DIRECTORATE GENERAL, CRPF
EAST BLOCK-7, SECTOR-1, R.K PURAM, NEW DELHI-66
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No. B.V-7-C/2025-26-C(Mapping-UAV)-QR CELL Dated, the 31 Dec'2025

Subject: - REQUEST FOR COMMENTS OF STAKEHOLDERS /OEM/FIRMS ON DRAFT QRS & TDS OF "SMALL UAV FOR 2D & 3D MAPPING PURPOSE (60 MIN)" AND "SMALL UAV FOR 2D & 3D MAPPING PURPOSE (120 MIN)" REGARDING.

The Draft QRs/TDs of "**Small UAV for 2D & 3D Mapping Purpose (60 Min)**" and "**Small UAV for 2D & 3D Mapping Purpose (120 Min)**" are attached as **Appendix 'A'** and **Appendix 'B'** respectively. 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 15 **January'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.

(Rajendra Singh Shekhawat)
DIG (Eqpt/Comn)
Communication & IT Branch
Directorate General, CRPF

Draft QRs/TDs of Small UAV for 2D/3D Mapping (60 Min Endurance)

S N	Parameter	Specifications	Trial Directives
1	**UAV (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) 2-D mapping payload (b) 3-D mapping payload ((a), (b) as per user requirement)		
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	Small UAV (60 Minutes ±5 min), 2 to 8 KG	BOO will check practically.
2.2	Design	Rotorcraft	BOO will check practically.
2.3	Role	2D/3D Mapping (as per user requirement)	BOO will check practically.
2.4	Launch and recovery mode (In meter)	Automatic vertical takeoff and landing (VTOL) within the area of 10X10 m	BOO will check practically.
2.5	Aural Signature (in dB)	≤40 dbs at 300 m above AGL	The firm will submit certificate of Govt Lab. Or NABL accredited laboratory/ QCI or any other authorized testing agency
2.6	Propulsion system	Electrical with rechargeable batteries	BOO will check practically
2.7	Payloads carrying capability	Mapping payload	BOO will check practically.
2.8	Flight modes	a) Fully autonomous and stabilized mode b) Waypoint Navigation c) Should be controllable in real time from the GCS up to recovery	BOO will check practically.
2.9	Endurance **(In meter)**	Min. 60 Minutes ± 5 Minute with 1000 mtr AMSL (Reduction in 10 % of endurance of every 1000 meter.)	BOO will check practically
2.10	Minimum Operating altitude above ground level (AGL) **(In meter)**	1000m AGL (Above Ground Level) or more.	BOO will check practically once during flight.
2.11	Maximum Launch altitude above mean sea level (AMSL) (**in meter)**	4000m AMSL (Above Mean Sea Level) or more	Firm will submit OEM certificate
2.12	Operating wind conditions (**in km/h)**	a) Take off: 35 km/h or more b) Landing: 35 km/h or more c) Operate: 35 km/h or more	Firm will submit OEM certificate.

