



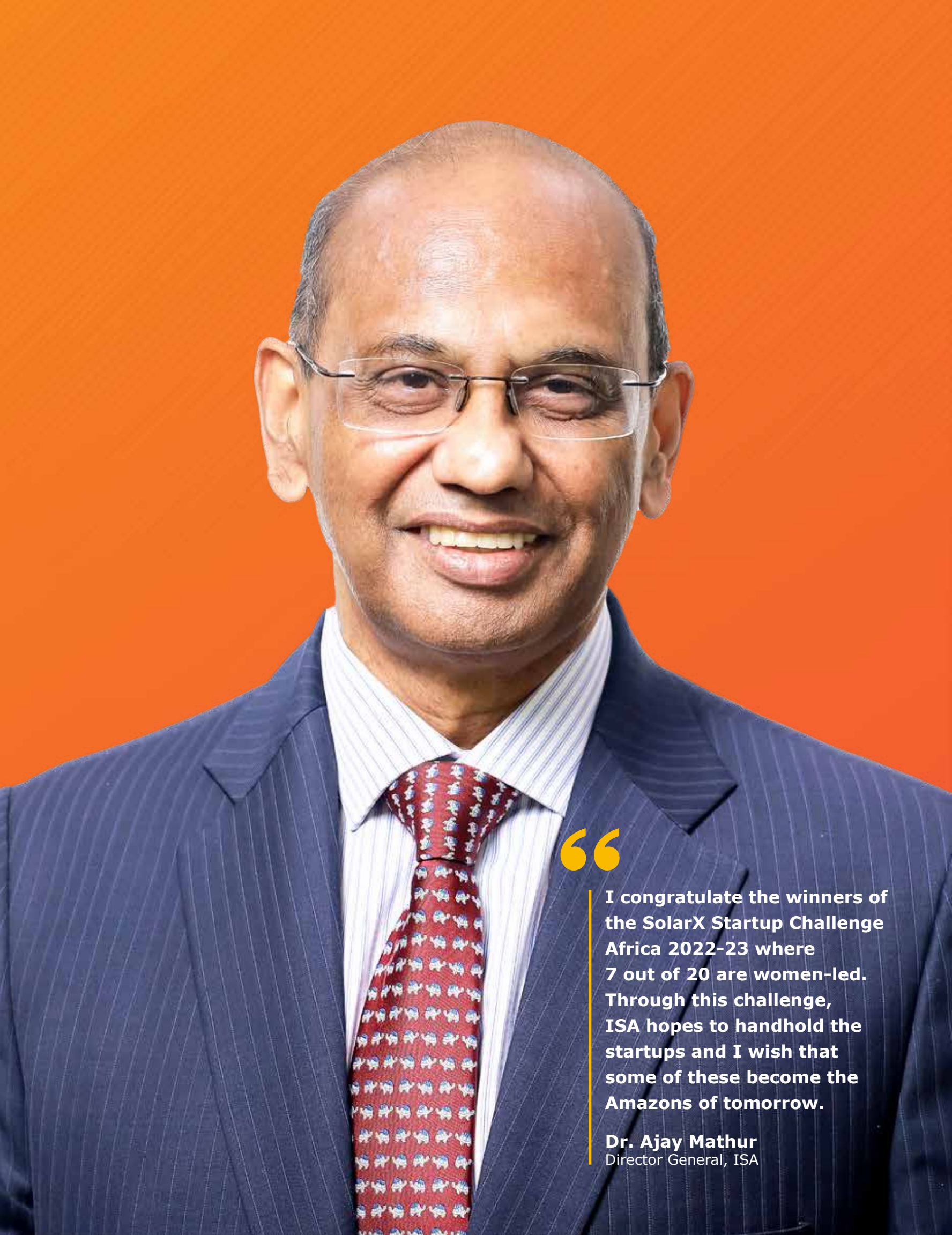
INTERNATIONAL
SOLAR
ALLIANCE



SOLARX STARTUP CHALLENGE: AFRICA 2023

*Promoting Solar Innovations
Across the Globe*





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I congratulate the winners of the SolarX Startup Challenge Africa 2022-23 where 7 out of 20 are women-led. 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

From the Desk of DG, ISA

The International Solar Alliance (ISA) is dedicated to advancing the global solar energy sector by fostering innovation and entrepreneurship. In this pursuit, the SolarX Startup Challenge was launched at COP27 in Sharm-el-Sheikh, Egypt, on November 10, 2022, in collaboration with Invest India. This challenge represents a significant milestone in our ongoing efforts to bridge the energy and investment gaps faced by ISA Member Countries, particularly in the African region.

The inaugural edition of the SolarX Startup Challenge, focused on Africa, has been a resounding success. We received an overwhelming response with over 180 applications from 28 countries, showcasing the incredible talent and potential within the African solar ecosystem. The diversity of solutions presented has been truly inspiring, addressing a range of challenges and offering scalable, cost-effective innovations tailored to the unique needs of the region.

I am particularly proud to highlight that among the 20 winning startups, 7 are led by women, reflecting our commitment to gender inclusivity and empowerment within the solar energy sector. These entrepreneurs are not

only pioneering new technologies but are also driving change in their communities, contributing to the broader mission of sustainable development.

The innovations presented by the winners of this challenge will receive ongoing support from ISA, Invest India, and our partners through mentorship, investor connections, and market access programmes. It is our hope that these startups will grow and thrive, becoming the Amazons of tomorrow in the solar energy sector.

I extend my heartfelt congratulations to all the winners and participants of the SolarX Startup Challenge Africa 2023. Your dedication and ingenuity are the driving forces behind the transformation of our energy landscape. Together, we are lighting the way to a brighter, more sustainable future.

Dr. Ajay Mathur

Director General, International Solar Alliance



A Special Message from MD, Invest India

As we unveil this coffee table book on the SolarX Startup Challenge, I am filled with immense pride and optimism. This initiative reflects our national commitment to fostering innovation and driving sustainable growth, anchored by the collaboration between Invest India and the International Solar Alliance (ISA). At Invest India, our mission has always been to promote and facilitate investment that propels not only economic growth but also addresses global challenges, and the SolarX Startup Challenge is a shining example of this endeavour.

The SolarX Startup Challenge is more than just a competition; it is a platform that empowers entrepreneurs, fosters collaboration, and accelerates the transition to clean energy. The first chapter of this journey focused on Africa, supported 20 winning African startups with a grant of USD 300,000, and brought to the forefront the extraordinary potential of solar energy to address the pressing challenges of our time. The success of the first edition in Africa has paved the way for the next chapter in the Asia and Pacific region, including India, where we will continue to champion innovation and build a resilient, sustainable

energy future. The second edition, with a combined financial support of USD 450,000, has garnered 120+ applications across 16 countries from Asia-Pacific and 150+ applications from India, showcasing a diverse range of solutions and ideas.

This book encapsulates the spirit of the SolarX Startup Challenge, highlighting the remarkable achievements of our participants and the significant strides we are making towards a brighter, cleaner tomorrow. As we turn the pages, I invite you to explore the stories of innovation, perseverance, and hope that are shaping the future of energy.

Together, let us continue to support and celebrate the entrepreneurial spirit that drives progress and fuels the global transition to renewable energy.

A handwritten signature in black ink, appearing to read 'Nivruti Rai'.

Ms. Nivruti Rai

Managing Director & CEO, Invest India

About the SolarX Startup Challenge: Africa

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. The second edition of the Challenge for the Asia-Pacific region was launched at UNFCCC's COP28 in November 2023.

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.



List of Startups





Musana Carts Uganda Limited



Name of Representative:
Nataliey Bitature
Country: Uganda
Problem Statement Winner:
P1) Technical and financial innovations to accelerate the deployment of off-grid solar applications (mini-grids and SHS) to displace diesel, charcoal or traditional biomass.



Musana Carts, bringing street food vendors a brighter way to business!

