

InnovateUK  
KTN

Global  
Alliance

Africa

[ktn-uk.org/programme/africa](https://ktn-uk.org/programme/africa) #KTNGlobalAllianceAfrica

# African AgriFoods Innovation Challenges – Information Event



# Agenda

## Introduction

- Innovate UK KTN
- Global Alliance Africa
- Innovation Exchange

## Challenges

- Birds Challenge
- Grain Challenge
- Application Information

## Q&A

# Housekeeping

- The Information Session will last about 1.5 hours
- Please use the chatbox for submitting your questions
- You will have the option of asking your questions yourselves at the end or we can narrate them for you if preferred
- For anything urgent please raise your hand
- This session will be recorded and shared later

# Innovate UK KTN

[www.ktn-uk.org](http://www.ktn-uk.org)



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# Positive Change Commitments

## Positive Change

We create diverse connections to drive positive change

### Deep Expertise

We have wide-ranging expertise and convene the expertise of others

### Powerful Connections

We drive powerful connections with businesses at the heart of what we do

### Future Shaping

We shape the innovation communities of the future

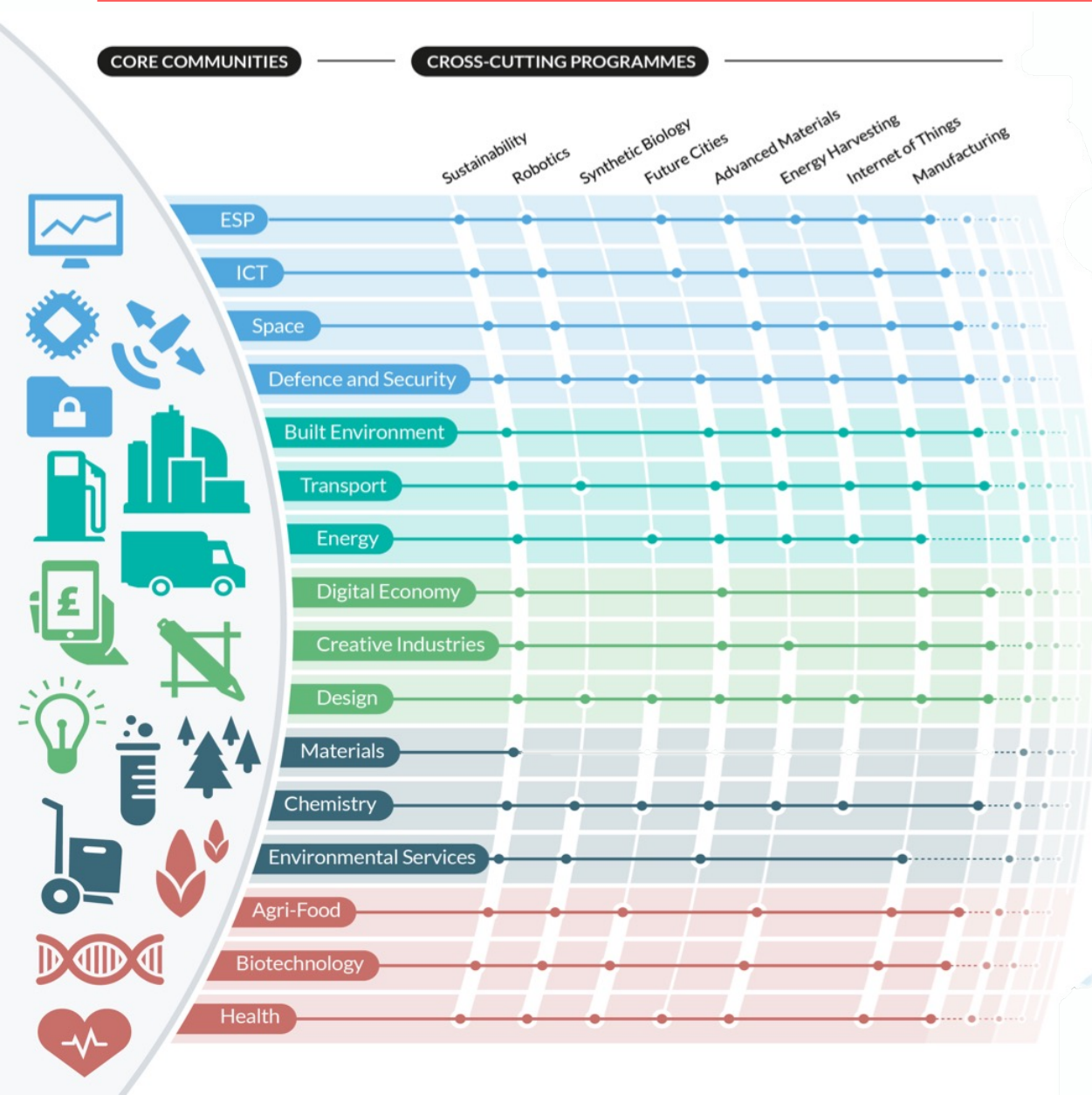
## Our People

We provide an exceptional place of work for our exceptional people

We will collaborate globally to create valuable international connections for innovators.

We will extend our activity beyond economic prosperity to also deliver sustainable societal & environmental benefit.

