Haydale Graphene Industries Plc

Annual Report And Accounts

For the year ended 30 June 2021

Creating Material Change

Company Registration No: 07228939

Contents

Chairs Statement

Introduction

I am pleased to present Haydale Graphene Industries Plc's ("Haydale", the "Group" or the "Company") full year audited results to 30 June 2021 ("FY21").

Despite the headwinds from the Covid-19 pandemic during the year, the Group continued to make positive progress in its transition from a research and development operation to one capable of delivering sustainable commercial revenues. Whilst demand for the proprietary Silicon Carbide ('SiC') blanks manufactured at our US facility has remained subdued, the Group saw encouraging developments in its core nanomaterial business and to meet potential demand accelerated the investment in its operational and technical capacity both during FY21 and into the current financial year.

Summary financials

Commercial revenue for FY21 of £2.90 million (FY19: £2.95 million) remained in line with the prior year which was a robust performance given the subdued market conditions globally. Gross profit marginally reduced to £1.98 million (FY20: £2.06 million) delivering a gross profit margin of 68.2% (FY20: 70,0%) broadly in line with prior year. Other operating income for the year of £0.58 million (FY20: £0.76 million) was lower than the prior year as the Group's shift away from grant funded to commercial projects continues. Included within other operating income is further support received from the US Cares Act.

The focus on reducing costs continued in the year with adjusted administrative expenses on a pre IFRS 16 basis falling by £0.70 million (11.7%) to £5.29 million (FY20: £5.99 million). Over the last three reporting periods, the Group has reduced its operating cost base by £2.43 million in total on a like for like basis. There were no non-recurring restructuring costs in the year (FY20: £0.06 million). Total Administrative Expenses were £6.11 million (FY20: £7.05 million).

Loss for the year was £3.41 million (FY20: £4.02 million)

Operational Highlights

Whilst Covid-19 may have provided the backdrop to the past year it has certainly not defined it for the Group. By focussing on the elements within our control, the Group has made solid progress towards its longer term goals. The priorities of focussed investment in our technology, delivery of commercial revenue and control of operating costs remains central to our strategy.

Focussed Investment in R&D

Haydale brings together two state of the art technologies – the patented HDPlas® functionalisation process and an understanding of graphene and other nanomaterials. I was encouraged to see that the Company's expertise in Hydrogen storage has attracted renewed interest in the past 18 months. In particular, we have collaborated on the functionalised graphene masterbatch required to produce lightweight low permeability storage tanks to help unlock the pathway to hydrogen propulsion. During the year the Company has also seen demand for the functionalisation of other nanomaterials accelerate and, in particular, demand for Boron Nitride, where Haydale has been engaged to functionalise the 'white graphene' to improve its dispersibility into lubricants to increase heat dissipation from moving parts.

COMMERCIAL DEVELOPMENT

During the year, the Group made progress in commercialising its core technology portfolio despite the challenging operating environment. I would highlight the three-year exclusive agreement with iCraft announced in September 2020 and in December 2020 we secured our first sale of functionalised nano-enhanced rubber masterbatch for use in a premium shoe range. Subsequent to this sale, the Company has been engaged by several companies in the premium leisure footwear market.

I was also pleased to see the Company broaden its trading footprint with sales of SiC and blanks to new customers in the Far East and in Europe. We also extended our distribution agreement for Ceramycguard™ to 2030 and this range of products continues to attract significant interest from water utilities and civil engineering operations both in the UK and the Middle East. We achieved our first sales in the year and anticipate revenue will grow in the current year.

COST RESTRAINT

The Group continued to realign its cost base and, during the year, it reduced its overall headcount whilst continuing to invest in its global sales presence. The Group also realised other overhead savings and, as noted above, like-for-like administrative expenses reduced by £0.70 million, (11.7%) in the year without affecting the operational capacity of the Group.

IMPACT OF COVID-19

The principal trading impact of Covid-19 has been the slowdown in the global aviation sector which has reduced demand for SiC and the SiC blanks that we manufacture at our US facility. The immediate impact has been mitigated to an extent by the continued support of our largest customer which offered this business unit valuable breathing space. During the year the Group has moved to reduce medium term exposure to the aviation sector and, as noted above, has entered new markets for its existing products and by adopting complementary products such as Ceramycguard™, has accessed new markets and customers.

Within the wider operation, despite an initial slowdown which saw a number of projects delayed or postponed, business has remained robust. I am pleased to report that, as the UK moved through the second and third waves, whilst not 'business as

Chairs Statement continued

normal', projects and contracts progressed according to revised plans.

At no time during the year were any of the Group's sites closed and the Company acted in accordance with the latest guidance at each of its locations

Staff

I would like to thank the executive management team who have maintained the momentum of our transition during these unprecedented times. In particular, for ensuring that our facilities continued to operate during the year with minimal interruption and without compromising on the safety and wellbeing of our employees. I would also like to thank our staff who have readily adjusted to rapidly evolving local restrictions and have effectively embraced new technology and ways of working. Their resilience and flexibility have allowed the Group to continue to operate effectively over the past year.

Funding

The Directors believe the business is well placed to benefit from a recovery in the aviation industry and the wider improvement in the global economy. During the year we were pleased to be awarded a £1.10 million loan from Innovate UK and this will allow the business to expand its functionalisation capacity eight-fold at our Ammanford facility and support increased investment in our production, sales and marketing resources. At 30 June 2021 we had drawn down £0.8 million of this facility.

On 20 September 2021, the Company completed an equity placing raising £5.10 million (gross) and I would like to welcome our new shareholders and to thank our existing shareholders for their continued support at this time.

Outlook

The Board is encouraged by the very positive response from across several different industry sectors to our new products and technologies, which gives us confidence in our medium to long-term outlook. However, we are yet to see any sustained recovery in our Aerospace business and so we continue to be cautious with respect to short-term revenue. Haydale's proprietary technology now has the potential to deliver material change across many sectors in ways that our customers are increasingly recognising as important in their search for more environmentally friendly materials. As a result, Haydale is expanding the Group's capacity to functionalise nano and other materials and continues to invest in product development critical to our future success.

David Banks
Chair
14 December 2021

Strategic Report

The directors present their Strategic Report for the year-ended 30 June 2021.

PRINCIPAL ACTIVITIES

Haydale brings together the cutting-edge technology of the patented HDPlas® process with our engineering expertise to functionalise graphene and other nanomaterials. Our technology has the potential to deliver benefits across a multitude of sectors helping to increase the technical performance of a wide range of host materials. The Group's mission is to use our knowledge of advanced materials and dispersion to be one of the world's foremost creators of material change, enabling our customers to improve the performance of their products. The Directors believe the Company is well placed to be in the forefront of nano advanced materials and dispersion and to become a world leader in the creation of material change through understanding the potential of those materials.

Whilst the majority of the Group's revenues to date have been generated by our US operation, at the core of our product offering and underpinning the Group's future prospects and value, is Haydale's patented HDPlas® functionalisation process which improves the dispersibility of some inert nanomaterials. Functionalisation allows Haydale to tailor advanced materials to enhance the properties of our customers' products. The process is cost effective and environmentally friendly and our capacity to produce commercial levels of functionalised nanomaterials underpins our business model and sets us apart from our direct competition in this space. Specifically, we have the engineering expertise to:

- functionalise nanomaterials that go into resins and composites to deliver enhanced electrical, mechanical (strength) and thermal performance;
- formulate proprietary nanomaterial-based inks and coatings for the print and sensor markets, including biomedical and piezo resistive inks and sensors and the PATit anti-counterfeiting eco system; and
- compound functionalised nanomaterials into a range of elastomers to enable customers to use nanomaterials in elastomeric products.

Our US facility is projected to be our bridgehead into the dynamic North American market for our technology. We also manufacture unique, proprietary silicon carbide ("SiC") fibres and whiskers that strengthen ceramics and produce highly wear resistant ceramic 'blanks' for use in the aerospace industry and for abrasion resistant coatings.

At the 30 June 2021, the Group has the following operational activities in its five facilities.

Haydale subsidiary	*Location*	*Principal activities*
Haydale Limited	Ammanford, Wales	Specialist functionalisation and main manufacturing facility producing inks, resins, and masterbatches to be used in composites and polymers for direct sales to customers and for transfer to other Group sites.
Haydale Composite Solutions Limited ("HCS")	Loughborough, England	Sales of masterbatch and pre-preg composites, elastomers and other nanomaterials and the provision of advanced consulting and test services to various parties including the EU and UK national institutions via R&D grants.
Haydale Technologies (Korea) Limited ("HTK")	Seoul, South Korea	Dedicated sales office servicing the fast-moving Korean and other APAC markets.
Haydale Technologies (Thailand) Company Limited ("HTT")	Bangkok, Thailand	Ink and masterbatch development focused on commercial applications with plasma functionalisation facilities. Services the APAC region.
Haydale Technologies, Inc. ("HTI") and its wholly owned subsidiary Haydale Ceramic Technologies LLC	Greer, SC, USA	Sales office servicing the North American market, developing the European and Chinese markets and manufactures and sells SiC microfibres and whiskers, ceramic blends and ceramic blanks to the cutting tool and coatings industries

Strategic Report continued

The Group safeguards its nanomaterials business across these sites and the territories in which it operates through the use of patents which protect its intellectual property. It holds licences where that intellectual property is for operational reasons with a third party. Haydale currently has a portfolio of patents that are variously recognised in the following territories – US, UK, Europe, China, Japan and Australia. Haydale works closely with its patent advisors, Mewburn Ellis LLP, and maintains a rolling programme of patent applications. In the past year the Company has had four patents granted across three different patent families including a patent in the US for clothing incorporating a printed heater incorporating graphene ink, one application has been allowed and is close to grant and four new applications have been filed.

REVENUE MODEL

The Group's revenue model is based on the following strands:

- Sale of plasma reactors with appropriate licencing for use of the patented HDPlas® functionalisation process;
- Sale of functionalised material in powder, masterbatch or pre-preg format;
- Sale of SiC microfibres and whiskers, ceramic blends and ceramic blanks to the aerospace cutting tool and coatings industries;
- Sale of own brand and third-party products which clearly align with our product or customer base; and
- Consultancy work with respect to testing the potential enhancements that our product range and engineering acumen may bring to customer applications.

COMMERCIAL OPERATIONS

The financial year-ended 30 June 2021 ("FY21") has taken place against the backdrop of the Covid-19 pandemic which, whilst restraining revenue, has acted as a catalyst to further deliver on the strategic priorities that the Company has previously set out. Notwithstanding the challenges raised by the pandemic in several of our key markets, the Group has delivered a resilient performance in the year and, by focussing on elements within our control, made solid strategic progress towards the Group's commercial goals.

The Group continues to transform itself from a research and development organisation to a manufacturing business focussed on commercialising its portfolio of technology and securing profitable outcomes. During the year the Company has ordered a larger plasma reactor and ancillary equipment that should deliver a significant increase in our functionalisation capacity and provide the tools to move production to an industrial level.

UK & EUROPE

One of the early ramifications of the UK's response to Covid-19 was the temporary closure of both commercial and academic research facilities. However, despite the unfamiliar challenges of collaborating during the UK's and other territories lockdowns, we experienced an increased appetite from existing and new customers to investigate the benefits that our nanomaterial science can bring to their products, and we saw an acceleration in both serious enquiries and the commencement of new commercial projects during the latter part of the year.

The UK division made meaningful progress towards commercialising its proprietary technology. Functionalised product sales increased by 30% over the prior year and project and other consultancy revenues (excluding reactor sales) grew by 122% on a like for like basis. This increase judged alongside the sales pipeline gives ground for cautious optimism that, despite the impact of the pandemic and the knock-on effects as Government stimulus programmes are unwound, momentum will be maintained.

Sales & Consultancy Work

In March 2020 Haydale announced that it would be cooperating with the English Institute of Sport ("EIS") and the Welsh Centre for Printing and Coating ("WCPC") to deliver a range of advanced wearable technology sport apparel for elite athletes. The initial plan had been to produce performance garments for a range of sports in readiness for the Tokyo Olympic Games in 2020. The project was put on hold with the delay in the Games but, in combination with the other supply chain partners, Haydale delivered garments to several Team GB competitors for use at the rescheduled Games. The garments benefit from temperature regulated panels, designed using Haydale's printed functionalised graphene ink, and the Group is now in discussions with a potential customer who can access the wider commercial market.

The four-year agreement with DLYB[1], which commenced in April 2020, allows them to market Haydale's electrically conductive graphene-enhanced masterbatch in China and Taiwan. The first year of the contract was reserved for product validation and whilst these tests have taken longer than scheduled, results continue to be encouraging and, although some issues persist, we are hopeful of moving to the commercial phase of the contract during 2022. Although this is later than anticipated, it is not unusual for the move from research and development to wider commercial adoption of cutting-edge technology to take longer than predicted.

In December 2020 we secured our first sale to Bolflex of our functionalised nano-enhanced rubber masterbatch for use in its premium shoe range. The masterbatch is incorporated into the

[1] Dalian YiBang Technology Company Limited ('DLYB') has been at the forefront of introducing and servicing high-end imported products for 15 years in China, which included the introduction of copper mesh for the purpose of lightning strike protection in both aerospace and wind energy sectors.

styrene-butadiene rubber compound used in its soles and results show improvements against its footwear test standards with increased tear strength and enhanced abrasion, flex and slip resistance. Subsequent to this announcement, the Company has been engaged by several companies in the premium leisure footwear market and is actively working on feasibility studies to demonstrate that our functionalised masterbatches offer performance enhancement and a reduced environmental footprint. Post year-end Haydale has filed for further patent protection in this area.

Haydale's work with Briggs Automotive Company continues with the use of our graphene enhanced composites for several of the body panels and for parts of the tooling line. We were delighted to see that the BAC Mono R won the Track Car of the Year Award at the prestigious 2021 GQ Car Awards and it is a privilege to be part of the wider team that is delivering this exceptional car.

Haydale signed an agreement with Dowty Propellers ("Dowty") in September 2020 for the provision of services for the collaborative development of graphene and nanomaterial enhanced products for use in Dowty products. The main body of work completed during the year and, whilst the results were positive, they did not demonstrate the specific step change in performance hoped for at this stage. The parties may look at further projects related to the work performed but these are unlikely to commence until 2022.

Sale of Plasma Reactors

In April 2021 Haydale partnered with 401 Tech Bridge, Rhode Island, US, to provide a HT200 Plasma Reactor and advanced materials support for their innovation ecosystem. The HT200 Plasma Reactor will be utilised in the 401 Tech Bridge Advanced Materials and Technology Center, managed by the University of Rhode Island (URI), to support its ambition to accelerate the commercial adoption of new materials and support local companies' efforts in developing next generation products.

This was the first sale of a plasma reactor since the year-ended June 2019 and was in response to growing interest in the functionalisation capabilities of our patented HDPlas® reactors. The Directors appraise each approach on its merits with the guiding tenet that reactor sales must be demonstrably in the long-term interests of the Company.

Collaboration Agreement with ProMake Limited ("ProMake")

ProMake specialises in design, development and manufacturing of medical innovations and devices. In November 2020 Haydale signed a memorandum of understanding with ProMake to formalise the collaboration on, amongst other areas, conductive and piezo resistive inks and SynerG supertough and conductive PLA 3D printing filament. Haydale also supported ProMake's submissions for Lot 2 and Lot 4 of the Public Health England ("PHE") National Microbiology Framework announced in November 2020. In April 2021 PHE announced that ProMake was one of the successful bidders for both Lots. In July 2021 the parties signed a new collaboration agreement for Haydale to be the exclusive supplier of the graphene and other nanomaterials required for the effective functioning of ProMake's BioPod, a reusable biosensor device, and also set out Haydale's responsibility for the manufacturing supply of several elements of their PreVent testing device, which could also potentially utilise the anti-bacterial qualities of functionalised graphene as one of its components.

The Directors are keen to have the opportunity to directly assist in the fight against Covid-19, but given the uncertainty inherent in contracts of this nature and scale, the Directors are taking a prudent approach to their investment of time and resource at the present time.

ASIA PACIFIC

Our APAC hub in Thailand and sales office in South Korea continued to make solid progress in the year towards commercialising Haydale's proprietary technology. The three-year exclusive agreement with iCraft[2], to supply six tonnes of functionalised graphene for cosmetic face mask sheets announced in September 2020 was ahead of schedule at the year end. Haydale shipped 2.2 tonnes in FY21 against a one tonne commitment and this may lead to slightly lower volumes in FY22 as the volumes rebalance back to the contractual requirements. We are also working closely with iCraft to supply functionalised graphene powder for the manufacture of their graphene nano platelet enhanced, anti-bacterial, neoprene PPE face masks. As part of the on-going collaboration between the parties a sole distributor agreement covering the UK and Europe was concluded in December 2020 and the first direct-to-consumer sales of iCraft's PPE face masks were secured in January 2021 from Haydale's UK web portal. Whilst sales of PPE face masks have not met our initial expectations, we believe that highlighting the positive anti-bacterial and other properties of graphene within wearable garments will be of value in the medium term.

Haydale has continued to work with IRPC[3] and has been engaged on several projects during the year, including the Phase II agreement for the development of transparent graphene and functionalized acetylene black conductive inks for RFID, NFC and related applications. Our operation has also forged new contacts within the Thai industrial landscape and is actively collaborating with a number of well-known international operations who have shown interest in the potential applications of our product range.

[2] iCraft, based in South Korea, is a global technology company with interests in security and network solutions as well as the health and beauty sector

[3] IRPC Public Company Limited ("IRPC") is a Thai Public SET-listed Petroleum and Petrochemical company. It is a subsidiary of PTT Group,

Strategic Report continued

Notwithstanding this progress, APAC revenue in H2 FY21 was below our expectations. In order to take advantage of the commercial opportunities available, in May 2021 we appointed our first Director of Sales in Thailand who came with a strong background in speciality polymer formulations. We are already seeing the benefits of the focus and experience that this role brings to our operations.

NORTH AMERICA

From March 2020, Covid-19 had a significant impact on forecast revenues at this division and we saw a marked slowdown in demand for SiC and blanks in the last quarter of FY20 and during FY21. The global aviation industry remained grounded by the pandemic for the majority of this reporting period, but towards the latter end of the year, we observed some signs of a recovery in business aviation and domestic flying activity and, whilst the pace of this recovery and the speed with which it will filter through the jet engine supply chain is uncertain, we did see a small increase in sales of our ceramic blanks during H2 FY21.

Historically this division has been dependent on SiC whisker sales to two long term customers and we have seen very different outcomes from these customers during the year. The business received a commitment from its largest customer to underpin the SiC whisker volume by increasing its short-term order patterns during FY21 despite the economic uncertainty and muted demand. The support we have received this year has ameliorated some of the short-term impact of Covid-19 but will result in significantly reduced orders in the year-ending June 2022. Importantly this assistance has offered the business unit valuable breathing space to deliver on the initiatives detailed below. Unfortunately, we did not receive similar support from our second largest whisker customer and, towards the latter part of the year, we regrettably had to seek legal intervention to try to secure fulfilment of their FY21 revenue obligations of circa £450,000 and at this time the matter is scheduled for an arbitration hearing in 2022.

As the impact of the pandemic became clearer, the Directors took defensive measures to reduce the overhead base at the US facility and sought assistance from widely available US federal stimulus programmes. The leaner cost base mitigated some of the immediate revenue impact of the pandemic, but the Directors recognised the need to reduce reliance on the US civilian aviation sector and to widen the unit's product offering and expand its geographical footprint. Specifically, the Group identified the European and the Far Eastern cutting tools market for sales of both SiC whisker and blanks. We are pleased to report that these plans had a positive impact on results at this business unit during FY21 and provides a more robust foundation for this business to move forward in the current financial year.

European Blanks Sales

In January 2021 we employed an experienced European agent for the marketing and sale of SiC blanks into parts of the European market and other contiguous markets. Subsequent to his employment, we commissioned third party benchmarking tests at the University of Zwickau to ensure we were able to match or exceed the quality of finished cutting tools sold by our competitors in the exacting European market. Positive test results provided assurance to potential European cutting tool customers and several are looking to conduct internal trials on our blanks. In an adjoining market we achieved our first blanks sale outside of the North American market and, whilst challenges remain we anticipate this business will expand in the next financial year. Despite positive initial contacts with a UK engineering tooling supplier for the distribution of blanks, at this stage we have been unable to secure any meaningful business in the UK market.

