

PRE-BID QUERIES RECD FROM VENDORS FOR PROCUREMENT OF UPGRADED LONG RANGE SYSTEM (QTY : 44)

<u>Ser No</u>	<u>Para No of RFP</u>	<u>RFP Description</u>	<u>Queries</u>	<u>Reply</u>
<u>M/s Defind Enterprises Pvt Ltd</u>				
1.	Appx A of RFP (Page No 19)	<u>Thermal Channel.</u> <u>Magnification & Zoom.</u> 18X (Continuous Optical zoom), 2X (Digital Zoom).	In RFP 18X optical zoom thermal camera is mentioned. This information doesn't seem to be correct. Because normally thermal cameras are procured having at most 4X digital zoom.	The aspects & specifications mentioned have been analysed. It is intimated that a system with similar/ enhanced capability is existing in Indian Army. The specifications have been arrived at post analysis of systems available in the global market.
2.	Appx A of RFP (Page No 20)	<u>Optical Zoom.</u> 19X (Continuous zoom) and 4X (Digital Zoom).	19X Continuous zoom spec has to be checked regarding SWIR channel.	
3.	Appx A of RFP (Page No 20)	<u>Laser Range Finder.</u> <u>Range Resolution.</u> Minimum: ≤ 100 meter, Maximum: ≥ 20 Km	20 km Laser Range Finder spec doesn't seem realistic. And conflicts with 20 km. The LRF range is at the limit of DATA link range.	
<u>M/s Merlinhawk Aerospace</u>				
4.	Para 33 of RFP (Page No 13) Para 39 of RFP (Page No 14)	Providing Equipment for Demonstration/ Evaluation, please clarify: - “The Bidder is requested his willingness to provide the equipment for Demonstration/ Evaluation in India on “No Cost No Commitment” basis within 60 (sixty) days of issue to RFP”. Post technical evaluation, the bidder would be asked to provide the one (01) equipment for demonstration/ evaluation as per the Demonstration Methodology given at Appendix F to this RFP at ‘No Cost No Commitment’ basis.	Please Clarify.	The demonstration will be conducted post 60 days of issue of RFP and the vendors are requested to submit availability of the equipment for demonstration in the tech bid.

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5.	Appx A of RFP (Page No 19)	Operational Characteristics	Appendix A gives the Operational Characteristics & Features, if there is any deviation, will the equipment still be considered for Demonstration/ Evaluation?	The TEC will examine the tech bids submitted by the vendors and consider the vendors for demonstration.
<u>M/s AQILA Technologies and Integration Solutions Pvt Ltd</u>				
6.	Appx A of RFP (Page No 19)	Operational Characteristics	In Appendix A of RFP, under section Op requirement the Thermal Channel resolution, FOV, magnification and MTBF is mentioned however the spectrum wrt Long Wave or Medium Wave is not mentioned (8-12 micron) or 3-5 micron). This has a substantial impact on Ops capability and cost and hence may be specified. Please Clarify.	Option with vendor however other parameters/ capabilities not to be deviated.
7.	Appx A of RFP (Page No 19)	<u>Day Channel.</u> <u>Field of View.</u> Wide: $\geq 13^{\circ} \times 10^{\circ}$ & Narrow: $\leq 0.8^{\circ} \times 0.6^{\circ}$ Magnification & Zoom 28X (Continuous Optical zoom), 4X (Digital Zoom).	<u>Under section Day Channel.</u> It is understood that FOV parameters mentioned is corresponding for the total zoom (optical and Digital). Please clarify.	It is clarified that both the zooms are required.
8.	Appx A of RFP (Page No 20)	Total weight of the equipment not be more than 200 (Two hundred) kgs individual Components - ≤ 25 Kg	<u>Under Section Technical Parameters.</u> Total weight of equipment should be less than equal to 200 kgs and individual components less than equal to 25 kgs. It may be clarified if the objective of the specification is that the individual component would be man-portable and assembles by the unit at forward areas, since the design of the turret and payload will vary based on this.	The system should be man portable. Same is clarified in Appx A of RFP. Ergonomics also has to assist man portability.
<u>M/s Alpha Design Technologies Pvt Ltd</u>				
9.	Appx A of RFP (Page No 19)	<u>Thermal Channel.</u> <u>Field of View.</u> Wide: $\geq 12^{\circ} \times 10^{\circ}$ & Narrow: $\leq 0.6^{\circ} \times 0.5^{\circ}$	While our product is complying to the range requirement specified for the TI Camera, request to consider tolerance of 20% on the FOVs please.	No deviation from the RFP is acceptable.

