



Royal Academy
of Engineering

10

Africa Prize for
Engineering Innovation

Africa Prize Alumri Medal Showcase

January 2024

Welcome to the Africa Prize Alumni Medal Showcase

The Africa Prize for Engineering Innovation, founded by the Royal Academy of Engineering, is Africa's biggest prize dedicated to engineering innovation. The Prize awards commercialisation support to African innovators developing scalable engineering solutions to local challenges. These innovations show the importance of engineering in improving quality of life and economic development.

The Africa Prize for Engineering Innovation was launched in March 2014 to stimulate, celebrate, and reward innovation and entrepreneurship across Africa. Since then, it has provided invaluable training, mentoring, and communications support to 149 businesses in over 20 African nations. Africa Prize alumni have raised over \$39 million in financing, and 71% of alumni are currently generating revenue.

Following the programme, Africa Prize participants gain lifelong business support through the Africa Prize alumni programme, and receive exclusive opportunities for funding, development, and guidance. Our alumni community provides a secure environment for previous participants to network and learn from one another's skills. It also allows them to give back to their community and encourage those working in similar fields.

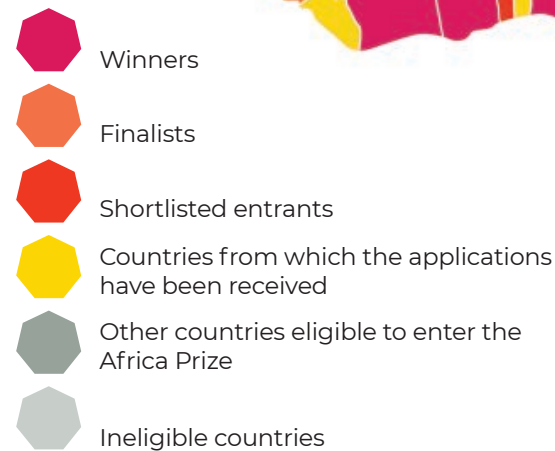
The Africa Prize Alumni Medal showcase celebrates 10 years of engineering excellence through the Africa Prize. This high-profile event will showcase some of the most successful innovators and businesses that have participated in the programme over the last decade. Of the 12 alumni pitching, one will be selected as the winner of the prestigious Africa Prize Alumni Medal and will receive a £50,000 prize. Two runners up will each receive £15,000.

The Africa Prize nurtures a wealth of diverse engineering talent across Africa.

Since 2014, the programme has received applications from over 37 nations and supported 149 entrepreneurs across more than 20 countries.

Please visit africaprize.raeng.org.uk to see the full list of countries.

Since 2019, the Africa Prize has awarded over £2.4 million in grant funding to the Africa Prize alumni community. These include small business, business acceleration, service delivery, travel, training, and COVID-19 response grants. These grants have enabled the alumni to strengthen and scale their businesses, and further impact their local communities.



ACKNOWLEDGEMENT

The Africa Prize has been generously supported by the UK Government, including the UK's Department for Science, Innovation and Technology's Official Development Assistance funding, as well as charitable trusts and foundations, individual donors, and corporate partners over the last 10 years.

Agriculture

Farmz2U
Aisha Raheem

Kitovu Technology
Nwachinemere Emeka

Vertical and Micro
Gardening
Paul Matovu

Farmz2U

Aisha Raheem

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Summary

Farmz2U is a dynamic supply chain technology company. Our mission is to increase efficiency for market players in the food system through seamless operational systems. Our vision is a food system that is sustainable and profitable for growers, suppliers, and buyers alike.

Farmz2U is addressing the broken agricultural supply chain in Africa that accelerates challenges such as food insecurity and climate-related costs. Our activities at Farmz2U are primarily aligned to the United Nations SDG goals of zero hunger, responsible consumption, and climate action.

Innovation Impact

Farmz2U uses regenerative farming to support over 30,000 growers, including smallholders and emerging commercial farmers.

We measure our progress through agricultural productivity, climate adaptation, market access, and financial inclusion. In 2023, our revenue increased 2.25 times from 2022's year-end value. This was driven by increased buyer and supplier engagement levels and converting significant buyer. One of these leads is Kenya's largest potato processing companies serving brands like KFC and Java House. Our financial inclusion and climate adaptation metrics also improved, including a higher average loan size per grower and increased carbon sequestered per acre.



Investment ask	£2.4 million
Fundraising stage	Pre-seed stage
Revenue stage	Revenue-generating
Sector	Agriculture, supply chain
Founded	2019
Location	Nigeria and Kenya
Employees	15 employees
Leadership team	Aisha Raheem, CEO Oluwatimilehin Akogun, CTO Kunle Apampa, founding investor

Kitovu Technology

Nwachinemere Emeka

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Summary

Kitovu is an online platform that helps rural and remote smallholder farmers make data-driven decisions to reduce costs, increase yields, and maximise sales.

