# Haydale Company Presentation

# Creating Material Change

GBR 99



## WHAT WE DO





Industry leader applying advanced materials, including graphene, to enhance existing products across a wide range of industries

Keith Broadbent CEO

### **COMPANY OVERVIEW**

# Haydale company timeline

haydale



Becoming global leading to the current structure...





Increase technical performance and reduce cost across a multitude of industries.



Our expertise and USP is in our patented Functionalisation process.



Engineering and design applications expertise to deliver the improvements you seek.







Our HDPLAS® process delivers a growing portfolio of (MATech<sup>™</sup>) products with unprecedented performance.

### **Supply Chain**

The right material with the right level of functionalisation is essential for the specific application or product.

We supply the most appropriate feedstock. Our process is independently verified by the National Physical Laboratory.

### Material

Graphene and many other nano particles do not mix naturally with other materials.

#### Chemistry



To ensure graphene's superior properties can be blended into our customers' products, compatible chemical groups are added to the material surface to enable effective dispersion of the graphene ('functionalised').

#### Level



Our patented HDPLAS® low temperature plasma process offers the most effective method of achieving this nanomaterial functionalisation and harnesses the true potential of graphene.



Our technology: the advantages

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Fast, cost-efficient supply of tailored solutions to raw material suppliers and product manufacturers.



We are a trusted partner to our customers, putting quality, performance and customer service at the heart of everything we do.



## **OUR TECHNOLOGIES/PRODUCTS**

Aerospace



**Current Partners:** 

Graphene and other nanomaterials will herald the next major evolution in aerospace materials.





### **OUR TECHNOLOGIES/PRODUCTS** /

**Automotive** 

World first with BAC Mono supercar – use of graphene in wheel arches and diffuser body panels. Overall increased mechanical performance and weight reduction. Current Partner:



### **Opportunities/Applications** Haydale and BAC:



Commercialisation of graphene and other nanomaterials.



Printed sensors using graphene based inks in vehicle diagnostics.



Provide driver/ vehicle interfaces.

### Outcomes

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Weight reduction.

Design optimisation.

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Improved vehicle performance.

Improved

driver safety.

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12 | Creating Material Change

# OUR TECHNOLOGIES/PRODUCTS

# Lighter, faster, stronger...

Gain that all important competitive edge. Enhanced performance and safety.

### **Opportunities/Applications**

#### **Tennis / Lacrosse** lighter more resistant racquets/enhanced weight distribution and energy transfer.



**Cycling** stronger, lighter frames use in helmets and apparel / improved performance and safety.

**Sports** 



**Skiing** improve dynamic performance of skis/Lighter, faster and more responsive product.







**Current Partner:** 

**VCPC** 

## **OUR TECHNOLOGIES/PRODUCTS**





*ICPC* 

Leading the way in optimisation of graphene based inks for biosensor devises. Helping to create environmentally friendly biosensors.

**Current Partner:** 



### **Opportunities/Applications**



Innovation in diagnostic sensors – diabetes.

Innovation in how data is collated/read.

### **Outcomes**



Increased patient empowerment.

### $\oslash$

Increased accuracy of readings/ impact on diabetes stats....

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Reduced cost of sensors.



# OUR TECHNOLOGIES/PRODUCTS

**Printing** 



Improving the speed, quality, strength and accuracy of printing.

**Current Partner:** 











Where we are:

- **1.** Brought together a commercially focused team.
- 2. Operationally focused on meeting customer needs and business needs within affordability.
- 3. Products in place with real data. Target market and customer based sales tools created.
- 4. Pipeline in place with over 100 customers contacted since June 2019.
- 5. Driven by opportunities; taking low hanging fruit, working with customers on large commercial projects

