, designed for accreditation by a Pakistani national body (e.g. HEC, NAVTTC, a university consortium, or Ignite ) so that skill levels are standardised across the ecosystem; the Successful Bidder shall support the accreditation process with the relevant national institution(s). | National-accredited certification |
| 2.3 | Deliver a "training -of-trainer" programme that builds a cadre of qualified Pakistani trainers and institutions able to continue delivering the curriculum and certifications independently of the Successful Bidder. | Train-the-trainer / local propagation |
| 2.4 | Provide localised training materials and delivery, including in Urdu, to ensure accessibility across the national developer community. | Localised materials (incl. Urdu) |
| 2.5 | Transfer all curriculum content, assessment materials, and certification frameworks to Ignite for ongoing national use, with rights to maintain and extend them. | Curriculum IP transfer to GoP |

### iii. Community Support & Engagement

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| **3.1** | Establish and operate community support mechanisms — forums, discussion platforms, and knowledge bases — for Researchers, Startups, and the wider developer community, beyond static documentation. | Community forums / knowledge base |
| **3.2** | Provide a technical helpdesk / support desk for ecosystem users (Researchers, Startups, public- and private-sector developers), with published response expectations defined in the SLA schedule, distinct from the platform enterprise SLA. | Ecosystem-user helpdesk (per SLA) |
| **3.3** | Run regular developer-engagement activities — "office hours", clinics, and developer-advocate sessions — to assist users in building and deploying solutions. | Office hours / developer advocacy |
| **3.4** | Conduct outreach and innovation programmes (e.g. hackathons, challenges, or innovation calls) to drive adoption and surface local AI use-cases across sectors. | Innovation / outreach programmes |
| **3.5** | Provide tier-specific onboarding pathways for the four beneficiary groups (Academia & Researchers, Startups, Public Sector, Private Sector), easing entry for first-time users. | Tier-specific onboarding |

### iv. Post-Go-Live Support & Sustained Capability

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| **4.1** | Continue community support, skilling, and mentoring for a defined post-go-live period as specified in the SLA schedule, to ensure the ecosystem takes root before the Successful Bidder withdraws. | Post-go-live support (per SLA) |
| **4.2** | Demonstrate, before the end of the support period, that Pakistani teams and trainers can independently operate the platform, deliver the curriculum, and sustain community support without Successful Bidder dependence. | Sustained-independence demonstration |

## 26.3 Layer 3: Resource Orchestration & Access

This Part defines how compute and platform resources are allocated, quota-managed, provisioned, access-controlled, metered, and billed across the four beneficiary tiers. It is the operational layer that makes Objectives 1 and 3 deliverable in practice: it provides the quota, credit, metering, and billing machinery through which affordable and subsidised inference (Objective 1) and Compute-as-a-Service at rates cheaper than prevailing international market rates (Objective 3) are operated. All capabilities are specified by function; any implementation (vendor-native, third-party, or open-source, or equivalent) that delivers the stated outcome is acceptable, and no proprietary platform is mandated.

### 26.3.1 Compute Allocation & Scheduling

The Successful Bidder shall provide a compute allocation and scheduling capability that places training, fine-tuning, and inference workloads onto accelerated and general-purpose compute efficiently and fairly across tenants and tiers.

| Ref | Requirement (the Solution shall...) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide a compute allocation engine that schedules workloads across the accelerator and general-purpose compute pools with high utilisation. | Allocation engine across pools |
| 2 | Provide job scheduling and queue management for batch, interactive, and service workloads, including gang/topology-aware scheduling for distributed training. | Scheduling + queue management |
| 3 | Enforce fair-share, priority, and pre-emption policies across the four beneficiary tiers, configurable by the governance authority. | Fair-share & priority across tiers |
| 4 | Support reservation of capacity for specific tenants, programmes, or time windows (e.g. sovereign-model training, subsidised research allocations). | Capacity reservation |

### 26.3.2 Quota & Credit Management

The Successful Bidder shall provide a quota and credit-management capability that operationalises the tiered, subsidised access model. This capability is the mechanism by which subsidised access for Academia & Researchers and Startups (Objective 1) and differentiated CaaS entitlements (Objective 3) are administered and controlled.

| Ref | Requirement (the Solution shall...) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide a per-tier and per-tenant quota system governing consumption of inference, training, and compute resources. | Per-tier / per-tenant quotas |
| 2 | Provide a credit-allocation and top-up mechanism (including grant, subsidy, and concessional credits) administrable by the governance authority. | Credit allocation incl. subsidy/grants |
| 3 | Support resource-reservation and entitlement mechanisms tied to credits and quotas, with enforcement at allocation and runtime. | Reservation & entitlement enforcement |
| 4 | Provide configurable policies to apply subsidised/concessional rates to eligible tiers (Academia & Researchers, Startups) and standard rates to others. | Configurable subsidised vs standard policy |

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 5 | Provide alerting, soft/hard limits, and controlled overage handling to prevent uncontrolled consumption. | Limits & overage controls |

### 26.3.3 Environment Provisioning

The Successful Bidder shall provide self-service provisioning of working environments for the national developer ecosystem (Objective 5), with strict tenant isolation.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide self-service provisioning of containers and managed notebook/interactive environments for eligible users. | Self-service container/notebook provisioning |
| 2 | Provide a curated template and image catalogue (frameworks, runtimes, toolchains) for rapid environment creation. | Template/image catalogue |
| 3 | Enforce tenant workspace isolation (compute, storage, network) between users and organisations. | Tenant workspace isolation |
| 4 | Integrate provisioning with quota, credit, and access-control so provisioned resources consume the correct entitlements. | Provisioning tied to quota/IAM |

### 26.3.4 Access Control (Identity & Access Management)

The Successful Bidder shall provide identity and access management spanning all beneficiary tiers and all layers, using open standards (e.g. OIDC/SAML or equivalent). No proprietary identity system is mandated.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide identity and authentication using open, standards-based protocols (OIDC, SAML, or equivalent), with multi-factor authentication. | Standards-based auth + MFA |
| 2 | Provide role-based and attribute-based access control mapped to the four beneficiary tiers and to organisational roles. | RBAC/ABAC across tiers |
| 3 | Support federation with national and enterprise identity providers (or equivalent), enabling organisations to use their own identities. | Identity federation |
| 4 | Provide full, tamper-evident audit logging of authentication and authorisation events. | Auditable access events |

### 26.3.5 Usage Metering, Billing & Resource Monitoring

The Successful Bidder shall provide metering, billing, and resource monitoring that support affordable and subsidised pricing (Objectives 1 and 3) and feed the impact-measurement capability (Objective 7). Pricing is operated below prevailing international market rates; the metering and billing machinery shall make such pricing administrable and transparent.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide per-tenant, per-tier, per-service, and per-model usage metering (accelerator/CPU/memory/storage and token-level inference). | Granular usage metering |
| **2** | Provide billing, invoicing, and cost-allocation supporting subsidised, concessional, and standard rate structures across tiers. | Billing & cost allocation incl. subsidy |
| **3** | Provide resource-monitoring dashboards for operators and tenants (utilisation, quota consumption, cost). | Resource-monitoring dashboards |
| **4** | Expose metering and billing data via APIs to the analytics and impact-measurement capability (Part G). | Metering/billing APIs to analytics |

## 26.4 Layer 4: Development & Deployment

This Part defines the developer-facing platform that enables the national developer and innovation ecosystem (Objective 5): the environments, workspaces, testing and validation frameworks, continuous integration and delivery, security scanning, and documentation/packaging through which developers across the country build, test, deploy, and scale AI solutions on national infrastructure. All capabilities are specified by function; any implementation (vendor-native, third-party, or open-source, or equivalent) that delivers the stated outcome is acceptable, and no proprietary toolchain is mandated.

### 26.4.1 Developer Environments

The Successful Bidder shall provide managed developer environments enabling users across all four beneficiary tiers to develop AI solutions on the platform, integrated with the orchestration, quota, and access-control capabilities of layer 3.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide managed integrated development environments and interactive notebook environments accessible to eligible users. | IDEs + managed notebooks |
| 2 | Provide isolated developer sandboxes with controlled access to compute, data, and SDKs. | Isolated developer sandboxes |
| 3 | Provide SDKs and client libraries for the platform's APIs and services (in commonly-used languages, or equivalent). | SDKs / client libraries |
| 4 | Integrate environments with identity, quota, and metering so usage consumes the correct entitlements. | Integrated with IAM/quota/metering |

### 26.4.2 Model Training & Fine-Tuning Workspaces (Developer-Facing)

The Successful Bidder shall provide self-service, developer-facing workspaces for model training and fine-tuning, distinct from the sovereign-model platform but built on the same underlying capabilities, enabling third parties to train and fine-tune their own models (supporting Objective 2 hosting and Objective 5).

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide self-service training and fine-tuning workspaces with access to scheduled accelerated compute within entitlements. | Self-service fine-tuning workspaces |
| 2 | Provide experiment tracking, dataset access, and checkpoint management for developer workloads. | Experiment tracking access |
| 3 | Provide curated base-model and dataset access (including permissively-licensed bases) for developer fine-tuning, with license clarity. | Curated bases/datasets with license clarity |

### 26.4.3 Testing & Validation Frameworks

The Successful Bidder shall provide frameworks to test, evaluate, and benchmark both models and applications before deployment to the inference and marketplace layers.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide a model evaluation harness, including Urdu/local-language and domain-specific evaluation sets, reusable by developers. | Model evaluation harness (incl. local sets) |
| 2 | Provide application testing frameworks (functional, integration, load) for AI-enabled applications. | Application testing frameworks |
| 3 | Provide benchmarking tools for performance, latency, and quality, with comparable, repeatable methodology. | Benchmarking tools |
| 4 | Provide validation checks that can be enforced prior to deployment or marketplace listing. | Pre-deployment validation checks |

### 26.4.4 Documentation & Packaging

The Successful Bidder shall provide artifact packaging and developer documentation capabilities, ensuring solutions can be packaged for deployment and documented for the marketplace and for adopters (supporting Objective 6).

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide standardised artifact packaging for models and applications (containers, model formats, or equivalent). | Standardised packaging |
| 2 | Provide generation and hosting of developer/API documentation (standards-based, e.g. OpenAPI-style or equivalent). | Developer/API documentation |
| 3 | Support packaging of solutions for marketplace listing with their technical detail and demonstration assets. | Marketplace-ready packaging |

## 26.5 LAYER 5: AI MARKETPLACE & ADOPTION ECOSYSTEM

This Part defines the national AI marketplace through which AI solutions are discovered, evaluated, adopted, transacted, and scaled — the home of Objective 6. The marketplace lists AI solutions with their complete technical detail, including standards-based interface documentation (e.g. OpenAPI-style specifications or equivalent) and working demonstrations, enabling discovery and adoption by public- and private-sector buyers; and it provides a mechanism to connect solution developers with investors, supporting commercialisation and growth of the national AI sector. All capabilities are specified by function; any implementation (vendor-native, third-party, or open-source, or equivalent) that delivers the stated outcome is acceptable, and no proprietary marketplace platform is mandated.

### 26.5.1 AI Marketplace Portal — Build & Delivery

| Ref | Requirement (the Solution shall…) | Basis |
|---|---|---|
| 1 | Deliver a production-grade Marketplace web portal implementing Sections 26.5.2–26.5.8 as one integrated application. | Deployable portal application |
| 2 | Provide a solution & model catalogue with full technical detail, standards-based API documentation (OpenAPI-style or equivalent), and working demos/playgrounds per Sec.26.5.2–26.5.3. | Catalogue + docs + demos |
| 3 | Provide commercialization workflows — procurement, contracting/onboarding, subscription & usage-based billing, and revenue-sharing — per Sec.26.5.4. | Commercialization workflows |
| 4 | Provide trust & validation (ratings/reviews, performance benchmarking, certification/compliance badges) per Sec.26.5.5. | Trust & validation |
| 5 | Provide integration & adoption surfaces (SDKs/integration kits, developer documentation portal, enterprise integration APIs) per Sec.26.5.6. | Integration & adoption |
| 6 | Provide usage & adoption analytics feeding the impact-measurement capability (Layer 6) per Sec.26.5.7. | Usage & adoption analytics |
| 7 | Provide the investor-connection / matchmaking capability per Sec.26.5.8, under governance and confidentiality controls. | Investor connection |
| 8 | Integrate the portal with identity, entitlement, quota, metering, and billing (Layer 3), and operate it under Ignite governance. | Platform-integrated & governed |

The Successful Bidder shall design, build, and deliver a national AI Marketplace web portal (the "Marketplace") as an integrated, production-grade application implementing the full set of marketplace capabilities defined in Sections 26.5.2–26.5.8 below. The Marketplace is the public adoption surface of the Ecosystem (Objective 6): it lists AI solutions and models with their complete technical detail — including standards-based interface documentation (OpenAPI-style or equivalent) and working demonstrations — enabling discovery, evaluation, procurement, and adoption by public- and private-sector buyers, and connecting solution developers with investors. The portal shall be delivered as a deployable application (not merely a specification), hosted on the national infrastructure, integrated with identity, entitlement, metering, and billing (Layer 3), and operable under Ignite governance.

### 26.5.2 Solution & Access

The Successful Bidder shall provide the catalogue and access surfaces through which solutions and models are published and consumed, including the AI-as-a-Service surface for the inference and compute services (supporting Objectives 1 and 3).

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide a solution catalogue listing AI solutions, services, and models with complete technical detail and metadata. | Solution catalogue |
| **2** | Expose the platform model registry so approved models are discoverable and consumable through the marketplace. | Model registry exposure |
| **3** | Provide an AI-as-a-Service API marketplace surface through which inference, compute, and hosted-model services are accessed. | AI-as-a-Service marketplace |
| **4** | Integrate catalogue access with identity, entitlement, quota, and metering (Layer 3). | Integrated access/entitlement |

### 26.5.3 Discovery & Testing

The Successful Bidder shall enable buyers and developers to discover, evaluate, and trial solutions before adoption.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide sector-based discovery (e.g. health, agriculture, finance, government, education, or equivalent classification) to help buyers find relevant solutions. | Sector-based discovery |
| **2** | Provide demonstration environments in which solutions can be evaluated safely. | Demo environments |
| **3** | Provide interactive API playgrounds for hands-on evaluation of services and models. | API playgrounds |

### 26.5.4 Commercialization

The Successful Bidder shall provide the commercial machinery enabling solutions and services to be procured, contracted, billed, and monetised across public and private sectors, consistent with the affordable/subsidised positioning of Objectives 1 and 3.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide procurement systems supporting both public-sector and private-sector buyers, including approval and compliance workflows. | Procurement (public & private) |
| **2** | Provide contracting and onboarding workflows for buyers and solution providers. | Contracting & onboarding |
| **3** | Provide billing and monetisation supporting subscription and usage-based models, and subsidised/concessional structures where applicable. | Subscription & usage-based billing |

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 4 | Provide revenue-sharing mechanisms between the platform and solution providers, with transparent accounting. | Revenue-sharing mechanisms |

### 26.5.5 Trust & Validation

The Successful Bidder shall provide trust signals enabling buyers to assess solution quality, performance, and compliance.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide ratings and reviews for listed solutions and providers. | Ratings & reviews |
| 2 | Provide performance benchmarking results for listed solutions, using comparable methodology. | Performance benchmarking |
| 3 | Provide certification and compliance badging (e.g. security, data-protection, quality) administrable under governance. | Certification & compliance badges |

### 26.5.6 Integration & Adoption

The Successful Bidder shall provide the developer- and enterprise-facing means to integrate and adopt marketplace solutions, supporting Objective 5 and Objective 6.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide SDKs and integration kits enabling rapid integration of marketplace solutions and services. | SDKs & integration kits |
| 2 | Provide a developer documentation portal with standards-based API documentation (OpenAPI-style or equivalent) and examples. | Developer documentation portal |
| 3 | Provide enterprise integration APIs enabling organisations to embed marketplace services into their own systems. | Enterprise integration APIs |

### 26.5.7 Usage Tracking (Marketplace)

The Successful Bidder shall provide marketplace-level usage and adoption tracking, feeding the analytics and impact-measurement capability (Objective 7).

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide API and service usage analytics per solution, provider, and buyer. | API usage analytics |
| 2 | Provide adoption metrics (uptake, retention, growth) across sectors and tiers. | Adoption metrics |
| 3 | Feed marketplace usage and adoption data to the impact-measurement capability (Part G). | Data feed to impact analytics |

### 26.5.8 Investor Connection & Commercialisation Support (Objective 6)

The Successful Bidder shall provide a mechanism connecting solution developers — particularly Startups and Researchers — with investors, to support commercialisation, funding, and growth of the national AI sector. This is a distinguishing requirement of the marketplace and shall be delivered as a managed capability, not merely a static listing.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide a means for solution developers to present solutions, traction, and technical detail to a curated investor audience. | Developer-to-investor presentation |
| **2** | Provide an investor-facing discovery and matchmaking capability to identify solutions and teams of interest. | Investor discovery & matchmaking |
| **3** | Provide secure sharing of relevant technical, usage, and performance information to support investment evaluation, under appropriate consent and confidentiality controls. | Secure, consented information sharing |
| **4** | Operate the capability under governance, with eligibility, transparency, and conflict-of-interest controls. | Governed, transparent operation |

## 26.6 Layer 6: Analytics, Impact & Feedback

This Part defines the capability through which Ignite measures adoption, performance, and the economic and sectoral impact of the national investment — the home of Objective 7. It consolidates usage and metering data from the orchestration layer (Layer 3), the marketplace (Layer 5), and the inference and hosting services (Layer 2) into analytics, dashboards, impact measurement, and feedback loops. All capabilities are specified by function; any implementation (vendor-native, third-party, or open-source, or equivalent) that delivers the stated outcome is acceptable, and no proprietary analytics platform is mandated.

### 26.6.1 Usage Analytics

The Successful Bidder shall provide platform-wide usage analytics aggregating consumption across all services, tiers, and sectors.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide platform-wide usage analytics across inference, compute, hosting, development, and marketplace services. | Platform-wide usage analytics |
| 2 | Provide breakdowns by beneficiary tier, sector, organisation, service, and model. | Multi-dimensional breakdowns |
| 3 | Aggregate metering and usage data from Layers 2,3 &5 via their published interfaces. | Consolidated data ingestion |

### 26.6.2 Impact Measurement

The Successful Bidder shall provide a capability to measure and report the economic and sectoral impact of the programme, enabling the governance authority to assess the return on the national investment.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide economic-impact measurement (e.g. value enabled, cost savings versus international alternatives, sector growth indicators, or equivalent), with a documented, repeatable methodology. | Economic-impact measurement + methodology |
| 2 | Provide sectoral-impact measurement across the sectors served (e.g. health, agriculture, finance, government, education, or equivalent). | Sectoral-impact measurement |
| 3 | Support definition and tracking of programme key performance indicators and outcomes over time. | KPI/outcome tracking over time |
| 4 | Provide reporting suitable for governance, oversight, and public accountability. | Governance/accountability reporting |

### 26.6.3 Policy Dashboards

The Successful Bidder shall provide dashboards for Ignite to monitor the Ecosystem and inform policy.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide governance dashboards for Ignite presenting adoption, utilisation, performance, and impact. | Governance dashboards |
| 2 | Provide configurable views and drill-down by tier, sector, service, and time period. | Configurable, drill-down views |
| 3 | Provide role-based access to dashboards for authorised governance and oversight users. | Role-based dashboard access |

### 26.6.4 Performance Monitoring

The Successful Bidder shall provide service-level performance monitoring spanning the Ecosystem's services, distinct from infrastructure monitoring (Layer 1).

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide service-level performance monitoring (availability, latency, throughput, error rates) across inference, compute, hosting, and marketplace services. | Service-level performance monitoring |
| 2 | Provide SLA tracking and reporting against committed service levels. | SLA tracking & reporting |
| 3 | Provide alerting on service-level breaches to operations and governance. | Service-level alerting |

### 26.6.5 Feedback Collection Systems

The Successful Bidder shall provide mechanisms to collect, route, and act upon feedback from beneficiaries, closing the loop between usage and continuous improvement.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide feedback-collection mechanisms for beneficiaries across all four tiers (e.g. in-service feedback, surveys, issue reporting, or equivalent). | Beneficiary feedback collection |
| 2 | Route and track feedback to resolution and to service/product improvement. | Feedback routing & tracking |
| 3 | Feed aggregated feedback into impact measurement and governance reporting. | Feedback into impact/governance |

# 6 CROSS-CUTTING CAPABILITIES

This Part defines capabilities that span every layer of the Ecosystem — security, governance and compliance, monitoring and logging, and integration with external systems. These requirements apply horizontally to all of Layers 1 through 6. All capabilities are specified by function; any implementation (vendor-native, third-party, or open-source, or equivalent) that delivers the stated outcome is acceptable, and no proprietary product is mandated.

## 27.1 SECURITY (IAM, ENCRYPTION, ZERO-TRUST)

The Successful Bidder shall apply security across all layers, consistent with the equipment-level (Layer 1) and platform-level (Layer 2) security requirements, under a coherent zero-trust posture.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Apply a zero-trust security architecture across all layers (no implicit trust; authenticate and authorise every access). | Zero-trust across all layers |
| **2** | Provide centralised identity and access management consistent with Layer 3 section 26.3.4, with multi-factor authentication and least-privilege access. | Centralised IAM; MFA; least privilege |
| **3** | Encrypt data in transit and at rest throughout the Ecosystem or recognised equivalent), with managed key management. | Encryption in transit & at rest |
| **4** | Provide a security operations capability (threat detection, incident response, SIEM or equivalent) covering all layers. | Security operations / SIEM |
| **5** | Provide vulnerability management and patching processes across infrastructure, platform, and applications. | Vulnerability & patch management |

## 27.2 GOVERNANCE & COMPLIANCE

The Successful Bidder shall provide governance and compliance capabilities enabling Ignite to govern the Ecosystem, its data, and its models, consistent with the sovereignty and data-residency principles.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide data-governance capabilities (classification, provenance, lineage, retention, consent and withdrawal handling) across the Ecosystem. | Data governance & provenance |
| **2** | Enforce data-residency and sovereignty controls ensuring sovereign data and models remain in-country and under Pakistani jurisdiction. | Residency & sovereignty enforcement |
| **3** | Provide model governance (approval, registration, risk classification, and AI-safety policy enforcement) for served and hosted models. | Model governance & AI-safety policy |
| **4** | Provide compliance with applicable Pakistani regulation and recognised standards (e.g. ISO 27001 or equivalent), with auditability. | Regulatory & standards compliance |
| **5** | Provide comprehensive, tamper-evident audit trails across all layers for governance and oversight. | Tamper-evident audit trails |

## 27.3 Monitoring & Logging

The Successful Bidder shall provide unified monitoring and logging across all layers, complementing infrastructure monitoring (Layer 1) and service-level performance monitoring (Layer 6), using standards-based interfaces.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide centralised, cluster-wide logging with retention and search across all layers. | Centralised logging & retention |
| **2** | Provide unified monitoring and observability via standards-based interfaces (Prometheus-compatible, OpenTelemetry, or equivalent). | Standards-based observability |
| **3** | Provide correlation of metrics, logs, and traces to support diagnosis across layers. | Metrics/logs/traces correlation |
| **4** | Provide alerting and notification routing to operations and governance functions. | Alerting & routing |

## 27.4 Integration Layer (External Systems & APIs)

The Successful Bidder shall provide an integration layer enabling the Ecosystem to connect securely with external government and enterprise systems through open, standards-based interfaces.

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide open, standards-based APIs (REST/gRPC or equivalent) for integration with external government and enterprise systems. | Open standards-based integration APIs |
| **2** | Provide secure connectors/gateways for external system integration, with authentication, authorisation, and rate control. | Secure connectors/gateways |
| **3** | Support standards-based identity federation with external systems (consistent with Layer 3 section 26.3.4). | External identity federation |
| **4** | Provide an API gateway with versioning, throttling, and monitoring for all externally-exposed interfaces. | API gateway with governance |

## 27.5 Interoperability & Accelerator/HPC-Agnostic AI Software Stack

This Section requires that the AI software stack supplied under these TORs be architected for portability and heterogeneity, so that the national platform is not permanently bound to any single accelerator architecture, HPC backend, or vendor software ecosystem. The requirement is vendor- and technology-neutral: it does not mandate, favour, or exclude any accelerator architecture, any low-level programming model, or any vendor stack. It requires only that portability and heterogeneity be designed in at the layers where they are technically achievable.

### Binding requirements

| Ref | Requirement (the Solution shall…) | Basis / acceptance |
|---|---|---|
| **1** | Architect the AI software stack on open, standard, or documented representations at the framework, model-interchange, container, and API layers (e.g. standard | Portable layers; no single-stack precondition |

| | | |
|---|---|---|
| | training frameworks, ONNX or equivalent model interchange, OCI-compatible containers, OpenAI-compatible or equivalent serving APIs), so that workloads are not bound to a single accelerator's proprietary programming model as a precondition of running. | |
| **2** | Ensure models and workloads can be retargeted/recompiled to a different accelerator architecture or HPC backend through a vendor-neutral compiler/abstraction path (e.g. an MLIR-based or equivalent compiler, standard kernel-abstraction layer, or documented conversion pipeline), with the supported targets and any limitations disclosed. | Retargetable via neutral compiler/abstraction |
| **3** | Support heterogeneous accelerators within the platform: the orchestration, scheduling, and management layers shall be capable of operating a fleet containing more than one accelerator architecture, or at minimum shall not preclude their coexistence and incremental addition. | Heterogeneous backend capability |
| **4** | Provide a documented migration/retargeting path enabling the Government to move models, workloads, and pipelines from the delivered accelerator/stack to a different one, stating the expected effort, tooling, and known limitations. | Documented migration path |
| **5** | Deliver all sovereign artefacts (model weights, training and fine-tuning code, datasets, and configurations) in stack-independent, open, and documented formats, so the Government can retrain or redeploy them on a different accelerator architecture (consistent with the sovereignty-transfer requirements). | Stack-independent sovereign artefacts |
| **6** | Avoid, in any layer above the unavoidable low-level kernel/driver layer, any dependency that would prevent substitution of the accelerator or HPC backend; where such a dependency is unavoidable, document it and provide an open or standards-based alternative access path wherever technically feasible. | Substitutability above kernel layer |
| **7** | Ensure the developer-facing environments, SDKs, and tooling expose portable, standards-based interfaces, so that solutions built by the national developer ecosystem are themselves portable across accelerator backends to the extent technically feasible. | Portable developer surfaces |
| **8** | Document, for each layer of the supplied stack, its portability status — portable, retargetable-with-effort, or architecture-specific — providing the Government a clear map of where lock-in does and does not exist. | Portability disclosure map |

# 7 Colocation, Facility & Physical Hosting

This Part defines the requirements for the primary and disaster-recovery hosting facilities. All numeric thresholds correspond exactly to the Technical Evaluation Criteria. The facility/facilities may be owned or operated by the Successful Bidder or by a named in-country colocation partner; partner facilities are acceptable provided the Successful Bidder remains contractually accountable for every service level herein. Requirements are stated as outcomes and accept any compliant facility; power and cooling are specified to match the Successful Bidder's own delivered hardware at full load plus headroom, so no fixed per-rack figure is imposed and no rack/cabinet form factor is excluded. Both a Primary and a Disaster-Recovery site are required, and both shall be located within Pakistan.

