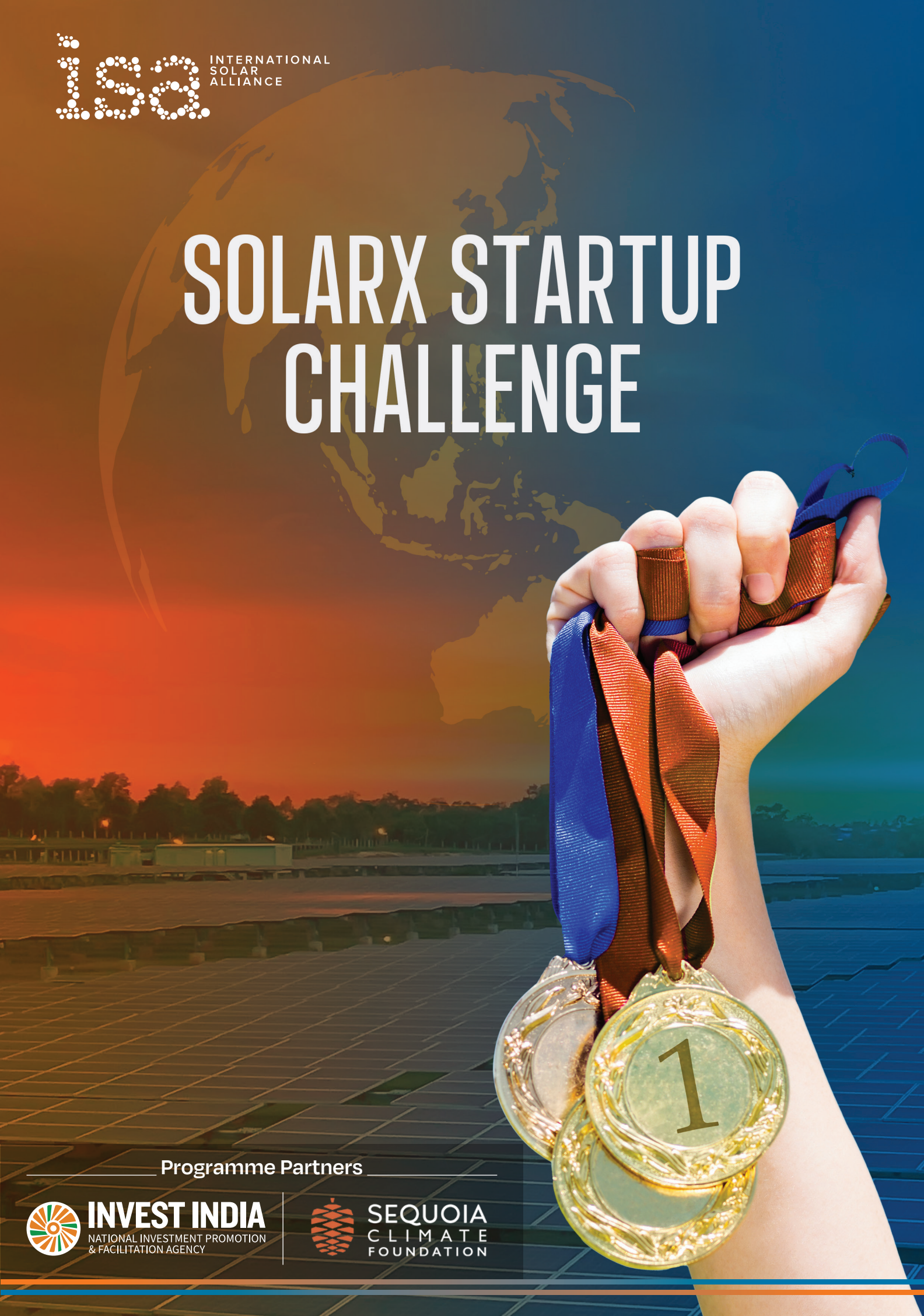
INTERNATIONAL SOLAR ALLIANCE

SOLARX STARTUP CHALLENGE



Programme Partners

INVEST INDIA
NATIONAL INVESTMENT PROMOTION & FACILITATION AGENCY

SEQUOIA CLIMATE FOUNDATION

The SolarX Startup Challenge, launched by ISA and Invest India at COP27 in November 2022, promotes solar entrepreneurship in ISA Member Countries. The first edition was held in Africa, with over 180 applicants from 28 countries, and 20 winning startups were selected. These winners were from 10 different African countries, and 7 of them were women-led. The first Acceleration Programme Workshop for the winning start-ups was organised in Kigali, Rwanda.

