

Creating Material Change

Half Year 2020 Results Presentation

Keith Broadbent CEO

Mark Chapman CFO

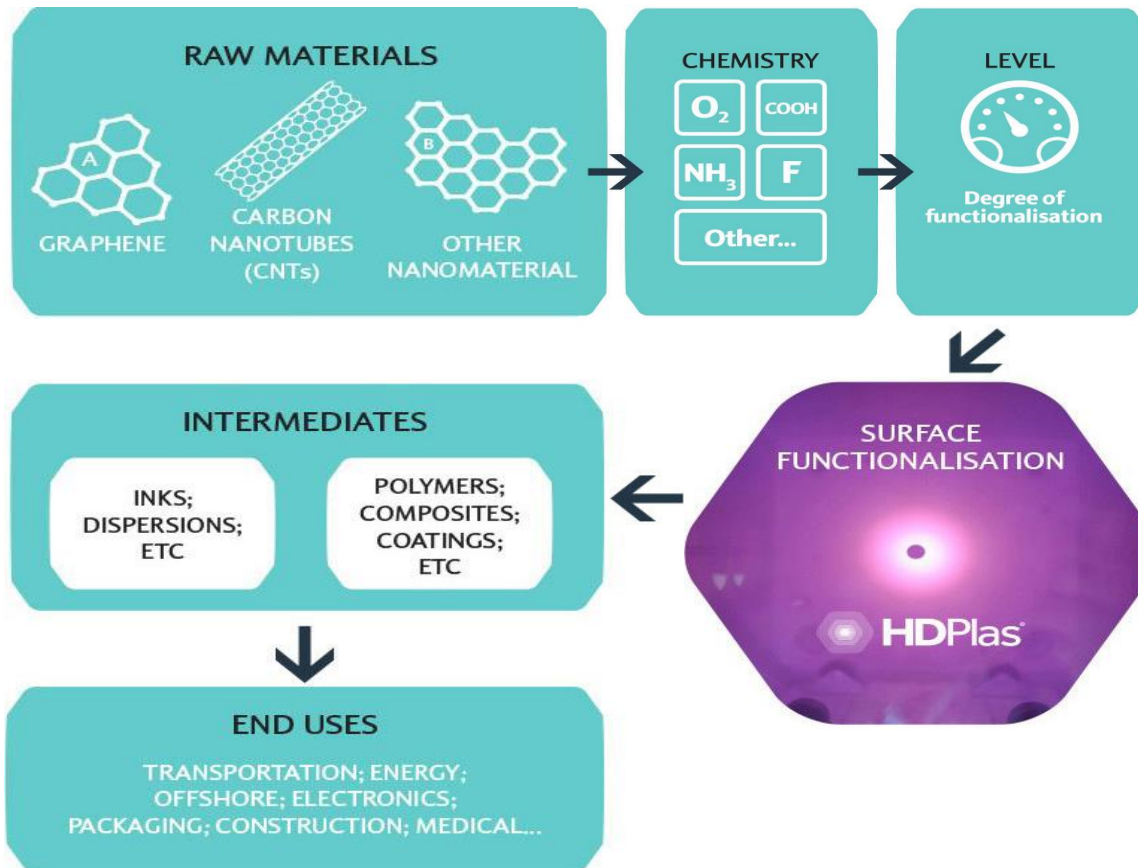
March 2020

haydale

COMPANY OVERVIEW

Our Process

Our expertise and USP is in our **worldwide patented Functionalisation** process.



