



Royal Academy
of Engineering

Advance
2025

Advance 2025

An introduction
to the innovators and
their technologies

Advance 2025

Our entrepreneurship programmes support exceptional entrepreneurs from around the globe to turn their innovations into impactful, sustainable businesses.

Advance 2025 is a bespoke programme of relationship building and business growth activities for engineering and tech entrepreneurs who are ready to scale internationally.

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Anne K. Rweyora

Role:	Managing Director
Company name:	Smart Havens Africa
Innovation:	Climate-smart homes: built by women, for women
Country:	Uganda



My pitch

Smart Havens Africa (SHA) supports low-income women excluded from the traditional banking system to escape poverty through ownership of an affordable, climate-smart house. Following direct landownership and training, these homes are built by women under an income-based plan.

Current status of my business

SHA was founded in 2018 as a Ugandan social enterprise. Having built 120 affordable climate-smart homes since our inception, we have validated that our solution is fit for purpose, and are now ready to begin rapidly scaling.

Between 2025 to 2027, SHA is planning to raise GBP £800K (£400K through philanthropy + £400K through impact investment) to advance land and home ownership for 5,300 women and their children in Uganda, and other East African countries.

Our goal is to enable 1 million low-income women in Uganda, as well as other African countries to become owners of climate-smart secure homes, achieving financial independence, and unlocking a brighter future for themselves and their children.

By 2035, we are aiming to enable one million women to achieve financial independence through home ownership, unlocking a brighter future for both them and their children. Our mission is as crucial as ever, as we aim to increase the number of women owning homes and land, given that currently only 1 in 10 women is able to both acquire land, and construct a home, forcing many to become heavily reliant upon rent-models, and subsequently fall into debt traps.



Impact of my business

Since our establishment, we have:

- built 120 affordable homes,
- created over 2,000 jobs,
- ensured over 570 low-income individuals are living in safe, affordable housing,
- saved 3,400 of Africa's rare trees,
- transferred over GBP £1.1m worth of assets to low-income women.



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Balaji Lakshmikanth Bangolae

Role:	CEO
Company name:	Renkuba
Innovation:	Motion free optical tracking for solar panels
Country:	India



My pitch

Solar Panels leveraging Motion Free Optical Tracking (MFOT) technology to produce 40% more energy.

Current status of my business

Renkuba is rapidly expanding to international markets, including the UK, South Africa, and the USA. With pilot projects in the pipeline, the proprietary, Motion-Free Optical Tracking technology is set to revolutionise solar energy efficiency on a global scale. We are currently in the pre-certification phase, and gearing up for industrial-scale production. Full-scale manufacturing of certified solar panels will commence on August 1st, 2025, alongside the launch of our paid pilot projects.

For 2025, we have planned 250 kW worth of pilot installations, partnering with key stakeholders across industries to demonstrate the superior performance and reliability of Renkuba's technology. These pilots will serve as a stepping stone for widespread adoption and commercial deployment.

Impact of my business

Renkuba's Motion-Free Optical Tracking technology is revolutionising solar energy, agrivoltaics, and sustainability by enhancing the efficiency of energy production, enabling rural electrification, and reducing global carbon emissions. This breakthrough innovation generates 40% more energy without requiring mechanical tracking, significantly lowering maintenance costs and accelerating market adoption. It is particularly well-suited for rural electrification and agrivoltaics, reducing transmission losses by facilitating localised power generation.



MFOT technology provides rooftop cooling of up to 4°C, improving urban energy efficiency, while contributing to a 560,000 tonne reduction in CO₂ emissions per gigawatt (GW) of installed capacity per annum. Additionally, it eliminates 250 tonnes of Polyethylene Terephthalate (PET) plastic per GW, supporting a circular economy, and minimising environmental impact. Agrivoltaics significantly benefit from Renkuba's technology, establishing 50% more land availability for farming, GBP £1250 per hectare in additional income for farmer, a 25% increase in water savings, and a higher yield of summer crops through optimised shading and improved microclimates.

By addressing the critical intersections of renewable energy, agriculture, and climate resilience, Renkuba is leading India's clean energy transition with cost-effective, high-efficiency, sustainable solar solutions ready for mass adoption.



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Carolina Gonzalez

Role:	Co-founder/I+D
Company name:	Synergetic SAS BIC – Herbivore Protein
Innovation:	Vegan, clean and simple label, high protein powder and snacks
Country:	Colombia

My pitch



We offer pea and soy isolate-based protein powders and bars with fewer ingredients, free from unnecessary additives, and boasting a taste that outperforms our competitors. Our meticulously crafted formulas deliver exceptional nutrition and flavour using only essential ingredients.

Current status of my business

We are currently in the process of expanding our product portfolio. In December 2024, we launched two new products – soy protein and creatine monohydrate – and in May 2025, we will introduce our protein bars in 4 flavours to the market. All these products have been developed using our innovative R&D process, which enables us to create high-protein, additive-free, and delicious food products.