2.13	Cruise Speed (**in km/h)**	Minimum 45 Kmph or more	Firm will submit OEM certificate.
2.14	Collision Avoidance sensor	Should be available during take-off and landing (As per user requirement). LiDAR, Ultrasonic or Vision-based systems (e.g. 360-degree coverage) for safe autonomous operations in complex terrains.	BOO will check practically and
3.0	Failsafe features	a) Automatic Return to Home/Land on battery low/imbalance/sudden voltage drop with break point resume.	BOO will check practically and firm will produce OEM certificate
		b) (i)Multiple GNSS on-board for failure redundancy with break point resume.	Firm will submit OEM certificate.
		c) Warning / return to home on exceeding Wind limit or gust with break point resume.	BOO will check practically and firm will submit OEM certificate.
		d) Warning / return to home on exceeding the UAV health parameters (Temperature, vibration and throttle limit of the system) with break point resume.	
4	**Payload specification for mapping**		
A	**For 2D mapping payload**		
i	Minimum 64 GB of internal storage with at least 256 GB of external storage in pair		BOO will check practically and firm will submit OEM certificate
ii	Resolution – 42 MP or more as per user requirement High Resolution Camera: 42-61 Mega Pixel full frame CMOS sensor for 5-8 mm GSD at typical altitudes, supporting RGB or Multispectral capture.		firm will submit OEM certificate
iii	GSD-5 cm at Orthomosaic at 400 mtr AGL or GSD < 2 cm/pixel in Orthomosaic @100 mtr AGL		firm will submit OEM certificate
iv	Accuracy of 10 cm at X & Y axis and 25 cm at Z axis RTK/PPK GNSS Module: cm level (1-5 cm) Absolute accuracy for Georeferencing imaging without extensive ground control points		BOO will check practically and firm will submit OEM certificate
v	Swappable lens as per user requirement		BOO will check practically
B	**For 3D Mapping Payload**		
i	Minimum 64 GB of internal storage with at least 512 GB of external storage in pair		BOO will check practically and firm will submit OEM certificate
ii	Minimum 24 X 5 Megapixel		firm will submit OEM certificate
iii	One nadir and 4 Cameras at 45 degrees in four direction		firm will submit OEM certificate
iv	5 cm GSD in Orthomosaic at 400 mtr AGL or GSD < 2 cm/pixel in Orthomosaic at 100 mtr AGL		firm will submit OEM certificate
v	Accuracy of 10 cm at X & Y axis and 25 cm at Z axis		BOO will check practically and firm will submit OEM

	RTK/PPK GNSS Module: cm level (1-5 cm) Absolute accuracy for Georeferencing imaging without extensive ground control points		certificate
5	**Ground control station characteristics**		
5.1 **(Option-1)**	(a)GCS should be portable minimum 7-inch display with rugged IP 55 tablet/laptop which is compatible with GCS for surveillance Or (b)GCS should be portable minimum 10-inch display with rugged IP 65 tablet/laptop which is compatible with GCS for surveillance Or (As per user requirement)		Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory.
5.2 **(Option-2)**	Computing Hardware (as per user requirement) for (a) & (b)		
	CPU	CPU- Processor speed minimum 3.3 GHz or better	BOO will check practically and firm will also submit OEM certificate.
	Storage	1 TB for Laptop or 500 GB for tablet	BOO will check practically and firm will also submit OEM certificate.
	RAM Memory	8 GB or more	
	Display	10 inch or more – 1920 x 1200 (WUXGA) or better sunlight readable screen with minimum 1000 nits, anti-glare or As per user requirement.	
5.3	Battery operation	Minimum 150 minutes at peak utilization	
5.4	Battery charger	Suitable battery charger using normal commercial supply with Battery charging time of not more than 3 hours	
5.5	Data portability	Suitable port for taking data and compatible with GCS	
5.6	Capability	a) Transmit control commands to UAV b) Receive UAV flight and propulsion parameters c) Capability to control UAV while on the move. d) Capable to storing 100 or more flight routes with each route having capacity to configure minimum 70 waypoints in GCS	BOO will check practically and firm will also submit OEM certificate.
5.7	GCS application software (Mission planning software)	a) Able to control all aspect like pre-flight checks, self-tests, control of takeoff/landing payloads, Output: go/no go.	BOO will check practically and firm will also submit OEM certificate.
		b) The software should have following mission information: - i. Coordinate of target ii. Target distance. iii. AV Co-ordinates iv. Distance of AV from GCS v. AV Speed vi. Mission time vii. Payload looking angle viii. Communication link status ix. GPS Status x. Health status of AV battery	

