

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 Berger Paints Nigeria

10.30 BST/WAT – Berger Paints Nigeria Open Innovation challenge

11.00 BST/WAT – Q&A

11.20 BST/WAT – Next steps

11.30 BST/WAT – Close

Innovate UK



The UK's innovation agency

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.

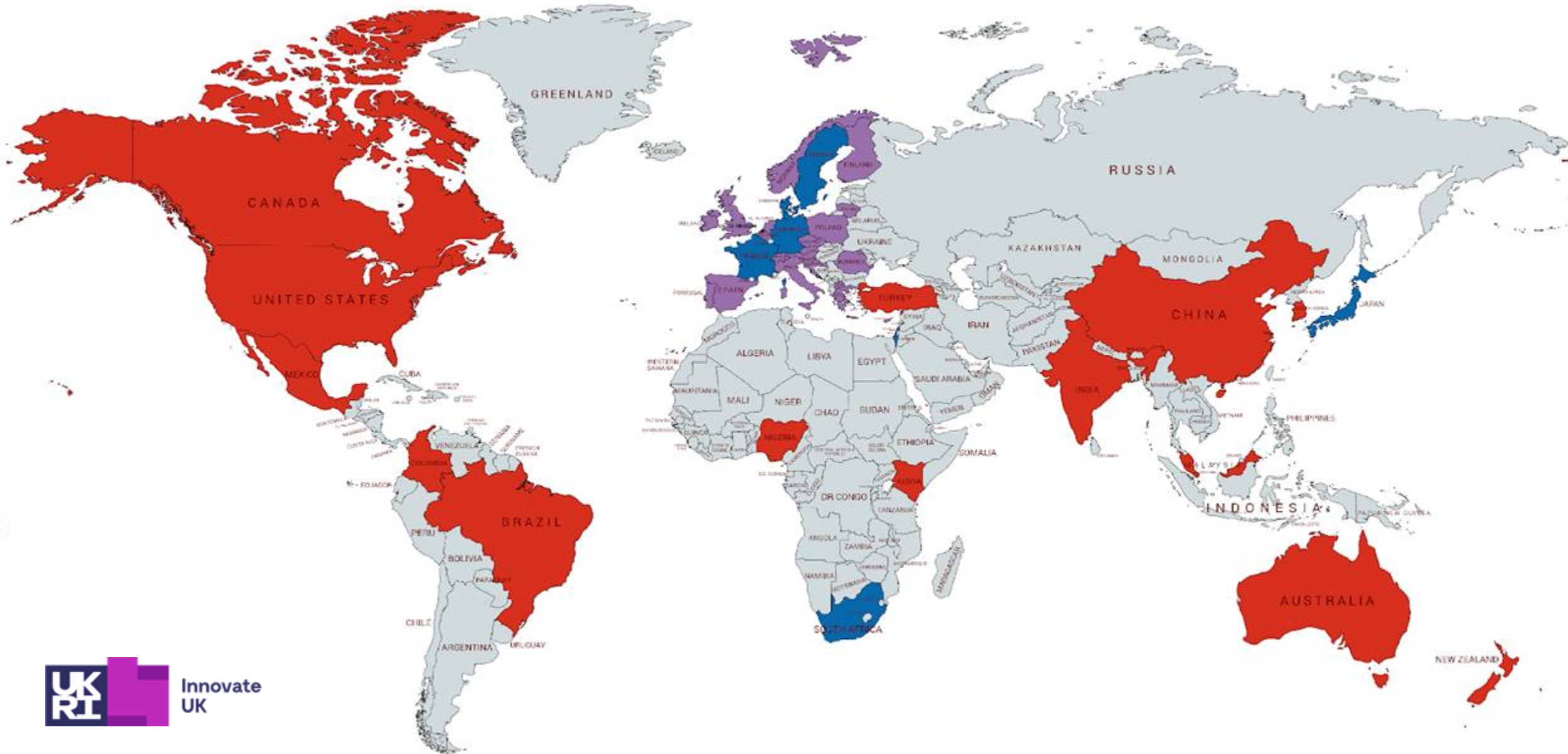


Global Alliance Africa



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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



Open Innovation



The UK's innovation agency

Local Empowerment Through Collaboration

Our Open Innovation programme is specially designed to introduce your company's challenges to the 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

**Open
Innovation**

Innovative solutions *from all* 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