In 2024, Herbivore achieved GBP £170,000 in sales with a lean team of just five people. Over the next two years, we aim to double this figure by launching new product lines focused on gut health and sleep quality, and expanding into international markets such as the UK and Spain.

Impact of my business

Herbivore Protein is a dual-impact company. According to environmental experts, around 80% of deforestation in the Amazon is tied to livestock and the production of animal feed. By offering a high-quality, sustainable protein source, Herbivore Protein empowers communities to reduce animal consumption, and lessen their environmental footprint.

Meanwhile, data from the World Health Organization (WHO) indicates that around 70% of healthcare resources go towards treating non-communicable, and largely preventable, diseases – such as diabetes and heart



conditions – that could be mitigated through better dietary and lifestyle choices.



By developing products with a superior macronutrient profile compared to what's currently on the market and promoting a plant-based diet with minimal additives, we help to alleviate the strain on our healthcare system.

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Eduardo Andres Ospina Serrano

Role:	CEO
Company name:	Unergy
Innovation:	The Sun Factory Platform (Solar Minifarms)
Country:	Colombia



My pitch

Unergy wants to close the climate financing gap through the development of renewable energy projects. Its solar minifarms are medium-scale assets (1,32 MW DC) that diversify investments, strengthen electrical grids, and accelerate the global energy transition.

Current status of my business

Unergy is positioned as a leading company in the development of medium-scale solar projects in Colombia, and is actively expanding its operations to countries such as Ecuador and Mexico. Currently, we have 15 minifarms in operation, with an additional 24 under construction. Our pipeline consists of more than 200 minifarms in the development and validation phases. To date, Unergy has already funded over USD\$34M, securing more than 60% of the minifarm market in Colombia.

Unergy is also focused on optimising its internal process through technology. We have developed the sun factory, a proprietary platform designed to streamline the development, validation, investment, and operational management of minifarms. By centralising all project information into a single software through automation and integration, this platform can reduce project deployment timelines by up to 10 months, and accelerate revenue generation.



Impact of my business

Currently, 80% of the global energy demand relies solely on fossil fuels, driving the urgent need for a renewable energy transition. However, climate finance faces an annual investment gap exceeding USD \$2.4 trillion. Unergy's solar minifarms directly address this gap, diversifying the energy mix, and reducing fossil fuel dependency.

Additionally, our projects generate social benefits through converting unproductive land into sources of community income and development, through agrivoltaic, educational, and cultural initiatives.

7 AFFORDABLE AND CLEAN ENERGY

13 CLIMATE ACTION

Specifications of our solar minifarms

- Land: 2–2.5 Ha
- Patented solar tracker system 10–18%
- 1, 32 MW DC
- +30 years

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Emeka Nwachinemere

Role:	CEO
Company name:	Kitovu Technology Company
Innovation:	Integrated, data-driven agritech solutions for sustainable farming
Country:	Nigeria



My pitch

Empowering smallholder farmers with innovative agritech solutions. YieldMax, StorageX and eProcure, allows farmers achieve higher yields, improved storage, and seamless market access. The vision is to build practical infrastructure for smallholder farmers in Africa.

Current status of my business

Kitovu Technology Company is a pioneering Nigerian agritech firm that currently serves over 20,000 smallholder farmers through its three core products: YieldMax, StorageX, and eProcure. With a dedicated team of 27 professionals, the company leverages cutting-edge technology and market insights to continuously refine its solutions, and address critical challenges in agriculture. Building on its robust foundation, Kitovu is rapidly scaling its operations, expanding into new regions, and enhancing its product offerings. The company's commitment to innovation and customer-centric development positions it as a key player in transforming agriculture for sustainable growth, and improved rural livelihoods.








Impact of my business

Kitovu's solutions have delivered tangible results, including up to a 30% increase in crop yields, a 20% reduction in post-harvest losses, and a boost in farmer incomes by as much as 40%. These improvements not only elevate the economic status of smallholder farmers, but also enhance overall food security and rural prosperity. Beyond the direct economic benefits, these climate-smart agriculture and regenerative practices also contribute towards long-term environmental sustainability.

The company's efforts help to mitigate climate risks, and support resilient agricultural systems, ensuring that both farmers and ecosystems thrive in the face of change.



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Ainil Hawa Jasni

Role: Director

Company name: Proxima Technologies

Innovation: Biocellex | Biodegradable bioplastic for disposable gloves

Country: Malaysia



My pitch

Biocellex transforms agricultural waste into biodegradable bioplastic cellulose-latex, offering a sustainable alternative for medical and industrial use.

Current status of my business

Our innovation repurposes agricultural waste into biodegradable bioplastic cellulose, offering an eco-friendly alternative for industries seeking high-performing, sustainable materials. With a high-purity level (>90%), our material enhances mechanical strength in medical rubber gloves by performing as a thickener in glove manufacturing, addressing industry demands for durability, tactile sensitivity and sustainability.