## 28.1 Facility Resiliency & Certification (Primary)

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Provide a primary facility certified to Uptime Institute Tier III, or TIA-942 Rated-3, or an independently-audited equivalent, certified for the constructed/operational facility (not design-only), and concurrently maintainable (N+1 power and cooling). | Tier III / Rated-3 / equivalent (built-facility certified) |
| 2 | Commit to facility availability with defined service-credit remedies for breach. | ≥ 99.982% annual availability |
| 3 | Ensure any single power-path, cooling unit, UPS, or generator is maintainable/replaceable with zero IT-load downtime. | Concurrent maintainability |
| 4 | Provide backup generation with on-site fuel autonomy at full IT load, plus a fuel-replenishment contract. | N+1 generators; ≥ 48 h fuel |
| 5 | Provide UPS sized to carry full IT load through generator start/transfer, with redundancy. | ≥ N+1 UPS ride-through |
| 6 | Demonstrate operational track record to the stated tier; facilities in active certification may qualify conditionally with certification as a contract milestone. | Operational track record / roadmap |
| 7 | The co-location partner must have initiated the Cloud office accreditations under Pakistans Cloud First Policy | Evidence of process initiated / document submission. |

## 28.2 Power & Cooling (Outcome-Matched to Delivered Hardware)

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| 1 | Guarantee power capacity at the per-rack/per-cabinet density the delivered systems require, plus growth headroom (matched to the declared equipment envelope of Layer 1 section 26.1.5). | ≥ delivered peak draw + 25% headroom |
| 2 | Cool the delivered hardware at full sustained load with no throttling, supporting the Successful Bidder's cooling method (direct-liquid, rear-door heat exchanger, high-density air, or equivalent). | No throttling at full delivered load |

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **3** | Accommodate the physical dimensions, weight/floor-loading (including heavy integrated super-node cabinets), busbar, and cooling interfaces of the delivered systems. | Floor-loading & form-factor accommodated |
| **4** | Operate to an efficient, climate-appropriate power-usage-effectiveness target, reported regularly. | PUE ≤ 1.5 (≤ 1.4 preferred), reported |
| **5** | Provide transparent per-circuit metered power billing with no flat-rate over-provisioning charges. | Metered power billing |

## 28.3 Security & Sovereignty (Both Sites)

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Locate both Primary and DR facilities within Pakistan, with all hosted data and equipment subject solely to Pakistani jurisdiction. Foreign-only siting is not acceptable. | In-country (sovereignty gate) |
| **2** | Provide multi-factor physical access control, 24×7 manned security, mantrap/airlock entry, and CCTV with retention. | Physical access control + CCTV (≥ 90-day retention) |
| **3** | Provide a dedicated locked cage or private suite for the deployment, physically segregated from other tenants, at both sites. | Dedicated caged/suite space |
| **4** | Hold information-security certification (ISO 27001 or recognised equivalent) and comply with applicable Pakistani data-protection regulation. | ISO 27001 or equivalent |
| **5** | Provide physically diverse, redundant network entry per facility. | ≥ 2 diverse fibre/carrier paths per site |

## 28.4 Disaster Recovery / Secondary Site

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide a secondary site at minimum Tier III-equivalent (same standard basis as the primary), located in-country. | DR site Tier III-equivalent; in-country |
| **2** | Separate the DR site from the primary by sufficient distance to survive a regional event while supporting the required replication (distance stated and justified). | Geographic separation justified |
| **3** | Provide inter-site replication with a stated recovery-point objective and declared replication architecture and bandwidth. | Replication with committed RPO |
| **4** | Provide a defined failover process with a committed recovery-time objective for resuming critical services. | Failover with committed RTO |
| **5** | Conduct scheduled DR failover testing with documented results. | DR testing ≥ annually |

## 28.5 Facility Service & Commercial Terms

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide 24×7×365 on-site remote-hands/smart-hands support at both sites, with a defined Severity-1 response and escalation. | Remote-hands; Sev-1 ≤ 1 h |
| **2** | Commit a hosting term matching the equipment lifecycle, with defined renewal and price-escalation caps. | Committed term; escalation caps |
| **3** | Provide an installation/commissioning plan and timeline for both sites. | Onboarding & commissioning plan |
| **4** | Provide a defined exit and decommissioning plan: secure equipment removal and certified data destruction (recognised sanitisation standard), with no hostage-data or punitive exit fees. | Exit & certified data destruction |

# 8 Delivery, Integration & Programme Management

This Part defines how the Successful Bidder shall deliver, integrate, and operate the Ecosystem as a single accountable programme across all layers. Bids may be submitted by a single entity or a consortium; in all cases a single prime Successful Bidder holds end-to-end accountability. All requirements are binding obligations of delivery.

## 29.1 Prime Accountability & Consortium Governance

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Designate a single prime Successful Bidder contractually accountable for all layers (compute, platform, sovereign model, orchestration, development, marketplace, analytics, facilities) and all service levels, even where partners deliver components. | Single prime accountability |
| **2** | Where a consortium is used, provide a governance structure with binding agreements ensuring each partner's commitment, dispute resolution, and continuity if a partner exits. | Consortium governance & continuity |
| **3** | Provide a responsibility/accountability matrix mapping every deliverable and interface to an accountable party. | Accountability (RACI) matrix |

## 29.2 End-to-End Integration Methodology

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide a documented methodology integrating all layers into one operational system, with defined integration milestones, interface ownership, and acceptance gates. | Integration methodology |
| **2** | Define and own all inter-layer and inter-component interfaces, using open standards wherever feasible. | Interface ownership & standards |
| **3** | Provide integrated system testing demonstrating the layers function together at scale. | Integrated system testing |

## 29.3 Master Programme Plan & Schedule

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide an integrated master schedule from contract start to full operational acceptance, with critical path, dependencies, and milestone dates. | Master schedule with critical path |
| **2** | Identify resource and supply dependencies and their lead times. | Dependency & lead-time plan |

## 29.4 Parallel-Track & Phased Delivery

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide a phased delivery plan in which early-value tracks (notably the tiered open-weight inference service) proceed in parallel with longer tracks (sovereign-model training, facility build-out), with the earliest live-service date stated. | Phased, parallel-track delivery plan |
| **2** | Define value-realisation milestones aligned to the seven programme objectives. | Objective-aligned milestones |

## 29.5 Risk Management & Mitigation

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide a programme risk register covering technical, supply-chain, sovereignty, and integration risks, with owners, likelihood/impact, and mitigations. | Risk register with mitigations |
| **2** | Provide supply-chain and continuity contingency, including export-control and supply-disruption scenarios and second-source or alternative-path options. | Supply/continuity contingency |

## 29.6 Acceptance, Testing & Handover Framework

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide an acceptance framework with measurable acceptance criteria per layer and for the integrated system. | Acceptance framework & criteria |
| **2** | Provide a capability-handover gate confirming the in-country team can operate the Ecosystem, including a full sovereign-model fine-tuning cycle and inference-service operation. | Capability-handover acceptance gate |

## 29.7 Ongoing Operations, Support & Transition to Independence

| Ref | Requirement (the Solution shall…) | Minimum threshold / basis |
|---|---|---|
| **1** | Provide a post-go-live operations and support model across all layers, with escalation, SLA management, and continuity. | Operations & support model |
| **2** | Provide a transition plan progressively moving operations toward in-country independence, consistent with the sovereignty objective. | Transition-to-independence plan |

# 9 STANDARDS, COMPLIANCE, CAPABILITY & ANNEXURES

## 30.1 APPLICABLE STANDARDS & COMPLIANCE

The Successful Bidder shall comply with applicable Pakistani law and regulation and with recognised international standards, or equivalents, including (without limitation): information security management (ISO 27001 or equivalent); data-centre resiliency (Uptime Institute Tier classification or TIA-942 or equivalent); service management (ISO 20000 or equivalent); and quality management (ISO 9001 or equivalent). Where a specific standard is named, an equivalent recognised standard is acceptable.

## 30.2 PROVEN CAPABILITY REQUIREMENTS (DELIVERY PREREQUISITES)

Consistent with the Technical Evaluation Criteria (Proven Capability & Delivery Track Record), the Successful Bidder shall, as a condition of delivery, demonstrate verifiable capability — directly or through named, contractually-bound partners — across the following, with single-prime accountability retained throughout:

- Delivery and commissioning of large-scale AI/HPC infrastructure of comparable scale.
- Production training or fine-tuning and deployment of a large language model, ideally including a low-resource or non-English language.
- Operation of a multi-tenant AI platform or AI-as-a-Service offering with tiered users at scale.
- Delivery and operation of an AI/software marketplace or developer ecosystem.
- Establishment of large-scale, multi-organisation data pipelines under a governance/consent framework.
- Delivery of a sovereign, government, or regulated-sector platform with data-residency obligations.
- In-country (Pakistan) delivery, support, or partner presence; and committed, named key personnel.

# 10 OPERATIONALISATION, WARRANTY, SUPPORT & MAINTENANCE

This Part defines the operational lifecycle that follows supply and installation: phased acceptance, the post-deployment data-pipeline and sovereign-model operationalisation phase, warranty, and ongoing support and maintenance under defined service levels. It consolidates the lifecycle and service-level obligations of the programme; where related obligations appear elsewhere (facility service terms in Section 28.5, platform enterprise support in Layer 2 - 26.2.1 AI Software Stack sub-section 16, ongoing operations and transition in Section 29.7, and post-go-live skilling support in Section 26.2.7 sub-section iv, this Part is the authoritative reference and those sections shall be read together with it. All obligations are binding on the Successful Bidder.

## 31.1 PHASED ACCEPTANCE & OPERATIONALISATION

Acceptance shall be staged to reflect the reality that this is a multi-phase programme in which usable value (trained sovereign model, live services) is produced over an extended period after physical installation. The warranty and comprehensive support obligations of this Part shall commence from Operational Acceptance sub-section 3 below, not from delivery.

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| **1** | Achieve Delivery Acceptance upon successful installation, interconnection, and commissioning of the supplied infrastructure, evidenced against the acceptance-criteria catalogue. | Delivery Acceptance (installed & commissioned) |
| **2** | Achieve Operational Acceptance upon demonstrating that the integrated services (compute, storage, orchestration, software stack, management platform, and the parallel-track inference service) are operational and meet their stated criteria. | Operational Acceptance (services working) |
| **3** | Establish that warranty and comprehensive support obligations commence from the date of Operational Acceptance, ensuring the Successful Bidder remains fully bound through the subsequent data-pipeline and sovereign-model phase. | Warranty/support clock starts at Operational Acceptance |
| **4** | Provide a phased acceptance plan mapping each milestone (delivery, operational, sovereign-model, and final acceptance) to measurable criteria and to payment milestones (where applicable). | Milestone-mapped acceptance plan |

## 31.2 Data-Pipeline & Sovereign-Model Operationalisation

The Successful Bidder expressly acknowledges that establishing the data partnerships, ingesting and cleansing Urdu and local-language corpora, building the production data pipelines, and fine-tuning the sovereign model constitute a defined operational phase that extends for a material period beyond infrastructure Operational Acceptance. The Successful Bidder shall remain fully engaged and bound throughout this phase.

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| **1** | Deliver a sovereign-model operationalisation plan with milestones for data-partnership establishment, corpora ingestion and cleansing, data-pipeline production readiness, fine-tuning, and evaluation, with target durations stated. | Sovereign-model operationalisation plan |
| **2** | Provide full support, maintenance, and engineering engagement throughout the data-pipeline and fine-tuning phase, under the service levels of this Part, until the sovereign model meets its acceptance criteria. | Bound support through model phase |
| **3** | Achieve Sovereign-Model Acceptance upon demonstrating the fine-tuned model meets the agreed Urdu/local-context capability criteria and the full sovereignty-transfer obligations (Section 26.2.4). | Sovereign-Model Acceptance gate |
| **4** | Ensure the tiered open-weight inference service (Section 26.2.5) is operated and supported in parallel from its earlier launch, so public value is sustained while the sovereign model is being developed. | Parallel service sustained |

## 31.3 Warranty

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| **1** | Warrant all supplied hardware, software, integration, and facility systems against defects and non-conformance for a defined warranty period commencing at Operational Acceptance (warranty period to be specified in the contract; see draft SLA schedule). | Warranty from Operational Acceptance |

| | | |
|---|---|---|
| **2** | Repair or replace defective hardware within the response/replacement times defined in the SLA schedule, including provision of spares. | Repair/replace per SLA |
| **3** | Remediate software and integration defects, including supplying updates, patches, and fixes, throughout the warranty period at no additional cost. | Software defect remediation |
| **4** | Maintain manufacturer back-to-back warranty and authorised-channel support for all OEM components throughout the warranty period. | OEM back-to-back warranty |

## 31.4 Support & Maintenance

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| **1** | Provide 24×7×365 support across all delivered layers, with severity-tiered response and resolution per the SLA schedule. | 24×7×365 tiered support |
| **2** | Provide preventive and scheduled maintenance (firmware, drivers, security patches, health checks) with change management and agreed maintenance windows. | Preventive maintenance |
| **3** | Maintain an in-country spare-parts holding sufficient to meet the hardware replacement SLAs, with stock levels stated. | In-country spares |
| **4** | Provide a comprehensive post-go-live support and maintenance period under the SLA, continuing community and skilling support per Section 26.2.7, and aligned with the transition-to-independence obligations of Section 29.7. | Post-go-live support period (per SLA) |
| **5** | Operate a single point of contact and an escalation matrix for all support across the integrated solution, consistent with single-prime accountability (Section 29.1). | Single support desk + escalation |
| **6** | Provide regular service-performance reporting against the SLA to Ignite . | SLA performance reporting |

## 31.5 Service Levels (SLA Framework)

Support and maintenance shall be governed by the Service Level Agreement set out in the draft SLA schedule (Section 32). The SLA defines severity levels, response and resolution targets, service-availability targets per service class, service credits/penalties for breach, and escalation. The targets stated in the draft are minimum and shall be finalised by the procuring authority during contract formation.

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| **1** | Meet the response and resolution targets per severity level defined in the SLA schedule. | Severity response/resolution targets |
| **2** | Meet the service-availability targets per service class (core platform, inference service, marketplace, facility) defined in the SLA schedule. | Availability targets |
| **3** | Accept service credits / penalties for SLA breaches as defined in the SLA schedule. | Service credits for breach |
| **4** | Operate the escalation matrix defined in the SLA schedule for unresolved or critical issues. | Escalation matrix |

## 31.6 Managed Operations of the Solution

Beyond support and maintenance (Section 31.4), the Successful Bidder shall operate and run the entire deployed solution as a managed service for a minimum period of three (3) years commencing from complete operationalisation of the system (i.e. from the later of Operational Acceptance and Sovereign-Model Acceptance). This managed-operations obligation is a mandatory part of the scope of work and of the Service Level Agreement, and shall be separately priced by the bidder as an annual managed-operations line item (per year) so that the full-term operating cost is transparent. The Successful Bidder shall operate the solution jointly with an Ignite / in-country team from day one, under the governance and approval of Ignite, progressively transferring operational capability to the in-country team over the term.

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| **1** | Operate and administer all layers of the solution on a day-to-day basis — compute, accelerators, network/fabric, storage, container orchestration, software stack, and the cluster operations & management platform — to the service levels of this Part. | Day-to-day operation of all layers |
| **2** | Operate the tiered public inference service, the enterprise hosting capability, and the AI marketplace portal, including service availability, scaling, and performance management. | Operate inference, hosting & marketplace |
| **3** | Operate and continuously maintain the data pipelines on an ongoing basis — continued ingestion, cleansing, curation, and refresh of Urdu and local-context corpora — and support continued/iterative fine-tuning of the sovereign model under Ignite's direction. | Ongoing data-pipeline & model operations |
| **4** | Perform tenant and user lifecycle administration across the four beneficiary groups — onboarding, quota/credit administration, access control, and offboarding — under the tiered-access and subsidy policies. | User & tenant operations |
| **5** | Perform capacity, performance, and availability management against the SLA, including monitoring, tuning, and proactive optimisation. | Capacity & performance management |
| **6** | Operate security operations (monitoring, patching, incident response) and execute backup and disaster-recovery procedures across the primary and secondary sites. | Security operations & DR execution |
| **7** | Perform incident, problem, and change management, with significant changes subject to Ignite's approval through defined governance gates. | Incident/problem/change management (Ignite - approved) |
| **8** | Operate jointly with an embedded Ignite / in-country operations team from day one, progressively transferring operational responsibility so the in-country team can assume operations by end of term (aligned with Sections 26.2.7 and 29.7). | Joint operations + progressive transfer |
| **9** | Operate under the governance and approvals of Ignite, escalating decisions reserved to the governance authority and acting on its directions. | Operate under Ignite governance |
| **10** | Provide regular operational reporting and service reviews to Ignite (utilisation, availability, incidents, adoption, and impact data feeding Layer 6). | Operational reporting to Ignite |
| **11** | Deliver the managed-operations service for a minimum of three (3) years from complete operationalisation, extendable or renewable at the sole option of Ignite on the same terms. | ≥ 3 years; extendable at Ignite's option |

| | | |
|---|---|---|
| **12** | Separately price the managed-operations service as an annual (per-year) line item in the financial proposal, covering the full minimum term and any optional extension years. | Separately priced per-year line item |
| **13** | Maintain, at end of term (or non-renewal), an orderly operational handover to the in-country team or a successor, with no service disruption and no hostage-data or lock-out, consistent with Section 29.7. | Orderly end-of-term operational handover |

## 31.7 Operational Governance & Decision Rights

The managed operations of Section 31.6 shall be governed by a defined governance structure under the authority of the company (Ignite). The governance mechanisms below establishes how operational decisions are made, approved, and reviewed, and the respective responsibilities of the Successful Bidder and the Government. Decision rights reserved to the Government shall not be exercised by the Successful Bidder.

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| **1** | Operate under a joint governance structure comprising an executive governance board (chaired by Ignite), a programme/operations management forum, and a technical change-advisory function, with terms of reference agreed at contract start. | Defined governance structure |
| **2** | Respect the decision-rights allocation whereby strategic, policy, sovereignty, pricing/subsidy, and security-classification decisions are reserved to Ignite, while routine operational execution rests with the Successful Bidder within agreed policies. | Reserved vs delegated decision rights |
| **3** | Submit all significant or high-risk changes (architecture, security posture, capacity, data handling, configuration baselines) to a Change Advisory Board (CAB) for Ignite approval before implementation; emergency-change procedures with retrospective approval shall be defined. | CAB change approval |
| **4** | Hold monthly operational service reviews (performance against SLA, incidents, capacity, risks, security) with the operations management forum. | Monthly operational reviews |
| **5** | Hold quarterly executive service reviews with the governance board (service outcomes, adoption and impact, financials, transition progress, forward plan). | Quarterly executive reviews |
| **6** | Hold an annual service review assessing the year's performance, value delivered, SLA compliance, and recommendations, informing any extension decision. | Annual service review |
| **7** | Maintain transparent operational records, dashboards, and audit access for the Government across all governance forums. | Transparency & audit access |

*The Government's reciprocal responsibilities — timely approvals, provision of the embedded in-country team, access and facilities, and decisions on reserved matters — shall be set out in the contract so that the Successful Bidder's obligations are matched by defined Government obligations.*

## 31.8 Exit Management, Transition Assistance & Operational Handover

This Section consolidates the Successful Bidder's obligations on exit — whether on expiry, non-renewal, or termination — to ensure the Government, or a successor Successful Bidder or the in-country team, can assume full operation of the Ecosystem without disruption, loss of data, or dependence on the outgoing Successful Bidder. These obligations reinforce the sovereignty objective and the transition-to-independence intent of Sections 26.2.7, 29.7 and 31.6. They are binding and survive termination.

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| 1 | Maintain, throughout the term, an up-to-date Exit and Transition Plan (refreshed at least annually and on request), describing how operations, knowledge, and assets will be handed over. | Living exit/transition plan |
| 2 | On exit, transfer complete, current operational documentation — architecture documentation, runbooks, operational playbooks, standard operating procedures, network and configuration diagrams, and known-issue registers. | Documentation, runbooks & playbooks transfer |
| 3 | Transfer all configurations, infrastructure-as-code, automation scripts, operational tooling configurations, and baseline definitions required to operate the solution. | Configuration & automation transfer |
| 4 | Transfer all credentials, access rights, certificates, keys, and administrative control of all systems to the Government or its nominee, and revoke the Successful Bidder's own access on completion. | Credential & control transfer |
| 5 | Transfer the source code, weights, datasets, and artefacts of all sovereign components (the sovereign model, data pipelines, and bespoke components developed for the Government), consistent with Section 26.2.4; and provide escrow or documented continuity arrangements for any proprietary third-party components necessary for continued operation, sufficient to ensure operational continuity without compromising third-party intellectual property. | Sovereign source transfer + continuity escrow |
| 6 | Export all Government and tenant data, models, and content in open, documented, non-proprietary formats, with verified integrity and completeness, and securely erase it from Successful Bidder-controlled systems thereafter. | Open-format data export + secure erasure |
| 7 | Provide a defined transition-assistance period (minimum to be specified in the contract) during which the Successful Bidder continues to operate and/or supports the incoming operator to maintain uninterrupted service. | Transition-assistance period |
| 8 | Cooperate fully with, and provide reasonable assistance and information to, a successor Successful Bidder or the in-country team, including knowledge-transfer sessions and parallel-running where required. | Successor-Successful Bidder cooperation |
| 9 | Impose no hostage-data, lock-out, or withholding of any kind; the Government's data, sovereign artefacts, and operational control shall never be contingent on payment disputes or any other leverage. | No hostage-data / no lock-out |
| 10 | Levy no punitive exit, de-installation, or data-extraction fees; exit-related charges, if any, shall be limited to fair, pre-agreed, cost-based amounts stated in the contract. | No punitive exit fees |
| 11 | Achieve a Final Operational Handover, certified against defined criteria, confirming the Government or successor can operate the Ecosystem independently with no residual Successful Bidder dependency. | Certified final handover |

## 31.9 Commercial Protection & Anti-Lock-In

This Section protects the Government against cost escalation, lock-in, and loss of control over the lifecycle of the programme, consistent with the neutrality and sovereignty principles. It applies to all supply, support, managed-operations, and renewal arrangements.

| Ref | Requirement (the Successful Bidder shall…) | Basis |
|---|---|---|
| 1 | Hold all recurring charges (support, managed operations, subscriptions, licences) firm for the initial term, and cap any escalation in extension years to a pre-agreed index-linked ceiling stated in the contract. | Cost-escalation cap |
| 2 | Guarantee continuity of all software subscriptions, licences, and entitlements required to operate the solution for the full term and any extension, with no mid-term withdrawal of entitlements that would impair operation. | Subscription/licence continuity |
| 3 | Vest ownership of all configurations, scripts, documentation, runbooks, and bespoke developments created for the Government in the Government, and ensure sovereign artefacts are owned by the Government per Section 26.2.4. | Configuration/documentation ownership |
| 4 | Ensure the Government is not locked into the Successful Bidder for continued operation: open or documented interfaces at layer boundaries (guiding principle 3), portable data formats, and the exit provisions of Section 31.8 shall together guarantee substitutability of the operator. | Operator substitutability / anti-lock-in |
| 5 | Offer any extension or renewal at terms no less favourable than the initial term (on a like-for-like basis), at Ignite ’s sole option, with no renewal-conditional penalties. | Fair renewal protection |
| 6 | Disclose, and not unreasonably restrict, all third-party dependencies (licences, subscriptions, support contracts) whose lapse could affect operation, and assign or enable their transfer to the Government on exit where permissible. | Third-party dependency transparency |
| 7 | Ensure no foreign-controlled licence check-in, remote disablement, or external dependency can interrupt operation of the solution under Government control (consistent with program objectives). | No external kill-switch |

## 31.10 Access Pricing, Revenue-Sharing & Platform Sustainability

The Company shall govern access pricing and revenue-sharing arrangements across the NAIIH platform in accordance with the following framework, which the Successful Bidder shall develop, implement and operate:

i. Subsidised Access Tiers: Compute-as-a-Service and inference access for the Academia & Researchers and Startups tiers shall be provided at concessional rates set below prevailing international market rates. The subsidy differential shall be funded from the approved programme budget and shall not be recovered from the Successful Bidder's managed services fee.

ii. Cost-Recovery Tiers: Public Sector and Private Sector access shall be priced on a cost-recovery basis, with rates set by the Company to recover direct operational costs (co-location, power, OEM support) without profit extraction from public institutions. Private Sector rates may include a platform margin retained by the Company.

iii. Marketplace Revenue-Sharing: Revenue generated through the AI Innovation Marketplace (solution licensing, API monetisation, subscription fees paid by buyers) shall be shared between the Company and solution developers on a ratio to be defined through Marketplace Governance Policy issued by the Company. The default split shall be no less than 70% to the solution developer and no more than 30% retained by the Company to fund platform operations and sustainability.

**iv.** Platform Sustainability: The Successful Bidder shall operate the platform under a managed services fee structure as defined in the Payment Plan. The Company's target is for OPEX to become progressively self-financing from Year 2 onwards through cost-recovery access charges and marketplace revenue, reducing dependence on grant funding for recurring operational expenditure.

**v.** Pricing Governance: All access pricing schedules shall be approved by the Company or its delegated authority prior to operationalisation and shall be reviewed annually. The Successful Bidder shall not independently set, alter, or waive any access price without prior written Company approval.

# 11 Draft Service Level Agreement (SLA) Schedule

*This SLA schedule sets out the binding minimum service levels for the programme. The targets below are mandatory minimums that bidders shall meet or exceed; bidders may propose superior levels, which become contractual once accepted.* ***Specific figures may be refined by the company ( Ignite ) during contract formation****, but shall not fall below the minimums stated here. The agreed SLA is enforceable through the service-credit and escalation mechanisms of this schedule and Section 31.*

## 32.1 Severity Levels

| Severity | Definition | Minimum response / resolution |
|---|---|---|
| **Severity 1 — Critical** | Complete outage or critical failure of a production service (e.g. inference service down, cluster-wide failure, data-loss risk). | Response ≤ 15 min; continuous effort; resolution/workaround ≤ 4 h |
| **Severity 2 — High** | Major degradation or partial outage; significant functionality impaired with no workaround. | Response ≤ 30 min; resolution ≤ 8 h |
| **Severity 3 — Medium** | Moderate impact; functionality impaired with an available workaround. | Response ≤ 2 h; resolution ≤ 2 business days |
| **Severity 4 — Low** | Minor issue, query, or cosmetic defect; no material service impact. | Response ≤ 1 business day; resolution ≤ 5 business days |

## 32.2 Service Availability Targets (Minimum)

| Service class | Illustrative availability | Measurement basis |
|---|---|---|
| **Core platform & compute** | ≥ 99.9% monthly | Excluding agreed maintenance windows |
| **Tiered inference service** | ≥ 99.9% monthly | Per-service measurement |
| **AI marketplace portal** | ≥ 99.5% monthly | Per-service measurement |
| **Hosting facility** | ≥ 99.982% annual | Facility-level (Tier III-class) |

## 32.3 Hardware Replacement (Minimum)

| Component class | Illustrative replacement target | Basis |
|---|---|---|
| **Critical components (accelerator node, storage, fabric)** | On-site replacement ≤ 24 h from diagnosis | From in-country spares |

| | | |
|---|---|---|
| **Standard components** | On-site replacement ≤ 48 h | From in-country spares |

### 32.4 Disaster Recovery Targets (Minimum)

| Service tier | Minimum RPO (data loss) | Minimum RTO (service restoration) |
|---|---|---|
| **Critical services (sovereign model state, core platform, inference)** | ≤ 15 minutes | ≤ 4 hours to the secondary site |
| **Standard services (marketplace, developer, analytics)** | ≤ 1 hour | ≤ 8 hours |
| **Bulk/archival data** | ≤ 24 hours | ≤ 24 hours |

### 32.5 Service Credits & Escalation (Illustrative)

*Illustrative: service credits accrue against the relevant service charge for each SLA breach, scaled by severity and duration; repeated or sustained breaches trigger escalation through a defined matrix (support lead → programme manager → executive sponsor → Ignite governance) and, beyond defined thresholds, contractual remedies. Exact credit percentages, caps, and escalation thresholds to be finalised by the procuring authority.*

*Reporting (Illustrative): the Successful Bidder shall provide monthly SLA performance reports and a quarterly service review with Ignite , covering availability achieved, incidents by severity, resolution performance, and corrective actions.*

# 12 Performance Measurement: Successful Bidder KPIs & Programme Indicators

This Part defines how performance is measured over the term. It deliberately separates two distinct categories, which shall not be conflated:

(a) Successful Bidder Performance KPIs (Sections 33.1–33.4) — matters within the Successful Bidder's control: operating the solution smoothly and without technical or operational glitch, to the agreed service levels, and delivering the Successful Bidder's contracted obligations. These carry contractual consequences (Section 33.5).

