

Technical Specification of Medium Scale Multi-Rotor UAV

I) Bidder Eligibility Criteria

Bidder Eligibility Criteria	Compliance (Yes/No)	Reference Page No.
The bidder should have supplied at least 5 similar items to IITs, NITs, IISERs, CSIR Labs and other Govt. of India R&D organizations or equivalent organizations abroad in the last 10 years, and the necessary proof should be provided.		

II) Technical Specification

S.NO	Description	Comply / Not Comply	Catalogue page No.
1	Application: Commercial-off-the-shelf multirotor UAV with integrated thermal and visual camera for long range applications.		
2	Vehicle		
	a. Operation mode: Must be capable of vertical take off and landing		
	b. Ceiling: At least 1.8 km above mean sea level		
	c. Hover time: Pure hover for at least 30 minutes at mean sea level		
	d. Powerplant: IC engine or a battery-IC engine hybrid		
	e. Flight endurance: Greater than 3 hours		
	f. Maximum Flight range: At least 100 km		
	g. Operating Temperature: -5 deg C to 30 deg C		
	h. Maximum takeoff weight: Must be lesser than 30 kg		
	i. Reserve: Must feature a reserve battery as back to engine options		
3	Payload requirements		
	a. Visual camera: Forward facing visual camera to track vehicle motion for beyond visual line-of-sight with at least a four hour flight time, must contain a minimum of 40 MP and 8 FPS, mounted on vehicle		
	b. Bispectral Visual and IR camera: Integrated visual and LWIR capable (between 8.0 - 13.0 micrometer range) camera, must be gimbal mounted on the multirotor, thermal images at least 800 x 600 px resolution with a minimum of 20° x 15° field of vision, onboard recording must and live feed option preferable, must be mavlink capable. Visual camera must be able to perform at low		

	light intensity levels (greater than 0.001 lux), and must contain at least 25x optical zoom.		
	c. Windspeed sensor: Vehicle must be integrated with the TriSonica Wind and weather sensor		
3	Communication		
	a. Range: Mission control, telemetry, remote manual control, and video link up to 50 km. Must include appropriate long range antennas and MiMo radio systems. Must be integrated with the vehicle. Frequency range between 0.4 to 6.0 GHz		
	b. Portable: A portable ground control station and a laptop must be included		
	c. Remote control: Must be included		
	d. Battery and charger: Must be included		
	e. Tracking antenna: Must be included		
	f. Flight controller: Must include inbuilt GPS-enabled flight controller		
4	Additional Requirements:		
	1. Vendors should provide continuous technical support and maintenance of equipment.		
	2. Vendors have to provide warranty for a minimum of one year.		
	3. Vendors must have sufficient experience in supplying equipment in reputed organizations for research purposes. They must provide references of end users whom we can contact for their experience with the supplied machine. Experience and feedback of the end users will also be used as a criterion for the selection of bids that meet technical requirements.		
	4. Vendors must provide detailed documentation for the equipment.		
	5. Vendors may be called to visit and give a presentation/demonstration on the equipment after opening the technical bid. They need to provide the approximate date for this presentation in the bid. The time period for this presentation would be 14 days from the date of opening of the bid.		
	6. Vendors must provide training to our technical staff for using the equipment.		
	7. All the expenses for installation, training and post sales technical support will be borne by the vendor. Online mode is acceptable for foreign vendors.		

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the Above points with document proof as required. Failing which bidders will be technically disqualified)