ARUNACHAL PRADESH SPACE APPLICATION CENTRE
GOVERNMENT OF ARUNACHAL PRADESH
CIVIL SECRETARIAT, BLOCK 1
ITANAGAR

No. APSAC-12013/7/2025/220 – (iii) Dated the Itanagar, 26th April, 2025

Limited Tender Quotation

Arunachal Pradesh Space Application Centre (APSAC), Itanagar invites limited tender quotation from reputed, established and reliable System Integrators (SI) empaneled with APSAC in connection with the **"Photogrammetric Archaeological Survey with Unmanned Aerial Vehicle (UAV) and 3D Modelling of the Historical Sites in Arunachal Pradesh"** under APSAC, Govt. of Arunachal Pradesh.

Eligibility criteria are mentioned in the Tender document.

For collection of Tender documents on payment of ₹ 1000/- and any further information may contact:
Joint Director cum Nodal Officer (State Plan)

The deadline for submission of the NIT bid is on or before 14th May, 2025 at 14.00 hrs. and opening on same date at 15.00 hrs.

Sd/-
Secretary
Department of Science & Technology
Government of Arunachal Pradesh
Itanagar

Memo No. APSAC-12013/7/2025/220 – (iii) Dated the Itanagar, 1st May, 2025
Copy to:

1. SPA to Secretary, Science and Technology, Govt. of AP, Itanagar for kind information please.
2. The Director, APSAC, Govt of Arunachal Pradesh, for information please.
3. Er. Timothy Nima, TO, APSAC, for upload in the website and necessary information please.
4. Office copy.
5. Guard file.

01/05/25

Joint Director cum Nodal Officer (State Plan)
Arunachal Pradesh Space Application Centre
Government of Arunachal Pradesh
Itanagar

Limited Tender Quotation For
Selection of a Solution Provider (SP) from the empaneled list of APSAC

"Photogrammetric Archaeological Survey with Unmanned Aerial Vehicle (UAV) and 3D Modelling of the Historical Sites in Arunachal Pradesh"

(The quotes have to be submitted on or before 14-05-2025 at 14.00 hrs.)

Tender Document No:- APSAC-12013/7/2025 Dated: 01/05/2025

Arunachal Pradesh Space Application Centre,
Government of Arunachal Pradesh
Block 1, Civil Secretariat
Itanagar – 791111,
Arunachal Pradesh

Disclaimer:

All information contained in this Tender Document is in faith. This is not an agreement and is not an offer or invitation to enter into an agreement of any kind with any party. Though adequate care has been taken in the preparation of this TENDER Document, the interested firms shall satisfy itself that the document is complete in all respects. The information is not intended to be exhaustive. Interested firms are required to make their own enquiries and assumptions wherever required.

Arunachal Pradesh Space Applications Centre (APSAC) reserves the right to reject any or all of the proposals submitted in response to this Tender Document at any stage without assigning any reasons whatsoever. APSAC also reserves the right to withhold or withdraw the process at any stage with intimation to all who submitted the Tender Document response. APSAC reserves the right to change/ modify/amend any or all of the provisions of this Tender Document. Prospective bidders (firms) are requested to visit the website frequently to keep them abreast with the latest developments on this Tender.

Neither APSAC nor its employees and associates will have any liability to any prospective respondent interested to apply or any other person under the law of contract, the principles of 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 Tender Document, any matter deemed to form part of this Tender Document, the award of the Assignment, the information and any other information supplied by or on behalf of APSAC or their employees and firm/ consortium or otherwise arising in any way from the selection process for the Assignment.

