

Clean Technology Hub
Energy Innovation Centre

Clean Technology Hub Business Case Study Series: QORAY MOBILITY

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This case study was written by David Inalegwu David and Abel Gaiya. It was compiled primarily using information from an interview with the company's founders and CEO.

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QORAY

Executive Summary

Qoray Mobility and Energies Limited (QMEL) is transforming the future of clean mobility and distributed energy in Nigeria. Founded in 2024 and headquartered in Lagos, Nigeria, QMEL has rapidly established itself as one of the major integrated clean technology enterprises focused on electric transportation, renewable energy, and energy access solutions.

In its first 24 months, QMEL has deployed over 2,200 electric three-wheelers and over 60 electric four-wheelers across multiple states and established a growing charging infrastructure network, comprising 10 stations with both AC and DC fast-charging capabilities. In parallel, the company's renewable energy business has energized over 566 homes and businesses within the same period, working closely with technology vendors and local implementation partners. Strategic partnerships with transport unions, OEMs and ODMs in Southeast Asia, and community stakeholders have enabled QMEL to scale both its mobility and clean energy solutions into underserved markets, particularly within bottom-of-the-pyramid segments.

Guided by a bold vision to become Africa's most life-changing company, QMEL has built a vertically integrated ecosystem that includes vehicle design and assembly, charging and battery swapping systems, leasing solutions, after-sales maintenance, and talent development through technician training programs. This comprehensive value-chain solution addresses the key challenges to EV adoption in Nigeria, including price, dependability, energy access, and technical capacity.

Local adaptations such as reinforced vehicle components, operational models optimized for weak grid conditions, and innovative policies such as battery buyback enable QMEL to maintain its leadership position in Nigeria's emerging EV sector. Despite industry challenges such as exchange rate volatility and unreliable electricity, QMEL has developed diversified and scalable revenue streams through vehicle sales, charging, swapping, service, and leasing.

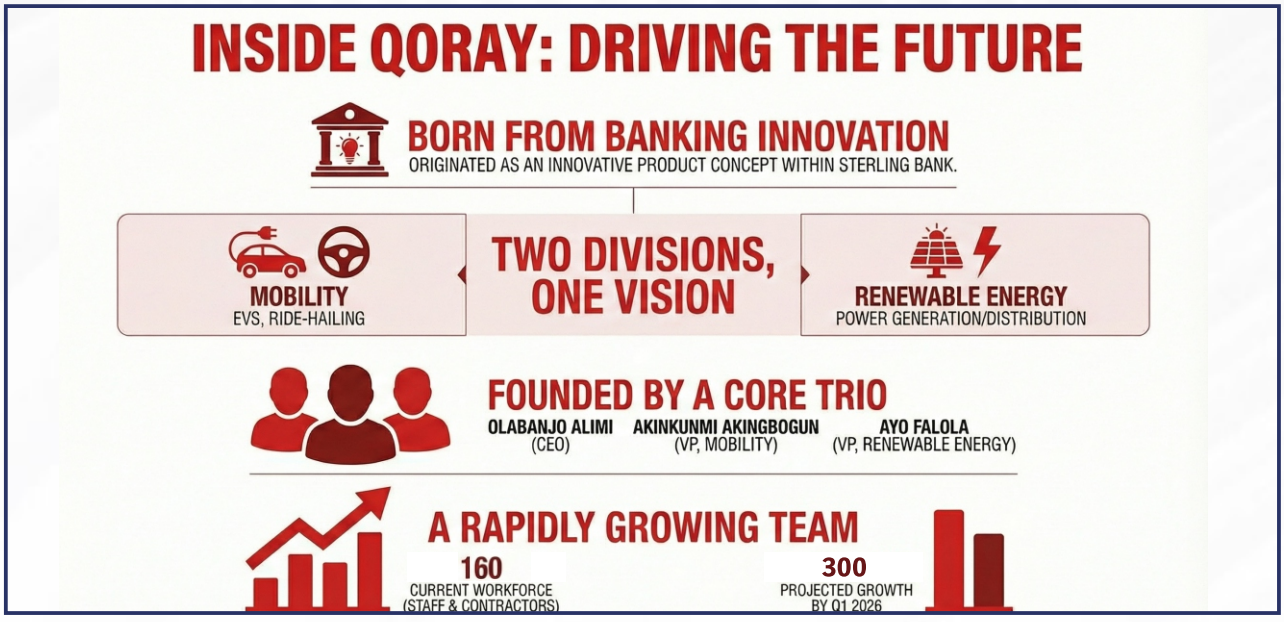
With a growing deployment pipeline of 17,000 tricycles and plans to introduce over 12,000 more EVs and energize 2,000 SMEs and households by 2026, the company is positioned for tremendous growth. Its strategy is tightly aligned with national clean-energy regulations and global sustainability trends, establishing QMEL as an impact-driven, investment-ready firm capable of altering mobility, boosting livelihoods, and driving Africa's transition to a low-carbon economy.