*Musana Carts
Uganda Limited*

About the Representative

- British and Ugandan citizen passionate about supporting Africa's sustainable growth through entrepreneurship, education, innovation, and women's empowerment.
- Chief-of-Staff at The Simba Group, fostering growth for 950 employees across various sectors and engaging with influential partners, such as the Mastercard Foundation and UN agencies.
- Founder of Musana Carts, empowering micro-entrepreneurs with solar-powered street vending units, recognized as Forbes 30 Under 30 Entrepreneur and World Economic Forum Africa's Top 5 Women Innovators.



About the Startup

- Musana Carts Uganda Limited offers street vending carts powered by clean energy, providing market vendors with customizable features for various cooking methods, such as deep frying, pan frying, grilling, and rotisserie use.
- The startup supports aspiring entrepreneurs by providing access to finance through a convenient payment plan option. This makes it easier for clients to acquire their carts and kickstart their microenterprises.



About the Solution

- Musana Carts are solar-powered street vending carts that offer clean energy solutions to legal businesses, enabling them to operate in a clean and attractive manner.
- The carts are modular and easily customizable, equipped with features like fridges, gas cookers, and mobile money terminals, making them adaptable to various street vending businesses.
- Beyond just providing clean energy solutions, Musana Carts also contribute to building microenterprises by offering access to finance and valuable business training opportunities.



Hellosolar Technology PLC



Ethiopia

Name of Representative:
Wilhelmina Eliza Diop
Country: Ethiopia
Problem Statement Winner:
P1) Technical and financial innovations to accelerate the deployment of off-grid solar applications (mini-grids and SHS) to displace diesel, charcoal or traditional biomass.



“HelloSolar is working towards becoming the most efficient solar services distribution channel in Ethiopia, effectively bringing quality and adapted solar technologies to the Ethiopian rural communities, by breaking the barrier of high upfront costs through the pay-as-you-go sales model.”

Hellosolar
Technology PLC

About the Representative

- Wilhelmina Eliza Diop is a skilled professional in Solar Energy Impact, Sustainable Development, Environmental Engineering, Solar Energy, Management, and Environmental Impact Assessment.
- Her dedication to Africa's social development and women empowerment drives her to actively contribute to creating a positive impact in the region.

About the Startup

- HelloSolar offers commercially viable PAYGO solar home systems (SHSs) in Ethiopia, assembling mid-size systems in Addis Ababa and distributing them in 5 regions, with a focus on the largest customer base in Somali and Amhara regions.
- The company commercializes lighting global certified products with 2 years warranty, providing an extensive after-sales support program, including a call centre in all working languages and a responsible agent system.
- HelloSolar's PAYGO sales model proposes an average repayment time of 2 years, with downpayment adjusted to the defaulting risk in specific communities and convenient monthly instalments.



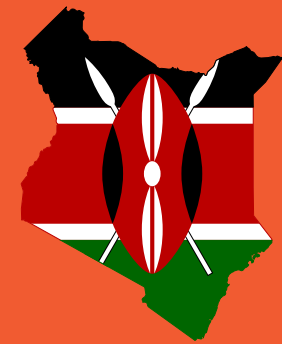
About the Solution

- HelloSolar provides PAYGO solar home systems (SHSs) in Ethiopia, targeting underserved rural communities with limited purchasing power.
- The company's sustainable distribution model has already reached over 13,000 direct customers and is actively contributing to Ethiopia's Electrification Program, involving the private sector in energy expansion efforts.
- Despite challenges like dollar shortages, HelloSolar seeks special funding to expand its reach to new areas and promote productive use of energy technologies, supporting the country's economic growth.





Kuza Coolers



Kenya

Name of Representative:
Dennis Onkangi
Country: Kenya
Problem Statement Winner:
P2) Development of more efficient models having high scalability potential and enhancing cost competitiveness (including life cycle costs) for solar drying, solar water heating, solar cooking or other similar productive use applications



About the Startup

- KUZA COOLERS LIMITED is a startup committed to improving food security in the fish value chain and empowering small-scale fisher folks through their affordable and solar-powered refrigeration solution, Kuza Freezer.
- Their low-cost freezers offer a temperature range of 10°C to -20°C, ideal for preserving fish and keeping them fresh for 2 to 3 days.
- With the ability to remotely monitor and control their products, KUZA COOLERS LIMITED ensures superior service quality and contributes to reducing post-harvest losses in the fish industry.

Kuza Freezer manufactures lease to own & solar-powered freezers, enabling small-scale businesses to achieve food security and become economically resilient.

Kuza Coolers Limited



About the Representative

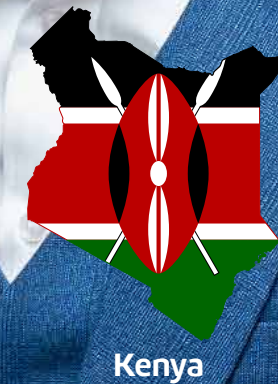
- Dennis Onkangi is an impact innovator and social entrepreneur, driven by a strong passion for developing technologies that have a positive impact on society and the environment.
- As the Chief Executive Officer of Kuza Freezer, based in Mombasa, Kenya, Dennis has been leading the company for over 3 years and 7 months, steering its mission to make a difference in the community.



About the Solution

- Kuza Freezer provides an affordable and sustainable solution for over 150,000 small-scale fishers and fish farmers in Kenya, bridging the cold-chain gap and reducing the 45% daily fish harvest waste caused by the lack of reliable cold storage.
- Their low-cost and solar-powered freezers maintain a low temperature range of 10°C to -20°C, preserving fish for 2 to 3 days, thus improving food security in the fish value chain.
- With a pay-as-you-go model and remote monitoring capabilities, Kuza Freezer ensures accessibility and high service quality, empowering fishers and promoting economic resilience in the community.

Ecobora



Kenya

Name of Representative: Justine Abuga
Country: Kenya
Problem Statement Winner: P2)
Development of more efficient models having high scalability potential and enhancing cost competitiveness (including life cycle costs) for solar drying, solar water heating, solar cooking or other similar productive use applications



Ecobora is offering pay-as-you-go solar cooking boilers to rural marginalised schools in Africa where schools can make micropayments of as low as \$20 to unlock and cook food with the solar cooking boiler replacing the need to use the expensive and dirty firewood in their school kitchens. We are offering solar cooking energy as a service allowing schools to offer free meals to their students.

Ecobora

About the Representative

- Justine Abuga is the CEO & Co-founder of Ecobora, a Kenyan company producing affordable biomass carbonized pellets and fuel-efficient cook stoves.
- Through Ecobora, Justine Abuga is making a significant impact in Kenya by promoting eco-friendly cooking practices.

About the Startup

- Ecobora is a Kenyan startup that introduced the first-ever solar cook stove for rural schools, eliminating 100% use of firewood and providing clean and affordable cooking solutions.
- Their institutional solar cook stove enables schools to save on firewood costs, offer free meals to students, and invest in quality education by upgrading learning facilities.
- Ecobora uses a pay-as-you-go model to equip schools with solar cooking energy, while also empowering local communities through training and engagement in solar unit maintenance and installation.



About the Solution

- Ecobora offers pay-as-you-go solar cooking boilers to schools, allowing affordable micropayments (starting from \$200) for unlocking the stove and providing free meals to students.
- Their solar stoves use 100% solar energy, allowing affordable and clean cooking, eliminating firewood use in schools. The stoves store energy for up to 7 days, ensuring cooking during rainy seasons.
- Ecobora's solar cooking boilers generate thermal and electrical energy, empowering schools to store produce and proteins, providing safe and nutritious food. Additionally, the stoves promote gender equality by creating opportunities for women as school cooks, benefiting marginalized communities.