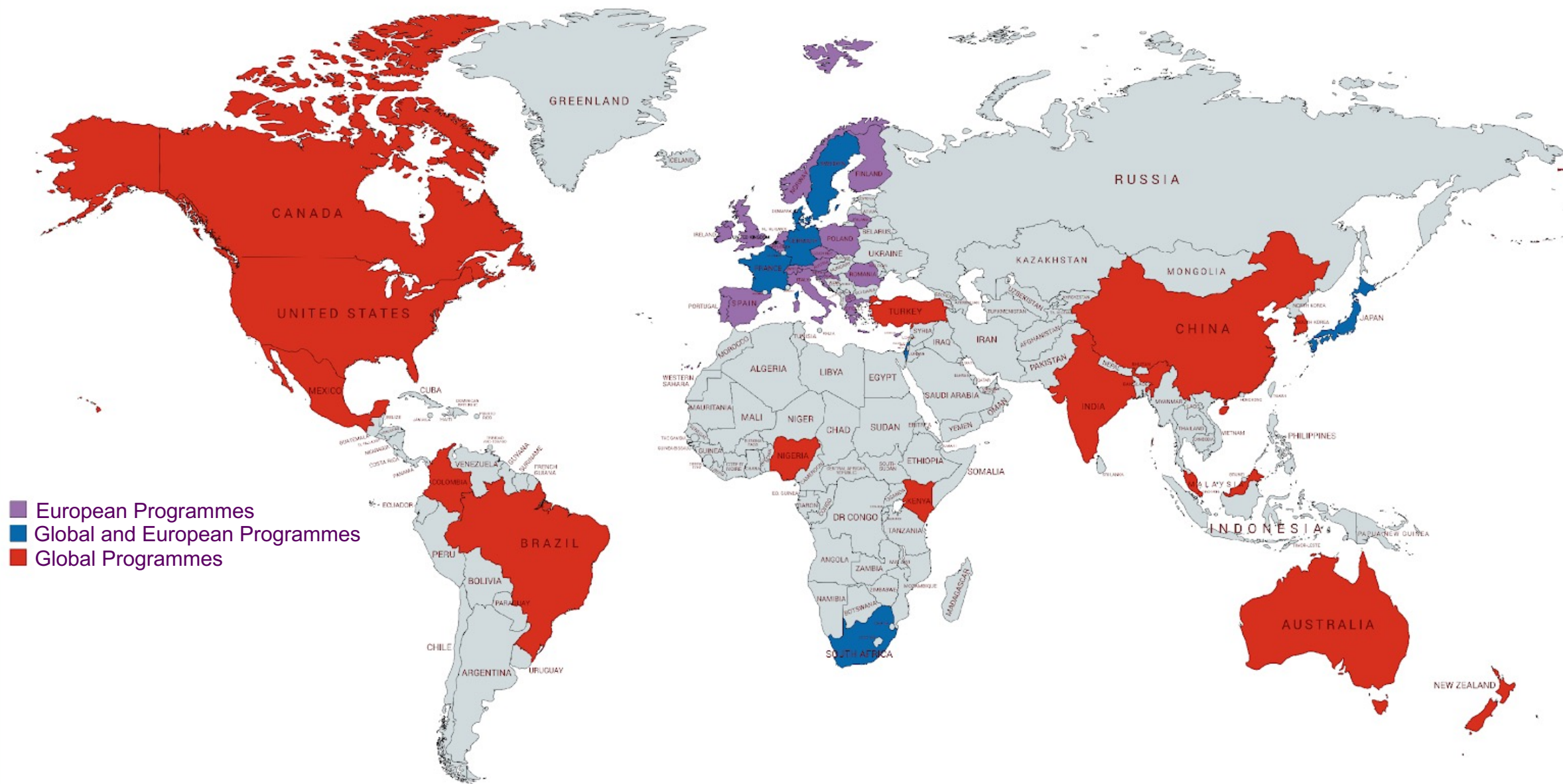
# Simplifying Complexity



## We are truly cross-cutting, to simplify complexity

- Deep sector expertise across 20 key economic sectors
- Comprehensive cross-sector programmes, including Global Innovation
- Working across complete innovation ecosystem
- A network of +45,000 unique organisations, c.80% SMEs, +234,000 innovators
- In the UK and with over 30 countries

# Our Reach



# Impact to innovation



**66%**

Introduced by  
KTN go on to  
**collaborate**



**42%**

Reach outcomes  
**faster** by 1-2  
years



**60%**

Increased  
**investment** in  
R&D as a direct  
result from KTN  
engagement



**£100m**

Per year  
increased  
**investment** in  
R&D





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# A New Approach to Africa



“With a shared passion for entrepreneurship, technology and innovation, now is the time for UK companies to strengthen their partnerships with Africa to boost jobs and drive prosperity both at home and overseas...

The challenges facing Africa are not Africa's alone. It is the world's interest to see these jobs created.”

UK Government, August 2018



# Building UK-Africa Partnership through...



## Local to Global

Open Innovation

Place-Based Innovation



## Access to Funding

Collaborative R&D Funding

Strengthening the Investment Pipeline



## Connected Innovation

Global Innovation Network

## Deep Expertise

\* Manufacturing & Materials | Transport & Mobility | AgriFood | Health | Climate Technologies | Digital Economy \*

\* Sector coverage subject to funding level & project priorities



# Innovation Exchange (iX)



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# Local Empowerment Through Collaboration

Innovation Exchange is a KTN programme specially designed to introduce company with technical challenges to innovators who are already working on the solutions.

## Sector Technical Challenges

Large organisations, OEMS and Local Authorities have:

- Confidential challenges to solve with no time to explore markets
- Low exposure to companies outside the traditional industry supply chain

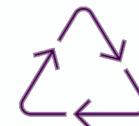
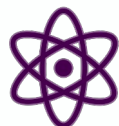
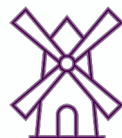