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



Our expertise

Overview

The positive change continues..... but with headwinds to negotiate

- Total income in first six months was down by 17% YoY to £1.35 million, primarily due to the slowdown in the US aerospace and petrochemical sectors
- The review of the Far East has led to the decision to close the Taiwan facility and relocate the operations to Thailand and the UK
- Business cost base re-aligned - admin expenses fallen by £680K from the previous half year
- Global sales team continues to generate sales pipeline with new and existing product introduced to significant sized markets.
- US blanks business continues to progress with quality issues addressed, despite wider industry challenges secured a \$700k order (Oct 19)
- Functionalization capabilities continue to improve – now approaching levels that would allow Haydale to challenge the Graphene Oxide (GO) and Reduced Graphene Oxide (rGO) markets and also offer scale improvements on other nano treatments
- Launched functionalised Graphene enhanced pre-preg for lightning strike protection (Oct 2019) with 'double figure' live enquiries from customers
- PATit technology product continues to progress with several customers now in the later stages of discussions

Financial Overview



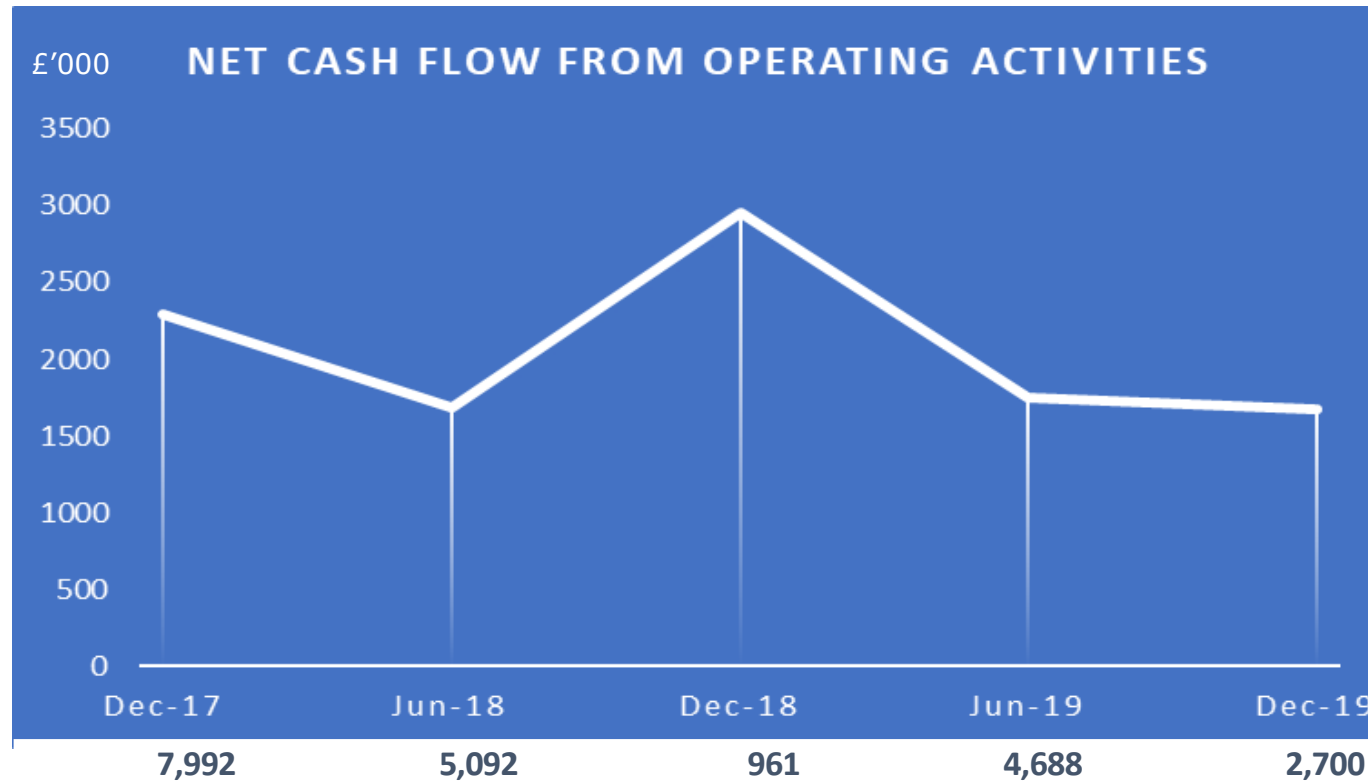
Trading Overview

Unaudited	Dec-17	Dec-18	Dec-19	YOY
	£'000			%
Revenue	2,041	1,635	1,347	-18%
Gross Profit	1,189	877	838	-4%
Admin Expenses*	4,201	4,542	3,640	20%
Op Loss*	(3,012)	(3,665)	(2,802)	24%