Through strategic R&D collaboration, we continue to refine our technology, improving hydrophilicity and scalability. As industry leaders, including Mölnlycke and Hartalega (medical rubber gloves manufacturers) show a growing interest, we are poised to revolutionise the medical industries with our next-generation bioplastic solutions. Protected under a pending patent, we anticipate capturing up to 5% of the biodegradable medical glove market within the first three years of scaling.

To accelerate commercialisation, we are seeking a strategic investment of USD \$1.5 million over the next 18–24 months. This funding will support pilot-scale manufacturing setup, technology validation and certification, supply chain development, regional expansion across Southeast Asia and key global markets.

Impact of my business

Biocellex contributes to regional sustainability by repurposing over 40,000 tonnes of cassava peel waste annually, reducing soil acidification and plastic pollution. In Southeast Asia alone, an



estimated 30,000–40,000 tonnes of plastic and latex gloves are discarded annually, generating close to 900,000 tonnes of CO₂ emissions each year. By replacing up to 30–40% of this with a biodegradable alternative, Biocellex

has the potential to cut regional carbon emissions by 270,000–360,000 tonnes per annually—driving forward circular healthcare innovation and impactful climate action in the region.

Proxima BioCellex boosts small farmers' and waste collectors' income by creating a demand for agricultural waste, while strengthening green industries and fostering a sustainable supply chain. By empowering communities with new job opportunities, we enhance local wealth while improving medical safety through superior puncture-resistant gloves, reducing infection risks for healthcare workers and patients.



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Irene Etyang

Role:	Founder & CEO
Company name:	MAMLO FOODS
Innovation:	VIWANDA-JAMII
Country:	Kenya



My pitch

VIWANDA-JAMII are high-impact micro-factory units embedded within farming communities, cutting processing costs and carbon emissions by 50%, while doubling farmer incomes.

Current status of my business

VIWANDA-JAMII provides a cost-effective, ethically sourced, and traceable peanut supply for premium health food brands, retailers, and distributors. By leveraging automation and climate-smart technology, these decentralised micro-factories eliminate inefficiencies, enhance food security, and set a new standard for ethical trade – all while closing the loop on food waste through circular processing.

The Micro-Factory model is already in operation, with one fully functioning VIWANDA-JAMII engaging 100+ smallholder women farmers, and supplying premium, ethically sourced peanuts to B2B white-label buyers. Backed by international impact-driven philanthropic organisations – including Mulago (which provided USD \$100K in grant funding) and Catalyste+ (for institutional capacity building) – we are expanding our impact by pursuing Fair Trade Certifications and adhering to global food safety standards (such as GLOBAL GAP, ISO 22000, etc).

By implementing HACCP protocols and strict aflatoxin management, we comply with EU regulations, ensuring that our peanut products remain safe, traceable, and of the highest quality for local and international markets.

Impact of my business

As a social enterprise, we're building a truly sustainable supply chain by:

1. Empowering farmers

Over 100 rural farmers have already benefitted from direct market access, fair pricing, and stable incomes through eliminating unrequired intermediaries.

2. Reducing post-harvest losses

Our model cuts post-harvest losses by 50%, supporting a year-round supply of food, and a reduction in waste.

Our zero-waste model repurposes peanut by-products into valuable secondary products, driving a circular economy.

3. Scaling impact for women farmers

In the next five years, 10,000+ women farmers will gain direct market access, leadership training, and sustainable income opportunities.

4. Building a resilient agri-supply chain

Our model reduces the reliance on imports, and positions Africa as a key player in global agri-exports.

5. Driving sustainability

By repurposing peanut by-products and localising processing, we cut transport emissions by 50%, significantly reducing our environmental footprint.



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Isaac Sesi

Role:	CEO
Company name:	Sesi Technologies Ltd
Innovation:	FarmSense Agro
Country:	Ghana



My pitch

FarmSense empowers smallholder farmers in sub-Saharan Africa through affordable, data-driven soil testing technology and personalised nutrient management insights, enabling smarter farming decisions that boost farmers' yield, income, and livelihoods.

Current status of my business

Sesi Technologies designs, manufactures, and distributes FarmSense: a soil health technology suite, consisting of a soil sensor, mobile application and analytics platform that provides real-time insight into soil health. This empowers African farmers to apply the right type, and amount of fertiliser, replacing guesswork with data-driven precision – even in remote areas with limited access to the internet, or a weak digital infrastructure.

Since March 2025, we have onboarded and deployed FarmSense with over 1500 smallholder farmers in Ghana. We have recently signed a partnership with a major UK-based AgriTech company to integrate their soil analysis tools into FarmSense. Additionally, we are finalising agreements with crop aggregators that will help us reach and onboard over 20,000 farmers by the end of 2025.

Impact of my business

FarmSense is bridging the agricultural productivity gap for African smallholder farmers who lack access to vital personalised insights about their soils. Our innovation enables farmers to increase their yields, reduce wasteful input use, and adopt more sustainable farming practices—ultimately improving income, food security, and soil health.