Far Eastern Sales

The Company signed a Memorandum of Understanding ("MoU") with a Sino-UK facilitator in FY20 and the early promise shown by this relationship is now being fulfilled. Further to this MoU, in January 2021 Haydale announced an Agreement with Qinhuangdao ENO High-Tech Material Development Co., Ltd ("ENO") which allows it to act as a sales representative for Haydale's ceramic and silicon carbide products in China (including Hong Kong) and Taiwan for an initial period of two years ending December 2022. Under the Agreement, ENO expected to buy a minimum of $300,000 of product from Haydale within the first year of the agreement but sales have been slower than anticipated with the pandemic having a similar impact on demand as we have seen in our other markets. Haydale has secured sales to a further four companies in China during the year and is also actively collaborating on several other projects in China which would extend our market penetration. We remain encouraged by the strong interest in our SIC whisker and blanks offering and, notwithstanding the residual effects of Covid-19, anticipate revenue growing in this area in the current year.

Product Diversification

The Company has also diversified beyond the aviation and cutting tools sector and has looked to take advantage of the enhanced properties that SiC microfibres can deliver for surface bonding technology applications. In July 2020, Haydale was appointed the exclusive distributor to the UK water infrastructure market for US based Zirconia Inc for CeramycGuard™[4]. In April 2021 the Company signed an amended agreement that extended the term from 31 December 2023 to 31 December 2030 and allowed Haydale full distribution rights of CeramycGuard™ across all sectors in the UK. Furthermore, with authorisation, Haydale may now also distribute to additional territories outside of the US, for all markets and sectors.

[4] Previously CeramycShield™

CeramycGuard™ is a one stop solution that can be used in new concrete applications and also renews and restores old or partly decaying concrete in-situ in certain applications as well as preventing water loss. This product is an advanced Ceramic Surface Treatment technology in a new class of inorganic ceramic polymers, that uses Haydale's SiC microfibre as part of the reinforcement. Haydale is working closely with a number of UK water utilities, other water facility management companies and more general civil engineering contractors who require a solution to concrete degradation. During the year we secured our first sale of the product to a UK water utility and in February 2021 Biwater positively trialled CeramycGuard™ at its wastewater treatment site in Managua, Nicaragua. We believe there is good potential that this cutting-edge solution could be very important to the UK water industry as it seeks to meet its obligations under the new AMP-7 five-year plan which started in 2020.We are currently working to secure DW31 (Clean Water) accreditation in order to significantly increase the scope of its potential applications.

Haydale has been looking to enter the wider carbide tooling market with cost effective lower grade SiC blanks that would serve the automotive and other cutting tool markets. Our supply partner is still to overcome the operational challenges involved in scaling production to required commercial levels. We continue to work to surmount these issues but at the present time we are not anticipating any revenue from these lower grade tools.

FOCUSSED R&D INVESTMENT

The HDPlas® functionalisation process continues to be the cornerstone of the Group's offering underpinning its future growth prospects. During the year, good progress has been made with several new and different treatments enabling more tuneable and enhanced offerings to meet customers' requirements. This manipulation enables a much greater range of graphene and other nanomaterial treatments and facilitates potential improvements in dispersal and mechanical strength, electrical conductivity and thermal conductivity. During the year we have seen demand for the functionalisation of other nanomaterials accelerate and in particular for treated Boron Nitride. Boron Nitride shares many of the same properties as graphene and is commonly known as white graphite. When used as a lubricant additive it provides a low coefficient of friction, enhanced wear and high thermal conductivity for more efficient heat dissipation from moving parts to prevent seizure. Haydale has been engaged to functionalise Boron Nitride to improve its dispersibility. Amongst other developments, Haydale has:

- Developed advanced nano enhanced SynerG SuperTough 3D filament, improving the tensile strength by circa 25%, the strain failure by 45% and the thermal conductivity by a factor of 3. Haydale also developed SynerG Conductive PLA 3D Printing Filament, with electrical conductivity in the range of 4.5E+04 to 4.7E+05 Ω.cm as well as a30% increase in strength and a 3-fold increase in thermal conductivity. We are anticipate growing sales in the additive printing sector in FY22.
- Developed next generation functionalised inks with resistivity reduced to under 10 ohms. This lower level resistivity potentially allows graphene functionalised inks to replace silver, copper and aluminium etch in certain metal antenna elements of the growing RFID and NFC sectors and provides a cost effective and environmentally friendly application. Existing 'tags' are generally single use and as such are consigned to landfill after use whilst Haydale functionalised inks are manufactured using a clean process and there is reduced waste to landfill on disposal; and
- Refined next generation functionalised biomedical sensor inks incorporating improved analyte detection through the incorporation of compatible functional groups to enhance the accuracy of diagnosis. The latest iteration has increase conductivity and electrochemical response and provides a cost effective and environmentally friendly alternative to traditional silver based printed biomedical sensor electrodes, which are also susceptible to tarnishing. The ink is being tested by a Far Eastern customer and we are also in discussion with customers in the UK.

The core thread running through our continued investment in R&D is the focus on creating and maintaining technological advantage where we see a clear commercial pathway. Whilst the gestation period for some of these developments, such as lightning strike protection on commercial aircraft, is defined by long product life cycles and mission critical safety thresholds, other developments such as creation of advanced additive printing PLA and the development of biosensor inks can be delivered to market in a much shorter time horizon. It remains core to our strategy that we invest for the long term whilst taking advantage of the numerous short-term commercial applications presented by our technology.

PATENT DEVELOPMENTS

Haydale safeguards the intellectual property that arises from its on-going investment in research and development through patent protection. The Company maintains a rolling programme of applications for both new inventions and also seeks to augment and extend existing patents by including later enhancements. Amongst other filings, the following are of special note:

- Joint Patent with Airbus – During the year the Group has collaborated with Airbus Operations Limited ("Airbus") on the filing of a joint patent for intellectual properties jointly developed by the parties under the multi-party NATEP-supported Graphene Composites Evaluated in Lightning Strike Project ("GraCELS-2"). In August 2021 Airbus filed the joint patent application. Further to the successful outcome of GraCELS 2, in October 2019, Haydale launched a range of graphene enhanced pre-preg material for lightning strike protection utilising functionalised nanomaterials to improve the electrical conductivity and reduce the unloaded weight of an airliner cost effectively and with clear environmental benefits. Haydale's capability in this area

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underpinned the DLYB agreement in early 2020 and the technology underlying the latest patent further enhances the effectiveness and performance of Haydale' pre-preg range of materials; and

- PATit™ – Haydale has been granted a European Patent for PATit™, its anti-counterfeit system which uses functionalised graphene elements incorporated into printing inks to create unique security and identity code patterns that are machine readable using capacitive touchscreen technologies. The code can be verified by using local or hosted software systems. Whilst the potential applications for PATit™ in the verification of OEM products and the fight against counterfeit goods are significant there are remaining technical and manufacturing challenges to wider integration in a product's security eco-system.

GRANT FUNDED PROJECTS

Collaboration on grant funded projects has continued over the last twelve months with the continued emphasis that only projects that have a clear commercial pathway or add significantly to the Group's knowledge bank on applications are undertaken. Adopting this yardstick and prioritising commercial projects, reduced the number of grant funded projects that Haydale undertook in the year, but this has not diminished the importance of this work in support of the R&D investment made by Haydale. Grants received were from either UK or European quasi-governmental bodies and 'promoting the green economy' and 'cleantech' were the overarching themes for the funding awarded in the year. Haydale's involvement in several of these projects relates to its long-standing expertise in Hydrogen storage which has attracted renewed interest in the past 18 months. Amongst other projects awarded in the year, the following commenced:

- *Carbo4power* – a European consortium whose main objective is to develop a new generation of lightweight, high strength, multifunctional, digitalized multi-materials for offshore turbine rotor blades that will increase their operational performance and durability while reducing the cost of energy production, maintenance, and their environmental impact. This multi-year project complements previous development work on the NATEP funded GraCELS projects; and
- *Advance Propulsion Centre ("APC") Automotive Transformation Fund* – As part of this wide-ranging APC initiative tasked with exploring the feasibility of low carbon emission technologies, Haydale will assess the suitability of its promising lightweight, low-permeability storage tank, to help unlock the pathway to hydrogen propulsion. The feasibility study will assess the ability of Haydale's functionalised graphene enhanced materials to decrease manufacturing time and rejection rate, as well as to provide uplifts to permeability, toughness, and impact resistance.

This structured approach to development is facilitating the internal learning experience and creating potential products to fit with the organic growth momentum at the centre of our strategic drive.

During the year, amongst others, the Company successfully completed the Hibar Film and Affinity projects highlighted in last year's report and it has been encouraged to apply for further funds to develop the findings from the Hibar Film project.

INCREASING PRODUCTION CAPACITY AT AMMANFORD

Haydale has consistently increased its capacity to functionalise graphene ahead of the production curve at its Ammanford facility. Prior investment permitted Haydale to meet the demands of its commercial commitments in FY21, especially in respect of demands placed by the iCraft cosmetic face sheet supply agreement. During the year the Group increased its investment at its main production facility and in particular:

- Ordered a new HT1400 HDPlas® reactor in May 2021 which will increase capacity eight-fold allowing the facility to functionalise over thirty tonnes per annum of graphene and other nanomaterials based on a single shift pattern. Whilst we do not foresee any significant technical challenges to the delivery of larger capacity reactors, we are not anticipating that the machine will be fully optimised until 2022.
- To support the production scale up, post year end we ordered, amongst other items, ancillary machinery to increase our mixing and powder handling capacity; and
- invested £0.05 million in a new gas delivery and piping system to reduce our production changeover times, enhance output consistency and to further improve on our exacting health and safety standards.

We anticipate that this investment which is spread over FY21 and FY22 will meet our production requirements for the foreseeable future in the UK and more importantly will allow us to significantly lower the cost performance ratio that has curtailed more widespread downstream adoption of graphene to date.

REALIGNING AND REDUCING THE GROUP'S COST BASE

During the year, the Directors have continued to realign the cost base to ensure that the Group focuses its resources on achieving its strategic goals. As the Group has reorganised its operations and streamlined its reporting lines, it has achieved both a more efficient and effective operating structure and delivered significant cost savings. The process that started during FY19 continued during FY21 and adjusted like for like administrative expenses have reduced by a further £0.70 million (FY20: £0.87 million) in the year and by £2.4 million (31.4 %) since FY18.

The main savings have related to the reduction in the workforce with the principal savings being in the US operation which was severely affected by the Covid-19 pandemic. Notwithstanding the overall reduction in headcount in the year we have, yet again, increased investment in sales resource and commercial support functions in the UK and Thailand. Outside of the workforce, continuing cost reductions across all areas of the business including sub-letting underutilised premises, reducing travel expenses, and making numerous smaller and, in themselves, non-material adjustments which taken together have contributed to controlling spend.

The savings secured have been achieved in a timely but not hurried timeframe and without doubt in areas such as travel and subsistence have been artificially reduced by the Covid-19 travel restrictions imposed by the relevant authorities. Whilst striving for a leaner cost base, the Company has focussed first on operational efficiency and then on achieving that in the most cost-effective manner. This approach has ensured that, despite the savings achieved, Haydale is now operating in a more flexible, responsive and productive manner that supports a can-do culture across the business units. Whilst our focus on cost control will not diminish, we anticipate in the coming year that overheads will marginally rise as we seek to meet the operational challenges of the sales pipeline.

During FY20 and to a lesser extent in FY21, the Company received limited support from the UK Government through the furlough scheme and from the US CARES Act via the Employee Retention Credit programme. The Company has had no UK employees on either full or part time furlough since October 2020.

FUTURE STRATEGIC DIRECTIONS

Whilst the Covid-19 pandemic has undoubtedly depressed demand and subdued our revenue expectations for the year, it has not defined the Group's performance or slackened the progress towards our goals. Haydale has 39 verified Technical Data Sheets available (2018 – Nil) and has executed 38 commercial non-disclosure agreements since the start of the Covid-19 pandemic. The clear priority remains to commercialise our cutting-edge technology and the progress we have made during the year and the opportunities that we are seeing gives us confidence that we are on a steady path to more widespread adoption of our technology and the benefits, both performance and environmental, that it brings.

The Directors remain mindful that downside risks that could impinge on the general recovery persist, and the Group relies, amongst other factors, on the pace of recovery of the aerospace and more generally on the wider economy. However, the solid progress made in our core business during the year continues to reinforce the Directors' belief that, whilst navigating the new industrial landscape will remain challenging and forward momentum is unlikely to be smooth, the Company is moving in the right direction.

FINANCIAL REVIEW

The Financial Review should be read in conjunction with the consolidated financial statements of the Group and the notes thereto. The consolidated financial statements are presented under International Financial Reporting Standards and are set out on pages 35 to 67 The financial statements of the Company continue to be prepared in accordance with FRS 101 and are set out on pages 68 to 74.

Statement of Comprehensive Income

In the year under review, the Group's principal areas of income were sale of plasma reactors; SiC fibres, whiskers and blanks; Specialty Inks; and graphene enhanced composites. The Group's revenue for the year-ended 30 June 2021 of £2.90 million (FY20: 2.95 million), showed a small decrease of £0.05 million on that of the prior year. This reduction mainly reflected a fall in the North America and Asia Pacific business units which was not fully offset by gains in the UK business units.

Other operating income, which is principally grant funded projects, at £0.58 million (FY20: £0.76 million) is below historic levels which reflects the Company' move away from Grant funded to commercial projects. The Group received £0.14 million (FY20: £0.19 million) from the US Small Business Administration Paycheck Protection Programme ("PPP") and this is included in Other Operation Income.

The Group's Gross Profit, which excludes Other Operating Income declined marginally to £1.98 million (FY20: £2.06 million) delivering a Gross Profit margin of 68% (FY20: 70%).

The focus on reducing costs continued in the year and Adjusted Administrative Expenses fell by £0.63 million (11.8%) to £4.72 million (FY20: £5.36 million). On a pre IFRS 16 basis the comparable figures for Adjusted Administrative Expenses would have been £5.29 million (FY20: £5.99 million). Over the last three reporting periods the Company has reduced its operating cost base by £2.43 million. Pre IFRS 16 Adjusted administrative expenses exclude non-cash items such as share based payment charges, depreciation and amortisation as well as one-off restructuring costs but includes operating lease costs and, as such, gives visibility of the ongoing cash impact of our operating cost base. Total administrative expenses for the year were £6.11 million (FY20: £7.05 million).

The Loss from Operations was £3.56 million (FY20: £4.23 million). Finance costs, which include interest payable on the Group's debt, for the year were £0.21 million (FY20: £0.18 million).

The Group continued to direct resource to research and development with the focus for that investment on products and process that could develop into sustainable and profitable revenue streams. R&D spend for the year was £1.02 million (FY20: £1.05 million[5]), of which £0.26 million was capitalized (FY20: £0.25 million). During the year the Group claimed R&D tax credits of

[5] Based on calculations submitted to HMRC for the R&D tax credit.

Strategic Report continued

£0.36 million (FY20: £0.39 million) and it is expected that this claim will be received during the current year.

Total comprehensive loss for the year was £3.59 million (FY20: £4.23 million). The loss per share for the year was £0.01(FY20: £0.01 loss).

Statement of Financial Position and Cashflows

As at 30 June 2021, net assets amounted to £6.76 million (2020: £7.45 million), including cash balances of £1.64 million (2020: £0.82 million). Other current assets reduced to £3.00 million at the year-end (2020: £3.32 million) and this was mainly related to the reduction in inventory of £0.39 million at the US facility during the year. We anticipate inventory levels will continue to reduce over the next 12 months at the US site. Current liabilities reduced to £2.78 million as at 30 June 2021 (2020: £2.92 million) due principally to the reduction in Trade and other payables.

The Right of Use Asset in respect of its leased premises increased to £2.58 million (FY20: £1.59 million) due to a renewed lease on our US facility and the Right of Use Liability which is split between Current and Non-Current Liabilities similarly increased to £2.74 million (FY20: £1.65 million). These movements were non-cash items and did not impact the cash outflow in the year. The Company will amortise these balances over the remaining life of the leases which varies across the sites.

The Group's US Pension Obligations of £1.03 million (FY20: £1.44 million) reduced in the year due to a combination of exchange rate gains and positive movements in the plans funding requirements.

Net cash outflow from operating activities before working capital movements for the year reduced to £2.04 million (2020: £2.58 million), the principal contributing factors being the Loss before Taxation of £3.41 million (2020: £4.02 million). Cash used in Operations reduced by £1.74 million in the year to £(1.58) million (FY20: £(3.32)) million. The Group received a R&D tax credit inflow of £0.39 million in FY21 (FY20: £0.85 million). The prior year figure included payments for the R&D claims made in both FY18 and FY19. Net cash used in operating activities reduced to £(1.19) million (FY20 £(2.48) million).

Capital expenditure in the year, excluding the IFRS 16 adjustments set out below, was £0.22 million (FY20: £0.04 million).

Capital Structure and Funding

As at 30 June 2021, the Company had 425,279,798 ordinary shares in issue (2020: 340,223,848). No options were exercised into ordinary shares during the year (FY20: none).

The Group repaid borrowings of £0.22 million during the year under review (FY20: £0.84 million), which almost wholly related to the Group's US borrowing facilities which are secured on the Group's US based tangible assets.

The Company received £0.80 million of a £1.1 million UKRI Innovation Loan during the year to support scale up capital expenditure. The remaining funds are expected to be drawn down in FY22. The Group's US working capital facility which was secured on a combination of the fixed assets, inventory and trade receivables of the US business was fully utilised at the year-end (2020: fully utilised). The net result was that the Group's total borrowings at the year-end were £1.73 million (2020: £1.25 million), of which £0.85 million was in the UK and the balance in the Group's US subsidiaries. The UKRI Innovation loan a quarterly liquidity covenant applies until April 2024. There are no financial covenants extant in respect of the UK bounceback loan of £0.05 million (FY20: £0.05 million) or the Group's US borrowings.

Post Balance Sheet Event

On 20 September 2021, the Company raised £5.10 million (gross) through the placing, retail offer and subscription of 85,055,893 new Ordinary Shares at 6.00 pence per share. The funds raised will be used to fund the general working capital needs of the business, support the scaling up of manufacturing capacity at the Ammanford site and drive forward product rollout into the US market.

Key Performance indicators

The Group has historically reported financial metrics such as revenues, gross profit margin, adjusted operating loss, cash position and other metrics as its key performance indicators and these are set out below.

	FY21 (£m)	*FY20 (£m)*
Revenue	2.90	2.95
Gross profit margin	68%	70%
Adjusted operating loss	(2.17)	(2.54)
Cash position	1.64	0.82
Borrowings	1.73	1.25

During the year under review, management also used a sales tracker, a key non-financial performance metric to monitor the revenue pipeline of the business. The sales tracker monitors the number of accredited leads and assigns a probability of revenue realisation to those leads.

SECTION 172(1) STATEMENT

The Directors acknowledge their duty under s.172 of the Companies Act 2006 ("s172") and consider that they have both individually and together acted in the way that, in good faith, would be most likely to promote the success of the Company for the benefit of its members as a whole, having regard to the matters set out in s.172.

The Directors have set out the ways in which they look to fulfil their duties in the year at section 3 of the Chair's Corporate Governance Statement on page 16.

PRINCIPAL RISKS AND UNCERTAINTIES

The Board considers that the principal risks and uncertainties facing the Group may be summarised as follows:

Impact of Covid-19 and General Economic Uncertainty

Despite a robust performance, the Covid-19 pandemic has adversely affected customer demand and subdued Group revenues during the year under review. The Directors accept that there remains a varying degree of economic uncertainty in all of the countries in which it has facilities and in the markets in which it operates. The Directors are provided with detailed projections that model future performance and liquidity of the Group and funding decisions are based on these forecasts.

Health and Safety

Many of the Group's products are advanced materials that are nano in size and, although there is little actual evidence of any health risks associated with the handling of the Group's products, there is a theoretical risk that the Group's products could be a danger to health if an individual is exposed to and/or inhales/ingests some of the Group's products. The Group takes health and safety very seriously and manages the potential health and safety risk by regular staff training, well maintained facilities and restricting activities to only certain qualified individuals. The UK facilities are ISO 9001 and ISO 14001 accredited and the Thailand facility has ISO 9001 accreditation.

Acceptance of the Group's Products

The success of the Group will depend on the market's acceptance of, and attribution of value to, advanced materials technology developed by the Group based on successfully mixing and dispersing raw, mined graphite, synthetically produced graphene and other nanomaterials into customers' existing products in order to improve the mechanical, thermal or electrical properties of these products.

Notwithstanding the technical merits of the processes developed by the Group, and the extensive market and product research carried out by management to assess the likelihood of acceptance of the Group's products, there can be no guarantee that its targeted customer base for the processes will ultimately purchase the Group's products.