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

Schedule of Events

Sl. No	Information	Dates & Details
1.	Notifying the document on APSAC Notice Boards/website / shared with the shortlisted empaneled Vendors through Email.	Within 01-05-2025
2.	Cost of Tender Document (Non-refundable)	Rs.1000/- in form of cash/DD from any nationalized Bank in favor of the Joint Director, APSAC, Itanagar.
3.	Earnest Money Deposit (EMD)	EMD, only in the form of a Bank Draft, of any Nationalized Bank, for APST@1%: Rs. 35,000/- Non- APST @2%: Rs. 70,000/- for the Bid of "**Photogrammetric Archaeological Survey with Unmanned Aerial Vehicle (UAV) and 3D Modelling of the Historical Sites in Arunachal Pradesh**" in favor of **Joint Director cum Nodal Officer (State Plan), APSAC, Itanagar, Arunachal Pradesh**, valid for 180 days from the date of opening of the technical bid. EMD is exempt for MSME and Startups as per Govt. norms.
4.	Address for Submission of Bid	ARUNACHAL PRADESH SPACE Application Centre, Government of Arunachal Pradesh, Daying Ering Colony, ESS- Sector, Itanagar – 791111, Arunachal Pradesh
5.	Last date of receipt of Bids	14-05-2025, 14-00 Hrs.
6.	Opening of Technical Bids, Financial Bids & Declaration of Bidding Results	14-05-2025, 15.00 Hrs. onwards

Executive Summary:

The unmanned aerial vehicle (UAV) has quite literally taken the cultural heritage field to new heights. UAVs are changing the way that we look at the world. They are becoming more of a common tool and are not shrouded in secrecy as they once were. As UAVs can be equipped with cameras, they are also able to capture aerial photographs and video; a prospect that makes them a very appealing choice as a digital documentation tool.

According to the Canadian Aviation Regulations, the term 'unmanned aerial vehicle' is defined as "a power-driven aircraft, other than a model aircraft, that is designed to fly without a human operator on board". UAVs themselves are known by many different names, including remotely piloted vehicles (RPV), drones, and remotely piloted aircraft system (RPAS). The International Civil Aviation Organization (ICAO) uses the term RPAS as their international standard. For the context of this review, the term UAV will be used throughout.

The practice of using UAVs for photogrammetric applications can be traced back to the 1979 and 1980 tests by Przybilla and Wester-Ebbinghaus on the *Schwebebahn (monorail) Wuppertal*. The advent of the specific term 'UAV photogrammetry' can be attributed to the work of Henri Eisenbeiss, whose dissertation in 2009 provided new insight into the use of UAVs for aerial photogrammetric applications.

The main goal of this research paper is to illustrate how UAV photogrammetry is being used for the documentation of cultural heritage sites.

Study Area:

Bhismaknagar is an archeological site in Indian state of Arunachal Pradesh. It is located near Roing in Lower Dibang Valley district in Arunachal Pradesh. The remains are generally ascribed to the rule of the Sutiyas a Tibeto-Burmese ethnic group who ruled over the region of Sadiya from 11th to 16th Century CE.

PROPOSED WORKFLOW AND METHODOLOGY:

2.1 UAV

Drones can be considered dangerous because they do not have a transmitter signaling their position to other aircrafts, and in some countries, they may be used by amateurs who might not have received previous training. However, they have many advantages, such as their affordability and manoeuvrability. When the first drones appeared in the 70s, they were either wind sensitive or subject to significant vibration. Since 2000, drones have become more adapted to aerial photography, and the first studies on the quality of the results were

performed (Eisenbeiß, 2013).

Nowadays, drones commonly have automatic drivers and automatic image acquisition. A predefined point to rejoin if the connection is lost can even be registered in the memory of the UAV. Models with rotors are appreciated for their vertical takeoff and landing on a small areas, and their workability. As for aircraft models, they are preferred for their greater autonomy. Drones are now used in many fields: military, agriculture, tectonic, geology, atmospheric, archaeology, extreme sport...

The drone in possession of the working group is a hexacopter Spreading Wings S800 (Figure 1), equipped with the on-board computer Wookong-M associated with IMU (Inertial Measurement Unit) and GNSS receiver. Both are developed by the Chinese company DJI. The drone is controlled by a remote Futuba 7C.

Figure 1. Spreading Wings S800 hexacopter with the Sony Nex- 7 camera

The drone has a maximum horizontal speed of 25 m/s and a vertical speed limit of 5 m/s. The maximum recommended distance between the remote control and the drone is 500 m in a city and up to 1 km in open field. The drone is operated using pairs of batteries, which are recharged with devices able to deliver a 30 amps electric current. The group has three sets of batteries, each allowing about fifteen minutes of flight.