Company Profile

Qoray Mobility and Energies Limited (QMEL) originated within Sterling Bank as an innovative product concept before evolving into an independent clean-technology enterprise. Now established as a standalone entity, QMEL is led by three co-founders: Olabanjo Alimi (Chief Executive Officer), Akinkunmi Akingbogun (Vice President, Mobility), and Ayo Falola (Vice President, Renewable Energy). Its founding and growth have been supported through a blended funding strategy combining bootstrap financing from the bank with equity investment and debt financing, providing a robust foundation for scale.

Today, Qoray operates as a fully integrated enterprise with two primary divisions—Mobility and Renewable Energy—supported by several specialized operational units. The Mobility Division, led by Vice President and Co-founder Akinkunmi Akingbogun, oversees the end-to-end electric vehicle value chain, including manufacturing, trading, maintenance services, and Cab Zero, the company's electric ride-hailing platform. The Renewable Energy Division, directed by co-founder Ayo Falola, addresses power generation and distribution gaps across underserved communities, delivering solutions that enhance energy reliability and affordability. These core divisions are reinforced by units responsible for strategic partnerships, green financing, project execution, credit management, and financial control, ensuring operational cohesion and sustained growth.

QMEL currently employs almost 60 staff members supported by a flexible contractor network that scales with deployment cycles. This hybrid workforce model has enabled the company to create nearly 100 contract-based roles across vehicle assembly, charging infrastructure installation, technical support, and site management. With planned expansion, including a major deployment in Ilorin expected to require over 50 additional personnel, the workforce is projected to grow significantly, with estimates indicating that more than 150 personnel may be needed by Q1 2026.



Product Innovation – Qoray Mobility

Qoray's product innovation strategy focuses on developing practical, market-ready electric mobility solutions that combine vehicles, energy infrastructure, and services to meet real-world urban transport needs. The offerings below reflect a deliberate effort to localize EV technologies while improving affordability, reliability, and operational efficiency.

1. **Three-Wheeler Electric Tricycles (Qoray TEAK):** Qoray's flagship product is a complete reinvention of last-mile urban transport. The TEAK electric tricycle features lithium-ion swappable batteries that deliver up to 120 km of range per swap, a 7-passenger seating capacity, telemetry systems, and interactive digital dashboards.

   The increased passenger capacity improves income potential for operators, while the electric powertrain significantly reduces maintenance costs compared to fossil-fuel engines. Although the vehicles are co-branded with Original Equipment Manufacturers (OEMs) in Southeast Asia, Qoray has advanced its supply chain model from OEM partnerships to Original Design Manufacturing (ODM), ensuring that product intellectual property is now owned by Qoray.



2. **Cab Zero Electric Ride-Hailing Service:** Cab Zero is positioned as a corporate-focused, all-electric alternative to conventional ride-hailing platforms. It provides sustainable mobility solutions for businesses while generating revenue through daily ride fees, fleet leasing agreements, and long-term service contracts. The service currently operates with 31 vehicles and is on track to expand to over 200 units within the next twelve months.

3. **Charging Infrastructure:** Charging infrastructure is a core pillar and a critical enabler of Qoray's mobility ecosystem, with 10 different stations operating currently. Beyond supporting Qoray's own fleets, the charging network functions as a standalone commercial offering, providing pay-per-use charging services, fleet charging contracts, and infrastructure partnerships for third-party EV operators. Battery swapping, in particular, is optimized for high-utilization vehicles such as tricycles, significantly reducing wait times and increasing daily vehicle productivity. By internalizing charging as a product rather than a dependency, Qoray de-risks EV adoption while creating an additional revenue stream and strengthening ecosystem control.