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10.	Appx A of RFP (Page No 19)	<u>Day Channel.</u> <u>Field of View.</u> Wide: $\geq 13^\circ \times 10^\circ$ & Narrow: $\leq 0.8^\circ \times 0.6^\circ$.	While our product is complying to the range requirements specified for the Day Camera, Request to consider Narrow FOV $\leq 3 \times 4$ degrees please.	No deviation from the RFP is acceptable.
11.	Appx A of RFP (Page No 20)	<u>Satellite Based Positioning and Navigational System.</u> (b) It should be compatible with Defence Series Maps and IRNSS.	Confirm providing GPS for immediate demonstration and provide IRNSS during production is acceptable.	For uniformity during the conduct of demo, fixation would be provided. Vendor certification of development of IRNSS capability is to be submitted along with tech bids and aspects have to be completed before opening of commercial bids.
12.	Appx A of RFP (Page No 20)	<u>Battery Type</u>	Lithium Phosphate batteries & associated battery charger have to be customized for the current requirement and usually it requires around 03 months. Kindly request to accept Li-ion batteries or provide extension for demonstration upto Feb 2023.	Li-ion batteries are acceptable for demonstration with vendor certification for development of Li-Phosphate batteries however aspects have to be completed before opening of commercial bids.
13.	Appx A of RFP (Page No 19)	<u>Control & Display Unit (CDU)</u>	Do we need to supply the C&C software or it should only be with the ability to upload end user C&C software.	Software to be provided by the vendor.
14.	Annexure I to Appendix F (Page No 45)	<u>Demonstration Methodology.</u> <u>Data Transmission.</u> Capability to transmit the data through OFC upto 20 Kms and wireless link upto a distance of 05 Km.	Please specify how this capability will be tested. (Infrastructures)	Physical demo of the ibid parameters will be evaluated. OFC connectivity will be provided by the buyer. Vendors to provide accessories for establishing wireless link.
15.	Annexure I to Appendix F (Page No 41)	<u>Demonstration Methodology.</u> (a) Para 4 – Day Camera Resolution (b) Para 5 – SWIR Camera Resolution	This cannot be verified or demonstrated. Request to accept OEM certificates/ COC/ request perform these tests at DGQA during first off production.	Vendor certification to be submitted as applicable.

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16.	Annexure I of Appendix F of RFP (Page No 41)	<u>Demonstration Methodology.</u> <u>Para 3.</u> Thermal Channel. Resolution. 640 x 512 pixel	As per our knowledge there is no certified accredited agency for providing certificates for these parameters, request to accept OEM certificates/ provide details of agencies/ request perform these tests at DGQA during first off production	Vendor certification to be submitted, as applicable.
17.	Annexure I of Appendix F of RFP (Page No 41-42)	<u>Demonstration Methodology.</u> Para 3-TI Camera MTBF, Para 4-Day Camera MTBF, Para 5-SWIR Camera MTBF, Para 6-LRF MTBF & Safety Class and Para 12- Battery Type	As per our knowledge there is no certified accredited agency for providing certificates for these parameters, request to accept OEM certificates/ COC.	
18.	Annexure I of Appendix F of RFP (Page No 44)	<u>Demonstration Methodology.</u> <u>Para 11.</u> Environmental Conditions	NABL certificates can be provided for Operating Temperatures, Storage Temperatures, Vibration, Bump, Rain test during the Demonstration. Request to accept undertaking and perform DGQA test/ accept NABL certificates for remaining parameters (Wing Condition, Shock, Solar Radiation) during First Production lot.	All certifications to be provided during the demonstration. Any test that vendor wants DGQA to perform must be completed before opening of commercial bids.
19.	Annexure I of Appendix F of RFP (Page No 44)	<u>Demonstration Methodology.</u> <u>Para 11 (EMC/EMC).</u> The complete system and all sub-assemblies should be EMI/EMC compliant as per Mil Standard 461E.	Request to accept international lab certificates/ accept submission of NABL certificates during First production lot.	All certifications to be provided during the demonstration. Any test that vendor wants DGQA to perform must be completed before opening of commercial bids.
20.	-	COTS Items Certifications	Kindly confirm if the commercial off the shelf items needs to have NABL Certificates and meet all the environmental specifications.	For COTS equipment, Bidder will provide Shelf Life Certification, requisite test reports and certification as per standards of manufacturing by Bidder as mentioned in Para 42 of RFP.

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21.	Para No. 45 of Technical Requirements (Page No 15)	Packaging of Equipment and Deliverables.	Kindly confirm the list of environmental tests to be performed on the Carrying case & transportation Box.	Test to be performed as Mil Grade/ Standards
<u>M/s TATA Advanced Systems Ltd</u>				
22.	Para 1.3.3 of Appx of H of RFP (Page No 48)	Bank Guarantee(s). For the purpose of payment of Advances to the Bidder and submission of various Bank Guarantees by the Bidder i.e. Advance Payment Bank Guarantee (APBG) and Additional Bank Guarantee (ABG), as applicable, Base Contract price will be considered. For Performance cum Warranty Bank Guarantee (PWBG), Total Contract Price including taxes and duties is to be considered.	As per Ministry of Finance Notification No.1/4/2022-PPD dated 05 Aug 2022 (Copy enclosed for ready reference), it is indicated that Bank Guarantees (e-BG) can be provided by vendors. Request to confirm if we can provide Bank Guarantees in the form of e-BG.	e-BG is acceptable
23.	Para 1.4.2 of Appx H of RFP (Page No 49)	<u>On Dispatch.</u> 60 (Sixty) % of the base contract price of main equipment alongwith 100% of Freight, Transit Insurance and reimbursement of 100% taxes shall be paid on proof of dispatch of deliverables to the consignee and on production of an inspection note issued by the buyer designated inspection agency. Number and date of the Railway/Road/Air Transport receipt under which the deliverables charged for in the bill are dispatched by rail/road/Air and the number and date of letter with which such receipt is forwarded to the consignee, should be quoted on the bill. The payment will be made by PCDA/CDA through cheque/Electronic Fund Transfer (EFT) on submission of following documents: -(Note-The list given below is illustrative. The documents that may be required, depending upon the peculiarities of the procurement being undertaken, may be included/excluded in RFP).	As per Para 1.4.2, 60% of payment will be released on submission of proof of delivery. While as per Para 2(b) (i) 60% payment will be released on pro rata basis. Request to confirm that the 60% payment will be made on pro rata basis.	Payment terms will be in accordance with the RFP.

