



AFRICAN ELECTRIC BICYCLES START-UP BOOKLET



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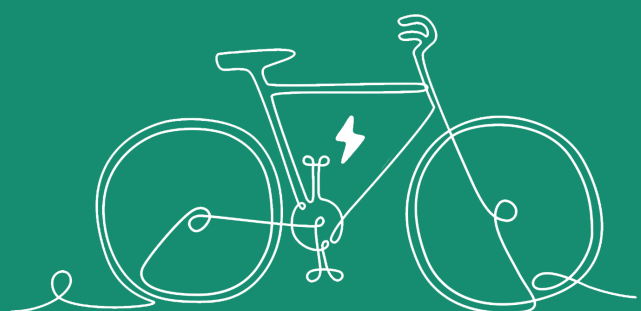
LAYOUT

Yasin Imran Rony

ACKNOWLEDGMENTS

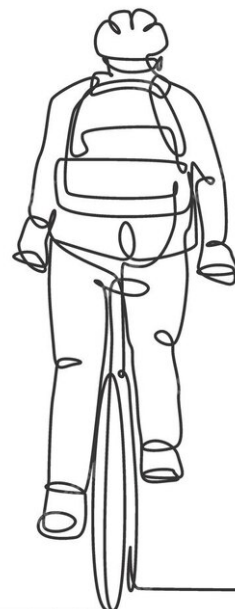
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PROJECT PARTNERS





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FOREWORD

The disruption caused by new technologies is an opportunity to rethink the way we live, interact and move. The transition to electric mobility is a once-in-a-lifetime chance that should be grasped to improve our mobility systems in favour of people and the planet. African start-ups are leading this transition on the ground and bottom-up, parallel to governments developing the needed enabling policy and regulatory framework. These start-ups play a crucial role in accelerating the shift to electric mobility, especially in the two- and three-wheeler segments, which require lower investments and less government support. At the same time, these smaller vehicles also offer more efficient, cleaner, and inclusive mobility for a wider part of the population.

Countering the current global trend towards bigger and heavier vehicles, electric bicycles provide an alternative means of transport that is more resource- and energy-efficient but also more affordable. We need to shift away from the predominant focus on cars when discussing electric vehicles. Electrifying individual cars will not tackle other problems such as road safety, space consumption from roads and parking, and congestion, which lead to high losses of productivity and GDP in many cities in Africa.

Besides the well-known benefits of electric mobility, such as the reduction in greenhouse gas emission, air pollution, energy and cost saving, there is another big opportunity: The development of a local vehicle manufacturing and assembly industry leading to the creation of green and high-quality jobs for the young and creative African population. Outside of the legacy business of prominent manufacturers, electrification offers new ways of how vehicles can be designed and built, opening a whole new industry for new market entrants. The start-ups featured in this booklet are tapping into this new field and are developing vehicles adapted to the local context using local skills and ingenuity.

While not entirely new, pedal-assist electric bicycles – custom-built for the respective local conditions - are an emerging innovation that has the potential to change the way people and goods move in cities and rural areas. In cities,

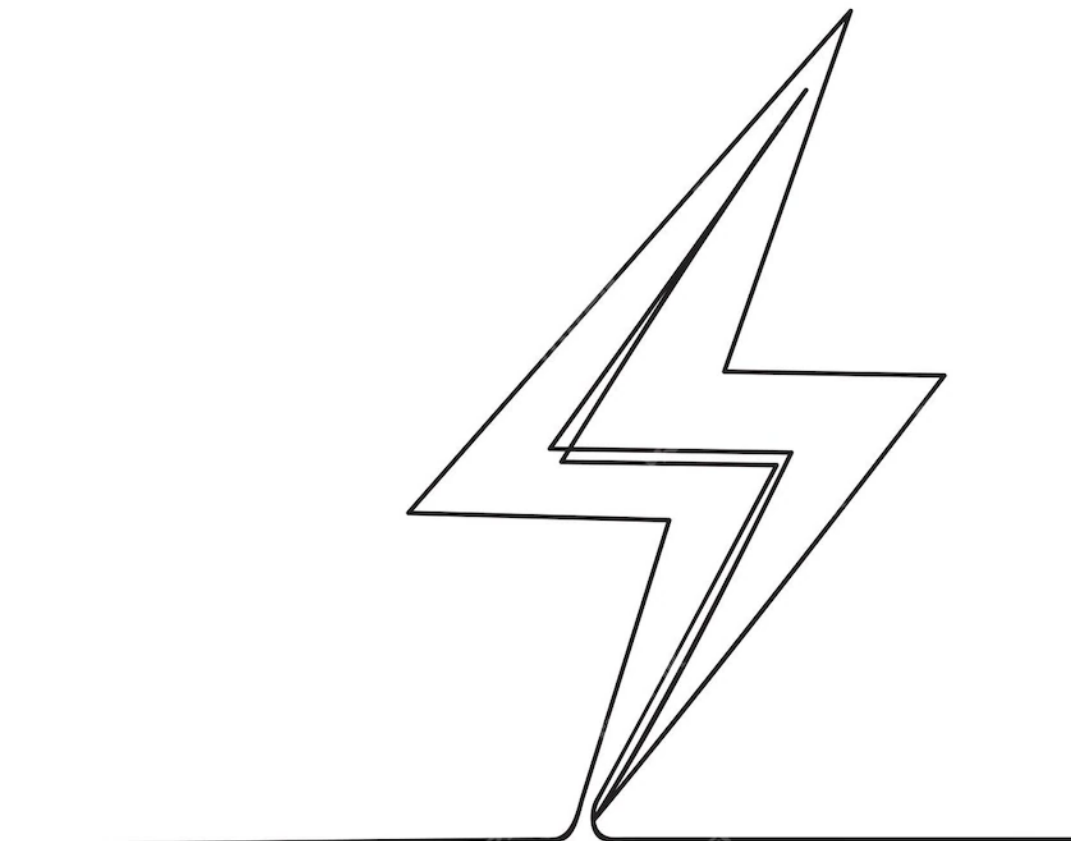
they can provide first and last-mile access to public transport, cover the entire commute thanks to the electric assist, and deliver food, goods, and mail from commerce to homes. If they are used to replace cars and delivery vans, this frees up curb and parking space that can be converted to cycle lanes and public parks, increasing road safety and liveability in cities. In rural areas, they can be adapted to provide medical supplies, help kids get to school, or transport smaller goods to markets. Here, they meet unmet mobility needs and contribute to local economic development.

Electric bicycles also solve many issues that prevent people from using non-motorised means of transport or pushing people into cars as soon as they can afford to do so. They significantly increase trip flexibility and convenience, which is especially relevant in hilly or hot weather conditions, both present in many African cities. They allow higher loads and can be adapted with carriers for kids and boxes for goods, allowing users to travel longer distances in sprawling African cities and villages. Due to their purchase and operating costs affordability, electric bicycles provide motorised mobility for people who cannot afford a car or even an electric motorcycle.

Governments should send a clear message supporting electric bicycles by including them in their e-mobility strategies and incentive schemes and developing regulations to ensure safety and quality. Clear regulations are also necessary to prevent or minimise the impact of potential traffic conflicts with other road users and ensure the safe integration of new vehicle types in the transport system.

This “African Electric Bicycles Start-up Booklet” is meant to present solutions for sustainable mobility in Africa and showcase the innovativeness of African start-ups. We hope it will shed light on an often underrepresented and underestimated means of transport – the bicycle – and the opportunities that arise from the electrification of mobility. A strengthening of and a shift towards non-motorised and electric means of transport are crucial to prevent a doubling of transport emissions in Africa in the coming decades.

Introduction



WHY ELECTRIC BICYCLES?

ELECTRIC MOBILITY DEVELOPMENTS IN AFRICA

The African continent, historically having a lower penetration of electric vehicles (EVs) (IEA, 2020), is now experiencing a rapid increase in the adoption of EVs and supportive government policies. According to the Africa E-mobility Readiness Index by UNEP and AfEMA (2023a), over half of the 21 assessed African countries have now implemented fiscal incentives and set e-mobility targets, primarily motivated by foreign currency spent on fuel imports and CO2 emission reduction commitments as part of the Paris Agreement.

The shift to electric mobility makes environmental sense, as African countries are transitioning from fossil-fuel power plants to renewable sources of electricity, harnessing the benefits of their plentiful natural resources (Collet et al., 2021). For instance, Africa hosts 60% of the world's best solar resources, and renewables are estimated to account for over 80% of new power generation capacity by 2030 (IEA Africa Energy Outlook, 2022). Furthermore, several African countries already generate a very high share of their electricity from renewable sources. A good example is Kenya, which currently generates 92% of its electricity from renewable sources, primarily geothermal, hydropower, and wind (Collet et al., 2021).

