

Investor Presentation

Interim Results

6 months to December 2022

Keith Broadbent

Chief Executive Officer

Mark Chapman

Chief Financial Officer

March 2023



Period Highlights

- **Group Revenues increased by 50% to £1.78 million (H1 FY22 £1.19 million)**
- **Sales of biomedical inks achieved in Europe and advanced trials being conducted which include electronic blood glucose reader compatibility tests**
- **One tonne of functionalised powder supplied to leading cycle tyre manufacturer Vittoria Spa** - more orders anticipated in the current period.
- **Developed a prototype underfloor heating solution** - potential to replace high voltage electric or water-based floor heating systems in residential buildings.
- **As expected, strong growth in US revenues with rebound in Silicon Carbide powder sales and growing blanks and finished tools sales.**

Haydale – Our USP

➤ **Haydale has solved the Graphene Challenge**

- A potentially inert substance made usable through functionalisation

➤ **Patented HDPlas™ functionalisation process**

- Greener, cleaner and more tunable 'powder in – powder out'
- Patent protected in key countries, significant in house 'know how'

➤ **Right time to focus on Graphene and other nanomaterials**

- Fourth industrial revolution – market forecast to grow exponentially – Global nanomaterials market currently worth US\$9.68 billion¹.

➤ **Consistent process that supports industrial scale**

- Consistency is our key to meeting customers quality requirements

➤ **Capacity to produce on an industrial scale**

- Installed production capacity **sufficient for breakeven and beyond**
- Further Scale up can be achieved with a RoI of less than 12 months



Our Priorities



Within this framework, the company is focusing on 5 key products

- **Biomedical Inks**
- **Heating Products**
- **Security Inks**
- **Elastomers (Tyres/shoes)**
- **Paints and Coatings**

assessed to provide short to medium term profit and cashflow opportunities.

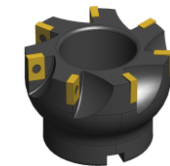
Key Product Update

	Key Benefit	Status	Target Customer	Update
Biomedical Inks	Cost effective, non-invasive monitoring of chronic conditions and detecting other diseases	Advanced testing with a number of customers in Europe and East Asia	Major Market - Glucose monitoring companies - potential for other diseases	Ink now developed. First sales achieved, challenges to commercialization being overcome
Conductive/ Security Inks	Cost effective and environmentally friendlier solution to reduce metallic content of security tags	Commercial Project with leading supplier of RFID solutions in progress	Project Sponsor	Project on plan
Elastomers Shoes/ Tyres	Improved rubber compounds - increased tear strength, improved slip resistance and weight reduction	One tonne delivered to Vittoria. Further orders to follow.	Vittoria Other tyre companies Footwear companies	First volume sales delivered, focussing on further customer penetration
Nano Material Customers	Functionalising customers nanomaterials to improve performance	Several large suppliers engaged to enhance the performance of their raw material offering	Graphene suppliers Boron Nitride suppliers	Developing revenue stream.



Key Product Update

	Key Benefit	Status	Target Customer	Update
Thermal Fluids	Energy efficient alternative to water in heating systems	Product in development - Exclusive supplier to High Tech Systems Ltd	Energy utilities, Residential builders	Behind plan but working with High Tech to resolve
Underfloor Heating	Energy efficient, cost effective alternative for current UFH and a replacement for other heating systems	Working with a leading supplier to the major utilities. Costed plan to bring product to market and first in house prototype	Energy utilities, Residential builders Mobile heating applications	On plan - strong interest from a number of sources
CeramyGuard	Repair rather than replace reduces maintenance costs and new concrete requirement	Site trials (inc dirty water) completed - Anglian Water and United Utilities Diversifying into civil engineering	Water Utilities Civil Engineering Contractors	DWI application delayed.
Cutting Tools (US)	Finished ceramic cutting tools to the aerospace and automotive sectors	Expansion in H1 FY23	Aerospace sector Automotive - brake sector	On plan and expect sales to increase in H2 FY23



Composite Strength and Durability

- Two-year trial with Tier 1 automotive supplier Prodrive delivered extended composite tool life of over 100 per cent using graphene prepreg.
- Graphene masterbatch saw a 30% weight reduction for Norse Kayaks from 23kg to 16kg as well as increased impact resistance in its vacuum infusion process.
- Improved sound quality with a 11% increase in stiffness for Rega in their graphene-enhanced turntables.



Customer Testimonials – Functionalised Graphene in action!



"The graphene enhancements have **increased the stiffness of our product by 11%** reducing resonance and improving sound quality. We look forward to working with Haydale on further developments aimed at making our products even better."

