

General flight parameters.

	AGRICULTURE					FORESTRY			M&A	CORRIDORS	POWER LINE INSPECTION	SOLAR PANEL INSPECTION	
Products	Scouting maps	Fcover Emergence Flowering StayGreen	Plant height (Field crops)	Gaps and Count (Field crops)	Precision weed control	Scouting maps	Plant height (Forestry)	Counting (Forestry)					
FIXED WING	RGB	<ul style="list-style-type: none"> • Flight height: Minimum 90 m (~GSD=6cm (2)) • Forward overlap: 80% • Side overlap: 80% 		<ul style="list-style-type: none"> • Flight height: 70 m for UX11 AG (~GSD=5cm) (1)(2); Otherwise: 90 m • Forward overlap: 80% • Side overlap: 80% 		<ul style="list-style-type: none"> • Forward overlap: 80% (3) • Side overlap: 80% (3) 		<ul style="list-style-type: none"> • Flight height: 120 m (GSD: minimum: 3,8 cm) • Forward overlap: 80% • Side overlap: 75% 	<ul style="list-style-type: none"> • Flight height: Between 120 m and 150 m • Forward overlap: 80% • Side overlap: (4) 				
	Multispectral												
	Lidar mVux					<ul style="list-style-type: none"> • Flight height: between 80 m and 110 m • Forward overlap: 70% 			<ul style="list-style-type: none"> • Flight height: between 80 m and 110 m • Side overlap: (4) 				
MULTIROTOR	IR radiometric									<ul style="list-style-type: none"> • Flight distance (between sensor and target): Less than 15m (~GSD=3,5cm) and 80 m (~GSD=5,5cm) (1) • Forward overlap: none • Side overlap: none 	<ul style="list-style-type: none"> • Flight height: 25 m (~GSD< 3 cm) • Forward overlap: 80% • Side overlap: 80% 		
	RGB	<ul style="list-style-type: none"> • Flight height: Minimum 90 m (~GSD=6cm (2)) • Forward overlap: 80% • Side overlap: 80% 		<ul style="list-style-type: none"> • Flight height: Between 50 m (~GSD=3,5cm) and 80 m (~GSD=5,5cm) (1)(2) • Forward overlap: 80% • Side overlap: 80% 		<ul style="list-style-type: none"> • Forward overlap: 80% (3) • Side overlap: 80% (3) 		<ul style="list-style-type: none"> • GSD: minimum : 3,8 cm • Forward overlap: 80% • Side overlap: 75% 	<ul style="list-style-type: none"> • Flight height: Between 120 m and 150 m • Forward overlap: 80% • Side overlap: (4) 				
	Multispectral												
Tips	<ul style="list-style-type: none"> • Set GCP • Avoid to fly during azimuth sun period or when the sun is low (shadows) • Avoid to fly when the weather is alternating between sunny and cloudy • Take pictures of the calibration panel BEFORE and AFTER the flight (multispectral) • If there are multiple flights on the the same Area of Interest (for a campaign), the UAV must be equipped with PPK or RTK function. In addition, we recommend to use a mobile GNSS station. If you use a fixed known GNSS station, the maximum distance to the Area of Interest is 15km. • Add additionnal UAV trajectories outside the Area of Interest • (1) The Canopy Size must be equal to twice the GSD : ex: Canopy size is 8 cm; GSD must be 4 cm • (2) GSD calculated for Micasense RedEdge MX sensor. 					<ul style="list-style-type: none"> • (3) We must have 80% overlap on the canopy. Ex: For a flight height at 120 m AGL, and the trees's height is equal to 30m, then the Forward/Side overlap must be set at 83%/83% • Add additionnal UAV trajectories outside the Area of Interest • For projects with multiple flights there should be overlap between the different flights and the conditions (sun direction, weathers, etc..) • Set GCP • Avoid to fly during azimuth sun period or when the sun is low (shadows) • Avoid to fly when the weather is alternating between sunny and cloudy • Take pictures of the calibration panel BEFORE and AFTER the flight (multispectral). 			<ul style="list-style-type: none"> • For projects with multiple flights there should be overlap between the different flights and the conditions (sun direction, weathers, etc..) • Recommended camera settings: Exposure time: less than 1/1000 sec; ISO sensitivity: less than 400; Fixed focal length; Infinite focus. 		<ul style="list-style-type: none"> • (4) Depending of both the Vegetation Corridor width and expected point cloud density required by the customer. For ex: side overlap for transmission lines is 30m • For projects with multiple flights there should be overlap between the different flight. 	<ul style="list-style-type: none"> • (1) Especially true for IR sensor in order to not lose effectiveness in the IR inspection. • This type of inspection aims at collecting at the same type RGB and IR pictures • Suggested Drone: DJI Matrice 200 serie; • Suggested sensor: Zenmuse XT2 	<ul style="list-style-type: none"> • A minimum of 80% overlap is requested; • IR camera must be radiometric with a minimum resolution of 640 x 480; • Reccomended format is Radiometric JPEG; • Suggested Drone: DJI Matrice 200 serie; • Suggested sensor: Zenmuse XT2