In Africa's electric mobility landscape, electric two- and three-wheelers currently dominate, constituting a remarkable 79% of the electric fleets, while electric light-duty vehicles make up 20%, and electric buses account for 1% (AfEMA, 2023a).

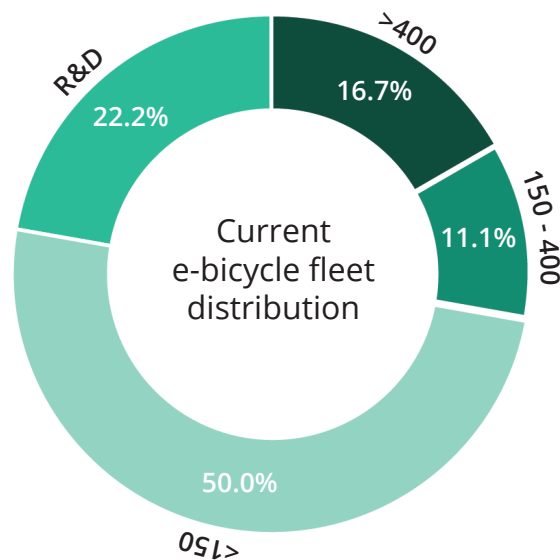
Identifying the proportion of electric bicycles in the overall fleet of electric two- and three-wheelers is challenging due to the common absence of specific tax regimes or incentives and the lack of separate registration categories for electric bicycles, often resulting in them being categorised as standard goods (see below in the Section "More action is needed"). However, according to the AfEMA e-mobility companies database, which currently tracks 159 electric mobility companies in Africa, 19% of electric mobility companies in the continent offer a variety of electric bicycles. This figure may be taken with caution as the database is a dynamic product regularly updated, and as the market is rapidly evolving.

This growing electric bicycle market reflects the 2023 call to action in the "African Leaders Nairobi Declaration on Climate Change and Call To Action" to "accelerating efforts to decarbonise the transport, industrial and electricity sectors through the use of smart, digital and highly efficient technologies and systems" (African Union, 2023).

ELECTRIC BICYCLES IN AFRICA: REALISTIC AND PROMISING

Closely monitoring and supporting the adoption of electric bicycles in Africa is of paramount importance for multiple reasons.

Electric bicycles represent a tangible reality, not just wishful thinking or innovation from the Global North. The numbers speak for themselves: some of the 18 start-ups featured in this booklet experience dynamic uptake rates, sometimes significantly higher than companies concentrating on other vehicle types, such as electric motorcycles or electric cars.



In this booklet, 16.7% of the 18 featured companies have already deployed more than 400 electric bicycles each. Another 11.1% are currently in a rapid market expansion phase, with fleets of 150-400 electric bicycles. Half of the companies (50%) are in the development stage, with up to 150 electric bicycles each. Approximately 22.2% are testing various models in the research and development stage. The landscape is dynamic, with some companies experiencing rapid growth. Since data collection for the booklet in September 2023, several companies have added more than 200 electric bicycles to their fleets.

When specifically designed to answer the needs of local populations, electric bicycles have the potential to provide new sustainable transportation solutions and significantly benefit the region. As highlighted in this booklet, a wide diversity of electric bicycles, available in various sizes and shapes, caters to diverse consumer preferences and needs. Electric bicycles, with smaller batteries, require fewer resources than larger electric vehicles, making them more affordable and environmentally friendly than large motorised electric vehicles. They also occupy less space than large – even electric – vehicles, which is crucial in fast-growing African cities. They can improve the perception of cycling and active mobility, which are often negatively associated with constrained mobility and poverty.

AFRICA-BASED ELECTRIC BICYCLES WITHIN SOLUTIONSplus

SOLUTIONSplus

The EU-funded flagship project SOLUTIONSplus is a global electric mobility platform that aims to enable change towards low-carbon urban mobility. Deployed in ten initial cities in Europe, Asia, Africa and Latin America and replicated in ten further countries, the project brings together governments, industry, research and international partners such as UNEP and UN-Habitat. This comprehensive initiative includes city-level demonstrations to test various innovative and integrated e-mobility solutions. These efforts are complemented by multiple capacity development programs, impact assessments, incubator support, and policy advocacy to facilitate widespread adoption.

Recognising the opportunity to pioneer innovative models and shape the landscape of electric mobility towards the most sustainable modes, SOLUTIONSplus partners have focused on pedal-assist electric bicycles in African urban settings.

In Dar es Salaam and Lomé, we explore the use of electric bicycles for delivery value chains and a diverse array of micro courier businesses. In Dar es Salaam, the FASTA cooperative underwent training and received Africrooze electric bicycles to facilitate the transportation of medical parcels and tools from the Aga Khan Hospital, in partnership with the Dar es Salaam Institute of Technology (DIT). In Lomé, the project is leveraging insights gathered by Wahu (formerly Mana Mobility) in Accra, explicitly focusing on empowering women entrepreneurs to enhance last-mile delivery.

In Kigali, the City of Kigali, a SOLUTIONSplus partner, actively supports cycling by deploying bicycle racks citywide, facilitating convenient parking for both conventional and electric bicycles. Partners support establishing a public bike-sharing system encompassing both conventional and electric bicycles. Additionally, the city is set to introduce an innovative electric municipal fleet, which will include electric bicycles, in the coming weeks.

This financial and technical support to electric bicycle companies is accompanied by policy advice on the importance of providing an enabling policy environment supporting cycling. In East Africa, SOLUTIONSplus partners have highlighted the need to include electric bicycles in electric mobility incentives in their policy paper entitled “Electric bicycles in Rwanda: Fiscal and regulatory framework” (SOLUTIONSplus, 2023).



Electric bicycles in Dar es Salaam (Africrooze and FASTA Cycling Cooperative), in Lomé (Wahu) and conventional bike sharing system planning the introduction of electric bicycles in Kigali (Guraride)

MORE ACTION IS NEEDED

While electric bicycles offer numerous benefits in terms of resource efficiency, accessibility, and space utilisation, provided by dynamic start-ups with steady uptake rates, our experience with stakeholders in the field reveals that further action is essential to increase their visibility.

Based on our observations, using the term “e-bikes” for electric bicycles often leads to confusion with electric motorcycles, also commonly referred to as “e-bikes” in East Africa. Electric motorcycles have received more media coverage, attention from policymakers, and funding support from investors.

Electric bicycles often still suffer from a negative perception associated with conventional cycling, often seen as constrained mobility and of “the poor” or used in specific cases, such as sporting events or tourism.

Due to this lack of visibility, electric bicycles have been mainly absent from electric mobility policies and incentives in African countries. For example, in the four East African Community (EAC) countries that have adopted electric mobility incentives (Kenya, Rwanda, Uganda, Tanzania), electric bicycles only receive tax incentives in one country, while electric motorcycles receive tax incentives in three of them (AfEMA, 2023b).



APPROACH OF THE BOOKLET

OBJECTIVE

This booklet aims to give a voice to pioneering start-ups engaged in the development of electric bicycles in Africa. Its goal is to shed light on the vast array of innovative electric bicycle types and the myriad of use cases tailored to meet local needs and conditions. It also provides companies with the opportunity to explain how they design vehicles explicitly tailored for the African market.

APPROACH

The content of this booklet is a direct result of insights kindly shared by 18 companies engaged in designing, manufacturing, assembling, and deploying electric bicycles within African urban and rural landscapes. Giving visibility to innovators lies at the heart of this effort: these companies have offered their own perspectives and descriptions of their activities, allowing us to stay true to their unique narratives and preserve their vision. These organisations encompass a range of profiles, including companies, start-ups, and innovation-focused entities, that we connected with individually or through social media.

It is essential to clarify that this booklet is not intended to provide an exhaustive overview but rather to kickstart a dialogue about the role and characteristics of electric bicycles as a means of transport for urban and rural Africa. It is meant as a starting point for exchange that may be enriched with further company examples and case studies. Lastly, this booklet does not endorse or guarantee the quality of the companies' products.

SCOPE

This booklet centres its attention on pedal-assist electric bicycles, hereafter referred to as "electric bicycles" to distinguish them from "e-bikes," a term often confused with electric motorcycles.

We have included two-wheeled pedal-assist electric bicycles but also three-wheeled ones to mirror the full spectrum of innovative models. Within this document, you will find coverage of both pedelecs and speed pedelecs, extending beyond the electric assist vehicles limited to 25 km/h or 20 mph. We have also included both new electric bicycles and retrofitted conventional bicycles. Acknowledging the importance of active mobility, the document includes electric bicycles with throttles only if they have pedals.

To identify transformative and affordable transportation modes, the booklet focuses on productive use applications such as urban deliveries, bike-sharing systems, commuter use, and localised value creation. Our focus does not extend to models purely intended for tourism, sport, or those falling into the high-end luxury market.