(b) Programme Indicators (Section 33.6) — programme-level outcomes such as adoption, pricing position, and economic/sectoral impact. These depend on market, policy, and demand factors beyond the Successful Bidder's control. They are monitored and reported for the Government's oversight only; the Successful Bidder's sole duty is to operate the platform that enables their measurement and to supply accurate data. They do not by themselves constitute Successful Bidder underperformance and carry no penalty.

### 33.1 Successful Bidder Performance — Measurement Framework

The Successful Bidder shall measure, evidence, and report the Successful Bidder Performance KPIs below, using system-derived data wherever possible (Layers 3,6), independently verifiable by Ignite, and reported through the governance forums of Section 31.7 at the stated cadence. These KPIs measure only matters within the Successful Bidder's control.

## 33.2 Operational Performance KPIs (Monthly)

| Ref | KPI (within Successful Bidder control) | Measurement mechanism | Cadence |
|---|---|---|---|
| 1 | Platform & compute availability achieved vs SLA | Monitoring/telemetry (Sec 26.1.7, Sec.27.3) | Monthly |
| 2 | Inference service availability (platform uptime) | Service-level monitoring (Sec.26.6.4) | Monthly |
| 3 | Marketplace/platform service availability | Service-level monitoring (Sec.26.6.4) | Monthly |
| 4 | Incidents resolved within SLA target (%) | Incident management records | Monthly |
| 5 | Mean time to recovery (MTTR), critical incidents | Incident records | Monthly |
| 6 | Security patch compliance & incidents handled within target | Security operations (Sec.27.1) | Monthly |
| 7 | Data-pipeline operational uptime | Pipeline monitoring (Sec.26.1.3, Sec.26.2.3) | Monthly |
| 8 | Backup success rate & DR readiness (RPO/RTO met in tests) | Backup/DR records (Sec.26.1.8, Sec.28.4) | Monthly |
| 9 | Preventive-maintenance schedule adherence | Maintenance records (Sec.31.4) | Monthly |

## 33.3 Delivery & Milestone KPIs (Milestone / Quarterly)

| Ref | KPI (within Successful Bidder control) | Measurement mechanism | Cadence |
|---|---|---|---|
| 1 | Milestones delivered on schedule (%) | Master schedule tracking (Sec.29.3) | Quarterly |
| 2 | Sovereign model delivered and accepted on the agreed schedule | Sovereign-Model Acceptance (Sec.31.2) | Milestone |
| 3 | Full sovereignty transfer completed (weights, code, data, rights) | Transfer acceptance (Sec.26.2.4) | Milestone |
| 4 | Urdu/local-context capability uplift delivered vs agreed target | Evaluation harness (Sec.26.2.4) | Milestone |
| 5 | Operational readiness of contracted capabilities at each phase gate | Acceptance framework (Sec.29.6, Sec.31.1) | Milestone |

## 33.4 Capability-Transfer & Service-Management KPIs (Quarterly / Annual)

These measure transfer and service-management activities the Successful Bidder is contracted to perform (not the wider ecosystem's uptake).

| Ref | KPI (within Successful Bidder control) | Measurement mechanism | Cadence |
|---|---|---|---|
| 1 | Pakistani personnel trained / certified by the Successful Bidder | Training & certification records (Sec.26.2.7) | Quarterly |
| 2 | Train-the-trainer cadre established | Trainer accreditation records (Sec.26.2.7) | Annual |
| 3 | In-country operations readiness enabled (transferable to local team) | Operations records (Sec.31.6) | Quarterly |
| 4 | Curriculum accreditation supported and achieved | Accreditation evidence (Sec 26.2.7) | Annual |
| 5 | Community support operated to agreed levels (forums, helpdesk, office hours) | Community/helpdesk records (Sec.26.2.7) | Quarterly |
| 6 | Required reporting delivered on time and complete | Governance forums (Sec.26.2.7) | Quarterly |
| 7 | Corrective-action closure within agreed time | Governance records (Sec.31.7) | Quarterly |

## 33.5 Consequences of Successful Bidder KPI Performance

The Successful Bidder Performance KPIs (Sections 33.2–33.4) carry defined consequences, applied proportionately through the governance process. Programme Indicators do not carry consequences.

| Ref | Provision | Mechanism | Cadence | Effect |
|---|---|---|---|---|
| 1 | Sustained or material KPI underperformance triggers a performance-improvement process | Governance escalation (Sec.31.7) | On breach | Improvement plan with deadlines |
| 2 | KPI breaches corresponding to SLA service classes attract service credits | Service-credit mechanism (Sec 32) | Per cadence | Financial credit to Government |
| 3 | Persistent failure after the improvement period escalates through the governance matrix | Escalation matrix (Sec.31.7, Sec 32) | On persistence | Executive/governance intervention |
| 4 | Cumulative Successful Bidder KPI achievement is a material input to the extension/renewal decision | Annual service review (Sec.31.6) | Annual | Informs Sec.31.6 extension at Ignite's option |

*Service credits and other consequences are without prejudice to the Government's other contractual remedies. Precise credit percentages, breach thresholds, and improvement-period durations shall be finalised by Ignite during contract formation, consistent with the SLA schedule (sec 32).*

## 33.6 Programme Indicators (Monitored Only — No Successful Bidder Penalty)

The following indicators measure programme-level outcomes that depend on market, policy, and demand factors beyond the Successful Bidder's control. They are tracked for the Government's oversight and reported by the Successful Bidder from platform data, but they do not constitute Successful Bidder performance and carry no penalty. The Successful Bidder's only obligation in respect of them is to operate the enabling platform and to provide accurate, timely data and reporting.

| Ref | Programme indicator (outcome — not Successful Bidder-penalised) | Data source / mechanism | Cadence | Tracked for |
|---|---|---|---|---|
| 1 | Inference price position vs prevailing international market rates | Pricing comparison; metering (Sec.26.3.5) | Quarterly | Objective 1 |
| 2 | Compute-as-a-Service price position vs international rates | Pricing comparison; metering (Sec.26.3.5) | Quarterly | Objective 3 |
| 3 | Volume of subsidised access taken up by Academia & Startups | Quota/credit data (Sec.26.3.2) | Quarterly | Objective 1 |
| 4 | Active users / adoption by beneficiary tier | Usage analytics (Sec.26.6.1) | Quarterly | Objectives 1,3,5 |
| 5 | Third-party models hosted; sovereign-model usage | Hosting & usage data (Sec.26.2.6, Sec.26.6.1) | Quarterly | Objectives 2,4 |
| 6 | Marketplace listings, transactions, investor connections | Marketplace analytics (Sec.26.5.7, Sec.26.5.8) | Quarterly | Objective 6 |
| 7 | Economic impact / value enabled; cost savings vs alternatives | Impact measurement (Sec.26.6.2) | Annual | Objective 7 |
| 8 | Sectoral adoption; startups / enterprises / jobs enabled | Sectoral impact (Sec.26.6.2) | Annual | Objective 7 |

*Where a Programme Indicator underperforms, the Company may review programme strategy, policy, pricing, or promotion; such underperformance shall not of itself be attributed to the Successful Bidder unless it is shown to result directly from a failure of a Successful Bidder Performance KPI (Sections 33.2–33.4).*

# 13 Desired Outcomes

The following are the expected outcomes of the project:

## 34.1 AI Infrastructure Outcomes

i. Establishment of fully operational **sovereign AI compute infrastructure** owned by the Company under the auspices of the Ministry of IT & Telecom, Government of Pakistan
ii. Availability of a secure, scalable, and production-grade AI platform
iii. Reduced dependency on foreign cloud infrastructure for AI workloads
iv. Infrastructure readiness for expansion or migration to a future national AI data center
v. Establishment of a government-controlled AI compute and model platform capable of independent evolution beyond the contract duration

## 34.2 Capacity & Ecosystem Outcomes

i. Development of indigenous AI infrastructure operations capability
ii. Availability of AI compute resources for NAIIH programs and ecosystem users
iii. Strengthened AI research, experimentation, and innovation pipelines
iv. Improved institutional readiness for advanced AI deployment
v. Creation of a sustainable national talent base for AI infrastructure, platform, and operations engineering

## 34.3 National Capability Development Outcomes

i. Establishment of national expertise in AI infrastructure engineering and operations
ii. Development of reusable national AI platform components and operational knowledge assets
iii. Strengthened collaboration between government, academia, startups, and industry through shared AI infrastructure
iv. Long-term reduction in dependency on external AI compute providers
v. Creation of institutional capacity for future sovereign AI infrastructure expansion

# 35. Governance Structure

The NAIIH AI Infrastructure programme shall be governed the Company as part of section 31.7, meaning that all sovereignty, data governance, consent, access-tier management, monitoring, and reporting obligations defined under the TORs shall be exercised under, and remain accountable to, the Company as the designated governance authority. Regular monitoring of the programme shall be conducted by the Company through its representatives or designated quality monitors.

# 36. Tenure of the AI Infrastructure Project

The tenure of the NAIIH AI Infrastructure assignment shall include:

- Procurement, Deployment, commissioning and initial operations phase (6 months); and
- **Continued operations support for a period of thirty-six (36) months**.

An extension (additional 2 years) shall be subject to Company and PPRA rules. Upon completion, operations shall transition fully to Ignite.

# 37. Responsibility Framework

## 37.1 Provision of Funds

The Company shall be responsible for funding approved capital and operational expenditures in accordance with the Funding Agreement. Disbursements shall be made on a reimbursable and milestone-based basis. The Successful Bidder shall ensure the availability of funds equivalent to at least **six (06) months of operations**.

## 37.2 Provision of Co-Location Facility (Primary +DR)

The AI infrastructure shall be hosted in an **existing Tier III or above data center facility in Pakistan** providing sites for both primary operations and DR. The co-location provider shall be responsible for power, cooling, rack density, physical security, and facility management.

## 37.3 Provision of Infrastructure

The Successful Bidder shall be responsible for procurement, deployment, configuration, testing, and commissioning of AI compute hardware, networking, storage, and AI software stack within agreed timelines.

## 37.4 Operational Handover & Transition

The Successful Bidder shall ensure structured and documented handover of AI infrastructure operations to Ignite upon completion of the operations support period, subject to achievement of defined handover criteria.

## 37.5 Insurance and Risk Coverage

The Successful Bidder shall ensure appropriate insurance coverage for equipment handling, transit, installation, and operational risks during the deployment and operations support period. The Successful Bidder shall remain responsible for safeguarding equipment until formal handover to the Company following commissioning acceptance.

## 37.6 Asset Lifecycle and Decommissioning

The Successful Bidder shall provide guidelines for environmentally responsible disposal, recycling, or refurbishment of hardware components at end of lifecycle in accordance with applicable environmental regulations and international best practices.

# 38. Equity

The Successful Bidder shall not claim any equity, ownership, or usage rights in AI infrastructure, platforms, models, datasets, or outputs developed under this project.

# 39. IPR

All intellectual property, configurations, customizations, documentation, and operational artifacts developed under this project shall vest exclusively with the **Company**. No rights shall accrue to the Successful Bidder beyond the contract duration

All AI models, including foundation models, fine-tuned models, and derived artifacts deployed under this project shall be free from licensing restrictions that prevent sovereign operation, modification, retraining, or independent evolution by the Company. The Successful Bidder shall disclose all applicable licenses and ensure that the Government retains full operational rights to all models deployed.

Any solution developed by the innovator/ developer/solution provider/ startup and approved on the marketplace shall be owned by the innovator/ developer/solution provider/ startup but subject to revenue sharing mechanisms in section 31.10.

# 40. Payment / Disbursement Plan

All payments shall be made on reimbursable model. However, a one-time mobilization advance of up to 20% of CAPEX amount may be paid to successful bidder on request, against a Bank Guarantee equivalent to the mobilization advance to be submitted by the bidder. The same will be released immediately after adjustment of mobilization advance.

Payment for required infrastructure development will be made as per the Disbursement Plan agreed with the Successful Bidder. Furthermore, payment of operating expenses including but not limited to utilities, salaries of Management Team, payment of trainings/workshops etc. will be made through the invoices duly verified by Company. The successful bidder shall submit invoices to Company as per agreed disbursement plan. The same may be verified by the Company within 30 calendar days. Payment will be made within 30 calendar days after acceptance of deliverables. In case of variance, the undisputed amount shall be recommended to finance for payment.

There shall be no expenditure incurred beyond the approved disbursement plan. However, in exceptional circumstances, for any expense beyond the approved payment plan, the Company will be the final authority to approve such payments or otherwise.

The table below defines the proposed payment plan which will be finalized in agreement with the successful bidder:

| Milestone | Deliverable | % of Contract | Phase | Cost Type | Acceptance Criteria |
|---|---|---|---|---|---|
| **M0** | Contract Signing & Mobilization (Bank Guarantee required) | Advance: up to 20% CAPEX (recoverable vs M2/M3) | Phase 0 | CAPEX (Advance) | Contract signed, Bank Guarantee submitted, mobilization completed |
| **M1** | Detailed Design & Procurement Readiness | 10% | Phase 1 | CAPEX | Design, architecture, BOM, and procurement plan approved |
| **M2** | Delivery of Infrastructure (verified at facility) | 25% (less 10% advance recovery) | Phase 1 | CAPEX | Infrastructure delivered and |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | verified against approved BOM |
| **M3** | Installation & Infrastructure Integration | 10% (less 10% advance recovery) | Phase 1 | CAPEX | Infrastructure installed, integrated, and operational |
| **M4** | AI Platform & Software Stack Deployment | 10% | Phase 1 | CAPEX | AI platform, orchestration, security stack deployed and operational |
| **M5** | Portal, Marketplace & Sovereign Services Deployment | 5% | Phase 1 | CAPEX | Portal, APIs, marketplace, sovereign services deployed |
| **M6** | Acceptance Testing & Commissioning (SAT) | 10% | Phase 1 | CAPEX | Successful SAT completion and formal commissioning |
| **M7** | Operational Readiness & Initial Service Launch | 5% | Phase 1 | CAPEX | Service operational readiness achieved and initial launch completed |
| **M7a** | Sovereign Model Training, Acceptance & Sovereignty Transfer | 5% | Phase 2 | CAPEX | Sovereign models trained, accepted, and transferred to Ignite |
| **M8** | Quarterly Operations — KPI-linked Managed Services Fee | 10% (quarterly pro-rata) | Phase 3 | Managed Services (OPEX-linked fee) | SLA/KPI compliance and quarterly performance approval |
| **M8 (OPEX)** | Operating Expenses Reimbursement (Power, bandwidth, OEM support, etc.) | As per actuals (no cap within approved categories) | Phase 3 | OPEX (Reimbursable) | Submission of valid invoices + usage proof + Ignite approval |
| **M9** | Capacity Building, Knowledge Transfer & Final Handover | 10% | Phase 3 | CAPEX / Close-out | Training completed, documentation delivered, final handover accepted |
| **TOTAL FIXED CONTRACT VALUE** | | **100% CAPEX + Managed Services Fee** | | | |
| **OPEX (Reimbursable, outside contract value)** | Utilities, licenses, cloud costs, bandwidth, OEM AMC, etc. | Not part of 100% | Phase 3 | Pure Reimbursement | Paid at actuals against verified invoices |

***Note**: All milestone timelines stated above are indicative targets based on standard deployment lead times. Actual timelines for hardware delivery milestones (M1 and M2 in particular) may be subject to OEM and vendor hardware manufacturing and delivery schedules. Any such variance shall be formally documented by the Successful Bidder and communicated to the Company in writing within 7 calendar days of becoming known. Revised milestone dates shall require Company approval and shall not affect the percentage allocations or acceptance criteria defined above.*

# AGREEMENT FOR DESIGN, DEPLOYMENT, OPERATIONS, AND MAINTENANCE OF

# SOVEREIGN NATIONAL AI INFRASTRUCTURE

UNDER THE

# NATIONAL AI INNOVATION HUB (NAIIH)



BETWEEN

**IGNITE**

AND

**(NAME OF SUCCESSFUL BIDDER)**

DATED ____________________

***Note – 1: Any stamp duty, registration fee, tax, levy, charge, or any other statutory payment, if applicable, arising out of or in connection with the execution, registration, performance, or enforcement of this Agreement, shall be borne solely by the Service Provider/Vendor/Supplier (Successful Bidder) or such other contracting party, as applicable. Ignite shall have no liability whatsoever for any such duty, fee, tax, levy, charge, cost, or expense***

***Note – 2: This Agreement is a draft and subject to modifications/revisions in terms and conditions based on negotiations with the successful bidder at the time of award. Bidders are advised to rely solely on the Terms of Reference (TOR) and instructions provided in this RFP for the preparation and submission of their bids.***

## AGREEMENT FOR DESIGN, DEPLOYMENT, OPERATIONS, AND MAINTENANCE OF SOVEREIGN NATIONAL AI INFRASTRUCTURE

## UNDER THE

## NATIONAL AI INNOVATION HUB (NAIIH)

THIS Agreement for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure Under the National AI Innovation Hub (NAIIH) (the "**Agreement**") is made at Islamabad on this _____ day of ______, 2026

BY AND BETWEEN

**M/s. IGNITE,** a company registered as non-profit organization, under Section 42 of Companies Act, 2017, with Corporate Universal Identification Number (CUIN) **No. 0058556**, having its offices at IGNITE, 3rd Floor, Telecom Foundation Complex, 7-Mauve Area, G-9/4, Islamabad, Pakistan (hereinafter referred to as the **"Company"** or **"IGNITE"** which expression shall, where the context so permits, mean and include its successors-in-interest, administrators and assigns), OF THE ONE PART

AND

**(Successful Bidder name)**, a company duly registered and incorporated under the laws of Pakistan, with Corporate Universal Identification Number (CUIN) No. **000000000** having its registered office at …………………….. (hereinafter referred to as Successful Bidder name) which expression shall, where the context so permits, mean and include its successors-in-interest, administrators and assigns), OF THE OTHER PART.

The Company and the successful bidder are hereinafter collectively referred to as the "**Parties**" and individually as the "**Party**", wherever the context so requires.

For the avoidance of doubt, nothing in this Agreement shall be construed as creating a partnership within the meaning of the Partnership Act, 1932 between any of the Parties. The Parties are entering into this Agreement as independent entities for the purposes of the Project.

(In case of Joint venture or Consortium only) The Joint Venture Agreement executed between the Consortium Members is attached hereto as **Appendix F** for reference; however, the rights and obligations of the Parties vis-à-vis the Company shall be governed strictly in accordance with the terms of this Agreement.

## RECITALS

a) **WHEREAS** the Company, in line with its mandate, wishes to promote efficient, sustainable and effective information and communication technology initiatives through synergic development of industrial and academic resources;
b) **WHEREAS** Board of Directors of IGNITE has mandated the Company to solicit proposals from potential bidders for the Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under NAIIH, in accordance with the NAIIH AI Infrastructure Project objectives and the approved procurement process;

c) **WHEREAS** Successful Bidder possessing significant expertise and experience relevant to the Project, submitted a proposal for NAIIH AI Infrastructure Project in response to the RFP, which has been subsequently reviewed and approved by the Company for funding;
d) **WHEREAS** the Company has vide letter No. ________________ dated _________ accepted the proposal dated _______________ submitted by Successful Bidder and has accordingly accepted to fund the Project, on the terms and conditions set forth in this Agreement;
e) **AND WHEREAS** the Parties are now desirous of reducing into writing their agreement on their respective rights and obligations in relation to the execution and funding of the Project and matters related thereto.

**NOW, THEREFORE,** in consideration of the mutual promises and covenants hereinafter set forth and for other good and valuable consideration the adequacy of which is hereby acknowledged by the Parties and the mutual benefits to be derived therefrom, the representations and warranties, covenants, conditions and promises contained herein below and intending to be legally bound, the Parties agree as follows:

## 1. DEFINITIONS AND INTERPRETATION

### 1.1 DEFINITIONS

In this Agreement, the following terms shall have the meanings ascribed to them below:

a) "Agreement" means this signed Agreement together with all Appendices and Schedules, which form an integral part hereof;
b) "Acceptance Criteria" means the technical, functional, and performance requirements set forth in the ToR, along with any specific test plans approved in writing by the Parties;
c) "AI Accelerator" means a specialized compute processor designed to accelerate AI workloads, including but not limited to GPUs, NPUs, and other purpose-built AI processing units;
d) "AI Stack" means the end-to-end system required to enable AI workloads, comprising physical compute infrastructure, networking, hosting environment, AI software platform, operations, security, governance, and lifecycle management;
e) "AI Software Stack" means the software platform layer within the AI Stack enabling orchestration, training, inference, model management, monitoring, and access control;
f) "Appendix" means any appendix attached to this Agreement, forming an integral part hereof;
g) "**Assets**" means collectively the **Tangible Assets** (including all movable and immovable Equipment and physical infrastructure) and **Intangible Assets** (including but not limited to the AI Software Stack, Developed IPR, source code, AI model weights, datasets, configurations, scripts, and documentation) whether owned by the Company or procured, developed, or delivered under this Agreement;
h) "Board" means the Board of Directors of the Ignite;
i) "Capacity Building Plan" means the structured training, certification, shadowing, and knowledge-transfer program to be developed and implemented by the Successful Bidder under Clause 13 of this Agreement;
j) "Change Management" means a structured process for managing and controlling modifications within the AI Infrastructure environment, ensuring every change is formally requested, approved, tested, scheduled, implemented, documented, and reviewed to minimize risk and ensure system stability;
k) "Co-location Data Center" means an existing Tier-III or above data center facility located within Pakistan, where AI Infrastructure shall be hosted;
l) "Company" means Ignite as described in the Preamble;
m) "Continued Operations Support Period" means the thirty-six (36) month period following Deployment Phase during which the Successful Bidder shall operate and support the AI Stack prior to full handover to Ignite;



 

n) "Day" means calendar day, unless otherwise specified;
o) "Deliverables" means all outputs, work products, and items required to be submitted, performed, or delivered by the Successful Bidder under the Project Portfolio, including but not limited to reports, plans, documentation, configurations, infrastructure-as-code templates, source code, compiled software, APIs, automation scripts, dashboards, AI model checkpoints, operational runbooks, and training materials;
p) "Disclosing Party" means the Company, which discloses Information to the Successful Bidder;
q) "Deployment Phase" means the period of up to Six (06) months from the Effective Date during which the Successful Bidder shall procure, install, commission, and deliver the AI Infrastructure;
r) "Developed IPR" has the meaning given in Clause 14.1;
s) "Effective Date" means the __________day of ___________________, 2026;
t) "Equipment" means all hardware, compute infrastructure, networking components, storage systems, and associated assets procured under this Agreement;
u) "Force Majeure Event" has the meaning given in Clause 18;
v) "Handover Certificate" means the document issued by the Company certifying that the Successful Bidder has **met all Acceptance Criteria** and successfully completed the operational handover to Ignite;
w) "Grant" means the approved funding for the Project, as more fully set forth in the Project Portfolio;
x) "Incident" means any actual or suspected event, including complete system outage, cyberattack, data breach, ransomware infection, or any incident significantly disrupting essential AI services or posing a serious threat to the confidentiality, integrity, or availability of the Sovereign National AI Infrastructure, requiring immediate escalation and activation of emergency protocols;
y) "Information" means all information or data (whether provided orally, visually, in writing or in any other method) which is directly or indirectly disclosed to or made available to a Party (including its employees, officers, advisers, agents or representatives) hereto by the other Party (including its employees, officers, advisers, agents or representatives) in relation to this Agreement or the Deliverables. Without prejudice to the generality of the foregoing definition, the "Information" shall include but not be limited to:

(i) Information contained in and/or ascertainable from samples, stored in and transmitted via electronic medium, letters, papers, drawings, manuals, technical and test reports, proposals, financing and legal information; and

(ii) any information relating to any Party's business processes, procedures, plans, intentions, products and services information, know-how, Intellectual Property and Intellectual Property Rights, market opportunities, customers or other business affairs.

z) "Intellectual Property" includes a patent, industrial design, lay-out design of integrated circuits, copyright and related rights, service mark, trade mark, trade name, trade secrets, invention, discovered or invented knowledge, geographical indications, technical know-how and ideas for new products and markets or any combination thereof, whether or not registered or capable of registration;
aa) "Intellectual Property Rights" means rights in intellectual property, whether or not any of these rights are registered, and include all applications for such right, matter or thing or registration thereof and all rights and forms of protection of a similar nature or having equivalent or similar effect to any of these rights which may subsist anywhere in the world;
bb) "KPIs" means the Key Performance Indicators set out in ToRs of the RFP;
cc) "Key Personnel" mean the personnel as set out in the RFP;
dd) "NAIIH AI Infrastructure Project" or "Project" means the national AI infrastructure initiative for the design, deployment, co-location, operation, maintenance, capacity building, and handover of sovereign AI compute and platform infrastructure, as described in the Terms of Reference;
ee) "NAIIH Access Portal" means the secure user-facing platform to be developed by the Successful Bidder enabling controlled access to AI Infrastructure, services, datasets, and models under this Agreement;
ff) "NAIIH Innovation Marketplace" means the sovereign AI Innovation Marketplace platform to be developed under this Agreement;
gg) "Project Team" or "AI Infrastructure Management Team" means permanent/full time staff employed by the successful bidder to perform the services or any part thereof;

hh) "Project Portfolio" means the detailed description and plan for the Project approved for funding by the Company. The Project Portfolio consists of the following:

(i) Appendix A - Project Proposal approved by the Company (Both Technical & Financial);
(ii) Appendix B - Project Monitoring Schedule;
(iii) Appendix C - Milestones Chart with Deliverables;
(iv) Appendix D - Phased Disbursement Schedule;
(v) Appendix E - Request for Proposal (RFP);
(vi) Appendix F – Joint Venture or Consortium Agreement (*if any*);
(vii) Appendix G - Non-Disclosure Agreement ("**NDA**"); and
(viii) Appendix H - Service Level Agreement

ii) "Receiving Party" means the Successful Bidder to whom the Information is disclosed by the Company;

jj) "RFP" means Request for Proposal No. IGNITE/NAIIH-IN/2025-26/-----/Proc dated ___________ issued by the Company;

kk) "Sovereign National AI Infrastructure" means AI infrastructure that is fully owned, controlled, operated, and governed by the Company, free from foreign jurisdictional control, vendor lock-in, mandatory external cloud dependencies, or remote enforcement mechanisms;

ll) "Sovereignty Requirements" means the legal, technical, and operational conditions defined by the Company to ensure full control, independence, auditability, and long-term operability of the AI Stack;

mm) "Term" has the meaning given in Clause 16;

nn) "Terms of Reference" or "ToR" means Part B of the RFP describing the scope of work, activities, tasks, evaluation criteria, and responsibilities of the Successful Bidder;

oo) "Vendor Lock-In" means any technical, contractual, licensing, knowledge, or operational dependency that prevents the Company from independently operating, modifying, maintaining, transferring or expanding the AI Infrastructure without the consent, cooperation, documentation, training, or proprietary tools of the Successful Bidder or any third party; and

pp) "Zero Trust Approach" means a cybersecurity framework based on the principle of 'never trust, always verify', wherein no user, device, system, or service is granted inherent trust, whether inside or outside the network perimeter, and access is determined dynamically through continuous authentication, authorization, and least-privileged access controls.