The second edition of the Challenge for the Asia-Pacific region was launched at UNFCCC's COP28 in November 2023. With the application deadline set for 30th April 2024, Knowledge Sharing & Handholding workshop are underway for venture capitalists, industry groups, and startups to converge, exchange ideas, and explore avenues for collaboration.

SolarX Startup Challenge aims to crowdsource implementable, cost-effective, scalable and innovative solutions to some of the persistent challenges faced by the solar energy sector. The first edition of the challenge was focused on the African region, aiming to promote innovation and discover local solutions, with the overarching objective of capacity-building of stakeholders across the globe, and the next edition of the challenge will be focused on the Asia-Pacific (APAC) Region, aiming at building the solar energy sector in the region along with promoting startup and innovation culture in the local ecosystems.

REWARDS

Cash Grants
15,000
USD/Winners

Mentorship
Opportunities

Market Access
Opportunities

Investment
Opportunities

IMPACT

A four-fold impact in the form of

- Promoting Solar Energy Sector

- Reducing Energy Crisis Gap

- Promoting Entrepreneurs of the Solar Sector

- Boosting Solar Startup Ecosystem

SOLARX STARTUP CHALLENGE 2024: APAC

TIMELINE

December 2023
Announcement of the SolarX Startup Challenge at COP28, Dubai

January 2024
'Call-for-Applications' Open

January - March 2024
Launch of the Challenge & Handholding Workshops for Startups

April 30 2024
Closure of Applications

May - June 2024
Evaluation of Applications by International Technical Committee

July 2024
Declaration of Winners

August - October 2024
Acceleration Program for Winners in APAC Locations

November 2024
Closure of APAC Chapter

PROBLEM STATEMENTS

01 Develop scalable and sustainable off-gridsolar solutions (Solar Home Systems {SHS}, Mini-Grids, Solar Microgrids) toaddress energy poverty in remote and underserved areas across APAC countries.

02 Develop scalable models to boost costcompetitiveness in solar applications for **logistics, manufacturing, and supply chain.** By optimising energy-intensive production processes, solar-transportation vehicles, and solar-powered smart logistics systems.

03 Development of innovative, **space-efficientsolar technology,** essential to address the challenge of limited land availability indensely populated/land deficient countries.

04 Development of **circular economy in solar** for recycling end-of-life solar panels, reducing electronic waste, and ensuringresponsible disposal.

05 Develop **AI, IoT, GPS**-based SaaS tools to enhance manufacturing, deployment, and integration of solar energy for eg. landmapping, 3D modelling, project monitoring tools.

06 Innovate manufacturing for sustainable, efficient materials, to enhance energy output, cost reduction and improved efficiency insolar equipment, such as high-efficiencyinverters, ACDBs, DCDBs, and other components.

07 Technical or business model innovations toreduce cost of grid integration, optimising energy distribution of rooftop solar, utility-scale solar, energy storage solutions to address intermittency issues associated with solar power generation.

08 Implementing **solar-powered technologies** such as high-efficiency DC pumps with smartcontrollers for water pumping, purification, and irrigation to promote sustainable water management in various regions.

09 Promoting the **development and adoption of solar-powered solutions** for innovative business models for emerging use cases such as eMobility Green Hydrogen, AgriPv, Transportation, Solar-Charging Infrastructure for electric vehicles, etc.

10 Other areas of Solar Application with on-ground applications.

SOLARX STARTUP CHALLENGE 2023: AFRICA

The Africa edition of the SolarX Startup Challenge received a remarkable response from entrepreneurs, researchers, and innovators across Africa, demonstrating the region's commitment to solar for sustainable development. A total of 182 applications were received from 28 countries, and 20 companies from 10 African countries emerged as winners, including seven women-led companies.

I congratulate the winners of the SolarX Startup Challenge Africa 2022-2023 where 7 out of 20 are women-led Startups. Through this challenge, ISA hopes to handhold the startups and I wish that some of these become the Amazons of tomorrow.

Dr. Ajay Mathur
Director General, ISA

WINNERS OF THE AFRICA EDITION

MUSANA CARTS UGANDA LIMITED

Musana Carts Uganda Limited is a registered company in Uganda that provides street vending carts that are powered by clean energy. The carts offer customised business features that enable market vendors to operate in a clean and desirable manner. They are modular and easily adaptable to any street vending business, providing access to finance and business training. The carts are designed to meet the vendor's specific requirements, such as deep frying, pan frying, grilling, and rotisserie use. The carts are built in Uganda, and the company provides a payment plan option to its clients.

