SWADAROO

High-performance regenerative textiles for the 21st century.

PROBLEM

Common threads across the fashion, healthcare and construction industries

Consumer demands

Industries using textiles face a confluence of consumer demands: high-performance products that are produced sustainably.

Sustainability needs

Incumbent fibers like Cotton are resource hungry or cause harm to living organisms.

Unequal value chain

Raw material farmers only receive a fraction of the profits from the sale of finished products.

SOLUTION

With applications for the fashion, healthcare and construction industries

Novel composition

A high-performing banana-graphene textile.

Better materials

- Utilises waste stems from the banana harvest
- Avoids growing virgin materials on additional land
- Harnesses non-toxic processing methods

Inclusive value chain

An out-of-the-box, socially responsible production system that affords farming communities the opportunity to take part in value-adding processes.

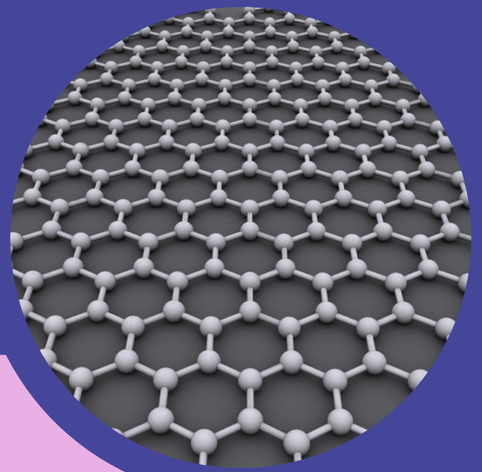
WHEN POWERS COMBINE

Banana Fiber

- Higher tensile strength than cotton
- Good absorbency
- Highly breathable
- Quick drying
- Greaseproof
- Fire resistant
- Tear resistant
- Lightweight

Graphene

- Stronger than steel
- Flexible, yet stiff
- Impermeable
- Thermally conductive
- Thin
- Light
- Transparent



CUSTOMERS

Fashion

A multi-sided market made of:

1. Fashion houses
2. Raw material farmers and producers

Healthcare

1. Hospital and clinics
2. Rural health centers in developing communities

Building

1. Residential and commercial construction companies
2. DIY retailers

INDUSTRY: FASHION

Novel composition

A durable, antimicrobial, insulating textile.

Better materials

Utilising green chemistry to process banana fibers and produce graphene.

Inclusive value chain

Our production system helps fashion houses demonstrate investment in farmer wellbeing:
- Turning a disposal cost into revenue
- Building capacity for local graphene production

INDUSTRY: HEALTHCARE

Novel composition

An antimicrobial, impermeable, ductile textile.

Better materials

A broad range of applications, including biotextiles, biophysical sensors, wound healing, and water purification.

Inclusive value chain

Our production system is designed to be simple and streamlined, allowing it to be implemented in multiple geographies.

INDUSTRY: BUILDING

Novel composition

A strong yet lightweight, durable and ductile, thermally-conducting, and water-resistant textile.

Better materials

We see application in areas of construction where currently used materials:
- Cause OH&S risks for workers
- Are bulky, heavy or subject to degradation

Inclusive value chain

Providing the opportunity for localised production.

Global Market Sizes

	Total Addressable Market	CAGR
	**$6.35 billion** Global Ethical Fashion	**9.1%** 2020-2030
	**$192.3 billion** Global Medical Textiles	**4.9%** 2020-2025
	**$192.3 billion** Global Green Building Materials	**11.2%** 2012-2022

SOURCES
Fashion: Ethical Fashion Market Global Report 2020-30, The Business Research Company
Healthcare:
Building: Global Green Building Materials Market Size, Industry Report, 2022, Grand View Research

Bioinspiration + Design Evolution

Our goal is to develop textiles that have strong functional properties and are built from circular design principles.

This has emerged from our team's initial concept - a swaddling device for newborns - which drew inspiration from the Kangaroo's antimicrobial, thermoregulating pouch.

As we move towards high-performance composites incorporating graphene, we are taking inspiration from nature's strongest structure: the hexagon.

Step 1

Address neonatal health challenges from infection and thermodysregulation

Step 2

Identify textiles with antimicrobial, thermal, and sustainable properties

Step 3

Develop textiles, merging high performance with sustainable materials

Direct Competitors

milo+nicki

OFFSET WAREHOUSE

BANANATEX®

HENRY SCHEIN® MEDICAL

medsalv

Baxter

ECOVATIVE DESIGN

UltraTouch™ Denim Insulation

Black Mountain USA

Indirect Competitors

Greener Incumbents

Examples: Organic Cotton, Bamboo, Rayon
Advantages: Already understood by industry; organic/natural statuses obfuscate embodied energy in growing & processing

Plastics

Examples: Scrubs, Packaging, Curtains, Containers, Bags
Advantages: Already understood by industry; durability and sterility

Alternative Building Methods

Examples: Rammed earth, Earthbag, Strawbale
Advantages: Inherently insulating, using locally available materials, minimally processed

Competitive Advantages

Addressing sustainability and function

Combining low-impact banana fiber with high-tech graphene meets two increasing demands of clothing consumers

Harnessing banana fiber performance

With properties that outperform traditional textiles, medical applications for banana fibers have not yet been explored

Utlising an abundant material

Each hectare of banana production produces 220 tonnes of by-products annually, costing farmers ~$125 to dispose of.

Breadth of knowledge

Our team has a diversity of experience across the value chain: from banana cultivation and working with graphene, to using medical devices and handling construction materials

Future Roadmap

1

Prototype compositions and produce application POC's

Q1 2021

2

Validate market demand for promising applications

Q2 2021

3

Market derisking: LOI signed

Q4 2021

4

Technical derisking: produce MVP

Q2 2022

The Team

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