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24.	Para 1.4.4 of Appx H of RFP (Page No 49)	<u>On Final Acceptance.</u> The remaining 25 (Twenty Five) % of the Base Contract Price of the main equipment shall be paid on pro-rata basis within 30 (Thirty) days of submission of the Acceptance Certificate & Certified Receipt Voucher (CRV) issued by the Buyer and other relevant documents as mentioned above for final payment, but such payments will be subject to the deductions of such amounts as the Seller may be liable to pay under the agreed terms of the Contract. The concerned PCDA/CDA will release the payment through cheque/EFT.	As per Para 1.4.4, 25% payment will be released on submission of the Acceptance Certificate & Certified Receipt Voucher (CRV). Kindly specify the timelines for issuing Acceptance Certificate & Certified Receipt Voucher (CRV) after delivery, as significant payment is linked after receipt of the same.	Post JRI acceptance certificate will be given by DGQA
25.	Para 1.4.8 of Appx H of RFP (Page No 50)	<u>Payment of Taxes and Duties.</u> Payment of taxes, duties and statutory levies will be made on submission of requisite documentary proof to Paying authority. Reimbursement of taxes and duties will be as per rates and amounts indicated in the commercial bid/contract or as per actuals whichever is lower.	As per Ministry of Finance Notification No. 41/2022-Customs dated 13 Jul 2022 (Copy enclosed for ready reference), it is indicated that Customs Duty exemption will also be provided to private entities. In view of above, we request MoD to confirm if Customs Duty Exemption Certificate will be provided for the subject RFP.	Custom exemption will be as per Ministry of Finance Notification No 50/2017 dated 30th Jun 2017
26.	Para 49 of Part III of RFP (Page No 17)	Commercial offers will be opened only of the Bidder whose equipment is shortlisted, after TEC, demonstration and evaluation. The Commercial Offer must be firm and fixed and should be valid for at least Six (06) months from the last date of bid submission.	As per Para 49, Commercial Bid shall be valid for 06 months from last date of bid submission. However, as per EMD BG format, EMD BG shall be valid for 45 days beyond 18 months/ contract signing whichever is later. Kindly confirm if EMD BG can be valid for 45 days beyond 06 months/ contract signing, whichever is later.	Bid validity is for 06 months and EMD will be valid for eighteen months or till signing of contract, whichever is later.

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27.	Annexure I to Appendix F of RFP (Page No 40)	<p><u>System Configuration.</u> The proposed surveillance system should comprise the following components.</p> <p>(a) Day Camera (Colour, Black/White)</p> <p>(b) Thermal Imager</p> <p>(c) Short Wave Infra Red (SWIR) Camera</p> <p>(d) Control Display Unit (CDU)</p> <p>(e) Laser Range Finder</p> <p>(f) Tripod</p> <p>(g) Inbuilt Global Position System</p> <p>(h) Motion Control System/ Pan and Tilt Unit</p>	<p>As RFP calls for Wired, Wireless and OFC transmission, we suggest addition of below accessories as deliverables: -</p> <p>(a) 100 Meter Cable on Spool</p> <p>(b) Point to Point Radios</p> <p>(c) Rugged Accessory for Fiber Optic Interfacing</p>	<p>Accessories to be provided as per laid down parameters. Any additional accessory will be vendor's choice to showcase their equipment.</p>																																																																																			
28.	Appx A of RFP (Page No 19)	<p><u>Detection and Recognition Ranges.</u></p> <table><tr><th colspan="8">Op Reqmt</th></tr><tr><th rowspan="4">Range</th><th></th><th colspan="3">Human (In Kms)</th><th colspan="3">'A' vehicle in (kms)</th></tr><tr><th></th><th>Day</th><th>Thermal</th><th>SWIR</th><th>Day</th><th>Night</th><th>SWIR</th></tr><tr><td>Detection</td><td>≥ 15</td><td>≥ 12</td><td>≥ 15</td><td>≥ 20</td><td>≥ 15</td><td>≥ 20</td></tr><tr><td>Recognition</td><td>≥ 10</td><td>≥ 06</td><td>≥ 08</td><td>≥ 12</td><td>≥ 12</td><td>≥ 15</td></tr></table>	Op Reqmt								Range		Human (In Kms)			'A' vehicle in (kms)				Day	Thermal	SWIR	Day	Night	SWIR	Detection	≥ 15	≥ 12	≥ 15	≥ 20	≥ 15	≥ 20	Recognition	≥ 10	≥ 06	≥ 08	≥ 12	≥ 12	≥ 15	<p>We recommend the following ranges given the in-service system ranges. Also request that vehicle type is mentioned: -</p> <table><tr><th colspan="8">Op Reqmt</th></tr><tr><th rowspan="5">Range</th><th colspan="3">Human (In Kms)</th><th colspan="3">'A' vehicle in (kms)</th></tr><tr><th>Day</th><th>Thermal</th><th>SWIR</th><th>Day</th><th>Night</th><th>SWIR</th></tr><tr><td>≥16</td><td>≥12</td><td>≥15</td><td>≥26</td><td>≥24</td><td>≥20</td></tr><tr><td>≥10</td><td>≥6</td><td>≥08</td><td>≥18</td><td>≥14</td><td>≥15</td></tr><tr><td>≥06</td><td></td><td></td><td>≥10</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Op Reqmt								Range	Human (In Kms)			'A' vehicle in (kms)			Day	Thermal	SWIR	Day	Night	SWIR	≥16	≥12	≥15	≥26	≥24	≥20	≥10	≥6	≥08	≥18	≥14	≥15	≥06			≥10										<p>No deviation from the RFP is acceptable.</p>
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29.	Appx A of RFP (Page No 19)	<p><u>Thermal Channel.</u></p> <p>Resolution: 640 x 512 pixel</p>	<p>No NABL accredited labs provide certification for this parameter. Request restrict it to vendor certification / declaration.</p>	<p>Vendor certification to be submitted as applicable.</p>																																																																																			
	Appx A of RFP (Page No 19)	<p><u>Thermal Channel.</u></p> <p>MTBF : ≥ 10000 Hours</p>	<p>No NABL accredited labs provide certification for this parameter. Request restrict it to vendor certification / declaration.</p>																																																																																				
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31.	Appx A of RFP (Page No 20)	<u>SWIR Channel.</u> MTBF : \geq 10000 Hours	No NABL accredited labs provide certification for this parameter. Request restrict it to vendor certification / declaration.	Vendor certification to be submitted as applicable.
32.	Appx A of RFP (Page No 20)	<u>Laser Range Finder.</u> MTBF : \geq 5000 Hours	No NABL accredited labs provide certification for this parameter. Request restrict it to vendor certification / declaration.	
33.	Appx A of RFP (Page No 20)	Control & Display Unit (CDU) <u>Display Type</u> 19" LED Backlight display (Sunlight Readable), Windows X/latest version, Intel Core i7 – Series Processor, RAM \geq 8 GB, 1TB HDD	(a) Does Sunlight readable imply \geq 800 nits of brightness. (b) Is the 1TB HDD required to be a Solid-State Drive which are more reliable as they have no rotating parts?	Yes, sunlight readable implies \geq 800 nits of brightness. The 1 TB HDD should preferably be a Solid-State Drive.
	Appx A of RFP (Page No 20)	Control Keys. Rugged QWERTY Keyboard with Touchpad/ Trackball.	We recommend Joystick to be included for ease of movement of Pan Tilt and it should also be integral part of Console.	It is clarified that joystick is part of the keyboard. Trackball/ joystick to be provided.
	Appx A of RFP (Page No 20)	<u>Video Recording Capability.</u> Capable of recording video of not less than 8 Hours.	Should the system be capable of recording all three video channels simultaneously?	Preferable, it should be included.