Speed of product adoption

While the Group makes every effort to establish realistic timelines for customer engagement, testing and purchasing of Haydale's products, there are often unforeseen delays (by both parties) in forecasting the commencement of sales. There may be regulatory hurdles to overcome and end-customer risk aversion in accepting a new nanomaterial enhanced product. Following the realignment in 2019, the focus on commercial product sales remains an absolute priority, notwithstanding that the timing and adoption of Haydale's newly developed product lines remains difficult to predict.

Intellectual Property Risk

The Group's success will depend in part on its ability to maintain adequate protection of its IP portfolio, covering its manufacturing process, additional processes, products and applications, including in relation to the development of specific functionalisation of graphene and other nanomaterials for use in particular applications. The IP on which the Group's business is based is a combination of granted patents, patent applications and confidential know-how.

Internal procedures and controls are in place to capture and exploit all generated IP as well as to protect, limit and control disclosure to third parties and partners. The Group aims to mitigate any risk that any of the Group's patents will not be held valid if challenged, or that third parties will claim rights in, or ownership of, the patents and other proprietary rights held by the Group through general vigilance, regular international IP searches as well as monitoring activities and regulations for developments in copyright/intellectual property law and enforcement. The Group retains third party professional experts to assist.

Information and Communications Technology ("ICT") Risk

The inability to access data for a period of time either due to systems failures or the unauthorised intervention of malicious parties may severely impact the Group's ability to conduct its day-to-day business, lead to the loss of sensitive information or result in loss of funds in a ransomware attack.

The Group aims to mitigate these threats by maintaining a third-party ICT support agreement with a respected contractor, ensuring industry standard cyber security procedures are followed, setting out clear internal procedures for communicating potential ICT breaches and by providing adequate staff training on the cyber security risk that all users face. In the event that these procedures are inadequate the Group maintains a business continuity plan with our service provider that covers longer term denial of access.

Dependence on Key Personnel

The Group's business, development and prospects are dependent upon the continued services and performance of its Directors and other key executives. The experience of the Group's personnel helps provide the Group with a competitive advantage. The Directors believe that the loss of services of any existing key executives, for any reason, or failure to attract and retain necessary additional personnel, could adversely impact on the business, development, financial condition, results of operations and prospects of the Group. The Group aims to mitigate this risk by providing well-structured and competitive reward and benefit packages that ensure our ability to attract and retain key employees.

By order of the Board

David Banks
Chair
14 December 2021

Board of Directors

The Haydale board consists of experienced commercial directors from a range of industries that include engineering, retail, finance and accounting, and technology. Brief biographies of each of the directors are set out below.

David Doidge Richard Banks,
Non-Executive Chair

David Banks started in stockbroking 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 Chair in July 2017 and was appointed as Interim-executive Chair on 5 September 2018 and, following the general meeting on the 12 March 2019, reverted to Non-executive Chair.

David has significant city experience and has advised companies in the Automotive, Aerospace and Motor Distribution sectors on their corporate structure, strategy m messaging and presentation. He has experience of raising capital for growing companies and is responsible for liaison with our major shareholders.

Keith Broadbent;
Chief Executive Officer

Prior to joining Haydale, Keith held a number of senior operational and commercial positions which covered aerospace, defence, automotive, marine and medical sectors. His experience includes significant multi-site responsibilities in both the UK and internationally and he has worked for Princess Yachts International, Sunseeker, TT Electronics and most recently Ultra Electronics. Keith has demonstrated a strong track record in the delivery of budgets, high level customer service and enhancing shareholder value. Keith joined Haydale in July 2017 and was appointed the Group's Chief Executive Officer in March 2019.

Keith holds an MBA from Derby University and this, coupled with his customer contact and manufacturing experience across a number of different sectors encompassing design, supply chain, manufacture, commercial and financial elements of business, are a key skill requirement in the ongoing journey moving Haydale into a market led commercial scale manufacturing organisation putting people at the centre of the enterprise strategy.

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.

Mark qualified as a chartered accountant in 1995 and holds a degree in Economics from the University of Birmingham. Mark joined Haydale as CFO in November 2019.

Mark brings experience of working in Board positions in international multi-currency businesses undergoing periods of sustained change. He has a strong foundation in accountancy supplemented by experience in mergers and acquisition, corporate restructuring and raising equity and debt finance.

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 chair of an automotive technology company, Mechadyne (now part of Rheinmetall Automotiv AG). Graham was a non-executive director of AB Dynamics plc from flotation until September 2020. He was on the AIM advisory committee of the London Stock Exchange ("LSE") for 6 years and has a Master of Arts degree in Modern and Medieval Languages from the University of Cambridge.

Graham is a Non-Executive Director of Viritech Limited and iVapps (UK) Limited, Chair of Zero E Technologies, Inc. and a director of Zeus Motors, Inc. He has an extensive range of international business contacts and years of experience of negotiating technology licence deals. He is particularly interested in the challenges of growing and structuring small high technology companies so that they can find their places on the world stage.

Theresa Wallis,
Non-Executive Director

Theresa Wallis worked most of her executive career in financial services, moving into technology commercialisation in 2001. She was with the LSE for 13 years, where from 1995 to 2001 she was COO of AIM, having managed the market's development and launch. From 2001 to end 2006 she was a principal executive of ANGLE plc, a venture management and consulting business focusing on the commercialisation of technology. Since 2001 she has held a number of non-executive directorships, including LiDCO Group plc where she was non-executive chair, Veriton Pharma Ltd and the Quoted Companies Alliance. Prior to joining the LSE, she worked for Hambros Bank and then Canadian Imperial Bank of Commerce in London. Theresa has a degree in Zoology from the University of Oxford and a Diploma in Company Direction from the Institute of Directors.

Theresa has a background in business development and technology commercialisation alongside her experience of working with AIM and other companies at a similar stage of development. She brings a range of corporate governance, business development, financial and commercial experience to the Company.

Theresa joined the Board of Haydale in June 2020.

Directors' Report

The directors present their report and the audited financial statements for Haydale Graphene Industries Plc (the "Company"), a public company incorporated and registered in England and Wales with company number 07228939, and its subsidiaries (together the "Group") for the year ended 30 June 2021.

There are a number of items required to be included in the Directors' Report which are covered elsewhere in the annual report. Details of directors' remuneration and share options are given in the Directors' Remuneration Report, details of the use of financial instruments and financial risk management objectives and policies are given in note 22 of the financial statements and the Strategic Report on pages 3 to 11 covers the following matters:

- Principal Activities;
- Review of the Business and Future Developments;
- Key Performance Indicators; and
- Research and Development.

Statement of Directors' Responsibilities in respect of the Annual Report and the Financial Statements

The directors are responsible for preparing the strategic report, the annual report and the financial statements in accordance with applicable law and regulations.

Company law requires the directors to prepare financial statements for each financial year. Under that law, the directors have elected to prepare the Group financial statements in accordance with International Financial Reporting Standards (IFRSs) in conformity with the requirements of the Companies Act 2006 and the Company financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable law). Under company law, the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Company and of the profit or loss for the Group for that period. The directors are also required to prepare financial statements in accordance with the rules of the London Stock Exchange for companies trading securities on the AIM market.

In preparing these financial statements, the directors are required to:

- Select suitable accounting policies and then apply them consistently;
- Make judgements and accounting estimates that are reasonable, relevant, reliable and prudent;
- State whether they have been prepared in accordance with IFRSs in conformity with the requirements of the Companies Act 2006;
- For the Parent Company financial statements, state whether applicable UK accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group and the Company will continue in business.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that the financial statements comply with the requirements of the Companies Act 2006. They are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The directors are responsible for the maintenance and integrity of the Group's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Dividends

The directors do not propose the payment of a dividend (2020: nil).

Directors

The following directors have held office since 1 July 2020 and up to the date of signing the financial statements:

David Banks
Keith Broadbent
Mark Chapman
Graham Eves
Theresa Wallis

Directors' Report continued

Directors' Interests in Ordinary Shares

The directors had the following interests in ordinary shares of the Company at the 30 June 2021 and at the date of this report:

Director	Number of Shares at 30 June 2021	% of Share Capital	Number of Shares at 14 December 2021	% of Share Capital
David Banks	3,098,809	0.73	3,250,000	0.64
Keith Broadbent	785,714	0.18	952,381	0.19
Mark Chapman	560,714	0.13	750,000	0.15
Graham Eves	142,857	0.03	142,857	0.03
Theresa Wallis	428,571	0.10	511,904	0.10

Directors' and Officers' Liability Insurance

Qualifying indemnity insurance cover has been arranged in respect of the personal liabilities which may be incurred by directors and officers of the Group during the course of their service with the Group. This insurance has been in place during the year and on the date of this report.

Post Balance Sheet Event

On 20 September 2021, the Company raised £5.10 million (gross) through the placing, retail offer and subscription of 85,055,893 new Ordinary Shares at 6.00 pence per share.

Foreign Currency, Interest Rate, Credit and Liquidity Risk

The directors do not consider any of these potential risks to pose a significant risk to the Group or its operations over the coming year. See note 22, Financial Instruments, for further details.

Going Concern

The Directors have prepared and reviewed detailed financial forecasts of the Group and, in particular, considered the cash flow requirements for the period from the date of approval of these financial statements to the end of December 2022. These forecasts sit within the Group's latest estimate and within the longer-term financial plan, both of which have been updated on a regular basis. The Directors are also mindful of the impact that the other risks and uncertainties set out on page 11 may have on these estimates and in particular the speed of adoption of new technology during these uncertain times.

As part of this review the Directors have considered several scenarios based on various revenue, cost and funding sensitivities.

Revenue

Various sensitivities have been applied to forecasted revenue including a stress test scenario which reduces forecasted revenue by circa 72 per cent, to the point where the Group would breach its available cash resources at 31 December 2022. With respect to this 'stress test' the Group has a significant proportion of that sensitised revenue within forward orders, contractual or some other form of customer assurance which have a high degree of certainty.

Cost Mitigation

The Directors have included some low-level assumptions regarding cost savings that might be achievable if the forecast fails to meet the forecasted or sensitised estimates, and these have been phased in gradually over the 12-month period to 31 December 2022.

Customer Solvency

As part of this review the Directors have assessed the solvency of key customers and their ability to deliver on their contractual or other commitments on the basis of publicly available information and included the results of these assessments in our forecasts.

Summary

Therefore, after due consideration of the forecasts prepared, the sensitivities applied and the Group's current cash resources after the fund raise in September 2021 and the terms of its debt facilities, the directors consider that the Company and the Group have adequate financial resources to continue in operational existence for the foreseeable future (being a period of at least 12 months from the date of this report), and for this reason the financial statements have been prepared on the going concern basis.

Disclosure of information to auditors

All of the current directors have taken all the steps that they ought to have taken to make themselves aware of any information needed by the Company's auditors for the purposes of their audit and to establish that the auditors are aware of that information. The directors are not aware of any relevant audit information of which the auditors are unaware.

Independent auditors

The auditors, Grant Thornton UK LLP have expressed their willingness to continue in office and a resolution concerning their re-appointment will be proposed at the annual general meeting.

Statement by the Directors

The Directors consider the annual report and accounts, taken as a whole is fair, balanced and understandable and provides the information necessary for shareholders to assess the Company's position and performance, business model and strategy.

By order of the Board

David Banks
Chair
14 December 2021

Chair's Corporate Governance Statement

Overview

As Chair of the Board of Directors of Haydale Graphene Industries Plc ("Haydale", the "Group" or the "Company"), it is my responsibility to ensure that Haydale has both sound corporate governance and an effective Board. This is achieved by maintaining a corporate governance framework that includes regular meetings of the Board and its committees, with informative, relevant and timely information flow. We regularly review our governance processes to ensure we are constantly improving. The Board members have extensive experience of managing AIM companies, including knowledge of the AIM Rules and the Market Abuse Regulations. Haydale adopts the Quoted Companies Alliance Corporate Governance Code ("QCA Code") and this report follows its structure and explains how we have applied it. The principal methods of communicating our application of the QCA Code are this Annual Report and through our website, at www.haydale.com.

The Board believes that corporate governance is more than just a set of guidelines; we believe that good corporate governance improves long-term success and performance, whilst reducing or mitigating risks.

Below are the Company's explanations of how it has complied with the 10 principles of the QCA Code during the year.

QCA Principles

1. Establish a strategy and business model which promotes long-term value for shareholders

The Board has concluded that the highest medium and long-term value can be delivered to its shareholders by the adoption of a single purpose for the Company: *To use our knowledge of advanced materials and dispersion to be one of the world's foremost creators of material change, enabling our customers to improve the performance of their products.* To achieve this, the Company aims to grow organically and, if necessary, by acquisition, to extend the Group's client base and geographical penetration and use its existing expertise and global reach to generate commercial opportunities in the high growth advanced materials industry. Haydale's business model and strategy, together with the principal risks and uncertainties facing the Group, are set out in the Strategic Report on pages 5 to 12 of this Annual Report. The Directors intend that the strategy will deliver shareholder returns initially through capital appreciation and eventually through distributions via dividends.

2. Seek to understand and meet shareholder needs and expectations

The Board is committed to maintaining good communication and having constructive dialogue with its shareholders.

The Directors meet shareholders and other investors or potential investors during the year, especially following the announcement of the Annual and Interim Results. The Company also hosts broker and analyst meetings. David Banks is the Director appointed as the main point of contact for shareholder liaison and the Directors ensure that shareholder views are taken into account. Due to the Covid-19 pandemic, most meetings over the past year with shareholders and brokers took place via videoconference or, when permitted, by national and regional regulations and guidance, visits to the main production site at Ammanford were organised.

The Company intends to have close ongoing relationships with its larger private shareholders, institutional shareholders and analysts and for them to have the opportunity to discuss issues and provide feedback at meetings with the Company. The Company receives reports from its corporate registrar and from Argus Vickers. In normal years the whole Board attends the Company's Annual General Meeting ("AGM"), which is regarded as an opportunity to meet, listen and present to shareholders, all of whom are normally encouraged to attend. Whilst shareholders were advised not to attend the 2020 AGM, they were invited to ask questions by email and submit their votes in advance by proxy. Looking ahead, the Company will continue to monitor and comply with prevailing guidance when determining if shareholders are able to safely attend the next AGM and hopes that this will be the case. The outcomes of each of the AGM votes are announced following the meeting. If there is a resolution passed at a general meeting with a significant number of votes against, the Board seeks to understand the reason for the result and, where appropriate, takes suitable action.

The Company's broker and nominated advisor is briefed regularly and keeps the Company appraised of market and regulatory developments as they affect the Company.

3. Take into account wider stakeholder and social responsibilities and their implications for long-term success

The Board is mindful of its statutory duty under s172 of the Companies Act and the Directors have acted in a way that they considered, in good faith, to be most likely to promote the success of the Company for the benefit of its stakeholders as a whole, and in doing so, had regard amongst other matters to the:

- Foreseeable or likely consequences of any decision in the long term;
- interests of the Company's employees at each of its five facilities;

- need to foster the Company's business relationships with suppliers, customers and others;
- impact of the Company's operations on the community and the environment; and
- importance of the Company maintaining a reputation for high standards of business conduct.

In doing so, the Board recognises the Company is reliant upon the efforts of the employees of the Company and its collaboration partners, suppliers, regulators and other stakeholders whether they are identified under s172 or not. The Board ensures that there is close oversight and contact with its key resources and relationships and, whilst this has been more challenging during the year given the Covid-19 pandemic and consequent meeting, travel and other restrictions, the Company has used video conferencing and other modes of communication to maintain its efforts in this regard. The following paragraphs set out how we engage with our stakeholders.

Everyone within the Group is a valued member of the team, and our aim is to help every individual achieve their full potential. We offer equal opportunities regardless of race, gender, gender identity or reassignment, age, disability, religion or sexual orientation. The unfamiliar challenges raised by Covid-19 have required the Company to adapt its procedures to comply with national and local guidance in the jurisdictions in which it operates. Health and safety of our team was prioritised and compliant protocols were introduced at our sites which all remained operative throughout the year. Where feasible employees moved to homeworking during the pandemic and for those who were advised to shelter due to personal or household circumstances and, where homeworking was not practical, appropriate measures, including use of the various Government support schemes, were put in place to reduce the anxiety caused by any protracted time away from the business. Those working from home were given access to a videoconference facility and communication with employees was increased to include weekly team calls alongside the normal business related meetings. The Company is still of a size where the Executive Directors know all of the team and employees were aware that they were able to contact the senior leadership directly to ask questions on any topic that concerned them.

Notwithstanding the demands imposed by the pandemic, the Group has continued to invest in staff training to ensure that employees have the skills to meet their responsibilities as part of a modern international operation.

The Company prepares a detailed budget annually which takes into account the Group's strategy and its available key resources including staffing, working capital, production capacity and functionalisation capabilities.

In depth analysis and reviews of each business unit's budgeted business plan are agreed at the start of each financial year, with contributions from all involved parties which facilitates a two-way communication channel with agreement on the goals, targets and aspirations of the Company. This provides each strategic business unit with the opportunity to raise issues and provide feedback to the Board via the executive members. These feedback processes help to ensure that the Company can respond to new issues and opportunities that arise to further the success of the Group.

The Company has close ongoing relationships with a broad range of its stakeholders and, as set out above, provides them with the opportunity to raise issues and provide feedback to the Company. The Company seeks regular feedback from its stakeholders which include employees, industry participants, such as customers, graphene producers, R&D facilities, including universities and academic institutions whilst simultaneously embracing influential movers within the advanced materials industry who may positively influence perception of the Company. This feedback is generally but not exclusively received through formal performance reviews (employees) and informal meetings. Feedback received is reviewed, considered, and, if changes are required, actioned appropriately. The Company communicates with its stakeholders and takes account of their feedback in order to develop products that meet the needs of their customers and that can be supplied reliably, cost effectively and in line with applicable standards.

The UK is ISO 9001:2015 accredited and the UK and Thailand operations are ISO 14001:2015 accredited. and the Group complies with relevant health and safety and environmental legislation. Through the employment opportunities it provides it has a beneficial community effect.

4. Embed effective risk management, considering both opportunities and threats, throughout the organisation

The Board oversees and reviews the Group's risk management and internal control mechanisms.

During the year the risk register was regularly reviewed by the senior management working in conjunction with the site managers. The risk register sets out the assessed risks and the key actions and processes to mitigate those risks and the individual or group responsible for ensuring that these are performed.

Chair's Corporate Governance Statement continued

The review process involves the review and identification of risks, assessment to determine the relative likelihood of them impacting the business and the potential severity of the impact and determination of what needs to be done to minimise their likelihood and/or mitigate their impact. The risk register sets out and categorises these risks and outlines the controls and any further actions required.

During the year particular focus was given to the risks associated with the Covid-19 pandemic and the growing cybersecurity risk that all organisations face. As set out below the risk register was considered by the Audit Committee at its meeting in May 2021. The principal risks and uncertainties to the business and steps to mitigate them are set out in the Strategic Report in this Annual Report on pages 14 to 15.

The Board has established appropriate reporting and control mechanisms. The system of internal control is structured around the risks set out in the risk register and is designed to address those risks that the Board considers to be material, to safeguard assets against unauthorised use or disposition and to maintain proper accounting records which produce reliable financial and management information.

Further key features of the Company's internal control system include the following:

- Close management of the business by the executive directors;
- Monthly management accounts information is prepared and reviewed by the Board, including variances against the annual budget, latest expectations and prior year;
- There is a schedule of matters reserved for decision by the Board;
- A clearly defined organisational structure is in place, with clearly delegated authorities, reporting lines and roles;
- Defined levels/limits for authorisation of expenditure and placing of orders and clearly set out authorisation procedures; and
- Quality management systems are implemented and regularly audited by an independent third party. The UK operations are Company is ISO 9001:2015 and ISO 14001:2015 certified and the Thailand facility is ISO 14001:2015

5. Maintain the board as a well-functioning, balanced team led by the Chair

The Board comprises two executive directors and three non-executive directors as follows:

Executives

- Chief Executive Officer: Keith Broadbent;
- Chief Financial Officer: Mark Chapman;

Non-executives

- Non-executive Chair: David Banks;
- Independent Non-executive: Graham Eves; and
- Independent Non-executive: Theresa Wallis.

Biographical details of the Directors can be found here at www.haydale.com. or in this Annual Report on page 12.

All the Non-Executive Directors are expected to dedicate at least 24 days per annum to the Company. Mr Broadbent and Mr Chapman are full time. One third of Board are subject to re-election at each AGM.

