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UK



Lafarge Africa - Information Session/Q&A

Global Alliance Africa

iuk.ktn-uk.org/global-alliance
[#GlobalAllianceAfrica](https://twitter.com/GlobalAllianceAfrica)



innovationexchange.ktn-global.org/challenges/321

Agenda

10.00 BST/WAT – Welcome and Housekeeping

10.10 BST/WAT – Introduction to Global Alliance Africa and Open Innovation

10.20 BST/WAT – Introduction to Lafarge Africa

10.30 BST/WAT – Lafarge Africa Open Innovation challenge

11.00 BST/WAT – Q&A

11.20 BST/WAT – Next steps

11.30 BST/WAT – Close

Housekeeping

The Information Session will last up to 1.5 hours

Please use Zoom chat for submitting your questions

There will be a survey towards the end

This session will be recorded and shared later



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Innovate UK



About Us

Innovate UK exists to connect innovators with new partners and new opportunities beyond their existing thinking – accelerating ambitious ideas into real-world solutions.



Positive Change Commitments

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.



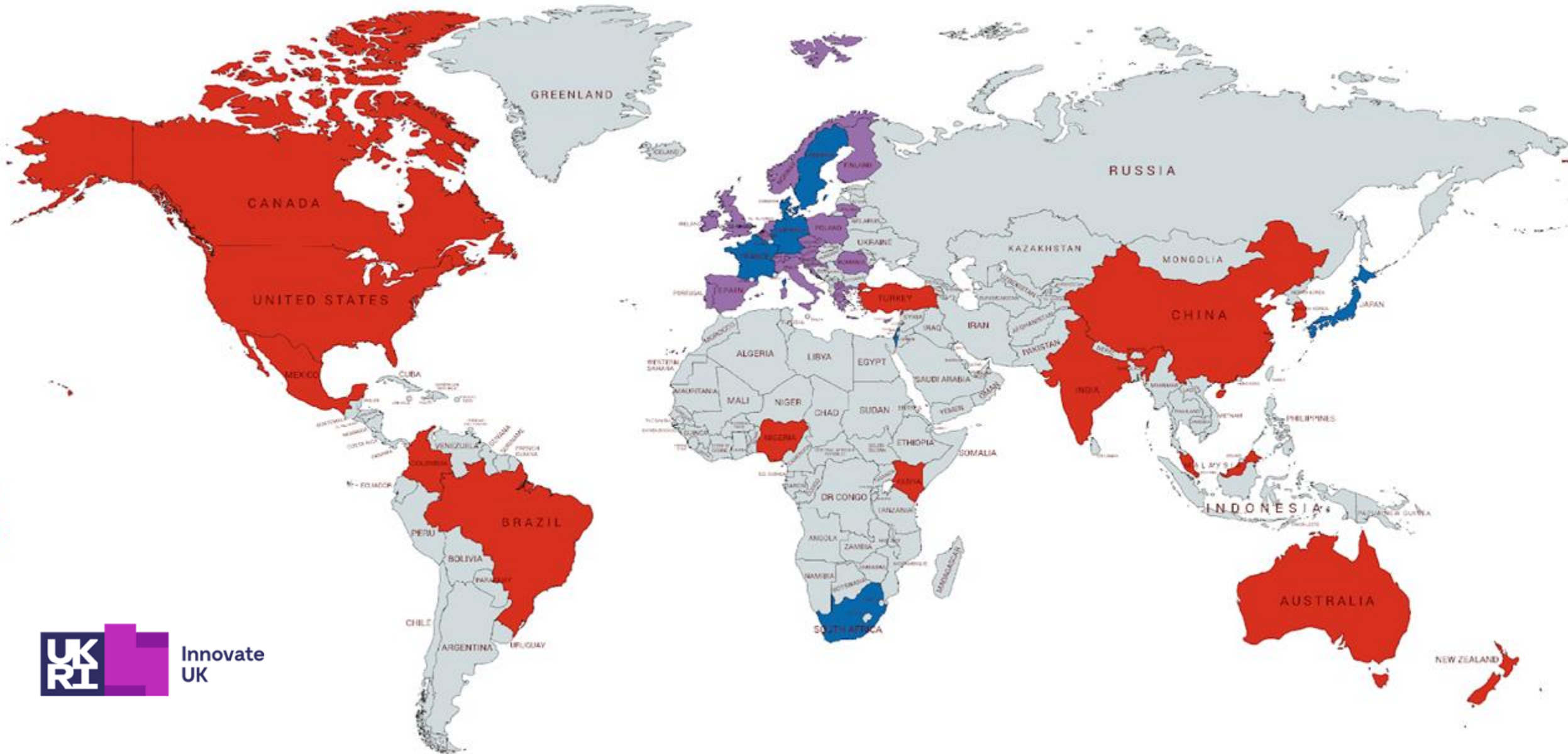


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Global Alliance Africa



Our Reach



Global Alliance Africa



UKRI

UKRI convenes, catalyses and invests in close collaboration with others to build a thriving, inclusive research and innovation system.



Innovate UK

