KATEMBE DIGITALLAB

Integrated Digital Inclusion, Education Technology and Clean Energy Access Programme

PREMIUM TECHNICAL, IMPLEMENTATION AND FINANCIAL PROPOSAL

Pilot: Katembe, Maputo City | Proposed implementation: 2027–2028 Expansion pathway: underserved and remote communities in Mozambique

DOCUMENT CONTROL & PLANNING ASSUMPTIONS

Item	Description
Lead proponent	Fundação HOSSI
Technical and implementation partner	Global KIKI
Initial site	Katembe Secondary School, Maputo City; subject to site-readiness assessment and formal approval.
Original pilot baseline	40 computers; at least 80 students in a 12-week cycle; ambition of 300 learners annually
Expanded device scope	40 tablets proposed in addition to the 40 computers; subject to partner approval
Solar expansion scenario	Three remote-school installations assumed for budgeting; final sites and capacities require load and solar assessments
Budget status	Indicative planning estimate, not a supplier quotation or binding offer
Price basis	USD; taxes, duties, major construction and extraordinary grid-extension costs excluded unless expressly stated

This expanded proposal preserves the original Katembe DigitalLab objectives and adds a phased digital-device and clean-energy programme. It treats equipment, electricity, connectivity, training, maintenance and measurement as one integrated service.

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1. EXECUTIVE SUMMARY

The programme moves beyond one-off equipment donations. Computers and tablets will be supported by secure facilities, local networking, relevant learning content, trained facilitators, reliable electricity, maintenance arrangements and measurable learning outcomes. In remote locations, solar photovoltaic (PV) generation and battery storage will address the lack of reliable grid power.

Workstream	Proposed scope
Digital laboratory	40 computers, local network, furniture, security, power protection and technical support at Katembe.
Flexible learning	40 tablets for supervised classes, group learning and approved outreach.
Pilot learning cycle	At least 80 learners; 12 weeks; 48 guided learning hours per learner.
Annual ambition	Progress towards 300 learners per year through successive cohorts, subject to capacity.
Clean-energy expansion	Three remote-school solar installations in the planning scenario; capacity confirmed after technical audits.
Institutional capacity	Teacher orientation, local technician training, asset management and operating procedures.
Accountability	Baseline/endline assessments, attendance, device utilisation, energy performance and partner reporting.

1.1 Investment proposition

Partners may support a defined phase devices, laboratory infrastructure, connectivity, training, solar power or operations or contribute to the integrated programme. Each contribution will be linked to a work package, asset or measurable outcome and recorded through transparent financial and asset reporting.

1.2 Expected development value

- Practical access to computers and tablets for learners with limited access outside school.
- Improved digital literacy, productivity, research, online safety and applied problem-solving.
- Reduced dependence on unreliable grid electricity at selected remote learning sites.
- Stronger school-level capacity to manage digital equipment and energy assets.
- A replicable model connecting education technology, renewable energy and local skills.

2. STRATEGIC RATIONALE

2.1 The challenge

The source project identifies the absence of a properly equipped computer room or multimedia centre at Katembe Secondary School as a barrier to regular practical learning. Learners have limited opportunity to translate theoretical instruction into demonstrable digital skills. In remote communities, unreliable or absent electricity, limited connectivity and maintenance constraints further restrict access.

2.2 Integrated response

Constraint	Programme response	Expected value
Insufficient devices	40 computers and 40 proposed tablets	More frequent supervised access.
Limited practical learning	48-hour competency-based course	Skills demonstrated through practical tasks.
Unreliable electricity	Solar PV, batteries and protected distribution	More resilient learning operations.
Weak maintenance	Asset register, preventive maintenance and local training	Reduced downtime and longer asset life.
Connectivity gaps	Connectivity assessment and offline content	Continuity when internet is unavailable.
Fragmented funding	Phased plan, stage gates and common reporting	Transparent, investable partner contributions.

2.3 Operating principles

- Access before scale: stabilise the pilot before replication.
- Appropriate technology: size equipment and power systems to actual needs.
- Energy resilience: engineer systems from measured loads, not generic panel counts.
- Learning outcomes: measure skills gained, not only assets delivered.
- Local ownership: involve school leaders, teachers, communities and technicians.
- Safeguarding: protect learners, personal data and dignity.
- Lifecycle value: budget for maintenance, warranties and eventual replacement.

