

GOVERNMENT OF BIHAR
RURAL WORKS DEPARTMENT


5th floor, Vishweshwaraiya Bhawan, Bailey Road, Patna-800001

SHORT NOTICE INVITING TENDER- RWD/HQ/AI/2025-26/01

(Through e-procurement mode only over <http://www.pmgsytendersbih.gov.in>)

Rural Works Department, Government of Bihar invites responses from eligible bidders for the below mentioned opportunity – “**Selection of Agency for Developing and Maintaining Intelligent Rural Road Maintenance Monitoring System (IRRMS) in the State of Bihar**”. Salient information is as follows:

1	Date and Time for Downloading/Purchasing of Bidding Documents	From 28/05/2025, 11:00 Hrs to 18/06/2025, 15:00 Hrs RFP can be downloaded from www.pmgsytendersbih.gov.in .
2	Pre-bid meeting Date, Time & Venue	02/06/2025 at 15:00 Hrs Venue: Conference Hall Rural Works Department, Government of Bihar. 5thFloor, Vishveshwaraiya Bhawan, Bailey Road, Patna, Bihar 800015
3	Mode of submission of Bid document	Bid document can be submitted only online mode.
7	Bid Submission Last date.	18/06/2025 till 15:00 Hrs
4	Bid Opening date.	18/06/2025 at 15:30 Hrs
5	Time and place and date for opening of the Financial Bid.	To be informed later
6	Tender Document Fee & Earnest Money Deposit	Tender Document Fee of Rs. 10000/- (Rupees Ten Thousand only) (Non-Refundable) and Earnest Money Deposit of Rs. 2500000/- (Rupees Twenty-Five Lac Only) will be submitted online (PMGSY e-tender online Account-through PMGSY e-tender portal by Internet Banking only).


Engineer-in-Chief
Rural Works Department

**REQUEST FOR PROPOSAL
(RFP)**

**SELECTION OF AGENCY FOR DEVELOPING AND
MAINTAINING INTELLIGENT RURAL ROAD
MAINTENANCE MONITORING SYSTEM
(IRRMMS) FOR RURAL WORKS DEPARTMENT,
BIHAR.**

**RURAL WORKS DEPARTMENT GOVERNMENT OF BIHAR
5th Floor, Vishveshwariya Bhawan,
Bailey Road, Patna, Bihar-800015**

Sum L. G. H.

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DISCLAIMER

1. The information contained in this Request for Proposal document ("RFP") or subsequently provided to Bidders, whether verbally or in documentary or any other form by or on behalf of the Client or any of its employees or advisers, is provided to Bidders on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.
2. This RFP document is neither an agreement nor an offer by the Rural Works Department (RWD) to the prospective Bidders or any other person. The purpose of this RFP is to provide information to the interested parties that may be useful to them in the formulation of their proposal pursuant to this RFP.
3. RWD does not make any representation or warranty as to the accuracy, reliability or completeness of the information in this RFP document and it is not possible for RWD to consider particular needs of each party who reads or uses this RFP document. This RFP includes statements which reflect various assumptions and assessments arrived at by RWD in relation to the consultancy. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. Each prospective Bidder should conduct its own investigations and analyses and check the accuracy, reliability and completeness of the information provided in this RFP document and obtains independent advice from appropriate sources.
4. RWD will not have any liability to any prospective Company/ Firm or any other person under any laws (including without limitation the law of contract, tort), the principles of equity, restitution or unjust enrichment or otherwise for any loss, expense or damage which may arise from or be incurred or suffered in connection with anything contained in this RFP document, any matter deemed to form part of this RFP document, the award of the Assignment, the information and any other information supplied by or on behalf of RWD or their employees, any Bidders or otherwise arising in any way from the selection process for the Assignment. RWD will also not be liable in any manner whether resulting from negligence or otherwise however caused arising from reliance of any Bidder upon any statements contained in this RFP.
5. The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by the Client or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Bidder and the Client shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the Proposal, regardless of the conduct or outcome of the Selection Process.
6. RWD may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this RFP
7. RWD will not be responsible for any delay in receiving the proposals. The issue of this RFP does not imply that RWD is bound to select a Bidder or to appoint the Successful Bidder, as the case may be, for the consultancy and RWD reserves the right to accept / reject any or all of proposals submitted in response to this RFP document at any stage without assigning any reasons whatsoever. RWD also reserves the right to withhold or withdraw the process at any stage with intimation to all who submitted the RFP Application.
8. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. RWD accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on the law expressed herein.

9. RWD reserves the right to change / modify / amend any or all provisions of this RFP document. Such revisions to the RFP amended will be made available on the website of RWD.
10. The product, property and assets created/ developed by the agency will belong to RWD only. Data sharing without permission from RWD will not be permitted to the agency.

2. IMPORTANT INFORMATION

1	Name of the project	SELECTION OF AGENCY FOR DEVELOPING AND MAINTAINING INTELLIGENT RURAL ROAD MAINTENANCE MONITORING SYSTEM (IRRMMS) FOR RURAL WORKS DEPARTMENT, BIHAR.
2	Name of the Client	Rural Works Department, Government of Bihar.
3	Date and Time for Downloading/Purchasing Bidding Documents	From 28/05/2025, 11:00 Hrs to 18/06/2025, 15:00 Hrs RFP can be downloaded from http://www.pmgstendersbih.gov.in
4	Pre-bid meeting Venue	Venue: Conference Hall Rural Works Department, Government of Bihar. 5th Floor, Vishveshwariya Bhawan, Bailey Road, Patna, Bihar 800015
5	Pre-bid meeting date and Time	02/06/2025 at 15:00 Hrs
6	Mode of submission of Bid document	Bid document can be submitted only online mode. http://www.pmgstendersbih.gov.in
7	Bid Submission Last date.	18/06/2025 till 15:00 Hrs
8	Bid Opening date.	18/06/2025 at 15:30 Hours
9	Time and place and date for opening of the Financial Bid.	To be declared after Technical Evaluation. Only those bidders who qualify will be informed about the financial bid opening place and date.
10	Validity of Bids	180 days from proposal date
11	Place of Technical Bid Opening	Conference Hall , Rural Works Department, Government of Bihar, 5th Floor, Vishveshwariya Bhawan, Bailey Road, Patna, Bihar, 800015
12	Tender Document Fee & Earnest Money Deposit	Tender Document Fee of Rs. 10000/- (Rupees Ten Thousand only) (Non-Refundable) and Earnest Money Deposit of Rs. 2500000/- (Rupees Twenty-Five Lac Only) will be submitted online (PMGSY e-tender online Account-through PMGSY e-tender portal by Internet Banking only).

3. DEFINITIONS

- (1) **"Acceptance Test Document"** the document, which defines procedures for testing the Document deliverables against requirements as laid down in the Agreement.
- (2) **"Affiliate"** shall mean any holding company or subsidiary company of apart to the Agreement or any company, which is subsidiary of such a holding company. The expressions "holding company" and "subsidiary company" shall have the meaning specified in section 4 of the Indian Companies Act 1956 (as amended from time to time).
- (3) **"Agreement"** means the Agreement to be signed between the successful bidder and RWD Including all attachments, appendices, all documents incorporated by reference there to together with any subsequent modifications, the RFP, the bid offer, the acceptance and all related correspondences, clarifications, presentations.
- (4) **"Authorized Representative"** shall mean any person authorized by either of the parties.
- (5) **"Bidder"** any company offering the solution(s), service(s) and/or materials required in the RFP. The word Bidder when used in the pre award period shall be synonymous with Bidder, and when used after award of the Contract shall mean the successful Bidder with whom RWD signs the agreement for rendering of services for the RFP.
- (6) **"Contract"** is used synonymously with Agreement.
- (7) **"Corrupt Practice"** means the offering, giving, receiving or soliciting of anything of value or influence the action of an official in the process of Contract execution.
- (8) **"Default Notice"** shall mean the written notice of Default of the Agreement issued by one Party to the other in terms hereof.
- (9) **"Fraudulent Practice"** means a misrepresentation of facts in order to influence a procurement processor the execution of a Contract and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive the RWD of the benefits of free and open competition.
- (10) **"GoB"** means Government of Bihar.
- (11) **"Good Industry Practice"** shall mean the exercise of that degree of skill, diligence and prudence which would reasonably and ordinarily be expected from a reasonably skilled and experienced Bidder engaged in the same type of undertaking under the same or similar circumstances.
- (12) **"Revenue"** means the rate payable to the Bidder under the Agreement for the performance of the Bidder's Contractual obligations.
- (13) **"Implementation Period"** shall mean the period from the date of signing of the Agreement and upto the issuance of Final Acceptance Certificate issued by RWD.
- (14) **"Law"** shall mean any Act, notification, bylaw, rules and regulations, directive, ordinance, Order or instruction having the force of law enacted or issued by the Central Government and/ or Government of Bihar or the RWD or any other Government or regulatory authority or political subdivision of government agency.
- (15) **"LOI"** means issuing of Letter of Intent which shall constitute the intention of the Tenderer to place the Purchase Order with the successful bidder.
- (16) **"Party"** means RWD or Bidder, individually and "Parties" mean RWD and Bidder, collectively.

- (17) **"Period of Agreement"** means the time period that will be defined in MSA from the date of final acceptance.
- (18) **"Proposal"** means Prequalification Proposal Technical Proposal and the Financial Proposal.
- (19) **"Request for Proposal (RFP)"**, means the detailed notification seeking a set of solution(s), services(s), materials and/or any combination of them.
- (20) **"Requirements"** shall mean and include schedules, details, description, statement of technical data, performance characteristics, standards (Indian as well as International) as applicable and specified in the RFP.
- (21) **"Site"** shall mean the location(s) for which the Contract has been issued and where the service shall be provided as per agreement.
- (22) **"Service"** means provision of Contracted service viz., operation, maintenance and associated services for the NIT as per this RFP.
- (23) **"Termination Notice"** means the written notice of termination of the Agreement issued by One Party to the other in terms hereof.
- (24) **"SLA"** Service Level agreement between RWD and the Vendor of the project.
- (25) **"Applicable Laws"** includes all applicable statutes, enactments, acts of legislature or parliament, laws, ordinances, rules, by-laws, regulations, notifications, guidelines, policies, directions, directives and orders of any Governmental authority, tribunal, board, court or other quasi-judicial authority.
- (26) **"Confidential Information"** means all information including Project Data (whether in written, oral, electronic or other format) which relates to the technical, financial and business affairs, customers, suppliers, products, developments, operations, processes, data, trade secrets, design rights, know-how and personnel of each Party and its affiliates which is disclosed to or otherwise learned by the other Party (whether a Party to this MSA or to the SLA) in the course of or in connection with this MSA (including without limitation such information received during negotiations, location visits and meetings in connection with this MSA or to the SLA);
- (27) **"Control"** means possession, directly or indirectly, of the power to director cause the direction of the management or policies of any entity, whether through the ownership of voting securities, by contractor otherwise.
- (28) **"State Data Centre" or "SDC"** means the primary centre where data, software, computer systems and associated components, such as telecommunication and storage systems, redundant or backup power supplies, redundant data communications, environment controls and security devices are housed and operated from.
- (29) **"Effective Date"** means the date on which the MSA is signed by both the Parties.
- (30) **"Implementing Agency Proprietary Information"** shall mean Proprietary Information of the Implementing Agency and shall include all modifications, enhancements and other derivative works of such Implementing Agency.
- (31) **"Intellectual Property Rights"** means and includes all rights in the Application Software, its improvements, upgrades, enhancements, modified versions that may be made from time to time, database generated, compilations made, source code and object code of the

- software, the said rights including designs, copyrights, trademarks, patents, trade secrets, moral and other rights therein.
- (32) **"ListedAssets"** means entire hardware and software, network or any other information Technology infrastructure components which are to be provided by the IA for and on behalf of Secretary, in the name of the Secretary.
- (33) **"Material Adverse Effect"** means material adverse effect on (a) the ability of the IA to perform/discharge any of its duties/obligations under and in accordance with the provisions of this MSA and/or SLA; and/or (b) the legal validity, binding nature or enforceability of this MSA and/or the SLA.
- (34) **"Operations and Maintenance" or "O&M"** means the services to be rendered, as per the SLA, during the period commencing from the "Go-Live date" till the expiry or termination of the Master Service Agreement.
- (35) **"Operations and Maintenance Phase"** means the phase in which O&M is to be carried out by the IA.
- (36) **"PBG" or "Performance Guarantee" or "Performance Bank Guarantee"** shall mean an unconditional and irrevocable bank guarantee provided by a Nationalized/Scheduled Bank to The Engineer-in-Chief on behalf of the Implementing Agency amounting to 5% of the Project Value calculated on annual basis. The Performance Guarantee shall be valid for three years from the date of work order/Agreement, unless extended pursuant to the Agreement.
- (37) **"Project Data"** means all proprietary or other data of the Project generated out of the Project operations and transactions, documents and related information including but not restricted to user data which the Implementing Agency obtains, possesses, or processes in the context of providing the Services to the users pursuant to this MSA and the SLA.
- (38) **"Project Implementation"** means the implementation of this Project as per the testing Standards and acceptance criteria prescribed in the Agreement.
- (39) **"ProjectImplementationPhase"** means the period between the Effective Date and the Go-Live date.
- (40) **"Proprietary Information"** means processes, methodologies and technical and business information, including drawings, designs, formulae, flow charts, data and computer programs already owned by party recreates or granted by third parties to a Party hereto prior to its being made available under this MSA, or the SLA.
- (41) **"RFP" or "Request for Proposal"** means the documents containing the Technical, Functional, Operational, Commercial and Legal specifications terms and conditions for the implementation of the Project and includes the clarifications, explanations and amendments issued by The Engineer-in-Chief from time to time.
- (42) **"Service Level"** means the level of service and other performance criteria which will apply to the Services.
- (43) **"Service Level Agreement" or "SLA"** means the Agreement on service levels between Implementing Agency and Rural Works Department, in terms of the Service Level requirements as per the model set out in MSA.
- (44) **"Stakeholders"** means the Key Important stakeholders and other stakeholders, as defined in RFP and the citizens of India.

- (45) "Third Party Systems" means systems (or any part thereof) in which the Intellectual Property Rights are owned by a third party and to which Implementing Agency has been granted a license to use and which are used in the provision of Services.
- (46) "Third Party Agency" means the agency appointed by the The Engineer-in-Chief for the purpose of certification of the hardware and software by conducting various types of tests.

4. LETTER OF INVITATION

Letter No. _____

Dated- 15.05.2025

Rural Works Department,
Government of Bihar,
5th Floor, Vishweshwaraiya Bhawan,
Bailey Road, Patna

Dear Mr./Ms.:

Rural Works Department (hereinafter referred as RWD unless the context otherwise requires), Patna invites RFP from registered firms/agencies for **"SELECTION OF AGENCY FOR DEVELOPING AND MAINTAINING INTELLIGENT RURAL ROAD MAINTENANCE MONITORING SYSTEM (IRRMMS) FOR RURAL WORKS DEPARTMENT, BIHAR"**. The scope involving capturing of imagery may be carried out using mix of Drone and 360-degree panoramic camera mounted on vehicle or any other mode depending upon the site condition and as suggested by the participating bidder in their approach and methodology.