Lastly, our attention is directed towards cities, peri-urban and rural areas situated across the African continent, encompassing both Sub-Saharan Africa and North Africa (UN M49 Classification).

OVERVIEW OF THE FEATURED ELECTRIC BICYCLE INNOVATIONS



Number of companies

- 1
- 2
- 3
- 6

ELECTRIC BICYCLES SUPPORT A WIDE VARIETY OF APPLICATIONS

Electric bicycles in Africa serve a multitude of purposes, spanning from rural goods transport to last-mile and urban food deliveries. These electric bicycles also play a vital role in passenger and good transportation, offering eco-friendly solutions for personal commute, shared mobility, or first and last-mile connectivity.

In **logistics**, electric bicycles are instrumental in urban and peri-urban areas mainly for food delivery or e-commerce. In several growing and large African cities, electric bicycle companies offer deliveries by partnering with aggregator platforms, such as UberEATS, Takealot, Bolt and others. This also applies in rural areas, enabling the transport of goods to markets benefiting retailers, micro or small enterprises, and farmers. In both rural and urban areas, electric bicycles can serve gender inclusion objectives. For example, in Uganda, electric bicycles are used by women's groups in water transportation, replacing long walks, enabling faster access to water and saving time.

For **personal transport**, various business models have been tested in Africa, including personal use, public bike-share, and closed community bike-share. Several companies featured in this booklet target commuters for their daily trips, particularly in highly congested cities. Cairo (Egypt) and Kigali (Rwanda) have implemented public shared schemes that already integrate electric bicycles or in the near future. Additionally, Morocco has companies piloting electric bicycle-sharing projects on university campuses.

In the **health sector**, electric bicycles, for example, in Uganda and Namibia, are used for ambulance services, providing swift and efficient responses to health emergencies.

Several companies develop versatile electric bicycles that can be used in rural and urban areas for both the **transport of goods and passengers**, therefore increasing their value proposition.

Value chain activities covered by the featured electric bicycle companies vary and typically encompass some of the following: vehicle design, assembly, import, manufacturing, as well as associated services like spare parts provision, maintenance, repairs, battery swapping services, and local capacity building on bicycle assembly or repair training.

These companies employ various business models, including B2B collaborations with mobility aggregation platforms, B2C sales directly to end consumers who then freely decide on the usage of the bicycle, or B2C sales involving strong collaboration with a local community to jointly design a specific usage of the bicycle.

Most of the companies featured in this booklet focus on electric bicycles solely. A few integrate their electric bicycle fleets with conventional bicycles or electric scooters in a public shared fleet, offering a multimodal approach. Others offer electric bicycles alongside other electric vehicle types, including electric motorcycles or electric three-wheelers, or deploy charging infrastructure for other electric vehicles, such as cars.

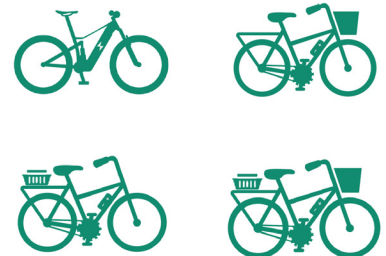
ELECTRIC BICYCLES COME IN VARIOUS SHAPES ADAPTED TO SPECIFIC APPLICATIONS

The electric bicycles presented in this booklet come in a variety of shapes and are suitable for a broad range of applications. To facilitate comparison, we divide them into two main types: two-wheeled and three-wheeled electric bicycles.

Two-wheeled electric bicycles come in 1) conventional shapes, 2) with an extended rear end (back-load/long tail), 3) as a front-load variant, or 4) used in conjunction with trailers.

TYPES

The conventional form of a two-wheeled electric bicycle is particularly versatile and serves various purposes such as the delivery of goods and food in both the B2B and B2C sectors, drinking water transport, personal commuting, bike-sharing, ride-hailing, recreational activities, tourism and utility vehicles on farms and at events. Often, these applications are made possible by adding a rack or front carry option.



The front-load variant, often referred to as "Long John", is mainly utilised for B2B and B2C deliveries.



The back-load variant, often referred to as a "longtail" electric bicycle, is used for B2B and B2C deliveries and ride-hailing services, including electric bicycle taxis.



In addition, trailers on two-wheeled electric bicycles are used for various purposes, e.g., utility vehicles for farmers, passenger transport in the healthcare sector (such as ambulances) and ride-hailing (e.g. electric bicycle taxis).



The three-wheeled electric bicycles on the African market have a back-load design. They are mainly used for B2B and B2C deliveries and also find other applications, e.g. for daily operations in micro and small businesses or farms.



DESIGN FOR THE AFRICAN MARKET

This booklet predominantly features companies engaged in the design and in-house manufacturing of electric bicycles, less the battery. This strategic local design and manufacturing approach enables them to tailor and adjust their products to meet unique local requirements and conditions.

NEEDS

Need to transport heavy loads (goods or passengers)

Need for a robust vehicle to navigate through unpaved or bumpy terrains

Need to cover long distances, e.g. in peri-urban and rural areas

Need to be able to maintain and repair the electric bicycle locally

POSSIBLE ELEMENTS OF A TAILORED-MADE DESIGN

- › Large and sturdy rear carrier
- › Strong braking system
- › Strong motor

- › Sturdy frame
- › Suspension
- › Wide tyres that can resist punctures

- › Sufficient battery capacity
- › Double battery system
- › Battery system that can be charged on a regular socket or swapped
- › Several levels of electric assistance

- › Standard spare parts that can already be found in the country or the region
- › Training of mechanics as an integrated activity of several companies

These features, however, may not be required in all contexts, for instance, in specific urban bike-sharing systems if a significant portion of the road infrastructure is paved.



SIGNIFICANT ADVANTAGES HIGHLIGHTED

The companies showcased in this booklet place a similar emphasis on three primary benefits:

➤ **Enhanced spatial accessibility through electric bicycles as a new mobility option**

Electric bicycles offer a new transport option that is faster than conventional bicycles, enables longer trips, and is more affordable to operate than conventional motorcycles.

Numerous companies highlighted the potential of electric bicycles to improve economic and spatial accessibility for transporting goods, particularly in rural or peri-urban areas.

This is particularly true for farmers, micro, small, and medium-sized enterprises, or economically marginalised groups. For farmers, increased accessibility, combined with integrated refrigeration or cold chain integration innovations, may constitute a powerful lever to access the market, improve food quality and reduce post-harvest losses. Several models focus on the transport of water cans to address the issue of water access.

In addition, some models allow for transporting goods and passengers with a more extended rear carrier or through the addition of a trailer carrying passengers, for instance, for ambulance purposes. In this configuration, they can also improve access to the health system.

In urban settings, electric bicycles can play an essential role in expanding modal choice and enhancing accessibility and convenience of the first and last mile to public transport, especially in hilly or hot environments. Two companies featured in this booklet have implemented a bike-share system including conventional and electric bicycles. Electric bicycles enable users to easily cover longer distances and climb hills, granting access to additional opportunities and services.

➤ **Economic savings and opportunities for users**

Electric bicycles are touted as a more cost-effective option for purchase, leasing, and operation when compared to both conventional and electric motorcycles. This cost difference can reduce operational expenses, with some companies estimating potential savings of up to threefold. These savings can particularly benefit individuals engaged in delivery services. It can also benefit end customers such as micro-enterprises or farmers previously reliant on larger, more expensive transportation services, provided the electric bicycle can carry a similar size and weight.

Secondly, several companies do not only offer electric bicycles but also connect riders delivering parcels with e-commerce platforms, which provides riders access to a more extensive customer base. This supports their integration in the digital economy and leans on pre-existing African digital innovations such as mobile money.

Thirdly, companies have highlighted the potential for electric bicycles to decrease transportation costs for commuters who previously relied on more expensive motorised modes of transport.

➤ **Significant GHG emission and air pollution reductions if electric bicycles replace petrol vehicles**

For instance, urban last-mile deliveries using electric bicycles instead of fossil-fuel motorcycles or larger vehicles. This reduction potential is particularly strong when a substantial portion of the country's total final energy consumption is met by renewable energy sources, such as the case in Uganda - 93%, Ethiopia - 89.52%, Kenya - 73% (IEA et al., 2023), or if the battery is charged through mini-grids equipped with solar panels.