Board meetings are open and constructive, with every Director participating fully. Senior management are also invited to meet with the Board, providing further insights into the Company's activities and performance. The full Board had seven regular meetings in the year. Regular board meetings are scheduled in advance, but the Board also meets as and when required. In order to be efficient, the Directors meet formally and informally in person, by telephone or videoconference. This was particularly the case in the last year due to the Covid 19 restrictions, when all but two of the board meetings took place by videoconference. Board papers are prepared by the relevant personnel and circulated to the Board at least 48 hours before meetings, allowing time for consideration and necessary clarifications before the meetings. Directors are free to seek any further information they consider necessary.

The Non-executive Directors meet without the presence of the Executive Directors during the year, and also maintain ongoing communications with Executives between Board meetings.

During the year ended 30 June 2021, the Company held 21 board meetings (FY20: 20), with each member's attendance as follows:

	Number of board meetings attended			
Director	*Scheduled FY21*	*Ad hoc FY21*	*Total FY21*	*Total FY20*
David Banks	7/7	14/14	21/21	20/20
Keith Broadbent	7/7	14/14	21/21	19/20
Graham Eves	7/7	13/14	20/21	16/20
Mark Chapman	7/7	14/14	21/21	14/14
Theresa Wallis	7/7	14/14	21/21	1/1

Attendance at the Company's audit, remuneration and nomination committee meetings during FY21 and the prior year were as follows:

	Number of committee meetings attended					
Committee member	*Audit*		*Remuneration*		*Nominations*	
	FY21	FY20	FY21	FY20	FY21	FY20
David Banks	4/4	3/3	2/2	8/8	–	3/3
Graham Eves	4/4	3/3	2/2	6/8	–	3/3
Theresa Wallis	4/4	1/1	2/2	-/-	–	-/-

Terms of reference for each of the Board's Committees are published on the Group's website, The Company believes that the Committees have the necessary skills and knowledge to discharge their duties effectively.

6. Ensure that between them the Directors have the necessary up-to-date experience, skills and capabilities

The Company believes that the Directors have an appropriate breadth and depth of skills, knowledge and experience to fulfil their roles, reflecting a broad range of personal, commercial and professional skills across geographies and relevant sectors and experience of public markets. Details of the Directors' experience and areas of expertise and the relevant skills each Director brings to the Board are outlined on pages 16 to 17 of this Annual Report and on the Company's website.

In addition to their general board responsibilities, Non-executive Directors are encouraged to be involved in site visits and meetings, in line with their individual areas of expertise, though this was curtailed for much of the year due to Covid 19 restrictions.

The Company has employed the services of ONE Advisory Limited to provide assistance to the Company in its Company Secretarial and MAR compliance needs. Matt Wood, a director of ONE Advisory Limited, is Haydale's Company Secretary.

If required, the Directors are entitled to take independent legal advice and, if the Board is informed in advance, the cost of the advice will be reimbursed by the Company.

In addition, the Company is a member of the QCA and as such all the directors have access to briefings issued by the QCA and also access briefing, updates and events offered by other professional advisory firms.

7. Evaluate board performance based on clear and relevant objectives, seeking continuous improvement

We stated last year that every other year the Board expects to carry out an internal Board and Committee evaluation exercise, including that of the Chair and individual directors. Subsequent to the year end the Company commenced its first evaluation exercise and the results and recommendations of that assessment will be set out in next year's report. The Chair is leading the evaluation exercise and a non-executive Director will lead the review of the performance of the Chair.

Chair's Corporate Governance Statement continued

Board succession planning is one of the responsibilities of the Nomination Committee as set out in Principle 9 on page 22. Below the main Board the CEO seeks board approval for his recommendations on senior management appointments and changes to the subsidiary boards. During the year a number of appointments were made to the subsidiary Boards in the UK.

8. Promote a corporate culture that is based on ethical values and behaviours

The Board recognises that its decisions regarding strategy and risk will impact the corporate culture of the Company as a whole and that this will impact the performance of the Company. The Board is very aware that the tone and culture set by the Board will greatly impact all aspects of the Company as a whole and the way that employees behave.

Our culture acts as the glue that binds our staff around the world together. Underpinning the Haydale culture is the need for team work and we expect all employees to:

- Be an active member of the team ensuring that support and cooperation is given to other members to assist them in achievement of Company objectives.
- Work proactively with colleagues to give a professional and speedy service to clients/customers.
- Coordinate activities with other colleagues to ensure the smooth running of the business and excellent customer service.
- Participate in the creation of a stable and cohesive team within the Company and assist all staff to maximise their contributions to the business.
- Be adaptable and flexible in respect of work undertaken as and when the needs of the business dictate.

The Company is working towards the goal of a "one team" shared culture that supports an open and respectful dialogue with employees, clients and other stakeholders, and is underpinned by sound ethical values and behaviours. These values are reinforced at the regular team and site performance reviews and also at intersite meetings which, amongst other areas, cover sales, marketing, technical and health and safety matters.

The Company has implemented a quality system based on the rigorous standards of BS EN ISO 9001 and 14001 and adherence to this Quality System is mandatory throughout the Company. All employees are encouraged to take responsibility for the quality of their own workmanship and to work with their colleagues towards maintaining our ISO standards.

To ensure we meet the high standards that we set ourselves employees are formally appraised each year and clear personal objectives are set out within personal development plans. Individual training needs are defined by these reviews and this training is combined with wider department and group training initiatives.

The Board attaches great importance to the health and safety of its employees and stakeholders who handle or use the Group's products. Health and safety is a standing item on the Board's agenda, with reports reviewed by the board at each scheduled board meeting. The Company's Health and Safety policy and the respective site Health and Safety plans are enforced rigorously and this has never been more important than in the past year in the face of the Covid-19 pandemic.

9. Maintain governance structures and processes that are fit for purpose and support good decision-making by the board

The Board is committed to, and ultimately responsible for, high standards of corporate governance, and has chosen to adopt the QCA Corporate Governance Code. We review our corporate governance arrangements regularly and expect to evolve these over time, in line with the Company's growth. The Board delegates responsibilities to committees and individuals as it sees fit, with the Chair being responsible for the effectiveness of the Board, and the Executive Directors being accountable for the management of the Company's business and primary contact with stakeholders.

The Chair is responsible for the leadership of the Board and ensuring its effectiveness in all aspects of its role. He is also responsible for creating the right Board dynamic and for ensuring that all important matters receive adequate time and attention at Board meetings. He is also the director appointed as the main point of contact for shareholder liaison. The CEO is responsible for the day-to-day running of the business as well as developing corporate strategy while the Non-Executive Directors are tasked with, for example, constructively challenging the decisions and recommendations of executive management and satisfying themselves that the systems of business risk management and internal financial controls are appropriate.

The Board has adopted appropriate delegations of authority which sets out matters which are reserved to the Board as summarised below:

- The Group's strategy and vision
- Determining management's performance
- Board membership and membership of subsidiary boards
- Approval of major capital expenditure
- Financial reporting, risk management and internal controls
- Contracts, including potential acquisitions or investments in new projects or products
- Corporate governance
- Approval of annual budgets
- Approval of annual and interim reports
- Approval of changes in equity or debt funding
- Dividend recommendations and policy

The Board delegates certain duties and, where applicable, authority, to the following three board Committees to assist in meeting its business objectives whilst ensuring a sound system of internal control and risk management. The Committees meet independently of Board meetings.

Audit Committee

The Audit Committee has three members, Theresa Wallis (Chair), Graham Eves and David Banks. The CFO and external auditors normally attend meetings by invitation. The Audit Committee is responsible for assisting the Board in fulfilling its financial and risk responsibilities. The Audit Committee oversees the financial reporting, risk management and internal control. The Audit Committee advises the Board on the appointment and removal of the external auditor and discusses the nature, scope and results of the audit with the auditors. The Audit Committee reviews the extent of non-audit services provided by the auditors and reviews with them their independence and objectivity. The Audit Committee plans to meet not less than twice in each financial year.

During the year the Committee met four times. The Committee met twice in October 2020 to consider the draft report and accounts for the year ended 30 June 2020, including the key judgements and estimates including revenue recognition, going concern, carrying value of intangible assets, and valuation of the defined benefit pension scheme as well as the independence of the auditors and their fees. The Committee reviewed the feedback from the auditors (Grant Thornton UK LLP) as set out in their Audit Findings Report to the Board at the second meeting.

The third meeting of the Committee was held in February 2021 to consider the draft interim results and receive updates on the risk register and the Group's internal control mechanisms.

The fourth meeting of the Committee was held in May 2021. The meeting considered the terms of engagement between the Company and Grant Thornton UK LLP as well as the audit plan for the Group. At this meeting the company also reviewed the risk register.

Due to the Covid-19 restrictions, the first three meetings of the Committee were held via videoconference. The auditors attended the October and May meetings by videoconference, with the Committee, CEO and CFO attending in person at the May meeting. During the October and May meetings, a discussion took place between the Audit Committee and the auditors without management being present.

Remuneration Committee

The Remuneration Committee has three members, David Banks (Chair), Graham Eves and Theresa Wallis. The members are all non-executive Directors. Other members of the Board may attend the Committee's meetings at the request of the Committee Chair.

Chair’s Corporate Governance Statement continued

The remit of the Committee is primarily to ensure that the executive directors are provided with appropriate remuneration packages. The Committee reviews the performance of the Executive Directors and considers matters relating to their terms of employment and remuneration, including short term bonus and long-term incentives. The Remuneration Committee also considers the granting of share options pursuant to the Company's share option schemes. The Remuneration Committee shall meet not less than twice a year and will meet on other occasions as and when required.

The Committee met twice during the year.

The Directors’ Remuneration Report is on pages 23 to 24.

Nomination Committee

The Nomination Committee has responsibility for evaluating the structure, size and composition of the Board in order to ensure a suitable balance of experience, knowledge, skills and independence, as well as for recommending to the Board the appointment of Executive and Non-Executive Directors. The Committees’ Terms of Reference may be found on the Company’s website.

The Nomination Committee has three members, Graham Eves (Chair), David Banks and Theresa Wallis. The Committee did not meet during the year.

As with many small companies, due to financial constraints and limited human resources, internal opportunities for succession to board director roles are circumscribed. As noted in the 2020 Annual Report and Accounts the Committee made two important appointments in the year ended June 2020 and, as planned, has promoted a period of stability before looking to further evaluate the success of the business and any further Board developments that might be required.

10. Communicate how the company is governed and is performing by maintaining a dialogue with shareholders and other relevant stakeholders

As stated in relation to Principle 2, the Board is committed to maintaining effective communication and having constructive dialogue with its shareholders. We communicate through our Interim and Annual Reports along with Regulatory News Service announcements. We also use the Company's website for both financial and general news relevant to shareholders. The Company’s AGM results are available to view on the Company’s website and all resolutions tabled at the Company’s 2020 AGM passed comfortably.

The Company keeps in mind the proportions of direct, nominee and institutional shareholders, and distributes communications accordingly.

The latest corporate documents (including Annual Reports and Notices of AGMs) can be found on the Company’s website.

Investors also have access to the latest information about the Group which is set out on the Company’s website at www.haydale.com. The Company uses electronic communications with shareholders, where possible, to maximise efficiency.

A summary of the work carried out by the Audit and Nomination committees during the year is set out in section 9 above. The Directors’ Remuneration Report is on pages 23 to 24.

By order of the Board on 14 December 2021

David Banks
Chair

Directors' Remuneration Report

REMUNERATION COMMITTEE

The Company's remuneration policy for executive directors is the responsibility of the Remuneration Committee. The terms of reference of the Remuneration Committee are outlined below and, in the Chair's Corporate Governance Statement on pages 21 to 22. The members of the Remuneration Committee during the year under review were Graham Eves (Chair), David Banks and Theresa Wallis. The provisions of the 2006 Companies Act in respect of the Directors' Remuneration Report have been applied to this report.

The Remuneration Committee under its terms of reference meets at least twice per year and is responsible for considering executive remuneration. Executives may be invited to attend to assist the Remuneration Committee, but no director or manager of the Company may be involved in any decisions as to their own remuneration.

Under the terms of reference of the Remuneration Committee, the remuneration of the Company's non-executive directors (including the chair of the Board, if a non-executive) is a matter for the Board.

Directors' remuneration for the year to 30 June 2021 is set out on page 24.

The Remuneration Committee terms of reference require it to determine remuneration packages needed to attract, retain and motivate executives of the quality required (but to avoid paying more than is necessary for this purpose) and to ensure that performance related elements of remuneration are designed to support alignment with the long-term interests of shareholders and to give such executives incentives to perform at the highest levels.

Equity Based Incentive Schemes

The Remuneration Committee believes that equity-based incentive schemes provide a strong incentive for retaining and attracting high calibre individuals.

On 13 January 2020, the Company adopted a new EMI share option scheme ("2020 EMI Scheme") and on 8 July 2020 the Company adopted a Stock Appreciation Rights Plan ("2020 SAR Scheme") for the Group's wholly owned US subsidiary, Haydale Technologies Inc. The 2020 EMI Scheme and the 2020 SAR Scheme are designed to align the interests of the Directors and other employees with those of shareholders, as set out below.

In the year ended June 2020, under the 2020 EMI Scheme the Company granted a total of 19,000,000 options ("2020 EMI Options") to the Company's executive directors and a further 5,750,000 2020 EMI Options were granted to directors of UK subsidiaries, including employees who have been appointed as directors of subsidiary companies during the year. In the year ended June 2021, 3,000,000 options ("2020 SAR Options") were granted to a director of the US subsidiary of the Company. The 2020 EMI Options and the 2020 SAR Options (together the "2020 Options") granted have an exercise price of 2.25p per Ordinary Share and can only be exercised between the third and tenth anniversary of Grant ("Exercise Period"). The proportion of the 2020 Options granted that are capable of vesting is dependent on certain performance conditions being met, with such performance being directly linked to the Company's share price from the date of grant to 30 September 2023 as follows:

% of Grant subject to the Performance Condition	*Performance Condition*
30%	For a period of 15 consecutive dealing days, commencing after the date of Grant and ending on or before the 30 September 2021, the closing price of the Ordinary Shares exceeds 4.0p (four pence) per Ordinary Share.
30%	For a period of 15 consecutive dealing days, commencing after the date of Grant and ending on or before the 30 September 2022, the closing price of the Ordinary Shares exceeds 8.0p (eight pence) per Ordinary Share.
40%	For a period of 15 consecutive dealing days, commencing after the date of Grant and ending on or before the 30 September 2023, the closing price of the Ordinary Shares exceeds 16.0p (sixteen pence) per Ordinary Share.

Should the Company's closing mid-market share price not meet the performance conditions specified then the specified percent of the grant shall lapse. Subsequent to the year end the closing price of the Ordinary Shares remained above 8p (eight pence) for a period of 15 consecutive days and, therefore, the first and second performance condition have been met.

Directors' Remuneration Report continued

DIRECTORS' INTERESTS IN SHARE OPTIONS

The interests of directors of the Company in options over ordinary shares during the year were as follows:

Director	Number of 2020 EMI Options	Date of Grant	First Exercise Date	Exercise Price	Expiry Date
David Banks	nil				
Keith Broadbent	12,000,000	13 January 2020	13 January 2023	2.25p	12 January 2030
Mark Chapman	7,000,000	13 January 2020	13 January 2023	2.25p	12 January 2030
Graham Eves	nil				
Theresa Wallis	nil				

No options were exercised by the directors during the year under review.

The mid-market closing price of the Company's ordinary shares at 30 June 2021 was 8.34p (2020: 2.05p). During the year to 30 June 2021, the mid-market closing price ranged from 2.90p to 8.30p (2020: 1.04p to 2.10p).

DIRECTORS' REMUNERATION

The aggregate remuneration received by directors who served during the years ended 30 June 2021 and 30 June 2020 was as follows:

				Year Ended June 2021			Year Ended June 2020		
£'000	Salary/Fee	Bonus	Benefits	Total exc. pension	Pension	Total inc. pension	Total exc. pension	Pension	Total inc. pension
Executive Directors									
L Redman-Thomas[1]	–	–	–	–	–	–	48	–	48
K Broadbent	191	50	12	253	24	277	232	20	252
M Chapman[2]	104	15	12	131	12	143	95	5	100
Non-Executive Directors									
D Banks	51	–	–	51	–	51	51	–	51
G Eves	28	–	–	28	–	28	28	–	28
R Humm[3]	–	–	–	–	–	–	28	–	28
T Wallis[4]	28	–	–	28	–	28	2	–	2
	402	65	24	491	36	527	484	25	509

Bonuses are disclosed in the year for which they have been awarded. Bonuses for FY20 of £50,000 for Keith Broadbent and £20,000 for Mark Chapman are included in Total exc. pension.

By order of the Board

David Banks
Chair
14 December 2021

1 Resigned on 24 November 2019
2 Appointed on 21 November 2019.
3 Resigned on 10 June 2020
4 Appointed on 10 June 2020

Independent auditor's report to the members of Haydale Graphene Industries Plc

Opinion

Our opinion on the financial statements is unmodified

We have audited the financial statements of Haydale Graphene Industries Plc (the 'parent company') and its subsidiaries (the 'group') for the year ended 30 June 2021, which comprise the Consolidated Statement of Comprehensive Income, the Consolidated and Parent Statement of Financial Position, the Consolidated and Parent Statement of Changes in Equity, the Consolidated Statement of Cash Flows and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in the preparation of the group financial statements is applicable law and international accounting standards in conformity with the requirements of the Companies Act 2006. The financial reporting framework that has been applied in the preparation of the parent company financial statements is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 101 'Reduced Disclosure Framework' (United Kingdom Generally Accepted Accounting Practice).

In our opinion:

- the financial statements give a true and fair view of the state of the group's and of the parent company's affairs as at 30 June 2021 and of the group's loss for the year then ended;
- the group financial statements have been properly prepared in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006;
- the parent company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the 'Auditor's responsibilities for the audit of the financial statements' section of our report. We are independent of the group and the parent company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard as applied to listed entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

We are responsible for concluding on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the group's and the parent company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify the auditor's opinion. Our conclusions are based on the audit evidence obtained up to the date of our report. However, future events or conditions may cause the group or the parent company to cease to continue as a going concern.

A description of our evaluation of management's assessment of the ability to continue to adopt the going concern basis of accounting, and the key observations arising with respect to that evaluation is included in the Key Audit Matters section of our report.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group's and the parent company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

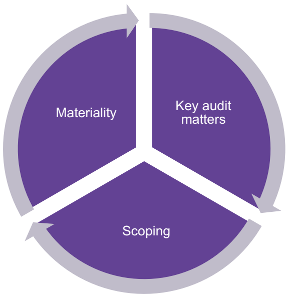
In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

The responsibilities of the directors with respect to going concern are described in the 'Responsibilities of directors for the financial statements' section of this report.

Independent auditor's report to the members of Haydale Graphene Industries Plc continued

Our approach to the audit

Grant Thornton



Overview of our audit approach

Overall materiality:

Group: £190,000, which represents approximately 5% of the group's loss before tax.

Parent company: £150,000, which represents approximately 2% of the parent company's total assets.

Key audit matters for the group were identified as going concern and valuation of goodwill. A Key audit matter for the company was identified as valuation of investments in subsidiaries and impairment of intercompany receivables.

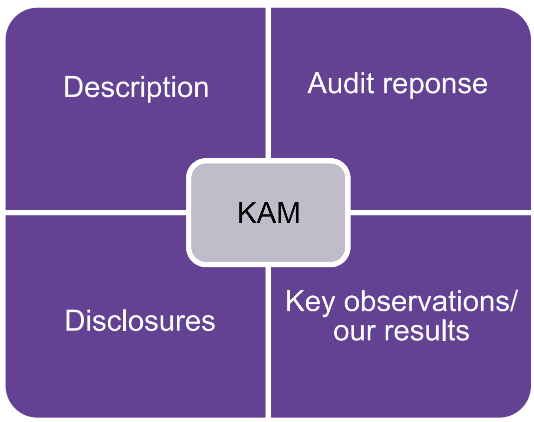
- Going concern (same as previous year);
- Valuation of goodwill (same as previous year); and
- Valuation of investment in subsidiaries and intercompany receivables (same as previous year).

Our auditor's report for the year ended 30 June 2020 included one key audit matter that has not been reported as a key audit matter in our current year's report. This relates to valuation of intangible assets. In the current year the significant risk of impairment has been pin-pointed to the valuation of goodwill in the US cash generating unit specifically.