- Disappointing revenues due to factors noted and shift to the right on a number of commercial projects
- Gross profit maintained, positive mix variance led to improved GP margin
- Cost rightsizing in line with previous announcements – further savings to come
- Operating loss reduced by 24% despite top line fall
- We look ahead to H2 2020 showing a more robust turnaround in sales and a reduced operating loss

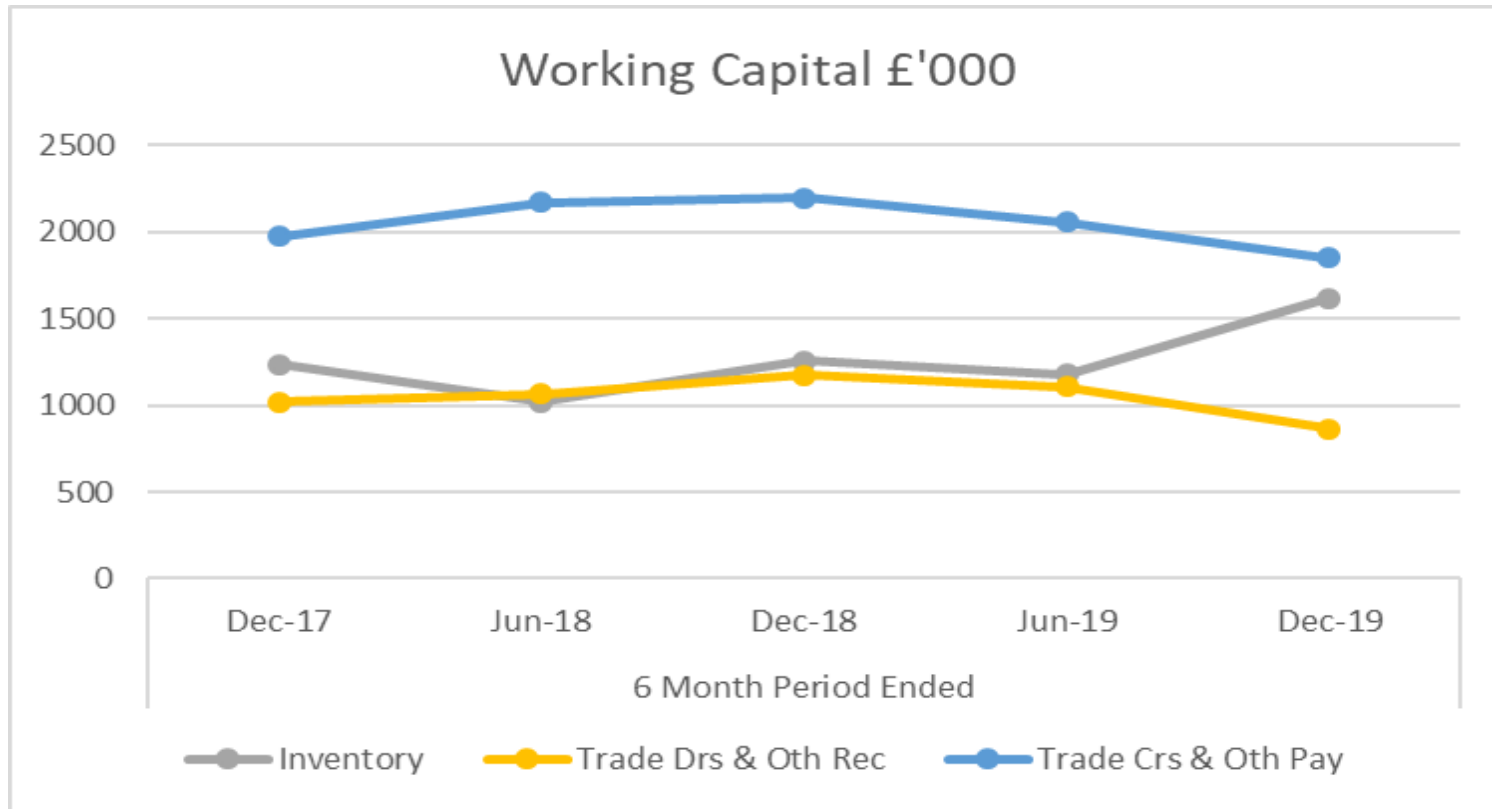
*excludes Share based payments

Operating Cashflow



- Cash burn reducing – H2 cash burn historically lower than H1
- £2.7m cash in bank at Period end
- Loan repayments reducing in H2 - DBW loan repayment of £70k pcm ends in March 2020
- Capex expected to remain restrained
- Currently assessing future debt funding options

Working Capital Analysis



- US inventory increased with 'blanks' production but utilisation efficiencies should allow it to reduce to at or below historical level in H2
- Other working capital stable

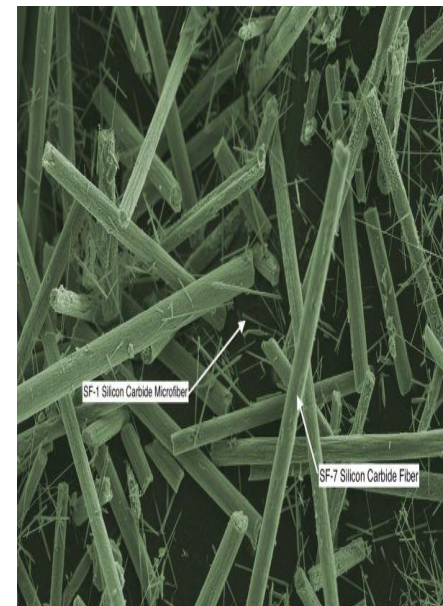
Review of Business Unit Operations



US – Greer, South Carolina

Silicon Carbide

- Contracted Silicon Carbide powder customers have been affected by slowdown in US aerospace – expected to pick back up in H2 2020 as the market recovers
- Blanks sales continue to progress as new customers targeted and in discussion on moving from powder to blanks (up supply chain) – double shifts in place
- Opportunity in progress with new partner technology containing SiC with UK utilities business (Cross selling)
- SiC anti-corrosion coating commercial contract in UK still progressing well and will have potential for other industries (other than aerospace)
- CT12 lower cost cutting tools for the cast iron and steel markets being tested to look to open new sales channel
- The Sales VP located at Greer continues to work on opportunities across the group as part of the global sales team. To be supported by new 'one company' website in March 2020



APAC – Thailand & Korea

- Thailand continues to focus on commercial projects and develop its relationship with IRPC (Thailand's leading Petro-Chemical Company) i.e. RFID Phase one completed with UK support next phase planned Qtr 4 2020
- Thailand is developing a conductive primer coating in conjunction with an automotive manufacturer
- PATit technology is an award winner
 - Gold medal at ITEX 2019 - Malaysia; and
 - Special award from 'World Invention Intellectual Property Associations (WIIPA)' Taiwan.
- Commercial applications of PATit technology continues to attract potential customers across the region
- Korea progress includes a new application with a cosmetic application with iCraft
- Taiwan site closure underway with ink production being transferred to Ammanford and Thailand
- The biomedical sensor ink market has not developed as anticipated (part of the rationale for closing the Taiwan facility)