Centennial Power Ltd



Name of Representative:
David John Frenkil
Country: Rwanda
Problem Statement Winner:
P3) Technical and/or business model innovations to bring down the cost of, or support grid integration for rooftop solar systems



Always On

*Centennial
Power Ltd*

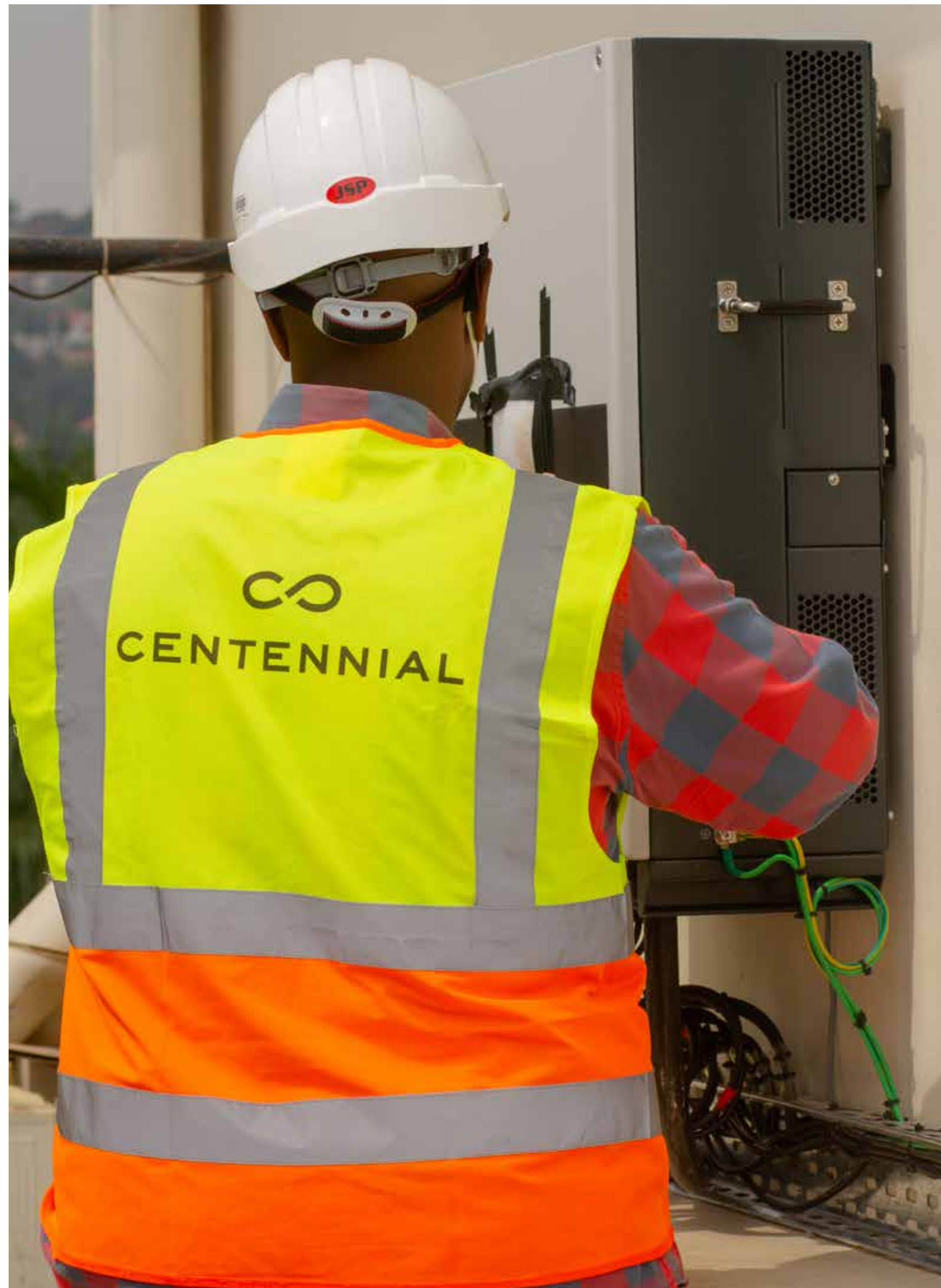
About the Representative

- David John Frenkil is the Founder and Managing Director of Centennial, a US-based power company operating in 6 African countries, specializing in on-site solar and battery energy storage projects for commercial and industrial facilities.
- As an experienced Project Finance Attorney, David has provided counsel on more than 800 MW of operational solar assets before establishing Centennial.



About the Startup

- Centennial supports African health facilities specializing in vaccine administration and management since 2017. They provide affordable power supply to vaccine cold storage facilities in Rwanda and Zambia, replacing diesel generators with on-site battery storage systems.
- Centennial prioritizes best-in-class engineering, timely delivery, and equipment from top-tier manufacturers. Their extensive project pipeline offers economies of scale for equipment and financing, benefiting their customers.
- Centennial focuses on designing, building, and operating high-quality, long-term projects. They are committed to sustainable solutions and long-term partnerships with their customers in African countries.



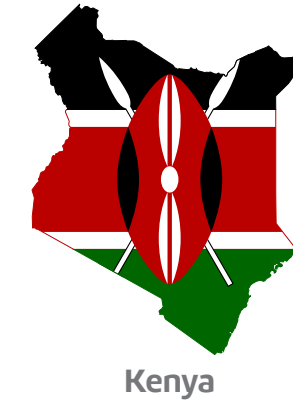
About the Solution

- Centennial's solution provides reliable power supply to health facilities in African countries, ensuring vaccines can be preserved for longer periods, even in rural areas where electricity access is limited.
- By reducing operational costs of powering cold storage equipment, Centennial's solution helps health facilities save money and allocate resources more efficiently to improve overall healthcare services.
- Implementing Centennial's solution also contributes to environmental sustainability by reducing the facility's carbon footprint, aligning with global efforts to combat climate change while safeguarding public health.





INNO-NEAT Energy Solutions



Name of Representative:
Godfrey Katiambo
Country: Kenya
Problem Statement Winner:
P3) Technical and/or business model innovations to bring down the cost of, or support grid integration for rooftop solar systems



SafiSolar has been a true blessing for my family. Before, finding clean water was a daily struggle that took time away from my children and household chores. Now, with SafiSolar, clean water flows right into our lives. It's not just a filter; it's a lifeline.

**INNO-NEAT
Energy Solutions**

About the Representative

- Godfrey founded and served as CEO of INNO-NEAT Energy Solutions, offering off-grid solar energy solutions and business development support.
- Held key positions at Energy4Impact Foundation, Bopinc, TechBridge Invest Africa, and SUNami Solar Ltd, gaining expertise in market research, strategic planning, partnership development, and sales management within the renewable energy sector.

About the Startup

- INNO-NEAT Energy Solutions specializes in manufacturing solar-ready repurposed lithium-ion batteries by refurbishing used cells, providing affordable and sustainable energy storage solutions.
- The startup's mission is to empower low-income off-grid communities with reliable solar energy storage systems, contributing to both environmental conservation and social development.

About the Startup

- INNO-NEAT Energy Solutions offers unique batteries that are designed to be repairable and maintainable. Their focus on sustainability and efficiency sets them apart in the energy storage industry, providing cost-effective solutions while reducing electronic waste.



Urban Greens Ltd



Uganda

Name of Representative: Peter Huisman

Country: Uganda

Problem Statement Winner: P4)

Innovative solutions combining use of solar with other applications (e.g. AgriPV) to save land and boost small holder family incomes

About the Startup

- Urban Greens offers standardized urban small-scale commercial aquaponics systems powered by Solar PV and integrated with IoT technology.
- Each system generates 15kg of fish and 250 plants monthly, resulting in a steady income of 200 USD per month for the urban farmers.
- Contract growers receive guaranteed buy back of their produce and fish, along with intensive support, maintenance, and the option to pay with their harvested crops using credit provided by Urban Greens.



Urban Greens developed compact solar-powered aquaponics systems for home production and income generation by urban households. We address the demand for clean and healthy fish and vegetables in rapidly growing African cities, such as Kampala. We make food production more sustainable and climate resilient.

Urban Greens Ltd



About the Representative

- Peter Huisman is an accomplished Managing Director with a Master's degree (MSc) and over 15 years of experience in the Energy Access and Climate sector in Africa.
- As a (co-)founder of Urban Greens, technical consultant, and investor, he has dedicated 15 years to driving impactful projects in the region.

About the Solution

- Urban Greens offers easy-to-use aquaponics systems designed for urban growers, providing equipment including solar-powered backup and remote IoT monitoring.
- The company provides intensive support and a guaranteed buy-back of produce, enabling the sale of systems on credit, fostering intrinsic motivation for growers.
- Urban Greens' unique system design bridges the gap between hobby aquaponics and large-scale farms, allowing commercial food production in idle urban spaces with low maintenance needs and affordable labor.

