

A Tech Taste of Educational Drones

(Applicable, Grounded and Practical Drone Technology Education)



Figure 1. Adult participants with the Flying Labs team during the terrestrial robot presentation



Figure 2. Child Participants with the Flying Labs Team pose for a photo at the end of the training in the school gym.

OVERVIEW	
Flying Labs	Bolivia Flying Labs Cameroon Flying Labs Spain Flying Labs Uganda Flying Labs
Location	Chemnitz, Germany
Date	November 5th, 2022
Length (number of days)	1 day (3 hrs)
Sector program (optional)	YouthRobotics
Format	In-Person
Co-organizer if applicable	ASA-FF - Chemnitz-based association How to Build Up Inc. - International Non-governmental organization registered in the US
SDGs	GOAL 4: Quality Education

SCOPE & OUTCOMES	
Type of training	<ol style="list-style-type: none"> 1. Introduction training to drones 2. Youth/STEM training
Goal of the training	<ol style="list-style-type: none"> 1. Create drone awareness 2. Train and empower youth and the workforce of the future
Expected outcome for participants	<ul style="list-style-type: none"> - Participants encouraged to broaden their horizons and implement drone technology - Participants understand the components and capabilities of drones - Practice collaborative methodology and self knowledge
Confirmed outcome after training	<ul style="list-style-type: none"> - Participants learned from experts and each other - An improvement of confidence in piloting drones was clearly seen in participants. - Participants became better drone pilots and they can now broaden their horizons to learn more about drones and take advantage of the opportunities the drone industry can offer.
Eventual next steps	<ul style="list-style-type: none"> - Improve the training and training materials - Look for future collaborations to present it in other conferences

PARTICIPANTS	
Profiles and number of participants	<ol style="list-style-type: none"> 1. Staff from Organizations (non-profit/for-profit/research institutes, etc.) 2. Staff from Government (ministries, government service, etc.) 3. Professionals (individual consultants, researchers, experts, teachers, etc.) 4. Members of other Flying Labs 5. Local community members 6. Conference Participants from different countries (14 Adults, 18 to 63 years old) 7. School children (8 children around the ages of 12)
Name of participants' organizations	<ul style="list-style-type: none"> - Children from a Montessori School in Chemnitz - Adult Beginners from the 2022 How to Build Up Conference

Gender ratio	Female: Male 30% : 70%
Who paid for the training?	Free training
Participant fee rate (if applicable)	No fee
Scholarships offered?	No scholarship

CONTENT	
Training components	<p>Part 1. Motivation and introduction (PowerPoint Presentation)</p> <ul style="list-style-type: none"> ● Team introduction ● Participants introduction ● Drone technology history and background ● Drone components and capabilities ● Examples of drone technology implementation in different areas of application/industries <p>Part 2. Drone Assembly</p> <ul style="list-style-type: none"> ● Kit and instructions provided by Natxo Varona from Spain Flying Labs (Maid in house) <p>Part 3. Aerial Drone Flight</p> <ul style="list-style-type: none"> ● Indoor activity where participants had the opportunity to pilot entertainment multirotor drones after theoretical planning on safety and pre-flight planning. <p>Part 4. Terrestrial Robots</p> <ul style="list-style-type: none"> ● Presented and provided by Loic Dessap from Cameroon Flying Labs
Training resources used	<p>Physical</p> <ul style="list-style-type: none"> ● School Gym in Chemnitz ● Drone kits - provided by Spain Flying Labs ● Entertainment multirotor drones - provided by Bolivia Flying Labs ● DJI Tello Drones - Provided by Camerron & Bolivia Flying Labs ● Terrestrial Robot - Provided by Cameroon Flying Labs <p>Intellectual</p>

	<ul style="list-style-type: none"> ● Brand - Flying Labs ● Experience and knowledge in terms of information presented
<p>Approaches and methods used</p>	<p>Personal Assistance</p> <ul style="list-style-type: none"> ● Human interaction between participants and Flying Labs team during the Training ● In-person live support including response to emergency situations <p>Co-creation of value with customers</p> <ul style="list-style-type: none"> ● By collaboratively creating value with participants/customers through bi-directional interactions ● To promote an increase of trust from participants with the Flying Labs team and organization