FarmSense directly contributes to multiple Sustainable Development Goals, including No



Poverty (SDG 1), Zero Hunger (SDG 2), and Life on Land (SDG 15). Our aim is to reach one million farmers by 2030, contributing to our wider vision of improving food security and livelihoods across Africa. Through Farmsense, we are driving a new wave of climate-smart agriculture and economic resilience for those in underserved rural communities.

1 NO POVERTY

2 ZERO HUNGER

15 LIFE ON LAND

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Isabel Pulido

Role:	CEO
Company name:	Biocold Technologies SAS BIC
Innovation:	Cooling bio-nanotech
Country:	Colombia



"A new way to refrigerate naturally"

My pitch

Natural refrigeration using novel bio-nanotechnology, reducing energy consumption by up to 50%.

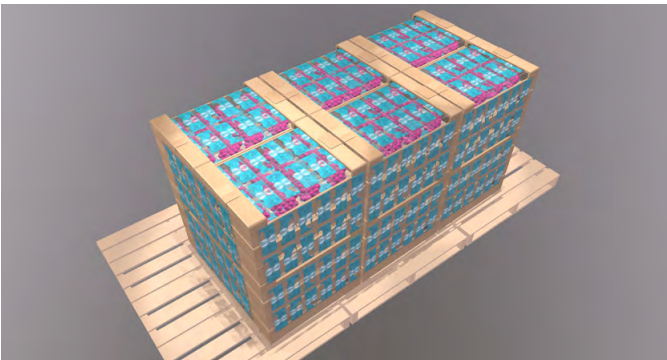
Current status of my business

NanoFreeze has successfully industrialised three distinct products which have been validated by over 40 clients. This includes its refrigerated containers used to transport biological samples, such as blood and COVID-19 tests. A notable success was the partnership with Compensar, a leading Colombian healthcare provider who placed an order for over 600 coolers. Due to its foldable design, this adoption helped to reduce Styrofoam waste by one tonne in just one year, reducing freight costs by 40%, and recovering the company's initial investment within five months.

Additionally, NanoFreeze's Cold Coats maintain a stable cold chain during long export journeys. These lightweight coats help to reduce freight costs, while extending the shelf life of perishable goods. This has saved over USD \$764,091 in food waste to date, and cut energy consumption and carbon emissions in commercial refrigeration by 50%. Pilots with AB InBev and Postobon have demonstrated a reduction in their carbon footprint by 5.03 tonnes in just 4 months, with a total energy saving worth USD \$6,682.

Impact of my business

- Food waste:** Cold Coats have helped to reduce food waste in the agro-export industry from 30%, to between 0-5%. In just over a year and a half, NanoFreeze has reduced food waste by over USD \$320,000, with 14 clients across the agricultural market.
- Reduced carbon emissions:** Implementing 100 of our refrigerators across Colombia and Mexico has saved clients over 25,371 kWh in a four-



month period; the same reduction as would be achieved through planting more than 2,500 trees. This has also saved a total of USD \$6,682 in energy costs across all clients.

- Social impact:** Our 'Cold Coats' allow farmers to send their produce to other countries at a reduced cost, strengthening economic opportunities. The NanoFreeze Panels facilitate access to stable refrigeration for rural populations, keeping items cold for more than 12 hours without any electrical input.
- Health impact:** Through stabilising temperatures during transportation, NanoFreeze can prevent bacterial growth, and decrease the likelihood of food poisoning.



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Phuong Linh Do

Role:	Founder and CEO
Company name:	Deliver Beyond Light and Photosynthesis (DBLP)
Innovation:	Nutrient-rich fast-moving consumer goods (FMCGs) through fermentation processing
Country:	Vietnam



My pitch

Deliver Beyond Light and Photosynthesis (DBLP) transforms seaweed into affordable, nutrient-rich fast-moving consumer goods (FMCGs) through fermentation processing, addressing nutritional imbalances, empowering coastal communities through sustainable livelihoods, and fighting climate change through seaweed biomass production at scale.

Current status of my business

DBLP actively cultivates seaweed across seven coastal Vietnamese provinces, with plans to expand to over 100 hectares by year's end. With IP-registered expertise in disease-resistant seedlings, mass farming, and fermented seaweed processing – recently certified by the Department of Fisheries – it's growing 15-person team is developing and commercialising sustainable, organic, and balanced FMCGs. The company has successfully sold its first batch of seaweed drinks, validating consumer interest, and establishing a market presence.

Growth over the next five years will prioritise strengthening B2C sales, specifically through targeted engagements with seaside hotels and resorts in Vietnam, and global health food markets. DBLP plans to expand its seaweed cultivation to 3000 hectares across 12 Vietnamese coastal provinces by 2030, tailoring its IP-protected, fermented seaweed FMCGs – such as nutrient-rich drinks, snacks, and supplements – to meet the preferences of eco-conscious hospitality brands and their guests.

