ELECTRONICS LIFECYCLE CARE INSTITUTE

ENGINEERING THE FULL LIFECYCLE OF ELECTRONICS

INSTITUTIONAL PROFILE · 2026

Keeping electronics in service — and their value in Africa

A circular-economy institute for the education, certification and research of the people who care for electronics across their whole lifecycle.

Educate · Certify · Research · Innovate · Recover

Electronics Lifecycle Care Institute
Vision Plaza, Mombasa Road, Nairobi, Kenya · November 2026

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01 · AT A GLANCE

Keeping Electronics in Service — and Their Value in Africa

The Electronics Lifecycle Care Institute (ELCI) trains, certifies and equips the people who keep electronics in service, and who recover what can no longer be kept. It treats every failed board as a resource to be valued, not a waste to be disposed of.

ELCI is the education, research and professional-development arm of an East African lifecycle care ecosystem built over years of board-level repair across telecoms, power, industrial automation, medical, drone and defence electronics. It turns that field practice into recognised competence, standards and evidence.

10
Schools covering every stage of a device's life

65
Courses from awareness to leadership

3,050
Contact hours across the catalogue

4
Professional designations, CLCT to FELCI

Name	Electronics Lifecycle Care Institute (ELCI)
Tagline	Engineering the Full Lifecycle of Electronics
Mandate	Education, engineering, research, professional development and industrial innovation across the whole electronics lifecycle
Lifecycle scope	Design, deployment, maintenance, diagnostics, repair, refurbishment, remanufacturing, reuse and end-of-life resource recovery
Founder	Ogola Ndolo, Electronics Engineer, Entrepreneur and Circularity Director
Operating partners	EMROC — The Electronics Care Company (publisher); CME — Centre for Multivendor Electronics, Nobscott Limited (programme operator)
Base	R23, 2nd Floor, Vision Plaza, Mombasa Road, Nairobi, Kenya
Delivery	Online, blended and centre-based courses; direct and employer registration; an accredited centre network in three tiers
Region served	Kenya and the East African Community, with partner routes to wider Africa

02 · WHY ELCI EXISTS

From E-Waste to E-Value

The linear model — make, use, discard — leaks value at every failure.

62 Mt
E-waste generated worldwide in 2022

22.3%
Documented as properly collected and recycled

0.7%
Africa's documented collection rate

US$91bn
Value of metals in the stream; only US$28bn recovered

E-waste recycling meets just 1% of global demand for rare earth elements: a material never identified cannot be recovered. Source: UNITAR/ITU Global E-waste Monitor 2024.

The word "waste" is the first barrier

"Waste" classifies equipment by its owner's wish to discard it, not by the value it still holds. It pushes policy to the end of the pipe, stigmatises the technicians who repair, and tells financiers there is nothing worth funding. ELCI works from the opposite premise: equipment holds **e-value** until proven otherwise, and hazardous fractions stay under strict control.

Africa's three conditions

1

Exposure

Much equipment arrives second-hand through weakly documented channels, so legitimate reuse and disguised dumping are hard to tell apart.

2

Capability

One of the world's deepest repair cultures, from Luthuli Avenue to Kampala, Lagos and Accra — a strength other regions are trying to rebuild.

3

Demography

The world's youngest continent needs skilled, decentralised technical work. Certified lifecycle care is a strong pathway into the digital economy.

The Third Mine

After the geological mine and the conventional urban mine, the electronics already in service form a third: an above-ground stock of **data, critical minerals and carbon**, created by managing equipment across its whole life. Whether Africa benefits depends on whether that stock is governed as waste or as resource — and on whether it has the certified people to work it. **Supplying those people is ELCI's purpose.**

Policy is moving; skills must follow

Kenya's Sustainable Waste Management Act 2022 and Extended Producer Responsibility Regulations 2024 make producers responsible for electronics and batteries. The EU Critical Raw Materials Act sets a 25% recycling benchmark for 2030, and product passports make traceability a condition of market access. Implemented only as collection schemes, these rules build a better bin; with repair, reuse and verified evidence, they build a circular economy.

What We Stand For

Vision

An Africa where every electronic asset is kept in its highest-value use for as long as is safe and worthwhile, and where its materials return to productive use instead of to landfill, fire or export as unsorted scrap.

Mission

To develop, certify and support the engineers, technicians, quality professionals and circularity managers who extend the life of electronics, prove the results, and recover resources responsibly.

