

LUMBI MUCHUI

Product Leadership, Hardware

Nairobi, Kenya | +254 704 149008 | muchuilumbi@gmail.com | linkedin.com/in/lumbi-muchui | thel2.studio

PROFILE

Climate-technology engineer and hardware product leader with eight years delivering energy and clean-mobility systems across Kenya, Ghana and the wider East and West African region. Track record spans national power-transmission infrastructure, Sub-Saharan Africa's first locally designed electric motorcycle, Kenya's first direct-air-capture pilot, and a live battery-swap energy network now serving a new market. Combines deep systems and delivery rigour with cross-functional leadership of multidisciplinary teams, supplier and stakeholder coordination, and regulatory navigation across multiple African jurisdictions. Motivated by the conviction that reliable, affordable energy access is foundational to climate resilience and resilient livelihoods.

EXPERIENCE

Senior Product Manager – Hardware

Kofa Energy

Sep 2025 – Present

Hybrid · Accra & Nairobi

- Own the full hardware product portfolio at Kofa — swap stations, batteries, two-wheel vehicle platforms, and docking infrastructure — directing execution across engineering, operations, supply chain, and external supplier partners spanning the company's Kenya and Ghana operations.
- Architecting the next-generation battery platform via parallel dual-sourcing across two qualified assemblers and two cell chemistries (LFP and LMFP) — targeting ~20% unit cost reduction (–\$150 per battery) and 67% cycle-life uplift (1,500 to 2,500 cycles), with improved pack durability and eliminated single-source supply risk.
- Led phased rollout of new powertrain controller firmware across ~300 commercial e-motorcycles in Ghana and 200 in Kenya - delivering a 25% range increase and three use-case-tuned operating modes.
- Owning NPI for the next-generation docking-hub product — programme in design and pre-launch phase.
- Leading continuous-improvement programme across the swap-station network — six workstreams covering electrical safety, structural/mechanical integrity, fire & flood safety, connectivity, maintenance operations, and feedback into next-generation hardware design.

Lead Engineer

Sirona Technologies

Feb 2025 – Aug 2025

Brussels, Belgium

- Led installation, commissioning, and operations of Africa's first Direct Air Capture pilot plant (Lake Elementaita, Kenya — rated capacity 500 tonnes CO₂/year). Achieved first CO₂ capture two months from project kickoff; ran subsequent capacity and stress-testing campaigns to generate operational data and engineering learnings feeding commercial-scale plant development..

- Took over the commercial-scale DAC plant programme (rated capacity 30,000 tonnes CO₂/year, containerised modular architecture) at the DVT gate; drove the plant through PVT to a tested and deployment-ready state at handover.
- Designed the plant-wide instrumentation network — instrumentation cabinetry and harness architecture across the entire DAC stack. Eight automation cabinets designed and built for the commercial plant.

Product Lead

Oct 2023 – Nov 2024

Roam Electric

Nairobi, Kenya

- Led cross-functional teams of 30+ engineers and designers through full development and validation cycles for four electric-vehicle products built for the African use case.
- Cut Roam Air motorcycle production cost by over 50% (USD 4,500 to USD 2,100), dramatically widening affordability and clean-mobility access across Sub-Saharan Africa.
- Delivered the Roam Air — the first motorcycle designed and developed in Sub-Saharan Africa (2,500 units) — and the Roam Move electric bus for the matatu public-transport sector (15+ units, 200+ pre-orders).
- Engaged with funders and supported grant and funding workstreams, developing technical and product collateral used in investment and grant-funding processes.
- Rebuilt the product requirements process and supplier management, reducing component manufacturing errors by 75%.

Mechatronics Engineer, R&D

Feb 2020 – Mar 2022

Roam Electric

Nairobi, Kenya

- Designed core sub-systems of the Roam Air — battery layout and packaging, HV electrical harness, electronics layout, and mechanical elements.
- Co-developed the Griffin plug-and-play electric conversion kits for Land Cruisers and Land Rover Defenders (30 vehicles installed).

Mechatronics Engineer

Sep 2018 – Feb 2019

Kenya Pipeline Company

Nairobi, Kenya

- Managed pipeline and tank structural-integrity work in the Corrosion Control Department; supported commissioning of the new fuel line to Nairobi's international airport.

Mechatronics Engineer

Jun 2017 – Jun 2018

Kenya Electricity Transmission Company (KETRACO)

Isinya, Kajiado, Kenya

- Installed, tested and commissioned high-voltage substation equipment for the Eastern Electricity Highway — the regional transmission interconnector linking Ethiopia, Kenya and Tanzania.

EDUCATION

BSc, Mechatronics Engineering

2014 – 2019

Jomo Kenyatta University of Agriculture and Technology *Kenya*

- Projects: design and control of a double inverted pendulum; design and fabrication of assistive devices for persons living with disabilities.

CORE STRENGTHS

Domain: Hardware Product Management, Clean energy & e-mobility systems, battery & energy-storage design, energy access & infrastructure deployment, climate-mitigation technology · regional adaptation for African markets, Agile Development

Leadership: Cross-functional team leadership · multi-stakeholder & supplier coordination · regulatory & compliance navigation (UNECE R136/R156, UN38.3, EU 168/2013) · systems thinking · results-driven programme delivery · Full Gate Ownership (EVT - DVT - PVT - MP) · NPI · DFM · DFA

Regional: Delivery across Kenya, Ghana and East/West African markets · funder & grant engagement · technical collateral for investment processes

Languages: English (full professional) · Kiswahili (full professional) · French (in progress)