Innovate UK is the UK's national innovation agency. We support business-led innovation in all sectors, technologies and UK regions.



Global Alliance Africa

Global Alliance Africa is a six-year project designed to strengthen and scale local innovation and business environments in Kenya, Nigeria and South Africa.

Our Team





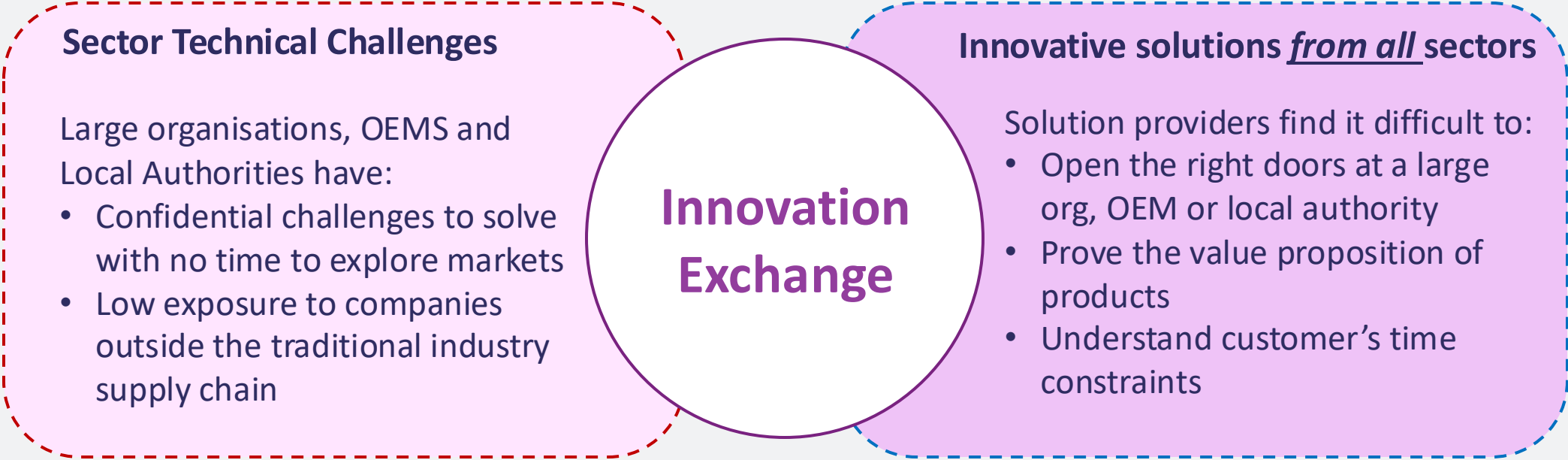
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Open Innovation



Local Empowerment Through Collaboration

Innovation Exchange is a programme specially designed to introduce your company's challenges to the innovators who are already working on the solutions.



Challenge Owners

Solution Providers



Innovate UK



Challenge Holders



The iX process



(1) Challenge translation

Identify and translate innovation challenges with KTN



(2) Competition

Prepare and release competition to extended KTN and innovation networks



(3) Solution selection

Filter and select responses by Solution Providers to the call



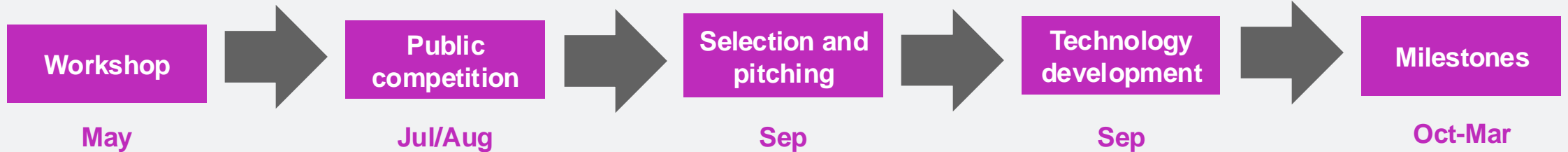
(4) Relationship building

Engage with chosen companies and identify routes for technology development



(5) Pilot project building

Run collaborative pilot project with KTN seed funding



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

Innovate UK delivers technology solutions from areas to which challenge holders do not normally have exposure (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