## Innovative solutions *from other* sectors

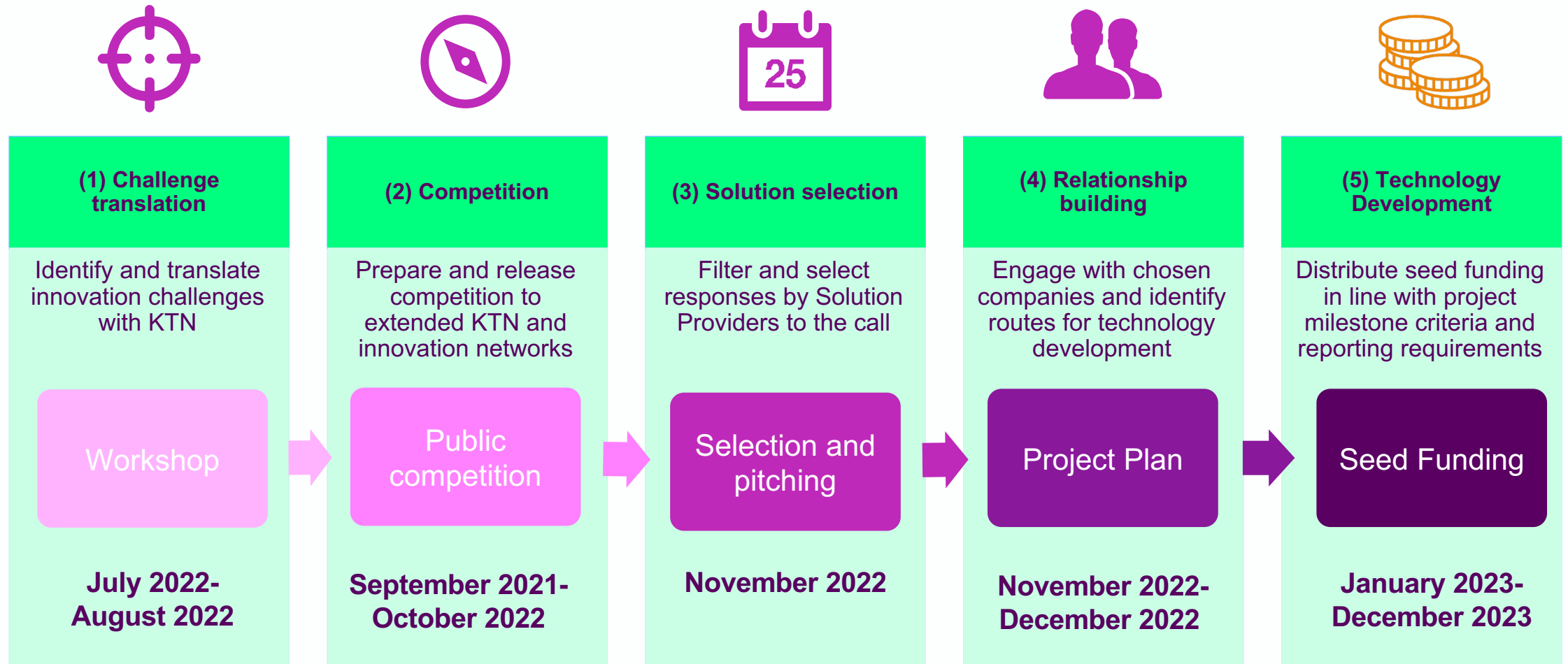
Solution providers find it difficult to:

- Open the right doors at a large org, OEM or local authority
- Prove the value proposition of products
- Understand customer's time constraints

## Challenge owners



# KTN Innovation Exchange Process



# Benefits for Challenge Holders

## Supply chain strengthening

It helps build a route for greater and more diverse innovation content in supply chains

## Quick and simple exposure to new technologies and markets

KTN delivers technology solutions from areas to which challenge holders do not normally have exposure and markets that are usually unavailable to SMEs (both in- and cross-sector)

## Time efficient

It requires little time commitment, with the bulk of the resource and time provided by GAA

## Expertise at no charge

We are fully funded by the UK government and there is no charge to you for our professional services

## Optional disclosure

Challenge holder involvement can be made confidential if required

**Companies using this project  
have said,**

***“It is surprisingly simple and  
very interesting; it has delivered  
a varied range of Technologies”***

# Benefits for Solution Providers

## Immediate access to large business

Successful applicants will be given the opportunity to pitch their solution to the Challenge Holder

## Ongoing collaboration on project

The selected Solution Provider/s will collaborate with the Challenge Holder and gain access to local facilities, eg: farmland to carry out trials for piloting the solution

## Seed Funding provision

Up to GBP 25,000 seed funding to work on the solution for this specific challenge in collaboration with the Challenge Holder

## Pitching and development support

Support from KTN and mentoring from our development partners throughout the challenge process

## Raising your profile

Make new connections and invitation to attend or present at future IUK KTN events



# Global Alliance Africa Open Innovation Challenges FY21/22

- **Kenya**

- **Flamingo Horticulture**

- False Codling Moth detection
    - False Codling Moth control

- **WEEE Centre**

- Cathode ray tube recycling and reuse

- **South Africa**

- **Unilever**

- Plastic waste recycling and reuse for:
      - Online retail customers
      - Small traders & family-owned shops



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KTN Global Alliance Africa

### Rapidly find Innovative Solutions to Circular Economy Challenges

We are looking for Kenya, Nigeria and South Africa based companies wanting to find rapid innovative solutions to their industry challenges.