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34.	Appx A of RFP (Page No 20)	<u>External Interface.</u> (a) Digital HDMI output, USB & DVD. (b) CDU should have DVD/CD ROM to facilitate loading/uploading of digital maps (Raster & Vector formats).	Is a Gigabit Ethernet Interface for external video stream also required?	It is optional for vendors.
35.	Appx A of RFP (Page No 20)	<u>Pan and Tilt.</u> Type: Motorized Azimuth and Elevation; Azimuth Range – N x 360°	(a) Speed in Az and El is not mentioned. We recommend max Azimuth and Elevation Speed of Pan Tilt to be $\geq 40^\circ/\text{sec}$. (b) We recommend Pan Tilt Accuracy ≤ 0.02 degrees.	Based on vendor specification.
	Appx A of RFP	<u>Pan and Tilt</u> Elevation Range (Tilt). $\pm 40^\circ$ and Stabilization: Gyro Stabilization Facility.	We recommend $+60^\circ$ Elevation Range.	No deviation from RFP. Anything more/ better is acceptable.
36.	Appx A of RFP (Page No 20)	<u>Technical Parameters.</u> Weight. Total weight of the equipment not be more than 200 (Two hundred) kgs individual Components - ≤ 25 Kgs	PI clarify whether 200 kgs only includes sensor heads, Pan Tilt, Console, Batteries and Charger, 100m Cable and Power Cables in their respective hard cases.	The weight of 200 kgs includes eqpt, the sub-assemblies, inter connecting cable and harness for manpack carriage excluding hard cases.
37.	Appx A of RFP (Page No 20)	<u>Battery Type.</u> Lithium-Ion Phosphate Batteries with charging/ discharging temperature range of -20°C to $+60^\circ\text{C}$.	No NABL accredited labs provide certification for this parameter. Request restrict it to vendor certification / declaration.	Vendor certification to be submitted as applicable.
	Appx A of RFP (Page No 20)	<u>Battery Type.</u> Time required for charging the batteries should not exceed four (04) hours.	Battery backup duration is not mentioned. We recommend 24 hours with the relevant derating so that this duration is valid even at -20°C and $+45^\circ\text{C}$.	08 hrs or more of battery backup is preferable.
	Appx A of RFP	<u>Battery Type.</u> Service life of the batteries should be minimum 4000 hours	No NABL accredited labs provide certification for this parameter. Request restrict it to vendor certification / declaration. (b) We recommend 10,000 hours of life.	Vendor certification to be submitted as applicable.

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38.	Appx A of RFP (Page No 20)	Data Transmission. 128 bit AES encryption or higher standards.	Vendor certification supported by test reports from NABL accredited Labs as applicable. The encryption standard are evaluated and certified by SAG.	Certification of SAG is acceptable.
39.	-	-	DAP 2020 Point 5 (Priority of Categorization) _ As Army is already using/in Service LOROS system which is designed and developed in India, hence according to DAP 2020 "Priority of Categorization" clause the categorization of this procurement should be Buy Indian (IDDM) rather than Buy Indian which is a lower level of categorization.	Para 9 of Chapter I of DAP 2020 clarifies that vendors eligible under Buy Indian (IDDM) can also participate in Buy Indian Cat.
40.	-	-	<p>In addition to the above, it is observed that the Console Software features are not mentioned in the RFP which are very critical: -</p> <p>(a) Dual Video display for simultaneously viewing the any of the two sensor feeds and a full screen display of any sensor feed.</p> <p>(b) Panorama generation and display facility for user to get the perspective of the surveillance area.</p> <p>(c) Multi point auto scan for scanning multiple different point of interest with different sensors and zoom levels for ease of surveillance with scan around facility.</p> <p>(d) Battery status on console for monitoring the change status of the battery without physically checking on battery bank for ease of user for user.</p> <p>(e) Multiple Target Banks.</p>	Addl parameters as deemed appropriate for optimal exploitation of the system be provided by the vendor based on the specific system.

