

PRE-BID QUERIES : PROC OF NANO DRONE

S No	Ref to RFP by Vendor	RFP Description	Queries of Vendor	Proposed Response/Reply of EC
<u>M/s Aero Titan Lenviz Technologies Private Limited</u>				
1.	Para 1(h) to Appendix A of RFP	<u>Navigation.</u> The system should have a GPS aided navigation software to navigate through waypoint and also should have vision aided navigation to be able to operate in GPS denied areas	<p>There are 2 ways to implement GPS denied navigation,</p> <p>(1) Using an optical flow sensor which is used in Toy drones such as DJI Tello and drone cannot fly more than 8-10 meters in height (typical use case is indoors).</p> <p>(2) Other is by using Visual Inertial Odometry where the drone can fly upto 30-41 meters approx using VIO over the EO cameras (Supports both indoors and outdoors)</p> <p>What's the height ceiling for GPS denied conditions navigations outdoors, it should be 30 meters at least for outdoors ?</p>	<p>- As per vendor solution.</p> <p>- User not preferring one over other</p> <p>As per vendor solution</p>
<u>M/s Ayaan Autonomous Systems</u>				
2.	Government Regulations (Page No. 10)	No Government restrictions or limitations	<p>Does sourcing of the components can happen from the countries with whom India shares the land border?</p> <p><u>Remarks</u> : We recommend that the sourcing of components should not be done from the countries with whom India shares the land border</p>	As per Para 16 of Part-I of the RFP & Gol regulations rules on the subject

3	Pre-Bid Meeting (Page No. 11)	1500hrs on 15 Feb 2023	We request for an extension of 7 days for schedule of PreBid Meeting Remarks : Due to other Army Trials and AeroIndia show, our teams are busy	Not Agreed to due to time constraints
4	Submission of Bids (Page No. 11)	1500hrs on 20 Feb 2023	We request for an extension of 15 days for schedule of submission of bids	Not Agreed to due to time constraints
5	Demonstration / Evaluation (Page No. 13)	Within 10 days of submission of the bids	We request for amending the demonstration schedule as 'Within 25 days of submission of the bids' as the Nano Drone is a very specialized requirement	Not Agreed to due to time constraints
6	Evaluation of Technical Proposals (Page No. 17)	Submission of Two sets (Each set including 02 day AV & 02 night AV), HHGCS, base Station and other associated equipment for demonstration	We suggest that 01 day AV and 01 night AV can fulfill the requirement of demonstration in view of 'NCNC basis'	- One complete set is agreed to, however in case of failure of any equipment no additional time will be given to the vendor for producing its equipment
7	Endurance (Page No. 18)	Not less than 30 minutes with All Up Weigh	We recommend that it should be amended to 'Not less than 35 minutes with All Up Weight' Remark. Otherwise racing drones or cheap Chinese drones will qualify for this requirement.	As per RFP
8	Security (Page No. 18)	AES 256 encryption	We recommend for AES 128-bit encryption as it is widely implemented for the UAVs of defence application	As per RFP
9	Simulator (Page No. 19)	Simulator to train the operatives	We request for more elaboration on this requirement	- A simulator to be provided where in user can be trained to fly the AV without actually flying the drone and simultaneous provision for assessment and evaluation of trainee should also be provided. - Vendor solution