Mandate

1. **Educate** — competency-based programmes from technician foundation to circularity leadership.
2. **Certify** — independent, evidence-based assessment with a public register of holders.
3. **Research** — applied work on diagnostics, reliability, remanufacturing, material recovery and circularity measurement.
4. **Set practice** — procedures, quality gates and reporting methods aligned to international standards.
5. **Innovate with industry** — laboratories, pilots and services that move repair-first practice into operators, utilities and producers.
6. **Inform policy** — evidence for e-value classification, EPR repair targets and national electronics registers.

Core values

Value	What it means at ELCI
Repair first	The most valuable act in the lifecycle is keeping a working asset working. Recycling is the last resort, not the first.
Value, not volume	Success is measured in value retained and emissions avoided, not tonnes collected.
Proof over promise	Every circularity claim is backed by traceable records, mass balance and sourced factors.
Safety and stewardship	People, data and environment are protected at every step; hazardous fractions are never compromised.
Local capability, global standard	African technicians, trained and assessed to international benchmarks.
Ubuntu in practice	Knowledge is shared, the repair fundi is respected, and prosperity is built with communities, not extracted from them.

The Charter Beneath the Institute

ELCI's work rests on a founding charter, written to outlast its authors and renewed by every generation that leads the institute. It is published in full as *ELCI - Founding Charter*.

> **Everything we make carries value.**
> **Everything that carries value deserves care.**
> **Everyone who gives that care deserves honour.**

Five founding truths

1. **Electronics are a population — every device deserves a passport**
   Devices are a demographic that is born, works, migrates, ages and retires among us. Each is owed a Passport ID: a lifelong record of origin, materials, ownership, faults, repairs, data and end-of-life route.

2. **A faulty device is a patient, not a corpse**
   A fault is not a death. Devices are triaged, diagnosed, treated and certified back to service; when truly beyond repair they donate healthy parts, and their substance returns to the cycle.

3. **E-value, not e-waste**
   Nothing made is worthless. To call a device waste is not to describe it, but to abandon it.

4. **The carer without care**
   The machines that heal, connect and power society have been left without care, and their carers without recognition. ELCI exists to end that neglect.

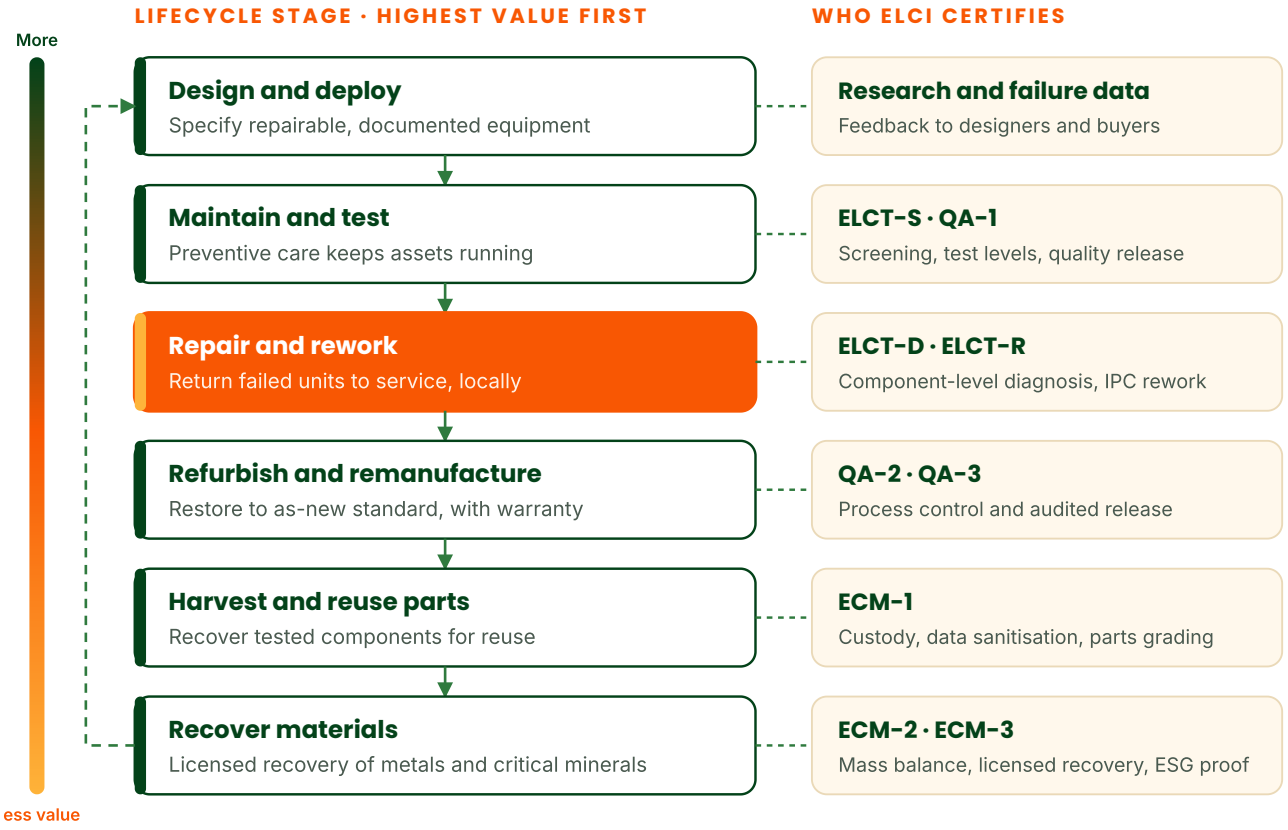
5. **From making to keeping**
   The industrial age mastered making; the age now beginning must master keeping. ELCI names that art Lifecycle Care Engineering.