STES Group Ltd



About the Representative

- NZITONDA KIYENGO is an experienced architect and the Managing Director of STES GROUP LTD, bringing 24 years of entrepreneurship experience to the role.

About the Startup

- BazaFarm is an innovative startup that offers solar-powered technology with an IoT system, designed to optimize farming practices by measuring and analyzing various soil parameters through smart sensors.
- The technology allows farmers to access real-time data on soil moisture, temperature, electrical conductivity, fertilizer levels, and pH through a web dashboard or mobile app, achieving a remarkable 95% accuracy rate in its measurements.
- With its ability to enable irrigation automation and respond promptly to crop requirements, BazaFarm significantly enhances growers' efficiency and consistency, leading to a remarkable 13% increase in crop yield. Moreover, the solar-powered and battery-operated design ensures continuous functionality, even during rainy seasons and nights.



Name of Representative:
Nzitonda Kiyengo
Country: Rwanda
Problem Statement Winner: P4)
Innovative solutions combining use of solar with other applications (e.g. AgriPV) to save land and boost small holder family incomes



STES Group Ltd (Seed Technology Engineering and Science) is a Rwandan private-based company founded in 2015, made up of a well-trained multidisciplinary team with local and international exposure, along with its hands-on skills using different skills from IoT, solar tech, and other emerging technologies for tasks required to achieve its vision and mission. The company specialises in implementing smart agriculture by performing agricultural activities using advanced technologies made of a combination of precision equipment, the Internet of Things (IoT), sensors and actuators, big data, etc. STES Group manufactures IoT-based devices that are powered by solar panels and offers various training to Youth from STEM in Internet of Things (IoT), Digital Fabrication, and Software Development.

STES Group Ltd



About the Solution

- BazaFarm offers an innovative concept that utilizes emerging technology to address the increasing demand for agricultural yields in the face of a growing population. With a proven increase in productivity of 13%, it has a significant positive impact on both market revenue and overall productivity.
- Designed specifically for the African market and rural areas, BazaFarm incorporates local language (Kinyarwanda) in its software and mobile applications, ensuring a seamless and intuitive experience for farmers in Rwanda.
- Developed by local youth engineers from STES Group Ltd, BazaFarm's locally designed solution streamlines manufacturing, installation, and maintenance processes, making it accessible and user-friendly for farmers in the region.



Illuminating the path to a sustainable future through solar appliance manufacturing and Independent Power Producer ambitions. Our aim is to empower individuals, businesses, and communities with clean, affordable energy solutions while reducing carbon emissions and fostering sustainable development.

Green Scene Energy PLC



Green Scene Energy PLC



Ethiopia

Name of Representative: Rekik Bekele Ayele

Country: Kenya

Problem Statement Winner: P5) Manufacturing innovations (deployment or integration) to lower the cost or improve efficiency/efficacy of solar or ancillary equipment in target markets



About the Representative

- Rekik Bekele Ayele holds a BSc in Electrical Engineering and has more than 10 years of experience in renewable energy program development and the private sector.
- As the Founder and CEO of Green Scene Energy PLC, Rekik's dedication to increasing clean energy access and generating job opportunities has been the driving force behind the company since its establishment in 2016.

About the Startup

- Green Scene Energy PLC (GSE) is a women-led company incorporated in 2016, providing affordable, high-quality solar energy products in Ethiopia through its "SETT" business model, leveraging its partnership with Ethio Telecom.
- GSE operates multiple business lines, including distribution partnerships with retailers, microfinance institutions, and Ethio Telecom, offering pay-as-you-go (PAYGO) enabled solar solutions for lighting, TV, and productive use applications like refrigeration and solar water pumping.
- GSE's core sales channels include an agent network, partnerships with microfinance institutions, and corporate collaborations, such as the Ethio Telecom partnership and Purpose Black Ethiopia's extensive outgrower network for solar water pumping irrigation solutions.

About the Solution

- GSE offers PAYG solar solutions leveraging Ethiopia's telecommunications infrastructure for affordable energy access in off-grid areas.
- Strategic partnerships with Ethio Telecom and Purpose Black Ethiopia give GSE a competitive advantage.
- Growing regional sales agent network ensures efficient sales and customer support.



Salpha Energy Ltd



Nigeria

Name of Representative:

Sandra Chukwudozie

Country: Nigeria

Problem Statement Winner:

P5) Manufacturing innovations (deployment or integration) to lower the cost or improve efficiency/efficacy of solar or ancillary equipment in target markets





Salpha Energy is a trailblazer in delivering accessible and affordable solar energy solutions by empowering homes and businesses in Nigeria with locally assembled solar home systems.

Salpha Energy Ltd



About the Representative

- Sandra is a seasoned professional with expertise in the energy industry, international management, industrial relations, and Economics.
- Founder and CEO of Salpha Energy, a purpose-driven company providing cleaner, affordable, and innovative energy solutions for a carbon-neutral future.
- Executive Director of Dozy Group, a prominent conglomerate in Manufacturing, Real Estate, and Oil & Gas sectors, including one of Africa's largest petroleum storage facilities.



About the Startup

- Salpha Energy offers locally assembled solar home systems, providing clean energy access to a wide range of homes and businesses with lease-to-own payment plans, eliminating upfront cost barriers for switching to solar power.
- The company's product range includes solar home systems with capacities ranging from 4 watts to 2500 watts, catering to diverse energy needs. The highest-capacity systems can power lights, fans, TVs, computers, and refrigerators simultaneously for up to 15 hours per day.
- In addition to solar home systems, Salpha Energy retails DC appliances like fans, TVs, refrigerators, and freezers, creating income-generating opportunities and improving the quality of life for customers.

About the Solution

- Salpha Energy's solar home systems offer a unique capacity of up to 3,000 watts per hour, surpassing the limitations of existing systems in the Nigerian market. This makes them ideal for a wide range of businesses, such as barbers, welders, farmers, tailors, small kiosks, and offices with higher energy requirements.
- By transitioning from petrol and diesel generators to Salpha's solar energy solutions, both homeowners and business owners can experience significant cost savings, potentially up to 68% in energy expenses. These saved funds can be reinvested to foster business growth and expansion.
- The solution not only addresses the energy needs of businesses but also promotes sustainability by reducing reliance on fossil fuels, contributing to a cleaner environment and a more sustainable future for Nigeria.



OffGridBox Rwanda Ltd



Rwanda

Name of Representative: Jodie Wu

Country: Rwanda

Problem Statement Winner: P6)
Innovative business models of solar power to emerging use cases such as eMobility, green Hydrogen, round-the-clock power, battery waste management etc.

About the Representative

- Jodie Wu is a seasoned entrepreneur with over 15 years of experience in East Africa, where she has demonstrated her expertise in the business landscape of the region.
- As the Chief Executive Officer at OffGridBox, Jodie leads the company in providing innovative solutions to address energy and water challenges, making a positive impact on communities and fostering sustainable development.



OffGridBox's flagship product is the OffGridBox Pioneer, a 2mx2mx2m woman-operated kiosk, which delivers clean water, power, and resilience to communities. Through the combination of solar, ultrafiltration, and electrolysis, we will soon add green hydrogen for cooking, preparing communities for a resilient future of freedom and independence, stepping up for disaster relief situations and enabling a zero carbon footprint life in the remotest parts of the world.

OffGridBox Rwanda Ltd



About the Solution

- OffGridBox's mission is to deliver climate-resilient energy and water products globally, with a focus on hydrogen and clean cooking solutions.
- They are developing a negative carbon footprint solar system using a solar electrolyzer to generate green hydrogen for cooking and energy storage.
- OffGridBox's versatile technology caters to households, institutional buildings, and humanitarian settings, aiming to reverse climate change by combining solar, water, and hydrogen solutions

About the Startup

- OffGridBox is a startup with a mission to address the critical global challenges of water and energy access. With 2 billion people lacking safe water and 800 million without access to energy, the company aims to make communities more resilient to climate change by providing affordable access to clean water and renewable energy solutions.
- Since its inception in 2016, OffGridBox has been operating with a pilot in Rwanda and has subsequently expanded into new markets. Its versatile technology caters to various needs, including households, institutional buildings like health clinics and schools, and even humanitarian settings such as refugee camps or post-disaster situations.
- By combining clean water and renewable energy access, OffGridBox empowers communities to improve their livelihoods, promote sustainable development, and create a positive impact on the lives of those who lack basic resources in remote or underserved regions.