3. OBJECTIVES AND BENEFICIARIES

3.1 Overall objective

To establish a sustainable, inclusive and energy-resilient digital learning ecosystem that expands access to technology, strengthens practical digital competencies and enables underserved schools and communities to participate more fully in the digital economy.

3.2 Specific objectives

- Mobilise, install and commission 40 computers at Katembe Secondary School.
- Provide 40 tablets as an additional supervised learning resource, subject to funding approval.
- Train at least 80 students in the first 12-week cycle and progress towards 300 learners annually.
- Provide safe, appropriately sized solar electricity systems for selected remote learning sites.
- Train school focal points and local technicians in basic device and energy-asset stewardship.
- Establish measurable operating standards, transparent procurement and a scale-up pathway.

Beneficiary group	Proposed reach / approach
Direct learners – pilot	At least 80 students in the first 12-week cycle.
Annual ambition	Up to 300 unique learners annually, subject to capacity and timetable.
Remote learners	Students at selected solar-powered sites after site selection and funding.
Indirect beneficiaries	Teachers, school management, families and school communities.
Equity	Balanced participation by girls and boys; priority to learners with limited device access.

4. TECHNICAL ARCHITECTURE

4.1 Digital learning environment

System	Recommended baseline
Computers	40 business-grade units; Core i3/Ryzen 3 equivalent or better, 8 GB RAM preferred, 256 GB SSD, supported operating system and warranty.
Tablets	40 education-grade units; 10-inch display, 4 GB RAM, 64 GB storage, Wi-Fi, protective case and secure charging.
Local network	Managed router/firewall, managed switch, structured cabling, Wi-Fi access points and network segmentation.
Connectivity	Broadband or mobile solution selected after coverage and affordability assessment; offline learning content.
Security	Secure room, asset tags, device encryption, user permissions and documented access control.
Furniture	Desks, chairs, trainer station, secure storage and cable management.
Software	Productivity tools, browser, accessibility tools, endpoint protection and approved educational applications.

Support	Warranty register, fault log, preventive maintenance and repair escalation process.

4.2 Device and cybersecurity management

- Assign a unique asset ID and record serial numbers for every computer, tablet, battery and inverter.
- Configure standard device images, user profiles, updates, endpoint protection and approved applications.
- Apply role-based access, strong passwords, age-appropriate controls and acceptable-use rules.
- Establish backup procedures for learning materials and programme records.
- Adopt data-protection procedures for student records, images, consent, retention and authorised access.

4.3 Connectivity and offline learning

Learning continuity should not depend entirely on internet availability. A local content repository or learning server can host approved materials, exercises and reference resources over the school LAN. Internet access will support research, communication and updates when available. The final solution must follow a connectivity survey and total-cost-of-ownership assessment.

5. PHASED IMPLEMENTATION ROADMAP

Delivery will be controlled through sequential phases. Each phase has defined activities, deliverables, acceptance criteria and a decision gate. Progression depends on verified readiness, funding and documented approval.

Phase	Indicative timing	Purpose
0 – Mobilisation and due diligence	Weeks 1–4	Confirm sites, governance, room readiness, energy loads, connectivity, safeguards and specifications.
1 – Computers and tablets	Weeks 5–10	Source, inspect, tag, configure and deliver devices.
2 – Katembe laboratory	Weeks 8–12	Prepare room, furniture, network, safety, connectivity and commission the lab.
3 – Training and pilot operation	Months 4–6	Deliver first learning cycle, mentoring and assessments.
4 – Solar energy in remote areas	Months 5–10	Survey, design, procure, install and commission solar systems at selected sites.
5 – Replication and scale-up	Months 10–18	Review results, strengthen maintenance and expand cohorts/sites.

PHASE 0 — MOBILISATION AND TECHNICAL DUE DILIGENCE

- Consult school leadership, teachers, learners and community representatives; confirm target groups and timetable.
- Survey the room: floor area, ventilation, lighting, security, wiring, earthing, furniture and fire safety.
- Assess electricity availability, outages, electrical load and protection requirements.
- Test connectivity and review mobile network coverage and cost.
- Approve computer/tablet bill of quantities, acceptance criteria, warranties and software requirements.
- For remote sites, complete load audit, solar resource and shading review, autonomy definition and security assessment.
- Agree MoUs, asset ownership, site access, safeguarding, data protection and maintenance responsibilities.