Deadline to apply: 14 September 2021

Connecting for Positive Change  
ktn-uk.org/programme/africa



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KTN Global Alliance Africa

### Rapidly find Innovative Solutions to AgriFood Challenges in Kenya

We are looking for large\* Kenya-based companies from the AgriFood Sector wanting to find rapid innovative solutions to their industry challenges.

Deadline to apply: 30 August 2021.

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ktn-uk.org/programme/africa

# Global Alliance Africa Open Innovation Challenges FY22/23

- Kenya

- AgriFoods company

- Prevent crop damage by birds
    - Reduce post-harvest waste

- Nigeria & South Africa

- TBC



Global Alliance Africa is looking for  
**Innovative Solutions to AgriFood Challenges in Africa**

Global Alliance Africa is supporting a large agri-based manufacturing company to find innovative solutions to prevent crop damage caused by migrating birds

**The Challenge**

Damage to crops by birds is an enormous challenge in Africa. As the birds migrate across the country, they often find suitable food sources in farm crops. The birds will nest nearby in great numbers and take advantage of the localised, plentiful food supply.

Harming these flocks is not an option. So the farmers need to find a way of either keeping them from landing on the crops or moving them on further down their migration routes. This innovation challenge is looking for novel solutions to address this issue.

A large agri-based manufacturing company is launching this challenge to look for cross-sectoral solutions to prevent crop damage caused by migrating birds.

**Submit your Solution**  
Deadline to apply 8 July 2022  
Visit our website to view the challenge and submit your solution.  
**SUBMIT NOW**

**What is Global Alliance Africa?**

Global Alliance Africa is a 6-year project, funded by UK Aid, that aims to promote job creation, inclusive growth and poverty reduction through knowledge transfer, skills building and opportunities to support businesses and innovations deliver scalable impact.

Through the Innovation Exchange programme we support innovation transfer by matching industry challenges to innovative companies from other sectors. We do this by putting large businesses with technical needs in contact with companies who have the right solutions for faster development of novel solutions.

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Global Alliance Africa is looking for  
**Innovative Solutions to AgriFood Challenges in Africa**

Global Alliance Africa is supporting a large agri-based manufacturing company to find affordable and easy to maintain solutions for Sorghum grain threshing (and other grains).

**The Challenge**

East Africa traditionally has a structure of small farms over large areas of land where farmers grow a wide variety of food and industrial crops. Most of the farm operations are being carried out by hand. Crops are harvested manually, dried and threshed on the farm before being transported for sale.

This post-harvest grain handling leads to an estimated 20-30% yield loss, affecting farmers' revenue and livelihood. This innovation challenge is looking for versatile pieces of mobile equipment that may be used by farmers to improve this situation.

A large agri-based manufacturing company is launching this challenge to look for novel solutions to minimise the loss of grain during the threshing process.

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# Identifying Solutions to Crop Damage Caused by Birds



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# Background

**Damage to crops by birds is an enormous challenge in Africa.** As the Birds migrate across the country, they often find suitable food sources in farm crops. The birds will nest nearby in great numbers and take advantage of the localised, plentiful food supply.

The destruction of these flocks is not allowed so the farmers need to find a way of **either keeping them from landing on the crops or moving them on** further down their migration routes.

# Target Audiences

We anticipate solutions may come from, but are not limited to, the following sectors:

- AgriTech
- Materials
- AI
- Acoustics
- Design
- Infrastructure
- Chemical and Biological solution (excluding solution with negative environmental impact)

# Functional Requirements

- Solution will be **applied in Africa**
- Solution for **average land and farm size**, usually 1-2 acres (0.4-0.8 Ha)
- Solution in use throughout the year, with **high season for protection** (twice a year): December/January and June/July
- Protection from a **variety of birds** – species such as Weaver Bird
- **Variety of crops** impacted ranging from small crops (0.7-1m) to taller crops (1m-1.2m)
- Crop planting: 90% are planted in rows (25 cm b/w plants and 75 cm b/w rows)
- Solutions need to be **credible, affordable, and easy to maintain**.  
Implementation should not be disruptive and skills to operate the solution must be transferable
- Ideally, the solution will be **deployed within 6-12 months** (prototype)
- 5–10 prototypes of the solution are needed for initial trials