Additional benefits are contingent upon the specific focuses and characteristics of the companies:

- **Job creation:** Particularly when companies design, manufacture, assemble vehicles, and establish integrated micro-factories.
- **Quality of products:** Notable with innovative cargo bicycles equipped with refrigeration systems for enhanced food preservation.
- **Sustainable urban mobility:** Emphasised by companies involved in bike-sharing systems and providing commuter electric bicycles to alleviate traffic congestion.
- **Gender inclusion:** Possible when proactively using the introduction of new vehicles to involve women as electric bicycle cyclists, mainly for urban or rural deliveries.
- **Community and participatory design:** Implemented in some cases to identify appropriate vehicle specifications.
- **Health benefits:** Observed when electric bicycles replace previously used motorised and passive modes, especially for commuters.
- **Vector for digital integration:** Facilitated through establishing platforms for riders to pay digitally or connecting with large e-commerce companies.
- **Training skills:** Provided to users, mechanics, or students on various aspects such as maintenance, repairs, safety, or assembly.
- **Convenience:** Particularly important in cities with challenging topography, such as Kigali, or in regions characterised by hot weather, enhancing the appeal and ease of cycling. Way forward

WAY FORWARD

We identify a gap between the promising deployment of electric bicycles in multiple sizes and shapes, their expected or proven benefits, and the absence of inclusion in (electric) mobility policies and incentives.

In Kigali, SOLUTIONSplus partners advocated for a holistic approach, including some of the following recommendations.

- › Apply current electric mobility incentives to electric bicycles.
- › Plan safe cycle networks.
- › Scale up the current bike-share areas.
- › Facilitate the development of the electric bicycle sector.
- › Expand the scope of the incentives to cover all micromobility modes.
- › Extend fiscal incentives to all bicycles.

The SOLUTIONSplus paper entitled “Electric bicycles in Rwanda: Fiscal and regulatory framework” (2023) delves into these recommendations.

For instance, the advice to “plan safe cycle networks” covers recommendations on the expansion of the protected cycle network accessible to electric bicycles with electric assist up to 25 km/h, the expansion of the number of car-free zones, the revision of road safety strategies and regulations for the usage of electric bicycles, the expansion of secure parking options for bicycles and electric bicycles, support to the development of maintenance and repair facilities for electric bicycles, and the establishment of minimum bicycle parking requirements for new buildings.



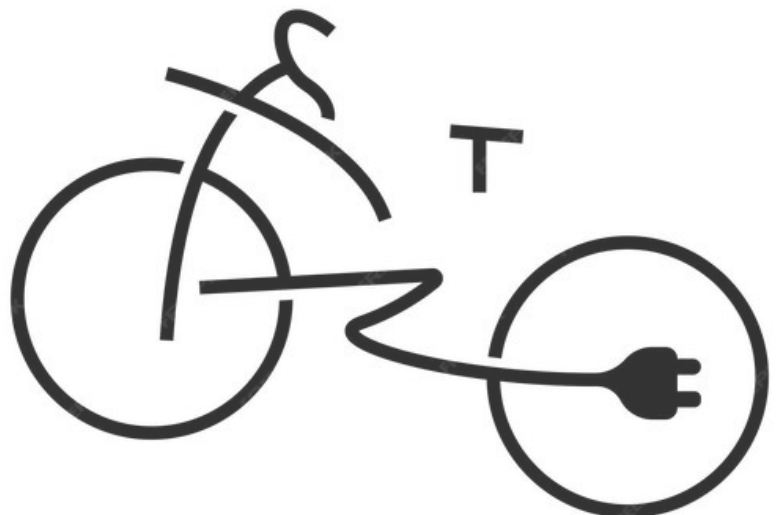
This policy gap should be addressed by engaging in discussions within each country to determine the most effective approaches to address the following elements:

- › the promotion of electric bicycles and cycling in general,
- › the formulation of adequate policies and regulations,
- › the clarification of fiscal regimes and tax incentives,
- › the classification of the diverse vehicles, homologation, and operational requirements,
- › the integration with public transportation,
- › the development of dedicated infrastructure enabling safe cycling.

Such discussion should be aligned within relevant regional community organisations such as the EAC, and closely involve city authorities in the design of sustainable mobility.

Lastly, this booklet is meant as a first step to stimulate discussions on electric bicycles in African contexts. Drawing insights from a first group of companies who kindly shared their perspectives, it should be enriched with additional case studies, more in-depth analysis of these, and broadened to encompass the diverse viewpoints of a broad spectrum of stakeholders, including users, civil society representatives, researchers, decision-makers, and investors.

Company Profiles



AFRICROOZE



UGANDA, TANZANIA, NAMIBIA,
BURKINA FASO, BENIN



“We are fully convinced that the product comes at the exact right time and look forward to it entering the markets in Africa”, - Martin Kitzing, Manager without Borders



DESCRIPTION

Africrooze GmbH was formed by the NGO EURIST e.V. to boost e-bike adoption in Africa, after six years of successful e-bike pilot projects promoting socio-economic development in African nations, implemented in partnership with the First African Bicycle Information Organisation (FABIO) based in Jinja, Uganda. These projects covered 10 of the 17 Sustainable Development Goals (SDGs). To ensure sustainability and self-sufficiency, the initiative shifted from donation-based funding to business models, enabling users to finance their e-bikes. Africrooze GmbH partners with local organisations to create an e-bike mobility ecosystem, facilitating customer self-financing.

ACHIEVEMENTS

Africrooze's value proposition is to provide green mobility (via PAYGo or lease-to-own systems) by means of an affordable, sturdy and reliable e-bike that is tailor-made for the local needs and requirements of the East African market and beyond, which can be charged at solar service centres.

Both commercial and non-commercial use cases have been tested in various pilot projects in Uganda, Tanzania, Namibia, Burkina Faso and Benin. The use of e-bikes in the health sector as ambulances and as water transporters for women groups formed viable donation-based projects. Initial tests of taxi fleets

and delivery e-bike showed signs of lucrative business cases. The start-up will focus on B2B Taxis, Delivery and Last Mile transportation provision, although B2C commuter groups will also be targeted.

Key AfricroozE results:

- › 292 AfricroozE e-bikes active on the African continent, with another 240 to be delivered before the end of 2023.
- › Job creation and increased daily savings, including reduction in transport costs
- › Easier access to services e.g. education, water, farming, markets and the health system


DESIGN FOR THE AFRICAN MARKET

The long-tail ebikes were designed with a highly sturdy frame and 100 kg carrying capacity on the large rear carrier to carry loads or passengers. The design ensures that most spare parts can be found on the East African market and balances quality delivery and low prices.

We see a growing e-bicycle market in urban and rural Africa to satisfy the transport demand of the fast-growing lower middle class and the millions of SMEs in Africa, fostering an overall regional shift to zero-emissions electric mobility.

LINKS & SOCIAL MEDIA

 <https://africrooze.com/>

 <https://www.facebook.com/euristngo>; <https://www.facebook.com/FABIOuganda/>

 <https://www.instagram.com/african.ebike?hl=en>

 https://twitter.com/Eurist_Mobility

 <https://www.youtube.com/watch?v=h1ttfYAfpBM>

 Headquarter: Hamburg, Germany



ANYWHERE.AFRICA

 SOUTH AFRICA, KENYA, SENEGAL



*“Locally maintained and warranted, the bikes [electric front loaders] were used for many different logistics applications, e.g. 60,000 meals were delivered during the Covid-19 lockdown.”
Rockin’ the Kasi” Project – Sharpeville SA – Alliance for Rural Electrification publication December 2022*



DESCRIPTION

Anywhere.Africa franchises micro-factories that build, maintain and operate multi-terrain Light Electric Vehicles that are robust and affordable. Our micro-factories can output e-bikes, e-bike taxis, front loaders (with cold chain integrations), e-motorcycles and e-tuk-tuks.

Anywhere.Africa accelerates economic activity by localising fossil-free logistics. Village to village, village to town, our vehicles don't just do 'the last mile', they do the first ten. They help marginalised rural communities access mainstream economic activities. We have served our time as 'foundation visioners' and are currently transforming into an economical and cost-effective entity.

ACHIEVEMENTS

Key Anywhere.Africa achievements:

- › 1st Proof of Concept micro-factory, Sharpeville, South Africa: 20 x all-terrain electric front loaders
- › 2nd Proof of Concept micro-factory, Lake Victoria, Kenya: 20 x all-terrain electric front loaders
- › 3rd Proof of Concept micro-factory, Thiès, Senegal: 40 x all-terrain electric front loaders


DESIGN FOR THE AFRICAN MARKET

We provide logistics and manufacturing solutions that work inside current transport infrastructure limitations to propagate zero fossil micro logistics in Africa and elsewhere.