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 Innovate UK throughout the challenge process and pitch training from our partners

Global Alliance Africa Open Innovation Challenges

Nigeria

Hinckley

- Lithium-Ion battery second life
- Battery management systems

TGI

- Crop protection from birds

Animal Care

- Manure valorisation

Berger Paints

- Expired paint valorisation



Hinckley Recycling
Battery Innovation
Challenges -
Live Launch and Virtual Tour

29 Sep | 10:00-12:00 BST





DETECTION OF FALSE CODLING MOTH IN CROPS

CHALLENGE

IDENTIFICATION OF FALSE CODLING MOTHS IN CHILLI PLANTS



SOLUTION

INNOVATIVE MOBILE FIRST DETECTION SYSTEMS



OUTCOME

ACTIVE AND EFFECTIVE CROP PROTECTION

RISK REDUCTION FOR FARMERS
Safeguarding jobs and supporting food security

EARLY DISEASE DETECTION AND YIELD PREDICTION
Analysis of plant height, leaves and fruits



SOLUTIONS FOR OTHER PESTS AND CROPS
Solution will be customised for tomatoes and citrus next



SUSTAINABLE DEVELOPMENT GOALS

GLOBAL ALLIANCE AFRICA
Project building UK-Africa innovation collaborations to create positive change

INNOVATION EXCHANGE
Our unique process matching industry challenges to cross-sector innovations



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Introduction to Lafarge Africa