1. Interested firms/ Companies/LLPs may participate in the bidding process by submitting their Tender/Proposals at <http://www.pmgsytendersbih.gov.in>.
2. The Details and Conditions for qualification of bidders, for bid submission and selection of agency (i.es), and roles & responsibilities of the agency (i.es) are indicated in the Bidding Documents. The Bid Document can be downloaded free of cost and no tender fee is charged for this purpose from www.rwdbihar.gov.in/ and <http://www.pmgsytendersbih.gov.in> between 28/05/2025, 11:00 Hrs to 18/06/2025, 15:00 Hrs.
3. Details of tender related information can be viewed/ downloaded from the website <http://pmgsytendersbih.gov.in>. Interested Bidders will have to register with their DSC (Digital Signature Certificate) in the web site <http://pmgsytendersbih.gov.in>.
4. The Proposal(s) must be submitted only online mode. No hard submission through Courier/Registered Post/Speed post/by Hand Delivery will be accepted.
5. Conditional tender/incomplete tender or tenders received after the due time and date shall not be entertained in any circumstances.
6. RWD reserves right to cancel or postpone or to modify any of term and condition of the tender at any stage without assigning any reason at its own discretion.
7. RWD will not be responsible for any delay in bid submission.
8. A Successful Bidder will be selected under Quality and Cost Based Selection (QCBS) selection, and procedures described in this RFP.
9. The RFP includes the following documents:
 - Section 1 - Letter of Invitation
 - Section 2 - Instructions to Bidder (including Data Sheet)
 - Section 3 - Technical Proposal - Standard Forms
 - Section 4 - Financial Proposal - Standard Forms
 - Section 5 - Terms of Reference
 - Section 6 - Standard Forms of Contract

Yours sincerely,
Engineer-in-Chief
Rural Works Department
5th Floor, Vishweshwaraiya Bhawan
Bailey Road, Patna.

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5. INSTRUCTIONS TO BIDDERS

There are three parts of tender document namely:

- Pre-Qualification
- General Bid cum Technical Bid
- Financial Bid

- a) Tenders should be fully in accordance with the requirements of the Terms and Conditions as specified in this RFP.
- b) Appropriate forms furnished with this specification shall be used in filling quotation.
- c) Incomplete, illegible form will be rejected.
- d) All offers should be made in English. Conditional offers and offers qualified by such vague and indefinite expression such as "Subject to immediate acceptance", "Subject to prior sale" etc. will not be considered.
- e) The Price and conditions of the offer should be valid for at least a period of 180 days from the date of tender opening. Quotations/Bids with validity of less than 180 days may be rejected.
- f) Modification of specifications and extension of closing date of tender, if required, will be made by an Addendum. Copies of Addenda will be sent to those who have purchased the tender document. This shall be signed and shall form a part of the tender in full and/ or part thereof.
- g) Bidders shall carefully examine the tender documents and the technical specification and fully inform themselves as to all the conditions and matters, which may in any way, affect the work or the cost thereof. The terms of payments, delivery, and acceptance applicable in this case and indicated in the Terms and Conditions of this RFP.
- h) In comparing tenders and in making awards, Corporation/ Department may consider such factors as compliance with the specifications, relative quantity of deployment, ability to provide imagery capture and analytics service, the time of delivery and such other conditions as it may consider relevant.
- i) Request from the bidder in respect of additions, alterations, modifications, corrections etc. of both terms and conditions or rates after opening of the tender will not be considered.
- j) The bidder shall make its own arrangements, for deploy, installation and commissioning of software and hardware at destination.
- k) While tenders are under consideration, bidders and their representatives or other interested parties, are advised to refrain from contacting by any means RWD's personnel or representatives, on matters relating to the tenders under consideration. The RWD if necessary, will obtain clarification on tenders by requesting such information from any or all the bidders either in writing or through personal contact as may be necessary. Any attempt by any bidder to bring pressure of any kind, may disqualify the bidder for the present tender and the bidder may be liable to be debarred from bidding for Corporation/Department tenders in future for a period of three years. General conditions

1. Late Bids

Any bid received by the Tenderer after the time and date for receipt of bids prescribed in the RFP document will be rejected.

2. Bid Forms

- i. Wherever as specific form is prescribed in the Bid document, the Bidder shall use the form to provide relevant information. If the form does not provide space for any required information, space at the end of the form or additional sheets shall be used to convey the said information.
- ii. For all other cases, the Bidder shall design a form to hold the required information.
- iii. Department shall not be bound by any printed conditions or provisions in the Bidder's Bid Forms

3. Amendment of Bid Documents

The amendments in any of the terms and conditions including technical specifications of this RFP document will be notified to all prospective bidders through publish in the given website or via email.

4. Pre bid Conference (PBC)

- a) Tenderer shall hold a pre bid conference (PBC) after the sale of the RFP document as per schedule mentioned in this RFP. In this PBC, Tenderer would address the clarifications sought by the bidders regarding the RFP document and the project. The bidders would be required to submit their queries to the The Engineer-in Chief, RWD in writing to be received at least 1 day prior to the PBC or E-Mail at encrwdbihar@gmail.com. Queries not submitted within this deadline will not be taken up at the PBC.
- b) Tenderer reserves the right not to respond to any/all queries raised or clarifications sought if, in their opinion and at their sole discretion, they consider that it would be inappropriate to do so or do not find any merit in it.

5. Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its Proposal, including the cost of presentation for the purposes of clarification of the bid, if so desired by the Government of Bihar. The Government of Bihar will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bid process.

6. Cost of Tender Document Fee and Earnest Money Deposit:t

Tender Document Fee of Rs. 10000/- (Non-Refundable) and Earnest Money Deposit of Rs. 2500000/- will be submitted online (PMGSY e-tender online Account-through PMGSY e-tender portal by Internet Banking only). All concerned please note that the process will not move onward if the Tender Fee) and RFP Security cost is not paid through PMGSY e-tender portal by Internet Banking. No other form of Tender Document Fee and EMD will be accepted.

The EMD of unsuccessful bidders shall get automatically returned to them without any interest if they fail to qualify at any stage of the bidding process.

The EMD shall be forfeited by Rural Works Department, Bihar hereunder or otherwise, under the following conditions:

- If a bidder engages in a corrupt / fraudulent / coercive / undesirable or restrictive practice.
- If a bidder withdraws its bid during the period of bid validity as specified in this RFP and as extended by the Rural Works Department, Bihar from time to time.
- In the case of selected bidder, if it fails within the specified time limit:
 - to sign the contract and/or
 - to furnish the Performance Security (PS), before signing the contract agreement, within the period prescribed in the Letter of Intent (LoI).

7. Performance Security Deposit:

- a) In the case of bidders whose bids are accepted for undertaking the work assigned for this tender, the successful bidder will submit a **Performance Security deposit**, which will be equal to 5% (five percent) of the project Value on Annual Basis and renew every Year before expiry of Existing BG under this tender that the bidder has quoted in his Financial Bid. The same would have to be in form of irrevocable valid Bank Guarantee and must be submitted within 15 days from the issuance of the LOI.
- b) The successful bidder will also submit an acceptance of the LOI within three days from the awarding of the Contract.
- c) Earnest Money Deposit of the successful bidder will be refunded on receipt of Performance Security Deposit from the bidder.

8. Local Conditions

- a) Each Bidder is expected to fully get acquainted with the local conditions and factors, which would have any effect on the performance of the contract and /or the cost.
- b) The Bidder is expected to know all conditions and factors, which may have any effect on the execution of the contract after issue of Letter of Award as described in the bidding documents. The Tenderer shall not entertain any request for clarification from the Bidder regarding such local conditions.
- c) It is the Bidder's responsibility that such factors have properly been investigated and considered while submitting the bid proposals and no claim whatsoever including those for financial adjustment to the contract awarded under the bidding documents will be entertained by the Tenderer. Neither any change in the time schedule of the contract nor any financial adjustments arising there of shall be permitted by the Tenderer on account of failure of the Bidder to know the local laws/conditions.
- d) The Bidder is expected to visit and examine the locations and obtain all information that may be necessary for preparing the bid at their own interest and cost.

9. Right to Terminate RFP Process

- a) RWD reserves the right to accept or reject any proposal, and to annul the RFP process and reject all proposals at any time prior to award of contract, without incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for RWD's action. The RWD make no commitment, expressed or implied that this process will result in a business transaction with anyone.
- b) This RFP does not constitute an offer by the RWD. The bidder's participation in this process may result in RWD selecting the bidder to engage in further discussions and negotiations toward execution of a contract. The commencement of such negotiations does not, however, signify a commitment by the RWD to execute a contractor to continue negotiations. The RWD may terminate negotiations at any time without assigning any reason.
- c) Failure to execute the Agreement with the selected bidder within the defined period may result in award of the same work to another agency at the risk and cost of the Bidder.

10. Contacting the Tenderer

- a) Any effort by Bidder influencing the Tenderer's bid evaluation, bid comparison or Contract award decisions may result in the rejection of the bid.
- b) Bidder shall not approach Bihar officers after office hours and/or outside Bihar office premises, from the time of the bid opening till the time the Contract is awarded.

11. Bid validity

The bids shall remain valid for a period of 180 days from the last date of submission of tender.

12. Period of Project

This Project shall come into effect on the Effective date of agreement. The project period shall be 1 year for development and deployment of software followed by 4 years of maintain and operate unless terminated earlier. **Extensions will be done based on the performance of the agency** and need of the project with the 20% rate of annual increment for the extended period. The request and the response there to shall be made in writing for extension term. The Performance Guarantee provided shall also be suitably extend.

13. Supplementary Information / Corrigendum / Amendment to the RFP

- a) If RWD deems it appropriate to revise any part of this RFP or to issue additional data to clarify an interpretation of the provisions of this RFP, it may issue supplements/corrigendum to this RFP. Such supplemental information will be made available on website <http://www.rwdbihar.in>. and <http://www.pmsgytendersbih.gov.in> Any such supplement shall be deemed to be incorporated by this reference into this RFP.
- b) At any time prior to the deadline (or as extended by the RWD) for submission of bids, RWD, for any reason, whether at its own initiative or in response to clarifications requested by prospective bidder may modify the RFP document by issuing amendment(s). All bidders will be notified of such amendment(s) by publishing on the websites, and these will be binding on all the bidders.

- c) In order to allow bidders a reasonable time to take the amendment(s) into account in preparing their bids, RWD, at its discretion, may extend the deadline for the submission of bids.

14. Arbitration

Rural works Department and the selected bidder shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract. If, after ninety (90) days from the commencement of such informal negotiations, State and the selected Bidder have been unable to amicably resolve dispute, either party may require that the dispute be referred for resolution to the formal mechanisms, which may include, but are not restricted to, conciliation mediated by a third party acceptable to both, or in accordance with the Arbitration and Conciliation Act, 1996. All Arbitration proceedings shall be held at Patna, Bihar State, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be in English.

15. Disqualification

The proposal is liable to be disqualified in the following cases or in case bidder fails to meet the bidding requirements as indicated in this RFP:

- a) Proposal not submitted in accordance with the procedure and formats prescribed in this document or treated as non-conforming proposal.
- b) During validity of the proposal, or its extended period, if any, the bidder increases his quoted prices.
- c) The bidder qualifies the proposal with his own conditions.
- d) Proposal is received in incomplete form.
- e) Proposal is received after due date and time at the designated venue.
- f) Proposal is not accompanied by all the requisite documents.
- g) If bidder provides quotation only for a part of the project.
- h) Information submitted in technical proposal is found to be misrepresented, incorrect or false, accidentally, unwittingly or otherwise, at any time during the processing of the contract (no matter at what stage) or during the tenure of the contract including the extension period, if any.
- i) Bidder tries to influence the proposal evaluation process by unlawful/corrupt/fraudulent means at any point of time during the bid process.
- j) In case any one bidder submits multiple proposals or if common interests are found in two or more bidders, the bidders are likely to be disqualified, unless additional proposals/bidders are withdrawn upon notice immediately.
- k) Bidder fails to deposit the Performance Bank Guarantee (PBG) or fails to enter into a contract within stipulated date of notice of award of contractor within such extended period, as may be specified in the RFP.
- l) While evaluating the proposals, if it comes to Tender Committee's knowledge expressly or implied, that some bidders may have colluded in any manner whatsoever or otherwise joined to form an alliance resulting in delaying the processing of proposal then the bidders so involved are liable to be disqualified for this contract as well as for a further period, as decided by the RWD, from participation in any of the tenders floated by the RWD.

16. Conflict of Interest

SI shall furnish an affirmative statement as to the absence of, actual or potential conflict of interest on the part of the SI or any prospective sub contractor due to prior, current, or proposed contracts, engagements, or affiliations with the RWD. Additionally, such disclosure shall address any and all potential elements (time frame for service delivery, resource, financial or other) that would adversely impact the ability of the SI to complete the requirements as given in the RFP. Please use form given in Annexure for making declaration to this effect.

17. Commercial Proposal

- a) The Bidder is expected to price all the items and services proposed in the Technical Proposal. RWD may seek clarifications from the Bidder on the Technical Proposal. Any of the clarifications by the Bidder on the technical proposal should not have any commercial implications. The Commercial Proposal submitted by the Bidder should be inclusive of all the items in the technical proposal and should incorporate all the clarifications provided by the Bidder on the technical proposal during the evaluation of the technical offer.
- b) Unless expressly indicated in this RFP, bidder shall not include any technical information regarding the services in the commercial proposal. Additional information directly relevant to the scope of services provided in RFP may be submitted to accompany the proposal. However, this information will not be considered for evaluation purposes.
- c) The Commercial Proposal must be detailed and must cover each year of the contract term.

18. Correction of Error

- a) Bidders are advised to exercise adequate care in quoting the prices. No excuse for corrections in the quoted figures will be entertained after the commercial proposals are received by RWD. All corrections, if any, should be initialled by the person signing the proposal form before submission, failing which the figures for such items may not be considered.
- b) Proposals will be checked by the RWD for any arithmetic errors during the evaluation of the Financial Proposal.

19. Prices and Price Information

- a) The Bidder shall quote a price for all the components, the services of the solution to meet the requirements as listed in this RFP. All the prices will be in Indian Rupees.
- b) No adjustment of the price quoted in the Commercial Proposal shall be made on account of any variations in costs of labour and materials, currency exchange fluctuations with international currency or any other cost component affecting the total cost in fulfilling the obligations under the contract.
- c) The price quoted in the Commercial Proposal shall be the only payment, payable by the RWD to the successful Bidder for completion of the contractual obligations by the successful Bidder under the Contract, subject to the terms of payment specified as in the proposed commercial bid or the one agreed between the RWD and the Bidder after negotiations.
- d) The price would be inclusive of all taxes, duties, charges, and levies as applicable.
- e) The prices, once offered, must remain fixed, and must not be subject to escalation for any reason whatsoever within the period of the validity of the proposal and the contract. A proposal

submitted with an adjustable price quotation or conditional proposal may be rejected as non-responsive.

- f) Bidder should provide all prices, quantities as per the prescribed format given in Format for Bid Response—Commercial Bid. Bidder should not leave any field blank. In case the field is not applicable, Bidder must indicate “0” (zero) in all such fields.
- g) It is mandatory to provide the break-up of all components in the format specified for detailed Bill of Material. The commercial bid should include the unit price and proposed number of units for each component provided in the Bill of Material in the commercial bid. In case of a discrepancy between the Bill of Material and the commercial bid, the technical Bill of Material remains valid. In no circumstances shall the commercial bid be allowed to be changed /modified.
- h) It is mandatory to provide break-up of all taxes, duties, and levies wherever applicable and/or payable.
- i) The bid amount shall be inclusive of packing, forwarding, transportation, insurance till Go Live, delivery charges and any other charges as applicable.

20. Language of Proposal

The proposal and all correspondence and documents shall be in English. All proposals and accompanying documents received within the stipulated time will become the property of the RWD and will not be returned.

21. Limitation of Liability-

Notwithstanding any thing to the contrary else where contained in this or any other contract between the parties, neither party shall, in any event, be liable for (1) any indirect, special, punitive, exemplary, speculative or consequential damages, including, but not limited to, any loss of use, loss of data, business interruption, and loss of income or profits, irrespective of whether it had an advance notice of the possibility of any such damages; or (2) damages relating to any claim that arose more than one year before institution of adversarial proceedings thereon. Subject to the above and notwithstanding anything to the contrary elsewhere contained herein, the maximum liability of bidder shall be, regardless of the form of claim, the consideration received by bidder for the statement of work under which the claim arises.

22. Confidentiality-

Bidder is allowed to use the reference of this contract in other bid for meeting eligibility criteria, but Confidentiality will survive till one year from the date of expiration/ termination of contract.