Inks & Functionalisation

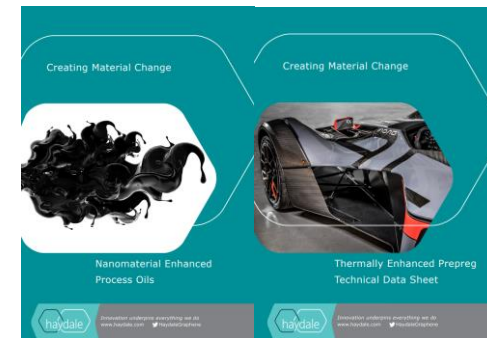
- The global patented Functionalization process continues to develop with new levels of treatment available to improve customer and standard product
- Treatment of plastic for concrete applications for a new customer replacing silicon initial testing success
- English institute of sport development of Olympic printed flexible wearables, training garments now delivered to the sports, launch 2020 Tokyo Olympic games preparation.
- New Sales Manager has opened new applications for several inks including silver hybrid graphene inks, heater inks, and piezo resistive inks
- Continue to work with the GEIC on potential new applications
- Smart electronics flexible printing being developed for several customer for RFID and NFC applications



UK – Loughborough

Resins, Polymers & Composites

- Product Portfolio includes Mechanical Pre Preg, Thermal Pre Preg, Electrical Pre Preg and 3 masterbatches (now on website with TDS (Technical data sheets – as shown))
- Working with packaging company to develop mechanically enhanced thermoplastics
- Working with a US distributor of sports equipment to develop and sell sports equipment (thermoplastic strength improvement applications i.e. hockey sticks)
- New products for elastomers launched at International Rubber Conference 2019 in London and sales are now being realised
- Lightning strike Electrical pre preg now started commercial phase with several leads progressing well – four years to get there.....



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

Current Partners:

AIRBUS

COBHAM



Opportunities/Applications



Aircraft

Protection against lightning strikes.



Drones

Protection against lightning strikes and increased EMI shielding.



Aircraft

Prevention of ice build-up on wings.



Tool manufacture

hard edged cutting tools used to produce land based turbines and jet engine blades.

Outcomes

Weight reduction.



Improved electrical conductivity.



Improved thermal conductivity.



Improved strength and durability.

Key:



Electrical



Thermal



Strength

AMAT
RPC



Aerospace

Outlook and Next Phase of Evolution..



Commercialisation: The Journey so Far

Where we are:

1. Commercial team now operating globally, cross-selling newly standardised Haydale product range.
2. Early qualification on leads to ensure effective time management
3. Technical team aligned to commercial goals to ensure sales support is in place.
4. Pipeline in place with current customer prospects of over 200.
5. Sales team focused on converting near term opportunities, marketing team bringing in longer-term business development opportunities.



**Close
association with
the right
networks and
customers**

**Secure and
dedicated
supply chain**

**Process
technology**

**Commercialisation
of nano and other
advanced materials**

Commercialisation: The Sales Pipeline

Where we are in just 12 months:



Some of the key focus areas...

Major Opportunities :

1. We have a state of the art product in the PATit offering – a product that could assist the fight against counterfeit goods.

2. We have major developments in our functionalisation process and are aiming at existing markets such as Graphene Oxide.

3. We have launched a lightning strike product and have generated interest from a number of important aerospace arenas.

4. We have an innovative offering with a partner involving our Silicon Carbide material with a UK Utilities provider

Outlook

Progress continues and a bright future ...

- The drive to make a commercial return on our investment is now fully underway - the Sales team are gaining momentum and creating significant group wide opportunities
- Empowering people and allowing the entrepreneurial culture to emerge whilst re-enforcing an **accountability structure** through correct leadership behaviors
- Maintaining tight control of costs with robust business reviews becoming part of the monthly cycle
- Recognising that our global functionalisation process is our core technology – and continuing to develop, optimise and commercialise this 'state of the art' capability

Next Steps

- Focus on converting the pipeline that we have developed into revenue
- Ensure continued commercial leadership and focus on speed of delivery
- Move to become an acknowledged industry leader in the Graphene and nano material space

A person is riding a bicycle on a paved surface. The entire image is overlaid with a teal color and white geometric lines, including a diagonal line from the top left and a stepped line across the middle. The person is wearing a dark, patterned long-sleeved shirt and shorts. The bicycle is a road bike with thin tires.