LAFARGE AFRICA

PRODUCT PRESENTATION



LAFARGE AFRICA IS PART OF THE HOLCIM GROUP

THE GLOBAL LEADER IN INNOVATIVE AND SUSTAINABLE CONSTRUCTION SOLUTIONS



Largest
footprint



2,300
operating sites



~70,000
employees



23 Like-for-like
billion CHF net sales

The **world's global leader** in building solutions



Net Zero
pledge



SBTi
validated 2030 targets



ESG Rankings
from MSCI to Sustainalytics



Green Solutions
1/3 of our sales

Leading the way in sustainability



Global R&D
organization - 6 hubs worldwide



300 Scientists
in green construction



1,500 Patents
in green construction



100+ startups
open innovation ecosystem

#1 R&D organization
in our industry

BUSINESS SEGMENTS – LEADING THE INDUSTRY IN INNOVATIVE AND SUSTAINABLE BUILDING MATERIALS AND SOLUTIONS



CEMENT

AGGREGATES

**4
BUSINESS
SEGMENTS**

READY – MIX CONCRETE

SOLUTIONS & PRODUCTS

OUR VISION

**STRENGTH
DURABILITY
SUSTAINABILITY
FLEXIBILITY**

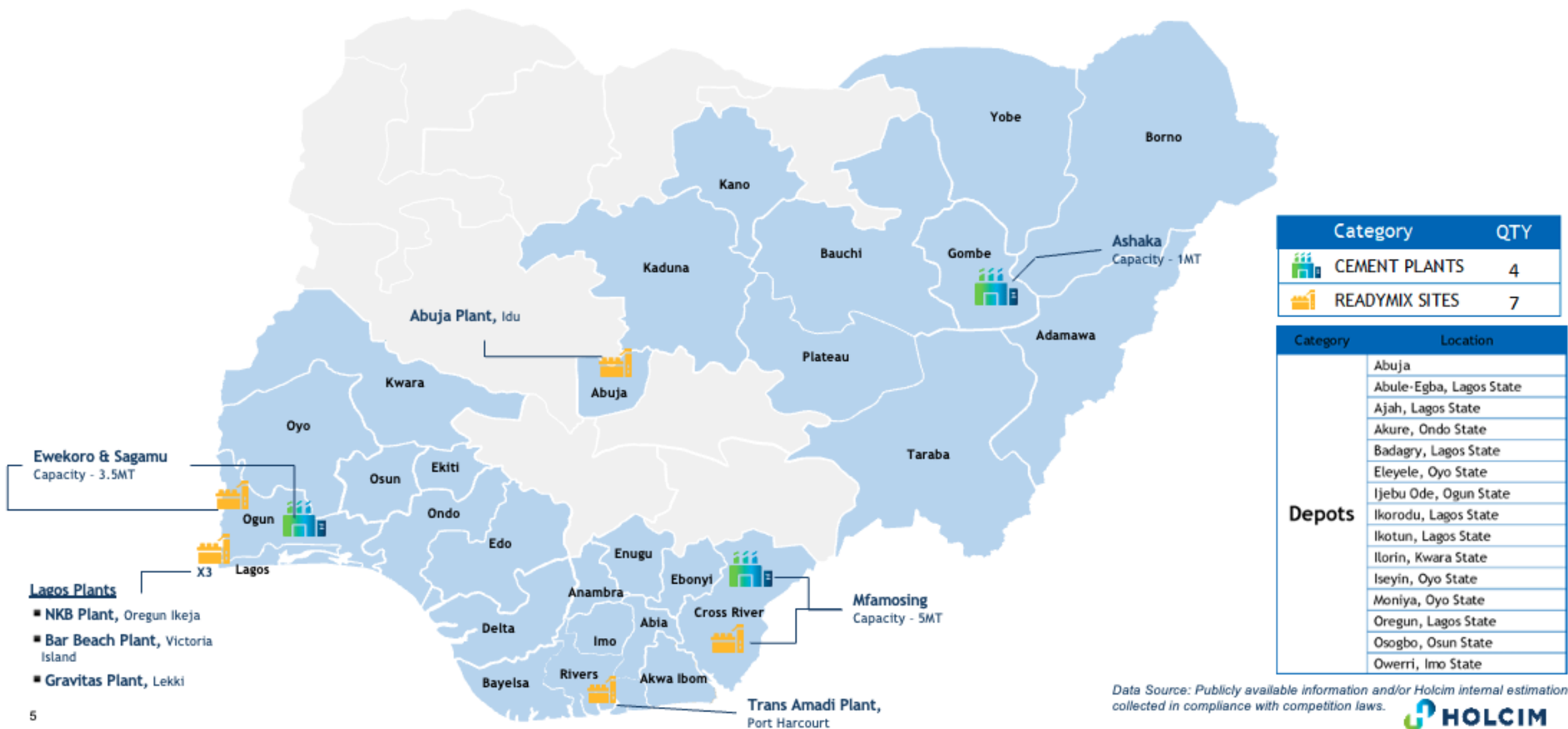
**BETTER
GREENER
SMARTER
LOCAL**

**BUILDING SOLUTIONS COMPANY
RENOWNED FOR CREATING A GREENER
PLANET THROUGH INNOVATION AND
OPERATIONAL EXCELLENCE**

**LOW CARBON
CIRCULAR
GREEN
LASTING**

**VERSATILE
AFFORDABLE
AVAILABLE
RECYCLABLE**

LAFARGE FOOTPRINT IN NIGERIA



LAFARGE AFRICA PRODUCT PORTFOLIO

1 Concrete & Mortar Application



High Strength Regional Brands for General Use



Tile Adhesive



Waterproof
1st in Nigeria



ECOPlanet
1st in Nigeria

2 Blocks & Precast



High Early Strength
for Blocks &
Precast

3 Infrastructure



High Late Strength & Superior Workability



ECOPact



Road stabilization

4 Specialized Applications



Sulphate Resistance Cement



Oil Well Cement



Nigeria's 1st Waterproof Cement

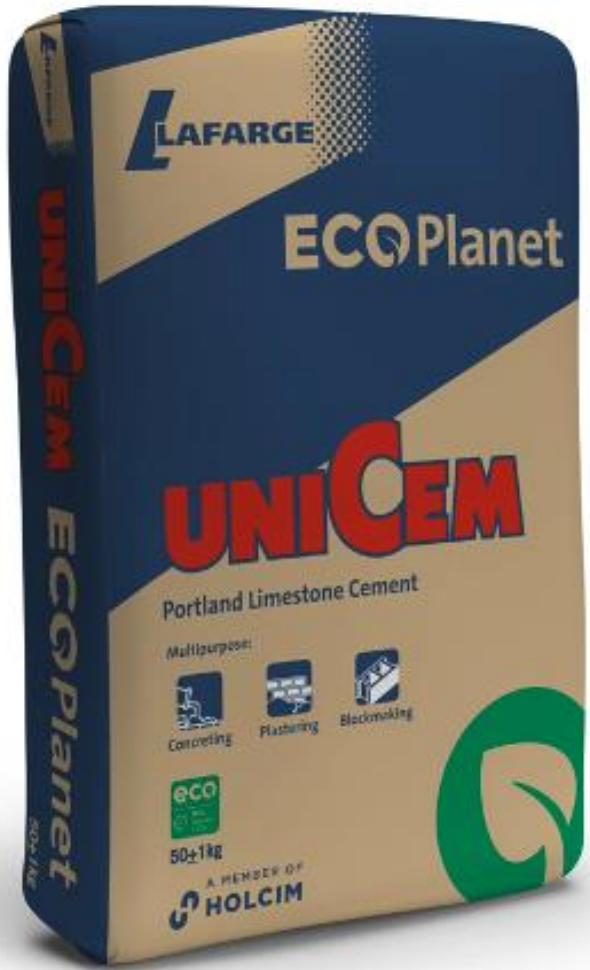


- ✓ Waterproof
- ✓ Interior/Exterior use
- ✓ High Strength

END OF WATER WAHALA



ECOPLANET - THE FIRST LOW CARBON CEMENT IN NIGERIA





HOLCIM



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Lafarge Africa: Building New From Old - Circular Construction Challenge

Challenge

This Open Innovation challenge, delivered by the Global Alliance Africa project, is supporting Lafarge Africa Plc (part of Holcim Group) to find innovative, circular ideas for the use of Construction Demolition Materials (CDM) to tackle the challenges of material waste and climate change, to help to decarbonise the construction industry.

They are focusing on 3 inter-related initiatives: digital platforms; scouting and securing sources; material handling, sorting and recycling tech. A flexible, scalable solution would be preferred to benefit Nigerian business operations directly.

Challenge Background