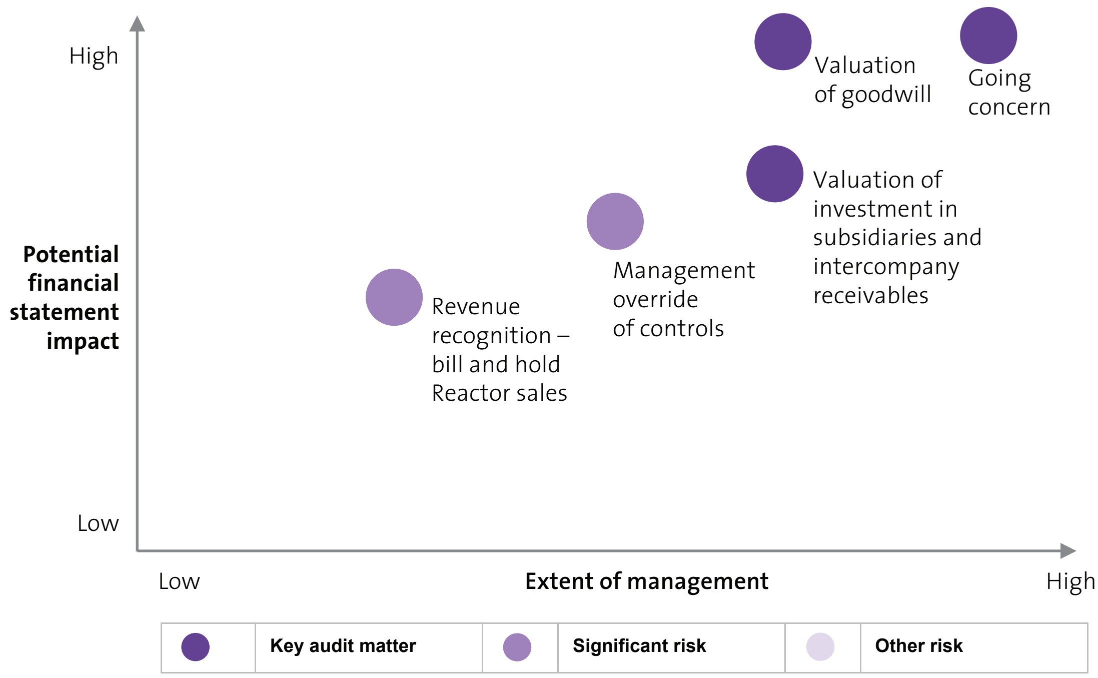
We performed an audit of the financial information of the parent company and the other significant components using component materiality (full-scope audit procedures) on Haydale Limited ('HL'), Haydale Composite Solutions Limited ('HCS') and Haydale Ceramic Technologies LLC ('HCT') and an audit of one or more account balances, classes of transactions or disclosures (specific-scope audit procedures) of 2 further components being Haydale Technologies Thailand Limited ('HTT') and Haydale Technologies Incorporated LLC ('HTI') to gain sufficient appropriate audit evidence at the Group level. We performed analytical procedures on the financial information of the remaining 3 components in the Group during the year. This approach is the same as the previous year.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified. These matters included those that had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.



In the graph below, we have presented the key audit matters, significant risks and other risks relevant to the audit.



Key Audit Matter – Group	*How our scope addressed the matter – Group*
Going concern We identified Going concern as one of the most significant assessed risks of material misstatement due to error. Covid-19 continues to have a negative impact on parts of the business and given the early-stage development of its graphene-based products, it continues to be loss-making. Note, this is considered a risk at both a group and a company level with the work performed being the same for both.	In responding to the key audit matter, we performed the following audit procedures: • Obtained management's Base Case and Breakpoint models with the relevant going concern period assessed as being to the end of December 2022; • Assessed the appropriateness of management's assumptions in relation to revenue through agreeing expected sales to supporting documentation such as signed contracts or purchase orders; • Examined the sensitivity analysis carried out by management on the revenue assumptions in order to assess the levels of uncertainty inherent in the forecasts and the impact of sensitivities against the headroom; • Confirmed the terms and conditions of any loan covenants; • Assessed the likelihood and impact of mitigating factors identified by reference to supporting documentation and discussions with management; • Compared post year-end performance against forecasts; and • Assessed the adequacy of related disclosures within the annual report.

Independent auditor's report to the members of Haydale Graphene Industries Plc continued

Key Audit Matter – Group	*How our scope addressed the matter – Group*
Relevant disclosures in the Annual Report and Accounts 2021 • Financial statements: Note 1, Going Concern; • Directors' Report: page 13.	Our results Management's Breakpoint model identified that revenue would need to fall by 72% compared to that recognised in the year ended 2021 for there to be a going concern issue. Such a severe scenario is not considered plausible by management based on post year-end performance and expected future revenues. Based on our audit work, we are satisfied that the assumptions made in management's assessment of the use of the going concern assumption in preparation of financial statements were appropriate. We consider that the group's disclosure to be in accordance with IAS 1.
Valuation of goodwill We identified valuation of goodwill in relation to Haydale Ceramic Technologies LLC ('HCT') as one of the most significant assessed risks of material misstatement due to error. HCT specialises in silicon carbide products rather than graphene or other nano-materials and hence has a different customer base to other parts of the group with different opportunities/challenges. This more mature part of the business remains exposed to the ongoing impact of Covid-19 and continuing losses have been recognised in HCT, and hence the valuation of goodwill is deemed a significant risk. HCT is considered to be a single cash-generating unit ('CGU'). Within the HCT CGU there is goodwill of £1.0m and other assets of £6.1m giving rise to a carrying value of £7.1m for the HCT CGU as a whole.	In responding to the key audit matter, we performed the following audit procedures: • Spoke with management and key operational personnel to update our understanding of HCT's performance; • Examined and sensitised management's value in use model underpinning their impairment assessment, identifying the key assumptions; • Examined management's model and considered the accounting policy to ensure compliance with IAS 36 'Impairment'; • Assessed revenue growth rates in years 1 to 5 along with the long-term revenue growth rate and challenged the feasibility of meeting those forecasts, which included examining the existing customer base, existing orders and external market data, such as third party assessments of the global market; • Assessed the discount rate used by management with the assistance of one of our valuation experts; and • Asked management to prepare a Breakpoint model so that they could identify the changes in circumstances and/or assumptions that would result in an impairment and whether those changes were plausible; and • Assessed the adequacy of related disclosures within the annual report.

Key Audit Matter – Group	*How our scope addressed the matter – Group*
Relevant disclosures in the Annual Report and Accounts 2022 • Financial statements: Note 1 n) Critical accounting estimates and judgements; Note 10, Intangible Assets.	Our results Management's key assumption is that HCT will return to pre-Covid-19 levels of revenue (being FY 2019) by 2023. Our assessment and challenge of revenue growth concluded that this was a reasonable assumption but given the sensitivity to forecast growth rates, one that required additional disclosure in line with IAS 36.

Key Audit Matter – Parent company	*How our scope addressed the matter– Parent company*
Valuation of investment in subsidiaries and intercompany receivables We identified valuation of investment in subsidiaries and intercompany receivables as one of the most significant assessed risks of material misstatement due to error given the identified risks in relation to Going Concern and Impairment of goodwill. Investments in subsidiaries amount to £1.5m of which £720k relates to HL, £413k relates to HTI and £278k relates to HTT, with other smaller balances noted. Intercompany receivables amount to £6.2m of which £3.9m relates to HTI, £1.2m relates to HL and £670k relates to HCT, with smaller balances noted.	In responding to the key audit matter, we performed the following audit procedures: • In relation to investments our work we examined and sensitised management's model underpinning their impairment assessment, identifying the key assumptions; • Examined management's model and considered the accounting policy to ensure compliance with IAS 36 'Impairment'; • Assessed revenue growth rates in years 1 to 5 along with the long-term revenue growth rate and challenging on the feasibility of meeting those forecasts which included examining the existing customer base, existing orders and external market data, such as third party assessments of the global market; • Assessed the discount rate used by management with the assistance of one of our valuation experts; • Considered alternative sources of evidence in relation to fair value less costs of disposal by considering the Group's market capitalisation and that of other similar listed entities; • In relation to intercompany receivables the key balances relate to a £3.9m receivable from Haydale Technologies Incorporated LLC, the parent company of HCT and a £670k receivable from HCT, and hence our work performed to address the Group risk of valuation of Goodwill informed our conclusions when considering the requirements of IFRS 9 'Financial Instruments'; and • Assessed the adequacy of related disclosures within the annual report.
Relevant disclosures in the Annual Report and Accounts 2021 • Financial statements: Note 2, Accounting policies, Note 6 Fixed asset investments, Note 7 debtors.	Our results Based on our work we concluded that management's judgement that no impairment was required as at 30 June 2021 was reasonable.

Independent auditor's report to the members of Haydale Graphene Industries Plc continued

Our application of materiality

We apply the concept of materiality both in planning and performing the audit, and in evaluating the effect of identified misstatements on the audit and of uncorrected misstatements, if any, on the financial statements and in forming the opinion in the auditor's report.

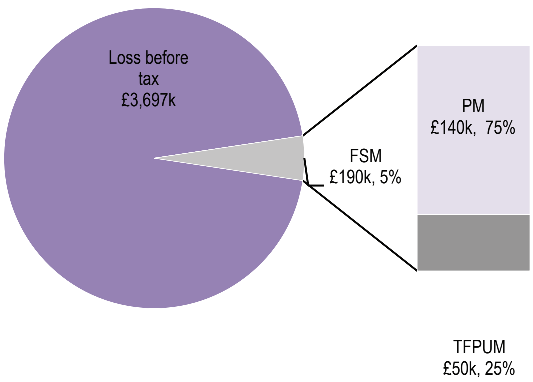
Materiality was determined as follows:

Materiality measure	*Group*	*Parent company*
Materiality for financial statements as a whole	We define materiality as the magnitude of misstatement in the financial statements that, individually or in the aggregate, could reasonably be expected to influence the economic decisions of the users of these financial statements. We use materiality in determining the nature, timing and extent of our audit work.	
Materiality threshold	£190,000, which is approximately 5% of loss before tax.	£150,000, which is 2% of total assets.
Significant judgements made by auditor in determining materiality	We have used loss before tax as our materiality benchmark. This is consistent with the prior year. This benchmark is considered the most appropriate because this is a key measure used by the Directors to report to investors on the financial performance of the Group. Materiality for the current year is lower than the level that we determined for the year ended 30 June 2020 to reflect the lower loss before tax.	We have used total assets as our materiality benchmark. This is consistent with the prior year. This benchmark is considered the most appropriate because its principal activity is that of a holding company (with the largest financial statement line items being investments and intercompany balances). Materiality for the current year is higher than the level that we determined for the year ended to reflect an increase in total assets.
Performance materiality used to drive the extent of our testing	We set performance materiality at an amount less than materiality for the financial statements as a whole to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds materiality for the financial statements as a whole.	
Performance materiality threshold	£140,000, which is 75% of financial statement materiality.	£110,000, which is 75% of financial statement materiality.
Significant judgements made by auditor in determining performance materiality	The determination of performance materiality involves the exercise of professional judgement. In determining performance materiality, we made the following significant judgments: • Our risk assessment – based on the results of our risk assessment procedures, we considered the group's overall control environment to be effective; • Our experience with auditing the financial statement of the group in previous years – based on the identification of few misstatements and management's attitude to correcting misstatements identified; and	In determining performance materiality, along with those significant judgements made at group level, we considered the requirement that the parent company performance materiality should be incrementally below the group's performance materiality.

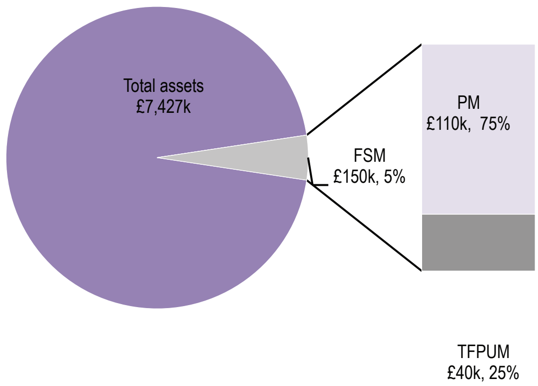
Materiality measure	*Group*	*Parent company*
	• The number of components within the group and the extent of audit procedures planned and performed at these components.	
Specific materiality	We determine specific materiality for one or more particular classes of transactions, account balances or disclosures for which misstatements of lesser amounts than materiality for the financial statements as a whole could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.	
Specific materiality	We determined a lower level of specific materiality for the following areas: • Related party transactions, including Directors remuneration and related disclosures.	We determined a lower level of specific materiality for the following areas: • Related party transactions, including Directors remuneration and related disclosures.
Communication of misstatements to the audit committee	We determine a threshold for reporting unadjusted differences to the audit committee.	
Threshold for communication	£9,500 and misstatements below that threshold that, in our view, warrant reporting on qualitative grounds.	£7,500 and misstatements below that threshold that, in our view, warrant reporting on qualitative grounds.

The graph below illustrates how performance materiality interacts with our overall materiality and the tolerance for potential uncorrected misstatements.

Overall materiality – Group



Overall materiality – Parent company



FSM: Financial statements materiality, PM: Performance materiality, TFPUM: Tolerance for potential uncorrected misstatements.

An overview of the scope of our audit

We performed a risk-based audit that requires an understanding of the group's and the parent company's business and in particular matters related to:

Understanding the group, its components, and their environments, including group-wide controls

- The engagement team obtained an understanding of the group and its environment, including group-wide controls, and assessed the risks of material misstatement at the group level; and
- The engagement team obtained an understanding of the effect of the group organisational structure on the scope of the audit, identifying that the group financial reporting system is centralised and that there is a use of management experts where required.

Independent auditor's report to the members of Haydale Graphene Industries Plc continued

Identifying significant components

- Significant components were identified through assessing their relative share of key financial metrics including total revenue, total expenses, absolute loss before taxation, total assets and total liabilities.
- Other components were selected where we determined there to be a specific risk profile in those components and were included in the scope of our group reporting work in order to provide sufficient coverage over the group's results. For these components, an audit of one or more account balances or class of transactions (specific scope procedures) was performed.
- All other components of the group were selected as 'neither significant nor material' and analytical procedures performed.

Performance of our audit

- The majority of the year-end audit was conducted remotely due to Covid-19 restrictions and social distancing requirements. This was supported through the use of software collaboration platforms for the secure and timely delivery of requested audit evidence.
- Despite restrictions, we were still able to physically attend and observe the year end inventory count in the US and UK.

Type of work to be performed on financial information of parent and other components (including how it addressed the key audit matters)

- Performance of full-scope audits of the financial information of Haydale Graphene Industries Plc, Haydale Limited, Haydale Composite Solutions Limited and Haydale Ceramic Solutions.
- Specific-scope audit procedures were performed for Haydale Technologies Thailand Limited and Haydale Technologies Incorporated LLC.
- Analytical procedures were performed for all other components using group materiality.

Audit approach	*No. of components*	*% coverage total assets*	*% coverage revenue*	*% coverage LBT*
Full-scope audit	4	97	89	93
Specific-scope audit	2	–	5	6
Analytical procedures	3	3	6	1

Other information

The directors are responsible for the other information. The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Our opinion on other matters prescribed by the Companies Act 2006 is unmodified

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the strategic report and the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and the directors' report have been prepared in accordance with applicable legal requirements.

Matter on which we are required to report under the Companies Act 2006

In the light of the knowledge and understanding of the group and the parent company and its environment obtained in the course of the audit, we have not identified material misstatements in the strategic report or the directors' report.

Matters on which we are required to report by exception

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent company financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

Responsibilities of directors for the financial statements

As explained more fully in the directors' responsibilities statement, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the group's and the parent company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or the parent company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Explanation as to what extent the audit was considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. Owing to the inherent limitations of an audit, there is an unavoidable risk that material misstatements in the financial statements may not be detected, even though the audit is properly planned and performed in accordance with ISAs (UK).

In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, our procedures included the following:

- We enquired of management, the finance team and the Board of Directors about the Group's and Company's policies and procedures relating to the identification, evaluation and compliance with laws and regulations and the detection and response to the risks of fraud and the establishment of internal controls to mitigate risks related to fraud or non-compliance with laws and regulations;
- We obtained an understanding of the legal and regulatory frameworks that are applicable to the Group and Company. We determined that the most significant frameworks that are directly relevant to specific assertions in the financial statements are those related financial reporting and taxation laws, being international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union, international accounting standards in conformity with the requirements of the Companies Act 2006, Financial Reporting Standard 101 (for the Company), and the Companies Act 2006. In addition, we concluded that health and safety laws and regulations may have an effect on the determination of the amounts and disclosures in the financial statements;
- We enquired of management and the Board of Directors whether they were aware of any instances of non-compliance with laws and regulations and whether they had any knowledge of actual, suspected or alleged fraud;

Independent auditor's report to the members of Haydale Graphene Industries Plc continued

- We assessed the susceptibility of the Group's and Company's financial statements to material misstatement including how fraud might occur and the risk of management override of controls. Audit procedures performed by the engagement team included:
  - Team communications in respect of potential non-compliance with laws and regulations and fraud which included the evaluation of the risk of management override of controls, principally in relation to the potential bias when considering going concern and the impairment of goodwill and investments;
  - Enquiring of management, the finance team and the Board about the risks of fraud at the Group and Company and the controls implemented to address those risks. Assessing the design and implementation of controls relevant to the audit that management has in place to prevent and detect fraud, including updating our understanding of the internal controls over journal entries, including those related to the posting of non-standard entries used to record non-recurring, unusual transactions or other non-routine adjustments;
  - Making specific inquiries of each member of the finance team to ascertain whether they had been subject to undue pressure or had been asked to make any unusual postings or modifications to reports used in financial reporting;
  - Identifying and testing journal entries selected based on risk profiling;
  - Running specific keyword searches (including to related parties and of those previously connected to related entities) over the journal entry population to identify descriptions that could indicate fraudulent activity or management override of controls. In addition, journal entries by user were evaluated to identify types of entries posted that were not in line with expectations of their role. Unusual entries noted from these searches were agreed to supporting documentation to verify the validity of the posting;
  - Planning specific procedures responding to the risk of fraudulent recognition of revenue;
  - We also assessed the disclosures within the annual report including principal risks;
  - Challenging assumptions and judgements made by management in its significant accounting estimates (as referenced in the Key Audit Matters section above); and
  - Identifying and testing related party transactions.
- In assessing the potential risks of material misstatement, we obtained an understanding of the Group's and Company's operations, including the nature of income sources and of its objectives and strategies in order to understand the classes of transactions, account balances, expected financial statement disclosures and business risks that may result in risks of material misstatement;
- These audit procedures were designed to provide reasonable assurance that the financial statements were free from fraud or error. However, detecting irregularities that result from fraud is inherently more difficult than detecting those that result from error, as those irregularities that result from fraud may involve collusion, deliberate concealment, forgery or intentional misrepresentations; and
- Assessment of the appropriateness of the collective competence and capabilities of the engagement team included consideration of the engagement team's understanding of, and practical experience with, audit engagements of a similar nature and complexity.

Use of our report

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Christopher Smith
Senior Statutory Auditor
for and on behalf of Grant Thornton UK LLP
Statutory Auditor, Chartered Accountants
Oxford
14 December 2021

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
For the year ended 30 June 2021

	Note	Year ended 30 June 2021 £' 000	Year ended 30 June 2020 £' 000
REVENUE	4	**2,903**	2,947
Cost of sales		**(924)**	(885)
Gross profit		**1,979**	2,062
Other operating income	5	**575**	756
Adjusted Administrative expenses		**(4,724)**	(5,357)
Adjusted operating loss		**(2,170)**	(2,539)
Adjusting administrative items:			
Share based payment income/(expense)		**(119)**	11
Restructuring costs	6	**–**	(63)
Depreciation and amortisation		**(1,271)**	(1,640)
		(1,390)	(1,692)
Total trading administrative expenses		**(6,114)**	(7,049)
LOSS FROM OPERATIONS		**(3,560)**	(4,231)
Total administrative expenses		**(6,114)**	(7,049)
LOSS FROM OPERATIONS		**(3,560)**	(4,231)
Finance costs		**(211)**	(176)
LOSS BEFORE TAXATION	6	**(3,771)**	(4,407)
Taxation	8	**363**	391
LOSS FOR THE YEAR FROM CONTINUING OPERATIONS		**(3,408)**	(4,016)
Other comprehensive income:			
Items that may be reclassified to profit or loss:			
Exchange differences on translation of foreign operations		**(368)**	82
Items that will not be reclassified to profit or loss:			
Remeasurements of defined benefit pension schemes		**208**	(291)
TOTAL COMPREHENSIVE LOSS FOR THE YEAR FROM CONTINUING OPERATIONS		**(3,568)**	(4,225)
Loss for the year attributable to:			
Owners of the parent		**(3,408)**	(4,016)
Total comprehensive loss attributable to:			
Owners of the parent		**(3,568)**	(4,225)
Loss per share attributable to owners of the Parent			
Basic (£)	9	**(0.01)**	(0.01)
Diluted (£)	9	**(0.01)**	(0.01)

The notes from pages 39 to 67 form part of these financial statements.