**1.2 Interpretation:** In this Agreement (*except where the context otherwise requires*):

(i) Words and expressions defined in any provision of this Agreement, other than Section 1.1 hereinabove, shall bear the respective meanings assigned to them in the relevant Sections;
(ii) Any phrase introduced by the terms "including", "include", "in particular" or any similar expression shall be construed as illustrative and shall not limit the sense of the words preceding those terms;
(iii) Any reference to a statute or law shall include that statute or law as amended, re-enacted or extended;
(iv) The headings in the Agreement are included for ease of reference only and shall not be used in its interpretation;
(v) Words importing persons shall include firms and corporations, the masculine shall include the feminine and the singular includes the plural and vice versa, all where the context so requires;
(vi) Approval as required under this Agreement, shall mean approvals (including confirmations) which are to be obtained in writing, as agreed between the Parties;
(vii) The Recitals, Appendices and Annexes form an integral part of this Agreement and shall have effect as if set out in full in the body of this Agreement and any reference to this Agreement includes the Recitals, Appendices and Annexes;
(viii) Unless otherwise qualified, reference to days, months or years shall be read to mean calendar days, months or years of the Gregorian calendar;
(ix) All references to reports, intimation, information and/or communication to the Company hereunder shall mean reports, intimation, information and/or communication to the Company;
(x) All the defined terms used in this Agreement but not specifically defined shall have the same meaning as ascribed to them in the Request for Proposal;



 

(xi) Approval required under this Agreement shall mean written approval, which may include electronic communications via authorized email addresses as specified in Clause 19.2. In case of any conflict and/or inconsistency between any statements, terms or provisions contained in the Agreement and/or the Appendices thereto, the order of precedence shall be as follows:

(a) This Agreement;
(b) Service Level Agreement (**Appendix H** of the Project Portfolio);
(c) NDA (**Appendix G** of the project Portfolio);
(d) Phased Disbursement Schedule (**Appendix D** of the Project Portfolio);
(e) Project Monitoring Schedule (**Appendix B** of the Project Portfolio);
(f) Milestones Chart with Deliverables (**Appendix C** of the Project Portfolio);
(g) The Request for Proposal ("**RFP"**) (**Appendix E** of the Project Portfolio); and
(h) Project Proposal approved by the Company (Both Technical & Financial) (**Appendix A** of the Project Portfolio);

Any document not listed above shall be subordinate to all listed documents. In the event of any ambiguity or discrepancy, the same shall be resolved through harmonious construction in a manner that best realizes the Sovereign National AI Infrastructure objectives.

## 2. MUTUAL REPRESENTATIONS, WARRANTIES AND COVENANTS

The Parties, to their respective extent, represent, warrant and covenant, as applicable, as follows:

(i) Each Party has the full corporate power and authority to enter into this Agreement and perform its obligations hereunder as a body corporate/corporation, duly formed, validly existing and in good standing under the laws of Pakistan and is duly authorized and qualified to conduct transactions/business in Pakistan;
(ii) The execution, delivery, and performance of this Agreement has been duly authorized by all requisite corporate/administrative action and this Agreement constitutes a legal, valid and binding obligation of each Party, enforceable against it in accordance with its terms;
(iii) Neither the execution, delivery nor performance of this Agreement conflicts with, or results in a violation or breach of the terms, conditions or provisions of, or constitutes a default under, the organizational documents of any of the Parties or any contract or other instrument under which any of the Party is bound, nor violates or conflicts with any applicable law or any judgment, decree, order, writ, injunction or award applicable to any of the Parties;
(iv) Neither Party to the best of its knowledge is in material violation of any applicable law, which violation, individually or in the aggregate, would affect the performance of its obligations under this Agreement;
(v) There is no pending controversy, legal action, arbitration proceeding, administrative proceeding or investigation instituted, or to the best of each Party's knowledge threatened, against or affecting, or that could affect, the legality, validity and enforceability of this Agreement, or **materially impair the Successful Bidder's financial or technical capacity** to perform the Project;
(vi) The Successful Bidder has the technical competence, financial capacity, personnel, and resources to perform the Project as described in this Agreement and the Project Portfolio;
(vii) The Successful Bidder warrants that its proposed AI Stack and operational methodology are designed to ensure that no telemetry, log data, or metadata is transmitted outside the sovereign borders of Pakistan.



 

## 3. PROJECT SCOPE

Subject to and in accordance with the ToRs of the RFP (Part B) and the terms of this Agreement, the Successful Bidder shall implement the NAIIH AI Infrastructure Project, comprising, but not limited to, the following components:

### 3.1 AI Infrastructure Provisioning and Deployment

The Successful Bidder shall procure, supply, install, commission, and benchmark AI compute infrastructure including AI Accelerators, CPUs, memory, storage, and high-speed networking suitable for large-scale AI training, fine-tuning, and inference workloads. All Equipment shall be owned by the Company, free from vendor-imposed usage restrictions, remote license enforcement, or kill-switch mechanisms. The infrastructure architecture shall be scalable, modular, and capable of supporting multi-tenant workloads with at least 2x capacity headroom beyond baseline. The Successful Bidder shall provide comprehensive system testing, benchmarking, stress testing, commissioning, and complete technical documentation prior to production use.

### 3.2 Sovereign Foundation Model Enablement

The Successful Bidder shall enable deployment of one or more base foundation models (open or government-owned), providing full Government control over model weights, parameters, and lifecycle, deployable within Government-approved sovereign compute infrastructure without mandatory external cloud dependencies, with full rights to fine-tune, retrain, continue training, and evolve models independently. The Successful Bidder shall implement model governance mechanisms including model registration, lineage tracking, version control, evaluation protocols, and controlled deployment approval workflows.

### 3.3 AI Software Stack Deployment

The Successful Bidder shall deploy an open, modular, vendor-neutral AI Software Stack supporting AI workload orchestration, training, inference, monitoring, and governance, supporting multiple AI frameworks and runtimes concurrently, with container orchestration, accelerator scheduling, workload isolation, and resource quota mechanisms, operating entirely within sovereign infrastructure with no mandatory dependency on external or vendor-hosted services. All components shall be portable and replaceable, in accordance with the Interoperability & Accelerator/HPC-Agnostic requirements at Clause 3.9. Full configuration and operational documentation shall be provided.

### 3.4 Resource Orchestration, Access & Quota Management

The Successful Bidder shall provide the operational layer through which compute and platform resources are allocated, quota-managed, provisioned, access-controlled, metered, and billed across all beneficiary tiers, comprising: (i) compute allocation and scheduling, including fair-share, priority, and pre-emption policies configurable by the Company; (ii) a per-tier and per-tenant quota and credit-management system administering subsidised, concessional, and standard access rates; (iii) self-service environment provisioning with strict tenant isolation; (iv) identity and access management using open standards (OIDC/SAML or equivalent), with multi-factor authentication, role/attribute-based access control, and tamper-evident audit logging; and (v) usage metering, billing, and resource-monitoring dashboards, exposed via APIs to the analytics capability at Clause 3.7. The AI platform shall support configurable billing and cost-allocation mechanisms entirely under Company control.

### 3.5 AI Development & Deployment Platform

The Successful Bidder shall design, develop, deploy, and operate a developer-facing platform enabling the national developer and innovation ecosystem to build, test, and deploy AI solutions, comprising: managed development environments (IDEs and interactive notebooks) and isolated developer sandboxes; self-service model training and fine-tuning workspaces with experiment tracking, dataset access, and checkpoint management; testing, evaluation, and benchmarking frameworks, including a model evaluation harness incorporating Urdu/local-language and domain-specific evaluation sets, with pre-deployment validation checks; and standardised artifact packaging and developer/API documentation. All such environments shall be integrated with the identity, quota, and metering capabilities under Clause 3.4.



 

### 3.6 User-Facing Access Portal and NAIIH Innovation Marketplace

The Successful Bidder shall design, develop, deploy, and operate: (a) a secure, sovereign NAIIH Access Portal enabling controlled access to AI Infrastructure, services, datasets, models, and platform capabilities; and (b) a production-grade NAIIH Innovation Marketplace, as an integrated application, comprising a solution and model catalogue with standards-based API documentation and working demonstrations; sector-based discovery, demonstration environments, and interactive API playgrounds; commercialisation workflows (procurement, contracting/onboarding, subscription and usage-based billing, and revenue-sharing per Clause 3.10); trust and validation mechanisms (ratings, performance benchmarking, certification/compliance badges); SDKs, a developer documentation portal, and enterprise integration APIs; marketplace usage and adoption analytics feeding Clause 3.7; and an Investor Connection and Commercialisation Support capability enabling solution developers, particularly Startups and Researchers, to be discovered by and matched with investors under governance, transparency, and confidentiality controls. Both platforms shall be fully deployed within sovereign infrastructure, integrated with identity, entitlement, quota, and billing under Clause 3.4, and operated under Company governance. Full ownership of source code, APIs, configurations, and deployment artifacts of both platforms shall vest in the Company, save for solutions listed by third-party innovators as set out at Clause 3.10.

### 3.7 Analytics, Impact Measurement & Feedback

The Successful Bidder shall design, develop, deploy, and operate a platform-wide analytics and impact-measurement capability consolidating usage and metering data from Clauses 3.4, 3.5, and 3.6, comprising: platform-wide usage analytics with breakdowns by beneficiary tier, sector, organisation, service, and model; economic and sectoral impact measurement using a documented, repeatable methodology; definition and ongoing tracking of programme KPIs and outcomes; and reporting suitable for governance oversight and public accountability. All underlying data and dashboards shall vest in and remain accessible to the Company.

### 3.8 Security, Governance, Monitoring & Integration

The Successful Bidder shall apply the following capabilities horizontally across all layers described in Clauses 3.1–3.7: (a) a Zero Trust security architecture, centralised IAM with MFA and least-privilege access, encryption in transit and at rest with managed key management, a security operations/SIEM capability, and vulnerability and patch management; (b) data governance (classification, provenance, lineage, retention, consent handling), enforcement of data-residency and sovereignty controls, model governance and AI-safety policy enforcement, compliance with applicable Pakistani regulation and recognised international standards, and comprehensive tamper-evident audit trails, in accordance with Clause 3.14; (c) centralised, cluster-wide monitoring and logging with retention and search, standards-based observability (Prometheus-compatible, OpenTelemetry, or equivalent), and metrics/logs/trace correlation with alerting; and (d) an integration layer providing open, standards-based APIs (REST/gRPC or equivalent), secure connectors/gateways, external identity federation, and a governed API gateway for all externally-exposed interfaces.

### 3.9 Interoperability & Accelerator/HPC-Agnostic AI Software Stack

The Successful Bidder shall architect the AI Software Stack for portability and heterogeneity, such that the national platform is not permanently bound to any single accelerator architecture, HPC backend, or vendor software ecosystem, including: open/standard representations at the framework, model-interchange, container, and API layers; a documented, vendor-neutral retargeting/migration path enabling models and workloads to move to a different accelerator architecture or HPC backend, with disclosed limitations; support for heterogeneous accelerators within the orchestration and scheduling layers; delivery of all sovereign artefacts (model weights, training/fine-tuning code, datasets, configurations) in stack-independent, open, and documented formats; and a documented portability-status disclosure for each layer of the supplied stack.

### 3.10 Access Pricing, Revenue-Sharing & Platform Sustainability

The Successful Bidder shall develop, implement, and operate the Access Pricing, Revenue-Sharing, and Platform Sustainability framework approved by the Company, comprising: (a) subsidised access tiers for Academia & Researchers and Startups at concessional rates below prevailing international market rates, with the subsidy differential funded from the approved programme budget and not recoverable from the

Successful Bidder's managed services fee; (b) cost-recovery pricing for Public Sector and Private Sector access, with Private Sector rates permitted to include a platform margin retained by the Company; (c) Marketplace revenue-sharing between the Company and solution developers, at a default split of no less than seventy percent (70%) to the solution developer and no more than thirty percent (30%) retained by the Company, pending finalisation through the Company's Marketplace Governance Policy; and (d) a managed services fee structure targeting progressive OPEX self-financing from Year 2 onward through cost-recovery charges and marketplace revenue. Where solutions are developed by an innovator, developer, solution provider, or startup and approved for listing on the NAIIH Innovation Marketplace, ownership of such solutions shall vest in the respective innovator, developer, solution provider, or startup, subject to the foregoing revenue-sharing mechanisms; for the avoidance of doubt, this is an exception to Clause 14.1 (Developed IPR). No access price shall be independently set, altered, or waived by the Successful Bidder without prior written Company approval, and all pricing schedules shall be reviewed annually.

**3.11 Co-location, Facility & Physical Hosting**

The Successful Bidder shall establish and maintain a formal partnership with, or itself operate, a Tier-III or above co-location data center in Pakistan for both a Primary site and a Disaster-Recovery site, both located within Pakistan, covering power, cooling (matched to the delivered hardware at full load plus headroom), physical security, and network connectivity. Formal Service Level Agreements shall be established with any co-location partner, with the Successful Bidder remaining contractually accountable for every facility-related service level notwithstanding delegation to a named partner.

**3.12 Delivery, Integration & Programme Management**

The Successful Bidder shall deliver, integrate, and operate the Ecosystem as a single accountable programme, comprising: (a) designation of a single prime Successful Bidder holding end-to-end contractual accountability for all layers and service levels, even where consortium partners deliver components, supported by a responsibility/accountability (RACI) matrix and, where a consortium is used, a binding consortium governance structure ensuring continuity if a partner exits; (b) a documented end-to-end integration methodology defining integration milestones, interface ownership, and acceptance gates, with integrated system testing demonstrating the layers function together at scale; (c) an integrated master programme schedule from contract start to full operational acceptance, with critical path, dependencies, and resource/supply lead times; (d) a phased, parallel-track delivery plan in which early-value tracks proceed alongside longer tracks, with value-realisation milestones aligned to the programme objectives; (e) a programme risk register covering technical, supply-chain, sovereignty, and integration risks, including export-control and supply-disruption contingency with second-source or alternative-path options; and (f) an acceptance framework with measurable, per-layer and integrated-system acceptance criteria, including a capability-handover gate confirming the in-country team can independently operate the Ecosystem, and a transition plan progressively moving operations toward in-country independence consistent with Clause 3.16.

**3.13 Knowledge Transfer, Skilling & Ecosystem Capability Building**

The Successful Bidder shall transfer the knowledge, skills, and institutional capacity required for the Company to operate, sustain, and grow the Ecosystem independently, extending beyond the operations team to the wider national developer, research, and startup community, in accordance with the Capacity Building Plan set out at Clause 6 of this Agreement.

**3.14 Applicable Standards, Compliance & Proven Capability**

The Successful Bidder shall comply with applicable Pakistani law and regulation and with recognised international standards (or equivalents), including information security management (ISO 27001), data-centre resiliency (Uptime Institute Tier classification or TIA-942), service management (ISO 20000), and quality management (ISO 9001), and shall maintain, directly or through named contractually-bound partners with single-prime accountability retained, the verifiable delivery capability represented in its Proposal.

**3.15 Phased Acceptance, Warranty, Support, Maintenance & Managed Operations**

The Successful Bidder shall: achieve Delivery Acceptance upon successful installation and commissioning, and Operational Acceptance upon demonstrating that integrated services meet stated criteria, with warranty and comprehensive support obligations commencing from Operational Acceptance; complete the data-pipeline and sovereign-model operationalisation phase as a defined extension beyond infrastructure Operational Acceptance; warrant all supplied hardware, software, integration, and facility systems against defects for the warranty period specified in the contract, repairing or replacing defective components and remediating software defects at no additional cost, and maintaining manufacturer back-to-back warranty for OEM components; provide 24×7×365 severity-tiered support and preventive maintenance across all delivered layers, with in-country spare-parts holdings sufficient to meet hardware-replacement SLAs, a single point of contact and escalation matrix, and regular SLA performance reporting; and meet the response, resolution, availability, and service-credit terms set out in the SLA Schedule referenced at Clause 3.18.

**3.16 Operational Governance, Decision Rights & Exit Management**

The Project shall be supervised and governed in accordance with Clause 31.7 of the RFP. Without prejudice to the transition obligations under Clause 3.12(f), the Successful Bidder shall maintain, throughout the Term, a living Exit and Transition Plan, refreshed at least annually and on the Company's request. On exit — whether by expiry, non-renewal, or termination — the Successful Bidder shall: transfer complete and current operational documentation (architecture documentation, runbooks, playbooks, SOPs, network/configuration diagrams, and known-issue registers); transfer all configurations, infrastructure-as-code, automation scripts, and operational tooling; transfer all credentials, access rights, certificates, keys, and administrative control to the Company or its nominee, revoking its own access on completion; and transfer the source code, model weights, datasets, and artefacts of all sovereign components, together with escrow or documented continuity arrangements for any proprietary third-party components necessary for continued operation. These obligations are binding and shall survive the termination or expiry of this Agreement.

**3.17 Commercial Protection & Anti-Lock-In**

The Successful Bidder shall: hold all recurring charges (support, managed operations, subscriptions, licences) firm for the initial Term, with any escalation in extension years capped to a pre-agreed index-linked ceiling stated in the contract; guarantee continuity of all software subscriptions, licences, and entitlements required to operate the solution for the full Term and any extension, with no mid-term withdrawal that would impair operation; vest ownership of all configurations, scripts, documentation, runbooks, and bespoke developments in the Company, consistent with Clause 14 (Intellectual Property Rights); ensure the Company is not locked into the Successful Bidder for continued operation, through open/documented interfaces, portable data formats, and the exit provisions of Clause 3.16; offer any extension or renewal on terms no less favourable than the initial Term, at the Company's sole option; disclose all third-party dependencies whose lapse could affect operation and enable their transfer to the Company on exit where permissible; and ensure no foreign-controlled licence check-in, remote disablement, or external dependency can interrupt operation under Company control.

**3.18 Draft Service Level Agreement Schedule**

The Service Levels applicable to Clauses 3.4, 3.6, 3.11, and 3.15 shall be governed by the Service Level Agreement Schedule set out at Section 32 of the RFP (Severity Levels, Service Availability Targets, Hardware Replacement Targets, Disaster Recovery Targets, and Service Credits & Escalation), to be finalised and appended to the Project Portfolio.

**3.19** Successful Bidder shall manage the Project in accordance with this Agreement;

**3.20** Successful Bidder shall execute and implement the Project and shall perform Deliverables (*Appendix C of the Project Portfolio*) in accordance with the Project Portfolio with due care, skill and diligence consistent with industry standards;

**3.21** The Company shall disburse the Grant into the dedicated Project Account in accordance with the Phased Disbursement Schedule, subject to verification of Deliverables accomplished (*Appendix D of the Project Portfolio*); and

**3.22** The Project shall be supervised as per Clause 31.7 of the RFP.



 

## 4. DUTIES OF THE SUCCESSFUL BIDDER

### 4.1 GENERAL OBLIGATIONS

The Successful Bidder shall:

i. Perform and deliver all Deliverables in accordance with the Project Portfolio, this Agreement, the ToR, and applicable laws of Pakistan;

ii. Complete and submit all Deliverables and perform all obligations within the time stipulated in the Project Portfolio. Time shall be of the essence of this Agreement;

iii. Comply with all representations, warranties, and undertakings provided in the Project Portfolio relating to the quality and contents of Deliverables;

iv. Submit progress reports in the format, content, and frequency specified in Appendix B and Clause 9 of this Agreement;

v. Facilitate monitoring of the Project as directed by the Company and provide all reasonable facilities and assistance for Company representatives;

vi. Maintain detailed and accurate records of all activities and transactions in relation to the Project and, at the Company's request, make such records available for inspection or provide true copies thereof;

vii. Comply with all applicable laws including federal and provincial regulations, cybersecurity guidelines, national AI policies, environmental regulations, and applicable public procurement rules;

viii. Ensure that all data, information, and beliefs included in Deliverables are accurate using recognized quality assurance protocols;

ix. Promptly and accurately respond to reviews of Deliverables by the Company, including provision of technical explanations or revisions as reasonably requested;

x. Ensure no data, telemetry, operational information, or Government data is transmitted outside Pakistan or to any foreign-controlled or vendor-controlled system without the prior written consent of the Company;

xi. Ensure full compliance with Sovereignty Requirements throughout the Term;

xii. Ensure that all personnel used in the performance of Deliverables are engaged under an employment or services arrangement between the Successful Bidder and the personnel, with no employment relationship created between the Company and such personnel. The Successful Bidder shall be fully responsible for all acts, defaults, or neglects of such personnels and shall indemnify the Company accordingly;

xiii. facilitate the monitoring of the Project by the Company;

xiv. present on regular basis to the Company progress achieved in all aspects of the Project;

xv. comply with all applicable laws including but not limited to any government rules and regulations including applicable banking regulations issued by the State Bank of Pakistan (**SBP**), SOPs, government policies such as COVID, health bye laws, vaccination for staff and other SOPs recommended, as they exist in Pakistan from time to time, including safety and security standards applicable to the activities and tasks covered under the Project;

xvi. apply for, obtain and maintain at all times all required and applicable permissions, consents, licenses, leases, approvals, authorizations and the like required from any private or public sector entity for performance of its obligations under this Agreement and upon termination or expiry of this Agreement the Consortium may attempt to transfer all such consents and licenses to the Company if so requested;

xvii. use its best efforts to ensure that all the data, information and considerations included, or relied upon, in the Deliverables are accurate to the best of its knowledge. All tests and measurements shall be made in accordance with the recognized quality assurance protocols, where applicable. In the event the Consortium obtains or relies on any derived data, information or considerations, it shall utilize reasonable and customary efforts to ensure the quality and information of such data, information or considerations;

xviii. promptly and accurately respond to the review of the Deliverables by the Company, either by providing explanations of technical information or by responding to reasonable requests for revisions to the Deliverables; and

xix. Develop a web portal, in addition to the information with respect to the Company along with its logo/emblem and URL www.igntie.org.pk, the web portal shall contain any and all the relevant and updated details related to the Project. “Updated”, means any and all the updates, reports, summary of the Project and information as required by the Company in accordance with Appendix B and Appendix C.

xx. Without prejudice to any other provision of this Agreement, the Successful Bidder shall comply with the Service Level Agreement ("SLA") attached as Appendix H, which shall form an integral and binding part of this Agreement. The Successful Bidder shall ensure compliance with all service levels, key performance indicators, response and resolution timelines, operational standards, reporting obligations, and other requirements prescribed therein throughout the Term of this Agreement.

### 4.2 SOVEREIGN AI INFRASTRUCTURE REQUIREMENTS

The Successful Bidder shall:

i. Ensure that all assets forming part of AI Infrastructure, AI Software Stack, models, configurations, and operational tooling are free from vendor lock-in, remote disablement mechanisms, cryptographic enforcement locks, kill-switch mechanisms, or mandatory external cloud dependencies;

ii. Ensure that all hardware telemetry, device monitoring, firmware logs, and performance diagnostics operate entirely within sovereign infrastructure without transmission to vendor-controlled external systems;

iii. Ensure that all foundation models deployed meet Sovereignty Requirements, including full Government custody of model weights, absence of restrictive licensing, and ability to retrain, fine-tune, and evolve models independently;

iv. Deliver all configuration files, infrastructure-as-code templates, automation scripts, orchestration artifacts, deployment manifests, dashboards, and operational tooling to the Company to ensure full operational continuity and independence;

v. Ensure that all custom-developed components, scripts, automation tools, dashboards, and extensions are delivered with full source code ownership vested in the Government of Pakistan;

vi. Provide all APIs, documentation, and deployment artifacts required to operate, maintain, and evolve the AI Stack without vendor intervention.

vii. Implement and maintain a Zero Trust Approach during Continued Operations Support Period, and shall provide certificates of insurance to the Company upon request. The Successful Bidder shall remain responsible for safeguarding all Assets until formal commissioning acceptance by the Company.

### 4.4 SUBCONTRACTING AND SUPPLIER APPROVAL

a) The Successful Bidder shall not subcontract any material obligation under this Agreement, nor replace any approved subcontractor or key supplier (including but not limited to AI accelerator vendor, co-location data center provider, networking equipment supplier, and software platform provider), without the prior written approval of the Company.

b) For any subcontractor or supplier approved by the Company, the Successful Bidder shall:

(i) enter into written agreements that bind such subcontractor or supplier to obligations no less protective than those imposed on the Successful Bidder under this Agreement;

(ii) remain fully liable for all acts, omissions, and defaults of its subcontractors and suppliers; and

(iii) provide to the Company, upon request, copies of all subcontracts and supplier agreements (redacted only for trade secrets unrelated to the Project).

c) The Company may, in its reasonable discretion, require the removal or replacement of any subcontractor or supplier that fails to comply with applicable laws, sovereignty requirements, or security/confidentiality standards.

### **4.5** DATA PROTECTION AND PROCESSING OBLIGATIONS

The Successful Bidder shall:

i. Process personal data solely for performing this Agreement;
ii. implement appropriate technical and organizational security measures (encryption, access controls, regular testing);
iii. ensure personnel authorized to process personal data are bound by confidentiality;
iv. not engage any sub-processor without the Company’s prior written consent; any sub-processor shall be bound by equivalent obligations and the Successful Bidder remains liable;
v. retain personal data only as long as necessary and, upon termination, return or delete all personal data as instructed by the Company;
vi. promptly notify the Company (within 24 hours) of any personal data breach, including description, consequences, and remediation measures.
vii. The Successful Bidder shall not transfer Personal Data outside Pakistan without the Company’s prior written consent. If consented, appropriate safeguards (e.g., standard contractual clauses) must be in place.

## 5. DUTIES OF THE COMPANY

The Company shall:

i. Perform regular oversight of the Project in accordance with its inherent funding and monitoring mandate;
ii. Timely disburse the Grant in accordance with the Phased Disbursement Schedule (Appendix D) and Clause 7 of this Agreement;
iii. Ensure regular monitoring against defined KPIs and approved project management methodology;
iv. Approve or reject Deliverables within Forty-Five (45) calendar days of submission; the Company's failure to respond shall not constitute acceptance, and no Deliverable shall be deemed accepted without the Company's express written approval.
v. Provide timely and appropriate responses to information requests that Successful Bidder cannot reasonably be expected to obtain on their own within the framework of the Project Portfolio.
vi. Define, approve, and own all data classification, data retention, data access, and data governance policies;
vii. Identify in collaboration with the Successful Bidder and approve eligible ecosystem users, datasets, and access policies for AI Infrastructure utilization; and
viii. Exercise all powers and discretion vested in it under this Agreement reasonably and promptly with the objective of realization of the aims and objectives of the Project.

