

The Research-to-Commercialisation

TOOLKIT

A Practical Guide to Strengthening
Africa's Innovation Ecosystem

November 2025

Prepared for innovators, researchers, entrepreneurs, academia, policy makers and investors

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The RISA Fund team extends sincere appreciation to all partners, innovators, and stakeholders whose insights and contributions shaped this toolkit.

Reimagining Research Commercialisation in Africa

Africa is rich in knowledge production and innovation potential. Yet, a persistent gap remains between research outputs, innovation and the realisation of market-readiness. Reimagining commercialisation means moving beyond traditional models to embrace collaboration, inclusivity, and context-driven strategies tailored for Africa's unique innovation landscape.

Research-to-commercialisation (R2C) is a process of converting research findings, inventions, or innovations into marketable products, services, or business solutions. It involves translating research-based ideas into practical products that deliver economic and societal value - identifying commercial potential, protecting intellectual property, and developing strategies to bring innovations to market.

This toolkit was developed to **bridge that gap** by providing practical guidance for transforming research into commercially viable solutions. It empowers ecosystem actors—researchers, innovators, entrepreneurs, academia, policymakers, and investors—with tools and strategies to

accelerate commercialisation, scale innovations, and strengthen Africa's research and innovation ecosystem.

Grounded in evidence and stakeholder insights, the toolkit introduces a **Four-Stage Framework** supported by key principles: **collaboration, systemic support, contextual relevance, and evidence-based practice**. It was developed through a three-step process: (1) Reviewing African literature on research commercialisation, (2) Analysing impact stories and documentation from RISA Fund¹-supported programmes in six countries (Ethiopia, Ghana, Kenya, Nigeria, Rwanda, and South Africa), and (3) Validating findings with key ecosystem stakeholders.

The proposed **Four-Stage Research-to-Commercialisation Framework** provides ecosystem actors with **practical steps** to identify **commercial potential** and design **effective strategies** for **transforming research and innovation into market-ready solutions**. It supports scaling, financing decisions, and broader commercialisation efforts across Africa's research and innovation ecosystem.

Key Research to Commercialisation Principles:



- ▶ **Complementary roles:** Researchers, entrepreneurs and industry collaborating as co-creators.



- ▶ **Systemic support:** Enabling policy, shared infrastructure, and institutional alignment.



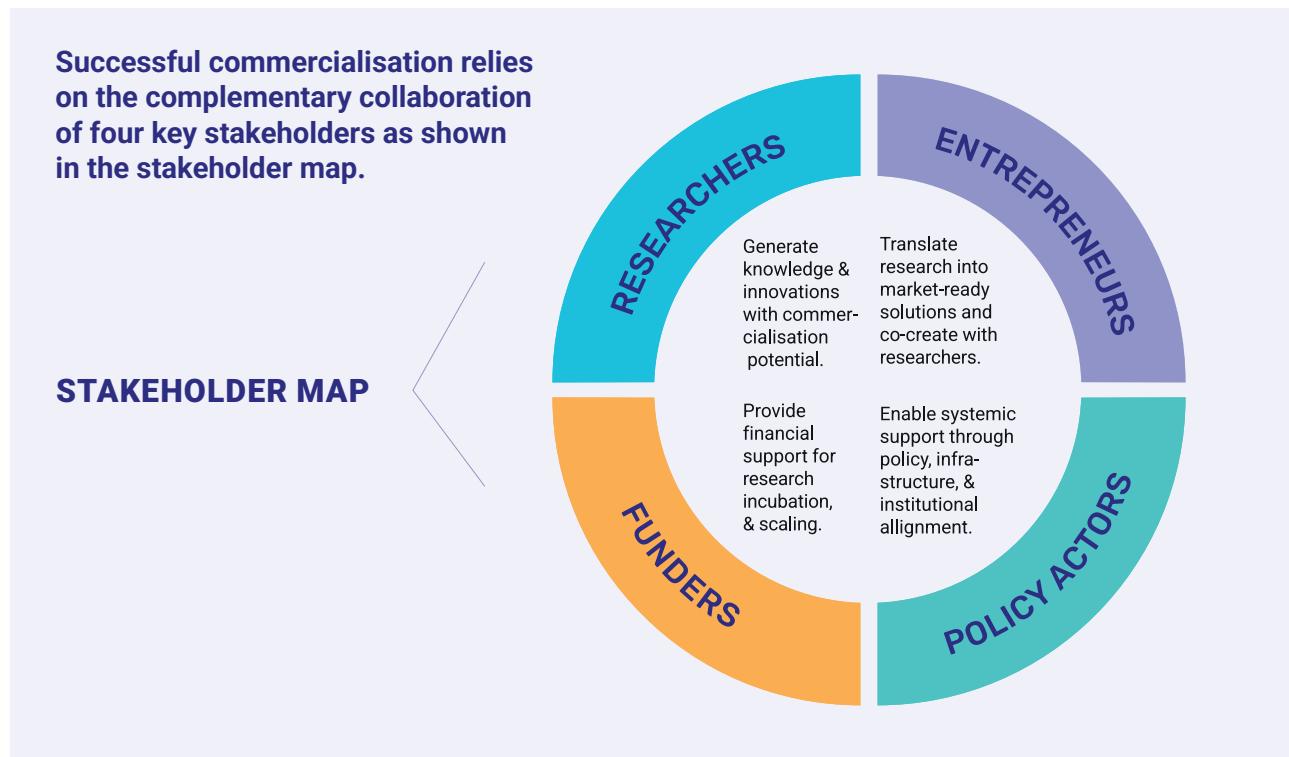
- ▶ **Context-sensitive:** Tailored to help address Africa's ecosystem realities.