		xi. UAV heading /true North indication xii. Bearing (Azimuth) of UAV from GCS. xiii. EXIF Tagging xiv. Switchable between 2D/3D views, capability to tilt/rotate 3D maps as per user input. xv. Perpetual proprietary license of the system product support for minimum 5 years. xvi. Terrain following feature. With Provision for inclusion / overlaying of DEM xvii. Side and front overlap feature. xviii. Mission path automatic adjustment based on side and front overlap values xix. System should generate safe landing path as per available / uploaded DEM xx. Flight log analysis software/feature should also be provided with GCS	
5.8	Map formats	a) Should have the capability to integrate geo-referenced raster maps provided in commonly Digital formats as per user requirement. b) Ability to display 3D maps with the digital terrain data provided. Option to switch between 2D and 3D maps in real time.	Board will check practically and firm will also submit OEM certificate.
5.9	Processing kinematics	Post processing kinematics or real time kinematics as per user requirement. Geo referencing software with perpetual license	Firm will submit OEM certificate
6	**Communication Link (as per user requirement)**		
6.1	Communication link equipment capability	i) Transmit control commands from GCS to UAV ii) Transmit parameter of UAV and payload to GCS	BOO will check practically.
6.2	Data link encryption	128 bit or better AES.	Firm will submit OEM certificate
7	**G eneral System requirements**		
7.1	Weight (**In kgs**)	Complete weight of the UAV system not more than 50 kg in three or four (as per user requirement) IP 66 backpacks (includes: Aerial vehicle - 01 Payload - 01 Spare Battery- 01 Set GCS - 01 Data link equipment/ Antenna - 01 Cables/spares) or as per user	BOO will check practically.

		requirement	
7.2	Assembly/ Disassembly time **(In minute)**	Up to 30 minutes for mapping drone.	

7.3 (a)	Environmental conditions for operation and storage	The UAV and associated systems should operate and stored at following environment conditions. i) Damp heat: 40°C ±2°C at RH not less than 90% as per JSS 55555 or equivalent standard	Firm will submit certificate of Govt lab or NABL accredited laboratory
		ii) Starting operating temperature & Storage temp: -10°C to +55°C with ±10% Tolerance.	
		iii) Ability to withstand dust, drizzle and humid conditions	
(b)	IP (Ingress Protection) of the UAV	IP 66 or better	
7.4	Battery of AV	i. Lithium/sodium/latest technology battery pack should have BMS with back up of minimum 60 minutes ± 5 minutes ii. Life of Battery minimum 300 charging cycles or 2 years whichever is earlier having minimum 80% performance.	
7.6	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.
7.7	**Accessories**	i. Field repair kit:1 Nos	BOO will check practically
		ii. Lithium/Sodium/Latest Technology battery set: 02 No	BOO will check practically
		iii. Spare propeller set: 1 Complete set	BOO will check practically
		iv. Spare landing gear sets: 1 Complete set	BOO will check practically
		v. Associated cables & mounting: 1 Set	BOO will check practically
		vi. User, technical & maintenance manual:1 set	BOO will check practically
		vii. Water resistance (IP 66) back packs to carry UAV along with accessories - 02 Nos	Firm will submit certificate of Govt lab or NABL/ILAC accredited laboratory
		viii. Rugged, Compact and light weight transportation box- 02 Nos	BOO will check practically
		ix. PPK base station and accessories	BOO will check practically and Firm will submit OEM certificate
8	**Miscellaneous requirement**		
8.1	Total technical life	Minimum 1000 landings	firm will submit OEM certificate

8.2	Total product support	05 years or more as per user requirement.	firm will submit OEM certificate
8.3	Manufacture recommended list of spares (MRLS) with cost	Shall be provided beyond warranty period valid for next three years.	BOO will check practically and firm will submit OEM certificate
8.4	Warranty	02 years or more as per use requirement	firm will submit OEM certificate.
9	**Additional Requirement (Optional as per user requirement)**		
9.1	Resistance against jamming	a) GNSS denied return to home - Autonomous and safe return to home in case of GNSS loss or jamming, both during day & night, within a landing area of 10m x 10m with break point resume. b) EW and cyber hardened	Firm will submit OEM certificate
		c) Auto Channel Selection - System should select best channel of operation automatically both pre-flight and during flight	BOO will check practically
		d) Frequency Hopping to improve Jamming resistance - System should automatically and continuously hop between 4 or more user selectable channels to improve resistance against communication jamming	BOO will check practically
9.2	Onboard image processing / stitching	System will be capable to provide georeferenced Orthomosaic by the time or within half an hour of landing	BOO will check practically
9.3	Training simulator	Suitable simulation software module to be provided for operator training. The operator should be able to practice. 1. Doing pre-flight checks, 2. Take-off, landing, 3. Creating waypoints, flight plans, 4. Executing various flight modes, 5. Checking payload viewing coverage area and drone coverage area, 6. Drawing polygons for obstacle, no-fly zones, and geofences 7. See simulated telemetry parameters 8. Load different geographical maps with ability to switch between 2D and 3D views etc.	BOO will check practically
9.4	*In addition, CAPFs would like to add a feature in QRs wherein location of UAV will be remotely available/visible even on crash or otherwise.* *Kindly enumerate in details, if the feature can be incorporated or otherwise with reasons*		

9.5	Flight log analysis software also to be given along with flight planning software with KML imports and real-time telemetry.

