

Specialized Industry-Specific Drone Training for Disaster Risk Reduction for the Civil Protection Unit in Zimbabwe



Students undergoing type-specific training on the Mavic 2 Enterprise Dual Drone platform.



Newly Certified Drone Pilots from the Ministry of Local Government, Civil Protection Department holding DJI Mavic 2 Enterprise Drones during training.



Field exercises and aerial mapping practice to capture data

OVERVIEW	
Flying Labs	Zimbabwe Flying Labs
Location	Harare, Zimbabwe
Date	August - October 2022
Length (number of days)	20 days

Sector program (optional)	AidRobotics and DevRobotics
Format	In-person
Co-organizer if applicable	United Nations Development Programme (UNDP) Zimbabwe
SDGs	GOAL 3: Good Health and Well-being GOAL 11: Sustainable Cities and Communities GOAL 13: Climate Action

SCOPE & OUTCOMES	
Type of training	<ol style="list-style-type: none"> 1. Technical training for professionals 2. Sector-specific training for professionals
Goal of the training	<ol style="list-style-type: none"> 1. To develop drone data acquisition skills 2. To develop data processing skills 3. To certify drone pilots
Expected outcomes for participants	<ul style="list-style-type: none"> • Awareness on safe and responsible drone operations • Establishing a pathway towards organizational drone compliance with Civil Aviation Authority of Zimbabwe (CAAZ) • Understanding of local drone laws, regulations, and compliance standards in Zimbabwe • Drone operators certification from the Ministry of Local Government • Skills and knowledge for drone operations for disaster management
Confirmed outcome after training	<p>The expected outcomes of the training were achieved. The participants undertook Level 1 and 2 drone pilot skills training. In Level 1 the participants were taken through theoretical aviation, drone laws and regulations, flight operation, planning and aircraft performance, and flight safety and hazard identification. In Level 2, the participants explored advanced industry-specific training, including drones for disaster management, aerial mapping and data processing, and search and rescue operations. In addition, the participants took part in practical flying exercises.</p>
Eventual next steps	<ol style="list-style-type: none"> 1. Development of a roadmap to compliance in line with local regulations (ROC certification) 2. Training additional drone pilots for the 18 drones. 3. Training on integrating drones into the organization.

PARTICIPANTS	
Profiles and number of participants	Staff from government - 3
Name of participants' organizations	Ministry of Local Government: Civil Protection Department
Gender ratio	3 Males, 0 Female
Who paid for the training?	UNDP Zimbabwe
Participant fee rate (if applicable)	N/A
Scholarships offered?	N/A

CONTENT	
Training components	<p>Training included Level 1 and Level 2 Drone Pilot skills training.</p> <p>Level 1 Training: Drone Pilot Certification</p> <ul style="list-style-type: none"> ● Theoretical Aviation Knowledge ● Aerodynamics, Navigation & Meteorology ● Drone Laws & Regulations ● Human Factors ● Flight Operations, Planning & Aircraft Performance ● Basic Practical Flying Exercises, Flight Safety & Hazard Identification <p>Level 2 Training: Advanced Industry Specific Training</p> <ul style="list-style-type: none"> ● Intelligent Flight Systems & Autonomous Flight ● Waypoints and Telemetry Operations ● Drones for Disaster Planning & Mitigation ● Aerial Mapping & Data Processing ● Search and Rescue Operations ● Night Flying protocols ● DJI Mavic 2 Enterprise Type Specific training
Training resources used	<ul style="list-style-type: none"> ● DJI Phantom 4 ● DJI Mavic 2 Enterprise ● PIX4Dcapture ● PIX4Dmapper
Approaches and methods	<ul style="list-style-type: none"> ● As a prerequisite, participants underwent Level 1 Civil

used	<p>Aviation Authority Remote Pilot license certification before commencing the Level 2 industry-specific training.</p> <ul style="list-style-type: none">● Level 1 is a 10-day full-time theory and practical training course.● For Level 2, the participants carried out advanced flying simulation techniques for different disaster scenarios response mechanisms for their teams.● Disaster response scenarios simulated covered the following:<ul style="list-style-type: none">❖ Search and Rescue❖ Pre-Disaster Planning❖ Post-Disaster Assessment❖ Night Operations
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