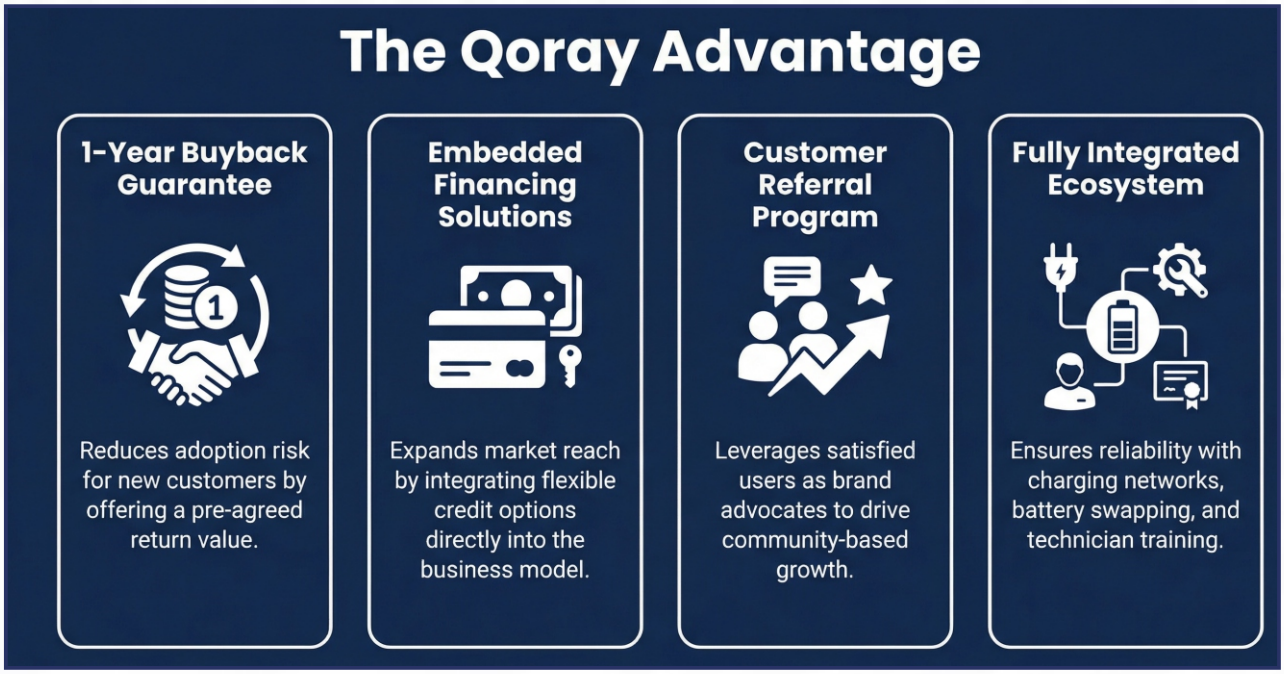
4. **Four-Wheeler Electric Vehicles:** For corporate and retail customers, Qoray offers a growing range of four-wheeler electric vehicles bundled with home charging installations and 60 days of free charging at any Qoray station. To date, 31 vehicles have been deployed under Cab Zero, one of Nigeria's largest fully electric ride-hailing services, and more than 30 units have been sold to retail buyers. These sales are supported by innovative financing options that require only a 20% down payment and offer up to five-year repayment terms, significantly improving affordability and accelerating adoption.



What sets QORAY MOBILITY apart?

