



Lead Customer Programme (LCP) Projects Announcement

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Introduction

This brochure showcases the winning projects for the Lead Customer Programme (LCP) funding opportunities

LCP Introduction

Innovate UK exists to connect innovators with new partners and new opportunities beyond their existing thinking – accelerating ambitious ideas into real world solutions. Innovate UK is delivering the 6-year (2019 – 2025) UK International Development funded, Global Alliance Africa project, which aims to build new and stronger UK-African partnerships to maximise the creation of inclusive market access, funding, and investment opportunities through innovation knowledge transfer between the UK, Nigeria, South Africa and Kenya.

- [Click here to discover more about Innovate UK Global Alliance Africa](#)
- [Click here to explore the Innovate UK Global Innovation Networks](#)

A Lead Customer is an African and/or UK supplier, company or top-tier end-user that shows support or commitment to the proposed innovations by presenting demonstrable deployment routes. The LCP projects will contribute towards building stronger local innovation ecosystems and enhanced UK-Africa collaborations that lead to self-sustaining economic growth in Kenya, Nigeria, South Africa and Rwanda by harnessing the potential of innovation to meet current and future socio-economic-environmental challenges.



AI-Enabled Breast Cancer Screening



Programme: UK-Kenya Health Global Innovation Network

Lead customer: Meru Teaching and Referral Hospital (MeTRH)

Partners: Vectorgram (KE), The Imagination Factory (UK) & Transnational Legal Ltd (UK)

Breast cancer is the leading type of cancer in incidence in Kenya accounting for 16.1% of all cancers. Most diagnosis happens at late stages when it is more difficult to achieve a cure resulting in low overall survival rates. The Ministry of Health in Kenya aims to improve the capacity and availability of breast cancer early diagnosis services at all levels.

Vectorgram's technology innovation is Mira, a Mammography-AI Triage Platform that will scale breast cancer screening and detection. Mira is powered by the best-performing Deep Neural Networks for Whole Mammogram Classification in the world, providing fast, accurate Mammography Interpretation reports as a first reader for Radiologists. Mira has the potential to scale up Radiologists' screening capacity by up to 100X. Radiologists only need to upload the mammogram scans to Mira's web application through the computer that's connected to the Digital Mammography Unit. Mira then generates a mammography report in less than 10 seconds, allowing the Radiologist to validate the report as the second reader. This increases the radiologists' speed and accuracy.

Project objectives

- The objective is to deploy Vectorgram's Mira at the Meru Teaching & Referral Hospital (MeTRH) radiology department. The hospital serves over 1000 patients per day in a County of 1.4m people, with only up to a miniscule 15 screenings per day. Mira's deployment will be bolstered by a Mass Cancer Screening Awareness campaign, driving more patients to get screened at MeTRH. This will validate Mira from TRL-6 up to TRL-8, as a technology intervention that has a completed, proven use-qualification within its target deployment environment.
- Other objectives will include developing strategies to integrate Mira Mammography-AI assistant within the workflows of radiologists at MeTRH in real-time, accurately determining the unit-economics of provisioning Mira at large deployment scale and developing a robust legal framework for subsequent deployment in other facilities.

Expected outcome

A demonstration of the utility of Vectorgram's AI-powered breast cancer screening tool in a Kenyan County Referral Hospital, and its potential for scale-up to all major referral hospitals nationally. This will include increased screening capacity (Vectorgram's proven 100X capacity increase from 15 to 1500 mammograms monthly at MeTRH), faster interpretation of results, reduced Radiologists' burnout and improved patient survival rates (up to 80% with early diagnosis).

Cancer care pathways to enrich patient engagement



Programme: UK-Kenya Health Global Innovation Network

Lead customer: The Pathology Network

Partners: Alpha MD (UK) and Kenya Impact Incubator Ltd (KE)

The cancer care continuum involves a series of interventions aimed at curing the disease or prolonging the patient's life considerably while improving the quality of life. Health literacy is necessary for increasing patients' participation in their health decisions and care plans (Protheroe, 2009). Evidence shows that people with lower literacy are 1.5 -3 times more likely to experience poorer health outcomes and increased health services use.

Liberate Pro is a digital web based educational tool created to solve the issue of low health literacy, language barriers and time limitations between a healthcare professional and patient during their consultation. Liberate Pro provides clinical content in the most appropriate format for patients and can be sent at the most impactful time for them (before, during or after a consultation). Content can be shared and tailored to areas of deprivation, rural or urban locations, and any age for patients who do not speak English as a first language, and at any stage of their condition (newly diagnosed or long-term management). Content can be developed specifically to support those with learning disabilities and those who are hearing or visually impaired.