10	IRNSS / Navic Compatibility (Page No. 19)	IRNSS / Navic inputs for position	We recommend that Navic compatibility should not be mandatory. Dual frequency GPS would be a better option. Remarks : Navic has lesser accuracy currently.	As per RFP
11	EMI / EMC Compatibility (Page No. 19)	EMI / EMC Compliance	We request for a particular standard for applicability (IEC / MIL)	- MIL Standard 461F or better
<u>IDR Research & Development Pvt Ltd</u>				
12	Not Referred	-	Process of Codification (with example if possible)	As per Para 13 (b) of Part-I of the RFP
13	Not Referred	-	Government Regulation form Format for point number 16	An undertaking is required to be furnished by the vendor as per Para 16 of Part-I of the RFP
14	Not Referred	-	Guidance regarding ATOM process	As per RFP
15	Not Referred	-	Demo timeline with details	Demo will Commence on 03/04 Mar 2023
16	Not Referred	-	Guidance on ISPPL along with commercial bid	List is required
17	Not Referred	-	Request for smaller size of Part Shipment	Ref Para 1.4.6 of Appendix H of RFP. Minimum quantity will not be less than 100 sets of Nano Drone
18	Not Referred	-	What will be the location for onsite/nearest repair point/intermediate repair point	Srinagar, Guwahati & Dehradun
<u>M/s Audi Viso Pvt Ltd</u>				
19	As per Pt 3 (k)	Last date and time for bid submission of tender bid is 1500hrs, 20 Feb 2023	We request for extension of timeline for tender bid submission by 2 weeks to enable better presentation and presentation of our bid	Not agreed to due to time constraints
20	As pre Pt 54 (a) a under Part IV	Bid Evaluation and Acceptance criteria, we have been asked to submit 02 sets {each set including 2 day AV & 02 night AV), HHGCS, Base station and other associated equipment required to demonstrate the equipment)}	We request if the we are allowed to submit 01 set {(each set including 02 day AV & 02 Night AV), HHGCS, Base station and other associated equipment required to demonstration the equipment(} instead of the 02 as per the RFP	- One complete set is agreed to, however in case of failure of any equipment no additional time will be given to the vendor for producing its equipment

21	As per Pt 5 of under Appendix F (Refers to Para 34 & 54 (a) of RFP)	Equipment of all the vendor found compliant after demonstration, will be retained by the Nominated agency of SHQ under their custody till the commencement of CNC	We request in order to comply with the export licence regulation of the exporting countries we should be allowed to submit 01 set {(each set including 02 day AV & 02 Night AV), HHGCS, Base station and other associated equipment required to demonstrate the equipment)} to be retained by the buyer after the demonstration , need to be under lock and key, the buyer will be able to access the systems with the physical presence and concurrence of the seller. Since the export license of the equipment is in the name of the seller and not the Indian Army	Confirmed, the equipment will be in custody of OIC Demo but it can be secured by the vendor with an undertaking that, it will be made available to EC within 24hrs of raising the requirement.
22	Appendix A (Pg 18) & the Demo plan (Page 33-35)	Please allow us to bring out there is a difference in language in the Appendix A	These minor variation of language would change the interpretation of the demo and envisaged capability of the equipment. Hence the language used in the demo plan should be the same as the language mentioned in the Appendix A	- As per RFP - Demo Plan is the guideline for the conduct of demo. In case of any variation in language, Appendix A will be taken as the primary document
23	Para 1 & 12 of Appendix F	As per serial Number 9 of the Annexure to Appendix F Demo Plan	A CoC should be deemed adequate	As per RFP
24	As per Pt 1 (d) of the Appendix A (Refers to Para 25, 26, 27, 29 (a), 30, 34 & 54 (a) of RFP)	'Operational Characteristics and Features' the endurance. Should not be less than 30 minutes with all up weight	We request if a tolerance of ± 5 minutes can be allowed to the same	As per RFP
25	As per Pt 14 and 15 of the Part I	General requirements of the RFP under remarks is mentioned 'Training to be completed after delivery of first lot of main equipment	We request it should be allowed to use the supplied items to be used for the training	Confirmed

26	As per Pt 19 of the Part I	General Requirement of the RFP Parties are required to sign the pre-contract integrity pact are Buyer (Ministry of Defence, Government of India) and Bidder	Please clarify whether the Pre-Contract Integrity pact (Page 73 of the RFP) must be submitted on White Paper (or) Stamp Paper	The Pre Contract Integrity Pact should be submitted on white paper or Company Letter Head
27	As per Pt 19 of the Part I	General Requirements of the RFP parties are required to deposit Earnest Money Deposit (EMD) Rupees 30 (Thirty) Lakhs	Please confirm this is a fixed amount or would it be governed by the table given under Point (8 (8.1) a of the Annexure I to Appendix K (Refers to Para 19 of RFP and 8.1 (j) of Appendix K)	It is fixed amount
28	Please confirm whether certificate of indigenous content to be submitted as per Annexure II of Appendix B of DAP 2020, i.e. Vendors Certificate and Auditors certificate in the prescribed format	-	Please Clarify	Confirmed
29	Part II Para 32 of the RFP	Product support (CMC) : After induction the equipment would be repair an maintenance as per the repair as maintenance philosophy at Appendix E to his RFP.	Please let us know CMC shall be awarded along with the contract of the equipment or closer to the end of 2 years warranty period	CMC will be awarded with the contract
	<u>Appendix E Point 1.</u>	Maintenance contract are recommend for conclusion along with the acquisition of the equipment for providing maintenance support. These would be covered under eh Comprehensive Maintenance Contacts (C<Cs) for a period at last three years beyond the warranty period		