23. Approval/ Clearances-

Bidder will support in getting clearance with all the authorities but the prime responsibilities lies with Department.

24. Savings Clause-

Bidder's failure to perform its contractual responsibilities, to perform the services, or to meet agreed service levels shall be excused if and to the extent Bidders non-performance is caused by Department's omission to act, delay, wrongful action, failure to provide inputs, or failure to perform its obligations under this Agreement.

25. Deemed Acceptance-

Any Deliverable(s) /Work Product(s) provided to the Department shall be deemed to have been accepted if the customer puts such Deliverable(s)/ Work Product(s) to use in its business or does not communicate its disapproval of such Deliverable(s)/ Work Product(s) together with reasons for such disapproval within 10 days from the date of receipt of such Deliverable(s)/ Work Product(s).

26. Change Order Clause-

Either party may request a change order ("Change Order") in the event of actual or anticipated change(s) to the agreed scope, Services, Deliverables, schedule, or any other aspect of the Statement of Bidder. Bidder will prepare a Change Order reflecting the proposed changes, including the impact on the Deliverables, schedule, and fee. In the absence of assigned Change Order, bidder shall not be bound to perform any additional services.

27. Taxes and Duties:

The rates quoted shall be in Indian Rupees and shall be inclusive of all taxes, duties and levies as applicable up to the completion of job. Any increase in the taxes will be borne by Department and any decrease would be passed on to Department by the bidder.

28. Local Office Location

The bidder should have office in Bihar. In case bidder has no presence in Bihar, bidder shall furnish an undertaking that an office shall be opened in Bihar, with sufficient personnel and inventory of spares within a month of selection as Successful Bidder.

29. Submission of Documents

Bidders are required to submit all relevant documents for Pre-qualification and Technical Evaluation criteria. Bidders are responsible to submit model make and other details from OEM regarding the IT equipments, where applicable. Only online submission is allowed.

30. Appointment of the Committee

1. The Committee of the RWD will evaluate the Bids.
2. RWD decision would be binding on the Bidder.

31. Insurance

The equipment and services supplied under the contract shall be fully insured by the bidder against loss or damage incidental to manufacture or acquisition, transportation, storage, delivery and installation. The period of insurance shall be up to the date the supplies are accepted and the rights of the property are transferred to the RWD after the project period ends.

6. SCOPE OF WORK

- 6.1 This section outlines the broad areas of scope of work proposed for the System Integrator (SI) cum Master Services Provider under this RFP and the referred sections herein below provide the detailed scope of work in each of the respective activities:
- a) Design, Development/ customisation, Deployment & Maintenance of AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) software as per the scope given in this section.
 - b) Annual Maintenance of AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) hosted at the designated Cloud Data Centre.
 - c) Integration of AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) with Departmental MIS.
 - d) The successful bidder would carry out a system study and finalize the requirement of 3rd party systems that needs to be integrated.
 - e) Setting up and operations of of Centralised Operations Control Centre (COCC) at RWD Head Quarter.
 - f) Operations and Maintenance by deploying trained manpower with required IT Equipment to carryout Day-To-Day activities of field operations as detailed in this RFP.
 - g) Creating baseline data of road deformities like potholes, cracks etc for indicative length of approximately 65000 Linear Km which may increase/decrease in future using state of the art technology i.e. combination of low altitude aerial flying, and 360 Degree Panoramic imagery mounted on vehicles along the identified roads. The capturing of images has to be mandatorily carried out on quarterly basis and as and when required as directed by RWD owing to any kind of exigency on case-to-case basis.
 - h) Bridge inspection and 3D modelling using drone or any other mode.
 - i) Deployment of relevant equipment with high resolution camera integrated with GPS.SI shall be responsible for operations, maintenance and replacement (if required) of these assets during contract period.

1.1 Setting up MEITY compliant Cloud based platform required for hosting and running AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS).

The System Integrator (SI) cum Master Service Provider (MSP) shall be responsible for:

1.1.1 Hosting and Managing Data Infrastructure

- Hosting the AI-based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) software at a MEITY- empanelled cloud service provider.

1.1.2 Training of Stakeholders

- Conducting training for stakeholders on the usage and management of the hosted systems.

1.1.3 24x7x365 Operation & Maintenance

- Managing the Operation & Maintenance of the hosted systems on a 24x7x365 basis by deploying adequate skilled personnel. Such personnel may be deployed in phased shift manner with reduced deployment on public holidays.

Mobile Application Development for Quarterly Survey

With a long list of roads to be scheduled on an active survey every day, there should be a separate user interface for operators to monitor the roads getting surveyed, validate data collection.. With possibility of limited-to-no internet connectivity in rural areas also necessitates a separate user interface running independently for the data collection during survey. The primary requirements for survey user interface shall be:

- a. Survey UI should be capable of running in offline mode without the internet.
- b. Acquisition Control Unit should have sufficient internal storage to store the survey data acquired in offline mode and transfer when the connectivity to the Data Centre is available.
- c. Survey UI should be in synchronised mode with the main DB and Web UI.
- d. Roads to be surveyed daily should be selected and displayed on a GIS map for operators to identify and verify the actual road being surveyed.
- e. During the survey of the road, the UI should display the data from all the equipments and flag an alert in case of any malfunction of the equipments.
- f. The data captured should be uploaded to cloud platform or RWD HQ at the end of each day leveraging field data connectivity (to be established by bidder) and other advance techniques like EDGE computing etc.
- g. The image data thus captured must be geo tagged for ease of analysis
- h. The entire process of data collection should be unassisted with no human control intervention. Operators should not be allowed to input any control parameters on the UI. The sole purpose of the UI should only be to display the data collection for its monitoring and identify errors and malfunctioning of the equipments.
- i. The system should be capable of storing at-least 150 Kms of survey data locally.
- j. The system should have provision for leading the operator vehicle to the start point of the survey, automatically detect the start and stop point locations of the road to be surveyed and autonomously start and stop the survey. All these should be displayed onto the UI for verification by the operator.

Building Data Platform

- Cloud Infrastructure: Choose appropriate infrastructure .
 - Network Design: Include network architecture to ensure optimal data transfer and connectivity
 - Cloud Services: Utilize cloud services for compute, storage, and networking

- Security Solutions: Implement robust security measures to protect data integrity and compliance
- Redundancy and Replication: Ensure redundancy and/or replication across multiple zones to maintain uptime. Test redundancy and replication by simulating failures
- Cost and Efficiency Balance: Optimize the solution to balance cost and performance for efficient operations
- Backup and Archival Strategy: Develop and implement a comprehensive backup and archival strategy to safeguard data

Data Ingestion

- Data Ingestion Strategy: Develop and implement a strategy to optimize storage and network usage for text and video data
- Data Validation Strategy: Ensure data quality through robust validation techniques
- ETL Strategy: Implement efficient ETL (Extract, Transform, Load) processes to streamline data handling
- Network Usage Reduction: Apply techniques to reduce network usage for data upload, such as data compression and traffic shaping
- Pipeline Monitoring: Continuously monitor pipeline performance, make necessary adjustments, and provide notifications and alerts

1.2 Design, Development/ customisation, Deployment & Maintenance of AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) software as per the scope given in this section.

The vision of RWD revolves around crafting an avant-garde, autonomous, and faceless workflow, designed to meticulously capture data pertaining to road degradation and maintenance requisites. These objectives are set to be realized through the infusion of advanced IT solutions, particularly those rooted in the domains of the Internet of Things (IoT) and Artificial Intelligence (AI), bolstered by the manifold potentials of Machine Learning (ML). The performance of AI model should be evaluated with standard metrics the expected performance should reach to an acceptable level (suitable for real application).

Intricately woven into this ambitious scheme are several key pursuits:

1. **Robust AI Models:** The envisioned system entails robust AI models capable of autonomously detecting and categorizing various distress patterns and road furniture on rural roads. This involves AI algorithms on vast datasets encompassing a spectrum of road conditions, furniture, and road safety considerations thereby endowing them with the ability to distinguish between distress types, such as potholes, cracks, erosion, bad road signs, or dangerously grown vegetation posing threat to safety.
2. **Predictive Maintenance Strategies:** AI's predictive prowess would be harnessed to anticipate road degradation patterns based on historical and real-time/ Historical data inputs. The AI model should be capable for incremental training as and when new data instances are augmented. The predicative performance should reach up to an acceptable level with standard metrics, such as accuracy, recall, precision and F1 score. This forecasting capability would empower the RWD to proactively orchestrate maintenance activities, pre-empting major disruptions and optimizing resource allocation.
3. **Geo-tagging and Comprehensive Metadata Integration:** The system should harmoniously integrate geo- tagged location data, encompassing specifics like road names, developmental

schemes, and contractor/engineer affiliations. This comprehensive metadata enables the AI system to correlate distress patterns with specific road attributes, thereby offering insights into the origins of road deterioration.

4. **Anonymized and Secure Data Handling:** Given the need for depersonalization, the workflow must be meticulously designed to anonymize and secure data inputs. This would entail adopting robust data encryption protocols and access controls to ensure the confidentiality of sensitive information.
5. **Scalable and Secure Infrastructure:** Hosting of the AI-driven application necessitates a scalable and secure infrastructure, affording the computational resources essential for real-time data analysis and storage. Cloud technologies would ensure seamless scalability to accommodate the burgeoning expanse of rural roads.
6. Ultimately, the convergence of these multifaceted technological advancements culminates in a **Intelligent Remote Maintenance Monitoring System (IRMMS)** poised to revolutionize the way rural roads are surveyed, assessed, and maintained. In this panorama, AI emerges as the fulcrum, marshalling data from diverse sources to engender a comprehensive comprehension of road conditions, prognosticating deterioration trajectories, and engendering targeted interventions that uphold the integral role of rural roads in socio-economic development.

1. System Capabilities

The **Intelligent Rural Road Monitoring and Maintenance System (IRRMMS)** should automate the monitoring, analysis, and maintenance of **indicative length of approximately 65000 Linear Km which may increase/decrease in future**. IRRMMS integrates advanced technologies, including Artificial Intelligence (AI) and Internet of Things (IoT), to provide accurate data collection, predictive modelling, and comprehensive reporting for optimal road upkeep. The **Intelligent Rural Road Autonomous Monitoring and Maintenance System (IRRAMMS)** is a technologically advanced solution that employs AI, IoT, and sensor fusing to streamline the monitoring, analysis, and maintenance of Bihar's extensive rural road network. By automating data collection, defect identification, and predictive maintenance, **IRRAMMS** contributes to the socio-economic development of the region by ensuring optimal road conditions and accessibility. However, the final responsibility and liability for anomaly validation & rectification and corresponding planning and its execution will solely rest with RWD.

2. Technology Details

1. The system should be capable of having Integration of AI/ML Pipelines to:-
 - a. Automate data processing, feature extraction, and predictive modelling using AI/ML algorithms for proactive maintenance with high quartile accuracy.
2. The system should be capable of Data analysing and Monitoring to:-
 - a. Perform quarterly monitoring surveys for indicative length of approx. 65,000 kilometres of rural roads which may increase/decrease in future, with single inspection per quarter per road.
 - b. Baseline start at the start of the project will be collected using the technology / equipment details specified in following section. Utilize an automatic multisensory solution for data collection.

Key Features of the Proposed System

System should have provision for the following features:

1. Backend Display: System should have below display capabilities: -
 - a. Multiple processed video streams of Road Surface, Road furniture and Surroundings marked with the identified defects.
 - b. Combined processed video streams (configurable FPS/high resolution) from 2 consecutive road surveys displaying in synchronized form. All the (four) streams from surveyed road surface and road furniture marked with the identified defects, should be displayed in comparison view.
2. Backend Technology Processing: System should have below processing demonstration capabilities: -
 - a. Process and analyse the collected data through advanced algorithms using Artificial Intelligence/Machine Learning.
 - i. Systems should have pre-trained data models available to understand and process fed-in data.
 - ii. System should have various evaluation metrics like accuracy, precision, recall, F1-score, and others assess to show how well the model performs.
 - iii. Processing algorithms on the collected data should be based on various profiling models such as: -
 1. Road Distress profiling
 2. Road Furniture profiling
 3. Road Artifacts (like signage, etc) profiling
 - b. Utilization of high end-servers to accommodate the computational demands of AI/ML applications.
 - i. System 'should be capable of processing multiple 1K/4K/8K streams of sensor data simultaneously.
 - ii. System should be capable of processing and giving out the results of at-least 500 Kms of survey data within 3 days of data capturing.
 - c. Integration of AI/ML pipelines to automate data processing, feature extraction, and predictive modelling.
 - d. Effective utilization of the processing powers through load balancing algorithms.
 - e. The system should have the provision of retaining with new data instances in an incremental manner.
3. GIS and Map
 - a. Each road should be mapped onto GIS and displayed according to its location.
 - b. Map should be interactive and show the road quality status with different colours.
 - c. GIS information will be provided by RWD.
 - d. Data caotured through survey must be geo tagged prior to analytics for anomaly detection
4. Defect Ticket Generation
 - a. For each defect found during a road survey, the system should generate and record a ticket with a unique ID.
 - b. With the data of the upcoming survey, the system should automatically analyse the road condition compared with the previous road condition.
5. Report Generation
 - a. System should be capable of generating a report of surveyed roads within 15 days of its survey.
 - b. The report should contain below information:
 - i. Road Quality Statistics
 - ii. Road Monitoring Survey Information

- iii. GIS Information of the road on Map
 - iv. Detailed Defect Information along with defect images
 - v. Repair suggestions
- 6. Reporting and Escalation
 - a. System should automatically report a summary of defects and statistics to the concerned Junior Engineer, Assistant Engineer, Executive Engineer, and Contractor.
 - b. The report should consist of at least below information: -
 - i. Road Information
 - ii. Road Condition
 - ii. Present and Previous Survey Information
 - iii. iv. Chainage wise defects
 - c. System should have capability to escalate to Superintendent Engineer, Chief Engineer, Headquarters and finally to Secretary after pre-defined time periods at each stage.
- 7. Multimedia Services
 - a. System should provide streaming of high-definition processed videos / images of the surveyed roads covering the surface and furniture/shoulders of the road.
 - b. System should stitch and stream high-definition processed videos / images of the consecutive surveys of the roads. The videos / images should be synchronized forming a comparison of the two surveys.
 - c. Through a logical intelligent algorithm, the system should automatically retrieve the images of the defects for the display.
 - d. System should display the comparison of the images of the road defects before and after rectification.
- 8. MIS
 - a. Dashboard
 - b. Various Customised Reports
- 9. Alerts and Notifications
 - a. Alert notifications of detected defects, status etc. through SMS/ Email/WhatsApp.
 - b. Provision to configure for alerts related to non-fixing and non-compliances of the defects.
- 10. Data Collection and transfer

2. User Interface Requirements

With the collection and processing of data, there needs to be a user interface and dashboard in place to display the data. The proposed web UI will serve as the primary means for users to interact with and visualize road data collected from various sources.

3. Functional Requirements

- a) User Authentication and Authorization

The web UI should support user authentication to ensure secure access to the system. Different user roles should be defined, each with specific access levels and permissions, such as below:

 - 1. Administrators
 - 2. State, District, Division and Block viewers.
- b) Dashboard

The web UI should provide an interactive dashboard that presents real-time and historical road monitoring data in a visually appealing manner. It should include: -

1. Bihar Rural Road Network
2. Road Quality Statistics
3. Road Monitoring Statistics
4. Comparison statistics of consecutive surveys
5. Customizable widgets and maps

The dashboard should be designed to display statistics according to access roles for state, district, division and block level users.

c) Data Import/Export

The web UI should allow road details, GIS information and other related information to be imported by different means such as excel, manual input, etc.

