

## Introduction training to drones and robotics for girls



Learner inspecting a drone



Learner coding a robot



Learner checking the controls of a DJI Mavic drone

OVERVIEW	
<b>Flying Labs</b>	South Africa
<b>Location</b>	JOHANNESBURG SOUTH AFRICA
<b>Date</b>	12 June 2021

<b>Length (number of days)</b>	1 Day
<b>Sector program</b>	AidRobotics, DevRobotics, YouthRobotics
<b>Format</b>	In-Person
<b>Co-organizer if applicable</b>	QP Consortium and Tshimologong
<b>SDGs</b>	<a href="#">GOAL 1: No Poverty</a> <a href="#">GOAL 4: Quality Education</a> <a href="#">GOAL 5: Gender Equality</a> <a href="#">GOAL 10: Reduced Inequality</a>

SCOPE & OUTCOMES	
<b>Type of training</b>	<ol style="list-style-type: none"> <li>1. Introduction training to drones</li> <li>2. Youth/STEM training</li> <li>3. Robotics training</li> </ol>
<b>Goal of the training</b>	<ol style="list-style-type: none"> <li>1. Create drone awareness</li> <li>2. Train and empower youth and the workforce of the future</li> <li>3. Teach youth how to program robots</li> </ol>
<b>Expected outcome for participants</b>	<ol style="list-style-type: none"> <li>1. Introduction to drones and robots</li> <li>2. Career options</li> <li>3. How to program drones</li> </ol>
<b>Confirmed outcome after training</b>	<p>Students gained the following skills and knowledge:</p> <ol style="list-style-type: none"> <li>1. Understanding the different applications of drones and how it can be used in social good sectors</li> <li>2. Developing an understanding of regulatory requirements for operating a drone in South Africa</li> <li>3. Developing basic understanding of a robot and how to program it</li> </ol>
<b>Eventual next steps</b>	Source funding for a 3-5 day drone and robotics course for young people

PARTICIPANTS	
<b>Profiles and number of participants</b>	<ul style="list-style-type: none"> <li>● 2 Local community members</li> <li>● 2 University students- Observers</li> <li>● 10 School children</li> <li>● 2 Industry partners (Airlink)</li> </ul>
<b>Name of participants' organizations</b>	SOS (Orphanage for girls)
<b>Gender ratio</b>	100% Female
<b>Who paid for the training?</b>	Free training
<b>Scholarships offered?</b>	Yes

CONTENT	
<b>Training components</b>	<ol style="list-style-type: none"> <li>1. Introduction to drones</li> <li>2. Introduction to robotics</li> <li>3. Robotics kits</li> </ol>
<b>Training resources used</b>	<ul style="list-style-type: none"> <li>● Laptops</li> <li>● Drones <ul style="list-style-type: none"> <li>○ 1 DJI Mavic Enterprise Zoom</li> <li>○ 1 DJI Mavic 2 Pro</li> <li>○ 1 DJI Phantom 4 Pro</li> <li>○ 1 Tello drone</li> </ul> </li> </ul>
<b>Approaches and methods used</b>	<ul style="list-style-type: none"> <li>● Girls were interviewed and those with the appetite and aptitude for tech were chosen.</li> <li>● Robots were provided for the participants, so they can participate in our programming exercises. Drones were also made available and the girls were taught the basic controls of flying drones.</li> <li>● Different types of drones were displayed.</li> <li>● We tested the program of the robots and basic controls of the drones together.</li> </ul>