<u>M/s Gainwell Commosales Pvt Ltd</u>				
30	Serial 3(b) on Page 3 of the RFP and Para 9 of PART I- GENERAL REQUIREMENTS on Page 8 of the RFP	The quantity of deliverables has been stated as '850 {200 Sets of 04 x AV (02 x day AV & 02 x night AV) alongwith HHGCS, base station plus 30 Ni AV and 20 day AV}'	The quantities are understood as under: (iv) Day AV: 400 + 20 (ii) Night AV: 400 + 30 (iii) HHGCS : 200 (@ 1 per set) (iv) Base Station: 200 (@ 1 per set) Please confirm.	Yes Confirmed
31	Para 54(a) on Page 17	Evaluation of Technical Proposals. The shortlisted Bidders shall be asked to send Two sets {(each set including 02 day AV & 02 night AV), HHGCS, Base station and other associated equipment required to demonstrate the equipment)	Suggestion: Since, the demonstration will be on NCNC basis, only one set of eqpt be asked for the demo from each vendor. Further, since our same AV is capable of operating both in night and day, so we should be allowed to demonstrate the capabilities of our system with only one AV both during day and night demonstrations	- One Set is confirmed - Demo will be conducted in both day and night as per Demo Plan given at Annexure to Appendix 'F'
<u>M/s CDSPACE Robotics Private Limited</u>				
32	Page 11, Para 23	Submission of Bids by 1500hrs on 20 Feb 2023	Request to extend the timeline for bid submission by 10 days.	As per RFP
33	Appendix A	Operational Characteristics	Please elaborate which frequency bands are allowed to operate the UAV	As per Govt regulations
34	Appendix A 1 (d)	Endurance. Should not be less than 30 minutes with all Up Weight	Please clarify if 30min endurance is required at 3000m AMSL altitude	As per RFP
35	Appendix A 1 (h)	Navigation. The system should have a GPS aided navigation software to navigate through waypoint and also should have vision aided navigation to be able to operate in GPS denied areas	Please clarify whether manual flying with visual feedback is enough to navigate in GPS Denied Environment	As per RFP

36	Appendix A 1 (k)	<p><u>Electro Optics.</u></p> <p>(i) <u>Day AV.</u> (aa) EO video - Not less than 640 x 480P.</p> <p>(ab) EO Snapshot - Not less than 1600 X 1200P.</p> <p>(ii) <u>Night AV.</u> (aa) Thermal Imaging Video - Not less than 160 x 120P.</p> <p>(ab) Thermal Snapshot - Not less than 160 x 120P</p>	Please clarify whether Day and Night Payload can be integrated into one, and if that is the case, what will be the number of AVs in a kit	Quantity of Drones will be as per RFP. Hence, no change
37	Appendix A 2 (Enhanced Performance Parameters)	<p><u>Enhanced Performance Parameters.</u> Following are the Enhanced Performance Parameters (EPP): - Parameters Credit Score</p> <p>(a) Weight of each Nano Drone is upto 200gm 1%</p> <p>(b) Weight of each Nano Drone is upto 150gm 2%</p> <p>(c) Weight of each Nano Drone is upto 100gm 3%</p>	Please Elaborate with example how Credit scores earned will reflect in the Bidding process	As per Para 3 of Appendix 'J' of the RFP
<u>M/s Idea Forge</u>				
38	Appendix A, OPERATIONAL CHARACTERISTICS AND FEATURES 1. Technical Specification, (a) Components	(i) 200 Sets comprising the following: -	It is requested to specify the AUW for each UAV and system configuration of one such UAS which will add up to make 200 sets. Kindly confirm that therev is no limitation of System configuration of such UAS	As per RFP