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41.	Appx A of RFP (Page No 19)	<p><u>Op Parameters.</u></p> <p>Detection and Recognition Ranges</p> <table><tr><th colspan="8">Op Reqmt</th></tr><tr><th rowspan="3">Range</th><th></th><th colspan="3">Human (In Kms)</th><th colspan="3">'A' vehicle in (kms)</th></tr><tr><th></th><th>Day</th><th>Thermal</th><th>SWIR</th><th>Day</th><th>Night</th><th>SWIR</th></tr><tr><td>Detection</td><td>≥ 15</td><td>≥ 12</td><td>≥ 15</td><td>≥ 20</td><td>≥ 15</td><td>≥ 20</td></tr><tr><td></td><td>Recognition</td><td>≥ 10</td><td>≥ 06</td><td>≥ 08</td><td>≥ 12</td><td>≥ 12</td><td>≥ 15</td></tr></table>	Op Reqmt								Range		Human (In Kms)			'A' vehicle in (kms)				Day	Thermal	SWIR	Day	Night	SWIR	Detection	≥ 15	≥ 12	≥ 15	≥ 20	≥ 15	≥ 20		Recognition	≥ 10	≥ 06	≥ 08	≥ 12	≥ 12	≥ 15	<p>The atmosphere conditions like thermal contrast, atmospheric attenuation, target reflectivity etc. affect the range performance of EO sensors. Hence the following conditions are to be considered while performing range test.</p> <p>Thermal Imager</p> <p>(a) Thermal Contrast: ΔT 2°C for vehicles and ΔT 5°C for Human.</p> <p>(b) Atmospheric attenuation coefficient is 0.2/Km.</p> <p>Day Camera (Color/Black & White) & SWIR</p> <p>(a) Clear visibility.</p> <p>(b) Target reflectivity is 20% or better.</p> <p>(c) Atmospheric attenuation coefficient is 0.2/Km.</p> <p>Please confirm.</p>	<p>Specification as per RFP to be complied with. Ideal conditions for test may not be there however same conditions will be there for all the vendors.</p>
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42.	Appx A of RFP (Page No 19)	<u>SWIR Channel.</u> Field of View - Wide - $\geq 12^\circ \times 10^\circ$ & Narrow - $\leq 0.8^\circ \times 0.6^\circ$ Optical Zoom - 19X (Continuous zoom) and 4X (Digital Zoom).	<p>To view near targets, Wide FOV is used. The image appears as same in both Day & SWIR Wide FOV. Technically. WFOV requirement in both SWIR and Day Camera becomes redundant. Also, to maintain specified WFOV for both SWIR & Day Camera the total Weight, Size and Cost of the system will increases.</p> <p>Hence SWOR spotter with FOV $0.8^\circ \times 0.6^\circ$ may be considered and Wide FOV $>12^\circ \times 10^\circ$ may be waived.</p>	Specification as per RFP to be complied with.
43.	Appx A of RFP (Page No 20)	<u>Other System Features.</u> <u>Satellite Based Positioning and Navigational System.</u> "Satellite Based Positioning and Navigational System" with WGS 84 projection system. It must provide own position as well as target position MGRS (Military Grid Reference System).	Requested to provide co-ordinate system of MGRS.	DSM parameters will be provided to L1 bidder.
44.	Appx A of RFP (Page No 20)	<u>Pan and Tilt.</u> <u>Elevation Range (Tilt).</u> $\pm 40^\circ$ and Stabilization: Gyro Stabilization Facility	Gyro Stabilization Facility may not be essential to meet the required specifications like ranges. Hence Gyro stabilization may be considered as option feature. Due to Gyro stabilized PTU the size, weight and cost of the system will increase.	Specification as per RFP to be complied with.
45.	Appx A of RFP (Page No 21)	<u>Weight.</u> Total weight of the equipment not be more than 200 (Two hundred) kgs individual Components - ≤ 25 Kgs	<p>It is understood that the following items are not included in the weight 200 kgs.</p> <p>(i) Power Supply items (Generator, Batteries and its changing units and cables)</p> <p>(ii) Transit containers and man packs.</p> <p>Please confirm.</p>	The weight of 200 kgs includes eqpt, the sub-assemblies, inter connecting cable and harness for manpack carriage excluding generators, batteries and charging units.

