DJI LiDAR Mapping Training - Syllabus

Course Objectives	1. Safety – Safe flying and how to react during emergency situations 2. Solution – Understanding DJI commercial UAS solutions and the latest UAS technology 3. Operation – Learning about the DJI Pilot 2 app and how to operate DJI's latest commercial drone platform 4. Mission – Utilizing UAS to perform data acquisition in survey area 5. Maintenance – Standard equipment maintenance operations 6. Processing – Able to generate comprehensive deliverables with the collected data

Onsite Training

Day		Location	Lesson	Time	Content	Objective
Day 1	AM	Classroom	Overview & Safety Education	9:00-9:30	1. Introduce onsite training schedule & testing; 2. Review and stress on the safety flight;	1. Understand the training schedule and testing procedures; 2. Build up and stress on safety awareness
			Drone System & Operation	9:30-11:00	Review UAS system & DJI Pilot	1. Be familiar with drone system; 2. Be familiar with DJI Pilot; 3. Be familiar with M350 and Zenmuse L2
			Maintanence Practice	11:00-12:00	Review and practice maintanence and system care with M350 and Zenmuse L2;	Know how to do basic maintanence and system care
	Lunch Break (12:00-13:00)					
	PM	Flight Field	Task: Flight Preparation	13:00-13:30	Set-up, preflight check, safety strategy setting, etc.	Know how to set up drone & prepare for safety flight
			Task: Basic Flight Practice	13:30-14:30	Take-off - straight route - landing (incl. remote landing)	Be familiar with the maneuvering of take-off, straight flight at constant velocity, land at specific spot
			Task: Route Flight Practice	13:30-14:30	Retangular route flight (Tail-in & nose-in)	Achieve stable and straight retangular route flight with orientation of tail-in & nose-in
			Task: Circling flight	14:30-17:00	Circle route flight (nose-in & point-to-center)	Improve maneuvering skill and achieve stable and constant-velocity circle route with orientation of nose-in and point-to-center
Day 2	AM	Classroom	Photogrammetry and LiDAR Aerial Mapping	9:00-12.00	Introduce to Aerial Mapping & Surveying	1. Understand the concept of Aerial Mapping & Surveying 2. Familiarise with deliverables, terminology, and data from Aerial Mapping 3. Able to understand and the importance of Georeferencing. 4. Able to produce the deliverables required for each operation with the collected drone data. 5. Able to differentiate Photogrammetry and Airborne LiDAR and its usage in different situation 6. Understand the limitations of Photogrammetry and Airborne LiDAR equipment
	Lunch Break (12:00-13:00)					
	PM	Flight Field	FPV Flight	13:00-15:00	Practice flying with the drone's FPV feed	Be familiar with the FPV flight
			Field Data Acquisition	15:00-17:00	Flight Mission Planning with DJI Pilot 2 Software	1. Able to setup Mapping mission with suitable parameters 2. Acknowledge the parameters required based on the survey area (urban, forested, agriculture) 3. Perform Data Acquisition with safety in mind. 4. Understand the limitations of Photogrammetry and LiDAR Drone
Day 3	AM	Classroom	Data Processing	9:00-12:00	Familiarise with Data Processing Software	1. Understand the functions in the software 2. Able to identify and achieve the deliverables required. 3. Learn how to generate deliverables with correct workflow and reducing errors
	Lunch Break (12:00-13:00)					
	PM	Classroom	Task: Data Processing Test	13:00-16:00	Practice data processing with collected data	1. Performing data processing and generate deliverables 2. Able to identify the errors during data processing 3. Improve problem solving skills with data processing 4. Photogrammetry Data Processing 5. Lidar Data Processing
			Revision and Q&A Session	16:00-17:00	Revising the course	Revising what had the trainees learned throughout the training.
Day 4	AM	Classroom	Theory Examination	9:00-12:00	Online Examination System	1. Elements of Aerial Mapping 2. Mission Planning Method 3. Aerial Mapping Mission Settings
						Score 80% or above to pass the theory examination (100 multiple choice questions)
	Lunch Break (12:00-13:00)					
	PM	Flight Field	Aerial Mapping & Surveying Hands-On Examination	13:00-17:00	Aerial Mapping Flight Execution	1. Aerial Mapping Pre-Flight Checklist 2. Autonomous Flight Safety, Mission Pause and Resume 3. Aerial Mapping Post-Action
						Score 80% or above to pass the practical test
			Closing event			

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