Project objectives

Liberate Pro will leverage the Adolescent and Young Adult Network of leDEA (AYANI) Program, which is targeting to screen 3.5 million women for HPV in Kenya. Due to inadequate training of the clinicians and subsequent poor communication with the patients, the screening program is evidencing a loss of follow-up of 20% to 50% of all the women screened, thus undermining the success of the cervical cancer elimination program. This provides a unique window to introduce Liberate Pro to many health facilities across the country that can benefit from improved training of clinicians and communication with patients for the screening program. Liberate Pro will be piloted at 10 of the health facilities participating in HPV screening that are served by The Pathology Network (the Lead Customer in the project). The target is approximately 400 patients from a wide range of backgrounds.

Expected outcomes

A demonstration of how Liberate Pro enables improvement in the patient's experience, empowerment, and education/understanding of their condition. The use of Liberate Pro will ensure that a wide range of patients from all backgrounds in Kenya will understand their HVP diagnosis and will be able to better manage their condition and treatment.

Commercialising Bambara Groundnut milk production



Programme: UK-Kenya Alternative Proteins Global Innovation Network

Lead customer: Greenspoon

Partners: Koolmill (UK), OnlyPlants (KE), Sheffield Hallam University (UK) & Victoria Jideani (SA)

Koolmill technology leads the world in delivering a modern, ultra-low power, simplified and sustainable approach to cereal milling. It's a step change that delivers power savings of up to 90% and maximises the return of food by avoiding wasted food and power. Koolmill's technology can currently process 22 of the 50 Future Foods selected by WWF as underutilized foods that can promote sustainable global food systems. The company seeks to expand its capabilities by devising specialized solutions to process Bambara groundnuts, another emerging Future 50 crop. Bambara nuts are a highly nutritious, drought-resistant legume grown by smallholder farmers in many parts of Sub-Saharan Africa.

Koolmill is looking to partner with Nairobi-based OnlyPlants, a producer of healthy, delicious and affordable plant-based foods made from local ingredients. The company is planning to launch a novel plant-based milk made from Bambara nuts. This project aims to commercialize OnlyPlants' Bambara milk by optimizing the existing formulation; designing efficient production equipment leveraging Koolmill's expertise and technology; and developing a comprehensive growth strategy. Koolmill and OnlyPlants also seek to explore subsequent grant opportunities to fund the equipment line designed as part of this project, leveraging Koolmill's technology as appropriate.

Koolmill and OnlyPlants are set to partner with NCFE at Sheffield Hallam University, a leading research and innovation hub specializing in advanced food processing technologies. By leveraging Koolmill's expertise in milling, a critical step in the Bambara milk production process, the partners aim to develop a sustainable and efficient production process. NCFE will support the partners in addressing technical challenges, enhancing product quality, and ensuring efficient, scalable production methods.

Project objectives

- Conduct advanced lab trials to optimize the nutritional & functional properties of the product
- Design cost-effective milling and processing equipment suitable for the Kenyan market context
- Identify additional funding opportunities for equipment acquisition and installation
- Develop a comprehensive market launch and growth strategy

Expected outcomes

- Development of an optimized Bambara milk formulation
- Design of cost-effective milling and production equipment that can be maintained with technical expertise available locally
- Secure additional funding to support equipment acquisition and installation
- Contribution to food security and improved livelihoods for smallholder farmers

Biomass fermentation of agri waste to produce high quality proteins



Programme: UK-Kenya Alternative Proteins Global Innovation Network

Lead customer: Evonik

Partners: Carbonovia (UK), Tropical Power Ltd (KE) & Majani Mingi Ltd (KE)

Carbonovia has been working for 4 years on the development of high protein yeasts produced from agricultural waste. The project is now moving to working at a larger scale with feedstock from real farms.

Project objectives

Carbonovia has a partnership with Tropical Power in Kenya to develop and deploy the technology. It also has an agreement with Majani Mingi Ltd in Kenya to work with them to develop the use of sisal wastes on their sisal estate, and in particular sisal boles. The estate currently produces around 100,000 tonnes of sisal boles per year which are currently thrown away. The East African sisal industry as a whole produces around 1 million tonnes a year of sisal boles – most of which are burned.