What the charter commits ELCI to

Element	Summary
Roots	Relational being (Bantu ontology), Ubuntu, the unbroken line of generations, and care made rigorous through standards and evidence
Ten principles	Care before replacement · everything made holds value · the nearest loop first · buy care, not only objects · proof honours promise · first, do no harm · skill is sovereignty · every carer has dignity · the door stays open · knowledge held in common
Carer's creed	A seven-line oath for every certified carer, from "I diagnose before I condemn" to "I pass it on"
Enduring vision	Nothing made wasted, no life-sustaining machine idle for want of care, no carer without honour — across three horizons: a profession named, a system of care, the value kept
Covenant	Promises to the things we make, their carers, communities, the land and future generations
The measure	**Are the things that care for our people being cared for — and are the people who care for them honoured?**

Repair Before Recycle

ELCI teaches the circular economy as a hierarchy of loops: the closer an asset stays to its original use, the more value, energy and embodied carbon it keeps.



Dashed loop: recovered materials return to manufacturing, closing the cycle. Highlighted: repair — the heart of ELCI.

Figure 1 — ELCI lifecycle care framework: six stages, each mapped to a certified role

Every stage has a certified role. Technicians keep the inner loops turning; quality professionals make repaired equipment trusted; circularity managers close the outer loop and prove the results. The framework follows the R-strategies of the ISO 59000 circular economy series: rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose and recover.

06 · SCHOOLS AND CERTIFICATION

Ten Schools, One Profession

Sixty-five courses and about 3,050 contact hours follow a device around its whole life — from the drawing board to the return of its metals. Every course sits on one five-level ladder, so learners move between schools without starting again.

#	School and purpose	Lifecycle stage	Code	Courses	Hours
1	**Design for Life and Repairability** Design equipment and specifications that can be diagnosed, repaired, upgraded, remanufactured and recovered.	Design	DFR	5	248
2	**Type Approval for Circular Economy** Verify by measurement that new, refurbished and second-hand equipment is safe, compliant and not disguised waste.	Market entry	TAC	5	304
3	**Calibration, Health Checks and Maintenance** Keep equipment and the instruments that test it healthy, accurate and reliable.	In service	CHM	5	264
4	**Repair, Refurbishment and Reuse** Return faulty equipment to service and assure the quality of every repair.	Restore	RRR	17	800
5	**Remanufacture and Component Recovery** Remanufacture modules to an as-new standard and recover verified components.	Renew and harvest	RCR	5	248
6	**Recycling** Depollute safely and turn what cannot be kept into clean, accountable material streams.	Recover	REC	5	256
7	**Urban Mining** Measure, sample and recover the metals of the Third Mine responsibly.	Return materials	UMN	5	288
8	**Circularity and ESG** Measure material flows, circularity and avoided emissions, and report them credibly.	Measure and prove	ESG	7	280
9	**Finance, Policy, Standards and Research** Finance, regulate, standardise and research lifecycle care.	Enable	FPS	6	208
10	**End of Life** Decommission safely, destroy data with proof, keep custody and hand over to licensed routes.	Hand over	EOL	5	152
	Total			**65**	**3,048**

Schools 8 and 9 run across the whole lifecycle: one measures and proves circularity, the other finances, regulates, standardises and researches it.