Bako Motors



At Bako Motors, we are redefining mobility with a vision that goes beyond transportation. Our solar-powered electric vehicles incorporate innovation and sustainability, offering a solution that addresses the pressing challenges of last-mile delivery and carbon emissions. With a commitment to revolutionise Africa's transportation landscape, we are excited to showcase how Bako Motors is not only changing the way people move but also fostering a greener and more vibrant future for the continent.

Bako Motors



Name of Representative:
Boubaker Siala
Country: Kenya
Problem Statement Winner: P6)
Innovative business models of solar power to emerging use cases such as eMobility, green Hydrogen, round-the-clock power, battery waste management etc.

Tunisia

About the Representative

- Boubaker Siala is the CEO and Founder of Bako Motors, a company in the automotive sector.
- He graduated from the Technical University of Munich in Germany.
- With over 20 years of experience, Boubaker has worked with renowned companies like BMW and BOSCH in Europe.

About the Startup

- Bako Motors is the first company in the MEA region to develop electric/solar vehicles, offering an eco-friendly solution for last-mile delivery in the logistics, e-commerce, and FMCG sectors.
- Their vehicles are 70% locally manufactured and feature photovoltaic solar cells, providing a battery range of up to 200 Km, with 50 Km per day of free charging. The company is in the process of obtaining CE certification from TUV Munich.
- Bako Motors offers the Bako App with GPS, rearview camera, and tracking system, empowering fleet managers to efficiently monitor the vehicles and ensure seamless operations.

About the Startup

- Bako Motors' electric/solar vehicles present an eco-friendly and cost-effective alternative to traditional fuel-powered vehicles. With transportation costs 10 times cheaper at just 1.5 TND per 100 Km, businesses can benefit from significant cost savings.
- The vehicles' large carrying load of over 2000 L makes them ideal for last-mile delivery businesses, especially small enterprises like sandwich shops or cafeterias, enabling them to execute their operations efficiently and affordably.
- Bako Motors' vehicles weigh only 30 Kg for the body and 250 Kg when empty, ensuring a lightweight and maneuverable solution that contributes to reducing operational costs by 40% through the use of solar cells. Additionally, the starting price of 12,000 TND and available dealer and in-house B2B leasing models make it a convenient and accessible choice for businesses of various sizes.

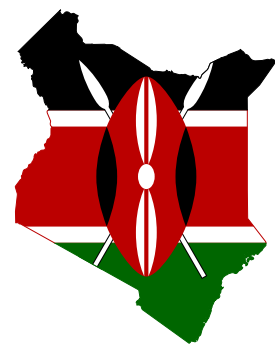


Arinifu is working to unlock the potential of small holder chicken farmers by transitioning them from charcoal heating to data led IoT chicken farming using green energy, allowing them retain more money in their pockets.

Arinifu Technologies Ltd



Arinifu Technologies Ltd



Kenya

Name of Representative: George Chege

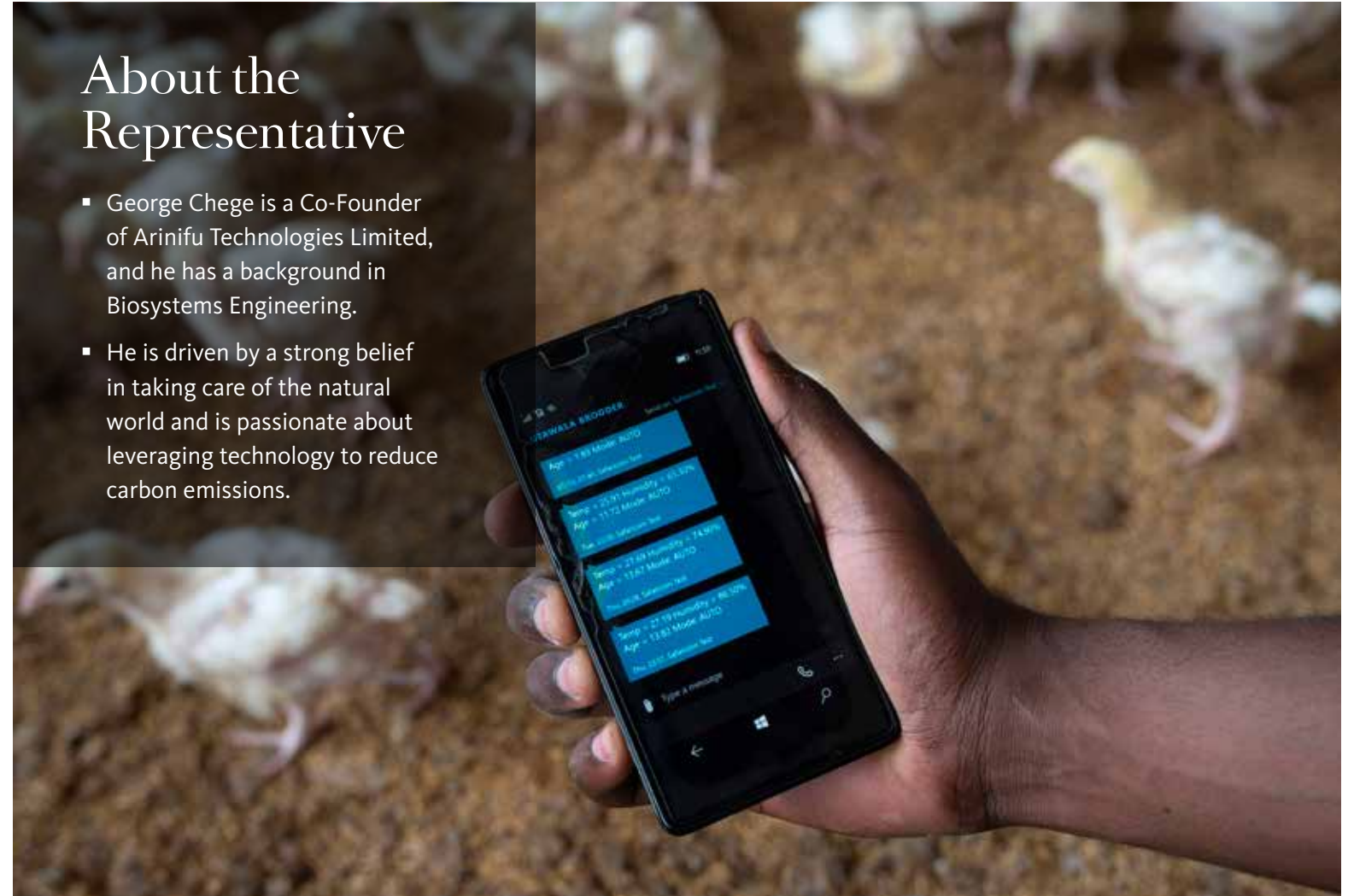
Country: Kenya

Problem Statement Winner: P7)

Development of soft tools based on AI, IoT to improve the manufacturing, deployment or integration of solar energy applications

About the Representative

- George Chege is a Co-Founder of Arinifu Technologies Limited, and he has a background in Biosystems Engineering.
- He is driven by a strong belief in taking care of the natural world and is passionate about leveraging technology to reduce carbon emissions.



About the Startup

- Arinifu Technologies Ltd is a startup focused on providing innovative solutions for poultry farmers.
- The company's expertise lies in developing the Smart brooder, a patented IoT environmental control device that uses temperature and humidity sensors to optimize conditions for different chicken breeds at various growth stages.
- Arinifu Technologies also offers a software platform to help farmers keep production records and provides post-harvest support with solar-powered cold storage, reducing the risk of spoilage and enabling farmers to fetch higher prices for their produce.