Expected outcomes

The inner part of the bole can be used to make complex high value products. The outer part of the bole is harder to use but a strong candidate for fermentation. Carbonovia is developing ways to ferment this material using its proprietary yeast strains to produce high protein, high fat yeast. This can be used in animal feed to replace soy meal and oil. The project will scale up production from a few grams per day to more than 100 gms per day of protein rich cells using real plant material – enough to start live feeding trials. Lead Customer Evonik is considering adopting these proteins into their animal feed.

Advanced 3D printing technology for sustainable, affordable and scalable housing



Programme: UK-Nigeria Sustainable Construction Global Innovation Network
Lead customer: Coop Property Development Company Ltd
Partners: Translantic Development Ltd (UK), DeCarbon IQ (UK) & Lafarge Africa (NG)

DeCarbonIQ Ltd., a UK-based innovative technology company specializing in sustainable construction, in collaboration with Lafarge Africa Plc in Nigeria, proposes an innovative approach to addressing Nigeria's housing crisis through the construction of a 3D-printed residential 3-bedroom demo house in Lagos, Nigeria. This project leverages advanced green building technologies, including solar panels and smart insulation, to minimize environmental impact and maximize energy efficiency.

Project objectives

The project stakeholder's solution integrates recycled construction demolition waste, and low-carbon cement, coupled with systems to collect and utilize rainwater for irrigation and other uses, ensuring a comprehensive approach to sustainability. By using 3D printing technology, we can drastically reduce construction costs and time, offering a scalable model for affordable housing that can be replicated across Africa.

Expected outcomes

The demo house project aims to construct a 3-bedroom home using 3D printing technology in Lagos, Nigeria. The purpose is to demonstrate the feasibility and advantages of 3D printing for affordable housing, paving the way for the subsequent construction of 6,000 units by CPDCL. The project will be executed over three months (12 weeks), divided into specific phases with defined activities, timelines, deliverables, and budgets.



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Transforming traditional textile dyeing through innovative wastewater recycling process



Programme: UK-Nigeria Circular Fashion Global Innovation Network

Lead customer: Post-Imperial

Partners: Afrikstabel (NG), De Montfort University (UK) & Designers Consociate (NG)

The main motivation for the project is to propose sustainable innovations within local Adire dyeing, which preserve traditional techniques that form the intangible cultural heritage of Nigeria, while integrating industrial technologies which will adapt to environmental standards on sustainable dye inputs, effluent control and treatment, and energy efficiency. These innovations are in anticipation of upcoming and ongoing environmental legislation, including Extended Producer Responsibility and Digital Product Passport legislation, requiring regulatory conformity for potential export markets, within the transition for the Circular Economy of Fashion and Textiles. Traditional Adire dyeing practices often involve harmful chemicals and processes that are persistent. Particularly, Paraffin wax, which is a non-renewable, non-biodegradable, oil-derived resource. These chemicals and processes are damaging to the environment, causing pollution to aquatic ecosystems, and posing significant health risks to artisans and workers.

Project objectives

Our proposal focuses on eliminating or minimizing toxic substances in wastewater, as well as using more sustainable, less toxic dyes, thus making the dyeing process more eco-friendly. Methods to recover and reuse the paraffin wax, and remove it from the waterways will also be investigated. The Afrikstabel dye plant has undergone investment to ensure that wastewater is treated to meet regulatory standards before discharge or reuse thereby protecting water bodies, communities and public health, but requires further investigation of the dyeing process and investigation on how integration of the latest dyeing technology will ensure maximum efficiency and environmental benefits. Afrikstabel will be an exemplar of how a local, Nigerian Adire dye house can implement the latest sustainable dye technologies, which will be proposed by UK project lead, Dr Edward Smith, Senior Research Fellow at De Montfort University, and expert in industrial textile coloration technologies. Another benefit will be sharing this knowledge with external artisans and the community at large on how heritage dyeing can be adapted; extending the potential of this practice for future generations.

Expected outcomes

Project partner Designers Consociate will leverage its project planning track record as well as stakeholder engagement, liaising with regulatory authorities, community groups, and artisanal communities, to communicate the impacts of the newly implemented technology across the Nigerian fashion and textile ecosystems. Dissemination and scalability of the project's findings will be through open-source reports and workshops for local stakeholders that feature training, and support on the new technology and its benefits.

Earth Observation to enhance climate resilience by addressing underlying cause of resource-use conflict between herders and farmers



Programme: UK-Africa Space Technology for Sustainability Global Innovation Network

Lead customer: Africa Reinsurance Corporation (NG)

Partners: Dalili Advisors Ltd (KE), Dedicated Agricultural Services Ltd (RW) & University of Edinburgh (UK)

In Northern Nigeria, conflicts between herders and farmers have escalated in recent years, driven by competition over land and resources. As grazing lands shrink and become less productive due to climate change, herders are forced to move their livestock into farming areas, leading to disputes that often turn violent.