Kitovu's flagship products, YieldMax, eProcure, and StorageX, enable climate-smart farming and post-harvest infrastructure to support agriculture in Africa. YieldMax applies data science and remote sensing to provide smallholder farmers with personalised agronomic advice that delivers operational insights, input specifications, and crop health audits. At harvest, we match the farmers' produce to partner buyers through our eProcure service. We also provide access to effective storage and access to finance through StorageX, a platform that uses electronic warehouse receipt systems to transform farmers' goods under storage into collaterals.



Innovation impact

Kitovu counts 16,500 smallholder farmers among its customers. It has boosted crop yields by 30%, and slashed post-harvest losses by 20%, resulting in a 40% increase in annual incomes.

Our community-based agent scheme has generated 365 economic opportunities for women and young people. Through Kitovu's regenerative agriculture interventions on the smallholder farms we serve, we have prevented the equivalent of 180,000 tonnes of greenhouse gas emissions, marking a substantial contribution to a sustainable agricultural ecosystem.

These impactful outcomes demonstrate a tangible enhancement in resilience, livelihoods, and environmental stewardship across the communities we serve.

Investment ask

£780,000 equity; £4 million debt financing (and looking to partner with farming and post-harvest OEMs, as well as large-scale food processors.)

Fundraising stage

Seed

Revenue stage

Post revenue

Sector

AgriTech

Founded

2016

Location

Iseyin, Oyo State, Nigeria

Employees

25 full-time, 2 part-time, 357 volunteer community-based agents

Leadership team

Nwachinemere Emeka, CEO and Cofounder
Nduka Miracle, COO and Cofounder

Vertical and Micro Gardening

Paul Matovu

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Summary

Vertical and Micro Gardening (VMG)'s key innovation is the Vertical Farm. This is a set of vertical stackable soil beds, with a vermicomposting chamber in the centre which is used to compost biodegradable household waste. These castings of which can then be used to fertilise the crops, helping to keep inputs low but still organic.

This integrated vertical gardening and composting system creates 36 square feet of soil with a footprint of only nine square feet. It is a 'farm in a box', which uses compost from biodegradable urban waste and can grow up to 200 plants. The Vertical Farm makes it possible for families in land-constrained communities to address water and food insecurity, and waste management.



Investment ask	£200,000
Fundraising stage	Seed
Revenue stage	Growth
Sector	Smart agriculture
Founded	2017
Location	Uganda
Employees	16 employees, 3 volunteers
Leadership team	Paul Matovu, Founder and CEO Ameerah Anathallee, International Collaborations Ronald Bbosa, Finance Manager

Innovation impact

To date, VMG has directly impacted over 5,000 families and indirectly impacted over 25,000 individuals in Uganda, particularly refugees and urban households.

It has enabled land-constrained communities to use limited spaces effectively, make conscious sustainable choices to prevent food deserts, provide local and healthy produce, and decentralise food systems. VMG also prioritises women's economic emancipation and independence through the creation of sustainable income sources, skills development, and training. The Vertical Farm innovation doubles users expected direct incomes and boosts economic prospects through surplus produce sales.

Water

Majik Water
Beth Koigi



Majik Water

Beth Koigi

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Summary

Majik Water uses solar power to harvest moisture from the air and turn it into affordable, clean drinking water for off-grid communities.

Majik Water's atmospheric water generator (AWG) system captures condensation from the air. Majik Water machines can produce between 20 and 1,000 litres of water per day, scaling to produce up to 100,000 litres per day.

The key revenue stream is the sale of AWG devices and their deployment in our four defined business segments. Secondary revenue comes from service contracts, which include remote device monitoring software, as well as operation and maintenance contracts.

Innovation impact

Majik Water has 20 large-scale and seven small-scale deployments worldwide, with 80% of these in Kenya.

Majik Water systems generate over 300,000 litres of clean drinking water per month and serve over 1,900 people. Because our devices are partially solar powered, they have decreased the reliance on diesel-powered water pumps and in turn, reduced greenhouse gas emissions. Improved access to clean drinking water has reduced the disease incidence thus saving on the health budgets leading to reallocation to other pressing sectors. Additionally, the community members are more productive since they get sick less often.