About the Representative

- The Smart brooder is an IoT environmental control device designed for poultry farming, using custom algorithms to manage temperature and humidity levels according to the specific needs of different chicken breeds at varying growth stages.
- The device integrates more efficient heaters, such as bulbs/ptc solar heaters for smaller scale farmers and LPG/Biogas heaters with solar ignition and flame detection for larger farms, ensuring optimal conditions for the chicks' well-being and growth.
- The solution incorporates GSM technology to convey real-time data to farmers through the cloud. In case of any issues, such as power outages, the system sends SMS alerts, enabling prompt intervention to maintain a healthy environment for the poultry. Additionally, Arinifu Technologies offers a software platform to record and manage production data, as well as post-harvest support with solar-powered cold storage to minimize produce spoilage and increase market value.



Momint



Name of Representative: Ahren
Country: South Africa
Problem Statement Winner: P7)
 Development of soft tools based on AI, IoT to improve the manufacturing, deployment or integration of solar energy applications

About the Startup

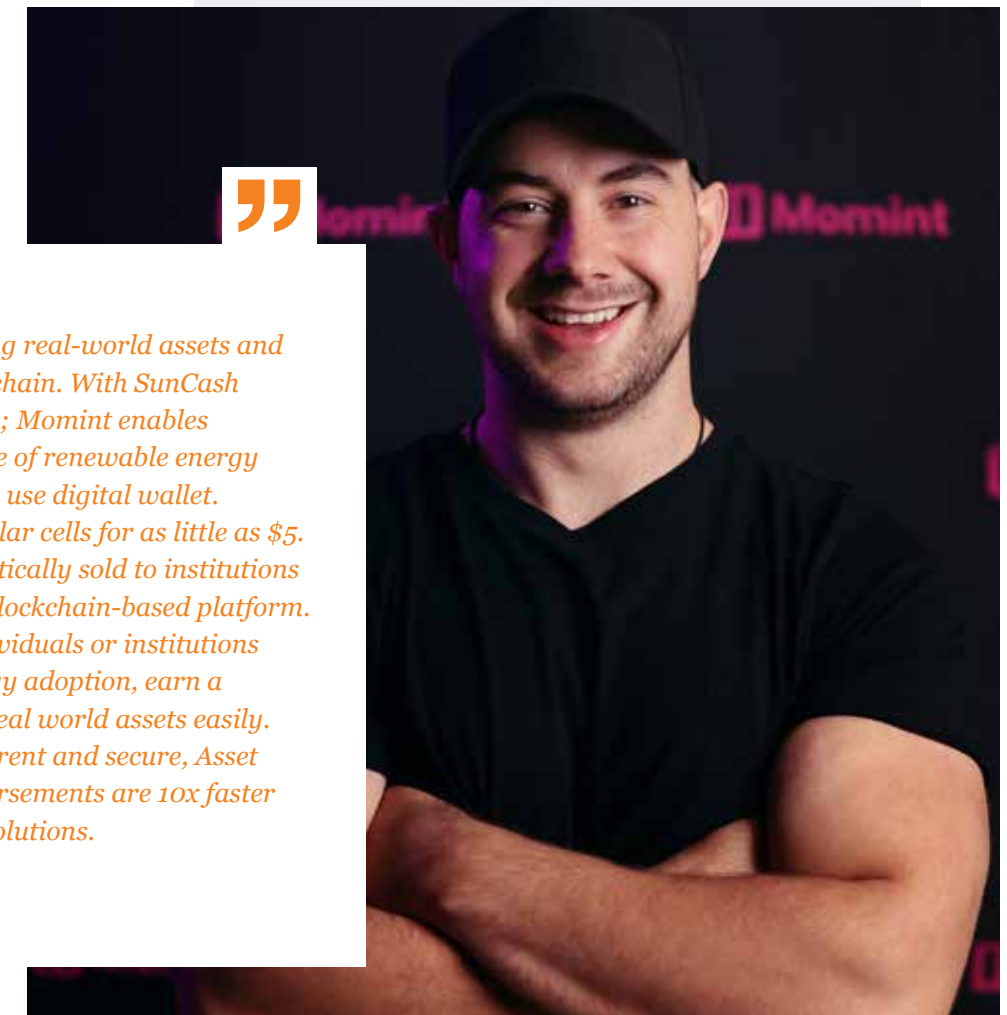
- Momint is a revolutionary blockchain company that empowers people to invest in solar energy projects around the world. By tokenising and crowdfunding solar assets, Momint unlocks liquidity, enables retail involvement, and provides transparency and security.
- Momint has a proven track record of bringing real-world assets and legal contracts onto the blockchain, with over \$1.42m in sales volume. Momint also offers attractive returns, tax benefits, and environmental impact to its investors. Momint has partnered with leading solar developers and clients, and has won prestigious awards and recognition for its innovation and excellence.

About the Representative

- Ahren is an experienced professional with a diverse background, holding a Bachelor of Commerce in computer science and information systems.
- He currently serves as the CEO of MOMINT and has previously held significant roles in companies like MWR InfoSecurity, JobMatcher Pty, Bozza ZA, Ebbnair, and Project Kooda, showcasing his entrepreneurial spirit and expertise in various fields.

About the Solution

- Momint is a blockchain company that tokenises and crowdfunds Solar Assets.
- This Unlocks liquidity and enables retail involvement (with or without Crypto!). It naturally has all the benefits of transparency and security that blockchain enables. For the last 2 years, we have specialised in bringing real-world assets and legal contracts onto the blockchain. We have done over \$1,42m in Sales Volume.



Momint specialises in putting real-world assets and legal contracts on the blockchain. With SunCash (Momint's flagship product); Momint enables fractional funding and trade of renewable energy assets, through their easy to use digital wallet. Individuals can purchase solar cells for as little as \$5. Generated power is automatically sold to institutions through Momint's bespoke blockchain-based platform. This mechanism allows individuals or institutions to invest in renewable energy adoption, earn a forecast income and trade real world assets easily. Besides being more transparent and secure, Asset management revenue disbursements are 10x faster and cheaper than existing solutions.

Momint

NoorNation



Name of Representative:
Ragy Ramadan Ahmed Shehata

Country: Egypt

Problem Statement Winner: P9)
Development of eco-system in terms of manufacturing of balance of system components, such as, high efficiency inverters, glass cover options for modules to maintain high transmittance and reduce use of water in cleaning, EVA sheets, etc.

About the Startup

- NoorNation is the creator of LifeBox, a sustainable and decentralized solution providing clean energy and safe water from solar power to empower rural communities, farming, and tourism businesses in underserved areas.
- LifeBox advantages include plug-and-play installation, 73% land savings compared to regular PV systems, dual supply of water and electricity, remote monitoring, 75% less required infrastructure, and a 10-year overall warranty.