Project objectives

In response, Dalili Advisors, in collaboration with the African Reinsurance Corporation, has developed a suite of climate resilience tools using Earth Observation (EO) data and advanced analytics. The primary focus is developing an Index-based Livestock Insurance (IBLI) and an Animal Encroachment Cover specifically tailored to the unique environmental and socio-economic conditions of Northern Nigeria.

Project objectives

The approach is grounded in extensive field validation and stakeholder engagement. By involving local communities, in the development process, they ensure solutions are not only technically sound but also culturally appropriate and widely accepted. The project already received funding from the International Finance Corporation (IFC) and World Bank, enabling a feasibility assessment and early development of the insurance products. These insurance products will ultimately provide financial protection against climate-related risks, promote sustainable resource management, and foster peaceful coexistence between herding and farming communities.

Innovative remote sensing technology to assess investment risks in capital-intensive sectors, starting with artisanal and small-scale mining (ASM)



Programme: UK-Africa Space Technology for Sustainability Global Innovation Network

Lead customer: AMC Consultants & Ministry of Mines of the Republic of Niger

Partners: Makor Holdings (SA), Auyan (UK), MX4 (KE) & Safe Mining Forum (KE)

The world is transitioning from fossil fuels to renewable energy and causing a seismic shift, especially for capital-intensive industries with a history of both positive and negative environmental and social impacts, such as forestry, agriculture, energy, and mining. According to Benchmark Mineral Intelligence, to achieve the clean energy transition by 2035, we need 342 new critical mineral mines. By 2050, the challenge intensifies. The affordability and speed of energy transitions will be heavily influenced by the availability of critical mineral supplies and could push mining into environmentally and socially sensitive areas and is expected to have profound negative impacts on climate change. Simultaneously, several minerals used in low-carbon technologies are known to be produced through Artisanal and Small-Scale Mining (ASM). ASM is growing at a rapid pace as this segment of the mining sector is bridging the gap in critical and raw mineral demands and has become a core part of supply chain. ASM also plays a crucial role in the economies of many resource-rich regions, however, is often fraught with challenges related to sustainability, safety, and regulatory compliance. Economic stability in ASM communities is often threatened by fluctuating mineral prices and insufficient risk assessment. The environmental impacts of these mining activities can be severe, driven by a lack of vigilance and the hasty investments that focus solely on mineral concentrations in the soil. This often leads to significant ecological degradation and negative effects on local communities. And due to the vulnerability of many ASM communities, there are a host of systemic social challenges such as health risks, lack of education, minimal access to clean and proper sanitation and trafficking.

Project objectives

To address these pressing issues, we propose to leverage the power of satellite imagery and artificial intelligence (AI) to create a robust framework for monitoring and assessing the sustainability of artisanal mines. By integrating these technologies, the consortium seeks to provide detailed insights into key factors such as environmental impacts, safety measures, and regulatory compliance. Our approach is rooted in addressing the pressing needs and challenges associated with energy transition, climate change, and the socio-economic impacts of artisanal mining. This comprehensive monitoring system is intended to support responsible investment and promote sustainable development within the ASM sector.

Beyond ASM, the proposed satellite and AI-driven monitoring system offers significant potential for application in other sectors requiring capital-intensive investments with high environmental and social sensitivity, such as agriculture and forestry. These industries demand accurate and comprehensive risk assessment to ensure sustainable practices and responsible decision-making. In agriculture, the system could be adapted to support more sustainable farming practices by evaluating risks associated with investments. Indicators similar to those identified for mining, such as environmental damage, flooding, and social impacts on surrounding communities, could be explored. Additionally, sector-specific risks, including soil and groundwater contamination, soil health, the condition of nearby water bodies, water availability, and climate-related challenges such as wildfires and crop stress, can also be monitored. In forestry, the technology could play a critical role in monitoring forest cover changes, detecting illegal logging, and assessing the health of forest ecosystems, contributing to the preservation and sustainable management of natural resources.

Expected outcomes

By streamlining the project in this way, we will reduce the operational pressures on field missions, enabling a stronger focus on collecting drone imagery and conducting on-site surveys, while still providing a high-quality risk assessment for the customer with the support of satellite imagery.

Contact us

To discuss this brochure further, please contact:

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