LINKS & SOCIAL MEDIA

 <https://www.anywhere.berlin>

 <https://e.pcloud.link/publink/show?code=kZRxGZNCxuxxt4qgYDXyhytDCWbbKGKsjX>

 Headquarter: Berlin, Germany

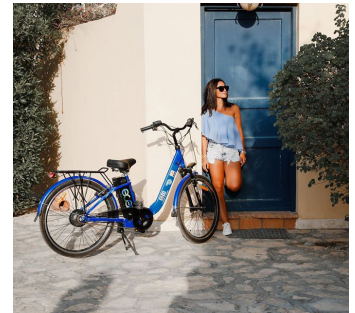


BADDEL

 **EGYPT**



“I believe that micro-mobility solutions will be the leading means of transportation in the next few years as people begin to know more about how it works and they are aware now of its direct impact on our environment” Zeyad El-sokary, CEO.



DESCRIPTION

Baddel is a sustainable urban company that is revolutionizing the way we move within cities. With many stations located all over the city, specially designed bikes & simple registration process any person anywhere can benefit from the service. We aims to make cities and human settlements flexible and sustainable to ensure that everyone enjoys healthy lifestyles and well-being at all ages. Reducing greenhouse emissions, traffic jams, parking and environmental pollution.

ACHIEVEMENTS

The value propositions:

1. Efficient & Eco-friendly transportation
2. Cost efficient mobility
3. Health & well-being

The targeted clients:

1. Urban commuters
2. Students
3. Turisits & Visitors

Key results:

- 1.Reduced carbon emissions
- 2.Reduced Traffic Congestion
3. Accessibility increased

The biggest challenge is the weather conditions and batteries health that's why they are modified so that it can operate in such conditions.

LINKS & SOCIAL MEDIA

 <https://www.baddelonline.com>

 <https://www.facebook.com/Baddelonline>, www.facebook.com/cairobikesharing

 <https://www.instagram.com/baddelonline>, www.instagram.com/cairo.bike

 <https://fb.watch/nfRaPscpRs/?mibextid=NnVzG8&startTimeMs=2251>

 Cairo



CLOUD BIKE

 MOROCCO



*“Bicycle is past, present and future “ Adam Dadsı ,
CEO Cloud Bike .*



DESCRIPTION

CLOUD BIKE is a bicycle and frame manufacturer of electric bicycles and regular bicycles, founded in 2018 and located in Tanger’s free zone, born from a real passion for mobility. We aim to make the pleasure and performance of cycling accessible to as many people as possible for daily travel.

CLOUD BIKE created and introduced in 2022 the brand Telus Bikes, the first Moroccan and African brand for electric and normal bicycles, quickly adapted and established itself as the reference of the Moroccan brand to offer the ideal means of transport with its wide range of electric bicycles.

ACHIEVEMENTS

Electric bicycles offer an innovative and eco-friendly solution to address transportation and mobility challenges in Morocco. The value proposition in Morocco includes:

- › Sustainable Mobility: a mode of transportation that reduces carbon emissions and air pollution, aligned with Morocco’s commitment to reduce greenhouse gas emissions.
- › Cost-efficiency: Electric bicycles are cost-effective compared to cars and need less maintenance.
- › Traffic congestion mitigation: Morocco’s urban areas often face traffic congestion issues. Bicycles and electric bicycles are the solution for traffic

congestion by offering an efficient means of navigation through crowded streets, reducing travel time and frustration.

- › Target groups: commuters, business commuters, tourists, students, environmental enthusiasts, delivery services.

For our first year in 2023, we have sold around 600 electric bicycles on e-commerce in Morocco, with a potential to reach between 3,000 and 5,000 electric bicycles per year. For exports and sales in sub-Saharan Africa, we are forecasting sales of up to 10,000 electric bikes a year.

DESIGN FOR THE AFRICAN MARKET

The long-tail e-bikes were designed with a highly sturdy frame and 100 kg carrying capacity on the large rear carrier to carry loads or passengers. The design ensures that most spare parts can be found on the East African market and balances quality delivery and low prices.

We see a growing e-bicycle market in urban and rural Africa to satisfy the transport demand of the fast-growing lower middle class and the millions of SMEs in Africa, fostering an overall regional shift to zero-emissions electric mobility

LINKS & SOCIAL MEDIA

 <https://telusbikes.com/>

 <https://web.facebook.com/TelusBikesofficiel>

 <https://www.instagram.com/telusbikes/>

 <https://twitter.com/Telusbikes>

 <https://www.youtube.com/watch?v=ykO3zUfk5co>

 Tanger



EBEE AFRICA

 KENYA, UGANDA, RWANDA




“eBee’s mission is to Move Africa Forward by launching affordable electric bicycles with the aim to create durable jobs for women and youth. Our electric bicycles will democratize e-mobility and also contribute to liveable African cities.”
- Sten van der Ham, CEO eBee Africa



DESCRIPTION

eBee Africa is a for-profit e-mobility company with a strong social outlook. Through its electric bicycles - designed and assembled in Kenya - it creates durable jobs for women and youth and contributes to liveable cities in Africa.

ACHIEVEMENTS






eBee offers two different electric bicycles for different target groups and use cases:

- › a cargo model for last mile deliveries. Ebee sells and rents these cargo bikes to businesses and delivery riders and also operates its own fleet of more than 180 riders, who deliver food and light parcels for platforms like Jumia, Uber, Bolt and Glovo. The e-bicycle is an income earner for women and youth and is almost 3x more efficient than a (electric) motorbike.
- › a MTB model for commute and/or leisure. 80% of Africans don't have access to a vehicle and spend a considerable amount of their income on transport/mobility. With the e-MTB model money could be saved on matatus/ubers, or time could be saved on walking/matatus. Meanwhile, using an e-MTB still provides health benefits.

DESIGN FOR THE AFRICAN MARKET

The eBee electric bicycles are designed to ride on African roads both in cities and rural areas. Its range varies between 50km to 90km depending on battery size and hills. Charging is easy, affordable and fast and could be done at any regular socket, where a phone or laptop could be charged. eBee also provides a network of trained mechanics for service and maintenance, and all spare parts are locally available.

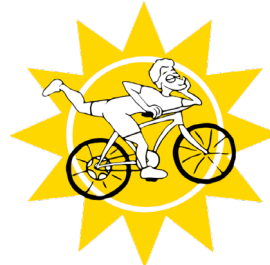
LINKS & SOCIAL MEDIA

-  <https://www.ebee.africa>
-  <https://www.facebook.com/ebee.africa>
-  <https://www.instagram.com/ebee.africa>
-  https://www.twitter.com/ebee_africa
-  Nairobi, Kampala, Kigali



EBIKES4AFRICA

NAMIBIA



EBIKES4AFRICA
Mobilizing African Communities
Since 2015

“The African BushBike is the Land Cruiser amongst the E-Bikes: puncture resistance tyres, steel frame and robust enough to withstand the extreme conditions on my farm in Namibia” Herbert Klein, Farmer



DESCRIPTION

Since 2015, EBIKES4AFRICA offers affordable and sustainable mobility to Namibians and beyond. In so-called MicroFactories, we manufacture the first truly African utility E-Bike: The African BushBike - Made in Namibia - Designed for Africa.

ACHIEVEMENTS

Since 2015, we deployed more than 400 e-bikes. Our BushBikes meet the needs of Africans all over the continent and provide affordable, sustainable and convenient mobility in rural and urban areas. Our MicroFactories are turn-key ready production units that can manufacture BushBikes, adding local value, creating employment and offering solar charging and battery swapping.

The BushBike is used in rural areas and on farms as a utility vehicle to move people and tools, pull trailers, check livestock, or patrol. This allows the user to save fuel, time, and money and move silently without disturbing wildlife. We

plan to upscale our manufacturing capacity to 200 BushBikes per year in 2024 and 1000 BushBikes in 2025.


DESIGN FOR THE AFRICAN MARKET

Our BushBike has a full suspension steel frame made in Namibia, designed to ride on gravel and bumpy roads. The 2.75x16-inch moped tyres guarantee grip, puncture resistance and enough width for sandy terrain. Two batteries offer a 100km range, and the 20-inch wheels provide sufficient torque through the 500W hub motor.

LINKS & SOCIAL MEDIA

 <https://www.ebikes4africa.org>

 <https://www.facebook.com/ebikes4africa>

 <https://www.instagram.com/african.ebike/?hl=en>

 Windhoek



EBIKES AFRICA



“We welcome stakeholders from across the world to work with us as we move Africa towards more accessible and sustainable transport systems.”
Jorgs Mbugua - CEO & Co-Founder



DESCRIPTION

Ebikes Africa is an electric bicycle company based in Nairobi, Kenya that provides commuters, tourists, businesses & delivery riders with access to high quality, eco-friendly electric bicycles that improve their mobility, health and income while reducing the environmental impact of transport and deliveries. With a strong focus on clean and green transportation, we lease, distribute and soon manufacture high-quality e-bicycles tailored to the unique needs and preferences of the East African market.