The web UI should allow downloading above mentioned information in different formats such as excel, pdf, csv.

d) Data Visualization:

4. List and detailed Views

1. The web UI should display a list of total number of roads along with its relevant information like length, location, present quality status, cost of development and maintenance, etc.
2. The web UI should have provision to display a list of surveys carried out on each road along with its relevant information like date and time of survey, etc.
3. The web UI should have provision to display all the details of the road along with surveys carried out.

5. Visualization through GIS Maps

1. The web UI should allow users to visualize road conditions, and other relevant data through intuitive and responsive maps.
2. The maps should support zooming, panning, and overlaying multiple layers.
3. The UI should provide options for filtering and aggregating data based on various parameters, such as time, location, and road segment and surveys.
4. All the defects and attributes of the road should be displayed with proper labelled chainage markings.

6. Multimedia Visualization

1. The web UI should display the playback of high-definition videos / images collected through 360 degree panoramic camera for survey of each road.
2. The web UI should display the images of the defects identified on each road.

3. The web UI should display the synchronized playback of videos / images collected from consecutive surveys of the same road, depicting it as a comparison of the road, before and after rectification of the identified defects. The videos should run simultaneously and in synchronization for consecutive surveys.
4. The web UI should display the comparison of images of an identified defect from consecutive surveys of the same road.
5. Shortcut navigation as an alternative to reviewing full videos.
6. Shortcut navigation for example from defect images to defect location on the map.

7. Reporting and Analytics

The web UI should offer reporting and analytics capabilities, allowing users to generate custom reports and analyse historical data trends.

Users should be able to define report parameters, such as survey time range, location, and data filters, and export reports in various formats (e.g. PDF, CSV).

Non-Functional Requirements

8. Hosting

The applications and data will be hosted at an India site of the MEiTY-compliant cloud service provider proposed by the eligible applicant. The eligible applicant will have to procure the required cloud services, infra and any other hardware and/or software required for delivery of the scope of work mentioned in this document. The licenses will be procured in the name of RWD.

The Road Monitoring reporting portal will be linked to the RWD web portal.

9. Usability and Accessibility

The web UI should be intuitive, user-friendly, and responsive across different devices and screen sizes. It should comply with web accessibility standards (e.g., WCAG 2.1) to ensure inclusivity for users with disabilities.

10. Performance and Scalability

The web UI should provide fast response times, even when handling large volumes of real-time data.

It should be designed to scale efficiently to accommodate future growth and increased data sources.

11. Security

The web UI should implement robust security measures, including encryption of data in transit and at rest.

User authentication and authorization should be implemented securely, following industry best practices.

1.3 Annual Maintenance and Operations of Intelligent Rural Road Maintenance and Monitoring System (IRRMMS)

The Annual Maintenance Contract (AMC) for **Intelligent Rural Road Maintenance and Monitoring System (IRRMMS)** Platform includes comprehensive services to ensure the platform's optimal performance, reliability, and usability. The scope encompasses system upkeep, data updates, user support, and ongoing enhancements to meet the evolving needs of stakeholders.

Below are the major components of the scope of work:

1. **Platform Maintenance and Support:** Regular monitoring and maintenance of the GIS platform to ensure high availability and performance are critical. This includes addressing bugs, implementing updates, and ensuring compatibility with new technologies. The service provider will be responsible for ensuring 99.5% uptime and minimizing disruptions through proactive monitoring and troubleshooting.
2. **Data Management and Quality Assurance:** Accurate and up-to-date spatial and non-spatial data are vital for the platform's functionality. The scope includes integrating new data, validating existing datasets, and conducting regular quality checks. Backup and recovery mechanisms will be implemented to prevent data loss and ensure quick restoration during unforeseen incidents.
3. **Application Optimization and Scalability:** To cater to growing user demands, the platform's performance will be continuously optimized. This involves fine-tuning GIS queries, enhancing system speed, and scaling infrastructure resources as required. Load balancing techniques will be applied to manage peak usage efficiently.
4. **User Support and Training:** A robust technical support system will be provided to address user concerns and resolve issues promptly. Regular training sessions and updated user manuals will be offered to enhance user proficiency in utilizing the platform's features effectively.
5. **System Security and Compliance:** Security is paramount in managing sensitive GIS data. Regular security audits by RWD appointed agencies will be conducted to identify and mitigate vulnerabilities. Role-based access controls will be enforced, and compliance with industry standards and regulations will be maintained.
6. **Enhancements and Customizations:** The platform will be continuously improved based on user feedback and evolving requirements. This includes adding new features, integrating additional modules, and refining existing functionalities to enhance user experience and operational efficiency.
7. **Reporting and Documentation:** The service provider will deliver monthly maintenance reports, detailing system performance, issues resolved, and updates applied. Comprehensive documentation, including change logs and compliance reports, will be maintained to ensure transparency and accountability.

By addressing these areas, the annual maintenance plan aims to support the platform's uninterrupted functionality while enhancing its capabilities to meet current and future demands. This approach ensures the GIS platform remains a robust tool for spatial analysis, decision-making, and operational support.

1.4 Integration of AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) with Departmental MIS.

The integration scope involves seamlessly incorporating a AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) with Departmental MIS to enhance road deformity identification and management. The integration will result in following:

- **Data Synchronization:** Establish robust integration between the GIS platform and the AI/ML analytics platform to enable real-time data exchange.
- **Road Deformity Identification:** Utilize AI/ML algorithms to detect and classify road deformities such as cracks, potholes, and uneven surfaces, with results automatically updated in the GIS platform.
- **Visualization:** Integrate analytical outputs, including heatmaps, defect layers, and geo-tagged images, into the GIS interface for easy visualization.
- **Reporting:** Generate analytical and GIS-based reports with actionable insights for asset management and maintenance planning.
- **Integration with Legacy Systems:** Ensure compatibility and seamless data exchange with existing/futuristic road project databases and management systems.
- **Mobile Application Synchronization:** Synchronize outputs with mobile platforms to facilitate on-ground data validation and corrective actions.

This integration will empower stakeholders to make data-driven decisions, enhance road maintenance efficiency, and ensure the sustainability of infrastructure assets.

1.5 Integration with third party system as may be required. The successful bidder would carry out a system study and finalize the requirement of 3rd party systems that needs to be integrated.

The proposed system should be designed to integrate with existing/futuristic road monitoring systems and databases, allowing seamless data exchange and synchronization. Data of Rural Roads and GIS information should be in place for seamless and easy integration.

1.6 Setting up of Centralised Operations Control Centre (COCC) at RWD Head Quarter.

The scope involves establishing a state-of-the-art Centralized Operations Control Centre (COCC) at the RWD Headquarters to streamline operations, monitoring, and management.

Key components include:

- **Infrastructure Setup:** Design and implementation of a fully equipped COCC with workstations, display systems, and required IT infrastructure.
- **Data Integration:** Centralized integration of road and bridge project data, quality monitoring reports, and maintenance records.
- **Real-Time Monitoring:** Deployment of software systems for real-time monitoring of project progress, road conditions, and complaint redressal.

- **Visualization Tools:** Implementation of dashboards for visualizing key performance indicators, GIS data, and analytical outputs.
- **Alert System:** Setup of automated alerts and notifications for project milestones, delays, and critical issues.
- **Communication System:** Installation of communication tools for software-based communication only to facilitate data flow between field offices and the headquarters.
- **Training and Support:** Training staff for effective use of the COCC systems and providing ongoing technical support.

The COCC will serve as a central hub for efficient decision-making, enhanced monitoring, and improved project execution across the department.

Minimum Bill of Material & Quantity for Command-and-Control Centre

Component	Purpose	Specifications	Quantity
Workstations	Operator analysis of road data	- Intel i7/i9 or AMD Ryzen 7/9 - 32 GB RAM - 1 TB SSD - NVIDIA RTX 3060 GPU or higher - Dual 24" 4K monitors	40 Units
Large Format Display	Centralized visualization	- 85" or larger - 4K UHD resolution - HDMI, DisplayPort, LAN connectivity - Touch-enabled (optional)	2 Unit
UPS	Backup power for critical systems	- 20 kVA or higher - Online double-conversion - Surge protection	2 Units

1.7 Operations and Maintenance by deploying trained manpower with required IT Equipment to carryout Day-To-Day activities of field operations as detailed in this RFP.

The operations team would be responsible to assist RWD in running the system. This team shall be deployed as required during the implementation phase and operations & Maintenance phase. RWD may also require additional manpower for any specific period and SI would have to provide the required number of resources and profile at the contracted rate for the required period.

Working Hours, Overtime, Leave, etc.

Working hours and holidays for resources deployed shall be as per labour laws and rules of the Government of Bihar.

Removal and/or Replacement of Personnel

Once approved by the client, no changes shall be made to key personnel. If, for any reason beyond the reasonable control of the SI, it becomes necessary to replace any of the key personnel, the SI shall provide a replacement with equivalent or better qualifications within 15 days of notifying RWD.

1.8 Creating baseline data of road deformities like potholes, cracks etc for the indicative length of approximately 65000 Linear Km which may increase/decrease in future using state of the art technology i.e. 360 Degree Panoramic imagery and low altitude aerial flying along the identified roads.

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The selected bidder shall undertake the following scope of work for the project involving 360-degree panoramic imagery and low-altitude aerial imagery for rural road condition assessment across the State of Bihar. The detailed scope is as follows:

12. Baseline Data Creation

Survey and Data Acquisition

- a. Conduct a survey with 360-degree panoramic imagery to capture rural roads spanning indicative length of approximately 65,000 linear Km which may increase/decrease in future across Bihar.
- b. Utilize low-altitude aerial imagery with the required overlap to capture high-resolution orthophotos for the designated road network.
- c. Ensure positional accuracy of captured data aligns with the project requirements, achieving a spatial accuracy of better than sub meter.
- d. Coordinate with the Bihar Rural Roads Department to access road links and other relevant data.

Coverage and Timeline

- a. Complete baseline data acquisition and processing within **12 months** from the date of the award of the contract.
- b. Ensure optimal scheduling to maximize efficiency while adhering to government permissions and weather conditions.

Permissions and Approvals

- a) Leverage state government-provided permissions for aerial data acquisition.
- b) Adhere to all applicable regulations and guidelines for aerial and ground surveys.

Data Integration and Deliverables

- Process and integrate 360-degree imagery, and aerial imagery into a seamless geospatial dataset.
- Deliver the processed baseline data, including:
 - 3D digital representations of surveyed roads.
 - Orthophotos with required accuracy and overlap.
 - Geo-referenced 360-degree street view imagery.
- Ensure compatibility of the dataset with the AI platform for road condition analysis.

13. Collaboration and Support

Input from the Bihar Rural Roads Department

The department shall provide road links, contractor details, and any other required input for effective planning and execution.

Compliance and Quality Assurance

- a. Ensure all data acquisition, processing, and reporting adhere to industry standards and project specifications.

- b. Establish a quality control mechanism to validate and verify data accuracy and reliability.

14. Deliverables

Baseline Deliverables

- Integrated aerial imagery, and 360-degree street view imagery.
- Orthophotos with required overlap and resolution.
- Initial AI-based analysis report identifying road deformities.

Quarterly Deliverables

- Geo-tagged video datasets captured using handheld equipment, drones, 360 degree cameras or any other approach as proposed by bidder
- AI-based road condition analysis reports, including change detection and recommendations.

15. Timeline

- **Baseline Data Creation:** Within 12 months of award.
- **Quarterly Monitoring Reports:** Every three months post baseline data submission, for a duration of four years.

1.9 Bridge Inspection and 3D Modelling using Drone or any other mode.

Introduction:

The scope of work also includes conducting drone-based inspections of road bridges across Bihar. The objective is to generate detailed Digital Twins for the Operation and Maintenance Department to ensure asset uptime, optimize resource allocation, and improve the maintenance lifecycle of the bridges.

All these bridges need regular monitoring, periodic inspection and maintenance to make bridge department operation fail safe. Monitoring strategies play a major role in achieving the target of service life of bridges. Currently, the inspections of these bridges are carried out by mobile inspection units, ladders, rope access etc. Regardless of the method used to carry out the inspection, the associated costs and dangers remain a challenge. Mobile inspection units require operation closures and blockage of routes, while inspection by ropes/ladders require a high level of training and expertise and still have issues related with resource availability, time needed and safety of the inspection staff.

Therefore, in most cases, these inspections are technically and logistically complex. The inspection of critical structural components and difficult spots that are hard to reach is mostly done by specially trained staff like industrial climbers or with large under bridge units, elevated platforms or other specialized equipment.

Digital Twin - 4D BrIM, Bridge Information Model Integrated Drone Inspection

Bridges are constructed based on the GAD (General arrangement Drawing) & Detailed designs. These GADs are available in the form of 2D drawings printed on paper or scanned Pdf files, with departments for most of the bridges except the bridges those are very old. It is difficult to refer these traditional 2D paper or CAD drawing for the inspection & maintenance purpose. Moreover, the

inspections records are not being linked with the designed elements of the Bridges and thus are hard to visualize, compare and comprehend. Regular Monitoring, Inspection & Maintenance management is a difficult and complicated task. The periodic inspection of the same Bridge and comparison of same is essential for holistic bridge maintenance.

In the 4D Bridge information modelling (BrIM) based approach the 3D Model of the Bridge is developed for managing and maintaining the inspection records. The integration of BrIM model along with related information of bridge inspection (Data captured using Drone etc.) shall improve the efficiency of maintenance and management work of bridge. This has also to be integrated with Bridge Management System (BMS).

Advantages of 4D BrIM, Bridge Information Model Integrated Inspection:

- a) 3D Model of bridge brings clarity & understanding of the bridge geometrical details.
- b) 3D Model integrated with maps provides greater understanding about the bridge location, upstream & downstream challenges.
- c) Rich Visualization of any part of bridge.
- d) Enables dissemination and sharing of information in the 3D environment.
- e) Enhances communication and coordination among officials.
- f) Base line Model to compare the periodic inspection records.
- g) Web-based 3D technology to enhance the inspection records and its effectiveness.

SCOPE OF WORK

- A. To Develop 3D model (Digital Twin / BrIM) of the Bridge using Drone or any other mode which will be analysed and reported on AI driven cloud platform with objective of data management, visualisation, analysis, reporting and dashboard. The BrIM shall retain Bridge information in a digital format, and facilitates easy updating and transfer of these information in the 3D CAD environment. Drone Inspection data shall be linked with the Bridge 3D model.
- B. Visual Inspection of the bridge by recording systematically and periodically the state of the structure by high resolution camera mounted Drones. This enables one to know the conditions of Bridge and identify actual and potential sources of trouble at the earliest.
- C. To provide feed-back of information to custodians of the bridges on those features which are likely to give maintenance problems and necessary attention is to be taken.
- D. To provide necessary information to aid in decision making for carrying out maintenance repairs, strengthening or replacement of the structure.
- E. Web based BMS linked BrIM environment enable railway official to obtain an overview of the bridge geometry and drone inspection data quickly. This will allow officials to track and access the most recent drone inspections information, condition, and later correlate the maintenance record during the maintenance phase. It is pertinent to highlight that structure integrity or assessment shall be outside the scope.

Area of Interest:

- 1. Super structure
- 2. Sub structure
- 3. Bearings & vicinity
- 4. Expansion joints
- 5. Abutments
- 6. Piers

- 7. Bridge Deck
- 8. Protection work

Approach for adopting solution:

- a) Planning & Preparation
- b) 3D Bridge Model Development for base line data.
- c) Drone based inspection using Visual sensor.
- d) Data Processing
- e) Analysis, Reporting & Dashboards
- f) Data Publishing and Integration with BMS

Planning & Preparation: To complete the Bridge Information Review, the Information such as as-built plans, historical inspection reports, and other applicable documents should be studied in this stage to ensure a complete inspection of the bridge structure. For instance, the review of the inspection reports allows a pilot to identify critical inspection locations (e.g., deck or girders) prior to the drone-enabled inspection. The information gained during this stage permits the pilot to develop flight strategies under limited bridge approachability conditions, identify current damage, and monitor or update critical damage such as concrete cracks on the target bridge.