Construction Demolition Materials (CDM) are generated from the excavation of sites, construction, renovation, repair, and demolition of houses, large structures, roads and bridges. Holcim's goal is to become the leading cement player in the CDM business, aligned with **a transition towards sustainable materials**.

They were the first company to utilise CDM to create products in Switzerland. In Nigeria, they are seeking sustainable, local solutions rather than importing raw materials, and are actively engaged in R&D to make recycled materials more reactive and powerful. Such materials are used already as minor additions to processes, but the goal is working with regulators towards **their inclusion as major additions**.

Some countries have very organised methods of collecting materials, leading to reliable databases. **Nigeria has a fragmented system** without such clarity. Approximately 70% of CDM comes from individual homes, with the remainder being larger industrial buildings. CDM materials become available whenever somebody decides to demolish or rebuild, or when buildings collapse unexpectedly.

Key Initiatives

Holcim requires innovative solutions for **CDM identification, aggregation, processing and production**. Their goal is to transform this construction materials problem into a circular economy solution. Holcim is committed to reducing the share of virgin material in cement via 3 initiatives:

- **Developing digital platforms** to map/identify CDM sources (currently no data is available in Nigeria)
- Scouting the market around urban areas to **identify & secure sources** (currently this is all done by word-of-mouth)
- Local, cutting-edge technologies for **material handling, sorting and recycling** (with suitable tech and QA systems tailored for Nigeria)

CDM process

Most demolitions cause everything to come down together. These materials comprise many different shapes, sizes and consistencies, requiring careful sorting. The **recovery focus would be on fine aggregates**, which are the most versatile for creation of new products, with countless applications. The remnants will comprise metal, wood, cabling, roof tiles, etc.

Currently most CDM is discarded or reused locally and/or informally. A local solution with suitable methodology is required. Any proposed digital solution is encouraged to **leverage data automation** as much as possible.

A holistic approach to this challenge will require collaboration with public and private partners. To bring them on board, the best approach may be the running of small, autonomous projects initially as proof points, and then showing and scaling. A two-stage process may comprise:

- Source or create a database to **aggregate relevant information**, allowing the scoping and facilitating of possible solutions.
- **Valorise the CDM materials** into environmentally beneficial and commercially viable products for introduction into industrial supply chains.