Draft QRs/TDs of Small UAV for 2D/3D Mapping (120 Min Endurance)

S N	Parameter	Specifications	Trial Directives
1	**UAV (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) 2-D mapping payload (b) 3-D mapping payload ((a), (b) as per user requirement)		
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	Small UAV (120 Min ±5 Min), Weight category 2 to 15 KG +10% tolerance (MTOW)	BOO will check practically.
2.2	Design	Fixed Wing/Hybrid	BOO will check practically.
2.3	Role	2D/3D Mapping (as per user requirement)	BOO will check practically.
2.4	Launch and recovery mode **(**in meter)	Automatic vertical take-off and landing (VTOL) up to 100m within the area of 10X10m & then loiter	BOO will check practically.
2.5	Aural Signature (In dB)	≤40 dbs at 300 m above AGL	The firm will submit certificate of Govt Lab. Or NABL accredited laboratory/ QCI or any other authorized testing agency
2.6	Propulsion system	Electrical with rechargeable batteries	BOO will check practically.
2.7	Payloads carrying capability	The Payload should have Gyro based stabilized.	BOO will check practically.
2.8	Flight modes	a) Fully autonomous Mode b) Waypoint Navigation c) Should be controllable in real time from the GCS up to recovery	BOO will check practically.
2.9	Endurance (In minutes)	Min. 120 Minutes ±5 minutes at 1000 mtr AMSL (Reduction in 10% of endurance of every 1000 meter)	BOO will check practically and firm will produce OEM certificate.
2.10	Operating altitude above ground level (AGL) **(**In meter)	1000m AGL (Above Ground Level) or more	BOO will check practically once during flight.
2.11	Maximum Launch altitude above mean sea level (AMSL)(In meter)	4000m AMSL (Above Mean Sea Level) or more	Firm will submit OEM certificate
2.12	Operating wind conditions (In km/h)	a) Take off: 35 km/h or more b) Landing: 35 km/h or more c) Fixed wing mode: 35 km/h or more	Firm will submit OEM certificate.

2.13	Cruise Speed (In km/h)	Minimum 45 Kmph	Firm will submit OEM certificate
2.14	Collision Avoidance sensor	Should be available during take-off and landing (As per user requirement). LiDAR, Ultrasonic or Vision-based systems (e.g. 360-degree coverage) for safe autonomous operations in complex terrains.	BOO will check practically and
3.0	Failsafe features	a) Automatic Return to Home/Land on battery low/imbalance/Sudden Voltage drop with break point resume.	BOO will check practically and firm will produce OEM certificate
		b) Multiple GNSS on-board for failure redundancy including NAVIC with break point resume.	Firm will submit OEM certificate.
		c) Warning/return on exceeding Wind limit or gust with break point resume.	BOO will check practically and firm will submit OEM certificate.
		d) Warning/Return to home on exceeding the UAV health parameters (Temperature, vibration and throttle limit of the system) with break point resume.	
4	**Payload Specification for mapping**		
A	**For 2D Mapping Payload**		
i	Minimum 64 GB of internal storage with at least 256 GB of external storage in pair		BOO will check practically and firm will submit OEM certificate
ii	Resolution – 42 MP or more as per user requirement High Resolution Camera: 42-61 Mega Pixel full frame CMOS sensor for 5-8 mm GSD at typical altitudes, supporting RGB or Multispectral capture.		Firm will submit OEM certificate
iii	GSD-5 cm at Orthomosaic at 400 mtr AGL or GSD < 2 cm/pixel in Orthomosaic @100 mtr AGL		Firm will submit OEM certificate
iv	Accuracy of 10 cm at X & Y axis and 25 cm at Z axis RTK/PPK GNSS Module: cm level (1-5 cm) Absolute accuracy for Georeferencing imaging without extensive ground control points		BOO will check practically and firm will submit OEM certificate
v	Swappable lens as per user requirement		BOO will check practically
B	**For 3D Mapping Payload**		
i	Minimum 64 GB of internal storage with at least 512 GB of external storage in pair		BOO will check practically and firm will submit OEM certificate
ii	Minimum 24 X 5 Megapixel		Firm will submit OEM certificate
iii	One nadir and 4 Cameras at 45 degrees in four direction		Firm will submit OEM certificate