ACHIEVEMENTS

Ebikes Africa is addressing the lack of efficient, affordable and non-polluting transport in Kenya, especially in urban areas where traffic congestion, air quality and fuel costs are major challenges. Our EBA-hubs, strategically located in two major Kenyan cities, Nairobi & Diani serve as the backbone of our operations. These hubs serve as leasing stations and access points to sales, maintenance and community. We are currently in the process of piloting a fleet of 500 bicycles, onboarding 250 riders on rent-to-own, contracting 20 hotels & 7 tour operators for our lease program, and branching out to 4 other Kenyan cities with Ebikes Africa Hubs.

Commuters & Explorers: We offer daily commuters an escape from the gridlock of city traffic and the rising fuel costs.





Delivery Riders & Businesses: For delivery riders, our e-bicycles offer a reliable and efficient tool for work. With the ability to cover large distances quickly and at a low cost, our e-bicycles significantly increase their earnings while reducing their carbon footprint.

Tour Operators, Lodges & Hotels: Our e-bicycles offer an enhanced guest experience that champions the cause of sustainable tourism, setting establishments apart.

DESIGN FOR THE AFRICAN MARKET

Our flagship product, “The Adventurer” is a comfortable, cutting-edge, well designed, 27.5 inch hybrid electric bicycle that offers a superior riding experience that combines power, comfort, and style. With its extended battery range, robust design capable of carrying up to 140kg, as well as high speed and cost efficiency, it is meticulously crafted to meet the distinct challenges and demands of the Kenyan urban and rural terrains, making it the ideal mobility solution for East Africa.

LINKS & SOCIAL MEDIA

-  <https://www.ebikesafrica.co.ke>
-  <https://ke.linkedin.com/company/ebikesafrica>
-  <https://www.instagram.com/african.ebike/?hl=en>
-  Nairobi, Diani



EWAKA

 **KENYA**



eWAKA 

“Men are somehow scared of us, but we are here to do deliveries, we are good on the road. With eWAKA, the good thing with their bikes is that they are electric, so you keep fit, you are saving the environment, and your deliveries are faster.”
- Anatalia Bahati, eWAKA Female Rider



DESCRIPTION

eWAKA Mobility offers sustainable transport in African megacities with electric cargo bikes tailored for urban needs, carrying up to 200 kg. Our digital platform manages user access, payments, and vehicle monitoring. Assembling bikes locally, we boost the economy and create jobs, especially for women and the unemployed youth. Our revenue streams include e-bike sales, rentals, battery-swapping, and maintenance, making eWAKA a holistic mobility solution for Africa.

ACHIEVEMENTS

Value Proposition: eWAKA Mobility provides a sustainable transportation solution tailored to the challenges of African megacities. Our electric cargo bikes are designed for urban commutes, with the capacity to carry up to 200 kg, making them perfect for both individual commuters and businesses focused on last-mile deliveries. We leverage a digital platform to ensure seamless user

access, digital payments, and remote monitoring, enhancing user convenience and fleet management.

Target Groups: Urban commuters seeking an eco-friendly alternative to traditional transport, local businesses in need of efficient last-mile delivery solutions, unemployed women, men and youth and eco-conscious entities.

Key results: eWAKA's local assembly of bikes contributes significantly to the African economy, creating job opportunities (62 delivery jobs), especially for women and the unemployed youth. Our holistic approach includes multiple revenue streams - from e-bike sales and rentals to battery-swapping and after-sales maintenance.

DESIGN FOR THE AFRICAN MARKET

Understanding the unique demands of African urban environments, our e-bikes are robust, durable, and suited for varied terrains. Local assembly ensures adaptability to specific regional needs while boosting the economy.

As urbanisation increases, Africa requires sustainable, eco-friendly transport solutions. eWAKA envisions leading this transition, ensuring that every African city benefits from clean, efficient, and affordable mobility. Our goal is not just to cater to current demands but to shape the future of transportation on the continent.

LINKS & SOCIAL MEDIA

 <https://ewaka.tech/>

 <https://fb.watch/n17cVwHjk9/?mibextid=v7YzmG>

 <https://www.instagram.com/reel/CrNMgDEMxVx/?igshid=MzRIODBiNWFIZA==>

 <https://www.linkedin.com/feed/update/urn:li:activity:7054331540012445696>

 Nairobi



GREEN RIDERS

 SOUTH AFRICA



“I have been impressed with our partnership to date. Green Riders has taken great care to train and educate these riders which has benefitted both the rider (because better service means bigger tips) and our company through improved service levels to our customers.” - Grant Mayer, Director Several WC TakeAlot franchises



DESCRIPTION

Our strategy is to recruit unemployed, underprivileged youths (both men and women) and train them, in the areas in which they live, to become professional delivery riders and place them in secure positions with our aggregator partners. Our partners are keen to revolutionize the industry from one which is 95% dominated by foreigners to one in which South Africans can make a remarkable impact. With the Green Riders Academy to train and support our youths, we have the unwavering commitment and strategic roadmap to turn this vision into an extraordinary reality.

ACHIEVEMENTS

Green Riders has forged crucial partnerships and relationships, establishing itself as the designated e-bike fleet partner for prominent delivery aggregator platforms, including UberEATS, Mr D (Takealot), OneCart (MassMart), Pick n Pay, Bash (The Foschini Group), and Bolt Food. These collaborations have garnered the endorsement and support of the Industrial Development Corporation (IDC).

Additionally, Green Riders has solidified strategic partnerships with key organizations such as Harambee Youth Employment Accelerator, ABSA, and The Jobs Fund. These partnerships enable us to provide training opportunities

for youths and support the Youth Employment Service (YES) in offering valuable workplace experiences.

Furthermore, we have entered into advertising agreements with Pick n Pay and have secured the prestigious role of the official e-bike supplier for the Cape Town E-Prix. Notably, Green Riders was selected as a finalist in the Climate Finance Accelerator competition, a significant achievement.

Our financial support has been generously provided by the IDC, Supplier Development Initiatives (SDI), ABSA, Harambee Youth Employment Accelerator, and Youth Employment Service (YES). We are also actively engaged in advanced discussions with the UIF II fund.

With 400 e-bikes already on the road, we have made a remarkable impact on the way people move and connect in our communities. But the excitement doesn't stop there. We're thrilled to announce that we're gearing up to welcome an additional 600 candidates into our Green Riders family, bringing our total to an inspiring 1000 Green Riders by the end of 2023. Together, we're not just changing the way we commute, but we're also creating opportunities and transforming lives.

DESIGN FOR THE AFRICAN MARKET

Introducing Green Rider's cutting-edge third-generation e-bike, designed to conquer the rugged terrain and unpredictable challenges of the African market. We have supercharged our e-bikes to tackle South Africa's frequent load-shedding with a double 24 Ah battery system, granting riders an impressive 130 km range on a single charge.

What sets us apart? Our bespoke motorcycle tires are armed with puncture-proof technology and a larger rear tire for extended mileage per rotation. We've bolstered the rear carrier with stability bars, capable of handling a whopping 100 kg of cargo. Safety meets efficiency with a regulated speed of 30 km/h. But we didn't stop there—our Mach 3 boasts upgraded braking systems for heavy loads and IP65/IP67 electrical components to defy even the heaviest rains.

Versatility is the name of the game, with battery systems ready for swappable or fast charging options, adapting to the unique needs of each district we serve. Green Rider: Where innovation meets adventure, taking e-biking to new frontiers!

LINKS & SOCIAL MEDIA

 <https://greenriders.africa>

 <https://www.facebook.com/greenriders.africa>

 <https://www.instagram.com/greenriders.africa/>

 <https://www.linkedin.com/company/71602944>

 <https://www.linkedin.com/feed/update/urn:li:activity:7095345683297107968>

 South Africa

GREENFOOT AFRICA

TANZANIA



“This bike is simple, beautiful, well-built, and perfectly suited for the job it is meant to do.”
Nassib Hussein Juma (Logistic Operations Manager – Greenlight Planet Tanzania, SunKing)



DESCRIPTION

Greenfoot Africa is a clean mobility startup company based in Arusha, Tanzania, developing an electric cargo bike platform (ZELO) to provide logistics operators and businesses in Africa’s urban with a clean and cost-effective way to transport goods locally.

Through affordable subscription plans, our customers can access purpose-built electric cargo bikes, together with a suite of digital operating tools to help them manage the cargo bikes, manage their operations, and connect with the end user more efficiently.

ACHIEVEMENTS

We offer a purpose-built smart electric cargo bike platform providing logistics operators and businesses in Africa’s urban with a clean and cost-effective way to transport goods locally.

