

Monitoring the Peruvian Jungle for Forest Reforestation



Our team of pilots and flight technicians ready to start the mission.



Flight technician preparing the aircraft for take-off.



Orthomosaic obtained from the processing of the captured images.

OVERVIEW	
Flying Labs	Peru Flying Labs
Geographic area	Campo Verde City, Ucayali, Peru
Date range	18th - 30th September, 2020
Sector program	EcoRobotics
Main SDGs	GOAL 8: Decent Work and Economic Growth GOAL 11: Sustainable Cities and Communities GOAL 12: Responsible Consumption and Production GOAL 13: Climate Action GOAL 15: Life on Land GOAL 17: Partnerships to achieve the Goal

SCOPE	
Project stakeholders	Refinca Holding SAC
People impacted	Residents of the region including natives living in endangered areas.
Number of people impacted	Estimated 1,172 people based on the population density.
Challenge	Illegal logging and deforestation are rampant in The Peruvian Jungle. Forest cover has greatly reduced in recent years, and due to the area's remoteness, it is challenging to effectively study and monitor the deforestation. This project aimed to analyze the impacts of logging in the area using drones as an effective and efficient approach.
Scope	The project involved identification and surveillance of the deforested areas and the indigenous populations in the Peruvian Jungle.
Outcome	Based on the information obtained from this project, the stakeholders were able to plan the reforestation of the affected areas with eucalyptus and olive trees. This was done in a sustainable manner without affecting the lives of the inhabitants.
Impact	This activity aimed to provide support and encourage the surrounding population to join the initiative. Being the main activity in the region, it would also create opportunities for formal and decent employment.
Next steps	Although we are unsure about the future actions of our stakeholders, we are optimistic that the information we have gathered and the technology we have integrated can be applied to other projects aimed at monitoring the jungle and enhancing reforestation efforts.

COMMUNITY ENGAGEMENT AND STAKEHOLDER SUPPORT	
Consent for data acquisition	The entire area was owned by the client, and they contacted us to support them.
Activities to engage with the community	There were no meetings with the community.

Community groups engaged with	None
Community attendance	-
Community feedback	-
Stakeholder support	The stakeholders were given the results and would determine whether or not they would share it with the communities around them.

DATA ACQUISITION

Size of area	85 km ² (8500 ha)
Drone	Fixed wing 421-16EM
Sensor(s)	RX1r
Flight plan software	Zala Control
Flight height	500 meters above ground
GSD (Accuracy)	8.3 cm/pix
Number of images acquired	4000
Number of flights	8
Time invested in data acquisition	7
Georeferencing	Relative precision

DATA PROCESSING & ANALYSIS

Processing software	Agisoft Metashape Cloud
Processing time	24 hours
Data products	Orthomosaic
Analysis tools	Global Mapper
Analysis outputs	Volume calculation and deforestation places.

Final outputs shared with stakeholders	Raw data, Orthomosaic and DEM.
Data sharing	Dropbox, GIS server