iv	5 cm GSD in Orthomosaic at 400 mtr AGL or GSD < 2 cm/pixel in Orthomosaic at 100 mtr AGL		Firm will submit OEM certificate
v	Accuracy of 10 cm at X & Y axis and 25 cm at Z axis RTK/PPK GNSS Module: cm level (1-5 cm) Absolute accuracy for Georeferencing imaging without extensive ground control points		BOO will check practically and firm will submit OEM certificate
5	**G round control station characteristics**		
5.1(**Option-1)**	(a) GCS should be portable minimum 7-inch display with rugged IP 55 tablet/laptop which is compatible with GCS for surveillance Or (b) GCS should be portable minimum 10-inch display with rugged IP 65 tablet/laptop which is compatible with GCS for surveillance Or (As per user requirement)		Firm will submit certificate of Govt. Lab. or NABL/ILAC accredited laboratory.
5.2 **(Option-2)**	Computing Hardware (as per user requirement) for (a) or (b)		
	CPU	CPU- Processor speed minimum 3.3 GHz or better	BOO will check practically and firm will also submit OEM certificate.
	Storage	1 TB for Laptop or 500 GB for tablet	BOO will check practically and firm will also submit OEM certificate.
	RAM Memory	8 GB or more	
	Display	10 inch or more – 1920 x 1200 (WUXGA) or better sunlight readable screen with minimum 1000 nits, anti-glare Or As per user requirement.	
5.3	Battery operation	Minimum 04 hours at peak utilization with one (1) hot swappable battery.	
5.4	Battery Charger	Suitable battery charger using normal commercial supply with Battery charging time of not more than 3 hours	
5.5	Data portability	Suitable port for taking data and compatible with GCS	
5.6	Capability	a) Transmit control commands to UAV b) Receive UAV flight and propulsion parameters c) Capability to control UAV while on the move. d) Capable to storing 100 or more flight routes with each route having capacity to configure minimum 70 waypoints in GCS	BOO will check practically and firm will also submit OEM certificate.
5.7	GCS application software	a) Able to control all aspect like pre-flight checks, self-tests, control of take-off/landing, payloads and Output: go/no go	BOO will check practically and firm will also submit OEM certificate.
		b) The software should have following mission information: - i. Coordinate of target ii. Target distance. iii. AV Co-ordinates iv. Distance of AV from GCS v. AV Speed vi. Mission time vii. Payload looking angle	

		viii. Communication link status ix. GPS Status x. Health status of AV battery. xi. UAV heading /true North indication xii. Bearing (Azimuth) of UAV from GCS. xiii. EXIF Tagging xiv. Switchable between 2D/3D views, capability to tilt/rotate 3D maps as per user input. xv. Perpetual proprietary license of the system product support for minimum 5 years xvi. Terrain following feature. With Provision for inclusion / overlaying of DEM xvii. Side and front overlap feature. xviii. Mission path automatic adjustment based on side and front overlap values xix. System should generate safe landing path as per available / uploaded DEM xx. Flight log analysis software /feature should also be provided with GCS	
5.8	Map formats	a) Should have the capability to integrate geo-referenced raster maps provided in commonly Digital formats as per user requirement.	Board will check practically and firm will also submit OEM certificate.
		b) Ability to display 3D maps with the digital terrain data provided. Option to switch between 2D and 3D maps in real time.	
5.9	Processing kinematics	Post processing kinematics or real time kinematics as per user requirement. Geo referencing software with perpetual reference	Firm will submit OEM certificate
6	**Communication Link**		
6.1	Communication link equipment capability	i) Transmit control commands from GCS to UAV	BOO will check practically.
		ii) Transmit parameter of UAV and payload to GCS	
6.2	Data link encryption	128 bit or better AES encryption	Firm will submit OEM certificate
7	**G eneral System requirements**		
7.1	Weight (**In kg)**	Complete weight of the UAS not more than 75 kg and system should be packable in 5 backpacks (includes: Aerial vehicle – 01, Payload - 01 Spare Battery- 01 set. GCS - 01 Data link equipment/ Antenna - 01 Cables/spares) or as per user requirement	BOO will check practically.
7.2	Assembly/ Disassembly	Up to 30 minutes for mapping drone.	