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

As at 30 June 2021

Company Registration No. 07228939

	Note	30 June 2021 £' 000	30 June 2010 £' 000
ASSETS			
Non-current assets			
Goodwill	10	**1,341**	1,454
Intangible assets	10	**1,174**	1,145
Property, plant and equipment	11	**6,622**	6,407
		9,137	9,006
Current assets			
Inventories	12	**1,328**	1,712
Trade receivables	13	**715**	886
Other receivables	14	**595**	334
Corporation tax	14	**364**	384
Cash and bank balances		**1,644**	823
		4,646	4,139
TOTAL ASSETS		**13,783**	13,145
LIABILITIES			
Non-current liabilities			
Bank loans	20	**844**	304
Pension Obligation	26	**1,026**	1,435
Other payables	19	**2,370**	1,031
		4,240	2,770
Current liabilities			
Bank loans	20	**885**	944
Trade and other payables	19	**1,719**	1,906
Deferred income	15	**180**	74
		2,784	2,924
TOTAL LIABILITIES		**7,024**	5,694
TOTAL NET ASSETS		**6,759**	7,451
EQUITY			
Capital and reserves attributable to equity holders of the parent			
Share capital	16	**8,505**	6,804
Share premium account	16	**28,820**	27,764
Share-based payment reserve		**250**	131
Foreign exchange reserve		**(386)**	(18)
Retained losses		**(30,430)**	(27,230)
TOTAL EQUITY		**6,759**	7,451

The financial statements on pages 35 to 67 were approved and authorised for issue by the Board of directors on 14 December 2021 and signed on its behalf by:

David Banks
Chair

Keith Broadbent
Chief Executive Officer

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

For the year ended 30 June 2021

	Share capital £' 000	Share premium £' 000	Share-based payment reserve £' 000	Foreign exchange reserve £' 000	Retained losses £' 000	Total equity £' 000
At 1 July 2019	6,354	27,764	828	(100)	(23,595)	11,251
Comprehensive Loss for the year						
Loss for the year	–	–	–	–	(4,016)	(4,016)
Other comprehensive loss	–	–	–	82	(291)	(209)
Total Comprehensive loss	6,354	27,764	828	(18)	(27,902)	7,026
Contributions by and distributions to owners						
Recognition of share-based payments	–	–	(11)	–	–	(11)
Share based payment charges – lapsed options	–	–	(686)	–	686	–
Issue of ordinary share capital	450	–	–	–	–	450
Transaction costs in respect of share issues	–	–	–	–	(14)	(14)
At 30 June 2020	6,804	27,764	131	(18)	(27,230)	7,451
Comprehensive Loss for the year						
Loss for the year	–	–	–	–	(3,408)	(3,408)
Other comprehensive loss	–	–	–	(368)	208	(160)
Total comprehensive loss	6,804	27,764	131	(386)	(30,430)	3,883
Contributions by and distributions to owners						
Recognition of share-based payments	–	–	119	–	–	119
Issue of ordinary share capital	1,701	1,276	–	–	–	2,977
Transaction costs in respect of share issues	–	(220)	–	–	–	(220)
At 30 June 2021	**8,505**	**28,820**	**250**	**(386)**	**(30,430)**	**6,759**

CONSOLIDATED STATEMENT OF CASH FLOWS
For the year ended 30 June 2021

	Note	**Year ended 30 June 2021 £'000**	Year ended 30 June 2020 £'000
Cash flow from operating activities			
Loss before taxation		**(3,408)**	(4,016)
Adjustments for:–			
Amortisation of intangible assets	10	**176**	129
Depreciation of property, plant and equipment	11	**1,096**	1,511
Profit on disposal of plant and equipment and F&F		**78**	–
Share-based payment charge	17	**119**	(11)
Finance costs		**211**	176
Pension – net interest expense	26	**47**	24
Taxation		**(363)**	(391)
Operating cash flow before working capital changes		**(2,044)**	(2,578)
Decrease/(increase) in inventories		**384**	(531)
(Increase) in trade and other receivables		**(90)**	(111)
Increase/(decrease) in payables and deferred income		**174**	(104)
Cash used in operations		**(1,576)**	(3,324)
Income tax received		**383**	847
Net cash used in operating activities		**(1,193)**	(2,477)
Cash flow used in investing activities			
Purchase of plant and equipment		**(220)**	(44)
Capitalised of Intangible Assets		**(260)**	(251)
Net cash used in investing activities		**(480)**	(295)
Cash flow used in financing activities			
Finance costs		**(95)**	(94)
Finance costs – right of use asset		**(116)**	(82)
Payment of lease liability		**(591)**	(631)
Proceeds from issue of share capital	16	**2,977**	450
Share capital issues costs allocated against share premium	16	**(220)**	–
New bank loans raised	29	**800**	50
Repayments of borrowings	29	**(219)**	(835)
Net cash flow from financing activities		**2,536**	(1,142)
Effects of exchange rates changes		**(42)**	49
Net (decrease) in cash and cash equivalents		**821**	(3,865)
Cash and cash equivalents at beginning of the financial year		**823**	4,688
Cash and cash equivalents at end of the financial year		**1,644**	823

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
For the year ended 30 June 2021

1. Accounting policies
Basis of preparation
The Group consolidated financial statements have been prepared in accordance with International Financial Reporting Standards, International Accounting Standards and Interpretations (collectively "IFRSs") and with the requirements of the Companies Act 2006.

The Group's financial statements have been prepared under the historical cost convention.

The consolidated financial statements are presented in sterling amounts.

Amounts are rounded to the nearest thousands, unless otherwise stated.

Under Section 479A of the Companies Act 2006, exemptions from an audit of the accounts for the financial year ended 30 June 2020 have been taken by Haydale Limited (04790862) and Haydale Composite Solutions Limited (02675462). As required, the Company guarantees all outstanding liabilities to which the subsidiary companies listed above are subject at the end of the financial year, until they are satisfied in full and the guarantee is enforceable against the parent undertaking by any person to whom the subsidiary companies listed above is liable in respect of those liabilities.

Basis of consolidation
The consolidated financial statements incorporate the financial statements of the Company and entities controlled by the Company made up to the reporting date. The Company controls an investee if all three of the following elements are present: power over the investee, exposure to variable returns over the investee, and the ability of the investee to use its power to affect the variable returns. Control is reassessed whenever facts and circumstances indicate that there may be a change in any of these elements of control. All intra-group transactions, balances, income and expenditure are eliminated on consolidation. The consolidated financial statements have been prepared using the acquisition method of accounting.

Under the acquisition method, the results of the subsidiaries acquired or disposed of are included from the date of acquisition or up to the date of disposal. At the date of acquisition, the fair values of the subsidiaries' net assets are determined, and these values are reflected in the Consolidated Financial Information. The cost of acquisitions is measured at the aggregate of the fair values, at the date of exchange, of assets given, liabilities incurred or assumed, and equity instruments issued by the Haydale Graphene Industries Group in exchange for control of the acquisition. Any excess of the purchase consideration of the business combination over the fair value of the identifiable assets and liabilities acquired is recognised as goodwill. Goodwill, if any, is not amortised, but reviewed for impairment at least annually. If the consideration is less than the fair value of assets and liabilities acquired, the difference is recognised directly in the statement of comprehensive income. Acquisition-related costs are expensed as incurred.

Going concern
The Group consolidated financial statements are prepared on a going concern basis which the Directors believe continues to be appropriate.

As part of this assessment the Directors have considered several scenarios based on various revenue, cost and funding sensitivities.

Revenue
Various sensitivities have been applied to forecasted revenue including a stress test scenario which reduces forecasted revenue by circa 72 per cent to the point where the Group would breach its available cash resources at the 31 December 2022. With respect to this 'stress test' the Group has a significant proportion of that sensitised revenue within forward orders, contractual or some other form of customer assurance which have a high degree of certainty.

Cost Mitigation
The Directors have included some low-level assumptions regarding cost savings that might be achievable if the forecast fails to meet the forecasted or sensitised estimates and these have been phased in gradually over the 12-month period to 31 December 2022.

Customer Solvency
As part of this review the Directors have assessed the solvency of key customers and their ability to deliver on their contractual or other commitments on the basis of publicly available information and included the results of these assessments in our forecasts.

1. Accounting policies (continued)

Summary

Therefore, after due consideration of the forecasts prepared, the sensitivities applied and the Group's current cash resources after the fund raise in September 2021 and the terms of its debt facilities the directors consider that the Company and the Group have adequate financial resources to continue in operational existence for the foreseeable future (being a period of at least 12 months from the date of this report), and for this reason the financial statements have been prepared on the going concern basis.

2. Changes in accounting policies

There are no change of accounting policies during the year.

3. Summary of significant accounting policies

a) Intangible assets

Research and development expenditure

Research expenditure is recognised as an expense when it is incurred.

Development expenditure is recognised as an expense except that costs incurred on development projects are capitalised as intangible assets to the extent that such expenditure is expected to generate future economic benefits. Development expenditure is capitalised if, and only if an entity within the Group can demonstrate all of the following:–

i) its ability to measure reliably the expenditure attributable to the asset under development;

ii) the product or process is technically and commercially feasible;

iii) its future economic benefits are probable;

iv) its ability to use or sell the developed asset;

v) the availability of adequate technical, financial and other resources to complete the asset under development; and

vi) its intention to use or sell the developed asset.

Capitalised development expenditure is measured at cost less accumulated amortisation and impairment losses, if any. Development expenditure initially recognised as an expense will not be restated as an asset in a subsequent period.

Historic capitalised development expenditure is amortised on a straight-line basis over a period of up to 20 years when the products or services are ready for sale or use. The maximum 20 years amortisation period is based on UK Patents being 20 years from the date of filing of the application, under Article 60 of the European Patent Convention, and, although the Group now has patents granted in other jurisdictions, the Directors believe that 20 years is appropriate. New projects will be reviewed on completion, to determine the useful economic life. In the event that it is no longer probable that the expected future economic benefits will be recovered, the development expenditure is written down to its recoverable amount. Amortisation is included within administrative expenses.

Acquired intangible assets

An intangible resource acquired with a subsidiary undertaking is recognised as an intangible asset if it is separable from the acquired business or arises from contractual or legal rights, is expected to generate future economic benefits and its fair value can be measured reliably. Acquired intangible assets (excluding development expenditure which is in line with the above policy), including customer relationships, are amortised through the Consolidated Statement of Comprehensive Income on a straight-line basis over their estimated economic lives of ten years.

Goodwill

Business combinations are accounted for by applying the purchase method. The cost of a business combination is a fair value of the consideration given, liabilities incurred or assumed and of equity instrument issued. Where control is achieved in stages the cost is a consideration at the date of each transaction.

Contingent consideration is initially recognised at estimated amount where the consideration is probable and can be measured reliably. Where (i) the contingent consideration is not considered probable or cannot be reliably measured but subsequently becomes probable or (ii) contingent consideration previously measured is adjusted, the amounts are recognised as an adjustment to the cost of the business combination if the remeasurement occurs within a year of the transaction and relates to information that was available at the point of acquisition. Otherwise, any remeasurements of contingent consideration is reflected in the statement of comprehensive income.

On acquisition of a business, fair values are attributed to the identifiable assets, liabilities and contingent liabilities unless the fair value cannot be measured reliably, in which case the value is incorporated in goodwill. Where the fair value of contingent liabilities cannot be reliably measured they are disclosed on the same basis as other contingent liabilities.

Goodwill recognised represents the excess of the fair value and directly attributable costs of the purchase consideration over the fair value to the Group's interest in the identifiable net assets, liabilities and contingent liabilities acquired.

b) Impairment of goodwill and other non-financial assets

The carrying value of goodwill, and the cash-generating unit to which it relates, is reviewed at the end of each reporting period for impairment regardless of whether there is an indication that the asset may be impaired. Other non-financial assets are considered for indicators of impairment at each reporting date and full impairment reviews carried out if indicators of impairment exist. Impairment is measured by comparing the carrying values of the assets with their recoverable amounts. The recoverable amount of the assets is the higher of the assets' fair value less costs to sell and their value-in-use, which is measured by reference to discounted future cash flow. An impairment loss is recognised in administrative expenses within the Statement of Comprehensive Income immediately it is identified.

In respect of assets other than goodwill, and when there is a change in the estimates used to determine the recoverable amount, a subsequent increase in the recoverable amount of an asset is treated as a reversal of the previous impairment loss and is recognised to the extent of the carrying amount of the asset that would have been determined (net of amortisation and depreciation) had no impairment loss been recognised. The reversal is recognised in profit or loss immediately.

c) Revenue

To determine whether to recognise revenue, the Group follows a five step process:

1. Identifying the contract with a customer
2. Identifying the performance obligations
3. Determining the transaction price
4. Allocating the transaction price to the performance obligations
5. Recognising revenue when/as performance obligation(s) are satisfied.

Revenue arises mainly as:

i) Goods (including Reactor sales)

Revenue represents sales to external customers at invoiced amounts less value added tax or local taxes on sales. Revenue is recognised at the point where control is considered to pass to the customer typically on delivery or customer acceptance, and all performance obligations have been fulfilled. In all instances the transaction price is agreed with the customer prior to transfer of goods on a stand-alone basis.

ii) Services

Engineering design and research revenue is recognised on the percentage of completion method unless the outcome of the contract cannot be reliably determined, in which case contract revenue is only recognised to the extent of contract costs incurred that are recoverable. Foreseeable losses, if any, are provided for in full as and when it can be reasonably ascertained that the contract will result in a loss.

The group recognises revenue over time based upon the percentage of completion input method, whereby the stage of completion is determined based on the proportion of contract costs incurred compared to total estimated costs. In all cases, the total transaction price for a contract is allocated amongst the various performance obligations based on their relative stand-alone prices.

At each reporting period, receivables are recognised for revenues yet to be invoiced or settled to the extent that it is highly probable that there will not be a significant reversal of the amounts accrued in the future.

Where invoices are raised to the client in excess of the value of the consideration recognised as revenue based on the stage of completion, deferred income balances are recorded that represent unfulfilled performance obligations. These performance obligations are expected to be fulfilled within a year of the reporting date.

3. Summary of significant accounting policies (continued)

d) Financial instruments

i) Financial assets

Financial assets and financial liabilities are recognised in the group balance sheet when the group becomes a party to the contractual provisions of the instrument. Financial assets are classified as either fair value through profit or loss, fair value through other comprehensive income, or amortised cost. Classification and subsequent re-measurement depends on the group's business model for managing the financial asset and its cash flow characteristics. The Group has financial assets in the categories of amortised cost only. The Group does not have financial assets at fair value through other comprehensive income or fair value through profit or loss. Detailed disclosures are set out in note 22.

ii) Amortised cost

These assets arise principally from the provision of goods and services to customers (such as loans and trade receivables), but also incorporate other types of financial assets where the objective is to hold these assets in order to collect contractual cash flows and the contractual cash flows are solely payments of principal and interest. They are initially recognised at fair value once the Group's right to consideration is unconditional and are subsequently carried at amortised cost using the effective interest rate method, less provision for impairment.

Impairment provisions for trade receivables are recognised based on the simplified approach within IFRS 9 using the lifetime expected credit losses. During this process, the probability of the non-payment of trade receivables is assessed. This probability is then multiplied by the amount of the expected loss arising from default to determine the lifetime expected credit loss for the trade receivables. For trade receivables, such provisions are recorded in a separate provision account with the loss being recognised in the income statement. On confirmation that the trade receivable will not be collectable, the gross carrying value of the asset is written off against the associated provision.

Impairment provisions for other receivables are recognised based on a forward-looking expected credit loss model. The methodology used to determine the amount of the provision is based on whether at each reporting date, there has been a significant increase in credit risk since initial recognition of the financial asset. For those financial assets where the credit risk has not increased significantly since initial recognition, twelve month expected credit losses along with gross interest income are recognised. For those for which credit risk has increased significantly, lifetime expected credit losses along with the gross interest income are recognised. For those that are determined to be credit impaired, lifetime expected credit losses along with interest income on a net basis are recognised.

iii) Financial liabilities:

Financial liabilities are comprised of trade and other payables, borrowings and other short-term monetary liabilities, which are recognised at amortised cost.

Trade payables, other payables and other short-term monetary liabilities, are initially recognised at fair value and subsequently carried at amortised cost using the effective interest method.

Borrowings are recognised initially at fair value, net of transaction costs incurred. Borrowings are subsequently carried at amortised cost; any difference between the proceeds (net of transaction costs) and the redemption value is recognised in the income statement over the period of the borrowings using the effective interest method.

Fees paid on the establishment of loan facilities are recognised as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the draw-down occurs. To the extent there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalised as a pre-payment for liquidity services and amortised over the period of the facility to which it relates.

e) Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and impairment losses, if any. The cost of an item of property, plant and equipment initially recognised includes its purchase price and any cost that is directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.

Depreciation is calculated under the straight-line method to write off the depreciable amount of the assets over their estimated useful lives. The principal annual rates used for this purpose are:–

Leasehold improvements	10-20% per annum straight line
Plant and machinery	15-33% per annum straight line

US Plant and machinery	Time in use
Furniture and fittings	20-33% per annum straight line
Motor vehicles	33% per annum straight line

The depreciation method, useful lives and residual values are reviewed, and adjusted if appropriate, at the end of each reporting period to ensure that the amounts, method and periods of depreciation are consistent with previous estimates and the expected pattern of consumption of the future economic benefits embodied in the items of the property, plant and equipment.

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when the cost is incurred and it is probable that the future economic benefits associated with the asset will flow to the Group and the cost of the asset can be measured reliably. The carrying amount of parts that are replaced is derecognised. The costs of the day-to-day servicing of property, plant and equipment are recognised in profit or loss as incurred. Cost also comprises the initial estimate of dismantling and removing the asset and restoring the site on which it is located for which the Group is obligated to incur when the asset is acquired, if applicable.

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected from its use or disposal. The gain or loss on retirement or disposal is determined as the difference between any sales proceeds and the carrying amounts of the asset and is recognised in the Statement of Comprehensive Income within administrative expenses.

f) Income taxes

The charge for taxation is based on the loss for the period and takes into account deferred taxation.

Current tax is measured at amounts expected to be paid using the tax rates and laws that have been enacted by the balance sheet date. The substantively enacted rate has been used for deferred tax balances, which are recognised in respect of all timing differences that have been originated but not reversed by the reporting date, except that the recognition of deferred tax assets is limited to the extent that the Company anticipates making sufficient taxable profits in the future to absorb the reversal of the underlying timing differences.

The Group receives research and development tax credits for the work it performs in the field of nano-technology. Using the SME and large company schemes, these credits generate cash reimbursement in exchange for the sacrifice of applicable losses, such tax credits are recognised in income tax within the Statement of Comprehensive Income, in the period in which they relate.

g) Cash and cash equivalents

Cash and cash equivalents comprise cash in hand, bank balances, deposits with financial institutions and short-term, highly liquid investments that are readily convertible to known amounts of cash, are subject to an insignificant risk of changes in value and have maturities of 3 months or less from inception.

h) Inventories

Inventories are recorded at the lower of cost and net realisable value. Cost represents materials, direct labour, other direct costs and related production overheads, and is determined on the First-In-First-Out (FIFO) method. Net realisable value is based on estimated selling price, less further costs expected to be incurred to completion and disposal. Provision is made for slow-moving, obsolete and defective inventories where appropriate.

The value of inventories used in the fulfilment of commercial or developmental programmes are charged to cost of sales in the Statement of Comprehensive Income on an accruals basis.

i) Employee benefits

i) Short-term benefits

Wages, salaries, paid annual leave and sick leave, bonuses and non-monetary benefits are accrued in the period in which the associated services are rendered by employees of the Group.

ii) Defined contribution plans

The Group's contributions to defined contribution plans are recognised in profit or loss in the period to which they relate. Once the contributions have been paid, the Group has no further liability in respect of the defined contribution plans.