By forging strategic partnerships and distribution deals, DBLP aims to achieve a 60% share of the Vietnamese hospitality's health food market by 2030, as well as generating 40% of its revenue from exports.



Impact of my business

DBLP is combatting malnutrition through the development of nutrient-rich seaweed products, creating over 100 jobs in coastal communities to date, with plans for 10,000 by 2030. Its seaweed farms, currently spanning 50 hectares, absorb 15 tonnes of CO₂ per hectare yearly, totaling 750 tonnes annually.

By expanding to 1,000 hectares by 2030, DBLP aims to sequester 15,000 tonnes of CO₂ per year, helping to preserve biodiversity. By scaling seaweed biomass production, it also significantly reduces oceanic plastic waste and chemical use through the expansion of innovative future by-products.



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Margaret Yainkain Mansaray

Role:	Founder/CEO
Company name:	Women In Energy Sierra Leone Limited
Innovation:	Smart Green Stove / Smart Green Briquettes
Country:	Sierra Leone



My pitch

Empowering communities with affordable, clean cooking solutions which reduce household air pollution, promote sustainable energy use, and improve the livelihoods of women and vulnerable groups.

Current status of my business

Women in Energy Sierra Leone Limited (WIESLLTD) is committed to providing clean, affordable, and sustainable cooking solutions through its Smart Green Stove and Smart Green Briquette products. These innovative products reduce fuel consumption, lower household energy costs, and minimise indoor air pollution. The Smart Green Briquette, made from recycled biomass waste, offers an eco-friendly alternative to charcoal and firewood, helping to combat deforestation and environmental degradation.

As WIESLLTD continues to grow, it remains dedicated to expanding access to clean energy, reducing carbon emissions, and empowering communities – particularly women and young people – through training and entrepreneurship opportunities. The company is focused on scaling up production, increasing distribution, and fostering partnerships to create a more sustainable future for Sierra Leone.

Impact of my business

WIESLLTD has sold over 4,000 Smart Green Stoves and 10,000 stoves indirectly, significantly improving household cooking efficiency, and reducing reliance on traditional fuels. The company has trained over 150 young people, mainly women, in the production and dissemination of upskilled cookstoves, equipping



them with valuable skills and creating subsequent economic opportunities.

By collaborating with government agencies, NGOs, and international organisations, WIESLLTD advocates for policies supporting clean cooking solutions and energy access. Its impact extends beyond environmental benefits: driving job creation, reducing household expenses, and fostering sustainable economic growth, creating lasting change for Sierra Leone's energy sector.



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Dr. Maria Isabel Gaviria

Role:	CTO and Co-founder
Company name:	Fungi Life
Innovation:	FungiSurf biosurfactant – sustainable ingredients using fungi
Country:	Colombia



My pitch

At Fungi Life, we supply 100% sustainable biosurfactants to chemical wholesalers who serve industries such as cleaning, food, and water treatment. These biosurfactants are key ingredients in countless formulations, yet most available options are still petrochemical-based. Our high-performance alternative is cost-competitive, scalable, and eco-friendly – enabling the chemical supply chain to shift towards truly sustainable solutions.

Current status of my business

Fungi Life is incorporated in the U.S.A., Colombia, and Argentina, strategically positioning us to serve global markets. Our biosurfactant is ready to scale, with successful industrial validation.

We have already raised USD \$400K in a pre-seed round, secured 5 Letters of Intent (LOIs) from companies in the petrochemical sector (representing a USD \$400M+ market opportunity), and filed a provisional patent to protect our innovation.

Additionally, we have partnered with a major petrochemical company for third-party validation, reinforcing our path to market adoption. Our work has also been recognised and supported by global organisations such as UNICEF and the World Economic Forum, further validating our impact and potential.

As we move forward, we are preparing for full-scale production, international expansion, and the introduction of new bio-based ingredients.

Impact of my business

The petrochemical industry is responsible for 5% of global CO₂ emissions, with additives like surfactants contributing significantly to this environmental burden. The urgent need for sustainable alternatives is clear, yet high costs and technical limitations have slowed the adoption of biosurfactants.

At Fungi Life, we are tackling this challenge head-on. Our biotechnology-driven solution not



only eliminates toxic petrochemical-based surfactants but also delivers measurable climate impact: for every kilogram of biosurfactant produced, we prevent 3.37 kg of CO₂ equivalent emissions. At industrial scale, this translates to approximately 150 metric tonnes of CO₂ equivalent avoided in our first year of full production.

Beyond emissions reduction, we have successfully tested our solution in the field for water and soil decontamination, achieving a pollutant removal rate of up to 96%. This demonstrates the versatility and effectiveness of our biosurfactant in real-world applications.

With a USD \$1.5M seed round, we aim to scale up production, expand our R&D team, and accelerate our entry into new markets, driving real change in industrial sustainability.