3D Bridge Model Development for base line data: At this stage, team will be deployed with advanced systems to collect the point cloud data at the location of bridge. These 3D Model shall be developed in advance 3D BrIM modelling software. The Models shall be developed so that each element which is required for the inspection can be individually selected, rendered and can be connected with the drone inspection data. The Levels of Detail (LOD) 200/300 shall be used including defining a general model with approximate values for each element.

Drone based Inspection using Visual sensor: Once all the preliminary information has been gathered during the previous stages, the inspection using the drone can be conducted. During the operation of the drone, it is necessary to consider weather conditions such as wind, because it can negatively affect the performance of the drone. Aside from weather condition, the inspection plan should be performed as planned to avoid delays or damage to both the structure and the drone. It is recommended to capture the overall sections of the bridge, and then gather close-up or detailed information of each structural and non-structural component.

- a. **Data Acquisition:** The whole length of the Bridge is to be inspected covering the Bridge structures as mentioned in the scope of Bridge Aerial Survey work under Areas of Interest Critical Areas of Particular Interest (CAPI) such as Foundation, Abutments, piers, girders, chords, bearings, bottom trough, joints, super & sub structure etc. Substructure and surroundings including buffer of 100m toward Increasing & decreasing chainage and 100m in upstream & downstream of the river/nalas/stream/road/canal etc. crossing the bridge.

The broad requirements of UAV/drone and its capturing process at the time of survey shall ensure following:

- a) Security clearance: Organization or individual must have the security clearance for drone operations from DGCA,
- b) Qualified Drone Pilot: Drone pilot shall have the Remote Pilot Certificate from DGCA as per **Drone Rule 2021**.
- c) The Organization shall have the Unique Identification Number issued by DGCA as per Drone Rule 2021.

- d) UAV must be able to photograph from close enough distance to obtain a right resolution, resolution of 1mm/pixel is shown to obtain detail images that are comparable with close-up photos. For accurate crack measurement, this resolution needs to be even better.
- e) Location of the UAV's, and thus its photos relative to the object should be clear to obtain better knowledge on the location of the photos as some elements of bridges are much alike.
- f) Standardization of the mission planning and data analysis processes are needed.
- g) Operator should be able to steer the camera to capture the correct images/data.
- h) From images alone it is hard to observe the difference between different type of cracks, for example, a spider web and a crack. Data should be able to distinguish the difference.
- i) Lot of data is acquired during flight; this data should be analysed in an efficient way.
- j) Automatic image processing is necessary; currently photos are viewed piece by piece which takes a lot of man-hours and is therefore costly and time consuming.
- k) Fail-Safe mechanism to control the UAV in case of signal loss/ battery discharge and should be able to land safely.
- l) GPS for horizontal and vertical position fixing & Autonomous & manual flying.
- m) Autonomous Flight Termination System or Return to Home (RH) option.

Data processing & Web based 4D Bridge Information Modelling System:

Vendor shall develop and host the web-browser based Application hosted on same cloud platform integrating the 3D Bridge model and drone visual data with BMS so that the visual data captured by drone and other bridge inspections entered in BMS can be seamlessly visualized by RWD users..

- (i) Web browser-based Application shall integrate the 3D model of the Bridge and visual data captured using drone and help department to visualize the 3D Model, captured drone data and reports of individual and all bridges.
- (ii) A cloud application to be used for 4D Bridge Information Modelling System having suitable visualization of the 3D Bridge Model to appreciate the geometrical details for any part of the bridge by department engineers with Pan, Zoom in, Zoom Out, Pan, Tilt, Rotate, functions. Each component of bridge 3D model shall be selectable and compatible for query. The Map integration shall also be available to visualize Bridge surroundings and also the Upstream and downstream topographical details & river course, etc.
- (iii) The images for inspection captured using drone shall be hosted minimum high-definition resolution on the cloud data centre and shall be 2-way synchronized with the 3D BrIM Model. A user-friendly cloud platform and advance Image viewer shall have image zoom in & out feature. Also, 3D model click based search shall be made available for users for faster accessing information and asset visualization. The facility of downloading data from centralized] server in the local system shall be made available.
- (iv) Upto 25 role-based access from anywhere over internet browser for Monitoring Reports alerts, Administration etc. Data storage and 24x7 application and infra monitoring shall be done. Unlimited Department Access shall be available.
- (v) Application Platform Framework shall comprise of following key modules:
 - a) Cloud hosted platform
 - b) User Management
 - c) Upload Module

d) Data Processing Module -

e) Database

f) Application Server

- User Management module
- Data Management module
- Geo Images Management Module
- BrIM / MAP Module
- Sync Module

g) HTTP Server

- SSL Implementation: - Support for HTTPS
- Encryption: - Password should be stored in encrypted HASH
- Domain Mapping

h) User Interface

Features List: Features required for the Web 4D Bridge Information Modelling Application:

- a) BrIM Model visualization in WebGL with Pan, Zoom in, Zoom Out, Tilt Rotate, functions
- b) BrIM Model shall be available along with MAP base layer
- c) Selectable Individual components of the BrIM Model
- e) Bridge wise inspection image Images Zoom (in & out)
- f) Severity wise data filter and visualisation bridge wise.
- j) Data download function in same quality as it has been uploaded
- n) Platform should have capability of annotation and comments on same.
- o) Annotation of inspection comments
- p) Annotation can be searched

TECHNICAL SPECIFICATIONS

1. Drone / Visual Specifications:

- o Category: Small as per DGCA rules.
- o Visual Sensor: 20 MP resolution with 1 inch CMOS sensor.
- o GPS Accuracy: Sub-centimetre level
- o Endurance: Minimum 40 minutes flight time

2. Digital Twin Specifications:

- Accuracy: Sub-centimetre 3D spatial accuracy
- Formats: Compatible with common GIS and BIM software
- Features: Include point cloud data, Ortho mosaic images, and 3D models

3. Operational Requirements:

- Compliance with DGCA (Directorate General of Civil Aviation) regulations.
- Data Security: Ensure data encryption and secure storage.
- Environmental Compliance: Adherence to local and national environmental guidelines.

4. Software Requirements:

- Use industry-standard software for data processing and Digital Twin generation.
- Provide access to a cloud-based dashboard for data visualization, analysis and reporting.
- Cloud platform must have capability to analyse 2D and 3D data in single user interface without moving to any different tab/ window/ software.
- Cloud platform must have capability to analyse image with annotated using bounding box.
- System should be capable to train the AI & ML models for automatic identification defects.
- Use industry-standard software for data processing and Digital Twin generation.
- Provide access to a cloud-based dashboard for data visualization and analysis.
- The cloud-based platform must be designed in compliance with MeitY (Ministry of Electronics and Information Technology) guidelines and the Geo-spatial Policy of India.
- Ensure the platform supports secure, role-based access control and offers tools for advanced geospatial analysis, reporting, and collaboration.

1.10 Deployment of equipment with high resolution camera integrated with GPS

The selected bidder shall deploy devices equipped with high-resolution cameras integrated with GPS for road condition monitoring. The devices must meet the specifications outlined in the equipment annexure, ensuring they are capable of capturing geo-tagged, high-definition video of rural road networks. These devices will be utilized by field personnel of road contractor to conduct quarterly road condition surveys for indicative length of approximately 65,000 linear Km which may increase/decrease in future. The equipment must be robust, user-friendly, and capable of operating in varied environmental conditions across Bihar. The bidder shall also provide necessary accessories, training for operation, and maintenance support for the supplied devices to ensure seamless data collection throughout the project duration.

Minimum additional Activities to be performed during engagement-

System Security and User Management

- **Authentication** - The system will adopt Single Sign On (SSO) security system for authentication with appropriate encryption level for user data.

- **Authorisation** - Following levels of user security management features must be present in the application.

a) User Management –

Application will request list of users through the SSO from central portal, the modality of which will be discussed with department in the inception. These lists of users will always be dynamically synced and a copy of the same will be stored within application database to assign role and jurisdiction. The agency will make alternate arrangements to build own security module to create/manage users if the SSO facility is not available.

b) Role Management –

The system will define levels of system use (roles). This will allow grouping of select functions available in a module(s), and create roles for users. The functions must include separate mode for view only, and/or editing for all such functions and allow for assignment of role(s) to users.

c) Jurisdiction management –

The system will have facility to control data access of network inventory, condition and cross drainage structure based on jurisdiction defined in the system. This will also have facility to bind jurisdiction accessibility with role management.

1. System Development, Testing

After the finalization of the overall system, the architecture and design reports of modules, system development, configuration, and testing will be undertaken by the agency in accordance with technical requirements. Agency will use its own hardware and software for development of the application. However, the testing should be conducted at the client's office by the agency staff. The agency will use the data collected on the project to load in the system and undertake all testing, including preparation of a maintenance plan for selected roads. The system should incorporate all the procedures, and maintenance strategies developed for this purpose.

The agency is encouraged to split the design report schedule in order to initiate system development of some modules on a priority basis. The system should undergo testing using the use cases as defined in the design report. The test cases should be finalized with the client before commencing user acceptance testing. Upon completion of user acceptance testing and the integration, the system will be released for client testing. The client will provide comments / suggestions related to the software for incorporation in the final release.

Operational / User Acceptance Testing

The tested system will undergo Operational/User Acceptance Testing in the environment used by the agency for development. The agency should ensure to submit copies of system user manuals for each application describing all the functional use cases and business scenarios before conducting User Acceptance testing. Upon testing, identified deficiencies will be

resolved by the agency and necessary changes made before finally deploying in the client's infrastructure.

The testing will be conducted by the client and/or its appointed representative using the test cases and business scenarios described in design reports and user manuals. For the testing it is mandatory to use data collected on the project in a test environment.

2. *System Deployment and Security*

After successful conduct of Operational/User Acceptance Testing, the system will be deployed in the production environment provisioned at the proposed MEITY-empowered cloud service provider site. The system shall comply with all the integration requirements as per given mandate and comply to identified deficiencies during Operational / User Acceptance Testing. The system will comply with security requirements as per government's IT policy.

3. *Training and System Implementation*

The agency will impart training on use of software modules and the maintenance of the systems. A training program will be prepared, on all components of the software developed. The training program will use workshops, field training and on-the-job training to transfer skills. RWD will provide the conference halls only for the training. All the other arrangements should be made by the bidder. The agency will prepare and provide all operational and training material including training manual, videos of use of software, online exercises to use various modules of software and presentations which will be property of RWD.

4. *Qualifications for manpower*

The Bidder would need to ensure that adequate & sufficiently trained resources are deployed to manage the Centralized Infrastructure components to meet the SLA and functional requirements of the project. The minimum qualifications and skills requirements are given in the table below:

S.no	Position Details	Qualification & Experience	Total Required	Location of Deployment
1	Project Manager (1)	Education: Full Time MCA/B.Tech/B.E. Or similar relevant degree from a reputed institute or Total Experience: Atleast 10 years in IT domain Should havemorethan4years ofexperienceof handlingsuch large projectsasaprojectmanager Languages known (Read, Write and Speak): Hindi, English Excellent writing, communication, timemanagementand	1	Patna
2	Minimum OCC team	Education: Full time MCA/M.Tech/B. Tech/B.E or similar relevant degreee Total Experience: at least 3 Years of experience in similar projects. Experience in transport sector would be preferred.	12 (2 resources representing each Chief Engineer Zone)	Patna

Note:

1. The SI shall also deploy required resources for Data Engineering, Data Analytics, Visualization, Testing, App Development, MIS and functional, Security and Infrastructure experts, Change Management, and training experts etc. These resources should ideally be inhouse with SI and their CVs should be included in the proposal along with deployment plan.
2. The no. of resources to be initially deployed at Control and command centre would be limited to 06 nos. (Each representing 6 Chief Engineer Zones).However, the number of resources can be increased on need basis for which additional amount shall be paid to the bidder as per the financial quote as quoted by the bidder for additional resources as indicated in the financial bid format.Meanwhile, the bidder is expected to build capacity of the serving officers of RWD who can handle the activities in the control and command centre.

7. IMPLEMENTATION SCHEDULE:

S. No	Milestone	Completion Time
1.	Inception Report	T+1 Months
Design, Development, and Deployment of Software		
1	Requirement Study, Business Process Re-engineering for best fit cloud solution, preparation of SRS, and approval	T + 2 Months
2	Design of Cloud-based Software and Approval	T + 3 Months
3	Development and Deployment of Software as defined in SRS on the Cloud Platform	T + 10 Months
5	User Acceptance Pre-Go-Live Activities	T + 11 Months
6	Cloud-based Software Go-Live	T + 12 Months
Cloud Environment Setup		
1	Provisioning Cloud Infrastructure based on MiETY Cloud Guidelines	T + 2 Months
2	Configuration of Cloud Resources and Setup of Central Control Center on the Cloud	T + 4 Months
Deployment of Operational Resources and Operations		
1	Deployment of Resources - Program Manager for Cloud Deployment	T + 1 Month
2	Deployment of Resources - Cloud Environment Management and Support Teams	T + 3 Months
3	Deployment of Resources - Project Manager - Cloud Solution data engineerings, data analytics experts, network and infrastructure experts etc.	T + 3 Months
4	Deployment of Resources at Head Office for control and command centre	T + 8 Months
5	Deployment of Field Operational Resources across all Divisions	T + 8 Months
6	Commencement of Survey across all Divisions	T + 8 Months

8. PRE-QUALIFICATION CRITERIA

1. The invitation for bids is open to all entities registered in India who fulfill the prequalification criteria as specified below.
2. The bidder must not have been blacklisted/banned/declared ineligible by any entity of any State Government, the Government of India, or any Local Self-Government body or public undertaking in India for participation in future bids due to unsatisfactory past performance, corrupt practices, fraudulent activity, or any other unethical business practices, or for any other reason.
3. Projects executed for the bidder's own company, the bidder's group of companies, or the bidder's consortium/JV companies shall not be considered.
4. **The Bidders shall satisfy all the criteria below:**

For each category of prequalification criteria, the documentary evidence is to be produced with prequalification/technical bids. If the documentary proof is not enclosed for any or all criteria, the submission of the Tender is liable for rejection. The bidder or Lead Bidder shall meet all the following criteria for eligibility:

S. No.	Criteria	Pre-qualification Criteria description	Required Documents
1	Incorporation of the Firm, Legal Entity	<p>The bidder should be a single Business Entity/ Private Limited Company/ a Firm/ Limited Liability Partnership (LLP)</p> <p>For the purpose of this RFP, a Business Entity shall mean a company registered in India under the Companies Act 1956 or in any country under respective laws.</p> <p>The Bidder in case of a single Business Entity/Private Limited Company/ a Firm/Limited Liability Partnership should be a registered company in India under the companies Act 1956 and should be in existence and operating for at least 05 years as of date of publishing of the Tender Notice.</p>	Self-attested copy of Incorporation / Registration Certificate of the company/ a Firm/ Limited Liability Partnership.
2	Financial Strength	<p>The Bidder in case of a single Business Entity/Private Limited Company/ a Firm/Limited Liability Partnership should have a minimum annual turnover of INR 50.00 Crores (Rupees Fifty Crores only) in the business of Digital solution services / IT / ITES in each of the last three financial years</p> <p>Note: Turnover of any parent, subsidiary, associate or other related entity will not be considered.</p>	<p>Audited Financial Statements (Balance Sheet and P&L Audited by a Certified Chartered Accountant) clearly stating the average annual turnover over last three financial years</p> <p>Certificate from a registered Chartered Accountant (CA) certifying the turnover of the bidder</p>