Deliverables: inception report; site assessments; approved designs; procurement plan; safeguards and data protocols; baseline indicators; Gate 0 approval.

PHASE 1 — DEVICE PROCUREMENT, DONATION AND DEPLOYMENT

- Mobilise 40 computers for Katembe and 40 tablets as an additional planning target.
- Prioritise new or professionally refurbished business-grade equipment with verified condition, warranty and available parts.
- Inspect devices and reject faults, unsupported operating systems and unsafe chargers.
- Install legally deployable operating systems, productivity tools, endpoint security and educational content.
- Tag assets, record serial numbers, photograph equipment and issue signed delivery records.

- Orient teachers, lab assistants and student digital champions on safe and responsible use.

Deliverables: device register; inspection and configuration records; warranty schedule; delivery notes; quick-start guides; asset handover report.

PHASE 2 — LABORATORY INFRASTRUCTURE AND COMMISSIONING

- Prepare the room, electrical distribution, furniture layout, secure storage and cable management.
- Install LAN, Wi-Fi, firewall/router, switching, access points and connectivity.
- Install surge protection, correctly rated circuits, earthing and UPS where justified by the survey.
- Configure user accounts, content repository, backup, device management and acceptable-use rules.
- Complete electrical safety, network, functional and user-acceptance tests.

Deliverables: commissioned laboratory; as-built network diagram; electrical test records; inventory; operating procedures; trained school focal points; signed commissioning certificate.

PHASE 3 — TRAINING, TEACHER ENABLEMENT AND PILOT

- Deliver the original 48-hour learning pathway per learner over 12 weeks.
- Ensure at least 70% of learning time is practical and task-based.
- Use baseline/endline tests, attendance, module tasks and learner feedback.
- Orient teachers and develop a train-the-trainer pathway.
- Provide mentoring on education pathways, employability and entrepreneurship.

Deliverables: curriculum; lesson plans; attendance and assessment records; learner portfolios; completion certificates; pilot report and improvement plan.

6. CLEAN ENERGY: SOLAR POWER FOR REMOTE LEARNING COMMUNITIES

6.1 Purpose

This phase extends the programme to underserved and remote communities by addressing electricity constraints. Solar PV and battery storage will supply defined learning loads: lighting, device charging, tablets, selected computers, networking and essential communications. Each site must be engineered individually; a single standard system should not be assumed to fit every school.

6.2 Site selection criteria

- Clear education mandate, committed school/community leadership and agreed operating schedule.
- Absent or unreliable grid electricity that materially restricts learning access.
- Secure space for PV modules, inverter, batteries and distribution equipment.
- Named site custodian and credible local maintenance arrangement.
- Community commitment to protect assets and maintain usage records.
- Practical access for installation, warranty response and inspection.

6.3 Engineering methodology

Design element	Technical requirement
Energy audit	Inventory each appliance, rated power, quantity, operating hours and criticality; calculate daily kWh and peak load.
PV array	Size against solar resource, shading, orientation, seasonal variation, system losses and energy demand.
Battery storage	Select usable capacity for autonomy, depth-of-discharge, temperature and replacement availability; evaluate LiFePO4 where lifecycle economics support it.
Inverter/charger	Pure sine-wave hybrid inverter with suitable continuous/surge ratings, MPPT, protections and monitoring.
Distribution	Dedicated circuits, breakers, residual-current protection where applicable, earthing, surge/lightning protection and isolation points.
Enclosure and safety	Ventilated, lockable, weather-protected battery/inverter housing; restricted access and emergency procedures.
Monitoring	Track PV generation, battery state of charge, load, alarms and downtime where communications permit.
Operations	Preventive maintenance, spare-parts strategy, warranty records and trained local operator.

6.4 Budget design assumption

For budgeting only, the base scenario assumes three remote learning sites, each provisionally equipped with approximately 5 kWp of solar PV, 10–15 kWh of usable battery storage and a hybrid inverter sized to the verified load. These are reference assumptions, not final engineering designs. Actual capacity may be higher or lower following energy audits, especially where desktop computers will operate for extended periods.

