

#AfricaPrize for Engineering Innovation: shortlist



Cameroon



The Innovator: Arnold Achiri, 27, is a social entrepreneur and electrical engineering student from Cameroon who create **Traveler** as a solution to unnecessary road accidents.

“Road accidents are by far the leading cause of death in Cameroon, killing more people than malaria and HIV/AIDS do. What if we could deter reckless driving by monitoring drivers better?”

The Innovation: **Traveler** is a mobile app which monitors the speed, location and number of passengers on a bus, and alerts the driver and authorities to potential dangers and emergencies.



Kenya



The Innovator: Alex Makalliwa, 26, is aeronautical engineering lecturer from **Kenya**, focused on making sustainable transport in Africa more accessible.

“These electric Tuk-Tuks can significantly reduce the economic barrier to electric cars, and reduce the carbon footprint of some of the fastest growing economies in the world.”

The Innovation: Tuk-Tuks are a popular means of transport in many African cities, and **Makalliwa’s** aim is to make them even more convenient by converting fleets to run on electric motors.



Mozambique



The Innovator: Aline Okello, 33, is a hydrology PhD student from **Mozambican** who lives and works in South Africa and has a passion for water resources.

“As a hydrologist, I see so many opportunities if knowledge on appropriate technologies for rainwater harvesting is simply shared.”

The Innovation: The **Rainwater Harvesting app** allows users to calculate how much water they could harvest based on the type of roof they have, their location and available tank types in their area.



South Africa



The Innovator: Andre Nel, 55, is a former rocket scientist from **South Africa** who has shifted his attention to solving electricity supply and carbon emission problems.

“My father inspired me to create the GreenTower when as a pensioner, he couldn’t afford a hot bath. I realised that reducing the cost of water heating could make life easier for many people.”

The Innovation: **GreenTower** is a hybrid, solar microgrid solution that uses 90% less energy to heat water. It’s designed to be scalable, and a single containerised unit typically serves 15 homes.

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Uganda

The Innovator: Brian Turyabagye, 24, from **Uganda**, is telecommunications engineer and social entrepreneur.

“27,000 Ugandan children die annually from pneumonia, often because the disease is misdiagnosed. With Mama-Ope, we want to reduce the margin for human error and help doctors make faster, more accurate diagnoses.”

The Innovation: Mama-Ope is a biomedical smart jacket that helps doctors identify pneumonia faster and more accurately. It measures temperature and breathing rate, and compares it to a database of parameters.



Kenya

The Innovator: Edwin Inganji, 22, is an informatics student from **Kenya**, and one of the youngest shortlisted candidates in the Africa Prize.

“I love programming, and I love using it to create IT solutions to problems that we face as Africans.”

The Innovation: The free to use **Usalama** app boosts policing and emergency response times by allowing users to effortlessly alert police, emergency services, family members and other users to emergency situations.

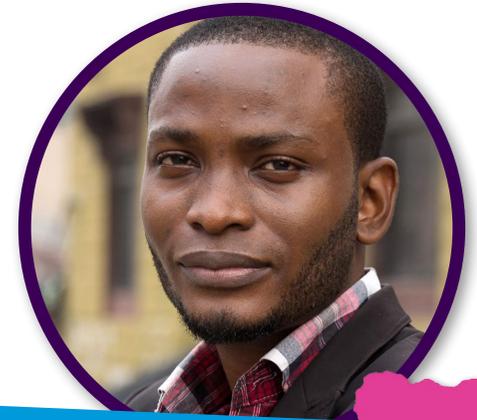


Kenya

The Innovator: Fredrick Ouko, 34, from **Kenya** is social entrepreneur and a pioneer in creating public-private partnership initiatives that help people with disabilities.

“It’s incredibly fulfilling to be able to help especially young people with disabilities to overcome the same challenges I’ve faced as a person with a disability.”

The Innovation: **Riziki Source** is a web platform for employers to tap into the millions of skilled people living with disabilities in Africa, of which up to 80% are without work.