3	Net worth	<p>The Bidder in case of Single Business Entity/ Private Limited Company/a Firm/ Limited Liability Partnership should have positive net worth in last three financial years.</p> <p>Note: Net worth of any parent, subsidiary, associate or other related entity / LLP will not be considered.</p>	<p>Audited balance sheet, profit & loss statement and certificate from certified Chartered Account mentioning positive net worth.</p>
4	Past Experience - Design, Development and Implementation of e-Governance/ IT Projects.	<p>The Bidder in case of Single Business Entity/ Private Limited Company/a Firm/ Limited Liability Partnership should have experience of at least one ongoing / implemented / completed and operating project in Design, Development & Rollout of e-Governance/ IT Solution with scope of work containing GIS based image analytics and maintenance management system creation for Linear transport Infrastructure (Roads/ Railways/ Telecom /Utilities) for any Central/ State Government Department, / PSU's in India in the last Five (5) Years from</p>	<p>Copy of Work Orders / Purchase Orders / Contracts along with Completion Certificates / Go-Live certificates/ Self-Certificate signed by Authorized Signatory for On-going projects.</p> <p>Details of the projects to be submitted in the format.</p>
5	Past Experience - asset management system projects.	<p>The Bidder in case of Single Business Entity/ Private Limited Company/a Firm/ Limited Liability Partnership should have experience of at least one ongoing / implemented / completed project of asset management system including data acquisition and design application development/implementation in transport sector preferably viz., transportation/or other related sector utilities/municipal corporations etc.</p>	<p>Copy of Work Orders / Purchase Orders / Contracts along with Completion Certificates / Go-Live certificates / Self-Certificate signed by Authorized Signatory for On-going project.</p> <p>Details of the projects to be submitted in the format.</p>
6	Local Presence	<p>The Bidder in case of Single Business Entity/ Private Limited Company/a Firm/ Limited Liability Partnership should have presence in Bihar in the form of a registered office / branch/ project office in the State of Bihar before signing of contract or the bidder will have to submit an undertaking that office will be set up once this opportunity is won.</p>	<p>Self-Attested copy of Documentary evidence of Local Presence.</p> <p>OR</p> <p>Self-certificate declaring the local presence duly signed by Authorized Signatory.</p>

7	Blacklisting	The Bidder in case of Single Business Entity/ Private Limited Company/a Firm/ Limited Liability Partnership should not have been blacklisted by any State/ Central Government Departments/ Organizations/ PSUs in India or by any agencies Globally for corrupt, fraudulent or any other unethical business practices or for any other reason with in last 5 years from the last date of submission of bid.	Self-certified Undertaking on the company's letter head by its authorized signatory as per the format "Form PQ-9". This should be duly notarized by a notary public.
8	GST Registration and PAN card	The Bidder in case of Single Business Entity/ Private Limited Company/a Firm/ Limited Liability Partnership shall be registered for GST and shall have valid PAN number.	Self-attested copies of GST registration certificate and PAN card.
9	Power of Attorney	Power of attorney to authorized signatory for signing of proposal.	Power of attorney duly executed and notarized. Submission of original Power of Attorney in an envelope (offline) as mentioned earlier.
10	Certificate of no deviation	Certificate of no deviation of terms and conditions of the RFP	Self-certificate of no deviation duly signed by Authorized Signatory.
11	EMD	EMD as per the details given in ITB	Submission of original Earnest Money Deposit in an envelope (offline) as mentioned earlier.

9. TECHNICAL EVALUATION CRITERIA

S. No.	Criteria	Marks System	Required Documents
(a) Past- Experience of bidder (Total Maximum Marks- 50)			
1	<p>The Bidder in case of Single Business Entity/ Private Limited Company/a Firm/ Limited Liability Partnership should have experience in at least one ongoing / implemented / completed project of similar work* in linear transport infrastructure (Roads/ Railways/ Telecom /Utilities) with any Central / Public Limited / State Government Departments / Organizations, PSUs in India.</p> <p>Similar work - Work involving data collection using image/GIS camera/Drone / 360 Degree Panoramic imagery mounted on vehicles / 360 Degree Street View Imagery. These should be integrated with image</p>	<ul style="list-style-type: none"> •One project with a value more than ₹ 30 crore = 30 Marks. •Projects with a value > ₹ 15 crore and upto ₹ 30 crore = 20 Marks each. •Projects with a value upto ₹10 crore = 10 Marks each (Maximum of 30 Marks) 	<p>Work order + Client ongoing/completion certificates; OR Work order + Self certificate of ongoing (by Authorized Signatory);</p> <p>Submit project details as per format.</p> <p>Out of consideration: - Those projects with scope only for</p>

	analytics and asset management system with both web and mobile applications		supply of COTS GIS software / Remote Sensing products like Satellite imagery / Hardware surveying products will not be considered. Image analytics and asset management system with both web and mobile applications should be core part of this system
3	Implementation of /Dash Board/Command and Control Centre	<p>Atleast 1 project in transport sector - 10 Marks</p> <p>Atleast 1 project in sectors other than transport – 10 Marks</p> <p>(Maximum of 20 Marks)</p>	<p>Work order + Client ongoing/completion certificates; OR</p> <p>Work order + Self certificate of ongoing (by Authorized Signatory);</p> <p>Submit project details as per format.</p>
(b) Bidder Certification (Total Maximum Marks- 5)			
4	Certification	<ul style="list-style-type: none"> •ISO 9001 & ISO 27001 – 2.5 Marks •CMMi Level 3 or above (Issued by ISACA) – 2.5 Marks <p>(Maximum of 5 Marks)</p>	Self Certified Proof of valid certificate
(c) Proposed Solution and Approach (Maximum Marks- 10)			
5.	Proposed Solution: Bidders must demonstrate their understanding of the RFP requirements	<p>b. Proposed Solution Architecture.</p> <p>c. Implementation Strategy for Survey.</p> <p>d. Operations and Maintenance Plan.</p> <p>e. Training and Capacity Building.</p> <p>f. Sustainability and Innovation.</p> <p>g. Compliance with Government Standards.</p> <p>h. Risk Management Plan.</p> <p>i. Diagrammatic/pictorial representations,</p>	Submit details as per FORM.
(d) Technical Presentation and Demonstration (Maximum Marks- 25)			
6			

	Technical presentation and Demonstration.	<p>Please note Bidder shall be required to present their understanding separately in the form technical presentation and/or Demonstration - 25 Marks.</p> <p>Innovative use multiple technologies to achieve the desired objective will be given additional weightage.</p>	Submit the presentation after to evaluation committee.
(e) Financial Capability of the bidder - Total 10 Marks			
7	Financial Capability of the bidder	<p>Average Annual Turnover of the Bidder in case of Single Business Entity/ Private Limited Company/a Firm/ Limited Liability Partnership should from Digital solution services / IT / ITES for the last three financial years:</p> <ul style="list-style-type: none"> • $\geq ₹ 50$ Crore and $\leq ₹ 100$ Crore – 5 marks • $> ₹ 100$ Crore and $\leq ₹ 200$ Crore – 7 marks • $> ₹ 200$ Crore and – 10 marks 	Copy of audited Balance sheet

10. BID OPENING AND EVALUATION PROCESS

- 1) RWD reserves the rights at all times to postpone or cancel a scheduled bid opening.
- 2) The bids will be opened in two parts: one for pre-qualification & Technical and one for the Commercial bid of those bidders whose technical bid qualifies, in the presence of bidders' representatives who choose to attend the bid opening sessions on the specified date, time, and address.
- 3) The bidder's representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of bid opening being declared a holiday, the bids shall be opened at the same time and location on the next working day. However, if there is no representative of the bidder, RWD shall go ahead and open the bids.
- 4) During bid opening, preliminary scrutiny of the bid documents will be made to determine whether they are complete, whether the required bid security has been furnished, whether the documents have been properly signed, and whether the bids are generally in order. Bids not conforming to such preliminary requirements will be prima facie rejected.

Overall Evaluation Process

- 1) A three-stage evaluation procedure will be adopted for the evaluation of proposals, with the technical evaluation being completed before the commercial proposals are opened and compared.
- 2) RWD will review the technical bids of the short-listed bidders to determine whether the technical bids are substantially responsive. Bids that are not substantially responsive are liable to be disqualified. RWD may seek inputs from their professional external experts in the technical and commercial evaluation process.
- 3) RWD shall assign technical scores to the bidders based on the technical evaluation criteria. The bidders with a technical score above the threshold as specified in the technical evaluation criteria shall technically qualify for the commercial evaluation stage.
- 4) The commercial bids for the technically qualified bidders will then be opened and reviewed to determine whether the commercial bids are substantially responsive.

11. EVALUATION OF BIDS

- 1) For the evaluation of Pre-qualification Bid, the documentation furnished by the Bidder will be examined to check if all the eligibility requirements stated in the Pre-qualification Section are furnished in accordance with the RFP. RWD may ask the Bidder for additional information whenever the Supplier feels that such information would be required. This may also include reference checks to verify credentials submitted by the Bidder.
- 2) Proposals not meeting the pre-qualification criteria will not be processed further beyond this stage.

11.1 Evaluation of Technical Proposals

The evaluation of the technical bids will be carried out in the following manner:

- 1) The bidders' technical solution proposed in the bid document is evaluated as per the requirements specified in the RFP and adopting the evaluation criteria spelt out in this RFP. The Bidders are required to submit all required documentation in support of the evaluation criteria specified (e.g., detailed project citations and completion certificates, client contact information for verification, profiles of project resources, and all others) as required for technical evaluation.
- 2) The committee may seek clarifications from the bidders. The primary function of clarifications in the evaluation process is to clarify ambiguities and uncertainties arising out of the evaluation of the bid documents.

11.2 Technical Evaluation Methodology

- 1) Each Technical Bid will be assigned a technical score out of a maximum of 100 points.
- 2) Only the bidders who score a total technical score of 60 (Sixty) or more will qualify for the evaluation of their commercial bids.
- 3) The commercial bids of bidders who do not qualify technically shall be returned unopened to the bidder's representatives after the completion of the evaluation process.
- 4) The technical scores of the bidders will be announced prior to the opening of the financial bids.
- 5) The technically shortlisted bidders will be informed of the date and venue of the opening of the commercial bids through oral/written (email) communication.

11.3 Evaluation of Technical Bids

- 1) The evaluation of the Technical bids will be carried out as follows for that Bidder who meets the Pre-Qualification requirements.
- 2) For each Technical Proposal, the total points that can be awarded for each Bidder are 100, and the minimum technical score (T) that a Bidder requires to qualify for opening of the Financial Proposal is 60.

The highest evaluated Technical Proposal (T1) shall be given maximum Technical Score (TS) of 100.

The formula for determining the Technical Scores (St) of all other proposals is calculated as following: $TS = 100 \times T/T1$,

in which "TS" is the Technical Score,

"T1" is the highest Technical Score given, and

"T" is the Technical Score of the proposal under consideration.

- 3) Financial Evaluation Criteria: The financial proposals of the bidders qualifying the technical evaluation only shall be opened at this stage in the presence of the bidder's representative who wishes to attend the meeting with proper authorization letter. The name of the bidder along with the quoted financial price will be announced during the meeting.

The lowest evaluated financial proposal (F1) will be given a maximum financial score (FS) of 100 points.

The formula for determining the financial scores of other proposals will be computed as follows:

$FS = 100 \times F1/F$, in which

"FS" is the financial score,

"F1" is the lowest price, and

"F" the price of the Proposal under consideration.

- 4) Evaluation Process: Proposals shall be ranked according to their combined technical (TS) and financial (FS) scores using the weights (T = the weight given to the Technical Proposal (0.8); P = the weight given to the Financial Proposal (0.2):

$S = (TS \times T) + (FS \times P)$,

The bidders securing the highest combined evaluated scores will be ranked H1 and thereafter others will be ranked in the order of H2, H3 and so on. The Authority will retain the Bids of H2, H3 and so on shall be kept as reserve in case the H1 fails to comply the formalities for execution of agreement in due time.

Note:

- In case where a bid is determined to be abnormally low in comparison to other bids received, indicating a potential risk to the performance of the contract, the procuring entity reserves the right to seek clarification from the bidder to ensure that bid is genuine and viable. If the bidder fails to provide a satisfactory explanation, the procuring entity may reject the bid.
- Additionally, for abnormally low bids that are accepted, the procuring entity reserves the right to require the bidders to furnish an additional bank guarantee, upto 10% of the contract value, to safeguard the interest of the purchaser. The additional security shall be in a form acceptable to the procuring entity and shall remain valid for period extending beyond the completion of all contractual obligations including warranty obligations.

12. COMMERCIAL BID COVERING LETTER

RFP Reference No. and

Date:

Bidders Name and Address:

Person to be contacted:

Name:

Designation:

Phone / Mobile No:

E-mail:

Telephone No(s):

Fax No.:

Subject: Selection of system integrator for establishment, operation and maintenance of departmental portal and toll-free call center for grievance redress, advice and helpline

Sir,

We, the undersigned bidders, having read and examined in detail the specifications and all the bidding documents in respect of services for the above-mentioned subject, do hereby propose to provide the services as specified in the bidding documents, for which the cost will be as under:

1. PRICE AND VALIDITY – Cost of all works/services mentioned in the "Scope of Work" and as per the Bill of Material, including the maintenance of 4 years – Rs. (as per Detailed Commercial Bid).

All the prices mentioned in our proposal are in accordance with the terms as specified in the bidding documents. All the prices and other terms and conditions of this proposal are valid for a period of 180 calendar days from the date of opening of the bids. We are an Indian firm and do hereby confirm that our bid prices include all taxes, duties, and levies.

We hereby declare that all taxes which are leviable under the law prevailing at that time will be paid by us.

Note: The bidder should quote the price in words also. In case of any discrepancy between the prices quoted in words and figures, the price quoted in words shall prevail and will be considered for comparison of bids. "FINANCIAL BID," will be submitted on online mode only.

2. EMD

We have enclosed a Demand Draft (DD No. _____, Bank _____, Dated _____) or Bank Guarantee in favor of Under Secretary, Rural Works Department, payable at Patna for the sum of Rs. _____. This EMD is liable to be forfeited in accordance with the provisions of the bid documents.

We declare that all the services/works shall be performed strictly in accordance with the Scope of Work and as per the Bill of Materials.

m h Br

1. Bid Pricing

We further declare that the prices stated in our proposal are in accordance with your Instructions to Bidders as stated in the bidding documents.

2. Bid Price

We declare that our bid prices are for the entire scope of the work as specified in the technical specifications and bid documents. These prices are indicated and attached with our proposal as part of the Financial Bid.

We hereby declare that our proposal is made in good faith, without collusion or fraud, and the information contained in the proposal is true and correct to the best of our knowledge and belief.

Thanking you,

Yours faithfully,

(Signature)

Printed Name and Designation

Seal

Date

Place

Business Address:

13. DETAIL FINANCIAL BID FORMAT ASPERS COPE OF WORK

Sr. #	Item	Basis	Unit Rate	Quantity	Cost in INR (Unit Rate X Quantity)
1	Design, Development/ customisation, Deployment & Maintenance of AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) software with cloud platform as per the scope. The above cost should include but not limited to the following:				
	• Cloud cost required for hosting and running AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS).	Lumpsum		01	
	• Setting up of Centralised Operations Control Centre (COCC) at RWD Head Quarter	Lumpsum		01	
	• Bridge inspection and 3D modelling using drone or any other mode.	Lumpsum		01	
	• Deployment of equipment with high resolution camera integrated with GPS.	Lumpsum		01	
2	Creating baseline data of road deformities like potholes, cracks etc for the indicative length of approximately 65000 Linear Km which may increase/decrease in future using state of the art technology i.e. 360 Degree Panoramic imagery mounted on vehicle and low altitude aerial flying along the identified roads	Per Km		65000 km	
3	Annual Operations and Maintenance (4 Years) of AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) including deploying trained manpower with required IT Equipment to carryout Day-To-Day activities of field operations as per scope including Incremental Data Analytics & Report Generation.	Per Km		65000 km	

4.	Additional Manpower to be deployed at Control and Command Centre on the basis of requirement.	Per Resource		01	
	TOTAL COST (Cost in INR = 1+2+3+4)				

Note: "FINANCIAL BID," will be submitted on online mode only.