One ladder for every school

The established ELCT technician, ELC-QA quality and ELC-ECM circularity programmes now sit inside Schools 4 and 8, on the same ladder as every other course.

Level	Name	Who it is for	Typical length	Credential
A	Awareness	Anyone: asset owners, officials, students, informal repairers	8–16 h	Certificate of attendance
1	Practitioner	Hands-on staff carrying out defined tasks safely and to procedure	40–64 h + workplace evidence	ELCI Practitioner Certificate
2	Specialist	Experienced staff who diagnose, test, assess and decide	56–80 h + workplace evidence	ELCI Specialist Certificate
3	Expert / Engineer	Engineers who design, qualify processes and lead technical work	80–120 h + capstone	ELCI Expert Certificate
4	Leader	Managers, regulators and executives who set strategy and govern	24–56 h + strategy project	ELCI Leadership Certificate

Courses stack into a profession

CLCT

Certified Lifecycle Care Technician

ELCT-D, plus a sector specialisation or CHM-1, plus 12 months' logged practice.

CLCS

Certified Lifecycle Care Specialist

Two Level 2 certificates from different schools, one of them QA-1 or ECM-1 or higher, plus 2 years' practice.

CLCE

Certified Lifecycle Care Engineer

One Level 3 and two Level 2 certificates from other schools, a portfolio review and 3 years' practice.

FELCI

Fellow of ELCI

CLCE or equivalent, a Level 4 certificate or the Research Fellowship, 10 years' contribution and peer nomination.

Assessment and integrity

- 1 ELCI credit = 10 notional learning hours; credits stack towards the designations above.
- Written exam (80% overall, 100% on safety and ethics), an observed practical with critical items, and workplace evidence or a project. Results are Competent or Not Yet Competent.
- Certificates are valid for 24 months, renewed with 20 hours of CPD a year, logged practice and a refresher assessment.
- Recognition of prior learning lets experienced technicians — including informal-sector fundis — be assessed directly.
- A public register records every certificate issued, renewed, suspended or withdrawn. ELCI will seek to map its units of competency to Kenya's CBET framework.

> ELCI certificates are competency certificates **aligned to** international standards — among them IPC, the ISO 9001, 14001, 14064, 19011 and 59000 families, IEC 62368-1, EN 50614, ISO/IEC 17025, the GHG Protocol and NIST SP 800-88. They are not IPC certifications, accredited ISO auditor credentials or regulatory approvals, and holders are encouraged to pursue those alongside.

The course catalogue

Level codes: A Awareness · F Foundation · Ind Induction · 1 Practitioner · 2 Specialist · 3 Expert · 4 Leader · Spec Sector specialisation. Hours are contact hours; workplace evidence and projects are additional. Full outlines are on elci.global/courses.

1 Design for Life and Repairability — 248 h

DFR-A	A	Design for Life Awareness	8
DFR-1	1	Repairability Assessment Practitioner	40
DFR-2	2	Design for Durability, Repair and Upgrade	80
DFR-3	3	Ecodesign and Digital Product Passport Engineer	80
DFR-4	4	Product Lifecycle Strategy Lead	40

2 Type Approval for Circular Economy — 304 h

TAC-A	A	Conformity and Circular Imports Awareness	16
TAC-1	1	Conformity Assessment Technician	64
TAC-2	2	Used and Refurbished Equipment Inspection Specialist	64
TAC-3	3	Type Approval and Test Engineer	120
TAC-4	4	Conformity and Market Surveillance Manager	40

3 Calibration, Health Checks and Maintenance — 264 h

CHM-A	A	Preventive Care Essentials	16
CHM-1	1	Equipment Health Check Technician	40
CHM-2	2	Calibration Technician	80
CHM-3	3	Reliability and Condition Monitoring Engineer	80
CHM-4	4	Asset and Maintenance Manager	48

4 Repair, Refurbishment and Reuse — 800 h

RRR-A	A	Safe Repair Basics	16
ELCT-F	F	ELCT Foundation	24
ELCT-S	1	ELCT Screening Technician	40
ELCT-D	2	ELCT Diagnosis Technician	80
ELCT-R	3	ELCT Repair and Rework Technician	120
RRR-TEL	Spec	Sector Specialisation: Telecom and RF	40
RRR-PWR	Spec	Sector Specialisation: Power Electronics	40
RRR-IND	Spec	Sector Specialisation: Industrial Automation	40
RRR-BIO	Spec	Sector Specialisation: Biomedical	40
RRR-UAV	Spec	Sector Specialisation: Drones and Batteries	40
RRR-ICT	Spec	Sector Specialisation: Computing and Consumer Devices	40
RRR-SEC	Spec	Sector Specialisation: Security and Defence Electronics	40
RRR-RF	2	Refurbishment Technician	56
RRR-RU	3	Reuse Operations and Marketplace Manager	40
QA-1	1	Quality Inspector	40
QA-2	2	Quality Engineer	64
QA-3	3	Lead Auditor	40