UGANDA

HELLOSOLAR TECHNOLOGY PLC

HelloSolar Technology PLC is a leading company in Ethiopia that provides affordable, reliable, and renewable energy solutions to the rural population in Ethiopia. HelloSolar has piloted more than 15 different quality solar products and commercialised about 6 different product types ranging from small to larger solar home systems as well as solar water pumps.

ETHIOPIA

KUZA COOLERS LIMITED

Kuza Freezers is a start-up based in Kenya that aims to improve food security in the fish value chain and promote economic resilience of the small-scale fisher folks through affordable refrigeration. Its freezers can achieve a low-temperature range of between 10°C to -20°C, suitable for fish preservation and can keep the fish fresh for at least 2 to 3 days. Kuza Freezers are fully powered by solar, making them suitable for off-grid usage and portable, which can be embedded on bikes for last-mile delivery. Kuza Freezers offers its products on a pay-as-you-go payment model, which is sustainable for low-income fisher folks. The company also has the ability to monitor the products remotely, hence improving the service quality.

KENYA

ECOBORA

KENYA

Ecobora is a startup based in Kenya that has introduced the first-ever solar cook stove to rural and marginalised schools in the region, aiming to reduce their dependence on firewood and improve their students' health and wellbeing. The product offered by Ecobora is a clean and affordable institutional solar cook stove that uses solar energy to generate sustainable modern cooking energy. This solution allows Kenyan rural and marginalised schools to save firewood costs and provide free meals to their students, improving their health and well-being and enhancing their access to education. Through savings from their solar stoves, schools can invest in upgrading learning facilities like libraries and computer labs for students.

CENTENNIAL POWER LTD

RWANDA

Centennial Power Limited is a vertically integrated team of engineers, project managers, and sales professionals based in Rwanda. For over 6 years, Centennial's product has successfully provided health centres with the ability to improve vaccine cold storage supply chains. Since May 2017, the company has provided affordable and reliable power supply to vaccine cold storage and management facilities in Rwanda and Zambia. The projects have displaced standby diesel generators by offering on-site battery storage systems that provide the operational resiliency required for key infrastructure such as vaccine cold storage equipment.

INNO-NEAT ENERGY SOLUTIONSV

KENYA

INNO-NEAT Energy Solutions is a Kenyan-based for-profit with a social mission organisation focused on manufacturing solar-ready repurposed lithium-ion batteries for use in solar energy storage applications in lowincome off-grid communities in Kenya. Their unique solution is aimed at lowering the overall cost of ownership of solar home systems for low-income off-grid communities by providing locally available and cheaper battery technology. What sets INNO-NEAT ENERGY SOLUTIONS apart from other similar solutions is their ability to develop a battery that is not only solar-ready but also repairable and maintainable, making it longer-lasting and more cost-effective in the long run. Additionally, their batteries are manufactured from repurposed lithium battery cells, making them an environmentally friendly solution that reduces waste.

URBAN GREENS LTD

UGANDA

Urban Greens Limited is a Ugandan-based startup that has developed a unique standardised urban small-scale commercial aquaponics system, utilising solar PV for daytime power and leveraging IoT for large-scale deployment with aspiring urban farmers. The startup aims to address the issue of food security and sustainable farming practices in Uganda by providing an innovative solution that combines the use of solar power with aquaponics technology, enabling urban farmers to generate a steady source of income and reduce pressure on natural resources.

STES GROUP LTD

RWANDA

STES Group Limited is a multidisciplinary team with local and international exposure, including expertise in IoT, solar technology, and other emerging technologies. Their flagship product, BazaFarm, is a solar-powered technology that uses an IoT system and sensors to measure various soil parameters. The data collected is transmitted to the cloud, where it is recorded, analysed, and displayed on a web dashboard or mobile app. BazaFarm helps farmers to optimise crop yields, reduce waste, and minimise environmental impact, by addressing issues such as mismanagement of irrigation, misuse of fertilisers, uneven crop growth, and farming environmental impact.

GREEN SCENE ENERGY PLC

ETHIOPIA

Green Scene Energy PLC (GSE) is a company based in Ethiopia that aims to provide affordable and high-quality solar energy products to households and businesses in off-grid areas. GSE has established partnerships with retailers, microfinance institutions, Ethio Telecom, and Purpose Black Ethiopia to distribute lighting and productive use products using the pay-as-you-go (PAYGO) model. GSE provides digitally managed PAYGO-enabled affordable solar energy products to households and businesses. The company's partnership with microfinance institutions allows them to offer their products in the form of loans using PAYGO technology. The company is also leveraging Ethio Telecom's IoT infrastructure to offer off-grid M2M mobile solar solutions to households without charging high upfront costs. Customers can make payments at regular intervals using mobile money or other available payment options.