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14. PAYMENT TERMS

The Bidder can raise claim on task completion and/ or calendar month basis according to the number of manpower engaged in the project as the case may be. The department will release the payment to the SI within 15 days of their submission of Tax Invoices.

The SI shall be eligible for payment as per the milestones as a percentage of the implementation cost and Operations and maintenance cost as per the payment schedule given below:

Item No.- 1 Design, Development/ customisation, Deployment & Maintenance of AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) software with cloud platform as per the scope – Payable on milestone basis as indicated below.

Sl. No.	Milestones	Payment
1	Inception Report	10%
2	SRS & FRS	15%
3	Cloud Based software design	15%
4	Provisioning of cloud services and environments required for hosting and running AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS).	5%
5	SIT closure of (IRRMMS)	5%
6	Installation & Commissioning Command & Control Center	25%
7	Bridge Inspection module	5%
8	Data Approval	5%
9	UAT sign off on IRRMMS	5%
10	Go-Live	10%
	Total	100%

Item No.- 2 & 3 - Creating baseline data of road deformities like potholes, cracks etc for the indicative length of approximately 65000 Linear Km which may increase/decrease in future using state of the art technology i.e. 360 Degree Panoramic imagery mounted on vehicle and low altitude aerial flying along the identified roads AND Annual Operations and Maintenance (4 Years) of AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) including deploying trained manpower with required IT Equipment to carryout Day-To-Day activities of field operations as per scope including Incremental Data Analytics & Report Generation – Payable on quarterly basis against the actual length of road surveyed and analysed during the quarter. However, all cloud cost shall be paid based on actuals on monthly basis.

Annual Operations and Maintenance Payment

Sl. No.	Milestones	Payment
1	Creating baseline data of road deformities including Data Acquisition, Submission of raw data , final processed data along with road deformities report including Incremental Data Analytics & Report Generation	100%

2	Annual Operations and Maintenance of AI based Intelligent Rural Road Maintenance and Monitoring System (IRRMMS) at the designated Cloud Data Centre including deployment of trained manpower with required IT Equipment to carryout Day-To-Day activities of field operations including surveys Submission of raw data , final processed data along with road deformities report including Incremental Data Analytics & Report Generation	100%
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Notes:

- The Invoice for the Operational Resources shall be raised as per the actual deployment during the calendar month.
- If the number of resources increased / decreased beyond those specified in the contract, during the contract period, then such payment will be calculated on the basis of contract rates of such resource position and period for which they are deployed.
- The Invoice for vehicle running cost shall be raise as per the actual distance (in km) travelled for project implementation during the month as per GPS Tracking Report.
- Payment due shall be made after deducting applicable taxes.
- GST/ any other applicable taxes shall be paid at actuals/ as per prevailing rates at the time of invoicing.
- All the payments will be made to the Bank Account of the S.I.

14.1 Currency of Payment:

Payments to the SI shall be made in INR.

14.2 Mode of Billing and Payment

Billing and payments in respect of the Services shall be made as follows:

- As soon as practicable and not later than Fifteen (15) days after the end of each calendar month during the period of Services, or after the end of each milestone otherwise indicated, the SI shall submit to the client, in duplicate, itemized statements if any, accompanied by copies of invoices of the amounts payable.
- The Client shall pay the SI statements within fifteen (15) days after the receipt by the Client of such statements with supporting documents. Only such portion of a statement that in not satisfactorily supported may be withheld from payment. Should any discrepancy be found to exist between actual payment and costs authorized to be incurred by the SI, the Client may add or subtract the difference from any subsequent payments. Interest at the annual rate specified in the SC shall become payable as from the above due date on any amount due by, but not paid on, such due date.
- All payments under this Contract shall be made to the accounts of the SI.

14.3 Taxes and Duties:

The rates quoted shall be exclusive of all taxes, duties, and levies (as applicable, as per prevailing government tax policies).

15. BIDDER PROFILE

15.1 GeneralProfile

Sr. No	Details	Description
1	Name of the company	
2	Registered office address Telephone number Fax number E-mail	
3	Correspondence/contact address	
4	Details of contact person (name, designation, address, etc.) Telephone number Fax number E-mail	
5	Is the firm registered with the Commercial Taxes Department in Bihar? If yes, submit valid sales tax registration certificate.	
6	Is the firm registered for service tax with the Central Excise Department (Service Tax Cell)? If yes, submit valid service tax registration certificate.	
7	Is the firm registered under Labour Laws (Contract Act)? If yes, submit valid registration certificate.	
8	How many years has your organization been in business under your present name? What were your fields when you established your organization? When did you add new fields (if any)?	
9	What type best describes your firm? (Documentary proof to be submitted) Manufacturer Supplier System Integrator IT Education Company Consultant Service Provider (please specify details) Total solution provider (Design, Deployment, Integration, O&M) IT Company	
10	Number of offices/project locations	

11	Do you have a local representation/office in Bihar? If so, please give the address and the details of staff, infrastructure, etc., in the office. Number of years of operation of the local office	
12	List the major clients with whom your organization has been/is currently associated.	

15.2 Turnover Documents

Audited annual financial results certified by the Chartered Accountant, balance sheet, and profit & loss statement of the bidder for the last three financial years. The bidder should have an average turnover of at least 25 crores for the last three financial years.

Financial Year	Turnover	Net worth	Profitloss
2021-22			
2022-23			
2023-24			
Average			

16. PROPOSAL COVERING LETTER

[On the Letter head of the Bidder]

Date:

To

The Engineer-in-Chief

Rural Works Department, Bihar

Government of Bihar

Re: "SELECTION OF AGENCY FOR DEVELOPING AND MAINTAINING INTELLIGENT RURAL ROAD MAINTENANCE MONITORING SYSTEM (IRRMMS) FOR RURAL WORKS DEPARTMENT, BIHAR".

Dear Sir / Madam,

We, the undersigned, offer to provide the services for [Insert title of assignment] in accordance with your Request for Proposal dated [Insert date] and our Proposal. We are hereby submitting our Proposal for the same.

We are submitting our Proposal in our own individual capacity without entering into any association or as a Joint Venture. We hereby declare that all the information and statements made in this Proposal are true, and we accept that any misinterpretation contained in it may lead to our disqualification.

Our Proposal is binding upon us and subject to the modifications resulting from project-specific contracts and contract negotiations.

We understand that you may cancel the selection process at any time and that you are neither bound to accept any Proposal you receive nor to select the Agency, without incurring any liability to the bidders. We acknowledge the right of RWD to reject our application without assigning any reason or otherwise, and hereby waive our right to challenge the same on any account whatsoever.

We shall make available to RWD any additional information it may find necessary or require to supplement or authenticate the Proposal.

We certify that in the last three years, we have neither failed to perform on any contract, as evidenced by imposition of a penalty or a judicial pronouncement or arbitration award, nor been expelled from any project or contract, nor have had any contract terminated for breach on our part.

We declare that:

- a) We have examined and have no reservations to the RFP documents, including any addendum issued by RWD;
- b) We have not directly or indirectly, or through an executive, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice, or restrictive practice in respect of any tender or request for proposal issued by or any agreement entered into with SDA or any other public sector enterprise or any government, central or state;

Signature

- c) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice, or restrictive practice.
- d) We declare that we/any member of the company, are/is not a member of any other company applying for selection.
- e) We certify that in regard to matters other than security and integrity of the country, we have not been convicted by a court of law or indicted or had adverse orders passed by a regulatory authority which would cast a doubt on our ability to undertake the services for the project, or which relates to a grave offence that outrages the moral sense of the community.
- f) We further certify that in regard to matters relating to security and integrity of the country, we have not been charge-sheeted by any agency of the Government or convicted by a court of law for any offence committed by us or by any of our members.
- g) We further certify that no investigation by a regulatory authority is pending against us or against our CEO or any of our directors/managers/employees.
- h) We hereby irrevocably waive any right which we may have at any stage at law or otherwise arising to challenge or question any decision taken by RWD and/or the Government of Bihar in connection with the selection of agency or in connection with the selection process itself in respect of the above-mentioned project.
- i) We agree and understand that the proposal is subject to the provisions of the RFP document. In no case, I/we shall have any claim or right of whatsoever nature if the assignment is not awarded to me/us or our proposal is not opened.
- j) We agree to keep this offer valid for 180 days from the proposal due date specified in the RFP.
- k) A Power of Attorney in favor of the authorized signatory to sign and submit this proposal and documents is also attached herewith in Form Tech-III.
- l) In the event of my/our being selected, I/we agree to enter into an agreement for the project awarded to us by the RWD.
- m) We agree and undertake to abide by all the terms and conditions of the RFP document. In witness thereof, I/we submit this proposal under and in accordance with the terms of the RFP document.

Yours sincerely,

Authorized Signature [In full and initials]:

Name and Title of Signatory:

Name of Company:

Em R B

17.FORMAT FOR AFFIDAVIT

Format for Affidavit

Affidavit

I, M/s (the names and addresses of the registered office), hereby certify and confirm that we or any of our promoter(s)/director(s) are not barred by the Rural Works Department, Government of Bihar, or any other entity of the Government of Bihar, or blacklisted by any state government or central government/department/organization in India, World Bank, DFID, or ADB from participating in projects, either individually or as a member of a consortium as of the date of signing of this application.

We further confirm that we are aware that our application for the captioned project would be liable for rejection in case any material misrepresentation is made or discovered at any stage of the bidding process or thereafter during the agreement period, and the amounts paid till date shall stand forfeited without further intimation.

Dated this..... Day of.....,2025

Name of the Applicant

Signature of the Authorized Person

18. UNDERTAKING ON SERVICE LEVEL AGREEMENT

(Company letter head)

[Date]

To

**The Engineer-in-Chief
Rural Works Department,
Bihar Government of Bihar**

**Re: "SELECTION OF AGENCY FOR DEVELOPING AND MAINTAINING INTELLIGENT
RURAL ROAD MAINTENANCE MONITORING SYSTEM (IRRMMS) FOR RURAL
WORKS DEPARTMENT, BIHAR".**

Sir,

We do hereby undertake that we shall monitor, maintain, and comply with the service levels stated in the RFP to provide quality service to the Rural Works Department, Bihar.

However, if the proposed resources are found to be insufficient in meeting the service level requirements given by the Rural Works Department, Bihar, then we will augment the resources without any additional cost to the Board.

Yours faithfully,

Signature of Authorized Signatory:

Seal with Designation:

Sm h Sm.

19.ORGANIZATIONALDETAILS

Detailsofthe Organization	
Name of the Bidder (Lead Bidder):	
Address of the Headquarters:	
Address of Office in Bihar:	
Address of the Registered Office in India:	
Status of the Company (Public Ltd/Pvt. Ltd):	
Nature of Business in India:	
Details of Incorporation of the Company:	Date
	IncorporationNumber
Date of Commencement of Business:	
Valid Sales Tax Registration No.:	
Valid Service Tax Registration No.:	
Permanent Account Number (PAN)/TAN:	
Name & Designation of the Contact Person to whom all references shall be made regarding this tender:	
<i>Telephone No. (with STD Code)</i>	
<i>E-Mailof the contact person:</i>	
<i>Fax No. (with STDCode)</i>	
<i>Website</i>	

<i>Other Relevant Information</i>	
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1.1.1. FinancialStrengthDetails

Financial Information (Lead Bidder)			
	FY2021-2022	FY2022-2023	FY2023-2024
Revenue (in INR crores)			
Profit Before Tax (in INR crores)			
Net Worth (in INR crores)			
Mandatory Supporting Documents: i. Auditor-certified financial statements for the last three financial years (Please include only the sections on P&L, revenue, and assets, not the entire balance sheet).			

20.RELEVANT PROJECT EXPERIENCE

Relevant Software Services Experience	
General Information	
Name of the project	
Client for which the project was executed	
Name and contact details of the client	
Project Details	
Description of the project	
Scope of services	
Service levels being offered/Quality of service (QOS)	
Technologies used	
Outcomes of the project	
Details of Training Provided	
Other Details	
Total cost of the project (in crores)	
Total cost of the services provided by the bidder	
Duration of the project (no. of months, start date, completion date, current status)	
Other Relevant Information	
Project Capability Demonstration	
Complete details of the scope of the project shall be provided to indicate the relevance to the pre-qualification criterion (which are part of minimum qualification criteria)	
Mandatory Supporting Documents:	
a. Letter from the client to indicate the successful completion of the projects b. Copy of Work Order/Agreement	

21.ISO OR ABOVE ASSESSMENT DETAILS

Date of Assessment	
Validity of the Assessment	
Name of the Assessing company and them contact coordinates	
Units /Locations Assessed	
Mandatory Supporting Documents	
Proof of Certification	

22.CERTIFICATE AS TO AUTHORISED SIGNATORIES

I..... the Company The Engineer-in-
Chief of certify that
.....who signed the above bid, is authorized to do so and bind the
company by the authority of its board/governing body.

Date:

Name:

Signature:

Company Seal:

See A 91

23. TEAM PROFILES

Format for the Profiles	
Name of the person	
Current Designation / Job Title	
Current job responsibilities	
Proposed Role in the Project	
Proposed Responsibilities in the Project	
Academic Qualifications: <input type="checkbox"/> Degree <input type="checkbox"/> Academic institution graduated from <input type="checkbox"/> Year of graduation <input type="checkbox"/> Specialization (if any) <input type="checkbox"/> Key achievements and other relevant information (if any)	
Professional Certifications (if any)	
Total number of years of experience	
Number of years with the current company	
Summary of the Professional / Domain Experience	
Number of complete life cycle implementations carried out	
Names of customers	
Past assignment details (For each assignment Provide details regarding name of organizations worked for, designation, responsibilities, tenure) Prior Professional Experience covering: <input type="checkbox"/> Organizations worked for in the past <ul style="list-style-type: none"> <input type="checkbox"/> Organization name <input type="checkbox"/> Duration and dates of entry and exit <input type="checkbox"/> Designation <input type="checkbox"/> Location(s) <input type="checkbox"/> Key responsibilities <input type="checkbox"/> Prior project experience <ul style="list-style-type: none"> <input type="checkbox"/> Project name <input type="checkbox"/> Client <input type="checkbox"/> Key project features in brief <input type="checkbox"/> Location of the project <input type="checkbox"/> Designation <input type="checkbox"/> Role <input type="checkbox"/> Responsibilities and activities <input type="checkbox"/> Duration of the project Please provide only relevant projects.	
Proficient in languages (Against each language listed indicate if read/write/Both)	

Each profile must be accompanied by the following undertaking from the staff member:
(Alternatively, a separate undertaking with the same format as below with all the names of the proposed profiles should be provided)

Certification

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes my qualifications, my experience, and me. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Signature:

Date:

[Signature of staff member or authorized representative of the staff] Day/Month/Year

Full name of authorized representative:

24.SNAP-SHOT OF THE TEAM DEPLOYMENT

Area	Profiles (Degree/Exp.)	Team Size	Duration of stay in the project (Fulltime/Part time)	Attached	Reference
Project Management				Yes/No	Page No. _____
Application Design, Development, Customization & configuration				Yes/No	Page No. _____
Capacity Building				Yes/No	Page No. _____
Operations & Maintenance				Yes/No	Page No. _____

25. NON-DISCLOSURE AGREEMENT (NDA)

[Company Letter head]

This AGREEMENT (hereinafter called the "Agreement") is made on the [day] day of the month of [month], [year], between the Rural Works Department (RWD), Government of Bihar, on the one hand (hereinafter called the "RWD"), and [Name of the Bidder], on the other hand (hereinafter called the "Bidder"), having its registered office at [Address].

WHEREAS

The "RWD" has issued a public notice inviting various organizations to submit proposals for hiring the services of an organization for the provision of services under the RWD Project in Bihar (hereinafter called the "Project") of the RWD.