MAJIK WATER

Investment ask	£240,000 (in addition to renewable energy partners)
Fundraising stage	Pre-seed
Revenue stage	Post-revenue
Sector	Water
Founded	2018
Location	Kenya
Employees	6 full-time, 2 volunteers, 5 part-time
Leadership team	Beth Koigi, CEO Clare Sewell, Advisor Anastasia Kaschenko, CTO Samuel Njuguna, Head Engineer Dennis Muli, Technical Lead

Health

Silmak-Genesis Care
Catherine Wanjoya

Technovera-Pelebox
Smart Lockers
Neo Hutiri

Silmak-Genesis Care

Catherine Wanjoya

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Summary

Genesis Care is a system enabled by the Internet of Things (IoT) to dispense and then dispose of feminine hygiene products, giving women and girls better access to affordable menstrual products.

Many women and girls in informal and rural communities and schools cannot easily access affordable and safe menstrual hygiene products. Also, there are no systems widely in place for proper disposal after use. We provide low-cost, on-demand sanitary pads using automated dispensers, as well as on-site incinerators that burn the waste. This keeps girls in school, women working, and both in a safe environment.

Dispensing single units using our IoT-enabled dispensers costs less than a tenth of the price of alternative products. Our incinerators, fitted with mobile payment technology, offer institutions pay-per-use options.



Investment ask	£100,000
Fundraising stage	Seed
Sector	Health and education
Founded	2017
Location	Kenya
Employees	7
Leadership team	Catherine Wanjoya, CEO and cofounder Silvester Chege, CFO and cofounder Denis Karanga, CTO and cofounder

Innovation impact

We have installed 83 incinerators in schools, companies, factories, and informal communities, which translates to approximately 58,100 users in four years.

So far, our dispensers have supplied over 7,00 sanitary pads and this has kept many girls in school and many women in vulnerable communities able to work throughout the month.

Onsite incineration has prevented sewer blockages and pit latrines filling up with menstrual waste, as well as menstrual waste ending up in landfills and water bodies. Our products are contributing to SDG goals including good health and well-being, climate action, quality education, and gender equality. Further funding will allow us to scale locally and regionally, widening our impact and finish development of our portable household and medical incinerator.

Technovera-Pelebox Smart Lockers

Neo Hutiri

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Summary

Technovera is a social venture focused on inclusive technology with the aim of improving the access to chronic disease medication in Africa.

South Africa has the world's biggest antiretroviral therapy (ART) programme for patients living with HIV and AIDS, and there has been a steady increase in the number of patients with noncommunicable diseases (NCDs) requiring chronic therapy. A patient's experience tends to be one of long waiting times, typically above 3 hours. We have developed Pelebox, an internet-enabled smart locker dispensing system that enables clients to collect their repeat chronic medication in under 30 minutes instead of waiting hours in queues at healthcare facilities.

Innovation impact

Pelebox smart lockers work in African countries where national health ministries need to reach more people but are limited by the number of traditional healthcare facilities, staff shortages, and higher patient volumes.

Pelebox smart lockers offers convenient collection points and are now operational across South Africa, Botswana, and Namibia. We have shown that we can take a patient from 3 hours in a queue and get them to collect their medication in under 30 minutes.

Pelebox smart lockers are now operational across 123 communities and are impacting the lives of 32,000 patients per month. We have processed over a million chronic scripts to date.



Investment ask

£1.5 million (plus introductions to impact-first funders, as well as specialists in operations improvement, customer support, electronics, and HR management)

Fundraising stage

Seed

Revenue stage

Post-revenue

Sector

Healthcare

Founded

2016

Location

South Africa

Employees

12

Leadership team

Neo Hutiri, Managing Director and founder
Piyush Mani, Head of Technology



Energy

Kamata Online Protection
Services (KOPS)
Edmand Aijuka

Energy

Kamata Online Protection Services (KOPS)

Edmand Aijuka

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Summary

Kamata, meaning 'to seize', is a prevention system that alerts regional utility centres when power is being tampered with or manipulated.

Kamata solution is a patented hardware product aimed at monitoring and protecting against electricity theft. It remotely monitors electricity use, identifying and reporting cases of power theft and illegal use in real time.

Upon detection of any electricity theft, the hardware instantly cuts off the user's electricity supply and reports the scenario to the utility via cloud-based software, including the power user's name, location, and time of power theft attempt.

Innovation impact

Kamata products have been installed on Uganda's biggest power distributor network, Umeme Limited, for three-phase customers who contribute more than 70% of the utility's revenue.

Its devices have been able to identify and detect cases of power theft for users, detecting faulty meters and meter bypasses using its unique patented technology. Installing Kamata's product across just 10% of three phase power users is projected to recover up to \$700,000 per year of revenue for the utility. In turn, reduced power losses have enabled tariff reduction and electricity affordability for homesteads and businesses in the country.