5 Remanufacture and Component Recovery — 248 h

RCR-A	A	Giving On: Remanufacture and Harvesting Awareness	8
RCR-1	1	Component Harvesting Technician	56
RCR-2	2	Component Test and Authentication Specialist	64
RCR-3	3	Remanufacturing Engineer	80
RCR-4	4	Remanufacturing Operations Manager	40

6 Recycling — 256 h

REC-A	A	Safe E-Waste Handling Awareness	16
REC-1	1	Collection and Pre-processing Operator	56
REC-2	2	Recycling Process Technician	64
REC-3	3	Recycling Facility Engineer	80
REC-4	4	Recycling Enterprise and EPR Manager	40

7 Urban Mining — 288 h

UMN-A	A	The Third Mine: Urban Mining Awareness	8
UMN-1	1	Urban Mine Sampling and Assay Technician	56
UMN-2	2	Material Flow and Urban Mine Analyst	64
UMN-3	3	Metal Recovery Process Engineer	120
UMN-4	4	Urban Mining Strategy and Investment Lead	40

8 Circularity and ESG — 280 h

ECM-IND	Ind	ECM Induction	16
ECM-1	1	Circularity Practitioner	40
ECM-2	2	Circularity and ESG Analyst	64
ECM-3	3	Circularity Manager / ESG Lead	56
ESG-CO2	2	Avoided Emissions and Carbon Markets for Repair and Reuse	40
ESG-DIS	3	Circularity Disclosure and Assurance Readiness	40
ESG-SOC	2	Social Value and Just Transition in Circular Electronics	24

9 Finance, Policy, Standards and Research — 208 h

FPS-FIN	2	Lifecycle Care Finance	40
FPS-POL	2	Lifecycle Care Policy and Regulation	40
FPS-STD	2	Standards Development and Use	24
FPS-RES	3	Lifecycle Care Research Methods	64
FPS-FEL	3	ELCI Research Fellowship	project
FPS-EXE	4	Lifecycle Care Executive Programme	40

10 End of Life — 152 h

EOL-A	A	Responsible Disposal Awareness	8
EOL-1	1	Decommissioning and Chain-of-Custody Technician	40
EOL-2	2	Data Sanitisation and Destruction Specialist	40
EOL-3	3	End-of-Life Compliance Officer	40
EOL-4	4	End-of-Life Programme Manager	24

Learning Without Distance

A technician in Kisumu or Kigali should not have to move to Nairobi to become certified. ELCI teaches theory online, registers learners and employer groups directly, and licenses accredited centres to deliver practicals and assessments close to where equipment works.

52
of 65 courses start online

29
Courses delivered fully online

23
Blended: theory online, practical at a centre

3
Tiers of accredited centre

Three ways to study

Delivery	Courses	How it works	Typical courses
Online	29	Self-paced Awareness courses; live online classes with a project for Leader, analyst, policy and finance courses; invigilated online exams	All Awareness and Level 4 courses; ESG analysis; FPS policy, finance and standards
Blended	23	Theory, readings and quizzes online; a short practical block and observed assessment at an ELCI or accredited centre	ELCT Screening and Diagnosis; QA; health checks; remanufacturing; decommissioning
At a centre	13	Mostly hands-on on the bench, with supporting material online	ELCT Repair and Rework; calibration; dismantling; metal recovery; sector specialisations

From sign-up to the public register

1. **Register**
   Choose course, delivery, centre and start month; employers register groups.
2. **Study online**
   Video lessons, readings and live classes that download for study on mobile data.
3. **Check progress**
   Module quizzes and a tutor who replies within two working days.
4. **Knowledge exam**
   Invigilated online: 80% overall, 100% on safety and ethics.
5. **Prove it on the bench**
   Practical block and observed assessment at a centre.
6. **Join the register**
   Competent learners are listed on the public register.