Qoray's competitive edge goes well beyond its product offerings. The company has introduced several industry-first strategies that set it apart in Nigeria's emerging electric mobility sector:

1. **Buyback Guarantee:** In a market where consumer skepticism remains high, Qoray offers an unprecedented one-year buyback guarantee. Customers who are dissatisfied with their vehicle within the first year can return it at a pre-agreed value.
   This bold commitment reflects strong confidence in product quality while significantly reducing adoption risk for new users.
2. **Referral Incentive Program:** To drive community-based growth, Qoray offers financial incentives to customers who successfully refer new buyers. Reward amounts differ by vehicle category, effectively leveraging satisfied users as brand advocates and strengthening customer-driven market expansion.
3. **Embedded Financing Solutions:** Qoray integrates accessible financing options directly into its business model, enabling customers to acquire electric vehicles through innovative and flexible credit structures. This significantly expands market reach and accelerates adoption across income segments.
4. **Integrated Ecosystem Model:** Qoray has developed a fully integrated ecosystem that addresses every major barrier to EV adoption. This includes one of Nigeria's most extensive charging networks, a dedicated battery-swapping system for three-wheelers, strategic partnerships across the value chain, and continuous technician training programs in all deployment locations. This comprehensive approach ensures reliability, convenience, and customer trust.



Local Adaptation and Innovation

Operating within Nigeria's demanding terrain and climatic conditions has required continuous product refinement. Qoray's engineering team has incorporated several locally informed innovations based on real-world user feedback:

1. **Payload Management:** To address the common issue of vehicle overloading, Qoray redesigned its electric tricycles to discourage side-passenger seating and reinforced key structural components to withstand higher payloads. These modifications protect vehicle performance, extend component lifespan, and preserve range efficiency.
2. **Battery Security Systems:** Given Nigeria's rough and uneven road conditions, Qoray engineered a secure rail-lock system that keeps batteries firmly in place regardless of terrain. This design ensures stable electrical contact, prevents battery dislodgement, and enhances overall vehicle reliability.
3. **Thermal Management:** Nigeria's high ambient temperatures can significantly degrade EV performance. To counter this, Qoray equipped its tricycles with water-cooled controller systems rather than conventional air-cooled designs.

Combined with heat-resistant terminal materials, this thermal management architecture improves energy efficiency, preserves component integrity, and enhances range in hot-weather environments.

Business Model And Revenue Architecture

Multi-Stream Revenue Generation

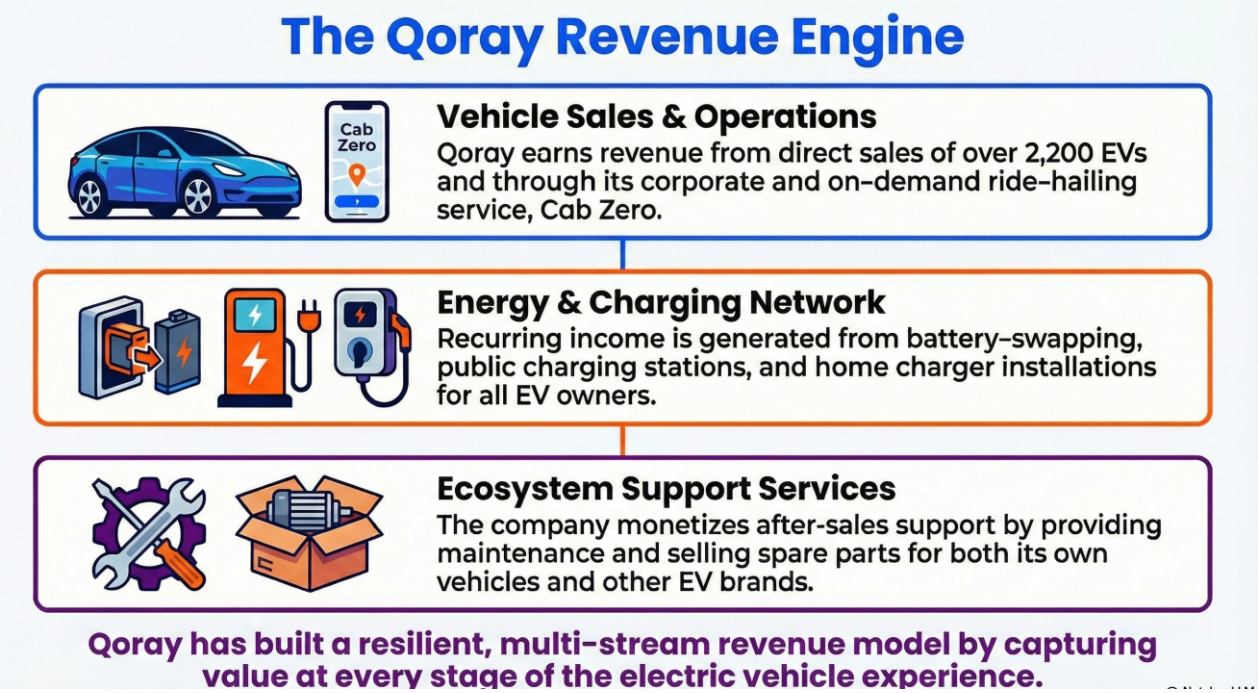
Qoray has developed a resilient and diversified revenue model that captures value at multiple points across the electric mobility ecosystem:

1. **Vehicle Trading Income:** Direct sales of electric vehicles, both three-wheelers and four-wheelers, provide revenue from retail and corporate customers. In under two years, Qoray has deployed more than 2,200 electric tricycles and sold over 60 four-wheeler vehicles, demonstrating strong market demand and sales capacity.
2. **Battery Swap Operations:** Qoray earns recurring revenue through its battery-swapping services for electric tricycles. This model enables drivers to exchange depleted batteries for fully charged units and ensures high uptime.
3. **Cab Zero Operations:** As an asset-based business, Cab Zero generates revenue through corporate mobility contracts, on-demand ride-hailing, and vehicle leasing arrangements.

4. **Home Charging Installation:** While retail customers who purchase Qoray vehicles receive complimentary home charger installations, Qoray also sells and installs charging units for non-Qoray EV owners. This expands market reach and establishes an additional revenue stream beyond its proprietary fleet.
5. **Charging Infrastructure Services:** Qoray's charging stations offer both AC (slow) and DC (fast) charging at differentiated price points, ₦300 per kWh for AC and ₦500 per kWh for DC. Additional monetization pathways include annual subscription packages for unlimited charging, premium pricing for priority charging lanes, and commercial overnight charging bundles with dedicated security services.



6. **After-Sales Support and Spare Parts:** Qoray offers maintenance and technical support for both its own vehicles and those of other EV brands. Revenue is generated through servicing, spare parts sales, and diagnostic services, enhancing customer loyalty while supporting the wider EV ecosystem.



Impact Metrics

Qoray's performance over 18 months demonstrates exceptional execution capability and market traction:

Impact Area	Key Metrics and Outcomes
Fleet Deployment	Over 2,200 electric three-wheelers deployed across Kano, Niger, and Kwara States. More than 60 four-wheeler EVs deployed (31 vehicles operating under the Cab Zero fleet and over 30 sold to retail). Qoray achieved the largest single EV deployment in Nigerian history (Niger State) and pioneered the first women-only commercial EV deployment in Kano State.
Infrastructure Development	10 operational charging stations (DC and AC) currently support fleet and third-party charging needs. Expansion plans include the installation of 15 additional DC chargers in 2026 across new locations, including Abuja.
Employment and Skills Development	The company employs 60 permanent staff and engages approximately 100 contract workers, with projections exceeding 150 personnel by Q1 2026. 3 technician training cohorts have been completed across deployment locations, complemented by university partnerships, including Kwara state university, for joint research and development initiatives.
Market Pipeline and Growth	17,000 electric tricycle contracts have been signed, with plans to deploy 12,000 additional units in 2026 as operations expand to new locations such as Ibadan and Borno State. Cab Zero is projected to scale its fleet from 31 to 200 vehicles by the end of 2026.
Market Validation and Performance	Qoray holds a Guinness World Record for the longest distance traveled by an electric tricycle (347.11 km in 12 hours), validating product durability and reliability. Despite offering one-year vehicle guarantees, the company has recorded zero buyback requests to date.
Economic and Livelihood Impact	Electric three-wheelers enable higher operator earnings through increased passenger capacity (six passengers versus three) and reduced operating costs, delivering approximately 50–70% savings on
	energy via battery swapping. Four-wheeler EVs are supported by innovative financing structures requiring only 20% upfront equity and offering repayment terms of up to five years, significantly lowering adoption barriers.

Lesson Learned And Best Practices

This section distills the critical lessons and best practices emerging from Qoray's operating experience, highlighting how strategic design choices and adaptive business models can enable successful electric mobility deployment in infrastructure-constrained markets.