<u>Ser No</u>	<u>Para No of RFP</u>	<u>RFP Description</u>	<u>Queries</u>	<u>Reply</u>
46.	Appx A of RFP (Page No 21)	<u>Data Transmission</u> (a) Capability to transmit the data through OFC upto 20 Kms and wireless link upto a distance of 05 Km. (b) 128 bit AES encryption or higher standards.	It is understood that the OFC cable will be provided by the user for testing OFC communication upto 20 kms. Please confirm.	OFC connectivity will be provided. Vendors are requested to provide accessories for establishing wireless link.
47.	Para 6 (a) (x) Appx E of RFP (Page No 29)	<u>Technical Literature.</u> Interactive Electronic Technical Manuals (IETMs) of Class IV and above.	Can be replaced with Computer Based Training (CBT)	No deviation from RFP. IETMs have to be provided.
48.	Ser No. 3 of Annexure I to Appendix F (Page No 41)	<u>Demonstration Methodology</u> <u>Thermal Channel.</u> 640 x 512 pixel	Requested to remove Test reports from NABL and include Vendor certification/ CoC from OEM.	Vendor certification to be submitted as applicable.
		MTBF \geq 10000 Hours	Requested to remove Test reports from NABL and include Vendor certification/ CoC from OEM.	
49.	Ser No. 4 of Annexure I to Appendix F (Page No 41)	<u>Demonstration Methodology</u> Day Channel. Sensor Resolution 1920 x 1080 pixels.	Vendor certification / CoC from OEM to be included.	
		MTBF : > 10000 Hours	Requested to remove Test reports from NABL and include Vendor certification/ CoC from OEM	

<u>Ser No</u>	<u>Para No of RFP</u>	<u>RFP Description</u>	<u>Queries</u>	<u>Reply</u>
50.	Ser No 5 of Annexure I to Appendix F (Page No 41)	<u>Demonstration Methodology</u> SWIR Channel Resolution: 640 x 512 pixel or better.	Vendor certification / CoC from OEM to be included.	Vendor certification to be submitted as applicable
		MTBF: \geq 10000 Hours	Requested to remove Test reports from NABL and include Vendor certification/ CoC from OEM	
51.	Ser No 6 of Annexure I to Appendix F (Page No 42)	<u>Laser Range Finder</u> <u>Lase Safety Class.</u> Eye-Safe Class 1M according to IEC-60825-1 (2014).	Vendor certification / CoC from OEM to be included.	
		MTBF. \geq 5000 Hours	Requested to remove Test reports from NABL and include Vendor certification/ CoC from OEM	
52.	Ser No 7 of Annexure I to Appendix F (Page No 42)	<u>Other System Features</u> <u>Digital Magnetic Compass (DMC)</u> (a) Inbuilt DMC for auto Northing. (b) Accuracy $\leq \pm 1.0^\circ$	To be demonstrated.	To be physically verified during demonstration.
		(a) "Satellite Based Positioning and Navigational System" with WGS 84 projection system. It must provide own position as well as target position MGRS (Military Grid Reference System). (b) It should be compatible with Defence Series Maps and IRNSS . (c) Inbuilt GPS to provide own position during initialization. Accuracy better than 10 meters.	To be demonstrated.	

<u>Ser No</u>	<u>Para No of RFP</u>	<u>RFP Description</u>	<u>Queries</u>	<u>Reply</u>
53.	Ser No.of Annexure I to Appendix F (Page No. 44)	Power Supply. Service life of the batteries should be minimum 4000 hours.	Requested to remove Test reports from NABL and include Vendor certification/ CoC from OEM	Vendor certification to be submitted as applicable.
<u>M/s Alpha Elsec Defence & Aerospace Systems Pvt Ltd</u>				
54.	Para 33 of RFP	<u>Demonstration/ Evaluation.</u> The Bidder is requested to confirm his willingness to provide the equipment for Demonstration/ Evaluation in India on "No Cost No Commitment" basis within 60 (sixty) days of issue of RFP.	As we need to prepare the accessories for the main equipment, request revise the time line for offering demo equipment from 60 days to 90 days from the date of issue of RFP.	No deviation from RFP timelines is acceptable.
55.	Annx I to Appx F	Demonstration Methodology	As per RFP, vendor certification supported by test reports from NABL accredited Labs as applicable needs to be produced. In case the facility for certification of certain parameters is not available in the country, the certification from international labs/ OEM certification should be accepted.	Certificate from International labs are acceptable with test reports.
56.	Annex I to Appx F (Ser No 9) (Page No 43)	Demonstration Methodology <u>Elevation Range (Tilt).</u> $\pm 40^\circ$ and Stabilization: Gyro Stabilization Facility.	This facility should also be confirmed from the OEM Certificate since it will be difficult to confirm this facility by a demonstration alone.	Vendor certification to be submitted as applicable in addition to physical verification.

<u>Ser No</u>	<u>Para No of RFP</u>	<u>RFP Description</u>	<u>Queries</u>	<u>Reply</u>
57.	Annex I to Appx F (Ser No 12) (Page No 44)	<u>EMC/EMC</u> . The complete system and all sub-assemblies should EMI/EMC compliant as per Mil Standard 461 E.	Is the EMI/EMC compliance not going to be evaluated by User ACE, Mhow.	Vendor certification to be submitted as applicable.
58.	Appx A of RFP (Page No 20)	<u>Satellite Based Positioning and Navigational System</u> . It should be compatible with Defence Series Maps and IRNSS.	Is there a requirement to offer IRNSS based Positioning System or will GPS based Positioning System suffice/ Compatibility of IRNSS with Satellite Based Positioning System needs to be elaborated further as it is unclear.	The system is required to be IRNSS compatible.
		Battery Type	Is there any minimum duration for which the battery needs to sustain continuous operation of the equipment?	08 hrs or more of battery backup is preferable.
<u>M/s Accuratee Industrials Controls Pvt Ltd</u>				
59.	Appx A of RFP (Page No 19)	<u>Operational Characteristics.</u> Thermal and SWIR Channel	Can we provide for SWIR and Thermal Channels little Narrower FOV and Compromise on Wider FOV? This would enable us to cover longer ranges	Specification as per RFP to be complied with.
60.	Appx A of RFP (Page No 19)	<u>Operational Characteristics.</u> Day Channel	Can we provide for Day with more wider FOV and little less long distance Narrow FOV. As during day heat, haze, fog, smoke, moisture etc do not allow us to see long distances. This would give us a wider field of view and better resolution.	