## 6. CAPACITY BUILDING AND KNOWLEDGE TRANSFER

The Successful Bidder, as per Clause 26.2.7 of the RFP, shall develop and implement a structured Capacity Building Plan, to be approved by the Company within sixty (60) days of the Effective Date, including but not limited to the following:

i. Training of trainers as determined by Ignite to empower and amplify local capability;

ii. Hands-on training in AI Infrastructure administration, platform management, security, and troubleshooting for relevant Ignite technical staff;

iii. Structured certification-based training programs, including hands-on labs and assessments, for a broader pool of national technical resources to develop future-ready expertise in AI Infrastructure, AI Software Platforms, and AI Operations;

iv. Progressive shadowing and joint-operations arrangements to transfer operational responsibility to Certified technical resources;

v. Development and delivery of comprehensive documentation, standard operating procedures (SOPs), runbooks, and operational guides;

vi. Demonstration of readiness of Certified technical resources to independently operate, maintain, troubleshoot, and evolve the complete AI Stack to the Company's satisfaction prior to handover;

vii. Demonstration of exit-readiness through documented operational drills, handover simulations, and independent validation exercises. **If the Company determines that readiness has not been achieved, the Successful Bidder shall provide additional training at no cost until readiness is demonstrated.**

viii. The Successful Bidder warrants that the trainers and technical personnel responsible for knowledge transfer shall remain assigned to the Project until the Handover Certificate is issued, to prevent "brain drain" and ensure consistent delivery of expertise.

## 7. MONITORING PROJECT PERFORMANCE

a) Monitoring of the Project will be in line with the “Project Monitoring Schedule (Appendix B) and Milestones Chart with Deliverables (Appendix C) of the Project Portfolio”

b) The Successful Bidder shall prudently manage all expenditures and actions in relation to the Grant. Documentation for each expenditure or action affecting the Grant shall reflect appropriate Company reviews or approvals, made in advance of the action. Such reviews shall ensure that expenditures are:

(i) allowable, necessary, and reasonable for the conduct of the Project;

(ii) consistent with the terms of this Agreement;

(iii) consistent with the applicable policies of the Company;

(iv) representative of effective utilization of resources; and

(v) not a change in objective or scope without prior Company approval under Clause 8.

c) The Successful Bidder shall ensure that its personnel, subcontractors, and suppliers comply with all applicable laws, regulations, and standard operating procedures of the Federal and Provincial Governments of Pakistan.

(d) The Company shall have the right, at all reasonable times, to request all information related to Project progress, to take reasonable measures as per its inherent funding and monitoring mandate to keep the Project aligned with the agreed scope and objectives, and to make site visits to the Co-location Data Center or Project site to review Project accomplishments and management control systems. The Successful Bidder shall provide all reasonable facilities and assistance for the safety and convenience of the Company representatives during such visits.

(e) The Successful Bidder shall achieve the KPIs specified in RFP. The Company shall define and communicate revised KPIs annually as operational requirements evolve. The Company may withhold a portion of the management fee if defined KPIs are not achieved, in proportion to the percentage of KPIs achieved. The Company reserves the right to waive or revise specific KPI thresholds based on operational realities.

## 8. CHANGES IN PROJECT SCOPE OR METHODOLOGY

### 8.1 Change in scope

The Successful Bidder shall not alter, modify, reduce, suspend, or otherwise deviate from the approved objectives, scope, architecture, implementation methodology, hosting arrangements, security controls, technology stack, consortium/subcontractor structure, deployment plan, or Deliverables set forth in the Project Portfolio, without the prior written approval of the Company. Any proposed change shall be submitted in writing by the Successful Bidder, and the approval thereof shall be at the sole discretion of the Company. Significant changes in methods or procedures shall be reported to the Company and are subject to its prior approval.

### 8.2 Significant Changes, Delays or Events of Unusual Interest

In the event there are problems, delays or adverse conditions that will materially affect the ability to attain the objectives of the Project or to meet such time schedules as may have been proposed, Successful Bidder should, as soon as reasonably and practically becoming aware of the same, inform the Company of such event(s), and propose a reasonably detailed mechanism to remedy such event. The Company shall have the right to accept, reject, or require modifications to the proposed mechanism.

### 8.3 Changes of Key personnel Devoted to the Project

#### 8.3.1 Basic Requirements

The Successful Bidder shall not replace, remove, or materially reduce the involvement of any Key Personnel without the prior written consent of the Company. In the event Successful Bidder become aware that the Key Personnel will: (i) devote substantially less effort to the Project than initially anticipated or as set forth in the Project Portfolio; or (ii) otherwise withdraw from active involvement in the direction of the Project, Successful Bidder shall promptly notify the Company and propose appropriate remedial measures. Such measures shall be undertaken by Successful Bidder with the Company’s consent, ensuring that the Project continues uninterrupted in accordance with the Project Portfolios. Any replacement of Key Personnel shall possess qualifications and experience equal to or better than the individual being replaced and shall be subject to the Company's prior written approval.

#### 8.3.2 Change in Person-Months/Time Devoted to the Project

Without prejudice to the requirement for prior written consent under Clause 8.3.1, In the event that there is a reduction of 25% or more in time that Key Personnel should be spending on the Project in any annual quarter, Successful Bidder shall intimate the Company of such reduction in person-months devoted to the Project. If the Company determines that the reduction of effort will substantially impair the successful execution of the Project, the Company may:

(i) require Successful Bidder to nominate a replacement acceptable to the Company; or

(ii) initiate the termination procedures described in Clause 16 (*Term, Suspension and Termination*



 

8.4 Consequences of Unauthorized Changes

Any change, deviation, or replacement made without the prior written approval of the Company as required under this Clause shall constitute a material breach of this Agreement, and the Company may, in addition to any other remedies available under this Agreement or applicable law, require the Successful Bidder to reverse such change at its own cost or terminate this Agreement or as may be determined by the Company.

## 9 DISBURSEMENT OF THE GRANT

9.3 All payments shall be made on reimbursable basis. However, a mobilization advance of up to 20 of CAPEX amount may be paid to Successful Bidder on request, against a Bank Guarantee equivalent to the mobilization advance to be submitted by Successful Bidder. The said Bank Guarantee will be released immediately after adjustment of mobilization advance. Payment for required infrastructure development will be made as per the Phased Disbursement Schedule agreed with Successful Bidder. Furthermore, payment of operating expenses including but not limited to utilities, salaries of the Project Management Team, payment of trainings/workshops etc. will be made through the invoices duly verified by Company. Successful Bidder shall submit invoices to Company as per agreed Phase Disbursement Schedule (Appendix D). The same may be verified by the Company within 30 calendar days. Payment will be made within 30 calendar days after verification of the Deliverables and reports. In case of variance, the undisputed amount shall be recommended to finance for payment. There shall be no expenditure incurred beyond the approved Phase Disbursement Schedule. However, in exceptional circumstances, for any expense beyond the approved Phase Disbursement Schedule, the Company upon reasonable justification will approve such payments.

9.4 Disbursements of the Grants shall be based on submission of invoices raised in accordance with the Phased Disbursement Schedule (***Appendix D***) along with the Milestones Chart with Deliverables (***Appendix C***) and Clause 8 of this Agreement. Invoices shall duly list the work performed and expenses incurred (together with supporting time-sheets, receipts, vouchers and the like). The Company may withhold payment against an invoice pending satisfactory compliance of the relevant Deliverable within the Project Portfolio.

9.5 No services, equipment, material, test apparatus, real estate property or any other items shall be purchased with sums representing the Grant, nor shall any improvement or modification be made thereto unless specifically included in the Project Portfolio as approved by the Company.

9.6 Successful Bidder shall be responsible to comply with the relevant tax laws as applicable in Pakistan. All the direct and indirect taxes shall be levied, deducted and deposited as per applicable laws of Pakistan.

## 10. RECORDS, RETENTION AND AUDIT

### 10.1 ACCOUNTING

a) Successful Bidder shall maintain accurate accounting information in the standard accounting formats and financial records regarding the Project in conformity with applicable financial reporting standards. The Company or its authorized agents may obtain a copy of such records and shall have access to such records at any reasonable time during normal business hours during the entire term and for a period of three (3) year after the expiry of the Term.

b) Successful Bidder shall carry out quarterly internal audit through an ICAP or ICMAP-registered Chartered Accountant or Cost and Management Accounting firm (or other independent auditor acceptable to the Company), and shall submit an internal audit report in accordance with Appendix B (**"Internal Audit"**).

c) In the event that material inconsistency is found between the existing accounting records of Successful Bidder in relation to the Project and Successful Bidder Internal Audit, Successful Bidder shall have a new audit incurred, by auditors approved by the Company, at the sole cost of Successful Bidder (**"Re-Audit"**), and such cost shall in no manner form part of the Grant.

d) The Company may cause to be carried out the special audit from an SBP enlisted 'A'-rated Chartered Accountant firm of the accounting records or performance audit of Successful Bidder pertaining to the Project at any time during the Term and within three (3) year after the expiry of the Term (**"Special Audit"**).

e) The Grant disbursed by the Company to Successful Bidder for the Project shall be maintained in a separate bank account titled "______________________________________________", (the "**Project Account**") unless specifically authorized otherwise by the Company.

f) Successful Bidder shall facilitate annual external audit(s) of the Grant received for the Project from an SBP enlisted 'A'-rated Chartered Accountant firm (**"Annual External Audit"**), appointed by the Company.

## 11. FINANCIAL

a) All invoices shall be raised by SUCCESSFUL BIDDER duly signed by their authorized signatory. Besides any other relevant information, the invoices shall contain title and number of the bank account and the breakup of the cost heads against which the amount is required.

b) All invoices shall be supported by latest bank statement, summary of funds utilization and budget vs. actual cost comparison (if required). In case of procurement during a quarter, copies of the original paid invoices shall also be attached.

c) SUCCESSFUL BIDDER will submit quarterly financial reports to the Company in accordance with the format provided for the purpose by the Company.

d) The Company will sponsor the Project in accordance with the Project Portfolio submitted by SUCCESSFUL BIDDER and this Agreement. All disbursements will be made according to the Phased Disbursement Schedule along with the Milestones Chart with Deliverables (***Appendix C***) attached herewith as Phased Disbursement Schedule (***Appendix D***).

e) The amount to be paid by the Company as mentioned in the Phased Disbursement Schedule (unless otherwise expressly stated or modified in the Agreement) is the maximum funding commitment and cannot be modified/altered/changed without the Company's prior approval/written consent. Any other expenses whether associated with the Project or otherwise, not mentioned in this Agreement and its attachments shall be borne by SUCCESSFUL BIDDER, as per their internal understanding.

f) Notwithstanding anything to the contrary contained in this Agreement, all payments of the Grant shall be subject to proper and timely performance of the Project by SUCCESSFUL BIDDER in accordance with the terms and conditions of this Agreement. Disbursement for direct expenses as given in the Project Proposal will be made at actual on reimbursement model. The Mobilization Advance shall only be released to cater for up to twenty (20) percent of the expenses pertaining to establishment phase (CAPEX) of the Project. The Company will decide the mobilization advance in consultation with SUCCESSFUL BIDDER

g) SUCCESSFUL BIDDER acknowledges and covenant provision of a bank guarantee, equivalent in sum and worth to the Mobilization Advance, no later than fifteen 15 days from signing of the Agreement, to the Company.

h) Wherever applicable under the services cost, the budget approved for utilities and communication expenses shall be utilized vis-à-vis the Company's agreed share in the cost. Utility charges will be based on actual usage. Bidders are required to propose a mechanism or formula for measurement, such as a separate/dedicated meter, submeter, per square foot HVAC cost, etc.

i) No amount from the "Contingency's" cost head per the approved budget, attached in the Project proposal, shall be spent for purchase of any movable or immovable assets including kitchen appliances, office furniture and fixtures, lighting equipment, office decor items, electric generators etc., unless expressly approved by the Company.

## 12. REPORTING

12.1 QUARTERLY REPORTS

Successful Bidder shall prepare and submit quarterly reports and deliverable as mentioned in Appendix B and C of this Agreement.

12.2 ANNUAL REPORTS

Successful Bidder shall prepare and submit annual reports to the Company, within thirty (30) days of the end of each twelve (12) month period. Such annual report shall be "in addition" and, not substitution of the quarterly progress reports submitted by Successful Bidder and shall include the details of Deliverables and utilization of the funds/disbursements made by the Company, progress on each of the comments/observation of the Company during the preceding year and the targets for the next twelve (12) months period.

12.3 FINAL PROJECT REPORT

Within thirty (30) days following expiration of the period of the Grant/Project, a final Project report must be submitted to the Company in the form and manner as communicated to Successful Bidder.

**12.4** EXCEPTIONAL REPORTING (CRITICAL INCIDENTS)

Notwithstanding the regular reporting cycles, the Successful Bidder shall notify the Company in writing as per Clause 32 of the RFP within **four (4) hours** of the occurrence of any critical security breach, unplanned infrastructure downtime exceeding 1%, or any event that materially threatens the Sovereign National AI Infrastructure.

**12.5** REPORTING AS A PREREQUISITE FOR PAYMENT

In accordance with Clause 7, no payment or disbursement of the Grant shall be processed or authorized by the Company unless the corresponding reports for the relevant period have been submitted, reviewed, and approved in writing by the Company.

## 13. PROPERTY MANAGEMENT

Title to property, Deliverables

All property, movable, immovable, tangible or otherwise acquired or purchased by utilizing sums representing the Grant, and all Deliverables at any stage of the progress of the Project and whether in draft form or completed (the "**Assets/s**") shall be and remain the absolute property of the Company, provided that, the Company may, in its sole discretion, upon successful completion of the Project, transfer title to some or all of the movable and immovable properties to SUCCESSFUL

BIDDER. All pre-existing materials or materials not acquired or purchased by utilizing sums of the Grant remain the property of SUCCESSFUL BIDDER.

## 14. INTELLECTUAL PROPERTY RIGHTS

### 14.1 DEVELOPED IPR

The Project is initiated, envisaged, and funded by the Company. All Intellectual Property Rights created or generated in the course of the Project and/or as a result of the performance and delivery of Deliverables shall vest in and be the absolute property of the Company ("Developed IPR"). The Successful Bidder hereby assigns all such Developed IPR to the Company with immediate effect upon creation. The Successful Bidder shall, upon request, provide all necessary assistance and support to the Company in registering the Developed IPR under applicable laws.

### 14.2 SOURCE CODE AND CONFIGURATION OWNERSHIP

All custom-developed components, scripts, automation tools, dashboards, extensions, infrastructure-as-code templates, deployment manifests, and configuration files developed under this Agreement shall be delivered to the Company with full source code ownership. No vendor lock-in, external activation dependencies or proprietary restrictions shall be imposed on any Deliverable.

### 14.3 AI MODELS AND FOUNDATION MODELS

All AI models, including foundation models, fine-tuned models, and derived artifacts deployed under this Project shall be free from licensing restrictions that prevent sovereign operation, modification, retraining, or independent evolution by the Company. The Successful Bidder shall disclose all applicable licenses and ensure the Government retains full operational rights to all models deployed.

### 14.4 EXISTING INTELLECTUAL PROPERTY

To the extent that the Developed IPR incorporates any pre-existing Intellectual Property of the Successful Bidder or any third party, the Successful Bidder shall procure the provision to the Company of all such Existing IPR on the basis of a royalty-free (or royalty-based as applicable with prior approval of the company), non-exclusive, freely transferable license in perpetuity, for unencumbered and uninterrupted use, benefit, and enjoyment of the Developed IPR. **If the Successful Bidder fails to procure such license, it shall remove the offending Existing IPR from the Developed IPR at no cost to the Company.**

14.5 General

i. Indemnification for Plagiarism and/or Breach of IPR

SUCCESSFUL BIDDER hereby warrant and undertake that the Information included in the Proposal for approval by the Company and/or matured in the form of Deliverables and/or all Intellectual Property Rights in, arising out of or capable of legal recognition in respect of the Project is/are (a) not plagiarized; (b) has/have already been wholly or partially created, developed or researched by SUCCESSFUL BIDDER prior to the signing of this Agreement; (c) is/are not the copied work of any other person; and/or (d) does not infringe the Intellectual Property Rights of any third party anywhere in the world. "Plagiarism" means the unauthorized use or close imitation of the language and thoughts of another author and the representation of them as one's own original work. Copied work would occur when SUCCESSFUL BIDDER might be found to duplicate another person's language, ideas, creative expression, intellectual property, an imitation or reproduction of an original or other related work in the Project and then call the work its/their own. SUCCESSFUL BIDDER would further ensure that the Project has no unauthorized resemblance or similarities with any other project which is in the same field as the Project or a closely connected field or with the research or development of any product or process similar to or closely connected with the Project of a third party. Hence, any violation of this Clause 11.3.1 shall be regarded as a material breach of this Agreement, entitling the Company to, in addition to all other remedies available to it under the law: (a) terminate this Agreement forthwith; and (b) recover the entire amounts paid to SUCCESSFUL BIDDER till the effective date of termination.

ii. SUCCESSFUL BIDDER shall further protect, indemnify and defend the Company, its officers, members, directors, employees, agents and consultants, against, and hold each of the foregoing harmless from, at all times after the date hereof, any and all claims demands, proceedings/costs, charges and losses incurred, suffered, sustained or required to be paid by, or sought to be imposed upon any of such aforesaid persons/entities, arising directly out of any breach or infringement by any of the SUCCESSFUL BIDDER of any Intellectual Property Rights of any third party in the performance of its obligations under this Agreement.

iii. If any such proceedings are brought, or any claim is made, against the Company, arising out of the matters referred to herein, the Company shall promptly give that/those CONSORTIUM MEMBER/S notice of such proceedings or claims, and that/those CONSORTIUM MEMBER/S shall at its/their own cost and expense and in the Company's, name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

iv. If CONSORTIUM MEMBER/S fails to notify the Company within fifteen (15) days after receipt of such notice that it intends to defend any such proceedings or claim, then the Company shall be free to defend the same on its own behalf at the cost of CONSORTIUM MEMBER/S. CONSORTIUM MEMBER/S shall, however, at the request of the Company, afford all available assistance to the Company in the defense of such proceedings or claim.

v. The provisions of this Clause shall survive the termination or expiry, as the case may be, of this Agreement.

14.5.1 Applicability

The Parties agree that this Clause shall only be applicable to the Intellectual Property rights created as a result of the Deliverables performed by Successful bidder in accordance with the existing scope of the Project.



## 15. CONFIDENTIALITY

15.1 Save as otherwise permitted by this Clause 15, the Successful Bidder undertakes and agrees, in respect of all Information disclosed by or on behalf of the Company, and all Information generated, developed, or produced by the Successful Bidder in the course of, or arising from, its performance of this Agreement (collectively, "Information"), that it shall:

(i) receive and maintain such Information in confidence and shall not publish, disclose, market, advertise, or otherwise communicate such Information or permit the same, save as expressly permitted under this Clause 15;

(ii) apply to the Information appropriate administrative, technical, physical, and cybersecurity safeguards to protect it (including, without limitation, Confidential Information, Project Data, Deliverables, source code, system configurations, credentials, and other sensitive information) from unauthorized access, disclosure, alteration, loss, destruction, misuse, or compromise, with a degree of care and security measures no less stringent than those the Successful Bidder applies to its own confidential information, and which it warrants as adequate for the purpose;

(iii) use the Information only for the purposes of this Agreement; and

(iv) not copy, reproduce, decompile, or reduce to writing any part of the Information except as may be reasonably necessary for the performance of the Deliverables or as otherwise contemplated or permitted under this Agreement.

15.2 The Successful Bidder may disclose the Company's Information only to such of its directors, officers, employees, consortium members, subcontractors, agents, or professional advisers ("Permitted Persons") as need to know the same for the purposes of this Agreement. The Successful Bidder shall:

(i) ensure that each Permitted Person is aware of, and complies with, the obligations of confidentiality set out in this Clause 15; and

(ii) be vicariously liable for any breach of such obligations by a Permitted Person, and shall enforce such obligations at its own expense upon the Company's request.

15.3 The obligations contained in this Clause 15 shall survive the termination or expiry of this Agreement for a period of five (05) years, save that Information constituting a trade secret, or Information relating to Sovereignty Requirements, national security, or classified or controlled Government information, shall remain protected without limitation of time.

15.4 The confidentiality obligations of the Successful Bidder under this Clause 15 shall not apply to any Information which:

(i) at the time of receipt or generation by the Successful Bidder: (a) is in the public domain or thereafter becomes part of the public domain other than in consequence of a breach of this Agreement; or (b) is lawfully already in the possession of the Successful Bidder without limitation on disclosure, as evidenced by its written records existing on the date of receipt, or subsequently becomes free of such limitation otherwise than in consequence of a breach of this Agreement;

(ii) was lawfully obtained by the Successful Bidder from a person (other than the Company) under no obligation of confidentiality to the Company in respect thereof;

(iii) the Successful Bidder is required to disclose by applicable law, regulation, court order, or a competent judicial, governmental, or other authority, provided that the Successful Bidder shall, as soon as possible, notify the Company thereof and shall disclose only that portion of the Information necessary to comply with the relevant requirement;

(iv) the Company has approved for release by written authorization; or

(v) the Successful Bidder wishes to disclose to its professional advisers in connection with the interpretation or operation of this Agreement or any dispute arising therefrom, provided that the Successful Bidder shall ensure such advisers are aware of and comply with this Clause 15 and shall be responsible for any breach by such advisers.

15.5 The Successful Bidder shall not, without the prior written consent of the Company, disclose to any third party the nature or content of this Agreement or the Deliverables, and shall fully indemnify and hold harmless the Company against all losses, costs, damages, claims, penalties and expenses (including legal fees on an indemnity basis) arising from any breach of this Clause 15.

15.6 The Parties acknowledge and agree that the Non-Disclosure Agreement ("NDA") attached as **Appendix G** forms an integral part of this Agreement and shall be read and construed as if fully incorporated herein. The NDA is a unilateral confidentiality agreement applicable exclusively to the Successful Bidder. The Company enters into this Clause 15 and the NDA solely in its capacity as the implementing and governing entity of the Project, being a company established under Section 42 of the Companies Act, 2017 operating under the administrative oversight of the Ministry of Information Technology & Telecommunication (MoITT), and shall not owe, and is not bound by, any reciprocal obligation of confidentiality, non-use, indemnity, or liability under this Clause 15 or the NDA.



 

15.7 Without prejudice to the obligations contained in Appendix G,

i. The Successful Bidder shall promptly notify the Company of any actual or suspected unauthorized access, disclosure, loss, compromise, or Incident affecting Confidential Information, Project Data, or any component of the AI Infrastructure, and shall take all necessary steps to mitigate and remedy the effects thereof.

ii. The Successful Bidder shall not transfer, store, process, disclose, or permit access to Confidential Information or Project Data outside Pakistan without the prior written approval of the Company.

iii. In the event of any inconsistency between this Clause and Appendix G, the provision imposing the higher standard of confidentiality, protection, security, or non-disclosure on the Successful Bidder shall prevail. Nothing in this sub-clause shall be construed to impose any obligation on the Company inconsistent with Clause 15.9 below.

15.8 For the avoidance of doubt, notwithstanding anything to the contrary contained in this Clause 15, the NDA, or any other provision of this Agreement, the Company shall have no obligation of confidentiality, non-use, non-disclosure, indemnity, or liability of any nature whatsoever, whether to the Successful Bidder or to any third party, in respect of any Information, Deliverables, or Project-related information. The Company retains the unrestricted right, without liability to the Successful Bidder, to use, retain, reproduce, adapt, disclose, publish, share, or otherwise deal with any such Information for purposes of: (a) governance, oversight, monitoring, and audit of the Project by the Company, MoITT, or any other competent Government authority; (b) compliance with applicable law, including the Right of Access to Information Act, 2017 (or any successor legislation), the PPRA Rules, and directions of the National Assembly, Senate, or any parliamentary committee; (c) reporting to, and disclosure before, the Board of the Company, PMAC, or any Government forum; and (d) any other public, regulatory, oversight, or statutory function of the Company.

## 16. TERM, SUSPENSION, AND TERMINATION

### 16.1 TERM

This Agreement shall commence on the Effective Date and shall continue for a period comprising:

- The Deployment Phase: Six (06) months from the Effective Date for procurement, deployment, commissioning, and initial operation phase; and
- The Continued Operations Support Period: thirty-six (36) months after the Deployment Phase.

Any extension (up to 2 year) of the Term shall be subject to Company approval and applicable public procurement rules. In case this Agreement is not renewed after completion of the Project, Successful bidder shall transfer its all Asset/s and operations fully to Company.

16.2 <u>Suspension</u>

a. Grant may be suspended in whole or in part in any of the following situations by the Company;

(i) when Successful Bidder has/have materially failed to comply with the terms and conditions of this Agreement and fails to remedy such defect after 60 days of written notice (“Suspension Notice”);

(ii) when the Company has other reasonable cause relating to proven corruption, fraud, bankruptcy, misuse of funds and any other material breach;

(iii) when the Company *prima facie* believes that there has been ‘misconduct’ in relation to the Grant;

b. Provided that the action to suspend or terminate the Grant, by the Company, will be taken only after Successful Bidder has/have been informed in period of 60 days or otherwise by the Company of the proposed action, or informed of any deficiency on its/their part and given an opportunity to correct it. Suspension would be revoked after satisfactory response submitted by the concerned Successful Bidder and accepted by Company. The Company, however, may immediately suspend or terminate the Grant with respect to such Successful Bidder responsibility without notice when it believes such action is reasonable to protect the interests of the Company and or the Government.

c. No costs incurred during a suspension period or after the effective date of a termination will be allowable, except those costs which, in the opinion of the Company, the concerned Successful Bidder could not reasonably avoid or eliminate, or which were otherwise authorized by the suspension or termination notice, provided such costs would otherwise be allowable under the terms of the Grant.

16.3 Termination

16.3.1 Automatic Termination

This Agreement, except for those provisions which, by their own terms, extend beyond the Term, shall terminate upon the latter of the following events:

(i) the completion of all Deliverables ("Appendix C") as detailed in the Project Portfolio, duly certified / approved by the Company; or

(ii) the final disbursement of sums under the Grant.

(iii) Expiry of the Term of this Agreement

16.3.2 Termination by mutual consent

This Agreement shall also terminate where (i) both Parties mutually agree to terminate the Agreement in writing, or (ii) upon the continuance of an event of Force Majeure in terms of Clause 15.

16.3.3 Termination for material breach

(i) The Company may, by issuing a written notice of termination, terminate this Agreement forthwith if Successful bidder:

a. Is/are in material breach of any of its/their obligations under this Agreement, which breach, if capable of remedy, is not cured by Successful bidder within a period of thirty (30) days after receipt of a written notice by the Company noting the breach and demanding remedy thereof; or

b. is in non-compliance with the ToRs under the RFP;

c. has/have delayed the performance or delivery of any Deliverable beyond sixty (60) days of the due date thereof under the Project Portfolio, provided such delay is not attributable to an event of Force Majeure or has not been consented to in writing by the Company; or

d. has made an application made under the applicable laws in respect of itself to the Court for the appointment of an Administrator or liquidator; has a winding up order made or a resolution for a voluntary winding up passed or a receiver or manager of its business or undertaking appointed.

(ii) Successful Bidder may, by issuing a written notice of termination, terminate this Agreement forthwith if the Company:

a. is in material breach of any of its obligations under this Agreement which breach, if capable of remedy, is not cured by the Company within a period of ninety (90) days after receipt of a written notice by the Successful Bidder noting the breach and demanding remedy thereof;

b. delays, without cause, the release of any disbursement of the Grant beyond ninety (90) days of the due date of payment thereof in accordance with ***Appendix D***, provided such delay is not attributable to an event of Force Majeure or has not been consented to in writing by Successful Bidder; or

c. has made an application made under the applicable laws in respect of itself to the Court for the appointment of an Administrator or liquidator; has a winding up order made or a resolution for a voluntary winding up passed or a receiver or manager of its/their business or undertaking appointed.

