

Empowering the Future: India Flying Labs STEM Training in Andhra Pradesh



A student from Sri Sathya Sai Primary School with the locally-made drone.



A student from Smt Eswaramma High School flying a drone during practical sessions.



A locally made drone used in the training.

OVERVIEW	
Flying Labs	India Flying Labs
Location	Puttaparthi, Andhra Pradesh, India
Date	14th and 15th of April, 2023
Length (number of days)	Two and a half days
Sector program (optional)	YouthRobotics
Format	In-Person

Co-organizer if applicable	Sri Sathya Sai Organisation
SDGs	GOAL 4: Quality Education GOAL 5: Gender Equality

SCOPE & OUTCOMES	
Type of training	<ol style="list-style-type: none"> 1. Introduction training to drones 2. Youth/STEM training
The goal of the training	<ol style="list-style-type: none"> 1. Create drone awareness. 2. Empower youth and the workforce of the future. 3. Provide a fun and engaging STEM education experience for youth. 4. Introduce youth to ground realities, career opportunities and trends in the Indian drone market.
Expected outcome for participants	<ul style="list-style-type: none"> ● Participants attended the training with little to no expectations because they only had a vague idea about the training. ● However, as the training progressed, the participants opened up and started lively discussions to learn about data acquisition, business opportunities and so on.
Confirmed outcome after training	<ul style="list-style-type: none"> ● The participants experienced an increased awareness of drones as evident through numerous requests for information received by the instructors after the training. ● A pamphlet was created and distributed to help participants understand the parts of a drone and the different functionalities. The pamphlet was also modified to incorporate answers to the questions raised from the training.
Eventual next steps	<ul style="list-style-type: none"> ● India Flying Labs plans on continuing the engagement with the school, the management, and the youth through newsletters. ● Through these newsletters, we are hoping to create a youth network which will help us stay connected with the youth and share opportunities and trends with them.

PARTICIPANTS	
Profiles and the number of participants	<p>School children, management, and teachers from;</p> <ul style="list-style-type: none"> ● Sri Sathya Sai Higher Secondary School ● Sri Sathya Sai Primary School ● Smt Eswaramma High School. <p>More than 350 young girls and boys were engaged in this activity.</p>
Name of participants' organizations	<p>Sri Sathya Sai management team and the following schools;</p> <ul style="list-style-type: none"> ● Sri Sathya Sai Higher Secondary School ● Sri Sathya Sai Primary School ● Smt Eswaramma High School.
Gender ratio	4 Males : 3 Females
Who paid for the training?	Free training for youth under the Fly for the Future Project.
Participant fee rate (if applicable)	Not applicable.
Scholarships offered?	Not applicable.

CONTENT	
Training components	<p>Introduction to locally made drones;</p> <ul style="list-style-type: none"> ● Different types of drones. ● Parts of a drone. ● Applications. ● Safety. <p>Discussion session;</p> <ul style="list-style-type: none"> ● Q&A session with the team of mechatronic and electrical engineers, software engineers, data analysts, data scientists, and program managers. ● Brainstorming. <p>Manual flights;</p> <ul style="list-style-type: none"> ● Preflight checklists. ● Manual flights. ● Interview sessions.

	<p>Drone show;</p> <ul style="list-style-type: none"> ● First Person View (FPV) drone show to end the day.
<p>Training resources used</p>	<ul style="list-style-type: none"> ● Locally made drones
<p>Approaches and methods used</p>	<ul style="list-style-type: none"> ● As these are not Tello drones, we had a one-on-one engagement pairing during manual flights. <ul style="list-style-type: none"> ○ This meant that drones were set up and preflight checklists were done individually and not in groups. ○ This ensured participants' safety and instructors control on the drone and the larger crowd. ○ This also meant that each participant got the much-needed attention from an instructor during their flight session. ● For the Q&A Session, we had instructors speak on how they entered the field of drones. <ul style="list-style-type: none"> ○ This opened up the floor for discussions on what subjects to take, aspects of different jobs, and where India is headed in terms of real-world application of drones. ○ As a result, this discussion deviated from STEM fields to the field of business and start-ups, which the Instructors were prepared for. ● Many youths who had not signed up for the session joined at the last minute. As a result, the program was stretched beyond the usual hours, and at least 70 participants were not officially counted. <ul style="list-style-type: none"> ○ Due to this, we asked the natural leaders in the crowd to explain what they had learned in the previous sessions to the newcomers. This helped in crowd management and helped students understand the program better.