- ▶ **Evidence-based:** Built on case studies and value-based evidence from Africa

1 The Research and Innovation Systems for Africa (RISA) Fund is a multi-country initiative funded by the UK government, designed to strengthen research and innovation systems across Africa.

This framework redefines the commercialisation journey by **emphasising collaboration** between key stakeholders. The stakeholder map highlights the interconnected roles of researchers, innovators, policymakers, and investors in driving successful commercialisation.

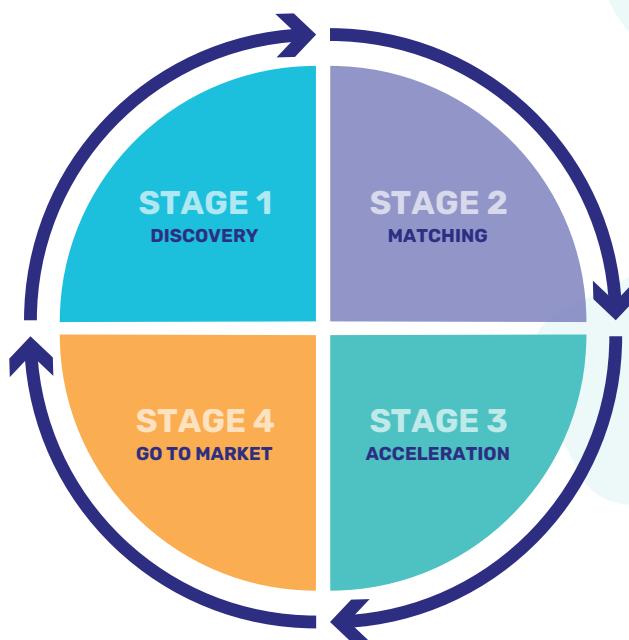


The Enabling Structures

Successful research-to-commercialisation requires strong enabling structures that foster an environment where innovation can thrive. These structures include:

- **Policy, Regulatory Support and Strategies:** Clear policies and supportive regulations create a stable environment that encourages innovation and ensures new products enter the market legally and efficiently. For example, **Intellectual Property (IP) frameworks** protect research outputs and innovations, giving innovators the confidence to share and scale their ideas.
- **Skilled Human Capital and Capacity Building:** Continuous capacity development – such as **enterprise skilling** – enhances the knowledge and competence of researchers, innovators, and entrepreneurs enabling them to develop and scale the market-ready products. Key examples:
 - ▶ *Bridging the Research Innovation-Industry Assimilation Gap through Technology Capacity Building in Rural Ghana' (BRInG) - the project builds the capacity of rural small enterprises by training them on process enhancement innovations.*
 - ▶ *Impact Investors Foundation (IIF) implemented the ESO SCALE Framework, strengthening Enterprise Support Organisations (ESOs) to improve services for small and medium enterprises (SMEs) through mentorship.*
- **Shared Infrastructure:** Access to laboratories, equipment, and digital tools provides the physical and technological foundation needed to build, test, and produce innovations. Incubators and accelerators further offer structured support, mentorship, and resources to help early-stage research and innovations grow into market-ready solutions.
- **Access to Financing:** Blended financing opportunities that include private and public financing mechanisms help researchers and innovators cover the costs of development, testing, and scaling, making it possible to turn ideas into market-ready products. Key examples:
 - ▶ *Ghana's CiGaba Public Pooled Fund of Funds, a blended finance vehicle, unlocked local and international capital for SMEs and venture funds in Ghana and West Africa, addressing the financing gaps for businesses needing seed capital.*
 - ▶ *South Africa's Technology Innovation Agency Fund (TIA Fund), a public funding mechanism established by the department of Science and Innovation, supports innovators, start-ups and research institutions to transform technology-driven ideas into market ready solutions by funding projects from proof-of-concept to full rollout.*
- **Value-Sharing Mechanisms and Linkages to Partnerships:** **Communities of practice and network programmes** provide platforms for researchers, businesses, and communities to exchange experiences, cross-learn and establish partnerships that would create more opportunities to grow innovative ventures and reach wider market.