3. Summary of significant accounting policies (continued)

iii) Defined Benefit Pension plans

The group accounts for its defined benefit pension scheme such that the net pension scheme position is reported on the balance sheet with actuarial gains and losses being recognised directly in equity through the statement of comprehensive income. A number of key assumptions have been made in calculating the fair value of the group's defined benefit pension scheme which affect the balance sheet position and the group's reserves and income statement. Refer to note 26 of the notes to the consolidated accounts for a summary of the main assumptions and sensitivities. Actual outcomes may differ materially from the assumptions used and may result in volatility in the net pension scheme position.

j) Provisions

Provisions are recognised when the Group has a present or constructive obligation as a result of past events, when it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and when a reliable estimate of the amount can be made. Provisions are reviewed at the end of each financial reporting period and adjusted to reflect the current best estimate. Where the effect of the time value of money is material, the provision is the present value of the estimated expenditure required to settle the obligation.

k) Government grants

Revenue grants are accounted for under the accruals model, with grants being recognised within Other operating income on a systematic basis over the period in which the group recognised the related costs for which the grant is intended to compensate. Grants received in advance of the income being recognised in the Statement of Comprehensive Income are included in grant creditors.

When grant income is received for capital expenditure, it is held as deferred income on the balance sheet and released on a straight line basis over the useful economic life of the asset to which it relates. All income relating to government grants is included as 'Other operating income' within the Statement of Comprehensive Income.

l) Share-based payment arrangements

Equity-settled share-based payments to employees and others providing similar services are measured at the fair value of the equity instruments at the grant date. Details regarding the determination of the fair value of equity-settled share-based transactions are set out in note 17 to the Consolidated Financial Statements.

The fair value determined at the grant date of the equity-settled share-based payments is expensed on a straight-line basis over the vesting period, with a corresponding increase in equity. At the end of each reporting period, the Group revises its estimate of the number of equity instruments expected to vest. The impact of the revision of the original estimates, if any, is recognised in profit or loss such that the cumulative expense reflects the revised estimate, with a corresponding adjustment to other reserves.

m) Leases

Leased assets

For any new contract entered into on or after 1 July 2019, the Group considers whether a contract is, or contains a lease. A lease is defined as 'a contract, that conveys the right to use an asset for a period of time in exchange for consideration'. To apply this definition the Group assesses whether the contract meets all three key criteria which are whether;

- The contract contains an identified asset, which is either explicitly identified in the contract or implicitly specified by being identified at the time the asset is made available to the Group.
- The Group has the right to obtain substantially all of the economic benefits from use of the identified asset throughout the period of use, considering its rights within the defined scope of the contract.
- The Group has the right to direct the use of the identified asset throughout the period of use. The Group assesses whether it has the right to direct 'how and for what purpose' the asset is used throughout the period of use.

Measurement and recognition of lease as a lessee

At lease commencement date, the Group recognises a right-of-use asset and a lease liability on the balance sheet. The right-of-use asset is measured at cost, which is made up of the initial measurement of the lease liability, any initial direct costs incurred by the Group, an estimate of any costs to dismantle and remove the asset at the end of the lease, and any lease payment made in advance of the lease commencement date (net of any incentives received).

The Group depreciates the right-of-use assets on a straight line basis from the lease commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term. The Group also assesses the right-of-use asset for impairment when such indicators exist.

At the commencement date, the Group measures the lease liability at the present value of the lease payment unpaid at that date, discounted using the interest rate implicit in the lease if that rate is readily available or the Group's incremental borrowing rate.

Lease payments included in the measurement of the lease liability are made up of fixed payments, variable payments based on an index or rate, amounts expected to be payable under a residual value guarantee and payments arising from options reasonably certain to be exercised.

Subsequent to initial measurement, the liability will be reducing for payment made and increased for interest. It is remeasured to reflect any reassessment or modification, or if there are changes in in-substance fixed payments.

When the lease liability is remeasured, the corresponding adjustment is reflected in the right-of-use asset, or profit and loss if the right-of-use asset is already reduced to zero.

Measurement and recognition of lease as a lessor
The Group leases out elements of plant and machinery. The Group has classified these leases as operating leases. The Group is not required to make any adjustments on transition to IFRS 16 for leases in which it acts as a lessor.

The Group has applied IFRS 15 Revenue from Contracts with customers to allocate consideration in the contract to each lease and non-lease components.

n) Transactions and balances in foreign currencies

Transactions in foreign currencies are converted into the respective functional currencies on initial recognition, using the exchange rates approximating those ruling at the transaction dates. Monetary assets and liabilities at the end of the reporting period are translated at the rates ruling as of that date. Non-monetary assets and liabilities are translated using exchange rates that existed when the values were determined. All exchange differences are recognised in profit or loss.

Overseas operations which have a functional currency different to the group presentation currency have been translated using the monthly average exchange rate for consolidation into the statement of comprehensive income. The amounts included in the group statement of financial position, have been translated at the exchange rate ruling at the statement date. All resulting exchange differences are reported in other comprehensive income.

o) Critical accounting estimates and judgements

The preparation of financial information in conformity with IFRSs requires the use of certain critical accounting estimates. It also requires the directors of the Group to exercise their judgement in the process of applying the accounting policies which are detailed below. These judgements are continually evaluated by the directors and management and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

The key estimates and underlying assumptions concerning the future and other key sources of estimation uncertainty at the statement of financial position date, that have a significant risk of causing material adjustment to the carrying amounts of assets and liabilities within the next financial period are reviewed on an ongoing basis. Revision to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Defined Benefit Pension Scheme (estimate)
In determining the pension valuation movement and the defined benefit obligation of the Group's pension scheme, a number of assumptions are used in order to produce a valuation, which is sensitive to changes in the assumptions. These assumptions include an appropriate discount rate, the levels of salary increases, price inflations and mortality rates. Further details are included in note 26, including sensitivity analysis.

Impairment of non-financial assets (judgement)
The carrying value of goodwill, and the cash generating units (CGUs) to which it relates, is assessed annually for impairment through comparing the recoverable amount to the CGU's carrying value. The value in use calculations require estimates in relation to uncertain items, including management's expectations of future revenue growth, operating costs, profit margins, operating cashflows and the discount rate applied.

Future cash flows used in the value in use calculations are based on our latest five-year financial plans reviewed by the Board. Expectations about future growth reflect expectations of growth in the markets applicable to the Group. The future cashflows are discounted using a pre-tax discount rate that reflects current market assessments of the time value of money. The discount rate used is adjusted for the specific risk to the group, including the countries to which cash flows will be generated. Further details are included in note 10, including sensitivity analysis.

3. Summary of significant accounting policies (continued)

Useful economic lives of tangible and intangible assets (judgement)

The annual depreciation charge for tangible assets is sensitive to change in the estimated useful economic lives and residual values of the assets. The useful economic lives and residual values are re-assessed annually. They are amended where necessary to reflect current estimates, based on technological advancement, future investments, economic utilisation and the physical condition of the assets. See note 11 for the carrying amounts of the property plant and equipment, and the depreciation accounting policy for the useful economic lives for each class of assets.

p) Alternative Performance Measures

Disclosure has been adjusted in the Statement of Comprehensive Income. Adjusted Administrative expenses have excluded Share based payment charges and depreciation as these are non-cash items. We believe removing these balances better reflects the performance of the Group and provides more meaningful information to the user of the Financial Statements.

4. Segment analysis

IFRS 8 requires operating segments to be identified on the basis of internal reports about components of the Group that are regularly reviewed by the chief operating decision maker (which is the Chief Executive Officer and Chief Financial Officer) as defined in IFRS 8, in order to allocate resources to the segment and to assess its performance.

For management purposes, the Group is organised into the following reportable regions:

- UK & Europe (focussing on functionalisation of nano materials, high performance ink & master batches and the composites market in Europe;
- North America (focussing on SiC & blank products for tooling); and
- Asia Pacific (focusing on Ink sales to the Asian markets)

2021

	UK & Europe £'000	North America £'000	Asia Pacific £'000	Adjustments, Central & Eliminations £'000	Consolidated £'000
REVENUE	923	1,679	301	–	2,903
Cost of sales	(311)	(379)	(234)	–	(924)
Gross profit	612	1,300	67	–	1,979
Other operating income	427	148	–	–	575
Adjusted administrative expenses	(1,725)	(1,328)	(404)	(1,267)	(4,724)
Adjusted operating loss	(686)	120	(337)	(1,267)	(2,170)
Administrative expenses					
Share based payment expense	(38)	(30)	(3)	(48)	(119)
Depreciation & amortisation	(376)	(679)	(67)	(149)	(1,271)
	(414)	(709)	(70)	(197)	(1,390)
Total administrative expenses	(2,139)	(2,037)	(474)	(1,464)	(6,114)
OPERATING LOSS	(1,100)	(589)	(407)	(1,464)	(3,560)
Finance costs					(211)
LOSS BEFORE TAXATION					(3,771)
Taxation					363
LOSS AFTER TAXATION					(3,408)
Additions to non-current assets	473	1,667	17	–	2,157
Segment assets	3,473	7,398	404	2,508	13,783
Segment liabilities	(1,727)	(4,697)	(194)	(406)	(7,024)

2020

	UK & Europe £'000	North America £'000	Asia Pacific £'000	Adjustments, Central & Eliminations £'000	Consolidated £'000
REVENUE	357	2,169	421	–	2,947
Cost of sales	(119)	(517)	(249)	–	(885)
Gross profit	238	1,652	172	–	2,062
Other operating income	550	206	–	–	756
Adjusted administrative expenses	(1,689)	(1,687)	(587)	(1,394)	(5,357)
Adjusted operating loss	(901)	171	(415)	(1,394)	(2,539)
Administrative expenses					
Share based payment expense	6	(8)	13	–	11
Depreciation & Amortisation	(411)	(868)	(229)	(132)	(1,640)
Restructuring costs	–	–	(63)	–	(63)
	(405)	(876)	(279)	(132)	(1,692)
	(2,094)	(2,563)	(866)	(1,526)	(7,049)
OPERATING LOSS	(1,306)	(705)	(694)	(1,526)	(4,231)
Finance costs					(176)
LOSS BEFORE TAXATION					(4,407)
Taxation					391
LOSS AFTER TAXATION					(4,016)
Additions to non-current assets	291	–	4	–	295
Segment assets	2,486	7,573	567	2,519	13,145
Segment liabilities	(698)	(4,173)	(239)	(584)	(5,694)

Geographical information

All revenues of the Group are derived from its principal activities as set out on page 5. The Group's revenue from external customers by geographical location are detailed below.

	2021 £'000	2020 £'000
By destination		
United Kingdom	**370**	278
Europe	**104**	378
United States of America	**739**	597
China	**135**	2
Thailand	**136**	345
South Korea	**165**	198
Japan	**1,207**	1,113
Rest of the World	**47**	36
	2,903	2,947

During 2021, £1.2 million (42%) (2020: £1.1 million (37%)) of the Group's revenue depended on a single customer. During 2021 £0.41 million (14%) (2020: £0.35 million (12%)) of the Group's revenue depended on a second single customer.

4. Segment analysis (continued)

All amounts shown as other operating income within the Statement of Comprehensive Income are generated within and from the United Kingdom, EU and the US. These amounts include income earned as part of a number of grant funded projects in the United Kingdom and EU and a government grant in the US.

Revenue from goods (including Reactor sales) was £2.43 million (84%) of the Group's revenue (2020: £2.45 million or 83%) and revenue from services was £0.34 million (12%) (2020: £0.40 million or 14%).

Dis-aggregation of revenues

The split of revenue by type:

	2021 £'000	2020 £'000
Services	**338**	406
Reactor sales (Goods)	**403**	–
Reactor rental	**134**	89
Goods	**2,028**	2,452
	2,903	2,947

2021

	UK & Europe £'000	**North America £'000**	**Asia Pacific £'000**	**TOTAL £'000**
Services	231	–	107	338
Reactor sales (Goods)	403	–	–	403
Reactor rental	134	–	–	134
Goods	155	1,679	194	2,028
	923	**1,679**	**301**	**2,903**

2020

	UK & Europe £'000	**North America £'000**	**Asia Pacific £'000**	**TOTAL £'000**
Services	104	–	302	406
Reactor rental	89	–	–	89
Goods	164	2,169	119	2,452
	357	2,169	421	2,947

Services and reactor rental revenues are recognised over time, whereas goods and reactor sales are recognised at a point in time.

The group acquired the following non-current assets during the year, split by geographical location as detailed below:

Non-current asset additions

	2021 £'000	2020 £'000
By destination		
United Kingdom	**473**	291
United States of America	**1,667**	–
Thailand	**17**	4
	2,157	295

The carrying value of the group's non-current assets split by geographical location are detailed below:

	2021 £'000	2020 £'000
By destination		
United Kingdom	**3,271**	3,564
United States of America	**5,749**	5,257
Thailand	**116**	184
South Korea	**1**	1
	9,137	9,006

5. Other Operating Income

	2021 £'000	2020 £'000
Grant Income	**427**	550
Federal Support Schemes	**148**	206
	575	756

There are no unfulfilled conditions attached to the above income.

6. Loss before taxation

Loss before taxation is arrived at after charging:

	2021 £'000	2020 £'000
Amortisation of other intangibles	**176**	129
Restructuring costs	**–**	63
Depreciation of property, plant and equipment	**1,096**	1,511
Foreign Exchange	**(44)**	(9)
Operating lease rental : plant and machinery	**1**	2

The service fees of the Group's auditor, Grant Thornton UK LLP, are analysed below:

	2021 £'000	2020 £'000
Fees payable to the Company's auditor for the audit of the Group's financial statements	**72**	67
Fees payable to the Company's auditor and its associates for other services:		
Taxation related compliance services	**12**	40
	84	107

7. Employees

The average number of employees during the year, including executive directors, was:

	2021 £'000	2020 £'000
Administration	**22**	23
Research, development and production	**32**	40
	54	63

Staff costs for all employees, including executive directors, consist of:

	2021 £'000	2020 £'000
Wages and salaries	**2,509**	3,243
Social security costs	**271**	287
Defined contribution pension costs	**172**	170
Defined benefit pension costs	**47**	24
Share-based payment (income)/expense	**119**	(11)
	3,118	3,713

Directors' remuneration

	2021 £'000	2020 £'000
Short-term employee benefits and fees	**491**	484
Post-retirement benefits	**36**	25
	527	509

The total amount payable to the highest paid director in respect of emoluments was £253,000 (2020: £232,000), excluding pension costs of £24,000 (2020: £20,000). Further details on Directors Remuneration can be found in the Director Remuneration Report on page 24.

8. Income tax

	2021 £'000	2020 £'000
Current tax credit		
Total income tax credits:		
– for the financial year	**363**	384
– under provision in the previous financial year	**–**	7
Total Current Tax	**363**	391

The reason for the difference between the actual tax charge for the year and the standard rate of corporation tax in the United Kingdom applied to the losses for the year are as follows:

	2021	2020
	£'000	£'000
Loss for the year	**(3,408)**	(4,016)
Income tax credit	**(363)**	(391)
Loss before income taxes	**(3,771)**	(4,407)
Tax using the Group's domestic tax rates of 19% (2020 – 19%)	**717**	837
Expenses not deductible for tax purposes	**216**	(143)
Different tax rates applied in overseas jurisdictions	**(2)**	24
R&D enhancement	**340**	259
R&D costs capitalised	**49**	45
Surrender for R&D tax credit	**(446)**	(109)
Adjustment for over provision in comparative year	**–**	7
Movement in unrecognised losses carried forward	**(494)**	(492)
Movement in unrecognised fixed asset temporary differences	**(17)**	(37)
Total tax credit	**363**	391

Changes in tax rates and factors affecting the future tax charge
The main rate of corporation tax for UK companies is currently 19%.

The Group has tax losses that are available indefinitely for the UK and a maximum of 20 years for the US to be offset against future taxable profits of the companies approximately amounting to £23.68 million (2020: £23.96 million) including £4.12 million (2020: £4.16 million) of fixed asset timing differences. No tax losses are expected to expire within the next 15 years. The group currently expects to be able to utilise its US tax losses in the foreseeable future and a deferred tax asset has been recognised in respect of these tax losses up to the value of the timing difference of fixed assets and therefore no overall deferred tax asset has been created.

9. Loss per share

The calculations of loss per share are based on the following losses and number of shares:

	2021	2020
	£'000	£'000
Loss after tax attributable to owners of Haydale Graphene Industries Plc	**(3,408)**	(4,016)
Weighted average number of shares:		
– Basic and Diluted	**408,967,698**	331,162,204
Loss per share:		
Basic (£) and Diluted (£)	**(0.01)**	(0.01)

The loss attributable to ordinary shareholders and weighted average number of ordinary shares for the purpose of calculating the diluted earnings per ordinary share are identical to those used for basic earnings per share. This is because the exercise of share options would have the effect of reducing the loss per ordinary share and is therefore not dilutive under the terms of IAS 33. At 30 June 2021, there were 39,734,928 (2020: 34,248,583) options and warrants outstanding as detailed in note 17. All of the options are potentially dilutive.

Post year end 85,055,893 of new Ordinary Shares were issued on 20th September 2021, these Ordinary Shares are dilutive. 1,000,000 warrants were also issued on 2nd August 2021 and are potentially dilutive.

10. Intangible assets

	Customer Relationships £'000	Development expenditure £'000	Goodwill £'000	Total £'000
Cost				
At 1 July 2019	1,154	1,815	2,087	5,056
Additions	–	250	1	251
FX translation	–	1	–	1
At 1 July 2020	1,154	2,066	2,088	5,308
Additions	–	260	–	260
FX translation	(133)	(7)	(113)	(253)
At 30 June 2021	**1,021**	**2,319**	**1,975**	**5,315**
Accumulated amortisation				
At 1 July 2019	546	1,399	634	2,579
Charge for the period	87	42	–	129
FX translation	–	1	–	1
At 1 July 2020	633	1,442	634	2,709
Charge for the year	87	89	–	176
FX translation	(83)	(2)	–	(85)
At 30 June 2021	**637**	**1,529**	**634**	**2,800**
Net book value				
At 30 June 2021	**384**	**790**	**1,341**	**2,515**
At 30 June 2020	521	624	1,454	2,599
At 30 June 2019	608	416	1,453	2,477

All of the above Development expenditure is currently in use.

Goodwill

Goodwill arose on the acquisition of Haydale Ltd on 21 May 2010 (£24,000). On the 9 September 2016, goodwill of £327,151 arose on the acquisition of Innophene Co. Ltd (now Haydale Technologies Thailand ("HTT")). Goodwill arose on the acquisition of HCT (formerly ACM) on the 13TH October 2016 of £1,102,620.

Customer Relationships

The Customer relationships intangible asset arose on the fair value of assets on the acquisition of HCT (formerly ACM) on the 13 October 2016 amounting to £868,676.

Development costs

Development costs brought forward are made up of three areas. The first relates to the fair value of assets on the acquisition of Haydale Ltd on 21 May 2010 for development of nano-technology projects, where it is anticipated that the costs will be recovered through future commercial activity. The second relates to capitalised patent costs that were acquired as part of the acquisition of Innophene Co Ltd. (now HTT) in 2015. The third relates to the development of nano enhanced products within Haydale Limited, HCS and HTT.

Development expenditure of £260,000 was capitalised during the year in accordance with IAS 38 in connection with the Group's expenditure with the development of nano enhanced products (including inks, epoxy resins, rubbers and composites), where the Directors believe that future economic benefit is probable (2020: £251,000). Capitalised development expenditure is not amortised until the products or services are ready for sale or use.

Amortisation

Capitalised development costs are amortised over the estimated useful life of between 5 and 20 years. The amortisation charge is recognised in administrative expenses.

The Customer relationships intangible is amortised over the estimated useful life of 10 years. The amortisation charge is recognised in administrative expenses.

Goodwill impairment

Goodwill acquired in a business combination is allocated at acquisition to the CGUs that are expected to benefit from that business combination. Following the acquisitions of HCS, HCT and HTT, the Group is operating a number of different CGUs and therefore HCS and ACM goodwill has been considered against the future forecast trading outcomes of HCT, HCS and HTT as separate CGU's.

An analysis of the pre-tax discount rates used and the goodwill balance as at the year-end by principal CGU's is shown below:

	2021 %	2020 %	**2021 £'000**	2020 £'000
Haydale & HCS	**10%**	10%	**23**	23
HCT	**12%**	12%	**975**	1,103
HTT	**10%**	10%	**341**	327

The Group tests goodwill at least annually for impairment or more frequently if there are indications that goodwill might be impaired.

The recoverable amounts of the CGUs are determined from value-in-use calculations. The key assumptions for the value-in-use are those regarding the discount rates, the growth rates and expected changes to cash flows during the period for which management have detailed plans. The Directors estimate discount rates using pre-tax rates that reflect current market assessments of the time value of money and the risks specific to the CGUs.