The UAV can fly using the remote control in three different modes:

- The GPS mode, the most advanced one, in which the drone uses information from the GPS and the IMU to better respond to the instructions of the driver-handled remote control. This mode also helps to maintain a stable position and attitude when the drone receives no movement command from the ground.
- The ATTI mode, which does not use the position information from the GPS, but only those of the inertial unit. In this mode, the drone does not maintain its position, but only its attitude (orthogonal to the ground). Therefore, the drone presents inertia at the end of his movements, even though the remote control indicates a stationary position. In a windy

environment, it would be carried adrift.

- A fully manual mode, in which the movements of the drone are only governed by indications from the remote control. This method is difficult to use and not recommended because without GPS and IMU data, the drone preserves neither a stable position, nor a stable attitude.

2.2 Ground Station software

The drone is sold with the software Ground Station which provides a variety of aids for the manipulation of the drone.
This software displays on Google Earth the trajectory and the position taken by the drone.

The green line corresponds to the drone trajectory. Unfortunately, its extraction is not allowed. The red arrow represents the drone, with the tip symbolizing its front. The height of the drone over its takeoff point is indicated in blue. (Figure 2)

Figure 2. Ground Station software interface

A flight can be planned with the software. Indeed, a theoretical trajectory can be defined before the flight, and then, once on the field, the UAV can follow it using its GPS (Figure 3).

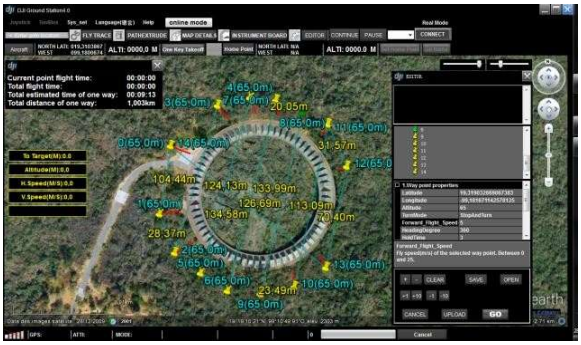

Figure 3. Ground Station's flight plan editor

The planned trajectory is displayed in blue. Yellow pins correspond to the vertices of the path. The red lines project the position of the UAV on the ground. The vertices' order numbers are written in blue with their height, the distances between two consecutive vertices of the path are in yellow. Furthermore, the distance and the duration of the whole flight are calculated and indicated by Ground Station software.

Thanks to this autopilot, equidistant flight axis can be planned, and this ensures constant speed and altitude of the device. Consequently, during the flight, the remote control lets the control of the drone to the software, even if the driver can regain it at any time.

At the time we realized this project (August 2013), this software integrated different functional possibilities depending on the purchase price. The least expensive version allowed only indicating a return point while the more expensive version was conceived for photogrammetric use and allowed to design a flight with 50 vertices. The new version of the software includes the 50 points, nevertheless, at that time we had to work with the two points version.

2.3 Camera and its automatic shutter release

The camera used is a Sony Nex-7. It has a 24 Megapixel matrix with 28 mm diagonal and it is equipped with a zoom lens ranging from 18 to 55 mm.

The camera is attached to the drone with a MRT Crane 2 Camera Gimbal Axis 2 mount, which allows countering the inclination of the device due to its movement using the guidance provided by the inertial unit, and thus, to always maintain the camera orthogonal to the ground.
The capture of the pictures is controlled by the gentLED- TRIGGER-triggerPLUS infrared trigger. It can, in theory, have a minimum rate of 2 seconds shooting, but it turned out that, in practice, it does not go below 2.3 seconds.

2.4 Georeferencing accuracy

We saw previously that flight planning associated with autopilot flight mode greatly simplifies the flight. However, it is interesting to measure the accuracy of the GNSS positioning before letting him the control.

Two factors have an influence on the positioning of the drone: the georeferencing accuracy of Google Earth images, on which the trajectory of the drone is defined, and the accuracy of the GPS (helped by the IMU).

Concerning the GPS-IMU couple, the manufacturer indicates an in-flight accuracy of 0.5 m vertically and 1 m horizontally.