The first key lesson is that **structural constraints in emerging markets can be investment opportunities when approached with a value creation mindset.** In contexts such as Nigeria, infrastructure deficits, grid unreliability, and limited access to formal credit are often framed as barriers to EV adoption. QMEL's experience demonstrates that these constraints, rather than being insurmountable obstacles, can be strategically reframed as opportunities for value creation, ecosystem building, and differentiated market positioning.

The scarcity of public charging infrastructure, for example, is not treated as a deployment bottleneck but as a core commercial opportunity enabling the development of proprietary or third-party charging solutions as an independent business line. Similarly, persistent grid unreliability has catalyzed investment in decentralized energy solutions, particularly solar-powered charging and hybrid energy systems, which not only de-risk operations but also align EV deployment with broader energy access and climate objectives.

Collectively, these approaches reflect a shift from dependency on enabling conditions to proactive market creation. By internalizing systemic constraints into its business model, QMEL reduces exposure to external risks while simultaneously expanding revenue streams and strengthening ecosystem resilience. This lesson underscores a critical insight for EV deployment in emerging markets: success depends less on waiting for perfect infrastructure and more on designing business models that profitably operate within and help transform existing realities.

The second key lesson is that **local adaptation is vital.** Electric vehicle solutions cannot be transplanted wholesale from other markets without significant modification. Nigeria's unique operating conditions, ranging from road quality, climate, grid reliability, and user behaviour necessitate context-specific design and deployment choices. Effective adaptations must therefore be intentionally developed in response to these structural challenges and informed by continuous customer and end-user engagement.

Qoray's approach demonstrates this principle in practice. Rather than assuming initial designs were sufficient, the company iterated based on real-world usage and direct feedback from riders, fleet operators, and technicians. This led to tangible engineering and operational adjustments, including redesigned seating for durability and comfort, reinforced battery rails to withstand road conditions, and the introduction of water-cooling systems to manage heat under local climatic and operating stresses. These adaptations reflect a customer-centric, learning-by-doing model—one that recognizes imperfection as inevitable and iteration as essential.

Conclusion And Future Outlook

Qoray Mobility and Energies Limited exemplifies how contextually appropriate innovation, creative business model design, and unwavering mission commitment can address seemingly intractable development challenges while building commercially sustainable enterprises. In fewer than two years, the company has progressed from concept to becoming one of Nigeria's leading integrated electric mobility providers, deploying thousands of vehicles, establishing critical infrastructure, and creating hundreds of jobs.

The company's vision of becoming "Africa's Most Life-Changing Company" extends beyond aspirational rhetoric to tangible impact: enabling women to access economic opportunities through commercial vehicle ownership, providing urban communities with cleaner air and reduced noise pollution, creating pathways from informal employment to asset ownership, and demonstrating that green technology solutions can serve Africa's most economically disadvantaged populations.

For potential investors, Qoray represents a rare convergence of financial return potential and transformative social impact within one of Africa's largest and most dynamic markets. The company's proven execution capability, scalable business model, strategic partnerships, and alignment with global sustainability imperatives position it as a compelling opportunity within the rapidly growing African electric mobility sector.

As Nigeria and the broader African continent confront growing urbanization and escalating energy access challenges and climate imperatives, Qoray's integrated approach offers a replicable blueprint for sustainable transportation transformation. The next chapter of this pioneering company's journey promises to expand its geographic footprint, diversify its product portfolio, and deepen its market impact, positioning Qoray not merely as an electric vehicle company but as a comprehensive clean energy solutions provider, reshaping how millions of Africans move and power their lives.

ANNEX: Product Showcase

This section provides a visual overview of some of Qoray's mobility solutions, highlighting key design features, operational capabilities, and unique product attributes. All images included have been sourced directly from Qoray's official brochure[1], and are intended to complement the technical and commercial details presented in the preceding sections.





1 https://qoraymobility.com/assets/doc/Qoray%20Brochure.pdf



L:5200x W:1700 x H:2250 | 100Km/H | Lithium: 157 kWh | 160km | AC/DC Charging | 28 Seater



L:2900x W:1130 x H:1630 | 30Km/H | Lithium: 60V100Ah | 60km | SWAP