<u>Ser No</u>	<u>Para No of RFP</u>	<u>RFP Description</u>	<u>Queries</u>	<u>Reply</u>
61.	-	-	We need import license for Thermal, SWIR detectors and LRF. Hence there are minor variations in the demonstration version. However, the actual it would be fully compliant to the RFP. The variations have been highlighted.	Demonstration will be as per demonstration methodology stated in the RFP.
62.	Para No. 4 of Appx F of RFP (Page No 38)	Timeframe for Demonstration. The vendor will ensure availability of one set of demonstration equipment (as per Para 2 above) at designated location within 60 days of issue of RFP.	The import license and associated supply time would take a minimum 4 months. Thus, the equipment would not be ready for at least 6-7 months for demonstration. Hence, we request that we be allowed to offer the equipment with specification as indicated in the attached file.	No deviation from RFP timelines is acceptable.
<u>M/s DEFSYS Solutions Pvt Ltd</u>				
63.	Appx A of RFP (Page No 20)	Control & Display Unit (CDU)	Does Control Display Unit (CDU) need to be MIL STD/JSS55555 qualified?	Yes, Control Display Unit (CDU) needs to be MIL STD/JSS55555 qualified.
64.	Appx A of RFP (Page No 21)	<u>Weight.</u> Total weight of the equipment not be more than 200 (Two hundred) kgs individual Components ≤25 Kgs.	It is mentioned that "Total Weight of the equipment not be more than 200 (Two hundred) kgs however individual Components ≤25 Kgs". (a) Day Camera (Colour, Black/White) (b) Thermal Imager (c) Short Wave Infra-Red (SWIR) Camera (d) Control Display Unit (CDU) (e) Laser Range Finder (f) Tripod (g) Inbuilt Global Position System (h) Motion Control System/ Pan and Tilt Unit	The weight of 200 kgs includes eqpt, the sub-assemblies, inter connecting cable and harness for manpack carriage.

<u>Ser No</u>	<u>Para No of RFP</u>	<u>RFP Description</u>	<u>Queries</u>	<u>Reply</u>
65.	Appx A of RFP (Page No 21)	<u>Generator.</u> A generator producing the desired voltage to power all the components as well as charging of batteries.	Should Generator be based on fuel diesel or petrol? Is it needed to be MIL STD/JSS55555 qualified? It will be helpful if more relevant specification of Generator be provided. What is the run time needed on Li batteries?	Generator can be based on any fuel but should function in operating temperature as specified in Appx A of RFP. It should be of MIL STD as specified in RFP.
66.	Appx A of RFP (Page No 21)	<u>Data Transmission.</u> Capability to transmit the data through OFC upto 20 Kms and wireless link upto a distance of 05 Km.	Capability to transmit the data through OFC and wireless link is mentioned (a) Please clarify whether OFC link and wireless link are deliverables or just capability to be provided for connectivity of external User brought OFC and wireless link? If there links are deliverables, please clarify following: - (a) Please provide specifications of OFC link. (b) Are they also need to be MIL STD/JSS55555 qualified? (c) Kindly specify requirements of delivery of masts and mast height for antennas of wireless links?	Transmission capability on OFC should be there. OFC will be provided by user. However, deliverables for wireless link upto 05 kms to be provided by vendor.

<u>Ser No</u>	<u>Para No of RFP</u>	<u>RFP Description</u>	<u>Queries</u>	<u>Reply</u>
67.	Appx A of RFP (Page No 21)	<u>Environmental Conditions.</u> The system and all sub-assemblies should comply with relevant aspect of JSS 55555:2012, Rev No- 3 / Latest for electronic component and JSS 5855 for optical instruments.	Since JSS55555:2012, revision number 03 comprises of many tests. Kindly specify the list of test applicable on the product.	List of tests are relevant for system and all the sub-assemblies provided by the vendor.
68.	Annexure I to Appendix F of RFP (Ser No. 13) (Page No. 45)	<u>Demonstration Methodology.</u> Upgraded Long Range System should be capable of satisfying the environmental requirements as applicable for operations at altitudes and conditions as given on the Demo Methodology above. Requisite test reports from NABL accredited lab to be provided for following environmental conditions:- (a) Humidity. (b) Storage and transportation temperature (Minus 20 to 55 C). (c) Wind conditions. (d) Rain conditions. (e) Vibration. (f) Shock. (g) Sealing. (h) Low Temperature. (k) Solar Radiation.	Kindly specify the operating altitude.	The operating temperature of system has been given in Environmental Conditions i.e. -20 degrees to +45 degrees Celsius. At any altitude, the system should be able to function in specified temperature range.