The Four-Stage: Research-to-Commercialisation Framework



The Stages Explained



STAGE 1 – DISCOVERY: Assessing Ecosystem Readiness and Enabling Factors

This stage focuses on assessing how well research aligns with societal and market needs, while evaluating ecosystem capacities and existing enabling factors. The process is guided by a

checklist that helps identify opportunities and gaps to address along the commercialisation journey. The image below illustrates sample checklist questions mapped against enabling factors:

Ecosystem Readiness Checklist for Research to Commercialisation

A. Policy, Regulatory Support and Strategies

- Are there clear national or institutional policies supporting commercialisation?
- Is there access to legal support for Intellectual Property (IP) protection?
- Are regulatory pathways for product approval well-defined and accessible?
- Are there incentives or strategies that promote research translation?

B. Skilled Human Capital and Capacity Building

- Are there skilled professionals available to support product development and commercialisation?
- Are training programmes or workshops available for researchers and innovators?
- Is there access to mentorship or advisory networks?

C. Infrastructure

- Are there functional labs, testing facilities, or maker spaces available?
- Is digital infrastructure (e.g., internet, software tools) adequate?
- Are there incubators or accelerators that support early-stage research and innovations?

D. Access to Finance

- Are there funding opportunities for research translation (e.g., grants, venture capital)?
- Is there support for proposal writing or investor pitching?
- Are financial institutions or donors actively supporting research to commercialisation??

E. Value-Sharing Mechanisms and Linkages to Partnerships

- Are there frameworks for value-sharing among collaborators?
- Are partnerships with industry, government, or communities encouraged and supported?
- Is there a platform or network for connecting with potential partners?



STAGE 2 – MATCHING / TRANSFER: Linking with Commercialisation Pathways

Selecting the right commercialisation pathway is crucial and should be guided by the capacities of the ecosystem—whether institutional or community-based.

Institutions with strong policies and infrastructure – such as Technology Transfer Offices (TTOs) - are well positioned to pursue licensing agreements or joint ventures, while those still developing internal frameworks might opt for start-up pathways supported by enterprise skilling programmes and co-founder initiatives.

Each method offers unique advantages shaped by ecosystem's readiness, policy environment, and resource availability. This step ensures stakeholders choose the most effective route to bring innovations from research to market.

Commercialisation Pathway Opportunities

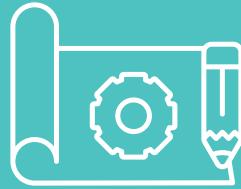
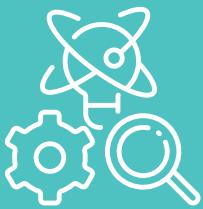
- **Start-up Companies** are formed by researchers ready to build ventures around their innovations. This method attracts early-stage funding, creates jobs, and drives long-term sustainability.
- **Venture Builder** models identify promising research within institutions and match them with enterprises willing to scale the technology.
- **Consultancy** is ideal for commercialising unprotected research or where institutional IP policies are unclear. Researchers are compensated for services or expertise provided.
- **Technology Transfer** focuses on linking innovations with end-users. Though institutions may not earn direct revenue, beneficiaries experience increased productivity and income.
- **Licensing** offers a streamlined route to market, granting rights to use research outputs, often with branding. Oversight by skilled personnel ensures quality and compliance.
- **Spin-out Companies** are independent entities formed from research, maintaining academic ties while operating autonomously. They retain profits and function as private limited companies.
- **Joint Ventures** involve partnering with third parties to co-own and commercialise IP. This shared model allows for strategic collaboration and resource pooling.