39	<p>Appendix A, OPERATIONAL CHARACTERISTICS AND FEATURES</p> <p>1. Technical Specification, (a) Components, (i) 200 Sets comprising the following: -</p>	(aa) Two Aerial Vehicles (AV) for day and two Aerial Vehicles (AV) for night.	<p>Kindly confirm that in a case where OEM provides swappable payloads i.e. Daylight EO and Night Thermal payloads can be interchanged and carried by the same UAV, will there be any change in Quantity of UAV. It is recommended to opt for quickly swappable payloads which will reduce the overall packaging size as per system configuration.</p>	<p>Quantity of Drones will be as per RFP. Hence, no change</p>
40	<p>Appendix A, OPERATIONAL CHARACTERISTICS AND FEATURES</p> <p>1. Technical Specification, (k) Electro Optics</p>	(i) Day AV (aa) EO video - Not less than 640 x 480P. (ab) EO Snapshot - Not less than 1600 X 1200P.	<p>It is recommended to opt for a higher resolution of payload i.e. 1280x720 p and seek snapshots of same resolution as that of the source i.e. 1280X 720p as generally GCS screen resolution is 1080 x720 p with screen size of 10 inches which itself restricts higher resolution viewing. It is recommended to seek a FOV of 70 degree, which should suffice for the requirement .Kindly confirm.</p>	<p>As per RFP</p>
40	<p>Appendix A, OPERATIONAL CHARACTERISTICS AND FEATURES</p> <p>1. Technical Specification</p>	(o) Launch & Recovery. Capable to be launched and recovered from the hand of a soldier	<p>It is highly recommended to opt for a VTOL UAV system which can be launched from and land at ground unassistedly without any damage to its components ,during the take off and landing process. Hand launched UAV s has safety concerns wrt hand recovery</p>	<p>As per RFP</p>

42	<p>Appendix A, OPERATIONAL CHARACTERISTICS AND FEATURES</p> <p>1. Technical Specification</p>	<p>(t) DSM Compatibility. The equipment should be compatible for use with DSM Maps.</p>	<p>CAMS, ADG Military Survey is the apex body for all issues (including compatibility with DSM maps and its functionalities). It is requested that compatibility with DSM maps may kindly be confirmed through CAMS, the apex Military organization for all DSM maps. Further, this process will not require entire UAV to be taken to CAMS, but merely the GCS software in a CD or any other digital media or over a compatible compute device like a COTS laptop for them to ascertain DSM compatibility. This aspect could also be verified from CAMS. Hence, the validation criteria for the same may please be established as "Demonstration to CAMS".</p>	<p>- DSM maps will utilise tiff format for raster data and shp format for vector data</p> <p>- CoC will be submitted as per Demo Plan given in RFP.</p>
43	<p>Appendix A, OPERATIONAL CHARACTERISTICS AND FEATURES</p> <p>1. Technical Specification</p>	<p>(u) IRNSS/ Navic Compatibility. The equipment should be able to use the IRNSS/ Navic inputs for position.</p>	<p>It is requested to include GPS and GLONASS options as well which are currently applicable.</p>	<p>As per RFP</p>

44	-	Additional Clause	<p>It is highlighted that Critical Active Subsystems from countries sharing landborders with India have security loopholes leading to compromise in critical Military Data of National importance. Some of the active critical Sub Systems in Drones/UAVs which are critical for data security are - Data Aquisition, Transmission and storage Subsystems like Camera/payloads, Ground Control Station, Autopilot Software, Communication modules. It is recommended that in view of National Security, above mentioned critical subsystems of UAV should not be from countries sharing Land borders with India. Also recommended that a certificate shall be taken from all participating vendors to reveal the details of the country of origin of critical active Subsystems like</p> <ol style="list-style-type: none"> 1. Auto-Pilot (software) 2. Ground Control Station 3. Monochromatic Daylight Camera/Payload 4. Monochromatic Thermal Camera / Payload 5. Gimbal 6. Radio Transmission Sub System 7. Data Storage Sub System 8. Operating Software 9. Flight Controller 10. Data transmission device 11. Network Connectivity <p>A similar provision has been incorporated in the RFPs issued by Arty and Inf Dte of Indian Army and Aquisition Dte of Air HQs in the currently ongoing EP cases. Similar provisions may PI be incorporated in this case as well.</p>	As per RFP & GoI rules on the subject
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<u>M/s Windelite UAV System</u>				
45	Not referred	-	Bidders have to submit any kind of certifications (Lab/Self) at the time of demonstration?	As per Demo Methodology given at Annexure to Appendix 'F'.
46	Not referred	-	EO/Thermal payload required in Day AV and Night AV	As per RFP