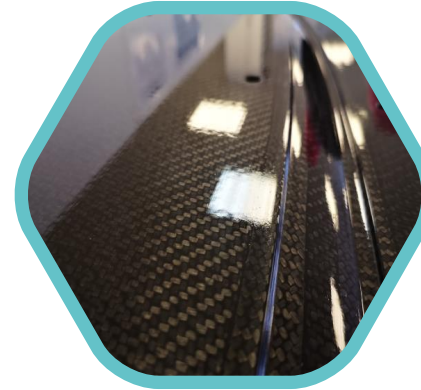
Colin Dilliway, Rega Design
Co-Ordinator

Product:
Mechanically Enhanced
Prepreg

"The use of graphene has exceeded our expectations. **Now 30% lighter going from 23kg to 16kg**, we are sure that this will set a new standard of what is possible to do with a sea kayak. We have never seen this kind of impact strength on light weight sea kayaks in our 20 years' experience in the kayaking business."

Kjetil Sandvik, Norse Kayak Founder

Product:
Mechanical Masterbatch
Vacuum Infusion



"We have been producing duplicate parts with both our standard and the nano-enhanced version and can say with confidence that the Haydale material has **delivered more than 500 parts without any deterioration of the mould surface**. Using the standard version, we would expect approximately 250 pulls from a tool before it is replaced."

Matt Bradney, Prodrive Director
of Business Development

Product:
Graphene Prepreg Composite Tooling

"Our unique know how of graphene helps us make the **most advanced bicycle tyres on the planet**. We are very pleased to partner with Haydale to further innovate in this field and have local production of graphene in Thailand as a common goal."

Stijn Vriends, Vittoria Group
President and CEO



SiC Cutting Tools

- Rebound in sales of SiC whisker after 18-month pandemic hiatus
- Monthly growth in tools supplied into the North American automotive and aerospace sector.
- Distributors appointed covering the North-east Corridor and the West Coast.
- Publication of a new cutting tools catalogue with a new website in development for imminent launch.
- **Moving towards positive EBITDA position**
 - Options for debt financing being explored



Financial Review

Profit & Loss	Dec-22 Unaudited £'000	Dec-21 Unaudited £'000	Change		Jun-22 Audited £'000
			£'000	%	
Revenue	1,782	1,191	591	50%	2,901
Gross Profit	941	608	333	55%	1,745
<i>Gross Profit Margin</i>	53%	51%		3%	60%
Other Operating Income	195	194	1	1%	442
Adjusted Admin Expenses	3,023	2,549	474	-19%	5,520
Adjusted Operating Loss	1,887	1,747	140	-8%	3,333
Adjusting Administrative Items					
Share Based Payment Exp	257	25	282		39
Share Issue Costs	371	-	371		-
Impairment	-	-	-		375
Dep & Amort	727	618	109		1,308
Total Trading Admin Expenses	4,378	3,142	1,236	-39%	7,242
Loss from Operations	3,242	2,340	902	-39%	5,055
Finance Costs	138	118	20	-17%	187
Loss Before Taxation	3,380	2,458	922	-38%	5,242
Taxation	182	182	0	0%	433
Loss for Period from Cont. Ops	3,198	2,276	922	-41%	4,809

➤ 50% increase in YoY revenue

- Expected rebound in US operations
- Core graphene business ahead YoY
- On target to meet expectations for full year

➤ Investment in operational capability led to increase in Adjusted Admin Expenses

➤ Adjusting administrative items

- £0.37 million of costs associated with the fundraise at nominal share value
- Share based payment expense increase due to issue of c138m warrants (fundraise)

Financial Review

Cashflow Statement	Dec-22 Unaudited £'000	Dec-21 Unaudited £'000	Change £'000 %		Jun-22 Audited £'000
Operating cash flow before working capital changes	1,844	1,714	130	-8%	3,416
Working Capital Movement	1,276	139	1,415		244
R&D Tax Credit Received	423	-	423		371
Net Cash used in Operations	2,697	1,575	1,122	-71%	2,801
Purchase of Tangible Assets	159	22	137		996
Purchase of Intangible Assets	132	151	19		340
Net Cash used in investing activities	291	173	118	-68%	1,336
Cash Flow used in Financing Act					
Finance Costs	77	59	18		63
Finance Costs - Right of Use Asset	60	60	0		125
Payment of Lease Liability	296	241	55		548
Gross proceeds from Share Issue	5,511	5,103	408		4,794
Share Issue Costs	371	300	71		0
Net Loan Drawdown/(Repayment)	14	436	450		388
	4,721	4,007	714	-18%	3,670
Effect of XR Changes	52	63	115		9
Net Change in Cash	1,785	2,196	411	19%	458
Balance at End of Period	2,971	3,840	869	23%	1,186

➤ Cash outlay should reduce in H2 FY23

- Improved trading performance
- Working capital, esp inventory and receivables, should reduce in H2
- No significant Fixed asset investment planned/required.

➤ Successful fund raise in September 2022

- £5.14 m net proceeds
- Potential warrant conversion of up to £2.75 m by Sept 23
- Options to raise funds in US being explored

➤ Debt at Dec 22 of £1.37 m (YE 22: £1.35 m)

- Minimal repayments due for 12 months



Summary

- **Patented functionalisation technology** continues to unlock the potential of graphene and widespread applications.
- The company has invested ahead of the curve in order to deliver rapid revenue growth.
- Production capacity has increased by up to 8-fold in the past 2 years with limited capex required for further gains.
- The business has high operational gearing – revenue gains magnified at the bottom line.
- Focused on 5 key products and achievement of near-term profitability.



