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EAST BLOCK-7, SECTOR-1, R.K PURAM, NEW DELHI-66
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No. B.V-7-C/2025-26-C (LOGISTIC)-QR CELL Dated, the 25 March'2026

Subject: - REQUEST FOR COMMENTS OF STAKEHOLDERS /OEM/FIRMS ON DRAFT QRs & TDs OF "MEDIUM LOGISTIC DRONE (CAPACITY TO CARRY PAYLOAD – 40KG)" REGARDING.

The Draft QRs/TDs of "Medium Logistic Drone (Capacity to Carry Payload – 40kg)" is attached as **Appendix 'A'**. The OEMs/Vendors are requested to forward information of the product, which they can offer and also forward correct specifications of their product against each parameter. Only complied or not complied remarks will not be accepted. The firms are also requested to furnish the following details: -

- Whether you are OEM/Vendor?
- If vendor, details of OEM required.
- Authorization certificate from OEM.

2. The required information/details may please be forwarded at the following addresses by 07 **April'2026**.

Communication Directorate, CRPF
East Block-7, Sec-1, R.K. Puram, New Delhi-110066
Email: comncell@crpf.gov.in

3. An early response is requested.

25/03/2026

(Megh Raj)
DIG (Equipment)
Communication & IT Branch
Directorate General, CRPF

Draft QRs/TDs of Medium Logistic Drone (Capacity to carry payload – 40kg)

S.N.	Parameter	Specifications	Trial Directives
1	**Medium Category Logistic UAV Capacity to carry payload 40 Kg±5% (As a System)**		
1.1	Aerial Vehicle - 01 No		BOO will check practically.
1.2	Ground Control Station - 01 No		
1.3	Pay load assembly (a) Integrated Day & Night Camera (b) Payloads Carrying Capacity		
1.4	Data link Equipment/ Antenna - 01 No		
1.5	Battery/Battery set for each Aerial Vehicle - 01 No		
2	**Drone Characteristics**		
2.1	Nomenclature	Medium Logistic Drone ($\geq$ 120Kg) (45 $\pm$ 5 minutes, with 40kg±5% payload carrying capacity)	BOO will check practically.
2.2	Role	Logistic Drone	BOO will check practically.
2.3	Launch and recovery mode (In meter)	(i) Vertical takeoff and landing (VTOL) within the area of 15 m X 15 m OR (ii) vertical takeoff and landing (VTOL) within the area of 10 m X 10 m	BOO will check practically.
2.4	Aural Signature (in dB)	≤50 dBs at 400 m above AGL	The firm will submit certificate of Govt Lab. Or NABL accredited laboratory/or any other Indian authorized testing agency
2.5	Propulsion system	Electrical with rechargeable batteries	BOO will check practically
2.6	Payloads carrying capability	(a) Should be able to carry 40Kg payload. (b) The payload should have gyro-based stabilization. (c) Automatic AND/OR semi-automatic AND/OR manual payload dropping mechanism with help of winch mechanism. (AS PER USER REQUIREMENT)	BOO will check practically.
2.7	Flight modes	(a) Fully autonomous and stabilized modes	BOO will check practically.
		(b) Assisted flight modes	
		(c) Hover at defined waypoint	
		(d) Waypoint navigation (pre- defined as well as dynamically adjustable waypoints during flight)	
		(e) Should be controllable in real time from the GCS up to recovery	

2.8	Mode of operation	(a) Auto Mode: For pre-defined mission; once the drone is armed and switched on into the auto mode it shall start following the pre-fed mission and return to the launch location after mission completion.	BOO will check practically
		(b) Hover Mode: Switching to this mode will make drone hover at its location, while the pilot can focus on the payload control and select the area to drop the payload.	
		(c) Manual Mode: In this mode payload as well as the drone will be fully controlled by the pilot manually.	
2.9	Endurance (In minutes)	(i) Min. 45 Minutes ± 5 Minutes with 1000 m AMSL with max payload OR (ii) Min. 90 Minutes ± 5 Minutes with 5500 m AMSL with max payload	BOO will check practically
2.10	Operating altitude above ground level (AGL) (In meter)	(i) Up to 500m AGL (Above Ground Level) or more OR (ii) Up to 1000m AGL (Above Ground Level) or more	BOO will check practically
2.11	Maximum Launch altitude above mean sea level (AMSL) (in meter)	(i) 4000m AMSL (Above Mean Sea Level) or more OR (ii) 5500m AMSL (Above Mean Sea Level) or more	Firm will submit OEM certificate
2.12	Operating wind conditions (in km/h)	(a) Take off: 40 km/h or more (b) Landing: 40 km/h or more (c) Cruise: 40 km/h or more	Firm will submit OEM certificate.
2.13	Cruise Speed (in km/h)	Minimum 40 Kmph or more	Firm will submit OEM certificate.
2.14	Collision Avoidance sensor	Integrated proximity sensors for obstacle avoidance	BOO will check practically and firm will submit OEM certificate.
2.15	Mission Range	(i) Minimum 10 Kms one way OR (ii) Minimum 20 Kms one way	BOO will check practically
2.16	Failsafe features	(a) Automatic change to recovery mode after 10 seconds on communication loss, resume mission if communication restore	BOO will check practically and firm will also submit OEM certificate
		(b) Configurable to complete the mission in autonomous mode despite communication failure	