To have an idea of the accuracy of Google Earth images georeferencing, a comparison of coordinates given by the GPS of the drone and by Google Earth on the same points were made. After coordinate transformation in the same system, deviations exceeding GPS accuracy given by the manufacturer are calculated. This difference can be associated partially to the georeferencing of Google Earth images. The maximum obtained is 6.5 m and it does not exclude that in other places, the difference could be larger.

However, these coordinates were recorded with a stationary GPS, eliminating the correction from the IMU. Indeed, the IMU measures angular accelerations and velocities when the UAV is moving. So, positioning is improved when the drone is moving, although differences between the real position of the drone and its location indicated on the Google Earth API persist: this is the case in figure 2, where the trajectory was obtained with the drone lying inside a car that was obviously not rolled over parking spaces.

Thus, during flight planning, the distance between the axis of flight must be chosen taking into account the few meters imprecision, in order to prevent a possible gap of the real axis of flight and therefore of the footprint of the photographs.

UAV Photogrammetry and Cultural Heritage Documentation

The 2009 dissertation by Eisenbeiss can be considered as one of the first major work in regards to using UAVs for cultural heritage purposes. Since that time, the popularity of using UAVs for documentation through UAV photogrammetry has only increased due to technological advances and the ease in which UAVs can be purchased. UAV photogrammetry is described as "a photogrammetric measurement platform, which operates remotely controlled, semi-autonomously, or autonomously, without a pilot sitting in the vehicle." The most common UAV platform used for UAV photogrammetric applications in relation to historical building documentation is rotary wing aircraft. This is because of the usability as compared to fixed wing platforms, and the ability to capture images at a close range.

UAV photogrammetry provides advantages over terrestrial photogrammetry because of the ability to capture views that are not possible from the ground. In particular, oblique images are becoming more important in the UAV photogrammetric process. Through the advent of UAV systems with built in cameras, oblique images are easy to capture because it only involves adjusting the camera to the desired angle while using the remote control. Or, if the camera is not built in, it can be adjusted before each flight.

Figure 1 is an adapted workflow from that serves as a basis for UAV image acquisition and processing. It is important to note that a separate category, "Safety Procedures", was added to mission planning in the adapted figure. This is because safety should always be at the forefront of any UAV mission. By understanding the safety procedures and protocols, it helps to minimize the possibility that the UAV will cause damage to both humans on the ground

(i.e., the drone becomes out of control and injures someone) and other aircraft in the sky. Additional information, such as completing a Flight Log after each flight, is also included in this category. The basic flight logbook contains pertinent information about the flight (i.e., flight pattern, time of flight, battery life, wind speed, temperature, etc.).