6.5 Load prioritisation

Priority	Typical loads	Operating principle
Critical	Lighting, router/network, communications and device charging	Protected supply; prioritised during low battery conditions.
Core learning	Tablets, selected laptops/computers and local content server	Scheduled learning blocks aligned with energy availability.
Optional	Printers, projectors and non-essential equipment	Used only when the energy budget permits.

6.6 Solar installation sequence

- Site survey, energy audit and seasonal load assumptions.
- Detailed engineering design, single-line diagrams, equipment schedule and protection coordination.
- Procurement of certified PV modules, inverter, batteries, mounting and balance-of-system components.
- Civil/structural preparation and installation by qualified technicians.
- Electrical testing, commissioning, monitoring configuration and safety induction.
- Handover of as-built drawings, warranties, manuals, maintenance plan and emergency contacts.
- Initial performance verification and optimisation.

Deliverables: energy audit; engineering design pack; installed and commissioned system; test report; operator training; maintenance/warranty files; monthly energy log or dashboard.

7. LEARNING AND CAPACITY DEVELOPMENT

Module	Core content	Hours
Computer fundamentals	Hardware, software, operating systems and peripherals	6
File management	Folders, naming, storage, copying, printing and backups	6
Word processing	Documents, editing, formatting, letters, assignments and CVs	8
Spreadsheets	Cells, tables, basic formulas and data interpretation	8
Presentations	Slide structure, visual communication and delivery	6
Internet and research	Browsing, search, email, source evaluation and collaboration	6
Cybersecurity	Passwords, privacy, phishing, misinformation and responsible use	4
Applied project	Individual/group project and presentation	4
TOTAL		48

Delivery standards

- At least 70% of contact hours should be practical.
- Class size and device-to-learner ratio must follow room and equipment capacity; the original reference is up to two learners per computer.
- Use pre/post assessment, practical demonstrations and learner portfolios.
- Provide accessible materials and reasonable accommodations where feasible.
- Monitor participation, attendance and completion by gender.

At least two school focal points should be identified for laboratory administration. Each solar site should have an energy focal person. Electrical repairs and modifications must only be performed by appropriately qualified personnel.

8. GOVERNANCE, PROCUREMENT AND DELIVERY ASSURANCE

Stakeholder	Primary accountability
Fundacao HOSSI - lead proponent; Global KIKI - technical and implementation partner	HOSSI leads the project and provides institutional oversight. Global KIKI leads technical design and supports mobilisation, delivery, procurement, monitoring and reporting.
Participating schools	Premises, focal points, learner selection, supervision, asset protection and scheduling.
Technology suppliers/donors	Compliant equipment, warranties, documentation, delivery records and after-sales support.

Solar EPC/qualified installers	Site-specific design, compliant supply and installation, testing, commissioning, operator training and warranties.
M&E function	Output verification, outcome assessment, data quality and transparent reporting.

Procurement principles

- Competitive quotations and documented justification for single-source procurement.
- Technical compliance review before price comparison; lowest price alone is not sufficient.
- Supplier due diligence, warranty, after-sales service, delivery schedule and references.
- Inspection and acceptance before payment or donation acceptance.
- Separate in-kind donations from cash expenditure in financial reports.
- Conflict-of-interest declarations and auditable procurement records.

Asset ownership, custody, insurance, permitted use, maintenance, replacement and disposal must be agreed in writing before delivery. Donated assets should have transfer documents and serial-number inventories.

9. MONITORING, EVALUATION, ACCOUNTABILITY AND SAFEGUARDS

Outcome	Indicator	Proposed target / verification
Digital infrastructure	Functional computers installed	40 at Katembe; inventory and acceptance tests.
Flexible learning	Tablets operational	40 tablets under expanded scenario.
Learner reach	Pilot participants	At least 80; attendance register.
Annual reach	Unique learners	Progress towards 300 annually, subject to capacity.
Learning	Improvement from baseline to endline	Target ≥70% of assessed learners improve.
Completion	Learners completing course	Target ≥85% of enrolled learners.
Equity	Participation by gender/access profile	Balanced participation; monitor enrolment and completion.
Device uptime	Devices available for scheduled use	Target ≥90% after stabilisation.
Solar availability	System service availability	Set per site after design; log downtime.
Renewable generation	kWh generated and used	Monthly inverter/meter readings.
Maintenance	Scheduled checks completed	100% of scheduled checks documented.
Safeguarding	Incidents and consent records	All cases handled under approved protocols.