Solution Providers

Challenge Holders



The Open Innovation Process



(1) Challenge translation

Identify and translate innovation challenges with Innovate UK

Workshop

Jan



(2) Competition

Prepare and release competition to extended Innovate UK and innovation networks

Public competition

Feb/Mar



(3) Solution selection

Filter and select responses by Solution Providers to the call

Selection and pitching

Apr



(4) Relationship building

Engage with chosen companies and identify routes for technology development

Technology development

May



(5) Pilot project building

Run collaborative pilot project with Innovate UK seed funding

Milestones

Jun-Dec

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

Nigerian 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
- Recycle plastic to resin

Hinckley Recycling
Battery Innovation
Challenges -
Live Launch and Virtual Tour

29 Sep | 10:00-12:00 BST



Berger Paints Nigeria



The UK's innovation agency



RECYCLED PLASTICS NEW PAINT

CONVERSION OF RECYCLED PLASTICS TO RESIN

(For Paint Production):

A collaborative Open Innovation Challenge with Innovate UK

Who we are.....



Nigerian Indigenous Paint
Manufacturing Company



Founded 1959



Capability of producing more than
10 million litres per annum



Running an automated factory



Producers of premium decorative
and non-decorative paints/coatings



Passionate about sustainability

Our Products & Services



Premium Decorative

Luxol – Emulsion, Gloss, Satin.

Standard Decorative

Superstar – Emulsion, Gloss.



Pre Decoratives

Rufhide, Undercoat, Red Oxide Metal Primer, Alkali Resisting Primer, Paint remover, Biocidal wash



Marine and Protective Coatings

Marine Coating, Epoxy coatings, Acrylic Polyurethane Coating, Antifouling Paint, Silicone heat resisting paint



Industrials

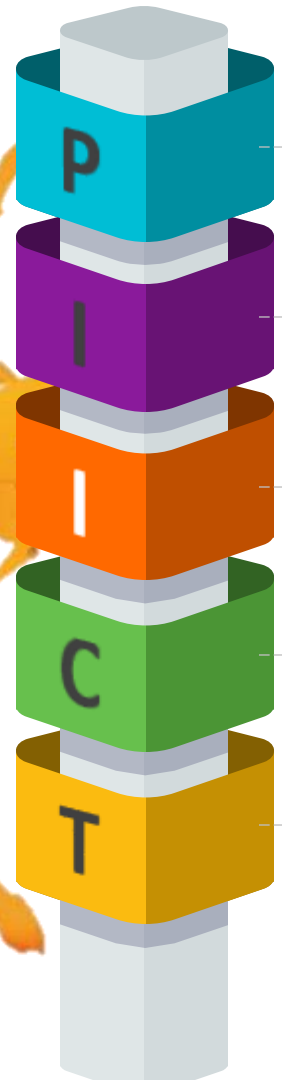
Acrylic Thermoplastic road marking Paint (Reflective and Non-reflective), Chlorubber coating, Bright Aluminum, Etch Primer

Paint Application

A registered subsidiary with the sole business of executing professional application of paints/coatings



Our Core Values...