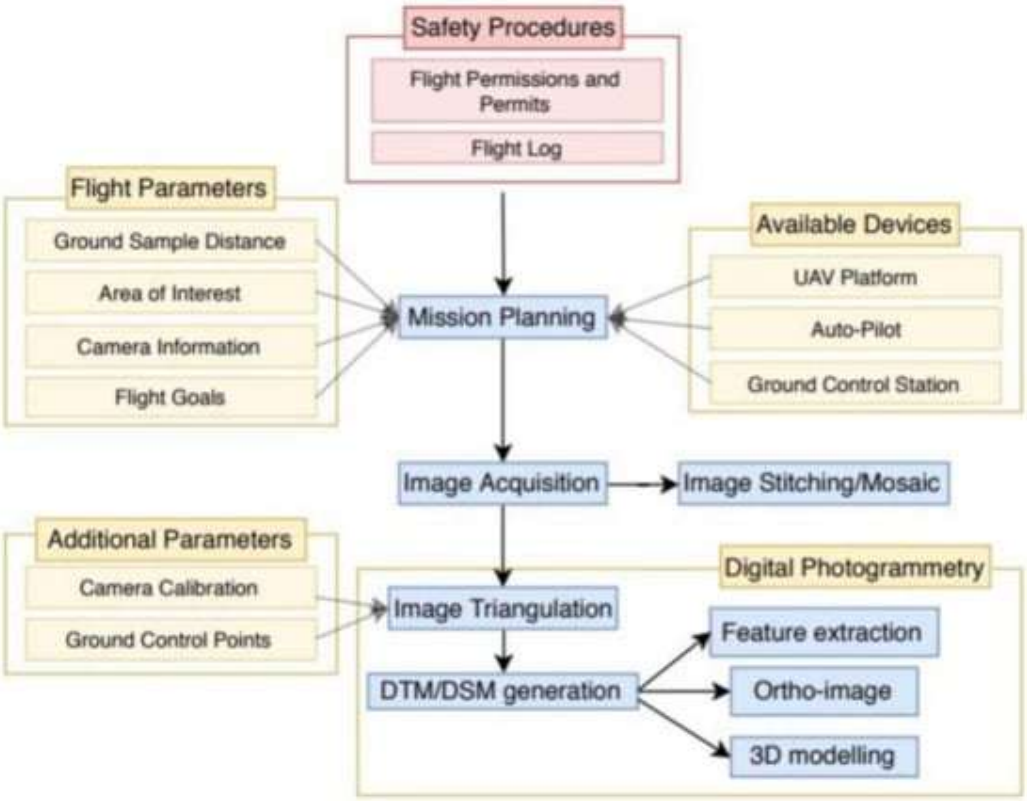

Figure 1. Unmanned aerial vehicles (UAV) Acquisition Workflow.

SCOPE OF WORK:

a) Collection and generation of UAV Ground data sampling of Bismaknagar Archaeological site.

b) Generation of Digital Surface Model, Digital Terrain Model, Orthophoto, Contour.

c) Sampling and generation of 3D modelling of the Archaeological site

TIMELINE

Unless otherwise extended, the project shall be completed within a period of 3 (three) months from the effective date.

BID REJECTION CRITERIA

Besides other terms and conditions highlighted in the tender document, bids may be rejected under the following circumstances:

General Rejection Criteria

a. Bids submitted without tender document fee.
b. Financial bids of more than and less than 15% over and above the estimated cost of the project of approximately Rs 35.00 lacs inclusive of all the applicable taxes, shall be considered as unreasonable and therefore, liable to be rejected forthwith.
c. Bids submitted without or proper EMD. Registered MSME and start-up are exempted from EMD as per Govt. of. India direction.
d. Conditional bids are liable to be rejected.
e. If the information provided by the bidder is found to be incorrect/misleading at any stage/time during the tendering process.
f. Any effort on the part of the bidder to influence the bid evaluation, bid comparison to contract award decisions
g. Bids received by the APSAC after the last date and time prescribed for receipt
h. Bids without signature of the person (s) duly authorized on required pages of the bid
i. Bids without power of authorization and any other document consisting of adequate proof of the ability of the signatory to bind the bidder

Technical/commercial rejection criteria

a. Technical bid containing commercial details
b. Revelation of financials in any form or by any reason before opening the commercial bid
c. Failure to furnish all information required by the tender document on submission of the bid not substantially responsive to the tender document in every respect
d. Solution Provider not quoting for the complete scope of the work as indicted in the tender documents, addendum if any and any subsequent information given to the Solution Provider
e. Solution Provider not complying with technical and general terms and conditions as stated in the tender document
f. The bidder not confirming unconditional acceptance of full responsibility of providing services in accordance with the scope of

the work

g. If the bid does not confirm to the timelines indicated in the bid
h. Incomplete bid

Public Opening and Evaluation of Financial proposals:

After the technical evaluation is completed, the APSAC shall inform the technically short listed SP(s) who have submitted proposals, the technical scores obtained by their technical proposals, and shall notify those SP(s) whose proposals did not meet the minimum qualifying mark or were considered non-responsive to the tender document and ToR, and their financial proposals will be returned unopened after completing the selection process.

Financial proposals of only those firms who are technically qualified shall be opened publicly on the date and time specified in the presence of the SP/or their representatives who choose to attend. The financial proposal of the SP(s) who met the minimum qualifying mark will then be inspected to consider that they have remained sealed and unopened.
These financial proposals shall be then opened, and the total financials read aloud and recorded. The APSAC shall prepare a record of the public opening of financial proposals. SPs should ensure that there are no arithmetic errors or over-writings in the financial proposals as otherwise the proposal shall be liable for rejection.