STAGE 3 – ACCELERATION: Transform Research & Innovation into Viable Prototypes

This stage focuses on converting ideas into functional products. It involves building prototypes, testing them repeatedly to improve/refine both the product and the business model, and making sure the product fits what the market needs.

Mentors and subject-matter experts provide guidance throughout the process, while innovation methods such as Lean Startup and design thinking are applied to make the product better and more useful.



STAGE 4 – GO TO MARKET: Achieving Market Fit and Adoption

This stage focuses on introducing the product to real users and testing it in the market. This is done through pilot programmes and collaboration with local partners. The goal is to learn how the product benefits people and the economic value it delivers. Feedback from users is gathered regularly to refine the product and ensure it fits well with the market needs.



Implementing the Research to Commercialisation Framework

Putting the Research-to-Commercialisation (R2C) framework into action means moving research ideas step by step toward the market. The process follows the stages—Discovery,

Matching/Transfer and Acceleration as illustrated below. Each stage helps researchers and partners make clear decisions, use resources wisely, and increase the chances of success.



1. DISCOVERY

Access Ecosystem Readiness and Enabling Factors

- Infrastructure
 - Linkages / Technology Transfer Offices
 - Innovation centers
- Incubation hubs
- Policy frameworks
- Access to finance
- Skilled human capital

2. MATCHING

Linking with Commercialisation Pathways

- Licensing
- Startups / Spin outs
- Sale of IP
- Joint venture in IP commercialisation
- Venture builder
- Technology Transfer

3. ACCELERATION

Transform Research, Innovation into Viable Prototypes

- ✓ Prototyping
- ✓ Iterative testing
- Product
- Business model
- ✓ Technical mentorship
- ✓ Product-market alignment
- ✓ Applying innovation methods
- Lean Start Up
- Design thinking labs.

4. MARKET

Achieving Market Fit and Adoption

- Deploy via pilot programmes and local partnerships.
- Gather market and user insights on socio-economic value.
- Build continuous feedback loops.

Institutional

Community

- Infrastructure
 - Enterprise support organisations
 - Collaboratives
 - Consortiums
 - Communities of practice
 - Partnerships
- Access to finance

Loop back into discovery for refined research and innovation as research and innovation products evolve to meet market needs.

What success looks like

Strong monitoring, evaluation, and learning (MEL) is essential to achieve meaningful impact in Research-to-Commercialisation (R2C) initiatives. Success should be tracked using both **quantitative and qualitative approaches** at the **Individual, Institutional** and **Ecosystem Levels**.



What success looks like in Research

- **Market Adoption**
 - Product or service is launched and actively used by real customers.
 - Positive feedback and evidence of solving a real problem.
- **Economic Value**
 - Generates revenue or measurable cost savings.
 - Attracts investment or creates new jobs in the ecosystem.
- **Impact Alignment**
 - Contributes to social, economic, or environmental goals.
 - Supports national or regional development priorities.
- **Sustainable Business Model**
 - Clear plan for long-term viability (licensing, joint ventures, or start-up growth).
 - Reduced reliance on short-term grants or donor funding.
- **Strengthened Ecosystem**
 - Builds capacity for future commercialisation (trained researchers, active TTOs).
 - Encourages collaboration between academia, industry, and government.
- **Intellectual Property Protection**
 - Secures patents or other IP rights where relevant.
 - Maintains competitive advantage for innovators.

→ **Quantitative indicators**—such as number of innovations supported, Intellectual Property (IP) registrations, jobs created, and revenue generated—provides clear, measurable evidence of success.

→ **Qualitative methods**—those in-tangible approaches such as outcome harvesting (identifying significant changes and working backwards to see how an intervention contributed to them), case studies, and stakeholder interviews – are used to capture deeper insights, unintended outcomes, and contextual shifts.

→ **Individual level success is measured** by tracking skills development, entrepreneurial capacity, and adoption of commercialisation practices; at **Institutional level**, organisational readiness, policy alignment, and capacity to support research translation is measured while at **Ecosystem** level collaboration networks, market linkages, and systemic changes that enable sustainable commercialisation pathways are evaluated.

To get started:

- Establish baseline data to measure change effectively. If baseline data is unavailable, use contextual analysis or reliable secondary sources.
- Standardise ecosystem-level indicators where possible to assess broader impact, including contributions to GDP, policy changes, and innovation leadership.