THANK YOU

Keith Broadbent CEO
Mark Chapman CFO

March 2023

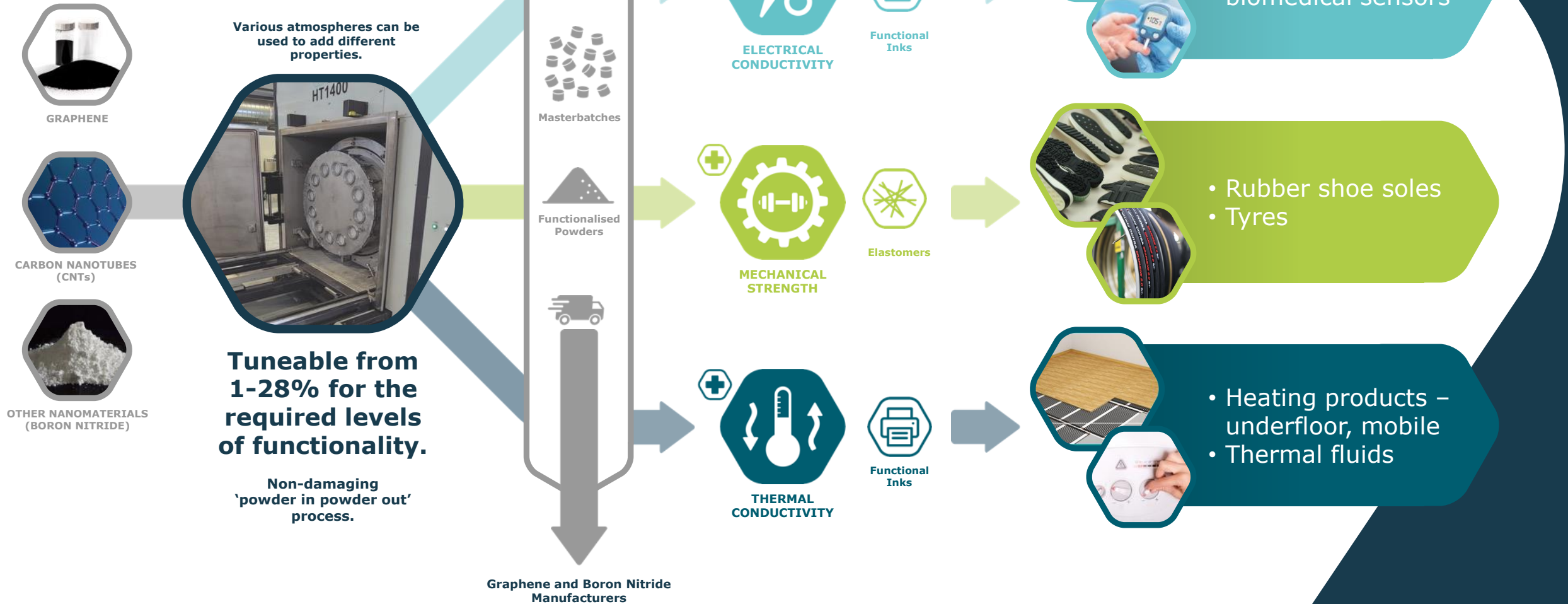


Appendix

March 2023



Powder to End Product



Board of Directors



David Banks, Non-Executive Chair

David joined Haydale as Non-Executive Chair in July 2017. David worked in stockbroking for over 35 years, raising money for many successful small and medium sized industrial PLCs and is responsible for liaison with our major shareholders.



Keith Broadbent, CEO

Keith joined Haydale in July 2017 and was appointed the Group's Chief Executive Officer in March 2019.

Previously Keith has held several senior positions at Princess Yachts International, Sunseeker, TT Electronics and Ultra Electronics.



Mark Chapman, CFO

Mark joined Haydale as CFO in November 2019.

As a chartered accountant, Mark has held CFO and COO roles with international companies in med-tech and consumer sectors and worked as a corporate financier with Deloitte.



Graham Eves MA, Independent Non-Executive Director

Graham worked for GKN plc before establishing his own consultancy. He has worked with Mechadyne (now part of Rheinmetall Automotiv AG) and AB Dynamics plc. Graham has also been on the AIM advisory committee of the LSE.



Theresa Wallis, Independent Non-Executive Director & Chair of Audit Committee

Theresa joined the Board of Haydale in June 2020. Theresa worked previously as Principal Executive of ANGLE plc and has held several non-executive directorships.



Ryan Howard, Non-Executive Director

Ryan has been operating in the energy efficiency industry for the past 12 years and is responsible for growth and strategic development for City Energy Network Limited where he is National Business Director. He sits on steering groups with BEIS and Ofgem.