Key Considerations

Key questions to consider include:

- How do you map the CDM stock?
- How do you aggregate and transport it?
- How do you sort these materials?
- How do you process these materials? (to feed into supply chains)
- This should not be a one-off solution, but rather a way to secure a sustainable feedstock. Applicants should consider public domain and targetted digital solutions. A useful reference would be the UK Retrofit challenge, which captured dwelling type and asset type, creating heat maps of likely yields. The plastic recycling industry also provides useful reference, such as data mapping and incentivisation of collection.

Holcim would like to **develop a structured process to match demand and supply**, supporting a stable business model. This model should generate positive ROI, being attractive for both CDM owners (versus landfill disposal) and for cement producers (versus virgin aggregates).

Further Considerations

The pilot project should focus on Lagos City, with the intention to scale to other states afterwards.

A Significant part of the challenge is about **identifying where and how to find waste concrete**, which is likely to comprise: Waste during new build, Waste on demolition sites, Dumped waste around urban landscape, Potential waste from planned development works

Digital aspects may draw upon **technologies that exploit current data** such as: Satellite imagery, Google streetview, Local scouting/citizen scientists, Social media mining, Consolidating mixed data and drawing usable information from it

Mechanical handling and processing innovation should bear in mind the current two stage process:

- Rough breaking and separation of rebar, etc.
- Finer crushing down to approx. 400mm

Target Audiences

Solutions are invited from, but not limited to, the following sectors:

- Construction
- Recycling
- Manufacturing
- Chemistry
- Biotechnology
- Energy
- Data
- Satellite
- Design

Functional Requirements

The identified solution must/should address the following:

- Solution must apply to CDM
- Solution may be integrated at any point in supply chain
- Solution must be sustainable and support circular economy principles

Technical Requirements

- Solution may be delivered by external contractor or via in-house team
- Solution must comply with local building regulations
- Any additional infrastructure required should be identified
- For mapping and scouting, solutions leveraging data automation will be preferred
- Solution may address some or all of the challenges mentioned, though holistic solutions are preferred

Operating Conditions

- Solution should operate in context of normal temperatures and humidity
- Solution should be applicable during normal working hours
- Versatility and capacity to scale are desirable
- Solution must be safe to operate
- Solution must apply to Lagos City (initially)

Cost Requirement & Market Opportunity

- The solution's operation should aim to be cost-effective and/or profitable in terms of ROI
- Winning solution providers may become long-term partners, gaining access to Lafarge Africa supply chains
- External contractors and in-house technical arrangements will be considered
- The opportunity may later extend beyond CDM to other waste streams
- Please specify a topline business case to support your solution

Out of Scope

Proposed solutions may not be viable if they are:

- Unable to create reliable supply chain
- Unable to produce reliable quality outputs
- Unable to use Circular Economy thinking
- Unsuitable for Nigerian building regulations
- Unsuitable for Lagos City operations



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Application Information



Deployment Timescale

- 12 Jul 2024 – Competition launch
- 14 Aug 2024 – Information session/Q&A
- **27 Aug 2024 – Deadline for applications**
- Sep 2024 – Selection and notification of finalists
- Sep 2024 – Pitch day & selection of winner
- Sep/Oct 2024 – Collaboration discussions
- Oct 2024 – Pilot programme activated

Eligibility

Entrants to this competition must be:

- **Established businesses, start-ups, SMEs, academics or individual entrepreneurs**
- **Africa-based entrants, UK-based entrants and those from RoW are invited to apply**

Due Diligence requirements for seed funding:

- UK applicants must ensure that receiving the £25k seed funding will not exceed the £315,000* state aid threshold under UK Minimal Financial Assistance regulations over the current and last 2 fiscal years [or *200,000 euros for applicants affected by EC de minimis regulations]
- Further information will be required later relating to company policies, financial history and recent grant funding received.

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**
- **Price/quality ratio**
- **Suitability for the Nigerian Market**

Rewards & Benefits

- Up to GBP 25,000 seed funding (Subject to T&C)
- Opportunity to pitch your solution to Lafarge Africa
- Collaboration/partnership with Lafarge Africa
- Technical support from Lafarge Africa team
- Sector expertise from IUK team
- Support in the development of a prototype or pilot
- Invitation to attend or present at IUK events
- Investor introductions (if investment is required)
- Application support for any related competitions that are relevant.



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Thank you



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