# Technical Requirements & Operating Conditions

- Solution must be **self-powered/ function off-grid**
- Solution will be applied in Africa and need to be **suitable for the local environment**, with average weather conditions of 25-30C, rainfall 500-1,000mm/year
- **High-intensity usage** of the solution in December/January and June/July. Solution required principally during early mornings and during the day
- Access to **energy supply is limited**, solar energy or other renewables might be available
- Presence of **other animals** needs to be taken into consideration (e.g. domestic animals)
- Solution must not interfere with **day-to-day farming**



# Affordable and Easy to Maintain Solutions for Sorghum Grain Threshing (and Other Grains)



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# Background

Kenya traditionally has a structure of small farms over large areas of land where farmers grow a wide variety of food and industrial crops. Crops are harvested manually, dried and threshed on the farm before being transported for sale. This **post-harvest grain handling leads to an estimated 20-30% yield loss**, affecting farmers' revenue and livelihood. This iX challenge is looking for novel solutions to minimise the loss of grain during the threshing process.

Small farms often have limited ability to invest in large equipment and have limited need for major pieces of machinery. Instead, they **require smaller, mobile off-grid equipment** that can easily be moved between sites with small towing equipment, and which operates off local power sources.

# Target Audiences

We anticipate solutions may come from, but are not limited to, the following sectors:

- AgriTech
- Design
- Infrastructure
- Mechanical designers
- Engineering companies

# Functional Requirements

- Solutions will be **deployed in Kenya** with the potential to scale to Uganda and Tanzania and must be suitable for the local environment.
- Solution needs to be **mobile allowing movement** from one farm to the other, either via a motorbike or small vehicle
- Solution needs to be **robust and theft proof**
- Need to be able to be repaired or **serviced via local engineering/manufacturing avenues**
- 1 prototype is required for trial
- Solution needs to be able to **thresh, clean and grade** a variety of grains such as sorghum, millet, pulses
- Desirable: Bag loader as part of the solution (bag weight: 50 kg)



# Technical Requirements

- Average farm is 0.4 ha and current volume per ha would **average 1,500Kgs**
- Solutions to offer one equipment piece **serving a cluster of between 50-60 farmers**
- Expected throughput of 400kgs per hr
- PTO driven equipment is not desirable due to **low tractor availability**
- Not sorghum alone as same farmers **also thresh pulses and other cereals** (millet, maize)
- Innovation should **thresh** (separate) **and clean** (winnowing)
- Desirable: equipment easily adaptable for other crops.



# Operating Conditions

- Solution will initially be applied in Kenya and must be **suitable for the local environment**, with average weather conditions of 25-30C, rainfall 500-1,000mm/year
- Solution will be deployed under dry conditions but must withstand the **local weather conditions**
- Access to **energy and power supply is limited**, solar energy or other renewables might be available
- Solution must be **small to medium size** for easy movement across the farms
- Anticipated time spend on threshing: not more than **2h per farm**
- Solution will be **operated 24/7**
- Solution must comply with local health and safety standards

# Application Information



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# Deployment Timescale

- Launch of the Competition: 27th May 2022
- Information Session: 24th June 2022
- Deadline for applications: **8th July 2022**
- Selection and notification of finalists: 29th July 2022
- Date of Pitch Day: August 2022 (date TBC)
- Solutions are expected to be deployed within 6 month – 1 year (prototype)

# Eligibility

## Applicants must be:

- Established businesses, start-ups, SMEs, individual entrepreneurs or academics.
- Collaborative solutions (Business to Business B2B and B2R&D) are valid applications. If collaborative solutions are being submitted, a single lead organisation (industrial or academic partner) needs to register the application.
- Priority is given to solution providers based in Kenya, Nigeria and South Africa. However, innovative solutions from the UK and other countries are also welcome.



# Assessment

## Applications will be assessed on:

- **Relevance** to the topic
- **Innovative** nature of the subject
- **Coherence** of the proposed business model
- **Feasibility**/ economic viability
- **Development potential**
- **Maturity** of project/solution
- Ability to launch project quickly/**ease of implementation**
- **Suitability** for the African Market



# Q&A Session



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# Thank you.



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