Reporting: monthly operational dashboard; quarterly narrative and financial report; pilot completion report; annual impact report. Personal data must be minimised, access-controlled and retained only for defined purposes.

Risk register

Risk	Impact	Mitigation
Device mobilisation delay	Training delayed	Secure commitments early; phased sourcing; minimum specs.
Obsolete or incompatible devices	Poor performance/security exposure	OS support checks, inspection, warranty and spares review.
Theft or damage	Asset loss and downtime	Secure rooms, tagging, custody logs and incident protocol.
Power instability	Equipment damage	Electrical survey, earthing, surge protection and UPS if required.
Solar under-sizing	Insufficient power	Measured load audit, seasonal analysis and commissioning tests.
Battery degradation	Reduced autonomy/cost pressure	Quality assurance, warranty, monitoring and replacement reserve.
Connectivity interruption	Reduced online access	Offline repository, local network and alternative connectivity.
Low attendance	Reduced learning outcomes	Timetable alignment, school coordination and follow-up.
Insufficient O&M funding	Asset deterioration	Multi-year maintenance plan and recurring partner commitments.

Safeguarding/data incident	Learner harm/reputational risk	Consent, supervised use, minimum data collection and response protocol.

- Use responsible procurement and end-of-life handling for e-waste and batteries.
- Do not dispose of batteries or electronics through informal channels.
- Obtain informed consent for identifiable photographs, testimonials and learner stories.
- Provide a clear mechanism for learners and parents/guardians to raise concerns.

10. SUSTAINABILITY AND SCALE-UP

- Funded maintenance: device updates and repairs, network support, PV inspection, module cleaning, inverter checks, battery monitoring and annual electrical inspection.
- Local ownership: appoint a DigitalLab Coordinator and an Energy Focal Person at each solar site.
- Capacity: train teachers, student digital champions and local technicians within clear safety boundaries.
- Financial continuity: agree annual service, connectivity and replacement budgets before the first funding year ends.
- Evidence-led expansion: stabilise Katembe, evaluate utilisation and learning, refine the model, then replicate at sites with need, leadership, secure premises and maintenance capacity.

11. IMPLEMENTATION SCHEDULE AND STAGE GATES

Period	Activities	Approval evidence
Month 1	Mobilisation, agreements, site/load surveys, baseline and designs	Gate 0: site readiness and approved specifications.
Months 2–3	Device procurement/donations, room preparation, network/security	Gate 1: devices inspected/tagged; lab ready for commissioning.
Month 4	Commissioning, facilitator training and learner enrolment	Gate 2: signed commissioning and training-readiness certificates.
Months 5–7	12-week learning cycle, mentoring, assessment and pilot review	Gate 3: pilot report and corrective-action plan.
Months 5–10	Remote-site solar design, procurement, installation and commissioning	Gate 4: test results, handover and O&M plan per site.
Months 10–12	Evaluation, operating-model refinement and partner renewal	Gate 5: approved scale-up plan and multi-year operating budget.
Months 13–18	Replication, additional cohorts and continuous improvement	Expansion decision based on evidence, finance and site readiness.

12. DETAILED FINANCIAL PROPOSAL (USD)

The following is a planning-level estimate for one Katembe laboratory, 40 computers, 40 additional tablets and three remote-school solar installations. It assumes that premises are available and do not require major structural rehabilitation. All amounts require validation through competitive quotations, engineering surveys and review of applicable taxes, customs and logistics.

Phase 0 – Mobilisation and due diligence	Basis	USD
Programme inception and stakeholder mobilisation	Lump sum	2,500
Katembe facility, electrical and connectivity assessment	Lump sum	1,800
Three remote-site surveys and preliminary energy audits	3 × $1,200	3,600
Engineering, safeguards and procurement specifications	Lump sum	3,100
PHASE 0 SUBTOTAL		11,000

Phase 1 – Computers, tablets and digital equipment	Basis	USD
Business-grade computers	40 × $550	22,000
Education-grade tablets with protective cases	40 × $220	8,800
Secure charging cabinet and accessories	1 lot	2,000
Device imaging, configuration, tagging and inspection	80 × $25	2,000
Initial software, security and learning applications	Allowance	2,500
PHASE 1 SUBTOTAL		37,300