ASACCOV Global Nigeria Limited - A6GNL



Nigeria

Name of Representative: Jason Atusiuba

Country: Nigeria

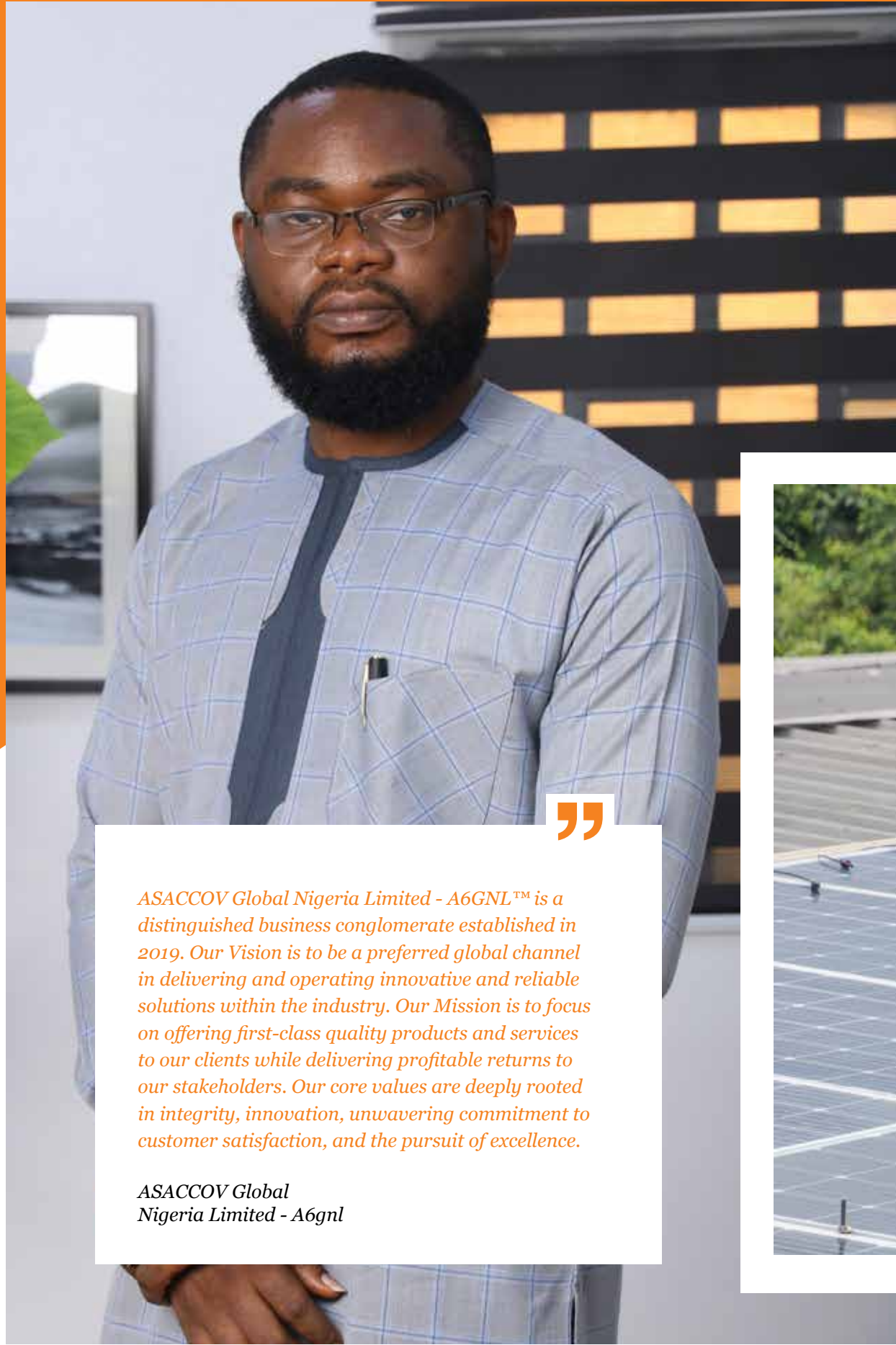
Problem Statement Winner: P8)

Development of eco-system in terms of manufacturing of balance of system components, such as, high efficiency inverters, glass cover options for modules to maintain high transmittance and reduce use of water in cleaning, EVA sheets, etc.



About the Startup

- A6GNL is a Nigerian company with a specialization in solar energy and technology services.
- Their diverse product range includes solar panels, inverters, batteries, along with installation and maintenance services, catering to residential, commercial, and industrial clients.
- A6GNL's core mission is to offer sustainable energy solutions, assist in reducing clients' carbon footprint, and promote the adoption of renewable energy practices throughout Nigeria.



ASACCOV Global Nigeria Limited - A6GNL™ is a distinguished business conglomerate established in 2019. Our Vision is to be a preferred global channel in delivering and operating innovative and reliable solutions within the industry. Our Mission is to focus on offering first-class quality products and services to our clients while delivering profitable returns to our stakeholders. Our core values are deeply rooted in integrity, innovation, unwavering commitment to customer satisfaction, and the pursuit of excellence.

**ASACCOV Global
Nigeria Limited - A6gnl**

About the Solution

- The project addresses the pressing demand for clean and affordable energy solutions in Nigeria. By offering a portable solar generator with DC and AC functionalities, coupled with the option to integrate solar panels, it provides a sustainable and cost-effective solution for households and businesses to access reliable electricity, particularly during power outages.
- The innovative design supports a wide range of appliances, including LED lights, AC/DC fans, TVs, laptops, refrigerators, mobile chargers, and more, catering to the diverse energy needs of households, SMEs, workstations, and security surveillance systems.
- What sets this project apart is its specific focus on addressing Nigeria's energy challenges, its utilization of renewable energy sources, and its adaptability to meet the varying energy demands of different users, making it a practical and efficient solution for the country's clean energy transition.



About the Representative

- Jason Atusiuba, the Founder and CEO of ASACCOV GLOBAL NIGERIA LIMITED - A6GNL, leads a dynamic business conglomerate dedicated to providing innovative and reliable solutions



Photons Energy Ltd



At Photons Energy Ltd, we are at the forefront of pioneering sustainable energy solutions aimed at addressing critical challenges within healthcare systems. Leveraging innovative business models centered around solar power, our startup is dedicated to ushering in a new era of round-the-clock power and sustainable energy solutions for healthcare facilities. Our pursuit of sustainable progress is firmly anchored in our dedication to driving forward Sustainable Development Goals (SDGs) 7 and 3. Through the deliberate implementation of efficient solar systems, we have witnessed profound transformations within various healthcare facilities. The challenges that once burdened medical facilities due to energy limitations have undergone a radical shift. Today, these facilities operate harmoniously and efficiently with the integration of solar-powered solutions, including water pumps that alleviate water scarcity concerns, solar water heaters, and PV systems that provide reliable energy to power the entire facility. One of our proudest achievements resulting from this innovation is the significant reduction in maternal mortality rates—a milestone that underscores the direct, tangible impact of our efforts. This isn't just a lofty goal; it's a testament to the tangible fusion of cutting-edge technology and profound empathy. With each sunbeam converted into vital energy, we reaffirm our mission to create a world where healthcare flourishes, families thrive, and optimism radiates through our unwavering commitment to sustainable energy solutions. Together, at Photons Energy Ltd, we are not just illuminating physical spaces, but we are also illuminating a brighter and more sustainable future for all.

Photons Energy Ltd



Tanzania

Name of Representative:
Roman Shayo
Country: Tanzania
Problem Statement Winner:
P9) Development of high efficiency DC pumps with smart controller having potential for scalability and practical business models for dissemination

About the Startup

- Photons Energy Limited is an EPC (Engineering, procurement and Construction) company dealing with provision of services in the renewable energy and energy efficiency sector.
- Particularly Photons Energy Limited provides services which include the design, supply and installation of solar power systems, solar water pumping systems and solar water heating systems.
- It also provides services in the energy efficiency sector which include the training, energy audits and supply of energy efficient appliances. PEL clients include those in agricultural business, hospitality industry, academic sector, health sector and e-mobility etc.



About the Representative

- In the renewable energy sector for nearly 15 years, the Roman has accumulated extensive experience in the energy industry.
- Currently serving as the Technical and Business Development Director at Photons Energy Ltd, a 100% Tanzanian-owned EPC company, they contribute their expertise to deliver high-quality renewable energy solutions to residential, industrial, and commercial clients.



About the Solution

- In Sub-Saharan Africa, more than 600 million people lack access to electricity, with Kenya and Tanzania accounting for 71 million of this population. The solar energy sector is witnessing growth, but the main solar components are mostly imported, and there is a scarcity of companies distributing genuine components, leading to a slowdown in its expansion.
- To tackle these challenges, their innovative e-mobility solution aims to lower operation costs for motorcycles, providing affordable transportation options for local communities and increasing revenue for operators. Additionally, this solution is expected to create new employment opportunities, contributing to regional economic growth. Another crucial aspect of their approach involves streamlining the implementation of solar projects.
- By addressing component shortages and simplifying logistic procedures, they aim to empower EPCs and small solar installers to execute projects more efficiently, thus fostering the growth of the solar energy sector in Sub-Saharan Africa.



Innovation that drives livelihoods.

NorthLite Solar Limited

NorthLite Solar Limited

About the Startup

- Adabre Frank is an accomplished entrepreneur and private policy executive with extensive global experience. His expertise lies in analyzing, evaluating, and strategizing for both private and public entities, effectively navigating complex social, economic, and political challenges to enhance performance and achieve desired objectives.
- With a proven track record of driving actions that lead to tangible improvements, Adabre Frank is a seasoned professional capable of assimilating multifaceted issues and providing innovative solutions for enhanced outcomes in various domains.