SALPHA ENERGY LTD

NIGERIA

Salpha Energy Limited is a Nigerian-based company that specialises in producing and distributing locally assembled solar home systems. The company's mission is to provide affordable and clean energy to households and businesses in Nigeria, with a vision to make clean energy accessible to millions of people in Africa. The products are locally assembled in Nigeria, which has led to the solar systems being 20-30% lower than similar products while offering premium after-sales support.

OFFGRIDBOX RWANDA LTD

RWANDA

OffGridBox Rwanda Limited is a company that aims to solve one of the biggest problems millions of people face worldwide – lack of access to safe water and energy. The company has a team of experts with over 60 years of collective solar experience deployed across 15 countries, making them well-equipped to tackle the challenge. They provide affordable access to clean water and renewable energy, ensuring communities are resilient in the face of climate change. OffGridBox's primary mission is to deliver energy and water products that ensure climate resilience globally. They are specifically interested in hydrogen due to their knowledge and experience in the intersection of water and energy and their patented hydrogen nozzle for clean cooking.

BAKO MOTORS

TUNISIA

Bako Motors is a Tunisian startup that is revolutionising the transportation sector by introducing eco-friendly electric vehicles powered by solar energy. Bako Motors has developed a product that is 70% locally manufactured and the first of its kind in the MEA region to offer electric/solar vehicles. The battery's range can reach 200 km, including 50 km per day of free charging thanks to the photovoltaic solar cells. Bako Motors is in the process of CE certification from TUV Munich and offers the Bako App with GPS, rearview camera, and tracking system to monitor the vehicle.

ARINIFU TECHNOLOGIES LTD

KENYA

Arinifu Technologies Limited is a Kenyan start-up that aims to revolutionise the poultry industry with its innovative product, Smart Brooder. Smart Brooder is an innovative solution that addresses the problem of heating chicks in the first weeks of their life. Most Sub-Saharan farmers use charcoal heating, which is difficult to control, and its heat dissipates over time. Smart Brooder is a cost-effective and efficient solution that can significantly reduce the heating cost for farmers while improving production efficiency. Arinifu Technologies Ltd also offers a software platform to help farmers keep records of their production and a processing facility equipped with solar-powered cold storage to reduce post-harvest losses.

MOMINT

SOUTH AFRICA

Momint is a UK-based community investment platform that provides individuals, communities, and large institutions access to digital assets tied to real-world solar installs and lease agreements. The platform solves the financing hurdle for solar adoption by making investing in solar accessible, transparent, and secure. Momint uses blockchain technology to ensure that legal contracts are immutable and spending and earnings are transparent and secure, thereby bridging the gap between virtual assets and real-world impact. Momint solves the financing hurdle for solar adoption by making investing in solar accessible, transparent, and secure.

NOORNATION

EGYPT

NoorNation is a startup that aims to address the challenges faced by people living in rural and remote areas in Egypt and Sub-Saharan Africa by providing clean energy and safe water through the use of sustainable and decentralised infrastructure. The company's flagship product, LifeBox, is a fast-deployable unit that delivers clean energy and safe water, empowering rural communities, farming, and tourism businesses in less-served areas. LifeBox is an all-in-one, solar-powered unit that delivers both clean energy and safe water to rural communities, farming, and tourism businesses in less-served areas across Egypt and Sub-Saharan Africa.

ASACCOV GLOBAL NIGERIA LIMITED (A6GNL)

NIGERIA

ASACCOV GLOBAL NIGERIA LIMITED (A6GNL) is a Nigerian company specialising in solar energy and technology services. A6GNL provides sustainable energy solutions that reduce clients' carbon footprint and promote renewable energy use in Nigeria. The company's portable solar generator with both DC and AC functions is a unique product that addresses the need for reliable and affordable electricity in Nigeria, even during power outages. The product is versatile and supports a range of appliances, making it ideal for households, SMEs, workstations, security surveillance systems, and more.

PHOTONS ENERGY LIMITED

TANZANIA

Photons Energy Limited is a Tanzania-based company that specialises in providing engineering, procurement, and construction services in the renewable energy and energy efficiency sectors. The unique selling point of Photons Energy Limited is their innovative solution of e-mobility and business model in solar distribution, which will bring down the operation costs of motorcycles and make transportation cheaper for local people, thus increasing revenue for operators. Additionally, their solution will create more employment opportunities. By providing genuine solar components, Photons Energy Limited will help speed up the growth of the solar energy sector in Sub-Saharan Africa and make it more accessible to people who currently lack access to electricity.