Phase 2 – Katembe laboratory and connectivity	Basis	USD
Room preparation, minor electrical works and safety	1 lot	4,000
Desks, chairs, trainer station and secure storage	1 lot	5,500
Router/firewall, managed switch, Wi-Fi and cabling	1 lot	3,500
UPS, surge protection, distribution and earthing	Allowance	3,000
Connectivity setup and first 12 months	Allowance	1,800
Installation, commissioning and acceptance testing	1 lot	2,500
PHASE 2 SUBTOTAL		20,300

Phase 3 – Training, mentoring and pilot operations	Basis	USD
Curriculum refinement and learning materials	Lump sum	2,000
Facilitator and trainer fees	Pilot allowance	6,000
Teacher orientation and train-the-trainer	Lump sum	2,000
Learner workbooks, printing and consumables	Allowance	1,200
Mentoring, career orientation and capstone event	Lump sum	1,500
Baseline, endline and pilot evaluation	Lump sum	2,500
PHASE 3 SUBTOTAL		15,200

Phase 4 – Solar systems for three remote sites	Basis	USD
PV modules and mounting structures	3 sites; indicative 5 kWp each	12,000
Hybrid inverters/MPPT and protection	3 systems	7,500
Battery storage	3 sites; indicative 10–15 kWh usable each	18,000
DC/AC cabling, switchgear, earthing and surge protection	3 systems	6,000
Secure enclosures, mounting and minor civil works	3 sites	4,500
Transport, installation and commissioning	3 sites	9,000
Operator and local technician training	3 sites	2,400
Monitoring and initial spare parts	3 sites	2,100
PHASE 4 SUBTOTAL		61,500

Phase 5 – Management, maintenance and scale-up readiness	Basis	USD
Programme management and stakeholder coordination	12-month allowance	9,600
Device and network maintenance support	12-month allowance	3,600
Solar preventive maintenance and service support	3 sites; first year	4,500
Impact reporting, communications and documentation	12-month allowance	2,400
Scale-up design and replication plan	Lump sum	2,000
PHASE 5 SUBTOTAL		22,100

Consolidated budget	USD
Phase 0 – Mobilisation and due diligence	11,000
Phase 1 – Computers, tablets and digital equipment	37,300
Phase 2 – Katembe laboratory and connectivity	20,300
Phase 3 – Training and pilot operations	15,200
Phase 4 – Solar systems for three remote sites	61,500
Phase 5 – Management, maintenance and scale-up	22,100
DIRECT PROGRAMME COST	167,400
Contingency – 10%	16,740
TOTAL INDICATIVE PROGRAMME BUDGET	184,140

Total indicative funding requirement: USD 184,140 (One Hundred and Eighty-Four Thousand, One Hundred and Forty United States Dollars).

12.1 Exclusions and financial assumptions

- Major building construction, structural rehabilitation, land acquisition or perimeter security beyond minor works.
- VAT, customs duties, import levies, bank charges and foreign-exchange fluctuations; treatment to be confirmed.
- Long-distance grid extension, boreholes, water systems or power for non-learning community loads.
- Device or battery replacement after initial warranty/project period.
- Remote sites beyond the three-site planning scenario.
- Internet subscriptions beyond the first 12 months unless separately funded.
- Any solar capacity increase arising from measured loads or longer autonomy requirements.

Before contracting, replace estimates with supplier quotations, bills of quantities, site-specific designs, delivery terms, tax treatment and warranty conditions.

13. FUNDING STRATEGY AND PARTNERSHIP PACKAGES

Partner tier	Indicative contribution	Proposed application
Digital Access Partner	USD 37,300 or in-kind equivalent	40 computers, 40 tablets and device preparation.
Katembe Lab Infrastructure Partner	USD 20,300 or in-kind equivalent	Functional, connected and protected school laboratory.
Learning and Skills Partner	USD 15,200 or in-kind equivalent	Pilot learning cycle, trainer development and assessment.
Clean Energy Partner	Approx. USD 20,500 per site	Solar generation, storage, installation and local capacity.
Programme Impact Partner	USD 50,000+	Integrated contribution across equipment, training and energy.
Founding Programme Partner	USD 184,140 or blended support	Full base scenario, subject to final engineering and procurement.

