

Jemison Academy Drone Education Pilot Programme



Snippets from the training sessions, including practical lessons and diploma ceremony

OVERVIEW	
Flying Labs	Sierra Leone Flying Labs (SLFL)
Location	Freetown, Sierra Leone (Jemison Academy campus, Western Area)
Date	13–17 July 2026
Length (number of days)	5 days (9:00am–3:00pm daily; approx. 30 contact hours)
Sector program (optional)	STEM/Youth
Format	In-Person

Co-organizer if applicable	• INTEGEMS Limited - institutional host and Corporate Social Responsibility (CSR) co-sponsor • The Jemison Academy (host school and co-funding partner)
SDGs	GOAL 4: Quality Education GOAL 8: Decent Work and Economic Growth GOAL 9: Industry, Innovation and Infrastructure GOAL 17: Partnerships to achieve the Goal

SCOPE & OUTCOMES	
Type of training	Youth/STEM training
Goal of the training	1. Create drone awareness 2. Develop drone data acquisition skills 3. Develop data literacy/interaction skills 4. Train and empower youth and the workforce of the future
Expected outcome for participants	• To gain foundational drone literacy: what drones are, how they work, the regulatory context governing their use in Sierra Leone and safe, supervised, hands-on flight experience. • To broaden awareness of STEM and drone-related career pathways (piloting, GIS analysis, data science) and spark curiosity about real-world applications relevant to Sierra Leone, including agriculture, disaster response, health and environmental monitoring.
Confirmed outcome after training	• By day 5, students who had never handled a drone were flying independently under dual-control supervision and designing full mission proposals (drone type, payload, safety plan and end-users) for real Sierra Leone problems. Scenarios included flood response in Pujehun, rice-crop mapping in Tonkolili, forest monitoring in the Western Area Reserve and medical sample delivery to Bo. • Exit-slip responses show rising technical specificity across the week (from general curiosity on Day 1 to questions on signal security, Digital Elevation Models/Digital Surface Models and AI-in-aviation by

	Days 2-4), and consistent enthusiasm for hands-on flying as the standout experience. • A small but distinct group of students expressed interest in building or assembling drones, not just flying them. This signal is being tracked for year 2 curriculum design.
Eventual next steps	• Complete the post-programme evaluation report and outstanding financial actuals • Launch a structured post-programme survey to capture outcome data (STEM interest, safety confidence, recommendation likelihood) not captured in daily exit slips. • Expand to 5–6 Freetown secondary schools in year 2, running year-long applied drone projects across student-identified domains (agriculture, media, logistics, health), culminating in an annual Drone-Fest showcase. • Explore a build-your-own-drone track, potentially sourcing parts through the Flying Labs Network pending confirmation that this is durable rather than one-off grant-funded. • Pursue year 2 grant applications through WeRobotics, Foreign, Commonwealth & Development Office (FCDO) and others from late 2026.

PARTICIPANTS	
Profiles and number of participants	• 26 secondary school children between 12-18 years old, forms 1-5. • Daily attendance ranged from 21-25 students with 16 students (62%) completing all 5 days.
Name of participants' organizations	• Host school: The Jemison Academy • Students drawn from 9 additional Freetown-area schools: S.L.G.S, Prince of Wales Secondary School, St. Edward's Secondary School, The International School (Secondary), St. Edmund's Secondary School, S.H.S, Limount College, and R.B.A.
Gender ratio	• 22 boys and 4 girls (85% male : 15% female)

Who paid for the training?	• Free for students and schools. • Self-funded pilot year. The costs were shared between INTEGEMS (via its CSR programme) and The Jemison Academy, with Sierra Leone Flying Labs contributing instructor time and drone equipment in-kind. Grant funding will be pursued from year 2 onward.
-----------------------------------	---

CONTENT	
Training components	Day 1 - Orientation and introduction to drones - Parts of a drone - Types and sector applications relevant to Sierra Leone - Student code of conduct - Hands-on (non-flying) close inspection of a real drone Day 2 - Who's in the sky? - Shared-airspace awareness - Live SLFL pilot flight demonstration - Sector use-case mapping exercise Day 3 - Rules, regulations & pre-flight safety - Regulatory framework (SLCAA Part 6B; UK CAA CAP 2320 as reference) - Pre-flight safety checklist used the following day Day 4 - Hands-on flight training & mission design - Every student flew under dual-control instructor supervision in rotating stations (maximum 5 students per instructor) - Orthomosaic/data-capture session - mission-design-and-pitch exercise (moved up from the originally planned day 5 slot to keep momentum from flight training). Day 5 - Live flight demonstration & programme close - An additional supervised live flight demonstration (substituted for the mission-design session, which had moved to Day 4) - Reflection journal - Post-programme survey - Certificate ceremony.

Training resources used	● INTEGEMS drone fleet: multi-rotor quadcopters for student hands-on flights, a larger mapping-capable platform for the orthomosaic/data-capture demonstration ● Handheld controllers (mode 2 configuration) with dual-control instructor override for all student flights ● Tablets / laptops for the orthomosaic-stitching and data-capture demonstration ● Five printed daily activity & materials packs (days 1–5): worksheets, quizzes, mission challenge cards, mission design templates, exit slips ● Post-programme survey and certificate of participation No public links: materials are internal SLFL / INTEGEMS / Jemison Academy curriculum assets.
Approaches and methods used	Curriculum was pitched at secondary level with Sierra Leone-specific examples drawn from local use cases identified during the development of the national drone policy. Small-group rotation stations kept the instructor-to-student ratio at or below 1:5 during flight sessions: - Day 2 included a live pilot demonstration. Day 4 gave every student supervised, dual-control flight time in rotating stations. Day 5 added a further live flight demonstration. - Students applied their own day 3 pre-flight safety checklist before flying on Day 4, then used day 3–4 content (drone types, payload, safety rules, data outputs) directly in the day 4 mission-design-and-pitch exercise, proposing a full drone operation for a real Sierra Leone problem and presenting it to peers for feedback.