16.4 Notwithstanding anything contained in this Agreement, if this Agreement is terminated by the Company due to a material breach arising from any fraud, fraudulent misrepresentation, corruption, wilful misconduct, gross negligence, bad faith, or other malicious or unlawful act or omission ("Fraud Activity") committed by the Successful Bidder, its personnel, consortium members, subcontractors, agents, or representatives, the Successful Bidder shall, without prejudice to any other rights or remedies available to the Company under this Agreement or applicable law, immediately refund all Grant amounts disbursed and utilised in connection with or affected by such Fraud Activity, indemnify and hold harmless the Company against all resulting losses, damages, liabilities, costs, expenses (including legal and forensic investigation costs), claims, and penalties, and remain liable for any other remedies available to the Company, including recovery of damages, suspension of payments, debarment from future procurements (*where applicable*), and referral to the competent authorities.

16.5 Termination of this Agreement shall be in addition to, and not in substitution for, any other remedies that may be available to the Party serving such notice, and any termination of this Agreement by the exercise of such right shall not relieve any Party from any obligations accrued prior to the date of such termination or relieve the Party in default from liability and damages for breach of this Agreement.

16.6 Consequences of Termination

In the event of termination of this Agreement for any reason mentioned hereinabove:

(i) the obligation of the Company to release any disbursement under the Grant shall terminate, provided that, the Company shall remain responsible to make payments due and outstanding for the Deliverables (draft or final) performed and delivered to the Company up to the date of termination unless such Deliverables, in the opinion of the Company , after due diligence reasonably exercised, are not meaningful or incapable of use on their own without the completion of the remaining Deliverables under the Project;



 

(ii) subject to clause (i) above, Successful Bidder shall forthwith refund any sums disbursed under the Grant which have not been accounted towards a Deliverable (draft or final) accepted by the Company;

(iii) Successful Bidder shall provide accurate and updated accounting records detailing all sums received under the Grant and their application towards the various activities comprised in the Project Portfolio;

(iv) Successful Bidder shall forthwith return all Information provided by the Company and provide a written undertaking that no copies or other reproductions of the Information have been retained;

(v) Successful Bidder shall execute and deliver all licenses, assignments, deeds and instruments as may be necessary to comply with the provisions of Clause 11 to the extent of any Developed IPR or Existing IPR in relation thereto capable of legal recognition up to the date of termination and shall forthwith cease to use or make use of the Developed IPR;

(vi) Successful Bidder shall cease all contact with third parties on Company's behalf or in relation to the Agreement and notify the Company (with details) of the then current status of all work-in-progress. Successful Bidder shall, upon request, co-operate with and afford the Company all such assistance as the Company may reasonably require to procure, where possible, the completion of the Project by a third party;

(vii) The Successful Bidder shall provide transition assistance for up to ninety (90) days after termination occur owing to fault or breach or negligence of Successful bidder at no additional cost to the Company, including full cooperation with any successor provider**,** including but not limited to transfer of operational knowledge, access to documentation, and reasonable consultation, to ensure uninterrupted operation of Project;

(viii) If this Agreement is terminated by the Successful Bidder for the Company's material breach, the Successful Bidder shall provide transition assistance for up to ninety (90) days at standard daily rates *as determined between the Parties before signing of this Agreement*, which shall not exceed the effective daily rate under this Agreement. The Company shall pay for all approved assistance within ninety (90) days of invoice;

(ix) If agreement is terminated by mutual consent or due to prolonged Force Majeure the Successful Bidder shall provide transition assistance for up to ninety (90) days **at** standard daily rates *as determined between the Parties before signing of this Agreement*, which shall not exceed the (50 %) effective daily rate under this Agreement. The Company shall pay for all approved assistance within ninety (90) days of invoice; and

(x) The following provisions shall survive termination: Clause 6, Clause relating to Audit, Clause relating to IPR, Clause relating to Confidentiality, Clause relating to dispute resolution), clause relating to Indemnification and this Clause 16.5.

## 17 PERSONNEL

### 17.3 <u>**The Key Personnel**</u>

17.3.3 For the purpose of this Agreement Key Personnel means and defined in the RFP and proposed by SUCCESSFUL BIDDER in the Project Proposal, with mentioned qualifications, skill and experience.

17.3.4 SUCCESSFUL BIDDER shall ensure that the Deliverables are performed personally by the Key Personnel and that they observe and are bound by all provisions of this Agreement.

17.3.5 SUCCESSFUL BIDDER shall not change or replace any of the Key Personnel without the prior consent in writing of the Company, provided that, the Company shall be entitled to withhold its consent where the proposed change is likely, in the reasonable opinion of the Company, to have an adverse impact on the quality or timely completion of the Deliverables.

## 17 .GENERAL

17.1 The Company shall, subject to prior consultation with SUCCESSFUL BIDDER, have the right to object, by written notice to SUCCESSFUL BIDDER, to the involvement of any person engaged by SUCCESSFUL BIDDER for the Project, as outlined in Appendix 'A', who, in the Company's reasonable opinion, is guilty of misconduct, or is incompetent or negligent in the performance of the Deliverables and SUCCESSFUL BIDDER shall forthwith remove such person from the Project and provide an appropriate replacement and that person shall not be again used on the Project without the prior written consent of the Company.

17.2 Where SUCCESSFUL BIDDER provides any replacement personnel, it shall notify the Company immediately with details of the replacement for approval, which approval shall not be unreasonably withheld or delayed.

17.3 SUCCESSFUL BIDDER shall ensure that all personnel used in the performance of the Deliverables shall be either engaged under a contract of services or an employment arrangement between SUCCESSFUL BIDDER and the personnel and that no relationship of employer and employee or any privity of contract is created between the Company and such personnel. Accordingly:

i) SUCCESSFUL BIDDER shall be fully responsible for all acts, defaults or neglects of such personnel;

ii) no such person shall be entitled to any such pay or benefit, holiday pay, any pension, bonus or other fringe benefits or any other advantage or privilege enjoyed by employees of the Company. SUCCESSFUL BIDDER shall ensure that each such person is fully aware of and agrees to the provisions of this Agreement and SUCCESSFUL BIDDER shall indemnify the Company in respect of any claims that may be made to the contrary; and

iii) SUCCESSFUL BIDDER to the extent of their liability/liabilities shall fully indemnify the Company from and against any payment required to be made by the Company, if any, to such personnel under statute, contract or common law as a consequence of such person's employment being terminated or his terms and conditions of employment being adversely changed as a result of:

(a) a reduction in the scope of the work under the Project;

(b) the termination of the Agreement; or

(c) the termination of any employment of any such person.

17.4 Successful Bidder shall immediately upon becoming aware of any potential or otherwise 'misconduct' relating to the Grant and/or the Project, intimate the Company, along with a report of such 'misconduct'. The Company shall thereafter undertake measures to review the situation and proceed further in light of applicable policy, guidelines and this Agreement.

## 18. FORCE MAJEURE

**a.** If any Party to this Agreement is prevented or delayed in the performance of any of its obligations under this Agreement by an event of Force Majeure and if such Party gives written notice thereof to the other party, promptly and without delay and in any case within two (2) working days of the occurrence of the event of Force Majeure or the affected Party becoming aware thereof, specifying the matters constituting the event of Force Majeure together with such evidence as it reasonably can give and specifying the period for which it is estimated that such prevention or delay will continue**,** then the Party so prevented or delayed shall be excused the performance as from the date of such notice for so long as such cause or delay shall continue and the respective dates for performance set out in the Project Portfolio shall be extended on a day-for-day basis during the continuance of the event of Force Majeure. If the event of Force Majeure continue to have effect for a period of more than ninety (90) days the Party not claiming relief under this Clause shall have the right to terminate this Agreement upon giving a notice of termination to the other Party, such notice to take effect fourteen (14) days after the date thereof, but such notice shall not take effect if the Party claiming relief gives notice within that period that the event of Force Majeure has ceased and that it is capable of resuming its performance under this Agreement.

b. For the purposes of this Agreement, "event of Force Majeure" means any event or circumstance, or combination of events or circumstances, that that is beyond the reasonable control of a Party that materially and adversely affects the performance by that Party of its obligations under or pursuant to this Agreement or a Party is rendered wholly or partly unable to perform its obligation under this Agreement in a timely manner because of an event of Force Majeure that Party shall be excused from the performance of such obligation affected by the event of Force Majeure. In particular, events of Force Majeure shall include, but not be limited to, invasion, act of terrorism, war, threat of or preparation for war, fire, explosion, storm, flood, cyclone, typhoon, tornado, earthquake, subsidence, epidemic, pandemic or other natural physical disaster , provided that Force Majeure shall not include lack of financial means, government inaction, increase in costs, labour shortages, failure of subcontractors or suppliers, equipment shortages, licensing issues, delay in obtaining permits, market conditions or any event that could have been reasonably foreseen and mitigated by the affected Party.

## 19. RESOLUTION OF DISPUTES

**a. <u>Mediation by Expert</u>**

i. All disputes which shall at any time arise between the Parties hereto in relation to or in any manner connected with this Agreement ("**Dispute**") shall, in the first instance, be resolved amicably through negotiation;

ii. In the event the parties do not reach an acceptable resolution of the Dispute, any Party may, within twenty-one (21) days of such negotiations, issue a written notice of the Dispute ("**Dispute Notification**") to the other Party/ Parties along with request for mediation by an Expert. A Dispute Notification shall be effective once given and shall not be questioned by the Party/ Parties for the reason that attempts at internal resolution by the officials or representatives of the Parties are being undertaken. Subject to Clause 17.1.4 mediation by an Expert shall be a condition precedent to any arbitration or other legal proceedings by a Party for the resolution of the Dispute.

iii. An "**Expert**" means the persons accredited as Mediators under the applicable law such as Alternative Dispute Resolution Act, 2017 or a person with appropriate qualifications and experience in the field of information and communications technology.

iv. Within ten (10) days of issuance of the Dispute Notification, the Parties shall jointly agree upon and select an individual to act as the Expert under this Agreement. However, in the event that the Parties are unable to agree upon an Expert acceptable to the Parties, within the aforementioned time period, the process of mediation under this Clause 19.1 shall terminate and the affected Party/Parties shall be free to initiate arbitration proceedings against the Party/Parties under Clause 19.2 hereunder.

v. The Parties shall promptly furnish to the Expert all information reasonably requested by such Expert relating to the particular Dispute. The Expert shall be required by the Parties to use all reasonable endeavors to render his decision within thirty (30) days following the referral of the Dispute to him. In the event of any Party's failure or refusal to furnish the information promptly to enable the Expert to give his decision within the afore-said time limit, the Expert shall note such refusal or failure and shall base his decision on the information made available, provided that, genuine reasons (as determined by the Expert) for the inability of a Party to furnish the requested information shall not be a cause for adverse inferences by the Expert against such Party. The Parties shall co-operate fully with the Expert to achieve a determination within the afore-said period of thirty (30) days.

vi. Each Party shall bear its own costs incurred in the process of mediation, provided that, the fees of the Expert shall be equally borne by the Parties.

vii. Notwithstanding the existence of any dispute, controversy, or claim arising out of or relating to this Agreement, each Party shall continue to perform all its obligations under this Agreement that are not directly the subject of the dispute.

**20. <u>Arbitration</u>**

If the Parties cannot agree upon the selection of an Expert under Clause 19.1.4, hereinabove or a Party is dissatisfied with the decision of the Expert, such Party may refer the Dispute for resolution through arbitration by a sole arbitrator appointed with the consent of the Parties or, if the Parties cannot agree on the appointment of a sole arbitrator, then by two arbitrators, one to be appointed by each Party and, in case of disagreement between them, by an umpire who shall be appointed by the said two arbitrators before entering on the reference. The decision of the arbitrators or the umpire, as the case may be, shall be final and binding upon the Parties. The place of arbitration shall be Islamabad and shall be held in all respects in accordance with the Arbitration Act, 1940 or any statutory modification or re-enactment thereof Each Party shall bear its own costs of arbitration.

**21. MISCELLANEOUS**

a. <u>Publicity / Media Releases</u>

No publicity releases, including news releases relating to this Agreement and the Project shall be issued by Successful Bidder or by any person on its behalf without the prior written approval of the Company, which shall not be unreasonably withheld.

**b.** Remedies Cumulative

The specific remedies detailed in this Agreement shall be in addition to and not in derogation of any other remedies provided in law or equity.

c. Notices

All notices, waivers, demands, requests and other communications required or permitted by this Agreement (collectively, "Notices") shall be in writing and given as follows by (a) personal delivery, (b) established overnight commercial courier with delivery charges prepaid or duly charged, (c) registered or certified mail, return receipt requested, first class postage prepaid or (d) by electronic mail with a confirmation copy delivered by another method. All Notices shall be addressed to the applicable addresses for the Addressee or to any other address or addressee as any Party entitled to receive Notices under this Agreement shall designate, from time to time, by Notice given to the others as stated herein. Notices shall be deemed "delivered" upon the date of receipt or refusal, except that whenever under this Agreement a notice is either received on a day which is not a Business Day or is required to be delivered on or before a specific day which is not a Business Day, the day of receipt or required delivery shall automatically be extended to the next Business Day; it being expressly agreed and understood that in the case of electronic mail, such notice shall be deemed "delivered" upon the date such electronic mail is sent to the applicable addresses entitled to receive Notices under this Agreement.

For Purposes of serving valid notices – the Parties agree that the official addresses of each Party and their designated representatives to whom such notices are to be addressed are as follows:

**IGNITE(Company)**

Name: ___________________
Designation:
Address: Ignite, 3rd Floor, TF Complex, 7 Mauve Area, G-9/4, Islamabad
Phone No. +92 51 9107444
Email Address. _________________________________

Successful Bidder

_______________________________
_______________________________
_______________________________

d. A notice or communication given pursuant to this Agreement shall be deemed to be served and received by the addressee:

(i) if delivered by hand, at the time of delivery; or

(ii) if sent by registered post, courier or other postal service, within five (05) days of dispatch or posting; or

(iii) if transmitted by email or facsimile, the business day following transmission by telex or by facsimile.

**e.** Waiver

Any failure to enforce at any time or for any period any one or more of the terms or conditions of this Agreement shall not be a waiver of them or of the right at any time subsequently to enforce all terms and conditions of this Agreement.

**f.** Severability

In the event that any provisions of this Agreement is declared by any judicial or other competent authority to be void, voidable, illegal or otherwise unenforceable, such provisions shall be deemed amended in such reasonable manner as would achieve the intention of the Parties as closely as possible to the original intent or, at the discretion of the Party affected thereby, may be severed from this Agreement and the remaining provisions shall remain in full force and effect.

## 22. AMENDMENT:

All addition amendments and variations to this Agreement shall be binding only if in writing and signed by duly authorized representatives of the Parties.

**a.** Sufficiency of this Agreement

The Agreement set forth the entire agreement and understanding between the Parties as to the subject matter of this Agreement and merge all prior discussion between them and neither of the Parties shall be bound by any conditions, definitions, warranties or representations with respect to the subject matter of this Agreement other than as expressly provided in this Agreement or subsequent to the date hereof set in writing and signed by a proper and duly authorized representative of the Party to be bound thereby. This Agreement supersede any prior agreement between the Parties whether written or oral and any such prior agreement is cancelled as at the Effective Date.

b. Governing Law and Jurisdiction

This Agreement shall be governed by the laws of Pakistan and the Parties consent to the jurisdiction of the Courts at Islamabad.

c. Time of the essence

Time shall be of the essence for all performances by a Party where a time limit for the relevant performance is stipulated in this Agreement.

d. Further Assurances

Each Party shall do all things necessary (including, but not limited to, executing all documents) as may be required to give effect to this Agreement.

e. Assignment

Neither Party may assign this Agreement and the rights and/or obligations arising out of this Agreement without the prior consent in writing of the other Parties.

f. Successors

This Agreement shall be binding on the heirs, personal and legal representatives, estate, successors-in-title and permitted assigns (where applicable) of the Parties.

g. Independent Contractors

The Parties are independent contractors. Nothing contained in this Agreement shall constitute or to be deemed to constitute a partnership, or a principal / agent relationship between the Parties and none of the Parties shall have any authority to bind or commit the other save as authorized by this Agreement.

h. Assumption of Responsibility and Indemnity

i. Successful Bidder shall be responsible and shall defend, indemnify and hold the Company, its officers, employees and agents harmless from and against any and all liability, loss, damages, expense, costs, fees, charges (including reasonable lawyer's fees) or claims for personal injury or death, caused by or arising out of the negligent or intentional acts or omissions or material breach of this Agreement by such Party, its officers, agents, employees or independent contractors employees in connection with this Project. For avoidance of doubt, each Party's liability under this Clause shall be limited to matters arising from its own acts or omissions and shall not extend to acts or omissions of any other Successful Bidder.

ii. Successful Bidder shall be solely liable for and indemnify the Company against any and all tax liabilities connected to the Project, including, but not limited to withholding tax or any other applicable taxes that may be imposed by the tax authorities in relation to the payments made to the specified individuals engaged for the Project, and hold the Company harmless from and against any and all claims, losses, damages, liabilities, costs, and expenses (including, without limitation, reasonable attorneys' fees and expenses) arising out of or in connection with the imposition of such taxes.

iii. Notwithstanding anything to the contrary contained in this Agreement, the liability of Successful Bidder arising out of or in connection with this Agreement, including under any indemnity, whether in contract, tort (including negligence), strict liability or otherwise, shall be limited to this Project.

i. Counterpart

This Agreement may be executed in two (02) or more counterparts each of which shall be considered one and the same Agreement and each of which shall be deemed an original.



**IN WITNESS WHEREOF** the Parties hereto have executed this Agreement on the dates written below:

| | |
|---|---|
| **SIGNED FOR & ON BEHALF OF THE COMPANY** | **SIGNED FOR & ON BEHALF OF** SUCCESSFUL BIDDER |
| By: | By: |

| | |
|---|---|
| Title: Chief Executive Officer | Title: CEO/MD/Head |
| CNIC: | CNIC: |
| Date: ___/___/2026 | Date: ___/___/2026 |

| | |
|---|---|
| **Witness - 1** | **Witness – 1** |
| Name: ________________________ | Name: _______________________ |
| Designation: ____________________ | Designation: ___________________ |
| Signature: _____________________ | Signature: _____________________ |
| CNIC: ______-__________-___ | CNIC: ______-__________-___ |
| **Witness - 2** | **Witness – 2** |
| Name: ________________________ | Name: _______________________ |
| Designation: ____________________ | Designation: ___________________ |
| Signature: _____________________ | Signature: _____________________ |
| CNIC: ______-__________-___ | CNIC: ______-__________-__ |

# SCHEDULE [●]

# SERVICE LEVEL AGREEMENT

**annexed to and forming an integral part of the Agreement for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH), between Ignite – National Technology Fund ("the Company") and [SUCCESSFUL BIDDER NAME] ("the Successful Bidder")**



***Note – 1:*** *Any* ***stamp duty, registration fee, tax, levy, charge, or any other statutory payment, if applicable, arising out of or in connection with the execution, registration, performance, or enforcement of this Agreement, shall be borne solely by the Service Provider/Vendor/Supplier (Successful Bidder) or such other contracting party, as applicable. Ignite shall have no liability whatsoever for any such duty, fee, tax, levy, charge, cost, or expense.***

***Note – 2: This Agreement is a draft and subject to modifications/revisions in terms and conditions based on negotiations with the successful bidder at the time of award. Bidders are advised to rely solely on the Terms of Reference (TOR) and instructions provided in this RFP for the preparation and submission of their bids****.*

# DRAFT SERVICE LEVEL AGREEMENT

## 1. Preamble and Purpose

**1.1** This Service Level Agreement ("SLA") is a Schedule to, and forms an integral and binding part of, the Agreement for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH) dated [●] (the "Agreement") between Ignite – National Technology Fund ("the Company") and [●] ("the Successful Bidder"), each as defined in the Agreement.

**1.2** This SLA gives contractual effect to Clause 31 (Operationalisation, Warranty, Support & Maintenance) and Clause 32 (Draft Service Level Agreement Schedule) of Part B (Terms of Reference) of the Request for Proposal for the NAIIH AI Infrastructure Project (the "RFP"), together with the related obligations of Part B Sections 28 (Colocation, Facility & Physical Hosting), 29 (Delivery, Integration & Programme Management), the Cross-Cutting Capabilities Part (Security, Governance & Compliance, Monitoring & Logging), and Section 33 (Performance Measurement: Successful Bidder KPIs & Programme Indicators), each as incorporated into the Agreement.

**1.3** This SLA sets out the binding minimum service levels, warranty, support and maintenance obligations, acceptance framework, availability and disaster-recovery targets, hardware replacement commitments, monitoring and reporting obligations, governance mechanisms, service credits and remedies, and KPI framework applicable to the Successful Bidder's performance of the Services for the full Term of the Agreement, including any extension.

**1.4** The targets stated in this SLA are binding minimums. The Successful Bidder's Proposal may commit to superior service levels; where it does, those superior levels are deemed incorporated into this SLA and are binding in place of the corresponding minimum stated below.

## 2. Definitions and Interpretation

**2.1** Capitalised terms used but not defined in this SLA have the meanings given to them in the Agreement and the RFP. In addition, for the purposes of this SLA:

| Term | Meaning |
|---|---|
| "Agreement" | Means an "Agreement for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH) dated [●] (the "Agreement") between Ignite – National Technology Fund ("the Company") and [●] ("the Successful Bidder")." |
| "Availability" | means the percentage of a Measurement Period during which the relevant Service is available for productive use, measured in accordance with Clause 9 (Service Availability), and excluding Scheduled Maintenance and Excused Downtime. |
| "CAB" or "Change Advisory Board" | means the joint change-governance body established under Clause 15.3 to review and approve significant or high-risk changes to the Ecosystem. |
| "Complete Operationalisation" | means the later of Operational Acceptance and Sovereign-Model Acceptance, being the commencement date of the Managed Operations Term. |
| "Delivery Acceptance", "Operational Acceptance", "Sovereign-Model Acceptance" and "Final Operational Handover" | have the meanings given in Clause 5 (Acceptance Framework). |

| Term | Meaning |
|---|---|
| “Ecosystem” | means the NAIIH AI Infrastructure and all Layers 1 through 6, cross-cutting capabilities, and facilities described in Part B of the RFP, collectively. |
| “Excused Downtime” | means unavailability directly and solely caused by: (a) Scheduled Maintenance performed in accordance with Clause 7.2; (b) Force Majeure under Clause 20; (c) an act or omission of the Company or its authorised third parties outside the reasonable control of the Successful Bidder; or (d) a failure of Company-provided infrastructure, power, or connectivity not within the Successful Bidder's scope of responsibility under the Agreement. |
| “Managed Operations Term” | means the period of not less than three (3) years commencing on Complete Operationalisation during which the Successful Bidder shall operate the Ecosystem as a managed service under Clause 13, extendable or renewable at the Company's sole option on the terms of Clause 18. |
| “Measurement Period” | means each calendar month, unless a different period is stated against a specific target in this SLA. |
| “Resolution Time” | means the elapsed time from the initial Response to an Incident until the Incident is resolved or a workaround acceptable to the Company is implemented, measured per Severity Level in accordance with Clause 8. |
| “Response Time” | means the elapsed time from the logging of an Incident by the Successful Bidder's single point of contact until a qualified engineer engages with the Incident, measured per Severity Level in accordance with Clause 8. |
| “RPO” or “Recovery Point Objective” | means the maximum tolerable period for which data may be lost as measured from the point of an incident to the most recent valid backup or replica, as set out in Clause 11. |
| “RTO” or “Recovery Time Objective” | means the maximum tolerable duration within which a Service must be restored following a declared disaster, as set out in Clause 11. |
| “Scheduled Maintenance” | means planned maintenance performed within an agreed Maintenance Window under Clause 7.2, of which the Company has received not less than five (5) Business Days' prior written notice (or such shorter period as the Company may approve for urgent security patching). |
| “Service Credit” | means the financial remedy payable or credited by the Successful Bidder to the Company for a failure to meet a Service Level, calculated in accordance with Clause 16. |
| “Service Level” | means a specific, measurable performance target set out in this SLA (including Availability, Response Time, Resolution Time, RPO, RTO, and hardware-replacement targets). |
| “Severity Level” | means the classification of an Incident (Severity 1 to Severity 4) determined in accordance with Clause 8.1. |
| “Single Point of Contact” or “SPOC” | means the 24×7×365 support desk maintained by the Successful Bidder under Clause 7.5. |

**2.2** In this SLA: (a) references to Clauses are references to clauses of this SLA unless stated otherwise; (b) headings are for convenience only and do not affect interpretation; (c) “writing” includes email; and (d) in the event of any conflict between the numbering of this SLA and the numbering of Clauses 31 and 32 of the RFP, this SLA's numbering governs for contractual purposes, and the corresponding RFP clause is cross-referenced in italics for traceability.

# 3. Relationship to the Agreement; Order of Precedence

**3.1** This SLA supplements, and shall be read together with, the Agreement (including the RFP and the Successful Bidder's Proposal, each as incorporated by reference into the Agreement). This SLA does not create obligations independent of the Agreement; it particularises the operational, technical, and service-level content of the Successful Bidder's warranty, support, maintenance, and managed-operations obligations under the Agreement.

**3.2** Where a provision of this SLA duplicates a provision of the Agreement (for example, general confidentiality, indemnification, termination, dispute resolution, or governing law), the provision of the Agreement governs and this SLA shall not be read to create a separate or inconsistent obligation. Where this SLA contains operational or technical detail not addressed in the body of the Agreement (including Severity Levels, Response/Resolution Times, Availability targets, RPO/RTO, and Service Credits), this SLA governs on that subject matter.

**3.3** In case of any conflict between this SLA and the RFP (including Clauses 31 and 32 of Part B), this SLA governs as between the Parties, provided that no provision of this SLA may reduce a minimum Service Level, warranty obligation, or remedy prescribed by the RFP below the minimum stated therein.

# 4. Scope of this SLA

**4.1** This SLA applies to the entire Ecosystem delivered and operated by the Successful Bidder under the Agreement, including without limitation:

- Layer 1 – National AI Compute Infrastructure (accelerators, interconnect and networking fabric, compute host/control-plane/data-pipeline tiers, parallel storage, infrastructure monitoring and telemetry, and infrastructure-level backup/disaster recovery);
- Layer 2 – AI Platform & Model Stack (AI software and orchestration stack, sovereign AI language model, data pipelines, tiered public inference service, and enterprise hosting capability);
- Layer 3 – Resource Orchestration & Access (identity and access management, tiered access and quota administration);
- Layer 4 – Development & Deployment;
- Layer 5 – AI Marketplace & Adoption Ecosystem, including the NAIIH User-Facing Access Portal;
- Layer 6 – Analytics, Impact & Feedback;
- the Cross-Cutting Capabilities (security, governance & compliance, monitoring & logging, integration layer, interoperability); and
- the Primary and Disaster-Recovery Co-location Facilities, to the extent of the Successful Bidder's contractual responsibility for facility service levels under Clause 12.

**4.2** This SLA applies from the date of Operational Acceptance (for warranty and support obligations generally) and, for the specific obligations of Clause 6.2 (data-pipeline and sovereign-model support), continues through Sovereign-Model Acceptance, and thereafter for the full Managed Operations Term and any extension, save that certain facility-level and hardware-delivery obligations commence from Delivery Acceptance as specified in Clause 5.

# 5. Acceptance Framework and Commencement of SLA Obligations

Acceptance is staged to reflect that the Ecosystem is delivered in phases, with usable value produced over an extended period following physical installation. The warranty and comprehensive support obligations of this SLA commence at Operational Acceptance, not at Delivery Acceptance. (RFP Clause 31.1)

## 5.1 Delivery Acceptance

**5.1.1** “Delivery Acceptance” is achieved upon successful installation, interconnection, and commissioning of the supplied infrastructure, evidenced against the acceptance-criteria catalogue agreed under the Agreement.