Ser No	Para No of RFP	RFP Description	Queries	Reply																																			
69.	Appx A of RFP (Page No. 19)	<u>Operational Characteristics.</u> Detection and Recognition Ranges <table><tr><th colspan="8">Op Reqmt</th></tr><tr><th rowspan="3">Range</th><th colspan="3">Human (In Kms)</th><th colspan="3">'A' vehicle in (kms)</th></tr><tr><th>Day</th><th>Thermal</th><th>SWIR</th><th>Day</th><th>Night</th><th>SWIR</th></tr><tr><td>Detection</td><td>≥ 15</td><td>≥ 12</td><td>≥ 15</td><td>≥ 20</td><td>≥ 15</td><td>≥ 20</td></tr><tr><td>Recognition</td><td>≥ 10</td><td>≥ 06</td><td>≥ 08</td><td>≥ 12</td><td>≥ 12</td><td>≥ 15</td></tr></table>	Op Reqmt								Range	Human (In Kms)			'A' vehicle in (kms)			Day	Thermal	SWIR	Day	Night	SWIR	Detection	≥ 15	≥ 12	≥ 15	≥ 20	≥ 15	≥ 20	Recognition	≥ 10	≥ 06	≥ 08	≥ 12	≥ 12	≥ 15	What will be the position of the vehicles and humans? Will it be moving or not? If moving, then at what speed?	Detection and Recognition of both moving & static targets has to be carried out at speeds achieved in cross country movement.
Op Reqmt																																							
Range	Human (In Kms)			'A' vehicle in (kms)																																			
	Day	Thermal	SWIR	Day	Night	SWIR																																	
	Detection	≥ 15	≥ 12	≥ 15	≥ 20	≥ 15	≥ 20																																
Recognition	≥ 10	≥ 06	≥ 08	≥ 12	≥ 12	≥ 15																																	
70.			Detection and Recognition ranges will be tested on what ground? Will it be tested based in Pixels achieved at various ranges for various objects or it will be on live feed? If it is based on live feed, then what are the expected results?	Detection and Recognition ranges will be tested whether the user is able to detect the target and further recognize it correctly at the ranges specified in Op parameters.																																			
71.	Appx A of RFP (Page No. 19)	<u>Operational Characteristics.</u> Day Camera	Is it required to be Colour or B&W?	Already specified in Appx A of RFP. It is coloured, B/W.																																			
72.	Appx A of RFP (Page No. 19)	<u>Operational Characteristics.</u> SWIR Channel	SWIR is required for better visibility at longer distances. Narrow Field of View plays a better role here. SWIR with 19x zoom makes the requirement skew towards limited vendors of such lens while not serving the intended purpose of far field visibility. Can we suffice the ranges instead of meeting the specific lens specifications?	Specification as per RFP to be complied with.																																			

<u>Ser No</u>	<u>Para No of RFP</u>	<u>RFP Description</u>	<u>Queries</u>	<u>Reply</u>
73.	Appx A of RFP (Page No 20)	<u>Operational Characteristics.</u> SWIR Channel	Is it fine to have an external display which will comply the Sun Readability and Size both?	Accessories to be provided as per laid down parameters. Any additional accessory will be vendor's choice to showcase their equipment.
74.	Appx A of RFP (Page No 20)	<u>Operational Characteristics.</u> Pan & Tilt	Please define the Gyro Stabilization Accuracy. Should it be Mechanically Stabilized or Electrically Stabilized? Also please confirm the expected Roll Pitch and Yaw.	Pan and Tilt to be Gyro Stabilized to provide a stable platform for the system for better observation.
75.	Appx A of RFP (Page No 21)	<u>Operational Characteristics.</u> Data Transmission	Wireless communication will be on what RF band. If it is on Military band than we need access if it must require during the demonstration also. Or will you allow us to demonstrate on regular RF band? Can we use standard protocol converts external to the unit to meet these requirements? Is Optics Fibre Cable acceptable?	RFP clearly states that wireless link upto a distance of 05 Km with 128-bit AES encryption or higher standards to be provided.
76.	Appx A of RFP (Page No 21)	<u>Operational Characteristics.</u> Satellite Based Positioning and Navigational System	The system has GPS. Is that enough, or Mil-grade NAVIC is to be used?	Satellite Based Positioning and Navigational System with WGS 84 projection system must provide own position as well as target position and should be compatible with IRNSS
77.	Appx A of RFP (Page No 21)	<u>Weight.</u> Total weight of the equipment not be more than 200 (Two hundred) kgs individual Components ≤25 Kgs.	Is it including the Carrying Case and Transportation Case? Is there any Restriction in weight distribution on Transportation cases as well?	The weight of 200 kgs includes eqpt, the sub-assemblies, inter connecting cable and harness for manpack carriage.

<u>Ser No.</u>	<u>Para No. of RFP</u>	<u>RFP Description</u>	<u>Queries</u>	<u>Reply</u>
78.	Appx A of RFP (Page No. 21)	<u>Operational Characteristics.</u> Generator	Is it included in the Total allowed weight? Should it be Man Portable, i.e., is the given individual weight restriction applicable to Generator also? What is the expected power back up? What should be the refueling time? Also please specify the fuels if there are any restrictions. Please suggest the 2-3 options for DGQA certified Generators.	200 kgs is excluding generator sets. Expected power backup is 08 hours. The generators should be able to operate in specified environment conditions.
79.	Appx A of RFP (Page No. 21)	<u>Operational Characteristics.</u> Power Supply	Both Generator and Battery should work simultaneously or one after other or in absence of Generator or during refueling Battery will get connected with System? At what temperature range Battery should perform at least for 8 Hr? Will there be only one battery set or two? If only one and system is working on battery supply only then during charging time system will remain down or should be able to work on Generator?	Generator is main power supply with battery as backup. With main power supply battery charging should be simultaneous. The battery should be able to operate at environment conditions specified.
80.	Para No. 2 of Appx C of RFP (Page No. 23)	The SELLER warrants for a period of 24 (Twenty-Four) months from the date of acceptance deliverables post Joint Receipt Inspection or from date of installation and commissioning of the SMTs/ STEs, whichever is later, that the goods/stores/services supplied under this contract and each component used in the manufacture thereof should be free from all types of defects/failures	Is installation and commissioning in supplier's scope? Please share us the list of the installation site so as to estimate manpower requirement. Is there a restriction in timeline of Installation and Commissioning?	Installation and commissioning as per RFP