Registration is open to individuals and to employers registering groups of up to 200 learners, online, at a centre or at their own premises. Self-paced courses start at any time, live online and blended cohorts start each month, and practical blocks are scheduled by each centre. A free taster lesson, *E-value in ten minutes*, introduces new learners to the founding ideas before they enrol.

The accredited centre network

Accredited centres deliver ELCI courses and assessments under licence. Every centre teaches one curriculum, and every certificate goes on one public register.

Tier	Delivers	Key requirements
1 · Affiliate Learning Centre	Awareness, Foundation and Induction courses; hosts online learners and live classes; refers learners to accredited centres for practicals	Classroom, reliable internet, an ESD workbench and a certified ELCI trainer
2 · Accredited Training and Assessment Centre	Level 1 and 2 practicals and observed assessments, accredited school by school; employer cohorts in its region	ESD protected area (IEC 61340-5-1), calibrated instruments, two certified trainers, a certified assessor, safe battery storage, quality and data procedures
3 · Regional Centre of Excellence	Up to Level 3 with capstones; recruits and supervises affiliate centres; hosts laboratories, services and applied research	All Tier 2 requirements, specialised laboratories in two schools, a three-year track record and supervisory capacity

ELCI provides	The centre provides
Ten-school curriculum, trainer guides, lesson plans and learner materials	Premises, workbenches and equipment for the schools it delivers
Online learner portal; question banks and invigilated exams	Learner recruitment, enrolment support and local marketing
Trainer and assessor certification; quality audits and moderation	Certified trainers and assessors; observed practicals run to ELCI rules
Certificates, the public register and the accredited-centre mark	Accurate learner records; safe handling of batteries, hazardous parts and data
Referral of employer cohorts and service work in the region	An annual audit and continuous improvement

Route to accreditation: expression of interest → readiness review and site audit → agreement and trainer certification → supervised pilot cohort → accreditation, renewed by annual audit.

Commercial model. Centres set local course fees within ELCI guidance and keep the training income. ELCI charges a one-off accreditation fee, an annual licence, and a per-learner assessment and certification fee. Regional Centres of Excellence share in the fees of the affiliate centres they supervise. The first centre is in Nairobi with CME; priority locations include Mombasa, Kisumu, Nakuru, Eldoret, Konza Technopolis, Kampala, Dar es Salaam, Kigali, Addis Ababa and Juba.

Learning on Live Equipment

ELCI's laboratories double as training floors, research benches and service points, so every course hour also builds the region's capacity to test, verify and recover.

Facility	Purpose	Circular role
ESD repair and rework workshop	Board-level diagnosis and rework on seeded-fault and live units	Keeps assets in service (repair, refurbish)
Test and quality release laboratory	Functional test levels T0–T5, inspection and quality gates QG1–QG4	Makes repaired equipment as trusted as new
Fibre optics laboratory	Splicing, OTDR and power testing, PON (OLT/ONU, splitters), traceable optical radiometry	Extends network life; skills for broadband roll-out
Calibration and type-approval laboratory (proposed)	Calibration of RF, BER, timing and optical instruments; verification of ICT equipment against ITU, ETSI, IEC and IEEE standards	Keeps test equipment accurate and in use; screens non-compliant imports
Data sanitisation and recovery bay	Certified data erasure; battery assessment; segregation of hazardous fractions	Makes reuse safe; routes residues to licensed recovery
Circularity data studio	Mass balance, circularity indicators, GHG and avoided-emissions accounting	Turns field activity into verifiable ESG evidence
Teardown and design studio	Product teardown, repairability scoring and design-for-repair projects	Designs repair in from the start
Dismantling and pre-processing hall	Safe depollution, manual dismantling and sorting, with weighed records for every fraction	Keeps hazards out of land, air and water
Assay and metal recovery laboratory (partner)	Sampling, XRF screening and bench-scale hydrometallurgy with a university or industry partner	Recovers the metals of the Third Mine

Research agenda

1. **Diagnostics and reliability** — failure modes and repairability of telecom, power, industrial, medical and drone electronics in tropical operating conditions.
2. **Remanufacturing and component recovery** — testing and grading harvested components so verified parts re-enter the supply chain.
3. **Critical materials** — characterising the Third Mine: what the installed base contains and how to route it for maximum recovery.
4. **Circularity measurement** — practical methods for African operators to report circularity and avoided emissions to international standards.
5. **Policy and markets** — evidence for e-value classification, EPR repair-and-reuse targets, a national electronics register and repair marketplaces.

Applied engineering services

Industry clients can commission failure analysis, repair-process qualification, test-equipment calibration, technician competency audits and circularity baselining. Fees from these services fund bursaries and research.