 

### 5.2 Operational Acceptance

**5.2.1** “Operational Acceptance” is achieved upon the Successful Bidder demonstrating that the integrated Services (compute, storage, orchestration, software stack, management platform, and the parallel-track tiered inference service) are operational and meet their stated acceptance criteria.

**5.2.2** The warranty obligations of Clause 6 and the support and maintenance obligations of Clause 7 commence on the date of Operational Acceptance and the Successful Bidder remains fully bound through the subsequent data-pipeline and Sovereign-Model phase described in Clause 5.3.

### 5.3 Data-Pipeline and Sovereign-Model Operationalisation

**5.3.1** The Successful Bidder acknowledges that establishing data partnerships, ingesting and cleansing Urdu and local-language corpora, building production data pipelines, and fine-tuning the sovereign model constitute a defined operational phase extending for a material period beyond Operational Acceptance, throughout which the Successful Bidder shall remain fully engaged and bound.

**5.3.2** The Successful Bidder shall deliver a Sovereign-Model Operationalisation Plan with milestones for data-partnership establishment, corpora ingestion and cleansing, data-pipeline production readiness, fine-tuning, and evaluation, with target durations stated, and shall provide full support, maintenance, and engineering engagement throughout this phase under the Service Levels of this SLA until the sovereign model meets its acceptance criteria.

**5.3.3** “Sovereign-Model Acceptance” is achieved upon the Successful Bidder demonstrating that the fine-tuned sovereign model meets the agreed Urdu/local-context capability criteria and the full sovereignty-transfer obligations of the Agreement (weights, training code, and datasets, with full IP assignment).

**5.3.4** The tiered open-weight inference service shall be operated and supported in parallel from its earlier launch date, so that public value is sustained while the sovereign model is under development.

### 5.4 Phased Acceptance Plan

**5.4.1** The Successful Bidder shall provide, for the Company's approval, a phased acceptance plan mapping each of Delivery Acceptance, Operational Acceptance, Sovereign-Model Acceptance, and Final Operational Handover to measurable criteria and to the payment milestones of the Agreement.

## 6. Warranty

**6.1** The Successful Bidder warrants all supplied hardware, software, integration, and facility systems against defects and non-conformance for a warranty period of not less than [●] months commencing on the date of Operational Acceptance (the “Warranty Period”).

**6.2** During the Warranty Period, the Successful Bidder shall, at no additional cost to the Company: (a) repair or replace defective hardware within the response and replacement times set out in Clause 10 (Hardware Replacement), including the provision of spares; (b) remediate software and integration defects, including by supplying updates, patches, and fixes; and (c) maintain manufacturer back-to-back warranty and authorised-channel support for all OEM components.

**6.3** The Successful Bidder's warranty obligations under this Clause 6 are without prejudice to, and additional to, its ongoing support and maintenance obligations under Clause 7, which continue for the full Managed Operations Term regardless of expiry of the Warranty Period.

## 7. Support and Maintenance

**7.1** The Successful Bidder shall provide support 24 (twenty-four) hours a day, 7 (seven) days a week, 365 (three hundred and sixty-five) days a year ("24×7×365") across all delivered Layers of the Ecosystem, with severity-tiered Response and Resolution in accordance with Clause 8.

### 7.2 Preventive and Scheduled Maintenance

**7.2.1** The Successful Bidder shall provide preventive and scheduled maintenance (including firmware, driver, and security-patch updates, and health checks) under a documented change-management process and within Maintenance Windows agreed in advance with the Company.

**7.2.2** Scheduled Maintenance shall not be counted as unavailability for the purposes of Clause 9, provided the notice and approval requirements of the definition of "Scheduled Maintenance" in Clause 2 are met. Emergency security patching required to address an active or imminent security threat may be performed on shorter notice, which the Successful Bidder shall give as soon as reasonably practicable.

### 7.3 In-Country Spares

**7.3.1** The Successful Bidder shall maintain an in-country spare-parts holding sufficient to meet the hardware-replacement Service Levels of Clause 10, with minimum stock levels for critical component classes stated in the Successful Bidder's support plan and subject to the Company's review.

### 7.4 Post-Go-Live Support Period

**7.4.1** The Successful Bidder shall provide a comprehensive post-go-live support and maintenance service under this SLA for the full Managed Operations Term, continuing community and skilling support consistent with the capacity-building obligations of the Agreement, and aligned with the transition-to-independence obligations of Clause 19 (Exit Management).

### 7.5 Single Point of Contact and Escalation

**7.5.1** The Successful Bidder shall operate a single point of contact ("SPOC") and a documented escalation matrix for all support across the integrated Ecosystem, consistent with the Successful Bidder's single-prime accountability under the Agreement, regardless of which consortium partner or subcontractor is responsible for the underlying component.

**7.5.2** The escalation matrix shall, at minimum, define escalation from the SPOC to a designated support lead, from the support lead to the programme manager, and from the programme manager to an executive sponsor of the Successful Bidder, with each escalation tier and its trigger conditions set out in the Successful Bidder's support plan approved by the Company.

### 7.6 Performance Reporting

**7.6.1** The Successful Bidder shall provide regular service-performance reporting against this SLA to the Company in accordance with Clause 14 (Monitoring, Reporting and Service Reviews).

## 8. Severity Classification and Response / Resolution Targets

**8.1** Every Incident shall be classified by the Successful Bidder, in consultation with the Company where practicable, into one of the four Severity Levels below, and shall meet not less than the Response Time and Resolution Time stated:

| Severity | Definition | Minimum Response Time | Minimum Resolution Time |
|---|---|---|---|
| Severity 1 – Critical | Complete outage or critical failure of a production Service (e.g. inference service down, cluster-wide failure, data-loss risk). | ≤ 15 minutes; continuous effort thereafter | ≤ 4 hours (resolution or workaround) |
| Severity 2 – High | Major degradation or partial outage; significant functionality impaired with no workaround. | ≤ 30 minutes | ≤ 8 hours |
| Severity 3 – Medium | Moderate impact; functionality impaired with an available workaround. | ≤ 2 hours | ≤ 2 Business Days |
| Severity 4 – Low | Minor issue, query, or cosmetic defect; no material service impact. | ≤ 1 Business Day | ≤ 5 Business Days |

**8.2** "Continuous effort" for a Severity 1 Incident means the Successful Bidder shall engage qualified engineering resources without interruption, including outside normal business hours, until resolution or an acceptable workaround is implemented, and shall provide the Company with status updates at intervals of not more than thirty (30) minutes until resolution.

**8.3** Where the Company disputes the Severity Level assigned by the Successful Bidder, the Company's classification shall apply pending resolution through the escalation matrix of Clause 7.5, and the Successful Bidder shall not delay its response pending that resolution.

**8.4** These targets apply to Incidents across all Layers of the Ecosystem, and are without prejudice to the more specific facility remote-hands Severity-1 response target of Clause 12.3.

## 9. Service Availability

**9.1** The Successful Bidder shall meet, for each service class, not less than the minimum Availability stated below, measured over each Measurement Period and excluding Excused Downtime:

| Service Class | Minimum Availability | Measurement Basis |
|---|---|---|
| Core platform & compute | ≥ 99.9% monthly | Excluding agreed Maintenance Windows |
| Tiered inference service | ≥ 99.9% monthly | Per-service measurement |
| AI marketplace portal | ≥ 99.5% monthly | Per-service measurement |
| Hosting facility (Primary and DR) | ≥ 99.982% annual | Facility-level (Tier III-class), per Clause 12 |

**9.2** Availability for each service class shall be calculated as: Availability (%) = [(Total Minutes in Measurement Period − Downtime Minutes) ÷ Total Minutes in Measurement Period] × 100, where "Downtime Minutes" excludes Excused Downtime.

**9.3** The Successful Bidder shall provide system-derived, independently verifiable Availability data to the Company for each service class, sourced from the monitoring and telemetry capability required under the Agreement (infrastructure monitoring under Layer 1 and service-level monitoring under Layer 6), and the Company shall have audit access to the underlying monitoring data at all reasonable times.

**9.4** Where the Successful Bidder's Proposal commits to Availability targets superior to the minima in Clause 9.1, the superior targets in the Proposal shall govern for the corresponding service class.

## 10. Hardware Replacement

**10.1** The Successful Bidder shall meet not less than the following minimum on-site hardware replacement targets, measured from the time of diagnosis of the fault, drawing on the in-country spares holding required under Clause 7.3:

| Component Class | Minimum Replacement Target | Basis |
|---|---|---|
| Critical components (accelerator node, storage, fabric) | On-site replacement ≤ 24 hours from diagnosis | From in-country spares |
| Standard components | On-site replacement ≤ 48 hours from diagnosis | From in-country spares |

**10.2** Where a hardware defect is diagnosed but the affected component remains covered by manufacturer warranty, the Successful Bidder remains responsible for meeting the replacement targets of this Clause 10 from its own spares holding pending any OEM warranty claim or replacement, and shall not treat OEM lead times as an excuse for missing a replacement target.

## 11. Backup, Disaster Recovery and Business Continuity

**11.1** The Successful Bidder shall provide a backup architecture for system state, configurations, datasets, and model artefacts, with defined retention, and infrastructure-level disaster-recovery mechanisms operating across the Primary and Disaster-Recovery facilities.

**11.2** The Successful Bidder shall meet not less than the following minimum RPO and RTO targets:

| Service Tier | Minimum RPO (data loss) | Minimum RTO (service restoration) |
|---|---|---|
| Critical services (sovereign model state, core platform, inference) | ≤ 15 minutes | ≤ 4 hours to the secondary site |
| Standard services (marketplace, developer, analytics) | ≤ 1 hour | ≤ 8 hours |
| Bulk / archival data | ≤ 24 hours | ≤ 24 hours |

**11.3** The Successful Bidder shall conduct scheduled disaster-recovery failover testing not less than annually, with documented results provided to the Company, and shall remediate any deficiency identified in such testing within a reasonable period agreed with the Company.

**11.4** Facility-level disaster recovery (siting, replication distance, and facility failover) is governed by Clause 12.4 (Colocation and Facility Service Levels); this Clause 11 addresses data and system-level protection operating across those sites.

## 12. Colocation and Facility Service Levels

**12.1** The Primary and Disaster-Recovery facilities shall each be certified to Uptime Institute Tier III, TIA-942 Rated-3, or an independently audited equivalent, for the constructed and operational facility (not design-only), and shall be concurrently maintainable (N+1 power and cooling), with any single power path, cooling unit, UPS, or generator maintainable or replaceable with zero IT-load downtime.

**12.2** Facility Availability shall be not less than 99.982% annually, as stated in Clause 9.1, with service-credit remedies for breach in accordance with Clause 16.

**12.3** The Successful Bidder (directly or through its named colocation partner, for whose performance it remains fully accountable) shall provide 24×7×365 on-site remote-hands and smart-hands support at both facilities, with a Severity-1 response of not more than one (1) hour.

**12.4** The Disaster-Recovery facility shall be located within Pakistan and separated from the Primary facility by a distance sufficient to survive a regional event while supporting the required inter-site replication, with the failover process and RTO/RPO governed by Clause 11.

**12.5** The facilities shall operate to a power-usage-effectiveness (PUE) target of not more than 1.5 (1.4 or better preferred), reported regularly to the Company, with transparent per-circuit metered power billing.

**12.6** Both facilities shall provide multi-factor physical access control, 24×7 manned security, mantrap or airlock entry, and CCTV with not less than 90 days' retention, and a dedicated locked cage or private suite physically segregated from other tenants.

**12.7** Facility hosting terms (renewal and price-escalation caps) and exit/decommissioning arrangements (secure equipment removal and certified data destruction, with no hostage-data or punitive exit fees) shall be as set out in the Agreement and Clause 19 (Exit Management) of this SLA.

# 13. Managed Operations

**13.1** Beyond the support and maintenance obligations of Clause 7, the Successful Bidder shall operate and run the entire deployed Ecosystem as a managed service for the Managed Operations Term, being a minimum of three (3) years commencing on Complete Operationalisation, extendable or renewable at the Company's sole option on the terms of Clause 18.

**13.2** The Successful Bidder shall, throughout the Managed Operations Term:

- operate and administer all Layers of the Ecosystem on a day-to-day basis – compute, accelerators, network/fabric, storage, container orchestration, software stack, and the cluster operations and management platform – to the Service Levels of this SLA;
- operate the tiered public inference service, the enterprise hosting capability, and the AI marketplace portal, including availability, scaling, and performance management;
- operate and continuously maintain the data pipelines on an ongoing basis – ingestion, cleansing, curation, and refresh of Urdu and local-context corpora – and support continued/iterative fine-tuning of the sovereign model under the Company's direction;
- perform tenant and user lifecycle administration across the beneficiary groups – onboarding, quota/credit administration, access control, and offboarding – under the Company's tiered-access and subsidy policies;
- perform capacity, performance, and availability management against this SLA, including monitoring, tuning, and proactive optimisation;
- operate security operations (monitoring, patching, incident response) and execute backup and disaster-recovery procedures across the Primary and Disaster-Recovery sites;
- perform incident, problem, and change management, with significant changes subject to the Company's approval through the governance gates of Clause 15;

- operate jointly with an embedded Company/in-country operations team from day one, progressively transferring operational responsibility so that the in-country team can assume operations by the end of the Term, consistent with Clause 19;
- operate under the governance and approvals of the Company, escalating decisions reserved to the Company under Clause 15.2 and acting on its directions; and
- provide regular operational reporting and service reviews to the Company under Clause 14 (utilisation, availability, incidents, adoption, and impact data).

**13.3** The managed-operations service shall be separately priced by the Successful Bidder as an annual (per-year) line item in the Financial Proposal incorporated into the Agreement, covering the full minimum Managed Operations Term and any optional extension years, so that the full-term operating cost is transparent.

**13.4** At the end of the Managed Operations Term (or any earlier non-renewal), the Successful Bidder shall maintain an orderly operational handover to the in-country team or a successor, with no service disruption and no hostage-data or lock-out, in accordance with Clause 19.

# 14. Monitoring, Reporting and Service Reviews

**14.1** The Successful Bidder shall measure, evidence, and report all Service Levels using system-derived data wherever possible, independently verifiable by the Company, and reported through the governance forums of Clause 15 at the cadence stated in this Clause 14.

## 14.2 Monthly SLA Performance Report

**14.2.1** The Successful Bidder shall provide a monthly SLA performance report covering, at minimum: Availability achieved per service class against target; Incidents by Severity Level and Resolution performance against target; hardware-replacement performance; backup/DR readiness (RPO/RTO met in tests); security patch compliance; preventive-maintenance adherence; and corrective actions taken.

## 14.3 Quarterly Service Review

**14.3.1** The Successful Bidder shall hold a quarterly service review with the Company's operations management forum, covering performance against this SLA, incidents, capacity, risks, and security.

## 14.4 Quarterly Executive Review

**14.4.1** The Successful Bidder shall hold quarterly executive service reviews with the Company's governance board, covering service outcomes, adoption and impact, financials, transition progress, and the forward plan.

## 14.5 Annual Service Review

**14.5.1** The Successful Bidder shall support an annual service review assessing the year's performance, value delivered, SLA compliance, and recommendations, which shall inform any extension decision under Clause 18.

**14.6** The Successful Bidder shall maintain transparent operational records, dashboards, and audit access for the Company across all governance forums referred to in this Clause 14.

# 15. Operational Governance, Change Management and Decision Rights

**15.1** The managed operations of Clause 13 shall be governed by a joint governance structure comprising an executive governance board (chaired by the Company), a programme/operations management forum, and a technical Change Advisory Board, with terms of reference agreed at contract start.

**15.2** Strategic, policy, sovereignty, pricing/subsidy, and security-classification decisions are reserved to the Company; routine operational execution rests with the Successful Bidder within agreed policies. The Successful Bidder shall not exercise any decision right reserved to the Company.

**15.3** The Successful Bidder shall submit all significant or high-risk changes (architecture, security posture, capacity, data handling, configuration baselines) to the CAB for the Company's approval before implementation. Emergency-change procedures with retrospective approval shall be defined in the Successful Bidder's change-management plan approved by the Company.

**15.4** The Company's reciprocal responsibilities – timely approvals, provision of the embedded in-country team, access and facilities, and decisions on reserved matters – are set out in the Agreement, so that the Successful Bidder's obligations under this SLA are matched by defined Company obligations.

## 16. Service Credits, Remedies and Escalation

**16.1** Without prejudice to the Company's other rights and remedies under the Agreement, a failure by the Successful Bidder to meet a Service Level under Clauses 8 (Severity/Response/Resolution), 9 (Availability), 10 (Hardware Replacement), 11 (RPO/RTO), or 12 (Facility) shall entitle the Company to a Service Credit calculated against the relevant service charge for the Measurement Period in which the breach occurred, scaled by severity and duration of the breach, as set out in the table below.

| Service Level Category | Trigger | Illustrative Service Credit | Cap (per Measurement Period) |
|---|---|---|---|
| Availability (per service class) | Availability falls below the Clause 9.1 minimum for that service class | [●]% of the monthly managed-operations fee attributable to the affected service class, per full percentage point of shortfall | [●]% of the monthly managed-operations fee |
| Severity 1/2 Response or Resolution | Response or Resolution Time exceeds the Clause 8.1 target | [●]% of the monthly managed-operations fee per breach | [●]% of the monthly managed-operations fee |
| Hardware Replacement | Replacement exceeds the Clause 10.1 target | [●]% of the monthly managed-operations fee per breach | [●]% of the monthly managed-operations fee |
| RPO / RTO | Actual recovery exceeds the Clause 11.2 target in a live incident or failed DR test | [●]% of the monthly managed-operations fee per breach | [●]% of the monthly managed-operations fee |

*Drafting note: exact Service Credit percentages, caps, and breach thresholds are, per RFP Clause 32, reserved to the Company to finalise during contract formation and are shown here as placeholders. The mechanism, triggers, and cap structure are fixed by this SLA; only the numeric values remain to be inserted.*

**16.2** Sustained or material underperformance against any Service Level shall trigger a performance-improvement process through the governance escalation of Clause 15, with an improvement plan and deadlines agreed with the Company.

**16.3** Persistent failure to meet a Service Level after the improvement period under Clause 16.2 shall escalate through the escalation matrix of Clauses 7.5 and 15 to executive/governance intervention, without prejudice to the Company's rights under the Agreement (including termination for default).

**16.4** Cumulative Service Level and KPI achievement over the Managed Operations Term is a material input to the Company's decision on any extension or renewal under Clause 18.

**16.5** Service Credits are the Company's remedy for the specific Service Level failures to which they apply, and are without prejudice to the Company's other contractual remedies, including in respect of matters not covered by a Service Credit.

## 17. Key Performance Indicators and Consequences of Performance

**17.1** This Clause 17 gives effect to Section 33 of Part B of the RFP, which draws a deliberate distinction between (a) Successful Bidder Performance KPIs, being matters within the Successful Bidder's control, which carry the contractual consequences of Clause 17.4; and (b) Programme Indicators, being programme-level outcomes dependent on market, policy, and demand factors beyond the Successful Bidder's control, which are monitored for the Company's oversight only and carry no penalty. These two categories shall not be conflated.

### 17.2 Successful Bidder Performance KPIs

| Category | Representative KPIs | Cadence |
|---|---|---|
| Operational Performance | Platform & compute availability vs. SLA; inference and marketplace service availability; % Incidents resolved within SLA target; MTTR (critical Incidents); security patch compliance; data-pipeline operational uptime; backup success rate and DR readiness; preventive-maintenance adherence | Monthly |
| Delivery & Milestone | % milestones delivered on schedule; sovereign model delivered and accepted on schedule; full sovereignty transfer completed; Urdu/local-context capability uplift vs. target; operational readiness at each phase gate | Quarterly / Milestone |
| Capability-Transfer & Service-Management | Personnel trained/certified; train-the-trainer cadre established; in-country operations readiness enabled; curriculum accreditation; community support delivered to agreed levels; reporting delivered on time and complete; corrective-action closure within agreed time | Quarterly / Annual |

### 17.3 Programme Indicators (Monitored Only)

**17.3.1** The Successful Bidder's sole obligation regarding Programme Indicators (inference and compute pricing position vs. international rates; subsidised-access uptake; active users/adoption by tier; third-party and sovereign-model usage; marketplace listings, transactions and investor connections; economic and sectoral impact) is to operate the enabling platform and to provide accurate, timely data and reporting. Underperformance of a Programme Indicator shall not of itself be attributed to the Successful Bidder unless shown to result directly from a failure of a Successful Bidder Performance KPI under Clause 17.2.

### 17.4 Consequences of KPI Performance

- Sustained or material KPI underperformance triggers a performance-improvement process under Clause 16.2, on breach, via the governance escalation of Clause 15;
- KPI breaches corresponding to the SLA service classes of Clauses 8–12 attract the Service Credits of Clause 16, applied per the relevant cadence;
- persistent failure after the improvement period escalates through the escalation matrix of Clauses 7.5 and 15 to executive/governance intervention; and

- cumulative Successful Bidder KPI achievement is a material input to the extension/renewal decision under Clause 18, assessed at the annual service review of Clause 14.5.

## 18. Commercial Protection and Anti-Lock-In

**18.1** All recurring charges (support, managed operations, subscriptions, licences) shall be held firm for the initial Term, with any escalation in extension years capped to a pre-agreed index-linked ceiling stated in the Agreement.

**18.2** The Successful Bidder shall guarantee continuity of all software subscriptions, licences, and entitlements required to operate the Ecosystem for the full Term and any extension, with no mid-term withdrawal of entitlements that would impair operation.

**18.3** Ownership of all configurations, scripts, documentation, runbooks, and bespoke developments created for the Company shall vest in the Company, and sovereign artefacts shall be owned by the Company, consistent with the IPR provisions of the Agreement.

**18.4** The Successful Bidder shall ensure the Company is not locked into the Successful Bidder for continued operation: open or documented interfaces at layer boundaries, portable data formats, and the exit provisions of Clause 19 shall together guarantee substitutability of the operator.

**18.5** Any extension or renewal of the Managed Operations Term shall be offered on terms no less favourable than the initial term (on a like-for-like basis), at the Company's sole option, with no renewal-conditional penalties.

**18.6** The Successful Bidder shall disclose, and shall not unreasonably restrict, all third-party dependencies (licences, subscriptions, support contracts) whose lapse could affect operation, and shall assign or enable their transfer to the Company on exit where permissible.

**18.7** No foreign-controlled licence check-in, remote disablement, or external dependency shall be capable of interrupting operation of the Ecosystem under the Company's control.

## 19. Exit Management, Transition Assistance and Operational Handover

**19.1** This Clause 19 consolidates the Successful Bidder's obligations on exit – whether on expiry, non-renewal, or termination – to ensure the Company, or a successor Successful Bidder or the in-country team, can assume full operation of the Ecosystem without disruption, loss of data, or dependence on the outgoing Successful Bidder. These obligations are binding and survive termination or expiry of the Agreement.

**19.2** The Successful Bidder shall maintain, throughout the Term, an up-to-date Exit and Transition Plan, refreshed at least annually and on request, describing how operations, knowledge, and assets will be handed over.

**19.3** On exit, the Successful Bidder shall: (a) transfer complete, current operational documentation, including architecture documentation, runbooks, operational playbooks, standard operating procedures, network and configuration diagrams, and known-issue registers; (b) transfer all configurations, infrastructure-as-code, automation scripts, operational tooling configurations, and baseline definitions required to operate the Ecosystem; (c) transfer all credentials, access rights, certificates, keys, and administrative control of all systems to the Company or its nominee, and revoke its own access on completion; and (d) transfer the source code, weights, datasets, and artefacts of all sovereign components, and provide escrow or documented continuity arrangements for any proprietary third-party components necessary for continued operation.

**19.4** The Successful Bidder shall export all Company and tenant data, models, and content in open, documented, non-proprietary formats, with verified integrity and completeness, and shall securely erase such data from its own systems thereafter.

**19.5** The Successful Bidder shall provide a defined transition-assistance period (minimum to be specified in the Agreement) during which it continues to operate and/or supports the incoming operator to maintain uninterrupted service, and shall cooperate fully with, and provide reasonable assistance and information to, a successor Successful Bidder or the in-country team, including knowledge-transfer sessions and parallel-running where required.

**19.6** The Successful Bidder shall impose no hostage-data, lock-out, or withholding of any kind; the Company's data, sovereign artefacts, and operational control shall never be contingent on payment disputes or any other leverage. No punitive exit, de-installation, or data-extraction fees shall be levied; any exit-related charges shall be limited to fair, pre-agreed, cost-based amounts stated in the Agreement.

**19.7** Exit is complete upon Final Operational Handover, certified against defined criteria confirming the Company or successor can operate the Ecosystem independently with no residual dependency on the outgoing Successful Bidder.

## 20. Force Majeure

**20.1** Where a failure to meet a Service Level under this SLA arises directly from an event of Force Majeure as defined in the Agreement, and the Successful Bidder has complied with the notification and mitigation obligations of the Agreement's Force Majeure clause, the corresponding period shall be treated as Excused Downtime for the purposes of Clause 9, and no Service Credit shall accrue in respect of that period to the extent the failure is directly attributable to the Force Majeure event.

**20.2** The Successful Bidder shall resume compliance with this SLA as soon as reasonably practicable following cessation of the Force Majeure event, and shall keep the Company informed of its recovery efforts throughout.

## 21. Review and Amendment of this SLA

**21.1** This SLA shall be reviewed at each annual service review under Clause 14.5, and may otherwise be reviewed at the Company's request following a material change in scope, technology, or operating conditions.

**21.2** No amendment to this SLA shall be effective unless made in writing and executed in accordance with the amendment provisions of the Agreement. No amendment may reduce a Service Level below the corresponding minimum prescribed by Clauses 31 and 32 of the RFP without the Company's express written agreement recording the specific justification for the reduction.

**21.3** Where the Company finalises any figure left as a placeholder in this SLA (including under Clause 6.1, Clause 16.1, or elsewhere) during contract formation, the finalised figure shall be inserted by written agreement of the Parties prior to execution of the Agreement, and shall thereafter form part of this SLA without further amendment procedure.

## 22. Miscellaneous

**22.1** Capitalised terms, notice provisions, assignment restrictions, confidentiality, indemnification, dispute resolution, and governing law applicable to this SLA are as set out in the Agreement and are not restated here.

**22.2** This SLA shall be read, construed, and enforced together with the Agreement as a single, integrated set of contractual obligations. This SLA shall take effect on the Effective Date of the Agreement and shall continue for the Term of the Agreement, including any extension of the Managed Operations Term.

## Execution

This Schedule is executed by the Parties as an integral part of the Agreement referred to in Clause 1.1 above, on the date of execution of the Agreement.

| **Signed and stamped for & on behalf of the Company** | **Signed and stamped for & on behalf of the Successful Bidder** |
| --- | --- |
| By: ____________________________ | By: ____________________________ |
| Title: __________________________ | Title: __________________________ |
| CNIC: __________________________ | CNIC: __________________________ |
| Date: __________________________ | Date: __________________________ |

# APPENDIX G
# NON-DISCLOSURE AGREEMENT

*(Unilateral – Applicable to the Successful Bidder)*

TO THE

**AGREEMENT FOR DESIGN, DEPLOYMENT, OPERATIONS, AND MAINTENANCE OF SOVEREIGN NATIONAL AI INFRASTRUCTURE**

UNDER THE

**NATIONAL AI INNOVATION HUB (NAIIH)**

THIS Non-Disclosure Agreement ("NDA") is made and entered into at Islamabad on this _____ day of __________, 2026,

BY AND BETWEEN

M/s. IGNITE, a company registered as a non-profit organization under Section 42 of the Companies Act, 2017, with Corporate Universal Identification Number (CUIN) No. 0058556, having its office at 3rd Floor, Telecom Foundation Complex, 7-Mauve Area, G-9/4, Islamabad, Pakistan (hereinafter referred to as the "Company" or "IGNITE", which expression shall, where the context so permits, mean and include its successors-in-interest, administrators and assigns), OF THE ONE PART;

AND

[NAME OF SUCCESSFUL BIDDER], a company incorporated under the laws of [___________], having its registered/principal office at [___________] (hereinafter referred to as the "Successful Bidder", which expression shall, where the context so permits, mean and include its successors-in-interest and permitted assigns), OF THE OTHER PART.