Partner accountability and visibility

- Written agreement defining contribution, schedule, ownership, reporting and use of names/logos.
- Acknowledgement in programme materials and agreed site visibility, subject to school and safeguarding policies.
- Periodic implementation updates with financial tracking and verified output evidence.
- Annual impact report covering learner reach, competency gains, device uptime and renewable-energy performance.
- No access to student personal data or direct marketing to learners as a sponsorship condition.

14. CONCLUSION AND PARTNERSHIP REQUEST

Katembe DigitalLab is designed to move beyond a one-off computer donation. It establishes a managed, measurable and scalable education technology programme in which devices, learning, connectivity, electricity, maintenance and local capacity are planned as one system.

The first investment will establish the Katembe laboratory and deliver a structured learning pilot. The next investment stream will extend access to underserved and remote communities through solar-powered learning facilities, reducing the electricity barrier that often prevents digital education from reaching those who need it most.

Fundacao HOSSI and Global KIKI invite corporate partners, technology companies, renewable-energy providers, financial institutions, development agencies and philanthropic organisations to support one or more phases or become founding partners.

The immediate request is to endorse Phase 0 due diligence, confirm the pilot site and mobilise the resources required for devices, laboratory commissioning, learning delivery and engineering assessments for the first remote solar sites.

PROMOTING ENTITIES

Entity	Role	Institutional details
Fundacao HOSSI Lead proponent	Institutional leadership, project sponsorship and stakeholder coordination.	HOSSI - Centro Holístico de Desenvolvimento Sustentável; a Mozambican non-profit association based in Maputo.
Global KIKI Technical/programme partner	Programme design, technical delivery, mobilisation and implementation support, including monitoring and reporting.	Institutional details to be provided by Global KIKI.

ANNEX A — MINIMUM TECHNICAL SPECIFICATIONS

Equipment	Minimum / preferred specification
Computer	Core i3/Ryzen 3 equivalent or better; 8 GB RAM preferred; 256 GB SSD; supported OS; Wi-Fi; accessories; 3-year warranty preferred.
Tablet	10-inch or larger; 4 GB RAM; 64 GB storage; Wi-Fi; protective case; secure charging; 2-year warranty preferred.
Firewall/router	Business-grade; VLAN support, content filtering, secure administration and current firmware support.
Managed switch	Gigabit Ethernet, sufficient ports, VLAN and management capability.
Wi-Fi access point	Business/education grade; WPA2/WPA3; central management preferred; coverage survey required.
PV module	Certified, traceable manufacturer; product/performance warranty; site-suited mounting.
Hybrid inverter	Pure sine wave; suitable continuous/surge output; MPPT; battery compatibility, protection and monitoring.
Battery	Documented chemistry and usable capacity; BMS; cycle-life warranty; thermal/electrical protection; service pathway.
Electrical protection	Correctly rated breakers, isolators, fuses, earthing, surge protection and labels under qualified design.

ANNEX B — ACCEPTANCE AND HANDOVER CHECKLIST

- Delivered devices match approved specifications and quantities.
- Serial numbers, asset IDs, accessories and warranties are recorded.
- Operating systems and software are legally deployable.
- Security, user profiles, updates and approved applications are configured.
- LAN, Wi-Fi, internet and offline content are tested.
- Electrical installation, earthing, protection and UPS are tested where applicable.

- PV generation, inverter, battery operation and protection are tested at each remote site.
- School staff and local operators receive documented orientation.
- As-built drawings, manuals, warranties, maintenance plans and emergency contacts are handed over.
- Signed acceptance certificates and photographic evidence are filed.

ANNEX C — PRE-CONTRACT VALIDATION

- Confirm final school and remote-site locations, learner numbers and calendar.
- Complete room, electrical, connectivity and solar resource/load assessments.
- Confirm whether 40 tablets are additional to the 40 computers or should be phased.
- Obtain comparable supplier quotations for major equipment and installation.
- Validate taxes, customs, logistics, insurance, lead times and warranty support in Mozambique.
- Confirm solar sizing and battery autonomy through engineering calculations.
- Approve asset ownership, safeguarding, data protection and maintenance arrangements.
- Update USD estimates and convert to local currency only at the applicable transaction exchange rate.