Professionalism

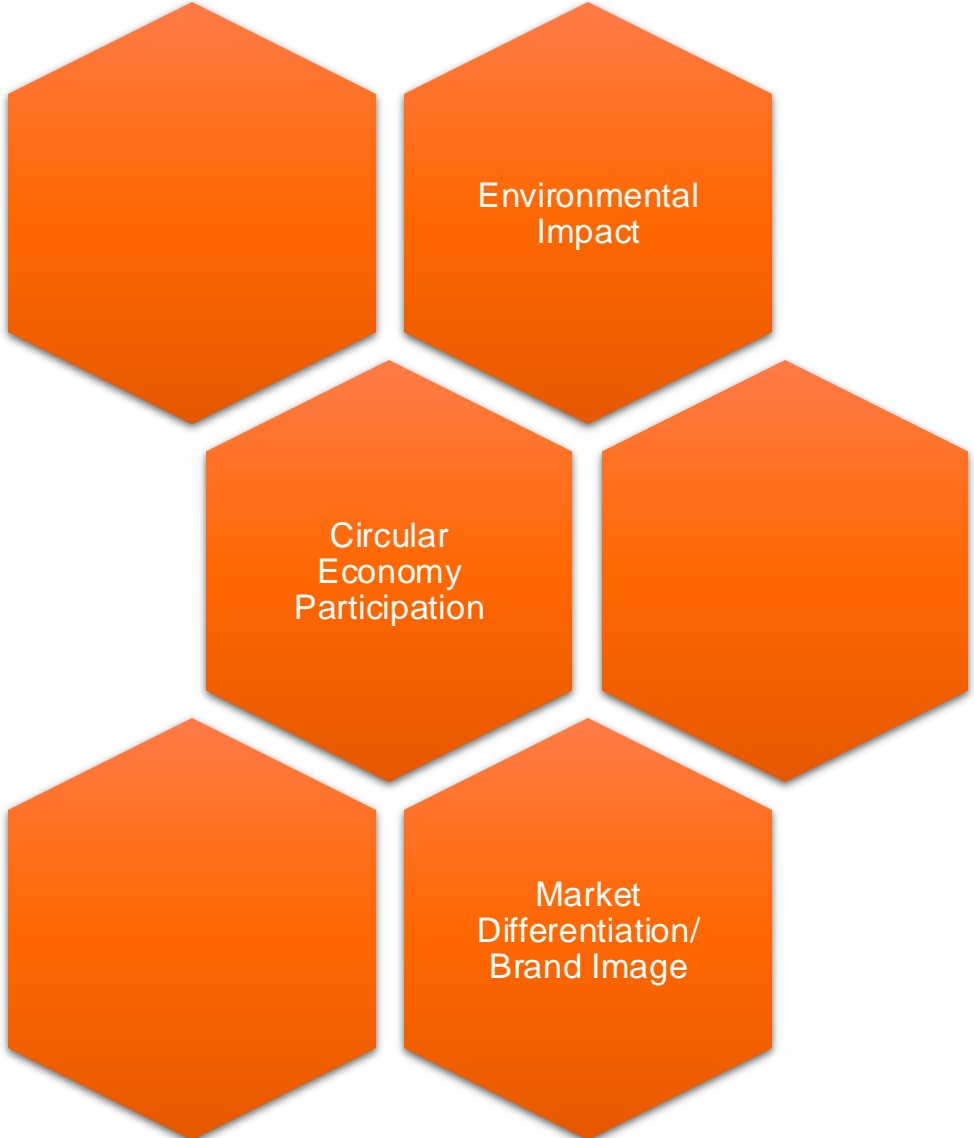
Innovation

Teamwork

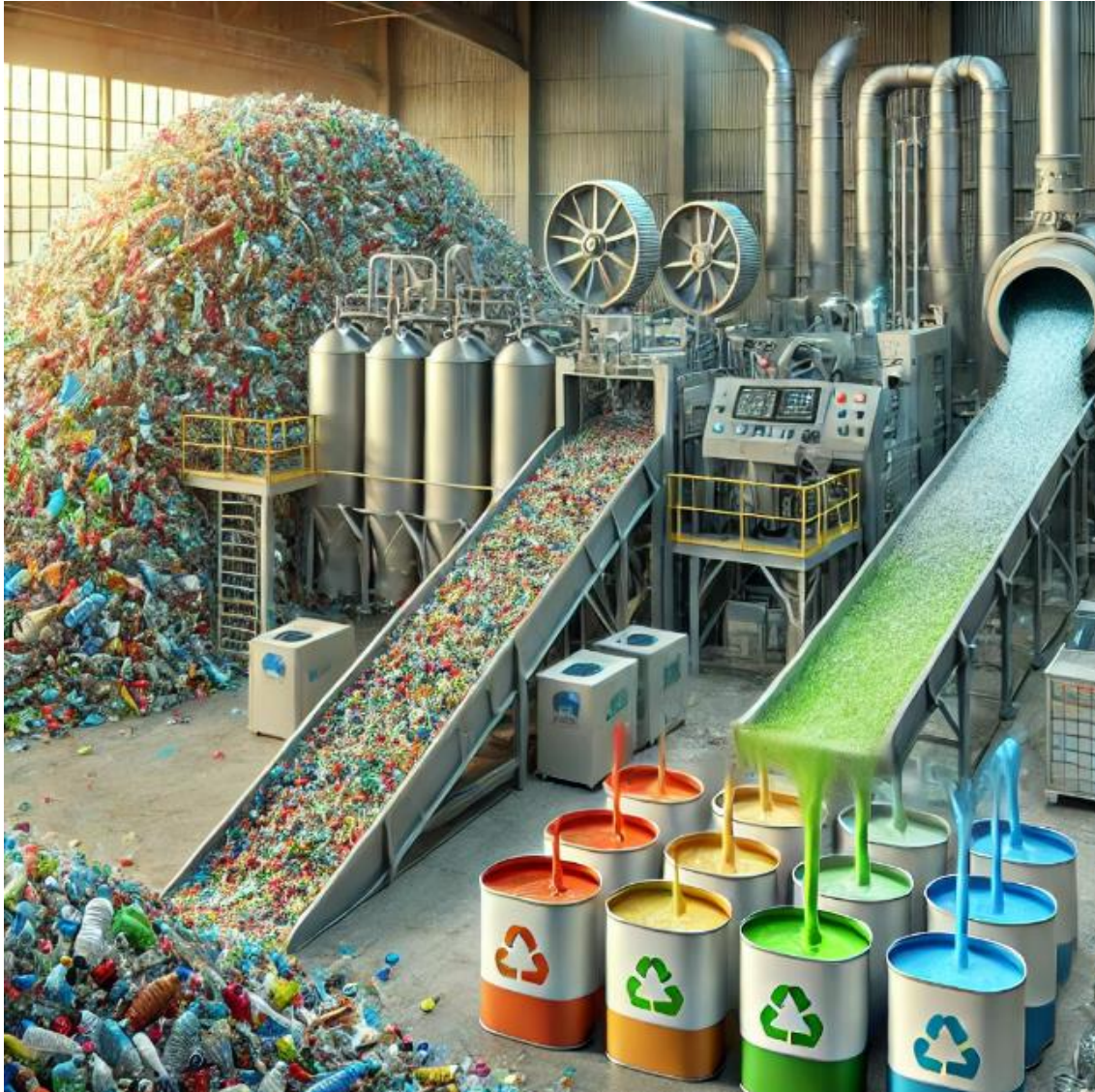
Integrity

Customer Focus

Why are we concerned about Recycling Plastics?



Anticipated Benefits of a Solution



People



Jobs would be created for execution of the innovated processes for conversion of plastic wastes

Circular Economy



Berger Paints foot print in the circular economy would be enhanced

Cost Optimization



A more optimal alternative to procuring resins for paint production

Sustainability



The planet would be a better place if we get to reuse expired paints rather than dispose them



Thank
You

Recycling Plastic to Resin for Paint Production



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Challenge

Berger Paints Nigeria Plc (BPN) is seeking innovative solutions for **recycling waste plastic into resin for paint production** in Nigeria.

Resin forms an essential matrix to hold pigment, additives and other paint components, and typically comprises 10-25% of paint volume.

Berger has identified an opportunity to explore alternative sources of polymer which also have environmental benefits of **converting waste to wealth**.

BPN desires two separate solutions, **one for water-based and another for solvent-based resins** for paint production.

Berger Paints Nigeria Background

Berger Paints Nigeria PLC is a leader in the **Coating and Allied Industry in Nigeria since 1959** – a legacy inherited from Lewis Berger, the German Colour Chemist who founded Berger Paints in 1760.

The company has a reputation for setting standards in the paint industry in Nigeria, and has pioneered a **wide range of speciality products** in this dynamic and ever-changing market. Berger Paints Nigeria PLC is the first company to unveil an **ultramodern fully automated factory** with an annual capacity of 10,000,000 litres of paint production.

They operate in **5 business segments**: Decorative/Architectural finishes, Industrial coatings, Marine & Protection coatings, Automotive/Vehicle refinishes, Wood Finishing and Preservers.

These are supported with a manufacturing plant and main distribution centre in Lagos, over 25 depots/business partners' outlets, Colour World centres and a countrywide distribution network of dealers in strategic locations.

Challenge Background

Plastic waste is a global challenge and is especially acute in Nigeria, where it **pollutes both urban and rural areas**, causes fires in landfills and blocks drainage, causing flooding. Responsible management of plastic waste includes the **possibility of recycling it for additional usage**. BPN has explored the possibility of building plastic waste into their supply chain using circular economy thinking.

Resin (binder) is a **key constituent of water-based and solvent-based paint production**. It forms an essential matrix to hold pigment, additives and other paint components and typically comprises 10-25% of paint volume. Due to foreign exchange (FX) sensitive markets, resin is usually sourced locally, rather than imported.