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Mark Sultan Gersava

Role:	CEO
Company name:	BAMBUHAY
Innovation:	Plantable Toothbrush
Country:	Philippines

My pitch



BAMBUHAY is a ClimateTech social enterprise innovating sustainable solutions through bamboo, helping to reduce plastic pollution, deforestation, and poverty. BAMBUHAY’s flagship innovation is the world’s first plantable toothbrush that can be grown into a tree after use: a plastic free, zero-waste and circular consumer product.

Current status of my business

BAMBUHAY is a social enterprise incorporated in the Philippines, specialising in manufacturing plantable bamboo toothbrushes. Since launching in 2024, we have sold over 200,000 units, with our products now available in major malls across the Philippines.

To meet growing demand, we are automating our production facility to accommodate for mass manufacturing. We are expanding into international markets, with distribution already underway in Thailand, the United Arab Emirates, and parts of the European Union. In 2025, our mission is to scale our presence in existing international markets, as well as expand into the UK.

Impact of my business

To date, BAMBUHAY has eliminated 1,131 tonnes of plastic waste, preventing the release of 6,786 tonnes of CO₂ emissions. Additionally, we have reforested and regenerated 725 hectares of land, and planted over 100,000 native, bamboo, and fruit trees, as well as vegetables. These efforts are not only helping to restore natural ecosystems, but also provide sustainable livelihoods and food security for global communities, ensuring the long-term growth and protection of vital resources.



To date, BAMBUHAY has lifted 69 families out of poverty through providing sustainable livelihoods and green jobs, increasing their monthly income from below USD \$60, to over \$200. Through our employment model, these families have also gained access to healthcare, banking and digital finance, financial literacy programs, and other social benefits. They can send their children to school, as well as secure electricity and decent housing, drastically transforming their quality of life.



By 2030, we are aiming to replace 100 million plastic toothbrushes, restore 10,000 hectares of deforested land through planting of the product, and uplift 1,000 families from poverty.

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Martin Tumusime

Role:	CEO
Company name:	Yo-Waste Limited
Innovation:	Location-based garbage collection service app.
Country:	Uganda



My pitch

Yo-Waste is a mobile app solution connecting households and businesses in urban communities with local waste haulers, facilitating convenient, recurring & on-demand waste collection and recycling pickups. Yo-Waste is also building physical infrastructure, such as material recovery facilities (MRFs), where collected waste can be sorted, processed, and converted into valuable feedstock for manufacturers.

Current status of my business

Yo-Waste is currently in the scaling stage. After successfully launching and gaining traction in urban areas like Kampala, we are now focused on expanding our services to other regions. Our mobile app is fully operational, with an established user base, and we have partnerships with local waste haulers to ensure efficient waste collection.

We are also building material recovery facilities to enhance our recycling capabilities. As we scale, we are refining our technology, optimising our processes, and exploring new partnerships to expand our impact on waste management and sustainability across East Africa.

Impact of my business

Municipal solid waste is a significant challenge for many cities and urban communities in sub-Saharan Africa. Many households place their garbage out on their collection days, yet only 40% of generated waste is collected through a formal system, and of the collected waste less than 4% is recycled.






At Yo-Waste, we are fixing this through a tech-driven waste collection approach, ensuring a wider waste collection coverage, efficient collection of waste and recyclables in these



urban communities, plus infrastructure to sort, process and convert waste into a resource. We presently serve 1,000+ locations, collect 500+ tonnes of municipal solid waste in Kampala, and recycle about 40+ tonnes per month, with a vision to bring this to 64% while servicing over 100,000 locations by 2030.



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Paul Matovu

Role:	Founder and CEO
Company name:	Vertical and Micro Gardening (VMG)
Innovation:	The Vertical Micro Garden
Country:	Uganda

My pitch



VMG helps urban households and underprivileged communities with limited space to become food secure, live healthier, and contribute positively to climate adversities through the use of our flagship product, the organic Vertical Micro Garden.

Current status of my business

VMG is a Ugandan-founded social enterprise, empowering land-constrained communities, including urban dwellers and refugee families, to optimise their limited space for sustainable food production. Our Vertical Micro Garden, in use for over 10 years, is a compact, stackable, soil-based system with a vermicomposting (earthworm) chamber, converting household waste into an organic fertiliser for the sustainable urban Micro Garden.

We are now aiming to expand pan African and globally, targeting urban householders as well as refugee settlements where space and food access are limited.

Impact of my business

VMG has significantly improved food security, organic nutrition, and climate resilience for land-constrained communities. By providing innovative, space-efficient micro-garden solutions, VMG has enabled families, especially in urban areas and refugee settlements, to sustainably grow their own fresh, organic food.

We have empowered over 10,000 households to date, reducing reliance on external food aid and increasing dietary diversity. Our work has also contributed to economic empowerment by creating opportunities for small-scale urban farmers to generate income from surplus produce.