Short listing SP: The bidder who obtains 75% marks and above are to be treated as qualified for Financial Bid. Financial bids of only such qualified SP(s) will be opened.

Evaluation Process:

The financial bids shall be opened only for the Technically Qualified bidders. The date, time and venue of the opening of financial bids shall be as per the data sheet. The authorized representatives of the Technically Qualified bidders may be present during the financial bid opening process. The financial bids shall be scrutinized for their conformity to the specified formats and signatures. The financial bids not in specified format and/or not with signature of the authorized representatives shall be summarily rejected. The evaluation of the financial bids will be based on the combined Quality and Cost Based Selection (QCBS) Method. Scrutiny and evaluation of the financial bids shall be conducted as follows.

In the event of difference between the financial mentioned in figures and words, the financial in words shall be considered valid and binding.

Scores of the financial bid evaluation would be weighed on a scale of 25. The Bidder with the lowest Financial Quote shall be awarded 100 marks. The marks obtained by the bidders in the financial bid evaluation shall be considered as Financial Score (FS).

The financial bid Score of the other Technically Qualified bidders shall be computed as per the following formula.

FS = 100 x (Pmin / Pb)

Where,

FS = Financial Bid Score for the bidder under consideration

Pmin = minimum financial quoted by any bidder

Pb = financial quoted by the bidder under consideration

The Technical Score (TS) and the Financial Bid Score (FS) secured by each bidder shall be subjected to the Technical Weightage WT = 0.75 (the weight given to the technical bid); Wp = 0.25 (the weightage given to the financial bid). The combined score (S) for the bidder shall be computed as per the following formula.

S = (TS x 0.75) + (FS x 0.25)

The bidder securing the highest combined score (S) shall be considered as the successful bidder and considered for award of the contract.

Scrutiny and evaluation of Financial Bids shall be conducted based only on the following criteria:

- The Estimate Cost of this Work with Tax = Rs. XXXXXXX (In Word-
- Only the Total Quoted financial in the bid inclusive tax, submitted by the bidders will be considered for evaluation as a principle of budgetary constraint.
- Abnormally low quotes below the estimated cost shall be treated as unviable from quality and feasibility considerations and shall be summarily rejected.

Negotiations

The SPs who is recommended for award of the contract will be called for both technical and financial negotiations, the details of which are outlined below:

Negotiations will be held at the date and address indicated. Representatives conducting negotiations on behalf of the SP must have written authority to negotiate and conclude a contract.

Technical negotiations: Negotiations will include a discussion of the technical proposal, the proposed technical approach and methodology, work plan, and organization and staffing, and any suggestions made by the SP to improve the terms of reference. The APSAC and the SP(s) will finalize the ToR, staffing schedule, work schedule, logistics, and reporting. These documents will then be incorporated in the Contract as description of services. Special attention will be paid to clearly defining the inputs and facilities required from the APSAC to ensure satisfactory implementation of the assignment. The APSAC shall prepare minutes of negotiations which will be signed by the representatives of both APSAC and SP.

Financial negotiations: After the technical negotiations are over, financial negotiations should be carried out in order to reflect any change in financials due to change in scope of work or due to clarification on any aspect of the technical proposal during the technical negotiations. Under no circumstance, the financial negotiation shall result in to increase in the financial originally quoted by the SP.

If applicable, it is the responsibility of the SP, before starting financial negotiations, to contact the local tax authorities to determine the local tax amount to be paid by the SP under the contract. The financial negotiations will include a clarification (if any) of the SP's tax liability, and the manner in which it will be reflected in the contract; and will reflect the agreed technical modifications in the cost of the services.

Availability of professional staff/experts: Having selected the SP on the basis of, among other things, an evaluation of proposed professional staff, the APSAC expects to negotiate a contract on the basis of the professional staff named in the proposal. Before Contract negotiations, the APSAC will require assurances that the professional staff will be actually available. The APSAC will not consider substitutions during contract negotiations unless both parties agree that undue delay in the selection process makes such substitution unavoidable or for reasons such as death or medical incapacity. If this is not the case and if it is established that professional staff were offered in the proposal without considering their availability, the SP may be disqualified. Any proposed substitute shall have equivalent or better qualifications and experience than the original candidate and be submitted by the SP within the period of time specified in the letter of invitation to negotiate.