Investment ask	£1.7 million
Fundraising stage	Pre-seed
Sector	Energy
Founded	2016
Location	Kampala, Uganda
Employees	8 staff
Leadership team	Edmand Aijuka, CEO and founder Eamonn Furniss, Non-Executive Chair David Alderton, Non Executive Corporate Advisor

The image shows two women in a rural setting. The woman on the left is holding a small component, possibly a battery or sensor, and looking at it. The woman on the right is smiling and gesturing towards a large, cylindrical metal container with a lid. The container is connected to a solar panel and a control box. The background shows a simple building with a doorway. The entire image has a warm, orange-red tint.

Waste management

BleagLee
Juveline Ngum Ngwa

BleagLee

Juveline Ngum Ngwa

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Summary

BleagLee uses an AI-based platform to swiftly identify open waste burning, and then works with indigenous waste collectors to collect waste for processing into biofuels, thus creating sustainable employment for women, men, and young people.

Cameroon produces over 350 million tonnes of solid waste every year. 80 to 85% of the waste, especially agricultural waste such as straw, is burned in open fields because people lack alternative ways for disposal.

This affects the health of millions of people and causes millions of tonnes of greenhouse gases, such as carbon dioxide to escape into the atmosphere, contributing to climate change.



Investment ask

Fundraising stage

Revenue stage

Sector

Founded

Location

Employees

Leadership team

Innovation impact

BleagLee developed its innovative AI platform for waste management after initially being shortlisted for the 2022 Africa Prize for a green cooking stove.

Since then, the AI platform has transformed waste management in Cameroon, curbing the detrimental practice of open burning. By swiftly detecting open waste burning, our solution significantly reduces harmful emissions, preventing millions of tonnes of CO₂ from entering the atmosphere. Through collaboration with local waste collectors, we have converted agricultural waste into eco-friendly biofuels, fostering sustainable employment for women, men, and young people. This comprehensive approach mitigates environmental impact and empowers communities, addressing both environmental and unemployment challenges. To date, BleagLee has diverted over 22,300 tonnes of waste from open burning, positively impacting 560,000 lives and contributing to a cleaner, greener future.

£30,000

Seed

Revenue-generating

Waste management

2019

Cameroon

19 full-time, 42 part-time

Juveline Ngum, CEO

Charly Antoine, COO

Bih Cloudine, Business Development Manager

Yollande Michou, Environmental Engineer



Education

Tuteria Education
Godwin Benson

Science Set
Ofori Charles Antipem

Education

Tuteria Education

Godwin Benson

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Summary

Tuteria provides access to affordable, personalised tutoring, especially for students with academic challenges or special learning needs.

Many children in Africa's education system depend on after-school tutoring to excel academically, but finding the right tutor is difficult, time-consuming, and expensive. We've built robust technology to onboard and train quality teachers and connect them to parents seeking academic help for their children.

Our platform identifies students' learning gaps and styles, creates tailored lesson plans, and pairs students with suitable tutors based on their learning needs. Through Tuteria, we make personalised learning more accessible to many families and provide job opportunities for teachers.

Innovation impact

Tuteria has significantly impacted the edtech industry, especially in Nigeria.

So far, we have helped over 23,600 students enhance their academic performance. Among them, 85% experienced a two point grade increase, and 92% passed crucial exams.

Additionally, we have created job opportunities for over 7,000 tutors, positively affecting the local economy. Our tutors earn up to \$400 each month, which is two or three times the average teacher's salary in Nigeria.

Our commitment to affordable, high-quality, personalised education is helping to reduce the education gap in Africa. We are looking to scale this impact to help more students and generate more jobs across the continent.



Investment ask	£785,000
Fundraising stage	Seed
Revenue stage	Revenue-generating
Sector	Education technology
Founded	2016
Location	Lagos, Nigeria
Employees	31
Leadership team	Godwin Benson, CEO Abiola Oyeniyi, CTO Joshua Ozugbakun, Business Strategy Olatunde Oye, Head of Finance Adenike Adeniji, Head of People

Education

Science Set

Ofori Charles Antipem

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Summary

The Science Set is a highly customisable portable toolbox that contains materials needed for every basic science experiment across different science curricula in Africa.

The sets were developed to address the lack of materials for basic science experiments in schools. The Science Set is compact and affordable yet enables students to perform laboratory-grade experiments without needing a traditional laboratory.

Innovation impact

The Science Set has facilitated inclusive and equitable quality education for over 60,000 students across 1,000 schools in Ghana and Sierra Leone.