		(c) Automatic Return to Home/Land on battery low/imbalance/sudden voltage drop	
		(d) Multiple GNSS on-board for failure redundancy	Firm will submit OEM certificate.
		(e) Warning on exceeding Wind limit or gust.	BOO will check practically and firm will also submit OEM certificate.
		(f) Warning on exceeding the UAV health parameters (Temperature, vibration, Battery, Motor and throttle limit of the system)	
3	**Camera characteristics**		
3.1	Camera and video stabilization	(a) Gimbal Stabilized	To be physically checked and verified by BOO.
		(b) Video output should be digitally stabilized at all zoom levels	
		(c) 360^0 pan and 90^0 tilt control during flight for day and night payloads	
		(d) UAV should transmit real time imagery to GCS	
		(e) Day payload – 1920X1080 pixels or better Zoom – 10X or better	BOO will check practically and firm will also submit OEM certificate.
		(f) Night payload – 640X512 pixels or better Zoom – 4X or better	
		(g) Quality of video should not be affected by UAV vibrations	
4	**Ground control station characteristics**		
4.1	GCS	GCS should be Robust and Portable.	To be physically checked and verified by BOO.
4.2	CPU	Clock Speed minimum 2.3GHz or better	To be physically checked and verified by BOO.
4.3	Ruggedness	Mil-STD 810G or better	Firm will submit certificate of Govt. lab. or DRDO or NABL/ ILAC accredited lab.
4.4	Screen	Anti-glare, sun light readable, Min 1000 nits or better, Touch Screen 10" minimum (Tablet or Laptop, as per user requirement), Full HD Display or better with IP 65 rating or better	Firm will submit OEM certificate.
4.5	Map	Should be able to overlap ground data with Geo-Spatial data	To be physically checked and verified by BOO.
4.6	Recording & Playback	Ability to record, instant playback and freeze data	To be physically checked and verified by BOO.
4.7	Storage	Min 500 GB Digital Mass Storage with 8 GB RAM or better	To be physically checked and verified by BOO.
4.8	Data Transfer	Availability of USB, HDMI, Ethernet (10/100/1000), IEEE, 1394A ports for transfer/exchange of data	To be physically checked and verified by BOO.

4.9	Battery Charging	Suitable battery charger using normal commercial supply	To be physically checked and verified by BOO.
4.10	Battery Backup	Battery backup at least 90 minutes or more	To be physically checked and verified by BOO.
4.11	Map Formats	(a) Capacity to integrate all kinds of Geo-Referenced Raster Maps in commonly used digital formats (GIF, TIFF, DTED & SRTM etc.)	Firm will submit OEM certificate.
		(b) Compatibility to Google Map and auto-download map of specific location through GPS	To be physically checked and verified by BOO.
		(c) Ability to display 3D maps with the digital terrain data provided. Option to switch between 2D & 3D maps in real time.	To be physically checked and verified by BOO.
		(d) Capability to zoom/ tilt/ rotate 3D maps	To be physically checked and verified by BOO.
4.12	GCS Application Software	(a) Able to control all aspects like pre-flight checks, self-tests, control of take-off/landing, payloads and output: go/ no go.	(a) To be physically checked and verified by BOO.
		(b) The software should provide the following mission information: (i) Target coordinates (ii) GPS Accuracy +-10m (iii) AV Position and distance from GCS (iv) AV operating data (v) Wind speed (vi) Mission time (vii) Communication link status (viii) GPS status (ix) Battery status (x) Geographic map and real time video should be displayed at all times during the flight (xi) Geographic map and real time video views should be resizable and /or switchable to allow user to switch between big map/small video and small map/big video views through a single click/button input (xii) Perpetual proprietary software of the system product support for minimum 05 years.	(b)- (i) to (xi): To be physically checked and verified by BOO. (b)- (xii): Firm will provide OEM certificate.
5	**Communication Link**		
5.1	Encryption	Secure, between Aerial Vehicle and Ground Control Station with AES 256-bit encryption	To be physically checked and verified by BOO. and Firm will submit certificate of Govt. lab. or DRDO or NABL/ ILAC accredited lab.