Where Electronics Are Mission-Critical

ELCI trains for the sectors where replacement is slow, costly and carbon-intensive.

Sector	Typical equipment	Why lifecycle care matters
Telecoms and ICT	Radio units, rectifiers, line cards, transmission and fibre	Network uptime; imported spares carry long lead times
Power and utilities	UPS, rectifiers, protection relays, inverters	Grid and backup reliability
Industrial automation	PLCs, drives, HMIs, controllers	Production downtime is measured in lost output
Medical and biomedical	Patient monitors, imaging and lab electronics	Patient safety and public-health continuity
Drone aviation	Flight controllers, ESCs, battery packs	Safety-critical, fast-evolving platforms
Defence and security	Communications and control electronics	Sovereign capability and supply security

Evidence from practice

ELCI's curriculum is drawn from programmes already delivered by its operating partner, CME.

89.8%
of 3,149 faulty telecom network units returned to service, Kenya

76.8%
of replacement cost avoided in the same programme

~2,000 t
CO2e avoided (estimate)

15 vs 90
days to restore tea-factory controllers in Kericho, at ~80% lower cost

Both results depended on certified people and independent quality gates. **ELCI exists to multiply them.**

At the Centre of a Lifecycle Care Ecosystem

ELCI supplies certified people and standards; its partners supply the work, the equipment and the markets.

Partner	Role in the ecosystem
EMROC — The Electronics Care Company	Publisher of the ELCI certification books, manuals and white papers; strategic MRO partnerships across East and West Africa
CME — Centre for Multivendor Electronics (Nobscott Limited)	Programme operator; live repair, test and spares operations that host practical training
Kenya Electronics Lifecycle Care Facility (KELCF), Konza Technopolis	Proposed regional e-value hub, to be developed as a public–private partnership; ELCI's intended anchor campus
Channel partners across East Africa	Resellers, service partners and country master partners who employ ELCI-certified staff

Certification built into the channel

The CME Channel Partner Program makes ELCI certification a condition of growth. Partners move from Registered to Silver, Gold and Platinum tiers only as they certify staff.

Tier	ELCT (L1+)	ELCT L2+	QA-1	ECM-1	Free ELCT seats
Registered	0	0	0	0	0
Silver	2	0	0	0	1
Gold	4	1	1	0	2
Platinum	8	2	1	1	4

The programme tracks inclusion targets for certified partner staff — at least **30% women** and **50% under 35** — and applies 100% gates for licensed e-waste hand-over and certified data sanitisation. The first country master partner, Japotech Solution, covers Uganda; Tanzania is in due diligence.

Partners ELCI seeks

- **Government and regulators** — recognition of certificates, e-value classification, type approval and calibration services.
- **Universities and TVET institutions** — joint programmes, credit transfer and staff exchange.
- **Operators, utilities, hospitals and manufacturers** — sponsored cohorts, laboratory equipment and live repair streams.
- **OEMs and producers** — repair documentation, parts access and EPR repair-and-reuse services.
- **Development and climate finance** — bursaries for young and women technicians, and funding for the hub.

Distinct Among Respected Peers

Several institutions share parts of ELCI's vision, but none combines repair-level certification, quality assurance and ESG circularity in one pathway built for Africa. ELCI sees them as peers and natural partners.

Institution	Country	Focus	Overlap with ELCI	What ELCI adds
CALCE, University of Maryland	USA	Electronics reliability, failure analysis and prognostics	Lifecycle engineering research	Technician certification and circularity reporting
Golisano Institute for Sustainability, RIT	USA	Remanufacturing and material recovery; lead partner in the REMADE Institute	Remanufacture and recover loops	Repair-first practice across the whole lifecycle
UNITAR SCYCLE	Germany (UN)	E-waste statistics, policy and the E-waste Academy	Capacity building and policy evidence	Bench skills and certified practitioners
Fraunhofer IZM	Germany	Applied research in reliability, ecodesign and recycling	Research agenda	Training and certification at scale
IPC	Global	Workmanship standards and licensed training	Repair and inspection competence	Lifecycle decisions, quality systems and ESG evidence
Basel Convention Regional Centres; R2 and e-Stewards	Global	Hazardous-waste compliance and recycler certification	End-of-life control	The inner loops of reuse and repair

ELCI's distinct position

One ladder

Technician to quality professional to circularity manager, under a single framework.

Repair first

Recycling is the last loop, not the first.