The outcomes across the three levels can be tracked as proposed below:

Level 1 Individual	Level 2 Institutional	Level 3 Ecosystem level
<p>Quantitative Metrics</p> <ul style="list-style-type: none"> – Number of viable innovations / researchers supported – Number of prototypes developed – Number of innovators/researchers trained/ with improved capacity to innovate – Number of innovations commercialised – Number of innovators, makerspaces, or researchers accessing innovation support – Innovation or research acquiring Intellectual Property (IP) rights – Retention rate of innovators and researchers <p>Qualitative Methods</p> <ul style="list-style-type: none"> – Capacity growth (improved skills, confidence, and availability to navigate commercialisation process) 	<p>Quantitative Metrics</p> <ul style="list-style-type: none"> – Number of innovations or research outputs supported – Innovations collaborative initiatives or partnerships – Innovation (or Technology) readiness level achieved – IP filled/ IP rights secured/ Innovations licensed – Number of partnerships with industry – Investments attracted to support commercialisation – Number of spin-offs or start-ups established – Institutional policies developed or revised – Research and innovations outputs commercialised – Jobs created through commercialisation efforts – Revenue generated from commercialised outputs <p>Qualitative Methods</p> <ul style="list-style-type: none"> – Evidence of supportive culture for entrepreneurship – Effectiveness of institutional policies in enabling commercialisation 	<p>Quantitative Metrics</p> <ul style="list-style-type: none"> – Frameworks, guidelines, regulations or standards developed – Number of innovations developed – Number of researchers/Innovators trained – Start-ups launched and scaled – Number of jobs created – Revenue generated across the ecosystem <p>Qualitative Methods</p> <ul style="list-style-type: none"> – Policy shifts at the ecosystem level – Strength and quality of interactions along the innovation value chain – Evidence of ecosystem leadership in driving innovation

Contributing into R2C Communities of Practice and Influence

To strengthen research commercialisation, it is important to actively document and share both successes and challenges. Doing so builds a strong evidence base that informs decisions, attracts

funding, and inspires replication. Capture outcomes systematically and tailor messages to different audiences—researchers, funders, policymakers, and communities.

Channels for sharing impact across networks that can be adopted include:



Case studies and policy briefs for strategic insights



Infographics, dashboards, and multimedia for broad engagement



Collaborative advocacy & change influence at conferences, forums, & stakeholder events



Stakeholder engagement workshops, webinars, and roundtables to foster dialogue



Peer-reviewed publications for academic and scientific validation



Digital platforms, including social media and news outlets, to amplify visibility

Research to Commercialisation Case Studies

Ethiopia - Bina Pads Woman-Led Start Up supported by Jimma University

The Jimma University Innovation Incubation Centre (JUIIC) in Ethiopia supported Bina Pads, a woman-led start-up producing eco-friendly menstrual products from agricultural waste, to transform research into a market-ready solution.

Stage 1 – Discovery:

Fayza, a Material Science lecturer at Jimma University, identified the pressing need for affordable and safe menstrual products to reduce school absenteeism, stigma, and high costs, while also promoting environmental sustainability. JUIIC conducted an ecosystem assessment, highlighting available opportunities such as local raw materials, alongside gaps in business skills, infrastructure, and funding. This confirmed both the demand and the commercialisation potential of the innovation.

Stage 2 – Matching/Transfer:

With Jimma University's incubation programme in place, the start-up pathway was identified as the most suitable commercialisation pathway. JUIIC facilitated business training in collaboration with Victoria Solution Limited (VSL), provided seed funding of 200,000 birr, and created networking opportunities. In addition, JUIIC supported her participation in the Kenyan Innovation Week to both showcase her work and learn from others, as well as in

the CEIL Summit in Mombasa, where she was able to further present and expand her network. These supports enabled Fayza's transition from researcher to entrepreneur.

Stage 3 – Acceleration:

Through mentorship and innovation methodologies, Fayza developed and tested biodegradable, reusable pads, while refining the start-up's business model. Continuous prototyping and feedback helped strengthen both product quality and market alignment.

Stage 4 – Go to Market:

Bina Pads established an office in Addis Ababa, launched production, and within eight months has sold 1,400 pads. The enterprise partnered with local communities, piloted products, and advanced menstrual health awareness campaigns. The initiative reduced school absenteeism among girls, created jobs, and promoted environmental benefits through biodegradable products demonstrating market viability and social value.

Bina Pads' journey illustrates how academic research, when supported by structured incubation and partnerships, can be **successfully commercialised** into a socially impactful enterprise, addressing education, health, gender equality, and sustainability.

Ghana - Kwea Palm Producers supported by Uni. Of Ghana Business School

The University of Ghana Business School's (UGBS) BRIInG1 project bridges the gap between university research and rural enterprise development by channelling research-based food processing innovations into small businesses across Ghana.