It is accessible and affordable nature has enabled students from diverse backgrounds to actively engage with science education, bridging the gap between privileged and underprivileged schools and fostering equal opportunities. Furthermore, in schools where the Science Set is used, there are significant improvements in students' performance and interest in science.

DEX T

Investment ask	£790,000
Fundraising stage	Seed
Revenue stage	Revenue-generating
Sector	Education technology
Founded	2017
Location	Ghana
Employees	42
Leadership team	Ofori, Charles Antipem, CEO Michael Asante Afrifa, COO Caleb Fugah, Sales Lead Mawuli Amedofu, CFO

A photograph of a workshop with a monochromatic orange tint. In the foreground, a man wearing a white cap and a striped shirt is leaning over a large, flat metal trailer. He is using a power tool, possibly a drill or a sander, on the edge of the trailer. The trailer has two large, treaded tires. In the background, other people are working at various stations. One person is wearing a dark jacket with the name 'MICHEL' on the back. Another person is wearing a white shirt. The workshop is filled with tools, equipment, and materials, suggesting a busy manufacturing or repair environment.

Transport

Auto-Truck EA
Kenneth Guantai

Auto-Truck EA

Kenneth Guantai

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Summary

Auto-truck is an e-mobility company that specialises in local manufacturing, retrofitting, and assembly of electric two- and three-wheelers commonly used in Kenya for last-mile connectivity.

We also rolling out a charging and service infrastructure for electric vehicles through a franchising business model to enable easier adoption and transition to EVs across the entire country.

Innovation impact

Having started with local manufacturing of electric handcarts in Kenya, to manufacturing and assembling electric two- and three-wheelers, the company is now a fully licensed as a motor vehicle assembler in Kenya.

With over 2.3 million motorbikes and 900,000 three-wheelers in operation on Kenyan roads for last-mile connectivity, Auto-Truck sees this as its market for retrofitting, assembling, and manufacturing new electric versions. The company is rolling out a charging and service infrastructure in Kenya through franchising. We have sold to more than 200 users in Kenya and Tanzania. We intend to scale up across the entire African market in 10 years' time.

We have also partnered with an international electric vehicles manufacturer to locally assemble electric vans, buses, and trucks for the African market.



Investment ask	£1.5 million
Fundraising stage	Seed
Revenue stage	Pre-revenue
Sector	E-mobility & transport
Founded	2015
Location	Nairobi, Kenya
Employees	15
Leadership team	Kenneth Guantai, CEO and founder Prof. Geoeffrey Gitau, Technical Director David Meek Jah, Technology Director Susan Kairima, Marketing Director



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Electronics

AIRTIME 4 CA\$H

Chura
Samuel Njuguna

BUY AIRTIME

50/=

SWITCH AIRTIME

BUY DATA

Chura

Samuel Njuguna

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Summary

Chura is a web-based, multinet network system that allows users to move airtime between their different SIMs regardless of carrier; buy airtime from service providers that can be used on any network; send airtime to family members or employees; or exchange airtime for cash.

In Africa, mobile service consumers use multiple SIM cards from various providers to optimise the advantages offered by each. However, accessing resources becomes challenging because of varying distribution channels and uneven service availability from different mobile companies across the country. Our solution addresses this issue by allowing users to access resources from various networks through a centralised point.



Investment ask

Fundraising stage

Revenue stage

Sector

Founded

Location

Employees

Leadership team

Innovation impact

We have developed a customer base of over 15,000 individuals and sole proprietorships.

This broad reach ensures that even small entities can effortlessly obtain data and airtime, serving as a pathway to financial inclusion. The impetus behind this progress has been the substantial media coverage spotlighting our service.

In 2021, we established a strategic partnership with Ecobank Africa, aimed at empowering both companies and individual clients. This collaboration amplifies our commitment to providing enhanced services and opportunities for growth. In March 2023, Chura reached the milestone of empowering over 100 companies, regardless of their size, with seamless access to airtime across various regions in Kenya.

£790,000 (plus collaborators who may be able to assist Chura in entering new markets)

Pre-seed

Post-revenue

Tech

2015

Kenya

10 full-time employees, 20 voluntary staff

Samuel Njuguna, CEO
Samuel Njogu, Lead Designer
Stephanie Gaku, CFO
Byron Sitawa, CTO
Jack Kinga, Co-CTO



Royal Academy
of Engineering



Africa Prize for
Engineering Innovation

The Royal Academy of Engineering is harnessing the power of engineering to build a sustainable society and an inclusive economy that works for everyone.

The Academy provides progressive leadership, and a Fellowship bringing together an unrivalled community of leaders from every part of engineering and technology.

Together we're working to tackle the greatest challenges of our age.

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