Nigeria

The Innovator: Godwin Benson, 27, a systems engineer from **Nigeria**, has built a safe peer-to-peer platform that connects students to tutors.

“I’m passionate about helping other people succeed, and as a tutor of nearly 10 years myself, I know the difference that a platform like Tuteria can make to someone’s education.”

The Innovation: **Tuteria** helps students match subjects and budgets to a skilled tutor in their area. The web based platform already has 6,500 approved tutors and about 1,250 students.

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Uganda

The Innovator: Hindu Nabulumba, 25, is a digital media specialist from Uganda.

“Everyone is looking for more knowledge. The Yaaka Network combines social media with that hunger to give more people access to a better educational.”

The Innovation: The **Yaaka Network**, an online platform paired with a physical device, is a digital environment that allows teachers to tutor remotely, and helps its users benefit from each other’s experience and guidance.



South Africa

The Innovator: James van der Walt, 37, is a mechanical engineer from South Africa who created the Solar Turtle to help electrify rural schools.

“As a software engineer, I realised that to change the world, you have to start where people need change the most. Within two years I was doing my engineering masters on the Solar Turtle”

The Innovation: The **Solar Turtle** is a mobile power station that provides instant electrification wherever it’s needed. Housed in a shipping container, the solar panels are folded out and charge batteries inside recycled bottles, which users plug it into their home system.



Kenya

The Innovator: Joel Kariuki, 26, is a mechanical engineer from Kenya whose peeler for sisal plants aims to make natural fibres a viable competitor for synthetics.

“This innovation is driven by the global demand in the sisal fibre market and widespread concern about the use of non-biodegradable, synthetic products.”

The Innovation: The **Sisal Decorticator** is a mechanised peeler which makes it more profitable for natural sisal fibre to be processed, giving the industry a competitive boost in the global market.



Kenya

The Innovator: Kelvin Gacheru, 26, is a water resource engineer from Kenya with irrigation design, borehole and water treatment experience.

“The Mkononi system allows farmers, families and businesses to use water more efficiently, which is essential in a water-scarce country like Kenya.”

The Innovation: The **Mkononi Tank Monitoring system** is a solar-powered system that allows the millions of people who use water tanks to ensure that the water is not wasted. It monitors water levels, leaks, valves and pumps via a mobile phone app.

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Tanzania

The Innovator: Lawrence Ojok, 40, from Tanzania is a mechanical and production engineer and a community problem solver, constantly looking for new solutions to ease long hours his peers work.

“There is always an appropriate solution to every challenge a local community faces. You just have to find it”

The Innovation: The Green Rock Drill is a solar-powered alternative to modern fossil-fuel rock drills. It's easier on the environment and is designed for small-scale, artisanal mining in Tanzania.



Kenya

The Innovator: Peter Mbiria, 26, is a mechanical designer and engineering student from Kenya who designed the E-Con wheelchair for a friend.

“I watched a friend have to use three or four different wheelchairs just to get by. Our innovation incorporates all the functionality of different wheelchairs into a single solution.”

The Innovation: The E-Con wheelchair is a culmination of many solutions. It can go off-road, climb stairs, allow the user to stand upright and automatically navigate familiar terrain, all while keeping its passenger perfectly level.



Ghana

The Innovator: Sesanam Dagadu, 31, from Ghana, uses his engineering knowledge and interest in human behaviour to develop unique solutions that empower users.

“We were asked to help create a system that could track Ebola cases during the 2015 outbreak, and from this, CodeRed was born.”

The Innovation: CodeRed is a logistics app which significantly reduces emergency response time through a custom-made mapping system to help ambulances navigate dense urban areas.



South Africa

The Innovator: Dr Wilfred Fritz, 53, is an engineer from South Africa who designed a next-generation multipurpose solar generator.

“The Water&Solar100 cooks, purifies contaminated water, has medical applications and generates electrical power. It breaks down all the barriers to owning solar cookers.”

The Innovation: The Water&Solar100, a sun-tracking water purifier and solar-cooker, is lightweight, portable, tracks the sun automatically, has temperature and timing controls and generates electricity to charge batteries.