Built for Africa

Formal recognition for the informal repair workforce, with evidence that meets international standards.

12 · IMPACT FRAMEWORK

Value Retained, Not Tonnes Collected

Each indicator is built from auditable records — custody logs, weigh tickets, data-sanitisation certificates and recycling manifests — so every claim can be checked.

Dimension	Indicator	Evidence
People	Technicians, quality and circularity professionals certified, by level	Public certificate register
Inclusion	Share of women and under-35s among certified holders	Training register
Value retained	Units returned to service; repair success and first-pass yield	Job records and quality release
Economic	Replacement cost avoided; turnaround time vs import	Client programme records
Climate	Tonnes CO2e avoided by repair and reuse	Avoided-emissions statements with documented factors
Materials	Mass balance closed; circularity indicator (ISO 59020 approach, MCI); share sent to licensed recovery	Weigh tickets and recycling manifests
Data security	Data-bearing devices sanitised to NIST SP 800-88	Sanitisation certificates
Safety	Zero critical safety findings; licensed hazardous-fraction hand-over	Audit and compliance records

Targets for each indicator will be set with founding partners and published annually.

13 · LEADERSHIP AND GOVERNANCE

Led by Practice

ON

Ogola Ndolo

Founder · Electronics Engineer, Entrepreneur and Circularity Director

Founder and Managing Director of Nobscott Limited (CME) and EMROC — The Electronics Care Company. Author of the ELCT, ELC-QA and ELC-ECM certification books and manuals, the white paper *From E-Waste to E-Resource* (2026), and the "Third Mine" framing of Kenya's electronics lifecycle opportunity.

Governance principles

- **Impartiality.** Assessment decisions rest on evidence alone; conflicts of interest are declared and a second assessor is used where a trainer assesses their own trainees.
- **Programme control.** A programme manager keeps the certificate register; records are retained for at least 6 years; appeals go to a different assessor within 14 days.
- **Trainer standards.** Trainers hold the level they teach plus field experience; IPC content is delivered by, or with, a current IPC trainer; every trainer is observed teaching at least once a year.
- **Honest claims.** ELCI never describes its certificates as IPC or accredited ISO credentials, and never publishes a circularity figure without a documented method.

A board of advisors drawn from industry, academia, regulators and the informal repair sector will oversee standards, curriculum and impact reporting. Its composition is to be confirmed.

14 · ROADMAP

Three Phases of Growth

Each phase builds on the certified people and evidence of the last.

PHASE 1

Establish

2026 – 2027

- Launch the first schools (Repair, Calibration, End of Life, Circularity and ESG) in Nairobi
- Open online learning and direct training registration
- Certify first trainers and assessors, with external IPC review before the second intake
- Open the public register
- Certify partner staff across the channel network

PHASE 2

Expand

2027 – 2028

- Commission the fibre optics and calibration laboratories
- Map units to Kenya's competency-based framework
- Accredit the first affiliate and training centres in Kenya, Uganda and Tanzania
- Begin the applied research programme

PHASE 3

Anchor

2028 onward

- Move into the proposed KELCF hub at Konza Technopolis as the regional campus
- Appoint Regional Centres of Excellence across the EAC
- Publish an annual State of Electronics Lifecycle Care report

Dates are indicative and depend on partner commitments and approvals.

Sources

- EMROC, *From E-Waste to E-Resource* white paper, EMROC-WP-2026-01 (October 2026), citing the UNITAR/ITU Global E-waste Monitor 2024
- ELCT, ELC-QA and ELC-ECM Certification Programme Training Manuals, CME-TR-002, -004 and -006 (2026)
- Trainer's Guide — Course Outlines and Lesson Plans, CME-TR-008 (2026)
- CME Channel Partner Program Tracking and Management Workbook (2026)
- Proposal for a research, calibration and telecommunication training institute; fibre optics laboratory equipment list
- Peer institution websites as linked in Section 10

ELECTRONICS LIFECYCLE CARE INSTITUTE

ENGINEERING THE FULL LIFECYCLE OF ELECTRONICS

JOIN US

The Third Mine is already installed. Help us certify the people who will work it.

ELCI invites governments, industry, academia and financiers to partner in keeping value, skills and carbon savings on the continent — through sponsored cohorts, laboratory investment, research collaboration and recognition of certificates.

Electronics Lifecycle Care Institute

R23, 2nd Floor, Vision Plaza, Mombasa Road, Nairobi, Kenya

cme@emroc.africa · +254 755 812 900