Ghana

Name of Representative:
Frank Akasoba Adabre

Country: Ghana

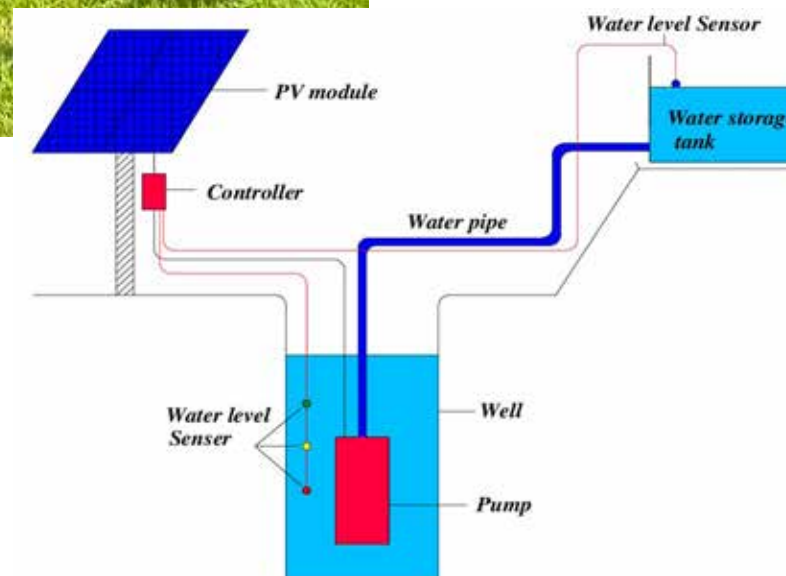
Problem Statement Winner:
P9) Development of high efficiency DC pumps with smart controller having potential for scalability and practical business models for dissemination

About the Startup

- NorthLite specializes in solar power systems, catering to both off-grid and on-grid communities. They offer Solar PV solutions for water pumping and solar home systems, empowering off-grid homes with productive utility solutions.
- Providing renewable energy options, NorthLite's solar power systems support off-grid communities through solar PV solutions that enable efficient water pumping and solar home systems, enhancing sustainability and energy access.

About the Solution

- NorthLite's mission centers on providing access to affordable, clean energy for communities, particularly focusing on empowering women and those using costly and harmful energy sources. By addressing these issues, the company aims to improve livelihoods and sustainability.
- Through smart innovation in energy utilization, NorthLite aims to transform farming communities, increasing agricultural yield, and efficiency while reducing labor requirements. This initiative seeks to facilitate modern agriculture and smart farming practices, promoting economic growth.
- NorthLite aims to create employment opportunities, particularly for young women who face limited prospects due to societal stereotypes. Additionally, by promoting the use of new technology, the company strives to foster social, economic, and environmental sustainability in Ghana, aligning with global emission mitigation efforts.





We are a solar management platform and marketplace that connects Nigerians to the best clean energy products in their locality.

Uwana Energy



Uwana Energy



Nigeria

Name of Representative:

s – Tayo Oyinlola

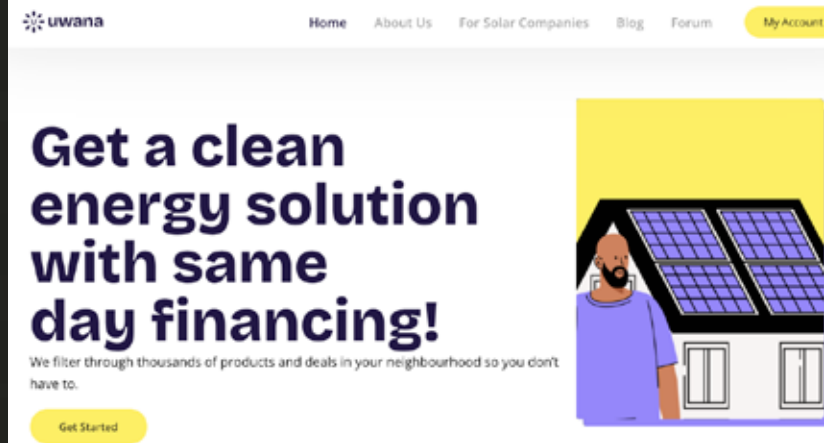
Country: Nigeria

Problem Statement Winner:

P10) Services or softwares which help in land mapping e.g., geo-spatial drones

About the Representative

- Tayo Oyinlola is an accomplished entrepreneur and lawyer with a diverse background in business development and legal practice.
- As the co-founder and COO of Uwana Energy since 2020, Tayo has played a key role in the development and growth of the company.



About the Startup

- The Uwana Connect platform simplifies the process of accessing constant, safe, and reliable solar energy. By gathering essential user details like location, appliance usage, and budget, the platform utilizes an algorithm to match them with verified solar providers tailored to their specific needs, while also facilitating affordable payment options through fintech partners.
- Through Uwana Connect, customers benefit from transparency, with the ability to rate and review their experiences, while solar providers gain access to a seamless platform for tracking matches, installations, after-sales service, and potential customer interactions, making it an all-in-one solution for both end-users and solar providers.

About the Solution

- The company's end-to-end platform solution is making a significant impact in Nigeria, benefiting 800 million energy-poor Africans. By matching solar consumers with installers and suppliers, the platform accelerates the adoption of clean energy technologies, offering a reliable and clean alternative to the hazardous and costly fuel generators commonly used during frequent blackouts caused by an unstable national grid.
- Through their innovative platform, they effectively streamline the solar process, connecting buyers, sellers, lenders, and installers, thereby addressing the segmented and manual processes prevalent in the solar industry. The company's goal is to replace polluting generators with clean alternatives nationwide, while partnering with FinTechs to facilitate credit screenings and offer convenient loan options for solar products, allowing customers to repay in affordable monthly installments.



EG Platform Ltd (Energrow)



Uganda

Name of Representative:
Aaron Leopold
Country: Nigeria
Problem Statement Winner:
P10) Services or softwares which help in land mapping e.g., geo-spatial drones

About the Representative

- Aaron, the CEO of EnerGrow, possesses over 15 years of experience in integrated and decentralized energy business, policy, and finance. He is a visionary leader dedicated to enhancing energy access and economic development in Africa through microfinance-driven solutions.
- With a successful track record in building impactful organizations and partnerships, including the Africa Minigrad Developers Association (AMDA), Aaron combines analytical prowess, stakeholder engagement, and expertise in African markets to pursue EnerGrow's ambitious goal of transforming the economics of rural electrification on the continent.

EnerGrow is the only company on the continent aiming to rewrite the economics of rural electrification using microfinance to support improved livelihoods in rural areas. We make electrification bankable. Communities win, energy companies win, EnerGrow wins.

EG Platform Ltd. (Energrow)

About the Startup

- EnerGrow, a microfinance company operating in Uganda, offers comprehensive financial services and training to empower customers in accessing electricity connections and utilizing productive energy assets.
- By collaborating with energy suppliers like mini-grid operators and national utilities, EnerGrow strategically boosts energy demand in rural regions, fostering profitability and creating opportunities for economically viable grid extensions.



About the Solution

- EnerGrow is a tech start-up growing sustainable, productive, rural electricity demand in Africa, through an innovative mix of productive asset financing, training and digital ID based technology.
- Trying to boost and improve the economics of rural electrification which is currently donor dependent. We are helping it become self-sustainable by helping rural communities increase energy demand by increasing their income
- They are redefining the economics of rural electrification using micro finance to help rural customers improve their income using electricity



Pragya Gupta

ISA

“

We received 180+ applications for the African region and came down to 20 after a rigorous evaluation process. Through this program, we aim to promote solar applications throughout the globe

Sujatha UG

Invest India

“

The SolarX Startup Challenge stands as a beacon of the collective effort of Invest India and the International Solar Alliance (ISA) towards a sustainable future. The SolarX Startup challenge brings out the innovative startups driving change and making solar energy more accessible, efficient, and sustainable for all.



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& FACILITATION AGENCY



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