	time **(In minute)**		

7.3 (a)	Environmental conditions for operation and storage	The UAV and associated systems should operate and stored at following environment conditions. i) Damp heat: 40°C ±2°C at RH not less than 90% as per JSS 55555 or equivalent standard.	Firm will submit certificate of Govt lab or NABL/ILAC accredited laboratory
		ii) Starting operating temperature & Storage temp: -10°C to +55°C with ± 10 % tolerance.	
		iii) Ability to withstand dust, drizzle and humid conditions	
(b)	IP (Ingress Protection) of the UAV	IP 66 or better	
7.4	Battery of AV	(I) Lithium/Sodium/Latest Technology battery pack should have BMS with the back up of minimum 120± 5 minutes. (II) Life of Battery minimum 300 charging cycles or 2 years whichever is earlier having minimum 80% performance	
7.6	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.
7.7	**Accessories**	i. Field repair kit:1 Nos	BOO will check practically
		ii. Lithium/Sodium/Latest Technology battery set: 02 No	BOO will check practically
		iii. Spare propeller set: 1 complete set	BOO will check practically
		iv. Spare landing gear sets: 1 complete set	BOO will check practically
		v. Associated cables & mounting: 1 Set	BOO will check practically
		vi. User, technical & maintenance manual: 1 set	BOO will check practically
		vii. Water resistance (IP 66) back packs to carry UAS- 05 Nos	Firm will submit certificate of Govt lab or NABL/ILAC accredited laboratory
		viii. Rugged, Compact and light weight transportation box -05 Nos	BOO will check practically
		ix. PPK base station and accessories	Firm will submit OEM certificate
8	**Miscellaneous requirement**		
8.1	Total technical life	Minimum 1000 landings	OEM will provide certificate.

8.2	Total product support	05 years or more as per user requirement.	OEM will provide certificate.
8.3	Manufacture recommended list of spares (MRLS) with cost	Shall be provided beyond warranty period valid for next three years.	BOO will check practically
8.4	Warranty	Minimum 02 years or as per user requirement	OEM will provide certificate.
9	**Additional Requirement**. **(Optional as per user requirement)**		
9.1	Resistance against jamming	a) GNSS denied return to home - Autonomous and safe return to home in case of GNSS loss or jamming, both during day & night, within a landing area of 10m x 10m with break point resume. b) EW and cyber hardened	Firm will submit OEM certificate
		c) Auto Channel Selection - System should select best channel of operation automatically both pre-flight and during flight.	BOO will check practically
		d) Frequency Hopping to improve Jamming resistance - System should automatically and continuously hop between 4 or more user selectable channels to improve resistance against communication jamming.	BOO will check practically
9.2	Onboard image processing / stitching	System will be capable to provide georeferenced Orthomosaic by the time or within half an hour of landing	BOO will check practically
9.3	Training simulator	Suitable simulation software module to be provided for operator training. The operator should be able to practice. 1. Doing pre-flight checks, 2. Take-off, landing, 3. Creating waypoints, flight plans, 4. Executing various flight modes, 5. Checking payload viewing coverage area and drone coverage area, 6. Drawing polygons for obstacle, no-fly zones, and geofences 7. See simulated telemetry parameters 8. Load different geographical maps with ability to switch between 2D and 3D views etc.	BOO will check practically
9.4	*In addition, CAPFs would like to add a feature in QRs wherein location of UAV will be remotely available/visible even on crash otherwise.* *Kindly enumerate in details, if the feature can be incorporated or otherwise with reasons.*		
9.5	Flight log analysis software also to be given along with flight planning software with KML imports and real-time telemetry.		