5.2	Operating Frequency	Operable in S-band or C-band frequency for uplink and downlink. Shall also support FHSS	To be physically checked and verified by BOO. and Firm will submit certificate of Govt. lab. or DRDO or NABL/ ILAC accredited lab.
6	**Video: Should have following functionality**		
6.1	Video	(a) Video should be recorded in any common portable video formats (AVI/MPEG/MP4 etc.)	To be physically checked and verified by BOO.
		(b) Video of the full flight should be recorded	
		(c) Should have capability to take image snapshots/ screenshots at any time during flight	
7	**Electronic Counter Measure (EW features) (optional)**		
7.1	GNSS Denied/ Spoofed Navigation	(a) Shall be capable of detecting GNSS jamming & spoofing. (b) Resilient to GNSS Jamming and Spoofing. (c) Shall support autonomous navigation in GNSS denied/ spoofing environment and/or Return to Home in GNSS denied/spoofed environments. (d) Inertial Navigation System (INS) and velocity-based sensor system. (e) Should be capable of operating from Take-off to Landing	Board will check practically and firm will also submit OEM certificate.
7.2	RF jamming	Support frequency hopping to establish RF communication in jamming environment.	Board will check practically and firm will also submit OEM certificate.
8	**General System requirements**		
8.1	Weight (In kg)	Complete weight of the UAV system not be more than 250 kg in min four rugged boxes (including: (i) Aerial vehicle (ii) All Payloads (iii) Spare Battery (Battery Set)- 2 Nos. (iv) GCS (v) Data link equipment/ Antenna (vi) Cables/ spares/ Accessories	BOO will check practically.
8.2	Assembly/ Disassembly time	Up to 30 minutes with max 4 personnel	BOO will check practically.
8.3	Environmental conditions for operation and storage	The UAV and associated systems should operate and be stored at following environment conditions. (a) Damp heat: 40°± 2°C at RH not less than 90% as per JSS 55555 or equivalent standard	Firm will submit certificate of Govt. lab. or DRDO or NABL/ ILAC accredited lab.

		(b) Operating temperature & Storage temp: -10°C to +55°C with ±10%. As per JSS 55555 or equivalent standard	
8.4	IP (Ingress Protection) of the UAV	IP 54 or better	
8.5	Battery of AV	(a) The intelligent standard Lithium based battery pack should have the backup of minimum 45 minutes ± 5 minutes (b) Life of Battery minimum 300 charging cycles or 2 year whichever is earlier. (c) Battery life cycle should not be programmed in BMS	Firm will submit OEM Certificate.
8.6	Battery charger of AV battery	Suitable universal battery charger to charge the batteries within two to three hours	BOO will check practically and firm will submit OEM certificate.
8.7	Accessories	(a) Field repair kit:1 Nos	BOO will check practically
		(b) Spare Lithium based battery packs (Battery Set) - 2 Set.	BOO will check practically
		(c) Spare propeller set: 2 Complete set	BOO will check practically
		(d) Spare landing gear sets: 1 Complete set	BOO will check practically
		(e) Associated cables & mounting: 1 Set	BOO will check practically
		(f) User, technical & maintenance manual:1 set	BOO will check practically
		(g) Water-resistant (IP 66) Transportation box to carry UAV along with accessories - 04 Nos or more	Firm will submit certificate of Govt lab or NABL/ILAC accredited laboratory
9	**Miscellaneous requirement**		
9.1	Total technical life	Minimum 1000 landings	Firm will submit OEM Certificate.
9.2	Total product support	05 years or more as per user requirement.	Firm will submit OEM Certificate.
9.3	Manufacture recommended list of spares (MRLS) with cost	Should be provided.	BOO will check practically and firm will also submit OEM certificate
9.4	Warranty	02 years or more (as per use requirement)	Firm will submit OEM Certificate.
9.5	Training simulator (Optional as per user requirement)	Suitable simulation software module to be provided for operator training.	BOO will check practically