Our key results are:

- › Up to 60% cut in operating costs
- › 100% cut in direct CO2 emissions
- › 3x improvement in operating efficiency
- › Development of an electric cargo bike prototype allowing planning for the manufacture and supply of 30 units in 2024

DESIGN FOR THE AFRICAN MARKET

We offer a product specifically designed for local conditions:


- › Locally designed and built, rugged steel frame
- › Built-in all-wheel suspension system to handle rough roads
- › Cargo carrying capacity of up to 300kg
- › Modular carrier units to fit different use cases
- › Using standard spare parts and consumables that can be locally sourced

Our vision for the e-bicycle market development in Africa is a strong and vibrant local development environment and manufacturing ecosystem for e-bicycles and e-mobility as a whole.

LINKS & SOCIAL MEDIA

 <https://www.greenfoot.africa>

 https://www.youtube.com/watch?v=XvaK_W6ZkXs

 Arusha, Tanzania



GURARIDE

 RWANDA



“If you look around, you will notice that Rwanda has started putting bike lanes all over the country’s major cities. In alignment with Rwanda vision 2030 for smart Green e-mobility in the country, we found Rwanda as the readiest country in Africa.” Ike Erhabor, GURARIDE President



DESCRIPTION

GURARIDE, founded in 2017, is a Green E-mobility public bike-share (PBS) transport system company committed to the sustainability of Micro-Mobility in Africa, with Rwanda being its first entry point.

Our goal is the migration of transportation, using innovative technology, from fossil fuel-based vehicles to other non-pollutant means of transport.







ACHIEVEMENTS

Guraride has implemented a public bike share system in Kigali with smart bicycles, which will be completed by electric bicycles supported through SOLUTIONSplus in the near future.

Given the harsh terrains and geographic realities of Africa, cycling is hindered by hilly and rough landscapes that not only make it very hard to ride conventional bicycles, but also makes it unbearable for the asset due to high wear & tear. Thus, e-bicycles adapted to the highlighted realities provide convenience for users while making a strong business case for innovators.

Africa is the least polluting continent; however, global reports show that our continent imminently faces the most adverse effects of climate change. With transportation being a major source of CO2 emissions, African cities have to adopt new forms of mobility, such as bike-share systems and NMTs, to ensure a green and sustainable future.

LINKS & SOCIAL MEDIA

-  <https://www.guraride.com>
-  https://www.instagram.com/guraride_rw/
-  https://twitter.com/guraride_rw
-  <https://www.linkedin.com/company/guraride-rwanda/>
-  <https://www.youtube.com/watch?v=iML93GgeElc>
-  Kigali

KARAA

 **UGANDA**



KARAA

*“Electric bicycles will be the first electric mobility solution to achieve large-scale adoption in Africa.”
Geofrey Mutabazi, Founder and CEO at Karaa Africa*



DESCRIPTION

Karaa is building electric bicycles for last-mile transportation in Africa. We focus on designing conversion kits for existing bicycles in Africa to make them electric.

ACHIEVEMENTS

We target first and last-mile transportation use cases which include urban food delivery and e-commerce but eventually intend to serve fast-moving consumer goods (FMCG) wholesalers looking to transport goods to retailers and farmers that need to transport their produce to the market.

Our electric bicycles are easy to service with locally available parts and also very easy to charge from anywhere using a Type C charger. With our data-driven pedal—assist system deployed on our current 21 e-bikes, we are able to achieve 50% more range compared to other electric bicycles with the same battery size.





Our customers can cover 100km on one charge with only USD 0.20 worth of electricity and this enables them to earn 54% more than normal bicycle riders and 2% more than motorcycle riders doing the same job daily.

DESIGN FOR THE AFRICAN MARKET

Our electric bicycles utilise either existing parts that can be found in most bicycle parts repair shops or zero maintenance parts that make them cheaper to operate in African conditions.

Our vision is to contribute significantly towards the development of an inclusive and sustainable mobility value chain in Africa leading to at least 1 million electric bicycles on the road in Africa by 2030.

LINKS & SOCIAL MEDIA

-  <https://www.karaa.africa>
-  <https://www.linkedin.com/company/karaa-africa/>
-  <https://youtube.com/watch?v=Vw5CMSV62ns>
-  Kampala

LIMITLESS

 KENYA



“Just like the feeling of getting your first bike, Limitless is driven by our sense of childlike wonder to dream the improbable and go out and do it. Our goal is to get Africa moving into the future by focusing on sustainable and efficient transportation.” Bobby Reriani, Executive Director



DESCRIPTION

Limitless is a bicycle company founded in Kenya that locally designs, manufactures, and assembles electric bicycles. Our key focus is to produce affordable, user-centric, and customizable bicycles for the different needs of individuals and businesses.

ACHIEVEMENTS

Electric bicycles can help people travel longer distances more easily, making it possible to access job opportunities, education, and healthcare services that may be far apart. This can have a significant impact on social and economic mobility. Our primary target audience is working-class individuals who will access financing for our bicycles to open employment opportunities for delivery services and our secondary audience are business to run their logistics needs.

We are embarking on local manufacturing of electric bicycles and related components. This will encourage technological innovation and reduce the reliance on imports.

DESIGN FOR THE AFRICAN MARKET

Limitless Bicycles are designed with a distinctive design inspired by the conditions in the market. We have built them with a sturdy frame and incorporated wider tyres to cushion the impact of different conditions of the roads, ensuring durability. We have also included stronger motors and bigger batteries to be able to carry bigger loads for longer distances.

We believe the bicycle will change the future of personal mobility and how businesses reach their customers. To combat the spiralling traffic congestion and air pollution, we see African cities adopting infrastructure and technologies towards greener and human-friendly cities. In recent years, Nairobi's last-mile and on-demand delivery markets are thriving, served mainly by motorcycles and smaller vehicles. Electric cargo bikes will be a solution to one of the biggest challenges in urban mobility by increasing efficiency, ease of navigation in the city and improving safety for the riders. In Nairobi, we plan to have 10,000 electric bicycles on the road in 5 years.

LINKS & SOCIAL MEDIA

 <https://limitless.ke/>

 <https://www.facebook.com/Limitlessbikecompany>

 https://www.instagram.com/limitless_outdoorsco/

 <https://www.linkedin.com/company/82104362/admin/feed/posts/>

 Nairobi

LITTLE

KENYA



“Electric bikes are here to stay. The future is electric. So surf through life with an electric bike that brings a smile to your face.” Eric Vonza, E-Mobility Specialist



DESCRIPTION

Little is a pan-African “everyday everything” app and one of the largest African ride-hailing services that offers electric bicycle leasing/rental across Nairobi.

ACHIEVEMENTS

Little currently has 100 e-bikes and 100 e-scooters.

Consumers looking to leave the car at home—or forgo a second car—can now find a new generation of “person-assisted” electrified conventional bikes and recumbent bikes. Individuals leasing the Little Ebikes usually use them for commuting purpose and recreation within Nairobi City.

On the other hand, e-bikes are used for last mile delivery services compared to the older traditional bicycles and motorcycles as it’s more economical to operate both cost per kilometer and workload wise. With this, Little has currently engaged around 30 delivery riders in the city who lease the Little e-bikes for

the sake of delivery business. Other part time Riders are also engaged on short term lease basis whereby they only take the bikes on the days they want to do business and return them to Little when they are engaged in other activities. The delivery riders earn decent income from the orders they deliver.







Leisure cannot be forgotten too, roaming around the trails sweat free encourages more leisure filled activities as an alternative to other forms of fun and fitness. In relation to this, Little has leased over 30 bikes to recreational sites in Nairobi where Local and international tourists visit the facility and enjoy riding the bikes.

DESIGN FOR THE AFRICAN MARKET

The vision of e-bikes in Africa offers a large potential growth with proper advertising and encouraging more Africans to use them. Electric bikes hold out the prospect of helping get cars & motorcycles off the road and reducing emissions, pollution, and gas use. In addition to the financial and environmental & health benefits.

One of the primary contributors of slow adoption in the e-bike industry is the cost of the e-bike, mainly the battery pack. However, with partnerships with zero carbon emission organizations investing in Africa, we can make the technology cheaper for African consumers.

LINKS & SOCIAL MEDIA

-  <https://www.little.bz>
-  <https://www.facebook.com/LittleAppKE/>
-  <https://www.instagram.com/littlerideke/>
-  <https://twitter.com/LittleAppKenya>
-  <https://www.youtube.com/watch?v=ICXXOwg7Cg>
-  Nairobi

THINKBIKES

 NIGERIA



“ThinkBikes is a beacon of innovation and sustainability, transforming the face of transportation.”
Tolulope Olukokun, CEO



DESCRIPTION

ThinkBikes is dedicated to providing affordable and sustainable last-mile transportation solutions for small businesses in Nigeria. With over 45.1 million micro, small, and medium-sized enterprises (MSMEs) in Nigeria facing transportation challenges, ThinkBikes aims to bridge this gap by offering electric cargo bikes designed to meet the specific needs of local entrepreneurs.