VMG has partnered with NGOs and community organisations such as Save the Children and CARE International to implement food security projects across Uganda, addressing malnutrition and promoting sustainable gardening. By integrating vermicomposting into our Vertical Micro Garden systems, we also help to reduce household waste, while improving soil health, making our approach both environmentally and socially impactful.



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Pheladi Chiloane

Role:	CEO
Company name:	Sola4Africa
Innovation:	SolaGeyza
Country:	South Africa



My pitch

Empowering informal settlements with solar thermal powered water systems that transform lives through sustainable energy, enabling healthier communities and a greener planet.

Current status of my business

Sola4Africa specialises in the design and manufacturing of solar thermal powered products for underserved communities.

Sola4Africa has managed to secure an offtake agreement for 100 SolaGeyza's with Sesseriti Green, one of the biggest renewable energy companies in South Africa, as part of their CSI programme for underserved communities in Africa.

Our product is fully developed and ready for commercialisation, and continues to undergo further development and testing with a University in South Africa.

The SolaGeyza has been taken for real-time demonstrations with various communities in the provinces of Mpumalanga, Limpopo and Gauteng. Our goal is to set up community-based sales agents, establish a manufacturing facility to produce enough products for the SADC region, and then begin our regional expansion across the rest of Africa.

Impact of my business

Sola4Africa's SolaGeyza initiative leverages solar thermal technology to provide clean, affordable hot water to marginalised communities—including informal settlements, disaster-displaced families, and rural households—while advancing holistic development aligned with global sustainability priorities.



By centring social inclusion, resilient infrastructure, and environmental action, the initiative creates transformative impact across three interconnected themes of social inclusion and well-being, sustainable development and infrastructure, and environmental sustainability.



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Ramón Alejandro De Hoyos Cantú

Role:	CEO and Founder
Company name:	ALIS (Algae Innovation Solutions)
Innovation:	Microalgae water regeneration systems through biotechnology
Country:	Mexico



My pitch

ALIS is leveraging microalgae to transform wastewater and polluted air into clean water, captured CO₂, and valuable bio-products.

Current status of my business

ALIS is a fast-growing environmental biotech company transforming how industries and cities manage water and air. Focusing on the \$300B water industry, our technology enables industries to achieve Reduced Liquid Discharge by regenerating wastewater through microalgae biotechnology: reducing costs, emissions, and water consumption. We are currently running three industrial-scale pilots with major clients including Nestlé, INTERNATIONAL, and Bachoco in Mexico, and managing a validated pipeline of interested customers valued at over USD \$5 million.

Our dual innovation strategy combines microalgae water regeneration systems for industrial Zero Liquid Discharge and circular water reuse, with urban microalgae “Liquid Trees” for air purification and CO₂ capture. Already deployed in high-density areas in LATAM, we’re scaling through project implementation and a Water-as-a-Service model, while also advancing R&D in high-value microalgae-based bioactive compounds for anti-aging and wellness applications.

We are currently raising USD \$2.5 million on a \$25 million pre-money valuation to accelerate international growth, and scale our impact across the UK, Europe, and beyond.

Impact of my business

ALIS is driving measurable environmental impact by regenerating industrial wastewater, capturing CO₂, and transforming waste into value. Our technologies advance water circularity,



enable climate action, and accelerate the bioeconomy transition in Latin America and beyond. To date, we've regenerated over 10 million litres of industrial wastewater, captured approximately 100 tonnes of CO₂, and deployed urban air purification systems including two air-quality monitoring stations in high-density metropolitan zones.

As part of our urban climate innovation strategy, ALIS has been selected to deploy microalgae-based air-purification infrastructure for the 2026 FIFA World Cup in Mexico, an initiative led by the Government of Nuevo León to integrate integrating sustainability into urban infrastructure. From industrial zero-liquid discharge to smart cities, ALIS is turning environmental pressure points into engines of regeneration.



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Rutik Padamwar

Role:	CEO
Company name:	HrimTron Energy Systems
Innovation:	Optimised organic rankine cycle (ORC) turbines for waste heat recovery
Country:	India



My pitch

HrimTron Energy is revolutionising industrial energy efficiency by transforming low-to-medium temperature waste heat (80°C–350°C) into clean electricity.

Current status of my business

HrimTron Energy's ORC systems with proprietary high-efficiency turbines, magnetic levitation pumps, and a high-speed alternator enable industries to turn waste heat into clean, low cost electricity. By optimising performance through machine learning, the modular, scalable, and cost-effective ORC technology provides sustainable electricity for steel, cement, petrochemical, geothermal, and power industries worldwide.

HrimTron have successfully designed, developed, and tested a 25 kW ORC prototype in Pune, achieving an increase in energy efficiency of between 10 to 20%. Currently, the company is designing a unit up to a 2.5 mW for a domestic gas power station, as well as 250 kW ORC units to be deployed in the steel industry.

This technology has been recognised globally, and the company is now focused on commercial expansion, material optimisation, and scaling ORC deployment across energy-intensive industries and renewable sectors, such as geothermal and solar thermal energy production.