Creating Material Change

We appreciate the continued support of
our Shareholders as we are starting to
move through the gears!

haydale



Thank you



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Additional slides / Appendices



Board of directors

Executive Directors

Keith Broadbent; Chief Executive Officer

Keith joined Haydale in July 2017 as head of its Resins, Polymers and Composites Strategic Business Unit (RPC SBU) and as Managing Director of Haydale Composites Solutions Ltd before becoming the Group's Chief Operating Officer on 5TH September 2018. Prior to joining Haydale, Keith held a number of senior operational and commercial positions which covered aerospace, automotive, defence, automotive, marine and medical sectors. His experience includes significant multi-site responsibilities in both the UK and internationally. The companies he has worked for include Princess Yachts International, Sunseeker, TT Electronics and most recently at Ultra Electronics. Keith has demonstrated a strong track record in the delivery of budgets, high level customer service and enhancing shareholder value. Following the general meeting on 12TH March 2019, Keith was appointed as the Group's Chief Executive Officer.

Mark Chapman - Chief Financial Officer.

For the last 19 years, Mark held a number of CFO and COO roles within international companies operating in the med-tech, beverages and consumer sectors, where he has helped deliver strong improvements in business sustainability and EBITDA growth. Prior to moving into industry, Mark spent 8 years in professional services firms, including 5 years as a corporate financier with Deloitte. Before embarking on his career in finance, Mark was a commissioned officer in the British Army and served in Northern Ireland. Mark qualified as a chartered accountant in 1995 and holds a degree in Economics from the University of Birmingham.

Board of directors (cont'd)

Non-executive Directors

David Doidge Richard Banks, Non-Executive Chairman

David Banks started in Stock Broking in Birmingham in 1979 with Harris, Allday, Lea and Brooks before moving to London and becoming an Institutional Salesman at Panmure Gordon where he was acclaimed in the Automotive, Engineering, Aerospace and Motor Distributors sectors. He subsequently became a Corporate Broker advising many companies on their Corporate Structure, Strategy, Messaging and Presentations. He also raised the Capital for many of these Companies both at IPO and in Secondary fund raises. David joined Haydale as Non-executive Chairman in July 2017 and was appointed as Interim-executive Chairman on 5 September 2018 and, following the general meeting on the 12TH March 2019 reverted to Non-executive Chairman.

Roger James Humm MBA BSc (Hons) FCA, Senior Independent Non-Executive Director

Roger is a chartered accountant with over 30 years technology business experience. He runs his own consultancy business and is currently CFO at Boxarr Limited and G-Volution Limited, a trustee director at Oxford Instruments Pension Trustee Limited and chairs the Investment Committee of the University of Bristol Enterprise Funds. He has recently held finance roles with Ixico plc, Nanosight Limited and Blue Earth Diagnostics Limited amongst others. Roger is chairman of Haydale's audit & risk committee and a member of the remuneration committee.

Board of directors (cont'd)

Non-executive Directors

Graham Dudley Eves MA, Non-Executive Director

Graham Eves joined GKN plc in 1967 where he spent 13 years operating across multiple overseas jurisdictions including, for the last 5 years, setting up and running a special operation for GKN plc's head office in Switzerland. He returned to the UK in 1980 to work in venture capital and establish his own international business consultancy. His main activities covered advising a range of German, North American and Japanese automotive component/technology suppliers and he co-founded and was chairman of an automotive technology company, Mechadyne (now part of KolbenschmidtPierburg AG). Graham is a non-executive director of AB Dynamics plc. He was on the AIM advisory committee of the London Stock Exchange for 6 years and has a Master of Arts degree in Modern and Medieval Languages from the University of Cambridge.