(The Company and the Successful Bidder are hereinafter referred to individually as a "Party" and collectively as the "Parties".)

**<u>RECITALS</u>**

WHEREAS the Company issued Request for Proposal No. [_____] dated [_____] (the "RFP") for the design, deployment, operations, and maintenance of the Sovereign National AI Infrastructure under the National AI Innovation Hub ("NAIIH"), and the Successful Bidder participated in the procurement process conducted thereunder and was declared successful;

WHEREAS the Company and the Successful Bidder are contemporaneously executing, or have executed, the Agreement for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (the "Main Agreement"), pursuant to which the Successful Bidder shall design, deploy, operate, and maintain the Sovereign National AI Infrastructure and related Ecosystem components (the "Project");

WHEREAS, in the course of the procurement process leading up to, and the negotiation, execution, and performance of, the Main Agreement, the Company has disclosed, and will continue to disclose, to the Successful Bidder certain Confidential Information (as defined below), and the Successful Bidder will, in the course of performing the Project, generate, develop, and come into possession of further



 

Confidential Information relating to the Project, in each case of a sensitive, proprietary, technical, commercial, operational, cybersecurity, or sovereign nature;

WHEREAS the Parties expressly intend and agree that this NDA is a unilateral confidentiality agreement, imposing obligations of confidentiality, non-use, and non-disclosure exclusively upon the Successful Bidder as the Receiving Party, and that the Company shall not owe any reciprocal obligation of confidentiality, indemnity, or liability under this NDA, for the reasons set out in Clause 5 below; and

WHEREAS the Parties wish to record the foregoing on the terms set out in this NDA, and acknowledge that this NDA is incorporated as Appendix G to, forms an integral part of, and shall be read together with, the Main Agreement, including Clause 15 (Confidentiality) thereof;

NOW, THEREFORE, in consideration of the mutual covenants contained herein and in the Main Agreement, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

## 1. DEFINITIONS AND INTERPRETATION

**1.1** In this NDA, unless the context otherwise requires, the following expressions shall have the meanings set out below. Capitalised terms used but not defined in this NDA shall have the meanings ascribed to them in the Main Agreement and the RFP.

**Unilateral nature.** For all purposes of this NDA: (i) the "Company" is, and shall at all times be, the "Disclosing Party"; and (ii) the "Successful Bidder" is, and shall at all times be, the "Receiving Party". No provision of this NDA shall be construed to impose any obligation of confidentiality, non-use, non-disclosure, indemnity, or liability on the Company, whether as a Disclosing Party, Receiving Party, or otherwise, save as expressly stated in this NDA.

**"Agreement" or "Main Agreement"** means the Agreement for Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH), to which this NDA is annexed as Appendix G.

**"Affiliate"** means in relation to the Successful Bidder, any entity that directly or indirectly controls, is controlled by, or is under common control with, the Successful Bidder.

**"Confidential Information"** means any and all information, in whatever form or medium (whether written, oral, visual, electronic, digital, or embodied in software, hardware, or any tangible or intangible medium), (i) disclosed by or on behalf of the Company to the Successful Bidder or its Representatives; or (ii) generated, developed, produced, or observed by the Successful Bidder or its Representatives in the course of, or arising from, its participation in the procurement process or its performance of the Project, whether before, on, or after the Effective Date, and whether or not marked or designated as "confidential", "proprietary", "sensitive", or "secret", where such information is of a nature that a reasonable person would understand to be confidential given the nature of the information or the circumstances of disclosure (what it means). Without limiting the generality of the foregoing, Confidential Information includes:

**(a)** Technical Information means system architecture, network topology, source code, object code, algorithms, model weights, model parameters, training and fine-tuning data, datasets, data pipelines, benchmarking results, technical specifications, configurations, engineering drawings, product roadmaps, R&D data, and any information relating to the AI Infrastructure, AI Software Stack, sovereign models, or the AI Stack;

**(b)** Commercial Information means pricing, costing, financial models, the Financial Proposal, Technical Proposal, budgets, the Phased Disbursement Schedule, invoices, revenue-sharing arrangements, business plans, strategies, marketing plans, customer and vendor lists and any information relating to the commercial or contractual terms of the Project;

**(c)** Operational Information means standard operating procedures, runbooks, playbooks, incident logs, capacity plans, staffing and organisational structures, Key Personnel details, internal policies, audit findings, and performance data relating to the operation of the AI Infrastructure or the Ecosystem;

**(d)** Cybersecurity Information means security architecture, vulnerability assessments, penetration-test results, incident-response plans, access-control policies, encryption schemes, key-management practices, credentials, security logs, threat intelligence, and any information the disclosure of which could compromise the security, integrity, or availability of the AI Infrastructure or the Ecosystem;

**(e)** Sovereign Information means any information relating to Sovereignty Requirements, data residency, national security, classified or controlled information of the Government of Pakistan, export-controlled technology, or data classified as Restricted, Sensitive/Confidential, or Secret under the Pakistan Cloud First Policy 2022; and

**(f)** Secondary Information means any notes, analyses, compilations, summaries, studies, or other material prepared by or for the Successful Bidder or its Representatives that are based on, derived from, or reflect, any of the foregoing categories of Confidential Information.

**"Critical Personal Data"** means personal data that, under the applicable laws must be stored and processed exclusively on servers or digital infrastructure located within the territory of Pakistan.

**"Data Breach"** means an incident involving unauthorized copying, transmission, viewing, theft, or use of Confidential Information by a person not authorized to access it.

**"Data Lifecycle"** means the complete sequence of stages through which Confidential Information passes, specifically: Collection, Processing, Storage, Transfer, Handover/Disclosure, Disposal/Destruction, and Retraining (in the context of AI models).

**“Data Protection Laws”** means all applicable laws, rules, and regulations of Pakistan relating to the protection, processing, and cross-border transfer of personal data, as may be in force from time to time.

**"Personally Identifiable Information (PII)"** means any information relating to an identified or identifiable natural person, including name, identification number, location data, or factors specific to physical, physiological, genetic, mental, economic, cultural or social identity.

**“Disclosing Party”** means the Company, in accordance with the “Unilateral nature” provision above.

**“Effective Date”** means the Effective Date of the Main Agreement.

**“Purpose”** means (a) the Successful Bidder’s participation in the procurement process conducted pursuant to the RFP; and (b) the negotiation, execution, and performance of the Main Agreement, including the design, deployment, operation, and maintenance of the Sovereign National AI Infrastructure and the Ecosystem under NAIIH.

**“Receiving Party”** means the Successful Bidder, in accordance with the “Unilateral nature” provision above.

**“Representatives”** means in relation to the Successful Bidder, its Affiliates, and its and their respective directors, officers, employees, consortium members, subcontractors, agents, professional advisers, financiers, and consultants who have a need to know Confidential Information for the Purpose.

**"Sovereign Data"** means data governed under Pakistan's laws and sovereign interests, including national, state, and citizen data.

**“Sovereignty Requirements”** means has the meaning given to it in the RFP and the Main Agreement.

**“Term”** means has the meaning given in Clause 3 of this NDA.

**1.2** Headings are for convenience only and shall not affect interpretation. Words importing the singular include the plural and vice versa. References to “writing” include email unless otherwise stated.

## 2. STATUS AND INCORPORATION

**2.1** This NDA is incorporated as Appendix G to, and forms an integral part of, the Main Agreement, and shall be read and construed together with Clause 15 (Confidentiality) of the Main Agreement as if fully set out therein.

**2.2** In the event of any conflict or inconsistency between this NDA and the Main Agreement, the provision imposing the higher standard of confidentiality, protection, security, or non-disclosure on the Successful Bidder shall prevail. Save as aforesaid, the Main Agreement shall prevail to the extent of any inconsistency. Nothing in this Clause 2.2 shall be construed to impose any obligation on the Company inconsistent with Clause 5 of this NDA.

## 3. TERM AND SURVIVAL

**3.1** This NDA shall come into effect on the Effective Date and shall remain in full force and effect for so long as the Main Agreement remains in force, including any extension thereof (the “Term”).

**3.2** The obligations of confidentiality, non-use, and non-disclosure of the Successful Bidder under this NDA shall survive the expiry or termination of the Main Agreement, for whatever reason, for a period of five (05) years from the date of such expiry or termination, save that: (a) Confidential Information constituting a trade secret shall remain protected for so long as it retains the character of a trade secret under applicable law; and (b) Sovereign Information and Confidential Information relating to Sovereignty Requirements, national security, or classified or controlled Government information shall remain protected without limitation of time. In respect of Confidential Information that constitutes trade secrets, proprietary algorithms, Sovereign Data, or Critical Personal Data, the obligations shall survive indefinitely.

**3.3** Termination or expiry of this NDA or the Main Agreement shall not affect any rights or obligations of the Successful Bidder that have accrued prior to such termination or expiry.

## 4. CONFIDENTIALITY OBLIGATIONS OF THE SUCCESSFUL BIDDER

The Receiving Party's obligations under this Agreement shall apply to all Confidential Information at every stage of the data lifecycle as set forth below:

### 4.1 Collection

(a) The Receiving Party shall only collect data that is strictly necessary for the Project.

(b) All data collection must be performed with a lawful basis (consent, contract, legal obligation, or legitimate interest).

(c) The Receiving Party shall maintain a detailed log of all data collection activities, including source, date, classification, and quantity.

(d) No Sovereign Data or Critical Personal Data shall be collected without the prior written authorization of Ignite.

### 4.2 Processing

(a) The Receiving Party shall not use any Confidential Information, prompts, fine-tuning data, or generated outputs to train, retrain, or improve any third-party or public AI models. All training shall be performed exclusively for the AI System and solely for the Project.

(b) Data cleaning and annotation activities shall be conducted in a secure, access-controlled environment. Automated PII (Personally Identifiable Information) anonymization and scrubbing pipelines shall be implemented before data is processed by the AI System or stored in logs.

(c) All inference operations shall be logged with timestamps, user identifiers, and transaction IDs for audit purposes.

### 4.3 Storage

(a) All Critical Personal Data and Sovereign Data must be stored exclusively on servers physically located within Pakistan. No such data shall be stored on any server, cloud infrastructure, or storage medium located outside Pakistan.

(b) The Receiving Party shall establish a private cloud environment for Ignite that is logically (and physically, where feasible) isolated from the Receiving Party's other clients, customers, and internal systems.

(c) All stored data must be encrypted at rest using industry-standard encryption (e.g., AES-256). Strict access controls, firewalls, and intrusion detection systems must be deployed.

### 4.4 Transfer

(a) The Receiving Party shall not transfer, transmit, or make accessible any Confidential Information classified as Restricted, Sensitive/Confidential, or Secret Data, nor any Critical Personal Data or Sovereign Data, to any person, entity, server, or system located outside Pakistan.

(b) Any transfer of Confidential Information within Pakistan must be conducted via secure, encrypted communication channels (e.g., TLS 1.3, VPN, or dedicated leased lines).

### 4.5 Handover / Disclosure

(a) The Receiving Party should disclose Confidential Information to its Representatives only on a strict need-to-know basis and only after such Representatives have signed binding confidentiality undertakings at least as restrictive as this Agreement.

(b) IGNITE and the Government of Pakistan retain the right to access, inspect, audit, and require the production of any Confidential Information held by the Receiving Party where such access is required under Pakistani law, for national security purposes, or pursuant to a lawful court or regulatory order. No provision of this Agreement shall be used to resist or delay such lawful access.

(c) The Receiving Party shall not disclose any Confidential Information to any subcontractor or third-party service provider without IGNITE'S prior written consent. Any such subcontractor must be contractually bound by obligations at least as stringent as those in this Agreement.

**4.6 Disposal / Destruction**

(a) Upon Ignite's written request, or upon completion or termination of the Project, the Receiving Party shall securely destroy all copies of Confidential Information in its possession, including all derivatives, notes, summaries, backup copies, model checkpoints, training data, logs, and temporary files.

(b) Destruction shall be performed using industry-standard methods that render the data irrecoverable (e.g., cryptographic wiping, degaussing, physical destruction of storage media).

(c) Within fifteen (15) business days of destruction, the Receiving Party shall deliver to Ignite a signed Certificate of Destruction confirming that all Confidential Information has been securely destroyed. The certificate shall list all storage locations, systems, and media on which the data was held, and the method of destruction used.

(d) The Receiving Party warrants that no copy of Confidential Information shall be retained for any purpose, including archival or compliance purposes, except as expressly permitted in writing by Ignite.

**4.7 Retraining**

(a) The Receiving Party shall not use any data (soveirgn, personal and critical), prompts, inputs, fine-tuning data, or generated outputs to retrain, fine-tune, or improve the AI System (or any other AI system) without the prior written consent of Ignite.

(b)Under no circumstances shall the Receiving Party incorporate any Confidential Information or Sovereign Data into any public, open-source, or third-party AI model.

**4.8** The Successful Bidder shall not, without the prior written approval of the Company, publish, disclose, market, advertise, or otherwise communicate to any third party (including the media) any information relating to the Project, the Company, the AI Infrastructure, the Ecosystem, or any Deliverable, including the existence, nature, or status of the procurement process, the Main Agreement, or this NDA.

## 5. COMPANY'S ROLE AS IMPLEMENTING AND GOVERNING ENTITY; NO LIABILITY OF THE COMPANY

**5.1** Notwithstanding anything to the contrary contained in this NDA or the Main Agreement, the Company shall not be, and is not, subject to any obligation of confidentiality, non-use, non-disclosure, indemnity, or liability whatsoever under this NDA, whether to the Successful Bidder or any third party, in respect of any Confidential Information, Deliverable, or other information disclosed by it, generated by the Successful Bidder, or otherwise arising out of or in connection with the Project.

**5.2** Without limiting Clause 5.1, the Company retains the unrestricted right, in its sole discretion and without liability to the Successful Bidder, to use, retain, reproduce, adapt, disclose, publish, share, or otherwise deal with any Confidential Information, Deliverable, or Project-related information, including for purposes of: (a) governance, oversight, monitoring, and audit of the Project by the Company, MoITT, or any other competent Government authority; (b) compliance with applicable law, including the Right of Access to Information Act, 2017 (or any successor legislation), the PPRA Rules, and directions of the National Assembly, Senate, or any parliamentary committee; (c) reporting to, and disclosure before, the Board of the Company, PMAC, or any Government forum; and (d) any other public, regulatory, oversight, or statutory function of the Company.

**5.3** For the avoidance of doubt, nothing in this Clause 5 relieves the Successful Bidder of any of its obligations under this NDA, and the Successful Bidder acknowledges and agrees that it enters into this NDA on the basis that the Company, as a government implementing and governing entity, is not, and cannot practicably be, bound by reciprocal confidentiality obligations.

## 6. EXCLUSIONS

**6.1** The confidentiality obligations of the Successful Bidder under this NDA shall not apply to any information which the Successful Bidder can demonstrate, by contemporaneous written record:

**(a)** was, at the time of disclosure, already lawfully in the possession of the Successful Bidder without any obligation of confidentiality;

**(b)** is, or becomes, part of the public domain other than as a result of a breach of this NDA by the Successful Bidder or its Representatives;

**(c)** was independently developed by the Successful Bidder or its Representatives without reference to, or use of, the Confidential Information;

**(d)** is lawfully obtained by the Successful Bidder from a third party who is not under any obligation of confidentiality to the Company in respect of such information; or

**(e)** is required to be disclosed by applicable law, regulation, or a valid order of a court, tribunal, or governmental or regulatory authority of competent jurisdiction, provided that the Successful Bidder shall, to the extent not prohibited by law, give the Company prompt prior written notice of such requirement so as to afford the Company a reasonable opportunity to seek a protective order or other appropriate remedy, and shall disclose only that portion of the Confidential Information legally required to be disclosed.

**6.2** For the avoidance of doubt, no Confidential Information shall be deemed to be within the foregoing exclusions merely because it is embraced by more general information in the public domain, or because individual features, components, or combinations thereof are separately in the public domain.

## 7. CYBERSECURITY AND DATA PROTECTION

**7.1** The Successful Bidder shall implement and maintain appropriate administrative, technical, physical, and cybersecurity safeguards, consistent with the requirements of the RFP and the Main Agreement, to protect Confidential Information, Project Data, source code, model weights, system configurations, credentials, and security information from unauthorised access, disclosure, alteration, loss, destruction, misuse, or compromise.

**7. 2** The Receiving Party shall implement and maintain the following security measures throughout the Project:

**7.2.1 Access Control**

(a) Access to Confidential Information and AI Assets shall be restricted to only those Representatives whose roles require such access for the Project.

(b) Multi-Factor Authentication (MFA) shall be enforced for all developers, engineers, and administrators accessing systems containing Confidential Information.

**7.2.2 Secure Code & Data Repositories**

(a) All source code, model weights, and configuration files shall be stored in private, access-controlled repositories.

(b) Branch protection rules shall be enforced to prevent unauthorized merges, deletions, or modifications.

(c) All commits must be signed and reviewed by at least two authorized personnel.

**7.2.3 Prohibition on Local Data Copies**

(a) No developer shall download, copy, or transfer any Confidential Information, training datasets, or model weights onto local/personal machines, laptops, or removable storage devices.

(b) All development and data processing shall be conducted exclusively within the private cloud environment provided for Ignite.

(c) Access shall be via secure tunnels (e.g., Zero-Trust Network Access, VPN with MFA) to the cloud environment, with all activities monitored and logged.

**7.2.4 Encryption**

All data moving between users, the Receiving Party, and the cloud environment must be encrypted using TLS 1.3 or higher. All stored data, including databases, logs, backups, and model weights, must be encrypted using AES-256 or equivalent industry-standard encryption.

**7.2.5 Data Anonymization**

The Receiving Party shall implement automated pipelines to scrub Personally Identifiable Information (PII) from datasets before processing by the AI System. Anonymization shall comply with recognized standards.

**7.2.6Audit Logging**

(a) Comprehensive audit logs shall be maintained for all access, processing, and transfer activities relating to Confidential Information.

(b) Logs shall be retained for a minimum of three (3) years and shall be made available to Ignite upon request.

**7.3** The Successful Bidder shall promptly notify the Company in writing of any actual or suspected unauthorised access to, or disclosure, loss, or compromise of, Confidential Information, in accordance with the incident-notification requirements of Clause 32 of the RFP and the corresponding reporting obligations of the Main Agreement, and shall take all necessary steps, at its own cost, to investigate, mitigate, and remedy the same, and shall keep the Company informed of the status of such investigation and remediation.

7.4 Upon confirming a breach, the Receiving Party shall, at its own sole cost and expense, immediately undertake all necessary remedial actions. These shall include containment (isolating affected systems and preventing further unauthorized access), investigation (conducting a thorough forensic investigation with independent experts acceptable to Ignite if required), eradication (removing malware, vulnerabilities, and compromised credentials), recovery (restoring systems and data from verified clean backups), and mitigation (taking all reasonable steps to protect affected individuals and the Government of Pakistan). Within fifteen (15) business Days of the initial notification, the Receiving Party shall deliver a comprehensive post-incident report containing a root cause analysis, timeline of events, description of all remedial actions taken, list of affected Confidential Information and AI Assets, a detailed plan to prevent recurrence, and confirmation of system restoration.

7.5 The Receiving Party shall cooperate fully with Company in investigating and reporting the breach. All costs and expenses arising from investigation, containment, eradication, recovery, mitigation, notification, and reporting shall be borne solely by the Receiving Party, which shall not seek reimbursement from Company. Company retains the right to conduct an independent investigation, with costs borne by the Receiving Party if the breach is caused by its negligence.

**7.6** Where Confidential Information includes Personal Data, the Successful Bidder shall process such Personal Data in accordance with applicable Data Protection Laws, and shall implement appropriate technical and organisational measures to protect such Personal Data against unauthorised or unlawful processing and against accidental loss, destruction, or damage.

**7.7** The Successful Bidder shall not transfer, store, process, host, back up, or permit access to any Confidential Information or Project Data outside the territorial jurisdiction of Pakistan without the prior written approval of the Company, consistent with the Sovereignty Requirements and Clause 15.4(iv) of the Main Agreement. (Added in detail in 7.2)

**7.8** Where Confidential Information relates to export-controlled technology (including, without limitation, AI accelerators, semiconductors, or related technical data), the Successful Bidder shall comply with all applicable export-control laws and regulations in the handling, use, and onward transfer of such information, and shall not transfer such information to any person or jurisdiction in a manner that would violate such laws.

## 8. NO LICENSE OR TRANSFER OF RIGHTS

**8.1** Nothing in this NDA, and no disclosure of Confidential Information hereunder, shall be construed as granting the Successful Bidder any right, title, interest, or licence in or to the Confidential Information, whether express or implied, under any patent, copyright, trademark, trade secret, or other intellectual property right of the Company. Title to all Confidential Information disclosed by the Company shall remain solely with the Company (or, as applicable, the Government of Pakistan).

**8.2** This Clause 8 is without prejudice to, and shall be read subject to, the Intellectual Property Rights provisions of Clause 14 of the Main Agreement, including the carve-out at Clause 3.10 thereof in respect of solutions developed by third-party innovators listed on the NAIIH Innovation Marketplace.

**8.3** The Company makes no representation or warranty, express or implied, as to the accuracy, adequacy, or completeness of any Confidential Information disclosed by it, and shall have no liability to the Successful Bidder or its Representatives arising from the Successful Bidder's use of, or reliance upon, such Confidential Information.

## 9. INDEMNIFICATION AND REMEDIES

**9.1** Without prejudice to any other rights or remedies available to the Company at law or under this Agreement, the Successful Bidder shall indemnify, defend, and hold harmless the Company, its officers, employees, agents, and representatives from and against any and all claims, actions, proceedings, liabilities, losses, damages, costs, expenses (including reasonable legal fees), penalties, or demands arising out of or in connection with: (i) any breach by the Successful Bidder of its obligations under this NDA; or (ii) any unauthorized access to, use, disclosure, reproduction, or reliance upon the Confidential Information by any person to whom the Successful Bidder has disclosed such Confidential Information in violation of this NDA.

**9.2** The Successful Bidder acknowledges that a breach of this NDA may cause irreparable harm to the Company for which damages alone may not be an adequate remedy, and accordingly agrees that the Company shall be entitled to seek injunctive or other equitable relief against the Successful Bidder, in addition to any other remedies available at law or in equity, without the necessity of proving actual damages or posting a bond. (broad)

**9.3** The remedies provided in this NDA are cumulative and not exclusive of any other remedies available to the Company under the Main Agreement or applicable law.

## 10. FREEDOM TO DISCLOSE; NO PARTNERSHIP

**10.1** Nothing in this NDA obliges the Company to disclose any particular Confidential Information to the Successful Bidder, and the Company retains absolute discretion as to the Confidential Information it chooses to disclose.

**10.2** Nothing in this NDA shall be construed to create a partnership, joint venture, or agency relationship between the Parties, and the Successful Bidder shall have no authority to bind or act on behalf of the Company, save as expressly provided in the Main Agreement.

## 11. GENERAL PROVISIONS

**11.1** The Successful Bidder may not assign or transfer any of its rights or obligations under this NDA without the prior written consent of the Company. The Company may assign this NDA to any successor governmental or statutory body performing its functions.

**11.2** . No amendment to this NDA shall be effective unless in writing and signed by the duly authorised representatives of both Parties. No failure or delay by the Company in exercising any right under this NDA shall operate as a waiver thereof, and no waiver shall be valid unless in writing and signed by the Company.

**11.3** If any provision of this NDA is held to be illegal, invalid, or unenforceable, such provision shall be severed and the remaining provisions shall continue in full force and effect, and the Parties shall negotiate in good faith to replace the severed provision with a valid provision that most closely reflects the original commercial intent.

**11.4** This NDA, together with Clause 15 of the Main Agreement, constitutes the entire agreement between the Parties with respect to the confidentiality of information exchanged in connection with the Purpose, and supersedes all prior discussions, agreements, or understandings, whether oral or written, relating thereto.

**11.5** Any notice given under this NDA shall be given in the manner, and to the addresses, specified for notices under the Main Agreement.

**11.6** This NDA may be executed in two (02) counterparts, each of which shall be deemed an original, and both of which together shall constitute one and the same instrument.

## 12. GOVERNING LAW AND DISPUTE RESOLUTION

**12.1** This NDA shall be governed by, and construed in accordance with, the laws of the Islamic Republic of Pakistan, and the Parties submit to the exclusive jurisdiction of the Courts at Islamabad, subject to Clause 13.2 below.

**12.2** Any dispute, controversy, or claim arising out of or in connection with this NDA shall, in the first instance, be resolved amicably through negotiation between the Parties, and thereafter, in accordance with the Mediation by Expert and Arbitration provisions of Clause 20 of the Main Agreement, mutatis mutandis, save that the Company may, at any time, seek injunctive or other interim relief against the Successful Bidder before the Courts at Islamabad to restrain or prevent any actual or threatened breach of this NDA, pending the outcome of such mediation or arbitration.

IN WITNESS WHEREOF the Parties hereto have executed this Non-Disclosure Agreement on the date first written above.

**SIGNED FOR AND ON BEHALF OF IGNITE ("the Company")**

By: _______________________

Name: _______________________

Title: Chief Executive Officer

CNIC: _______________________

Date: _____ / _____ / 2026

**WITNESS 1**

Name: _______________________

CNIC: _______________________

Signature: _______________________

**WITNESS 2**

Name: _______________________

CNIC: _______________________

Signature: _______________________

**SIGNED FOR AND ON BEHALF OF THE SUCCESSFUL BIDDER**

By: _______________________

Name: _______________________

Title: CEO / MD / Authorised Signatory

CNIC: _______________________

Date: _____ / _____ / 2026

**WITNESS 1**

Name: _______________________

CNIC: _______________________

Signature: _______________________

**WITNESS 2**

Name: _______________________

CNIC: _______________________

Signature: _______________________

**CONFLICT OF INTEREST - DISCLOSURE FORM**

**(To be printed on the company's letterhead)**

In compliance with the mandatory requirement mentioned in the RFP for '**Design, Deployment, Operations, and Maintenance of Sovereign National AI Infrastructure under the National AI Innovation Hub (NAIIH)**' published by Ignite National Technology Fund (*hereinafter 'Ignite' and/or 'Company'*), I hereby confirm:

☐ I have no Conflict of Interest to disclose

☐ I have a potential Conflict of Interest to disclose and the details are mentioned hereunder:

| **Summary Information** | | | |
|---|---|---|---|
| Date Raised: | | Reference No.: | |

| **Personal Information** | | | |
|---|---|---|---|
| Name: | | Title/Designation: | |
| Contact No.: | | Company: | |

| **Nature of Conflict** | |
|---|---|
| Description: | |

I hereby affirm that the above details/disclosure are true to the best of my knowledge, and no additional information/disclosure exists.

In case of any change to the above given information/disclosure, I will promptly notify the Company and complete a new conflict of interest disclosure form which describes the changes.

**Signature:** ____________________
**Date:**