Impact of my business

Industries waste over 600 exajoules of heat annually, contributing to 30% of global carbon emissions. Existing Steam Rankine Cycle (SRC) solutions fail to utilise waste heat below 350°C, leaving a massive amount of untapped energy potential.



HrimTron's high-efficiency ORC system recovers 15–20% of this wasted heat, significantly reducing fossil fuel dependency and CO₂ emissions. The cost-effective and scalable design enables industries to achieve sustainable energy transition goals, optimise operations, and meet international climate commitments such as the Paris Agreement and Net-Zero targets.

By combining advanced thermodynamic engineering, next-generation turbine technology, and ML-driven efficiency optimisation, HrimTron Energy is enabling a more sustainable, carbon-neutral industrial landscape on a global scale.



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Samuel Rigu

Role:	CEO
Company name:	SAFI ORGANICS
Innovation:	Decentralised fertiliser production: scaling regenerative farming & carbon capture solutions
Country:	Kenya



My pitch

Safi Organics is revolutionising farming through its decentralised biochar-based fertiliser: increasing crop yields by 30%, cutting operational costs for farmers, and protecting the environment through sequestering carbon.

Current status of my business

Safi Organics is a rapidly growing agribusiness pioneering decentralised biochar-based fertiliser production to revolutionise regenerative farming and carbon capture. With over 200 rural jobs created, we have successfully scaled local production units and forged strategic partnerships with P4G, IFDC, and Agripriide, expanding our market reach and monetising carbon credits. Our strong presence in Kenya is now extending to Tanzania, Uganda, and India, positioning us for global impact.

Safi Organics' product is officially certified as a standalone fertiliser, and has obtained Ecocert organic certification, validating its efficacy and sustainability. Since 2021, our pilot project has been financially profitable, demonstrating a scalable and commercially viable model. In 2022, we won Elon Musk's XPRIZE Carbon Removal milestone award, and in 2024 secured equity investment from Africa Climate Ventures.

We are now raising capital to accelerate expansion, advance R&D on alternative feedstocks, and enhance our measurement, reporting, and verification system for carbon credit verification.

Impact of my business

Our impact spans multiple areas:

1. Agricultural productivity & food security

- Increased farmer yields by 30% for over 15,000 smallholder farmers.
- Reduced dependency on expensive chemical fertilisers, lowering input costs.
- Improved soil health and resilience, ensuring long-term food security.

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2. Economic empowerment & job creation

- Created 200+ rural jobs across production, distribution, and community engagement.
- Enabled farmers to boost income by improving crop productivity and reducing expenditures.
- Supported local economies by establishing decentralised production units that keep value within communities.



3. Climate action & carbon sequestration

- Sequestered over 20,000 tonnes of CO₂ through biochar application.
- Reduced use of synthetic fertilisers, lowering agriculture-related greenhouse gas emissions.
- Unlocking carbon credit monetisation for farmers, contributing to the global fight against climate change.
- Conversion of otherwise useless biomass waste into valuable products, upcycling over 30,000 tonnes of waste.



Shari Pandya

Role:	CEO
Company name:	Imagine Power tree Private Limited
Innovation:	Urban and building-integrated photovoltaic solar innovations
Country:	India



My pitch

Imagine Power tree delivers cutting-edge solar innovations like Solar Tiles, Facades, and Trees to make clean energy accessible for everyone, transforming cities into Net Zero hubs.

Current status of my business

Imagine Powertree is redefining urban solar energy. Rapidly establishing itself as a market leader in Building-Integrated Photovoltaics (BIPV) and Urban Photovoltaics (UPV), it currently has over 20 patents pushing the boundaries of solar accessibility for both high-rise buildings, and urban landscapes. Their portfolio includes Solar Tiles, Solar Facades, Solar Cladding, Solar Gazebos, Solar Noise Barriers, and the revolutionary Solar Photosynthesis Tree – seamlessly integrating clean energy into urban, city infrastructure.

Already a force in India, the company is expanding internationally with a strong focus on the UK. Their Solar Tile innovation gained national recognition at Re Invest 2024, where it was presented to the Prime Minister of India, Narendra Modi. This pioneering Waste-to-Solar Energy technology is now in the testing and certification phase, attracting interest from state governments, city municipalities, and corporate sustainability leaders.

To scale globally, Imagine Power tree is seeking strategic partnerships, distributors, and installers for its Solar Tile and BIPV solutions. The company is also engaging with impact investors to accelerate R&D, pilot projects, and large-scale commercialisation efforts.



Impact of my business

We are driving real change by aligning our innovations with the United Nations Sustainable Development Goals (SDGs). By making clean energy affordable and accessible (SDG 7), we're helping cities in their transition to net-zero (SDG 11), while championing sustainable methods of consumption and production (SDG 12) through our Plastic-to-Power technology. Imagine Power tree isn't just providing solar solutions – it's shaping the future of urban energy.




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