Drones for stockpile audits

Participants for the training pose for a photo outside the school of engineering Unza

Participants for the training pose for a photo on the site-Chunga dump site

OVERVIEW	
Flying Labs	Zambia Flying Labs
Location	Lusaka, Zambia
Date	24 May 2021 to 28 May 2021
Length (number of days)	5 days

Sector program (optional)	YouthRobotics
Format	Both (online and in-person)
SDGs	GOAL 4: Quality Education GOAL 9: Industry, Innovation and Infrastructure GOAL 11: Sustainable Cities and Communities

SCOPE & OUTCOMES	
Type of training	1. Sector-specific training for students (Drones for stockpile Audits) 2. Youth/STEM training
Goal of the training	1. Create drone awareness 2. Develop drone data acquisition skills 3. Develop drone data analysis skills 4. Develop data literacy/interaction skills 5. Train and empower youth and the workforce of the future
Expected outcome for participants	1. Learn about drones and its applications 2. Acquire skills in data processing & analysis 3. Rules & Regulations about drone technologies
Confirmed outcome after training	1. Increased interest to learn more about drones. 2. Acquired skills in Drone photogrammetry workflow. 3. Students can apply the knowledge obtained for their undergraduate related field research topics 4. Expressed interest in becoming permanent members of Zambia Flying Labs - Student Chapter working group.
Eventual next steps	1. Recruit the students to be part of Zambia Flying Labs student-Chapter. 2. Provide them with other drone application specific training. 3. All Zambia Flying Labs projects should have a training & capacity building in it.

PARTICIPANTS	
Profiles and number of participants	1. University students (14)
Name of participants' organizations	1. University of Zambia 2. Copperbelt University
Gender ratio	10 Female : 4 Male
Who paid for the training?	Free Training as part of the project for Auditing Chunga Dump Site.
Participant fee rate (if applicable)	Free
Scholarships offered?	Full

CONTENT	
Training components	● How to survey the site ● How to plan for a drone flight ● Drone market leading apps ● Processing Drone Data ● Best Drone to Use ● Output and best use (Orthomosaic, stockpile Volumetrics, Facade Inspection, Topographical Survey)
Training resources used	● Apps/Software - DroneDeploy, PX4D, Google Earth ● Hardware - Phantom 4 RTK
Approaches and methods used	● 5 Online sessions & 1 Physical lesson to adhere to COVID-19 regulations. ● The approach that was used was to limit powerpoint presentation but through demonstration(Software/Apps used). ● All the participants were involved in the practical training. Opportunities for students to meet different stakeholders for the project from the industry were provided during the training.