Award of contract and commencement of work

After completing the negotiation, the APSAC shall issue a Letter of Acceptance/Intent, notifying the award of contract to the selected SP, who is L1, and promptly notify all other SP(s) who have submitted proposals about the final decision. After the Contract signature, the APSAC shall return the unopened financial proposals to the unsuccessful SP(s).

After fulfilling all the formalities/ preconditions mentioned in the standard form of contract, the SP will sign a contract on a stamp paper worth 100/- within 15 days of issuance of the letter of acceptance. The project completion period is with respect to the date of signing of the contract.

Security Deposit: Within 15 days after receipt of the Letter of Acceptance/Intent, the successful SP will have to furnish along with the agreement a security deposit @ 3 % of the value of the Contract, in the form of a Bank Guarantee in DD on any Nationalized Bank (drawn in favour of Director, Arunachal Pradesh Space Application Centre, Govt. of Arunachal Pradesh) valid for 12 months from the date of letter of intent with a provision of its further extension/ revalidation up to the period of warranty of the total solution whichever is later.

The SP is expected to commence and complete the assignment/job at the location specified within 3 months after signing the contract.

9. PAYMENTS FOR THE SERVICES

For making any payment, the SP has to submit an invoice to the Employer specifying the amount due The Employer on receipt of invoice would make all payments to the SP within 45 (Forty- Five) days from the date of receipt in the office of the APSAC. No payment will be released without submission of the necessary Performance Security for the entire project.

The security deposit will be released after the final deployment and successful tests. The payment will be based on the delivery milestones. On successful completion of the milestone the vendor shall submit the deliverables to APSAC for verification. APSAC shall verify the deliverables submitted by the bidder within 7 days of receipt of the same and shall issue acceptance by the competent authority. On successful acceptance of the deliverables, the vendor shall raise invoice to APSAC along with copy of the acceptance letter of the deliverables issued by APSAC. APSAC shall release the payment as per the payment schedule as early as possible from the date of receipt of the invoice. The payment schedule based on

progressive/milestones is described in the following table.

Sl. No.	MILESTONES	Amount to be released on Completion of the Milestones
1.	Mobilization on signing of the agreement/submission of EMD (if applicable).	20%
2.	Collection and generation of UAV Ground data sampling of Bismaknagar Archaeological site.	40%
3.	Generation of Digital Surface Model, Digital Terrain Model, Orthophoto, Contour.	30%
4.	Sampling and generation of 3D modelling of the Archaeological site and Final Submission.	10%

10. SUB-CONTRACTING OF THE PROJECT & CHANGE IN COMPANY STRUCTURE

Sub-contracting of the project shall not be allowed. Further, the Solution Provider (SP) will be solely responsible for the whole project and all of the conditions as laid under this tender documents.

The Membership/Board structure of the SP, if changed after the SP is selected. The SP shall accordingly inform the APSAC of such changes and amend the contract wherever applicable or deemed fit.

11. CONFIDENTIALITY

Information relating to evaluation of proposals and recommendations concerning award shall not be disclosed to the SP who submitted the proposals or to other persons not officially concerned with the process, until the publication of the award of contract. The undue use by any SP of confidential information related to the process may result in the rejection of its proposal and may be subject to the provisions of the Employer's antifraud and corruption policy.

12. COMMUNICATION

The SP should make sure that the solution proposed and the software applications developed as part of this proposal will interact seamlessly with the communication facilities already being set up or planned to be set up.

Dedicated Broadband Internet Facility is required at the location.

13. WARRANTY AND MAINTENANCE

The SP should provide warranty for the entire system, after the system is commissioned and declared operational. The SP is required to provide direct warranty for the Hardware/application software developed as part of this project and Performance Warranty of 3 years for the entire system.

14. SUBMISSION AND RECEIPT OF PROPOSALS

Only one proposal should be submitted by a SP. If a SP submits or participates in more than one proposal, such proposals shall be disqualified.

The original proposal (technical and financial) shall contain no interlineations or overwriting. Submission letters for both technical and financial proposals should respectively.