ThinkBikes is dedicated to affordable and eco-friendly last-mile transportation. Our electric cargo bikes benefit:

1. Smallholder Farmers: Our cargo e-bikes efficiently transport farm produce, aided by CoolMax for preservation, reducing post-harvest losses.
2. Micro and Small Businesses: Electric cargo bikes cut transportation costs, boosting profits (up to 65% with PAYGo).
3. Ride-Sharing Enthusiasts: Our e-bikes offer convenient and sustainable daily commuting and errand solutions.

ACHIEVEMENTS

ThinkBikes' electric cargo bikes offer:

- › Our e-bikes cut post-harvest losses by 40% and increased food quality by 50%.
- › Lower transport costs with our e-bikes have boosted small businesses, fueled local economies and improved the economy for smallholder farmers.
- › Job opportunities across the value chain.
- › Promoting sustainable cities reducing carbon emissions from transportation.
- › Lower maintenance cost, lower running cost, and enable to power your home.

We have deployed about 100 units in 5 states of Nigeria.

Next year, we plan to deploy about 1,200 units across 3 African countries as we have embarked on our expansion into Ghana, Kenya and Rwanda.







DESIGN FOR THE AFRICAN MARKET

Our e-bikes are tailored to Africa, considering:

- › Tough Terrain: Built to withstand challenging landscapes.
- › Affordability: Competitive pricing to meet economic constraints.
- › Eco-Friendliness: Aligning with Africa's sustainability goals.

ThinkBikes envisions expanding to underserved communities, collaborating with local governments to promote e-bikes as a sustainable transport mode, and contributing to reduced emissions, job creation, and improved food quality and security.

LINKS & SOCIAL MEDIA

-  <https://thinkbikes.com.ng>
-  <https://web.facebook.com/profile.php?id=100086658639617>
-  <https://www.instagram.com/thinkbikesngl/?next=%2F>
-  <https://www.linkedin.com/company/thinbikes-limited/>
-  https://youtube.com/watch?v=3o6J9AO0_20
-  Ibadan



TOIO

 TANZANIA


“We should strive to bring the maker movement and instil a mindset change within our people to ensure innovation and adoption to technology is made accessible, making Tanga a story of Shenzhen of its own.” By Waziri Kindamba, Tanga Regional Commissioner



DESCRIPTION

Our organisation(s) strive towards creating community-led and centric solutions that are made affordable and accessible within our community.

ACHIEVEMENTS

Our objective was to create an electric bicycle with available resources within the region. The target audience were local bicycle taxi drivers and women offering services such as food delivery and logistic services. At the same time, we also wanted to encourage local manufacturing, assembly, troubleshooting and repair to create an innovative as well as independent company.

The feedback from the community was overwhelming. Discussions with the community helped identify design changes and range needed improvement to ensure that it met the actual needs of the community, such as increased robustness of the structure adapted to the terrain and incorporation of a carry space that can be changed to a passenger seat to enable drivers to work both for deliveries and passenger transport.

DESIGN FOR THE AFRICAN MARKET

We focused the design based on what has already been deployed within the region. On one hand, the design was suitable for tarmac/smooth roads. As for the rural areas, a mountain bike version with a stronger motor and capacity would need consideration.

We wish to establish a local community of makers providing a variety of need-based vehicles that meet the people's needs. The solution has potential for uptake given the increasing fuel costs and other amenities, combined with the search for alternative and affordable logistical means, making micro-mobility the ideal case for our study and potential fleet. We will be working with the local city council and banks to ease financing for local people.

LINKS & SOCIAL MEDIA

 <https://toio.or.tz/>

 <https://www.facebook.com/toiotz>

 https://www.instagram.com/toio_tz/

 https://twitter.com/toio_tz/

 <https://www.linkedin.com/company/tanzania-open-innovation-organization/>

 <https://www.youtube.com/watch?v=PkE5BVd06Kw>

 Tanga

WAHU MOBILITY

 GHANA, TOGO, ZAMBIA



wahu!

"I strongly believe that the next frontier in which Africa will leapfrog the world in technology adoption will be the mobility sector. At Wahu Mobility, we have not only positioned ourselves for this transition but are also at the forefront of climate-smart innovation in Africa" - Valerie Labi, CEO & Co-Founder Wahu Mobility



DESCRIPTION

Wahu Mobility is delivering sustainable, inclusive, and accessible mobility in Africa through an ecosystem of Made-in-Africa electric vehicles and an open e-mobility platform empowering gig economy riders.

ACHIEVEMENTS

Our flagship Wahu e-bike, designed and built in Ghana, is a pedal-assisted electric bicycle that has been specifically developed for the affordable and sustainable movement of people and goods in Africa. It empowers gig economy workers and commuters, especially women, sustainably.

For riders, we offer our e-bikes via affordable, comprehensive subscription plans (work-to-own) and a connected Wahu app, supporting them with delivery demand, bike analytics, real-time active tracking, maintenance, safety essentials (helmet, lock, gloves, etc.), EV and related education and insurance.

For e-commerce platforms, we support scaling their fleets sustainably by

connecting them to gig economy riders for efficient last-mile delivery and reduced CO2 emissions.

Through our 'Women Delivers' Pilot in Lome, Togo, supported by SOLUTIONSplus, we are building an all-female fleet and equipping them with skills and experience to participate in the delivery value chain using our e-bikes. This project contributes to gender equality, economic development, and sustainable transportation.

We will deploy our e-bikes in Lusaka in the first half of 2024 and are looking for partners to expand to Lagos in the near future.

Key results:

- › Launch of our Wahu App in the Google Play Store
- › 75 bikes currently on the road in Accra
- › Several delivery service providers partnered with including Bolt Food, Bolt Send, Glovo, and Menufinder
- › Doubling of riders' potential income compared to previous earning potential
- › 5000+ deliveries fulfilled with 7t CO2 avoided
- › Member of the Africa E-Mobility Alliance and African Association of Automotive Manufacturers
- › Establishing a local production site with the capacity to produce e-bikes in Ghana for Sub-Saharan Africa

DESIGN FOR THE AFRICAN MARKET

By manufacturing locally, we create bicycles tailored for the African market, ensuring better performance, durability, and affordability than imports. Our user-focused design includes features such as fat tires for diverse road conditions, five levels of pedal assistance, a dual battery system to reduce range anxiety, and a lower standover height for easy mounting and dismounting, especially for women riders. At our local production site, we are establishing a team of African engineers with the capabilities to continually iterate and maintain EVs in Ghana.

LINKS & SOCIAL MEDIA

 <https://wahu.me/>

 <https://www.instagram.com/wahu.me/>

 https://twitter.com/wahu_me

 <https://www.linkedin.com/company/wahu-me/>

 Accra (Ghana), Lomé (Togo)

WATTSC**MOROCCO****wattsc**

“The e-bike system is a glimpse into a sustainable future, melding technological innovation with eco-responsibility, paving a green pathway for our campus and beyond.” Rachid Elghol, Project Coordinator, AUI E-Mobility Initiative



DESCRIPTION

Wattsc a reputable energy transition enterprise, collaborates with various organizations in Morocco, assisting them in offsetting their carbon footprint through diverse methodologies. Our sophisticated electric mobility systems are tailored for organizations aiming to provide electric mobility solutions and enhance convenience, marking a significant stride towards a sustainable and eco-friendly operational framework.

ACHIEVEMENTS


Al Akhawayn University in Ifran (AUI) in collaboration with Wattsc, embarked on an ambitious project aimed at revolutionizing the mobility system within the university premises by introducing an electrical e-bike sharing system. This initiative was envisioned to provide a convenient mobility solution to students and significantly contribute towards a carbon-neutral footprint, aligning with the environmental ethos of the pristine region of Ifran, Morocco known for its impeccable air quality and rich forestry. The project extends to explore the potential of setting up an integrated e-mobility ecosystem, involving the establishment of electric vehicle (EV) charging stations and assessing the

viability of transitioning to EVs for transportation within and potentially beyond the university campus.

LINKS & SOCIAL MEDIA

 <https://Wattsc.com>

 https://issuu.com/wattsc.com/docs/feasibility_analysis_of_e-bike_and_ev_ecosystem_at

 Casablanca

Abbreviations, Glossary & List of references



ABBREVIATIONS

AfEMA	Africa E-Mobility Alliance
B2B	Business-to-business
B2C	Business-to-consumer
CO2	Carbon dioxide
DIT	Dar es Salaam Institute of Technology
EAC	East African Community
EVs	Electric Vehicles
EU	European Union
GDP	Gross Domestic Product
IEA	International Energy Agency
UNEP	United Nations Environment Programme

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PICTURES

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