The Bidder, having represented to the "RWD" that it is interested to bid for the proposed Project,

The RWD and the Bidder agree as follows:

1. In connection with the "Project", the RWD agrees to provide to the Bidder a Detailed Document on the Project vide the Request for Proposal contained in three volumes. The Request for Proposal contains details and information of the RWD operations that are considered confidential.
2. The Bidder to whom this Information (Request for Proposal) is disclosed shall:
 - a) Hold such Information in confidence with the same degree of care with which the Bidder protects its own confidential and proprietary information;
 - b) Restrict disclosure of the Information solely to its employees, agents and contractors with a need to know such Information and advise those persons of their obligations hereunder with respect to such Information;
 - c) Use the Information only as needed for the purpose of bidding for the Project;
 - d) Except for the purpose of bidding for the Project, not copy or otherwise duplicate such Information or knowingly allow any one else to copy or otherwise duplicate such Information; and
3. The Bidder shall have no obligation to preserve the confidential or proprietary nature of any Information which:
 - a) Was previously known to the Bidder free of any obligation to keep it confidential at the time of its disclosure as evidenced by the Bidder's written records prepared prior to such disclosure; or
 - b) Is or becomes publicly known through no wrongful act of the Bidder; or
 - c) Independently developed by an employee, agent or contractor of the Bidder not associated with the Project and who did not have any director in direct access to the Information.
4. The Agreement shall apply to all Information relating to the Project disclosed by the RWD to the Bidder under this Agreement.

5. The RWD will have the right to obtain an immediate injunction to enjoin any breach of this Agreement, as well as the right to pursue any and all other rights and remedies available at law or in equity for such a breach.
6. Nothing contained in this Agreement shall be construed as granting or conferring rights of license or otherwise to the Bidder in any of the Information. Notwithstanding the disclosure of any Information by the RWD to the Bidder, the RWD shall retain title and all intellectual property and proprietary rights in the Information. No license under any trademark, patent, copyright, or application for the same that is now or hereafter may be obtained by such party is either granted or implied by the conveyance of Information. The Bidder shall not alter or obliterate any trademark, trademark notice, copyright notice, confidentiality notice, or any other notice of proprietary rights of the RWD on any copy of the Information, and shall reproduce any such mark or notice on all copies of such Information.
7. This Agreement shall be effective from the date the last signature is affixed to this Agreement and shall continue in perpetuity.
8. Upon written demand of the RWD, the Bidder shall (i) cease using the Information, (ii) return the Information and all copies, notes, or extracts thereof to the RWD forthwith after receipt of notice, and (iii) upon request of the RWD, certify in writing that the Bidder has complied with the obligations set forth in this paragraph.
9. This Agreement constitutes the entire agreement between the parties relating to the matters discussed herein and supersedes any and all prior oral discussions and/or written correspondence or agreements between the parties. This Agreement may be amended or modified only with the mutual written consent of the parties. Neither this Agreement nor any right granted hereunder shall be assignable or otherwise transferable.
10. Confidential Information is provided "as is" with all faults. In no event shall the RWD be liable for the accuracy or completeness of the Confidential Information.
11. This Agreement shall benefit and be binding upon the RWD and the Bidder and their respective subsidiaries, affiliates, successors, and assigns.
12. This Agreement shall be governed by and construed in accordance with Indian laws.

For and on behalf of the Bidder,

(Signature) _____

(Name of the Authorized Signatory)

Date

Address

Location:

Seal/Stamp of Company

26.UNDER TAKING ON CONFLICT OF INTEREST

(Company letter head)

[Date]

To,
The Engineer-in-Chief
Rural Works Department, Bihar
Government of Bihar

Sub: Undertaking on Conflict of Interest

Sir,

I/We as do hereby undertake that there is absence of, actual or potential conflict of interest on the part of the SDA or any prospective subcontractor due to prior, current, or proposed contracts, engagements, or affiliations with RWD.

I/We also confirm that there are no potential elements (time frame for service delivery, resource, financial or other) that would adversely impact the ability of the SDA to complete the requirements as given in the RFP.

We undertake and agree to indemnify and hold RWD harmless against all claims, losses, damages, costs, expenses, proceeding fees of legal advisors (on a reimbursement basis) and fees of other professionals incurred (in the case of legal fees & fees of professionals, reasonably) by RWD and/or its representatives, if any such conflict arises later.

Yours faithfully,
Authorized Signatory
Designation

Seal/Stamp of Company

27. NON-MALICIOUS CODE CERTIFICATE

[Date]

To,
The Engineer-in-Chief
Rural Works Department, Bihar
Government of Bihar

Sub: Non-Malicious Code Certificate

Sir,

1. I/We hereby certify that the software being offered/developed as part of the contract does not and will not contain any kind of malicious code that would activate procedures to:
 - a) Inhibit the desired and the designed function of the equipment /solution.
 - b) Cause damage to the user or his equipment/solution during the operational exploitation of the equipment/solution.
 - c) Tap information regarding network, network users and information stored on the network that is classified and / or relating to National Security, thereby contravening Official Secrets Act 1923.
2. There are/will be no Trojans, Viruses, Worms, Spywares or any malicious software on the system and in the software offered or software that will be developed.
3. Without prejudice to any other rights and remedies available to RWD we are liable under Information Technology Act, 2000 and Bharatiya Nyaya Sanhita (BNS) in case of physical damage, loss of information and those relating to copyright and Intellectual Property rights (IPRs), caused due to activation of any such malicious code in offered/developed software.

Yours faithfully,
Authorized Signatory

Designation

Seal/Stamp of Company

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28. UNDERTAKING ON PRICING OF ITEMS OF TECHNICAL RESPONSE

(Company letter head)

[Date]

To,
The Engineer-in-Chief
Rural Works Department, Bihar
Government of Bihar

Sub: Undertaking on Pricing of Items of Technical Response.

Sir,

I/We do hereby undertake that Commercial Proposal submitted by us is inclusive of all the items in the technical proposal and is inclusive of all the clarifications provided/may be provided by us on the technical proposal during the evaluation of the technical offer. We understand and agree that our Commercial Proposal is firm and final and that any clarifications sought by you and provided by us would not have any impact on the Commercial Proposal submitted by us.

Yours
faithfully,

Authorized Signatory

Designation

Seal/Stamp of Company

29. UNDERTAKING ON OFFLINE FUNCTIONALITY

(Company letter head)

[Date]

To,
The Engineer-in-Chief
Rural Works Department, Bihar
Government of Bihar

Sub: Undertaking on Offline Functionality

Sir,

1. I/We as do hereby undertake to design and develop all the offline functionality required by RWD for the RWD Project in Bihar.
2. We acknowledge that the offline functionality requirement stated in RFP is indicative and that the complete range of required offline functionality will be identified and clarified during the systems study phase of the RWD Project in Bihar project. We further confirm that we undertake to design and develop the offline functionality identified during the systems study phase as required by RWD to be part of RWD Project in Bihar Project.

Yours faithfully,

Authorized Signatory

Designation

Seal/Stamp of Company

30. UNDERTAKING ON PROVISION OF SUPPORT FOR SOFTWARE

(Company letter head)

[Date]

To,
The Engineer-in-Chief
Rural Works Department, Bihar
Government of Bihar

Sub: Undertaking on Provision of Support for Software

Sir,

1. I/We as do hereby undertake the provision for ATS/Warranty support (Services as defined in Scope of Works and Technical Specification of RFP) by OEM/OSV/IV for all the primary components (Web Server, Application Server, Database and Operating System) of the Core Application Software during the duration of the contract period.
2. We also undertake to provide the support needed for any 3rd party products proposed as part of application Software during the duration of the contract period.

Yours faithfully,
Authorized Signatory

Designation

Seal/Stamp of Company

31. UNDERTAKING ON SERVICE LEVEL COMPLIANCE

(Company letter head)

[Date]

To,
The Engineer-in-Chief
Rural Works Department, Bihar
Government of Bihar

Sub: Undertaking on Service Level Compliance

Sir,

1. I/We as do hereby undertake that we shall monitor, maintain, and comply with the service levels stated in the RFP to provide quality service to RWD.
2. However, if the proposed number of resources is found to be not sufficient in meeting the Tender and/or the Service Level requirements given by RWD then we will augment the team without any additional cost to RWD.

Yours faithfully,
Authorized Signatory

Designation

Seal/Stamp of Company

32. UNDERTAKING ON DELIVERABLES

(Company letter head)

[Date]

To,
The Engineer-in-Chief
Rural Works Department, Bihar
Government of Bihar

Sub: Undertaking on Deliverables

Sir,

1. I/We as do hereby undertake the adherence of STQC Certification or above standards to the processes, deliverables/artifact to be submitted to RWD proposed as part of the RWD Project Software.
2. We also recognize and undertake that the Deliverables/artifacts shall be presented and Explained to RWD, Govt. of Bihar and other key stakeholders (identified by RWD), and also take the responsibility to provided clarifications as requested by RWD.
3. We also understand that the acceptance, approval and sign-off of the deliverables by RWD will be done on the advice of RWD/Concerned Official. We understand that while all efforts shall be made to accept and convey the acceptance of each deliverable in accordance with the project schedule, no deliverable will be considered accepted until a specific written communication to that effect is made by RWD.

Yours faithfully,
Authorized Signatory
Designation

Seal/Stamp of Company

33. UNDERTAKING ON TRAINING THE USERS

(Company letter head)

[Date]

To,
The Engineer-in-Chief
Rural Works Department, Bihar
Government of Bihar

Sub: Undertaking on Training the Users

Sir,

I/We hereby undertake to train users (to be identified by RWD) as per RWD's requirements stated in the Request for Proposal (RFP). We further undertake that:

- a) We shall carry out a comprehensive training needs analysis and accordingly design the training program.
- b) Our training program would include, at the minimum, classroom training followed by supervised work sessions.
- c) We shall prepare all necessary training materials and deliver the training. Yours faithfully,

Authorized Signatory

Designation

Seal/Stamp of Company

34. UNDERTAKING ON EXIT MANAGEMENT AND TRANSITION

(Company letter head)

[Date]

To,

The Engineer-in-Chief

Rural Works Department, Bihar

Government of Bihar

Sub: Undertaking on Exit Management and Transition

Sir,

1. I/We hereby undertake that at the time of completion of the engagement, we shall successfully carry out the exit management and transition (to RWD or to an agency identified by RWD) to RWD's satisfaction.
2. I/We further undertake to complete the following as part of the Exit Management and Transition:
 - i. Capacity Building at RWD
 - a) We undertake to design team/organization structure at RWD to manage the system
 - b) We undertake to carry out an analysis of the skill set requirement at RWD to manage system and carry out the training & knowledge transfer required at RWD to manage system.
 - ii. Transition of project artefacts and assets
 - a) We undertake to complete the updating of all project documents and other artifacts and handover the same to RWD before transition.
 - b) We undertake to design Standard Operating Procedures to manage system (including application and IT systems), document the same and train RWD personnel on the same.
3. I/We also understand that the Exit Management and Transition will be considered complete On the basis of approval from RWD.

Yours faithfully,
Authorized Signatory

Designation

Seal/Stamp of Company

Signature

35. UNDERTAKING ON CONTINUOUS IMPROVEMENT

(Company letter head)

[Date]

To,

The Engineer-in-Chief

Rural Works Department, Bihar

Government of Bihar

Sub: Undertaking on Continuous Improvement

Sir,

1. I/We understand that Continuous improvement of application is highly critical for RWD and that the System Integrator is expected to be the prime driver of continuous improvement during the application management phase.
2. I/We also understand that the improvements proposed as part of this Continuous Improvement initiative will not be the usual run-of-the-mill enhancements, but will be significant changes that result in a quantum leap in meeting user needs and improving outcomes in policing.
3. I/We further understand that whether a proposed change forms part of Continuous Improvement or is a minor change that will have to be incorporated in to the application as part of the Application Management Services will be determined by the RWD or their representatives.

Yours faithfully,

Authorized Signatory

Designation

Seal/Stamp of Company

36. UNDERTAKING ON PERSONNEL

(Company letter head)

[Date]

To,

The Engineer-in-Chief

Rural Works Department, Bihar

Government of Bihar

Sub: Undertaking on Personnel

Sir,

1. I/We as System Integrator do hereby undertake that those persons whose profiles were part of the basis for evaluation of the bids and have been identified as "Key Personnel" of the proposed team, including Project Manager, System/Network Administrator, Database Administrator, Application Development Expert, Capacity Building/Change Management expert, Domain Expert etc. For the design and development of software for the RWD Project in Bihar project, shall be deployed during the Project as per our bids submitted in response to the RFP.
2. We undertake that any of the identified "Key Personnel" shall not be removed or replaced without the prior written consent of RWD.
3. Under exceptional circumstances, if the Key Personnel are to be replaced or removed, we shall put forward the profiles of personnel being proposed as replacements, which will be either equivalent or better than the ones being replaced. However, whether these profiles are better or equivalent to the ones being replaced will be decided by RWD. RWD will have the right to accept or reject these substitute profiles.
4. We also undertake to staff the Project with competent team members in case any of the proposed team members leave the Project either due to voluntary severance or disciplinary actions against them.
5. We acknowledge that RWD has the right to seek the replacement of any member of the Project team being deployed by us, based on the assessment of RWD that the person in question is incompetent to carry out the tasks expected of him/her or found that person does not really possess the skills/experience/qualifications as projected in his/her profile or on the ground of security concerns or breach of ethics.
6. In case we assign or reassign any of the team members, we shall be responsible, at our expense, for transferring all appropriate knowledge from personnel being replaced to their replacements within a reasonable time.

Yours faithfully,

Authorized Signatory

Designation

Seal/Stamp of Company

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37.FORMAT FOR SELF DECLARATION

(Company Letter head) [Date]

To,
The Engineer-in-Chief
Rural Works Department, Bihar
Government of Bihar

In response to the RFP No. _____ dated

for quoting against the RFP as an Authorized Signatory of
M/s, I /We hereby declare that our Company /Firm is having unblemished past record and was not
declared blacklisted or ineligible to participate for bidding during last Three financial years by any
State/Central Govt. Department or Agencies or Authority or PSU due to unsatisfactory performance,
breach of general or specific instructions, corrupt /fraudulent or any other unethical business practices.

Yours faithfully,
Authorized Signatory

Designation

Seal/Stamp of Company

38. LIST OF ABBREVIATION

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RWDMIS	MIS for Rural Works Department Bihar
CFC	Citizen Facilitation Center
CTI	Computer Telephonic Integration
DC	Data Center
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Services
DR	Disaster Recovery Site
EMS	Enterprise Management Software
EO	Executive Officer
EQMS	Electronic Queue Management System
FIFO	First In First Out
G2B	Government To Business services
G2C	Government To Citizen services
G2G	Government To Government services
GBPS	Gigabits per second
GIS	Geographical Information System
GOI	Government of India
H/W	Hardware
HOD	Head Of Bihar
ICT	Information and Communication Technology
IEEE	Institute of Electrical and Electronics Engineers
IMAP	Internet Message Access Protocol
ISO	International Organization for Standards
ITIL	Information Technology Infrastructure Library
ITSM	Information Technology Services Management
IVRS	Interactive Voice Response System
Kbps	Kilobits per second
LAN	Local Area Network
LDAP	Light weight Directory Access Protocol

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Mbps	Megabits persecond
MIS	Management Information System
MLLN	Managed Leased Line Network
MPLS	Multiprotocol Label Switching
N/W	Network
NIS	Network Information Service
NMS	Network Monitoring System
NOC	No Objection Certificate
O &M	Operations & Maintenance
PDA	Personal Digital Assistance
POP	Post Office Protocol
PPP	Public Private Partnership
BSWAN	Bihar State Wide Area Network
RFP	Request for Proposal
RTI	Right To Information
S/W	Software
SDC	State Data Center Bihar
SLA	Service Level Agreement
SMS	Short Messaging Services
SMTP	Simple Mail Transfer Protocol
TCP /IP	Transmission Control Protocol/Internet Protocol
UID	Unique Identification
RWD	Rural Works Department
VPN	Virtual Private Network
WAN	Wide Area Network
XML	Extensible Markup Language

