(Large-Scale Ubiquitous Sensor-Actuator Technology)

ENVIRONMENTAL AND FIELD SERVICES

Protecting Ecosystems · Powering Progress · Delivering On-Site Excellence

LUSAT delivers AI- and IoT-powered energy solutions across Zambia—real-time monitoring, predictive analytics, hydrokinetic power, solar integration, energy storage, and smart grid systems. Our Environmental and Field Services ensure these technologies are deployed, operated, and maintained with the highest standards of environmental integrity, safety, and reliability.

We focus on clean energy that works **with** nature: hydrokinetic systems that harvest river current energy without dams or large reservoirs, paired with intelligent monitoring that minimizes ecological disruption while maximizing efficiency and community benefit.

OUR COMMITMENT TO THE ENVIRONMENT

Hydrokinetic power generation integrates into existing waterways with minimal infrastructure. It avoids the major ecosystem disruption of traditional dams, supports free river flow, and undergoes careful evaluation to protect aquatic life and water quality. Combined with IoT sensors and AI prediction, our systems boost energy efficiency, cut waste, lower carbon footprints, and deliver measurable cost savings for businesses, communities, and households.

- Minimal environmental footprint and ecosystem respect
- Real-time data for proactive environmental and operational stewardship
- Support for local economic growth, energy independence, and sustainable development
- Alignment with Zambia's need for resilient, clean power infrastructure

LUSAT — Leaders in Real-Time Energy Monitoring, Prediction, and Innovative Hydropower.

CORE FIELD SERVICES

Our trained field teams bring engineering expertise, specialized equipment, and rapid response capability directly to sites across Zambia.

Site Assessment & Environmental Evaluation

Surveys of river conditions, flow characteristics, aquatic considerations, soil/terrain suitability for solar or hybrid installations, and baseline environmental data collection.

Installation & Commissioning

Deployment of hydrokinetic units, solar arrays, inverters, charge controllers, mounting structures, energy storage, and IoT sensor networks. Functional testing, system integration, and safe handover.

IoT Sensor Deployment & Network Setup

Placement and calibration of sensors for real-time voltage, current, power, environmental, and performance monitoring—including remote and hard-to-reach locations.

Operations, Maintenance & Monitoring (OM&M;)

Routine inspections, predictive maintenance driven by AI analytics, performance optimization, troubleshooting, and ongoing data reporting.

Environmental Compliance Support & Monitoring

Water quality and aquatic impact checks where relevant, emissions/performance tracking, documentation for regulatory needs, and adaptive management to keep impacts low.

Remote Asset Management & Emergency Response

Leveraging satellite/IoT connectivity for continuous oversight, rapid diagnostics, and on-site intervention to minimize downtime.

These services support everything from modular 50 kW–500 kW hydrokinetic units (scalable to multi-MW arrays) to hybrid solar-storage systems and full smart-grid integration.

WHY PARTNER WITH LUSAT FIELD SERVICES?

- **Engineering excellence + environmental responsibility** — Advanced designs maximize energy capture while prioritizing durability and ecological safeguards.
- **Local focus with global technology** — Solutions tailored to Zambian conditions and delivered by teams that understand the local context.
- **Data-driven results** — Real-time IoT monitoring and AI prediction enable early issue detection, efficiency gains, and transparent reporting.
- **End-to-end partnership** — From initial consultation and site work through long-term optimization and community engagement.
- **Proven impact pathway** — Clean baseload or supplemental power, reduced operating costs, lower emissions, and strengthened local stewardship of natural resources.

WHO WE SERVE

Utilities and power distributors · Independent power producers · Industrial and commercial facilities · Remote communities and mini-grid projects · Government and development partners · Any organization seeking reliable, sustainable energy with professional on-site support.

CONTACT US

Ready to discuss a site assessment, field deployment, or environmental monitoring support for your project?

LUSAT Investments Limited

Website: www.lusat.org

Book a Consultation: www.lusat.org/book-online

Chat with us on WhatsApp

Tap or scan to start a conversation with our team

+260 766 007 99

wa.me/26076600799

Every engagement begins with a thorough consultation so we can understand your site conditions, energy goals, and environmental priorities. Reach out today via WhatsApp, the booking page, or the website to schedule a discussion or request a field visit.

Together we can design and deliver clean, intelligent power solutions that respect Zambia's rivers, land, and communities.

LUSAT — Leaders in Real-Time Energy Monitoring, Prediction, and Innovative Hydropower.