BPN has identified an opportunity to **explore alternative sources of polymer and solving the plastic waste problem** by converting this waste into a critical factor of production. They are specifically interested in conversion of waste plastic into resin for paint production. They are **open to exploring diverse plastic waste streams** - including PET, HDPE, PVC or other plastics - to convert into suitable resins.

Initial Work

Some initial work in this area showed promise but was stalled by a **lack of quality outputs and theoretical assurance**. The output of this work was not clear as to the categorization of the resin obtained. Thus applicants should ideally clarify:

- Product parameters such as viscosity, adhesion and relevant qualities
- Minimum amounts of waste needed to produce batches of resin
- Carbon chain length of binders (polymers vs monomers)

Innovative Solutions

Berger Paints Nigeria Plc is seeking innovative solutions for recycling waste plastic into resin for paint production in Nigeria. BPN desires two separate solutions:

- **Resin suitable for water-based paint production**
- **Resin suitable for solvent-based paint production**

The ideal solution would focus upon the **technical transformation process** required and also indicate the best way of **sourcing the waste plastic** needed. The latter is preferred and not obligatory, and may utilise any existing local services or systems.

Berger Paints would like to lead the industry in **developing a plastic to resin (re)supply chain**. Their findings would be shared with government waste collection agencies and these innovative services could also serve other paint manufacturers. Innovative thinking is welcome for this challenge.

Additional Info

Some benchmarks of current requirements are:

- The current average cost of water base styrene acrylic resin is about **2,500 Naira/kg**, which fluctuates with currency rates.
- BPN typically uses **50 tons/month** of resin for water-based paints and **15 tons/month** for Alkyd based paints.
- As well as environmental improvements, it is desirable to make **efficiency savings of 10-20% of existing costs** (\$5-10,000 per month)
- The **average batch size of paint produced is 5,000 litres**, and smaller batches may be possible (500-1,000 litre). However, lab scale production may be used for this project.
- Future plans for **integrating innovative processes/products** into Berger's supply chain.

Paint and resin composition details are available upon request. For additional information or clarification of any issues, please contact the Global Alliance Africa, Open Innovation Lead: **babar.javed@iukbc.org.uk**

Target Audiences

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

- **Chemistry**
- **Coatings**
- **Manufacturing**
- **Biotechnology**
- **Plastics**
- **Recycling**
- **Design**
- **Construction**

Functional Requirements

The identified solution must/should address the following:

- Solution must apply to **packaged paints**
- Solution must support **water or/and solvent based paints**
- Solution must identify **valuable, reusable components**
- Versatility and capacity to scale are desirable
- Solution must be integrated at a suitable point in supply chain
- Solution must be sustainable

Technical Requirements

- Solution must involve recycling and follow **circular economy principles**
- Solution may be delivered by external contractor or via in-house team
- Solution must produce **consistent product quality**
- Solution must operate with **high accuracy thresholds**
- Solution/process must comply with health and safety standards

Operating Conditions

- Solution should operate in context of normal temperatures and humidity
- Solution should be applicable during normal working hours
- Solution must be viable for **paint manufacturing/processing plants**
- Solution should minimise carbon emissions and **contribute to waste reduction**

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 Berger Paints supply chains
- External contractors and in-house technical arrangements will be considered
- The opportunity may later extend beyond plastic waste to **other waste streams** also
- There may be **opportunities to collaborate** with government waste agencies and/or other paint manufacturers

Out of Scope

Proposed solutions may not be viable if they are:

- Not compliant with health and safety
- Unsuitable for water-based and solvent-based paints
- Unable to produce reliable quality outputs
- Unable to use Circular Economy thinking
- Unsuitable for Nigerian market conditions

Application Information



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Deployment Timescale

- 01 Oct 2024 – Competition launch
- 24 Oct 2023 – Information session/Q&A
- **15 Nov 2024 – Deadline for applications**
- Dec 2024 – Selection and notification of finalists
- Dec 2024 – Pitch day & selection of winner
- Jan 2024 – Collaboration discussions
- Jan 2025 – 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.

Your Application

Early-stage solutions are welcome, but **TRL must be aligned with project objectives** (ie: capable of running a valid pilot with a minimum of 10 litres resin required).

Berger Paints Nigeria is open to **discuss IP arrangements** with challenge winners. They would seek to find a mutually beneficial commercialization route.

Applicants should include **relevant details as attachments**, such as:

- Process diagram
- Technical data
- Business model
- Lab images

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 African Market

Rewards & Benefits

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

Thank You



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