Stage 1 – Discovery:

The project began by assessing the ecosystem readiness. UGBS leveraged its Innovation and Incubation Hub and partnered with research centres, alongside ecosystem actors like Impact Hub Accra and Social Enterprise Ghana. Opportunities existed in strong research outputs and networks, but key gaps included limited market access, certification challenges, investor engagement, and regulatory compliance.

Stage 2 – Matching/Transfer:

UGBS facilitated technology transfer through a spin-off Kwea Palm Producer Association which introduced food processing innovations to rural communities including palm oil producers in Kade. This process connected researchers, regulators, and rural enterprises, strengthening operational efficiencies and building collaborative learning. Producers also registered their businesses and began working on getting food and drug certification, moving towards more formal business practices.

Stage 3 – Acceleration:

The palm oil producers engaged in innovation capacity-building, piloting improved storage and packaging, adopting safer production methods, and refining business models. With mentorship and design-thinking approaches, the Kwea Palm Producer Association began branding their products, positioning them for wider markets. One producer reported:

"Before the training, our ability to store palm oil properly was lacking, and we struggled with pricing fluctuations. Now, thanks to the improved methods we've learned, we can maintain our product price more consistently, negotiate better terms, and ultimately, our profitability has increased significantly."

Rural innovation showcases and investor engagement events created visibility and built confidence in rural enterprises.

Stage 4 – Go to Market:

Improved product quality significantly raised market prices, for example, palm oil that once sold for GHC 300 per 25 litres now sold for GHC 500. Additionally, improved storage methods have helped stabilisation of palm oil prices, enabling producers to negotiate better deals and increase profits. The project also helped form producer associations, bringing together individuals who used to work alone.

1 Bridging the Research Innovation-Industry Assimilation Gap through Technology Capacity Building in Rural Ghana

Kenya - Cracksfox Limited supported by KeNIA, Viktoria Ventures!

Through the Kenya National Innovation Agency (KeNIA) and Viktoria Ventures Research-to-Commercialisation Accelerator programme, which is designed to strengthen Kenya's innovation ecosystem, Cracksfox Limited - a smart bio-cement additive that auto-heals cracks in plaster - advanced its journey toward market readiness.

Stage 1 – Discovery:

Prof. Jackson Muthengia of Cracksfox Limited, developed a smart bio-cement additive that auto-heals cracks in plaster. The solution incorporated during cement mixing or applied in repairs, addressing durability challenges and reduces maintenance costs in buildings.

Stage 2 – Matching/Transfer:

To address these gaps, the programme adopted the Venture Builder model as a suitable commercialisation pathway. Cracksfox was matched with a co-founder. This model linked researchers to investors, industry players, and other stakeholders by enabling them to pitch and showcase their innovations at various forums. These interactions increased visibility, enhanced discoverability of start-ups,

and promoted sustainable financing pathways for local innovators.

Stage 3 – Acceleration:

As part of an accelerator programme by KeNIA, he received comprehensive support through training, mentorship, technical validation, and industry exposure and was able to rebrand, lab testing, and controlled field piloting. Through his participation in the Startup Festival, he showcased his product, connected with customers, and made immediate sales of 10 bags. The innovation has gained growing visibility in industry forums and university-industry linkages, drawing interest from private construction firms and potential partners. prototyping.

Stage 4 – Go to Market:

Although the product is not yet fully market-ready, momentum is building. The controlled field pilots, ongoing partnerships, and sector interest have positioned Cracksfox closer to commercialisation. Once prototypes are refined and certified, the company will be ready for wider market validation and scaling within the construction industry.

About the RISA Fund

The RISA Fund (2021-2025) is a multi-country initiative funded by UK International Development from the UK government designed to strengthen research and innovation systems across Africa. It brings together two complementary programmes under the Foreign, Commonwealth and Development Office's (FCDO) Research and Evidence Division—Strengthening Research Institutions in Africa (SRIA) and African Technology and Innovation Partnerships (ATIP)—to harness synergies and drive systemic change. Managed by a consortium comprising Chemonics UK, Results for Development, and SOAS University of London, RISA collaborates with a wide range of implementing partners including universities, innovation hubs, government agencies, private sector actors, and international development firms. The programme operates in six countries: Kenya, Ghana, Nigeria, Rwanda, Ethiopia, and South Africa, supporting locally driven solutions and fostering cross-sectoral learning and impact.

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