An authorized representative of the SP(s) shall sign all pages of the original technical and financial proposals. The authorization shall be in the form of a written Power of Attorney accompanying the proposal or in any other form demonstrating that the representative has been duly authorized to sign. The signed technical and financial proposals shall be marked ORIGINAL or COPY as appropriate.

The technical proposals shall be sent to the addresses referred to in the data sheet and in the number of copies indicated All required copies of the technical proposal are to be made from the original. If there are discrepancies between the original and the copies of the technical proposal, the original governs.

APSAC shall not be responsible for any postal delays in receipt of the tender document. Documents received through FAX and e-mail etc. shall not be acceptable or considered for the tender.

The original and all copies of the technical and financial proposal shall be placed in a sealed envelope clearly marked TECHNICAL PROPOSAL and FINANCIAL PROPOSAL respectively and shall be placed, along with sealed envelope containing EMD of Rs 35,000/- (thirty five thousand only) for APST and Rs 70,000/- (Seven thousand only) for Non- APST in the form of Demand Draft favoring **Joint Director, Arunachal Pradesh Space Application Centre (APSAC), Itanagar, ARUNACHAL PRADESH payable at Itanagar** in a sealed envelope with the number of the tender document and name of the assignment marked. The amount paid towards cost of tender document is non-refundable. The envelopes containing the

technical, financial proposals and EMD fee shall be placed into an outer envelope and sealed and addressed to **the Joint Director, Arunachal Pradesh Space Centre (APSAC), Daying Ering Colony, ESS Sector, Itanagar-791111, Arunachal Pradesh (India)** and the wrapper clearly be marked PROPOSAL FOR …….. This outer envelope shall bear the submission address, reference number and title of the assignment, and be clearly marked DO NOT OPEN, EXCEPT IN THE PRESENCE OF THE OFFICIAL APPOINTED. APSAC shall not be responsible for misplacement, losing or premature opening if the outer envelope is not sealed and/or marked as stipulated.

This circumstance may be cause for rejection of the proposal. If the financial proposal is not submitted in separate sealed envelopes duly marked as indicated above, this will constitute grounds for declaring the proposal non-responsive.

The proposals must be sent to the address/addresses indicated in data sheet and received by the APSAC no later than the time and the date indicated in the data sheet. Any proposal received by the APSAC after the deadline for submission will be returned unopened.

EMD is exempt for MSME and Startups as per Govt. norms.

Eligibility Criteria:

Criteria, sub-criteria, and point system for the evaluation of Technical Proposals are:		
Sl. No.	**Criteria**	**Marks**
1	Specific experience of the Consultant relevant to the scope of the Tender Document: a) Experience of similar work (Each Project 7.5 mark, maximum 15 marks) b) Experience of consultant working in North East India relevant to the scope of the Tender Document.	**20** 15 5
2	Experience in carrying out UAV survey. Attach work order.	**20**
3	Empanelment and Certifications and documents of Consultant: a) Registered Company/Firms, GST. b) Empanelment with APSAC, Itanagar b) ISO 9001:2015 & ISO 27001:2013	**10** 4 3 3
4	Financial Status of Consultant: Average Turnover for last 3 audited financial years a) More than 50 lakhs INR b) More than 40 lakhs and less than 50 lakhs c) More than 35 lakhs and less than 40 lakhs	**10** 10 5 3
5	Presentation of the proposed methodology, Technical Approach & work plan relevant to the scope of the Tender document.	**30**

6	Key professional staff qualifications and competence for the assignment: a) UAV Pilot b) Development team c) Project manager d) Image Processing Professional e) GIS Professional	**10** 2 2 2 2 2
Total points for the six criteria (1 to 6)		**100**

FINANCIAL BIDS FORM

Sl.No.	COMPONENTS	AMOUNT (Rs. In Lakhs)
1.	Collection and generation of UAV Ground data sampling of Bismaknagar Archaeological site.	
2.	Generation of Digital Surface Model, Digital Terrain Model, Orthophoto, Contour.	
3.	Sampling and generation of 3D modelling of the Archaeological site	
	Sub- Total	
	GST@18%	
	Grand Total	
In words:		