Pre-tax discount rates, derived from the Group's post-tax weighted average cost of capital of 10% to12% (2020: 10% to 12%), have been used to discount projected cash flows.

The impairment calculations for the current year have been derived from the five year forecasts (the "Forecasts") that have been approved by the Board.

The HCT model assumes that its turnover is in in line with the Forecasts and then reduces to 2% growth in perpetuity. The growth rates used are based on management's internally estimated growth forecasts which are predicated on a recovery in the aerospace industry during FY22 and FY23. This anticipated rebound would lead to a recovery in the whisker sales and allow for growth in the blank sales at this facility such that by June 2023 the CGU had at least recovered to its pre pandemic trading position. As noted in the Chairs Report on page 4 we are yet to see any sustained recovery in our Aerospace business and, given this, we will continue to review the carrying value of Goodwill in this CGU in the event that the expected bounce back does not occur in the timeframes anticipated. As part of the impairment sensitivity analysis, a break point discounted cashflow was prepared based on revenue increasing by 75% over the two year period ending June 2023 to coincide with the recovery in aerospace at which point it would have returned to pre pandemic trading levels and increasing by 2% per annum thereafter. Margins were forecast to be at historic levels for the year ended June 2023 and to maintain that level thereafter. The carrying value of the HCT CGU is £7.1m which consists of Goodwill, Customer Relations, PPE and Right of Use Assets.

The HTT model assumes that its turnover is in line with the Forecasts and then reduces to 2% growth into perpetuity. The growth rates used are based on management's internally estimated growth forecasts which take into account current and future product commercialisation. As part of the impairment sensitivity analysis, management reduced the anticipated turnover and gross profit levels by 25%, which still resulted in no requirement to impair.

Following this review, the Directors have determined there is no impairment charge which should be recognised against the intangible assets of the Group for the year ended 30 June 2021.

11. Property, plant and equipment

	Leasehold and leasehold improvements £'000	Plant and machinery £'000	Fixtures and fittings £'000	Motor vehicles £'000	Assets under construction £,000	Total £'000
Cost						
At 1 July 2019	635	7,575	522	30	31	8,793
Transition to IFRS 16	2,207	–	–	–	–	2,207
Additions	–	34	10	–	–	44
FX translation	–	126	10	1	1	138
At 1 July 2020	2,842	7,735	542	31	32	11,182
Additions	1,677	198	22	–	–	1,897
FX translation	(207)	(514)	(53)	(2)	(3)	(779)
Disposals	(108)	(225)	(11)	–	–	(344)
Transfer	–	29	–	–	(29)	–
At 30 June 2021	**4,204**	**7,223**	**500**	**29**	**–**	**11,956**
Accumulated depreciation						
At 1 July 2019	309	2,662	251	15	–	3,237
Charge for the year	684	765	56	6	–	1,511
FX translation	1	23	4	(1)		27
At 1 July 2020	994	3,450	311	20	–	4,775
Charge for the year	598	444	48	6	–	1,096
FX Translation	(122)	(118)	(32)	1	–	(271)
Disposals	(32)	(226)	(8)	–	–	(266)
At 30 June 2021	**1,438**	**3,550**	**319**	**27**	**–**	**5,334**
Net book value						
At 30 June 2021	**2,766**	**3,673**	**181**	**2**	**–**	**6,622**
At 30 June 2020	1,848	4,285	231	11	32	6,407
At 30 June 2019	326	4,913	271	15	31	5,556

Including in the net carrying amount of Property, plant and equipment are right-of-use assets as follows:

	30 June 2021 £'000	30 June 2020 £'000
Leasehold and leasehold improvements cost	**3,576**	2,207
Leasehold and leasehold improvements depreciation	**(993)**	(613)
Leasehold and leasehold improvement NBV	**2,583**	1,594

12. Inventories

	2021 £'000	2020 £'000
Raw materials	**167**	242
Work in progress	**261**	125
Finished goods	**900**	1,345
	1,328	1,712

The total value of inventories recognised in cost of sales during the year was £915,580 (2020: £885,471). Raw materials and finished goods comprise of SiC, blanks, functionalised carbon, chemicals and associated raw materials. Work in progress comprises recoverable costs on long-term contracts.

13. Trade receivables

	2021 £'000	2020 £'000
Trade receivables	**715**	886

14. Other receivables

	2021 £'000	2020 £'000
Other receivables	**299**	137
Prepayments and accrued income	**227**	197
Lease Asset	**69**	–
	595	334

	2021 £'000	2020 £'000
Corporation tax	**364**	384

15. Deferred income

Deferred income is recognised for both capital and revenue grants from governments and other funding parties and released as income in accordance with the relevant conditions of the grant concerned. All income will be recognised within one year.

	2021 £'000	2020 £'000
Commercial Deferred Income	**180**	74

As at 30 June 2021, deferred income of £30,769 (2020: £30,769) arose in relation to the rental of a reactor, which had been invoiced during the year for a full year's rental charge. The charge is being released over the course of the year. The remaining deferred income relates to grant income which will be recognised in the profit and loss within a year.

16. Share capital and share premium

	Number of shares No.	Share capital £'000	Share premium £'000	Total £'000
At 1 July 2019	317,723,848	6,354	27,764	34,118
Issue of £0.02 ordinary shares	22,500,000	450	–	450
At 30 June 2020	340,223,848	6,804	27,764	34,568
Issue of £0.02 ordinary shares	85,055,950	1,701	1,056	2,757
At 30 June 2021	**425,279,798**	**8,505**	**28,820**	**37,325**

On the 9th September 2020, the Company issued 85,055,950 new ordinary shares of 2p each.

Issue costs amounting to £220,000 have been charged to the share premium account during the year (2020: £14,000 charged to the profit and loss).

17. Share-based payment transactions

Options

The Company operates both an approved EMI share option scheme and an unapproved share option scheme for the benefit of employees and directors of the Group. The exercise price of the unapproved options is equal to the mid-market price of the shares on the date of grant. The exercise price of the 2020 EMI options granted on 13 January 2020 was 2.25p per Ordinary Share (being a 19.7 % premium to the closing mid–market price of the Company's Ordinary Shares on 10 January 2020, the last trading day before the grant). The options vest either one year or three years from the date of grant. The options are accounted for as equity settled share based payment transactions. The following table which illustrates the number and weighted average exercise prices (WAEP) of, and movements in, share options during the year:

	Number of options No.	**2021 WAEP Pence**	Number of options No.	2020 WAEP Pence
Balance at beginning of year	**34,181,185**	**23.00**	2,504,691	62.00
Granted	**7,100,000**	**2.25**	34,100,000	2.25
Lapsed	**(1,500,000)**	**2.25**	(1,591,960)	113.00
Forfeited	**(46,257)**	**154.70**	(831,546)	113.00
Balance at end of year	**39,734,928**	**2.39**	34,181,185	23.00

At 30 June 2021, there were options outstanding over 39,734,928 un-issued ordinary shares, equivalent to 9% of the issued share capital as follows:

	Number of shares	**Exercise price**	**Earliest exercise date**	**Latest exercise date**
Unapproved scheme				
19 May 2016	4,665	171.50p	19 May 2019	19 May 2026
14 October 2016	6,759	198.14p	14 October 2019	14 October 2026
26 June 2017	7,495	178.50p	27 June 2020	27 June 2027
15 December 2017	16,009	125.50p	15 December 2020	15 December 2027
8 July 2020	7,000,000	2.25p	8 July 2023	8 July 2030
Approved EMI scheme				
13 January 2020	32,700,000	2.25p	13 January 2023	13 January 2030
	39,734,928			

The estimated fair value was calculated by applying a Monte Carlo option pricing model.

	Type of award	**Number of shares**	**Share price at date of grant (p)**	**Fair value per option (p)**	**Award life (years)**	**Risk free rate (%)**	**Expected volatility rate (%)**	**Performance conditions**
19 May 2016	Unapproved	4,665	172.00	101.00	10	0.62	51	None
14 October 2016	Unapproved	6,759	198.00	113.00	10	0.50	49	None
26 June 2017	Unapproved	7,495	179.00	179.00	10	0.50	34	None
15 December 2017	Unapproved	16,009	126.00	55.00	10	0.50	51	None
8 July 2020	Unapproved	7,000,000	3.65	0.63	10	0.50	80.5	See below
13 January 2020	EMI	32,700,000	1.88	1.56	10	0.50	80.5	See below
		39,734,928						

Should the Company's closing mid-market share price reach and remain at or above £0.04 for at least 15 consecutive trading days, commencing after the grant date and ending on or before 30 September 2021, 30% of share options are capable of exercise.

Should the Company's closing mid-market share price reach and remain at or above £0.08 for at least 15 consecutive trading days, commencing after the grant date and ending on or before 30 September 2022, an additional 30% of share options are capable of exercise.

Should the Company's closing mid-market share price reach and remain at or above £0.16 for at least 15 consecutive trading days, commencing after the grant date and ending on or before 30 September 2023, the final 40% of share options are capable of exercise.

The weighted average remaining contractual life of share options outstanding at 30 June 2021 is 8.5 years (2020: 9.5 years). The charge for the year for share-based payment amounted to £0.12 million (2020: £(0.01) million).

Warrants

	Number of warrants No.	**2021 Weighted average exercise price Pence**	Number of warrants No.	2020 Weighted average exercise price Pence
Balance at beginning of year	**67,398**	**208.00**	107,398	208.00
Lapsed	**–**	**–**	(40,000)	208.00
Balance at end of year	**67,398**	**208.00**	67,398	208.00

None of the warrants outstanding at 30 June 2021 are to employees or have performance conditions attached. The same pricing model was used for calculating the cost of warrants to the Group as was used for calculating the cost of the options to the Group.

The weighted average remaining contractual life of warrants outstanding at 30 June 2021 is 0.04 years (2020: 0.72 years). The charge for the year for share-based payment amounted to £7,258 (2020: £11,410).

18. Reserves

Share capital
The share capital represents the nominal value of the equity shares in issue.

Share premium account
The share premium account represents the amount received on the issue of ordinary shares in excess of their nominal value, less any costs associated with the issuance of the shares, and is non-distributable.

Share-based payment reserve
The share-based payment reserve comprises the cumulative expense representing the extent to which the vesting period of share options has passed and management's best estimate of the achievement or otherwise of non-market conditions and the number of equity instruments that will ultimately vest.

Retained earnings
The retained profits and losses reserves comprise the cumulative effect of all other net gains, losses and transactions with owners (e.g. dividends) not recognised elsewhere.

Foreign Exchange
The foreign exchange reserve comprises of translation differences arising from the translation of the overseas subsidiary results into pound sterling.

19. Trade and other payables

	2021 £'000	Current Liabilities 2020 £'000	**2021 £'000**	Non-Current Liabilities 2020 £'000
Current Liabilities				
Trade payables	**677**	410	**–**	–
Tax and social security	**101**	181	**–**	–
Lease liability	**365**	617	**2,370**	1,031
Accruals and other creditors	**576**	698	**–**	–
	1,719	1,906	**2,370**	1,031

20. Bank loans

	2021 £'000	2020 £'000
Bank loans	**1,729**	1,248
The borrowings are repayable as follows:–		
– within one year	**885**	944
– in the second year	**9**	265
– in the third to fifth years inclusive	**835**	39
	1,729	1,248

The Group's borrowings are denominated in US dollars and Pounds Sterling. The directors consider that there is no material difference between the fair value and carrying value of the Group's borrowings.

	2021	2020
Average interest rates paid	**3.2%**	7.9%

In October 2016, a five year bank loan of $1,720,000 (equivalent to approximately £1.4 million at the time) was drawn by HTI, the Company's US holding company, secured on the fixed assets of HTI and its newly acquired operating subsidiary, HCT. This loan carries an interest rate of 4% and is repayable in equal instalments. HTI also had a working capital facility of up to $900,000 which was secured on a combination of the fixed assets, inventory and trade receivables of the US business and this was fully utilised at the year end (FY20: Fully Utilised). The rate of interest of this was fixed at 5.25%.

In June 2020, as part of the Government Bounce Back Loan scheme, HCS entered into a six year loan agreement with Natwest for £50,000. The loan has a repayment holiday and does not accrue interest during the first 12 month. Following the initial 12 months interest will be charged at 2.5% p.a. and is repaid in equal instalments over the remaining period.

In March 2021, HCS secured a five year loan of £1,100,000 from Innovate Loans UK Limited. At the year end the Company had drawn down £800,000 of this facility. It is anticipated that the full amount will be drawn by 31 March 2022. The loan has a repayment holiday until March 2024 and is fully repayable by March 2026. For the initial 36 months interest will be charged at 3.7% p.a. and for the final 24 months interest with be charged at 10.7%. There are no penalties for early repayment.

21. Related party disclosures

Balances and transactions between Haydale Graphene Industries Plc and its subsidiaries are eliminated on consolidation and are not disclosed in this note. Balances and transactions between the Group and other related parties are disclosed below.

Remuneration of directors and key management personnel

The remuneration of the Directors of the Company is set out below in aggregate for each of the categories specified in IAS 24 'Related Party Disclosures'.

	2021 £'000	2020 £'000
Short-term employee benefits and fees	**491**	484
Social security costs	**65**	50
Post-retirement benefits	**36**	25
	592	559

Other transactions – Group and parent company

Fees totalling £15,856 (2020: £13,500) were paid to the Evesco International Business for support during the fund raise. Mr G Eves served as a director of the company during the year and is a director of Evesco International Business Services. At 30 June 2021, the balance owed to Evesco International Business Services was £Nil (2020: £Nil).

Other transactions – Group

Other related party transactions during the year under review are shown in the table below:

	2021 £'000	2020 £'000
Services Received		
QM Holdings	**402**	468

During the year an amount of £401,870 was paid to QM Holdings in respect of property rent (2020: £468,000). QM Holdings is owned by Thomas Quantrille and Marvin Murrell who are officers of HCT. The balance outstanding to QM Holdings at the year-end was £28,971 (2020: £40,163).

22. Financial instruments

The Group's activities are exposed to a variety of market risk (including foreign currency risk and interest rate risk), credit risk and liquidity risk. The Group's overall financial risk management policy focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the Group's financial performance.

a) Financial risk management policies

The Group's policies in respect of the major areas of treasury activity are as follows:

i) Market risk

Foreign currency risk

The Group is exposed to foreign currency risk on transactions and balances that are denominated in currencies other than Pounds Sterling. The currencies giving rise to this risk are primarily the United States Dollar and the Euro. Foreign currency risk is monitored closely on an ongoing basis to ensure that the net exposure is at an acceptable level. The Group maintains the ability to provide a natural hedge wherever possible by matching the cash inflows (revenue stream) and cash outflows used for purposes such as operational expenditure in the respective currencies.

The carrying amounts of the Group's foreign currency denominated monetary assets and liabilities at the end of each reporting period were as follows:

	United States Dollar £'000	Euro £'000	Total £'000
2021			
Financial assets	**287**	**52**	**339**
Financial liabilities	**4**	**370**	**374**
2020			
Financial assets	952	47	999
Financial liabilities	111	1	112

Foreign currency sensitivity analysis

The following table details the sensitivity analysis to possible changes in the relative values of foreign currencies to which the Group is exposed as at the end of the respective financial periods, with all other variables held constant:

Effects on loss after taxation/equity	**2021 Increase/ (decrease) £'000**	2020 Increase/ (decrease) £'000
United States Dollar:		
– strengthened by 10%	**31**	93
– weakened by 10%	**(26)**	(76)
Euro:		
– strengthened by 10%	**(45)**	6
– weakened by 10%	**29**	(5)

22. Financial instruments (countinued)

ii) Interest rate risk

The Group's exposure to interest rate risk arises mainly from interest-bearing financial assets. The Group's policy is to obtain the most favourable interest rates available, while ensuring no risk to capital. Any surplus funds will be placed with licensed financial institutions to generate interest income. The current loan and credit facilities maintain a fixed rate of interest.

Interest rate risk sensitivity analysis

A 100 basis points strengthening or weakening of the interest rate as at the end of each financial period would have an immaterial impact on loss after taxation and / or net assets. This assumes that all other variables remain constant.

b) Credit risk

The Group's exposure to credit risk, or the risk of third parties defaulting, arises mainly from trade and other receivables. The Group manages its exposure to credit risk by the application of credit approvals, credit limits and monitoring procedures on an ongoing basis. For other financial assets (including cash and bank equivalents), the Group minimises credit risk by dealing exclusively with high credit rating financial institutions.

The Group establishes an allowance for impairment that represents its expected credit losses in respect of the trade and other receivables as appropriate. The main components of this allowance are a specific loss component that relates to individually significant exposures, and a collective loss component established for groups of similar assets in respect of losses that are expected but not yet identified. Impairment is estimated by management based on prior experience, current market and third party intelligence while considering the current economic environment.

Credit risk concentration profile

To date, modest sales have meant that the credit risk profile of the Group has tended to focus on a handful of customers only. As such, no meaningful analysis can be drawn from the customer profile of the receivables outstanding at each period end under review.

Exposure to credit risk

As the Group does not hold any collateral, the maximum exposure to credit risk is represented by the carrying amount of the financial assets at the end of each financial period.

The exposure of credit risk for trade receivables by geographical region as at the year-end is as follows:

	2021	2020
	£'000	£'000
United Kingdom	**9**	28
Europe	**9**	181
North America	**360**	115
Rest of the world	**337**	562
	715	886

Maturity analysis

The ageing analysis of the Group's trade receivables as at the year-end is as follows:

	2021	2020
	£'000	£'000
Not past due	**677**	834
Past due:		
– less than 3 months	**38**	41
– between 3 and 6 months	**–**	11
Gross amount	**715**	886

At the end of each financial period, trade receivables that are individually impaired were those in significant financial difficulties and have defaulted on payments. These receivables are not secured by any collateral or credit enhancement.

Collective impairment allowances, are determined based on estimated irrecoverable amount from the sale of goods and services, determined by reference to past default experience. Impairment provision is not material and therefore has not been recognised in either the current or prior year.

Trade receivables that are past due but not impaired
The Group believes that no impairment allowance is necessary in respect of these trade receivables. They are substantially companies with good collection track record and no recent history of default, further this also applies to any trade receivables held at year end which are not past due.

iii) Liquidity risk

Liquidity risk is the risk that the Group will not be able to meet its financial obligations as they fall due. The Group exposure to liquidity risk arises primarily from mismatches of the maturity of financial assets and liabilities.

The Group maintains a level of cash and cash equivalents and bank facilities deemed adequate by management to ensure as far as possible, that it will have sufficient liquidity to meet its liabilities when they fall due.

All of the financial liabilities of the Group are due within one year, with the exception of certain long-term bank loans – see note 20.

Maturity analysis
The ageing analysis of the Group's non-derivative financial liabilities as at the year-end is as follows:

2021	**Under 1 Yr £'000**	**1 to 2 Yrs £'000**	**3+ Yrs £'000**	**Total £'000**
Trade payables	**677**	**–**	**–**	**677**
Secured bank loan	**876**	**–**	**803**	**1,679**
Unsecured bank loan	**9**	**9**	**32**	**50**
Lease liability	**365**	**359**	**2,011**	**2,735**
Total	**1,927**	**368**	**2,846**	**5,141**

2020	Under 1 Yr £'000	1 to 2 Yrs £'000	3+ Yrs £'000	Total £'000
Trade payables	410	–	–	410
Secured bank loan	943	255	–	1,198
Unsecured bank loan	1	9	40	50
Lease liability	617	617	414	1,648
Total	1,971	881	454	3,306

c) Capital risk management

The Group defines capital as the total equity of the Group. The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital. In order to maintain or adjust the capital structure, Haydale Graphene Industries PLC may issue new shares or sell assets to reduce debt.

22. Financial instruments (countinued)

d) Classification of financial instruments (at amortised cost and fair value)

	2021 £'000	2020 £'000
Financial assets		
Trade receivables	**715**	886
Other receivables	**368**	137
Cash and bank balances	**1,644**	823
Financial Assets (at amortised cost)	**2,727**	1,846
Financial liabilities		
Bank loans	**1,729**	1,248
Trade payables	**677**	410
Lease Liability	**2,735**	1,648
Financial Liabilities (at amortised cost)	**5,141**	3,306

There is no difference between the fair value and book value for the assets and liabilities.

e) Fair value of financial instruments

The Group has no financial assets or liabilities carried at fair values at the end of each reporting date.

23. Capital commitments

The Group had the following capital commitments in the respective years:

	2021 £'000	2020 £'000
Authorised by the directors but not contracted for	**317**	50

24. Ultimate controlling party

The Directors do not consider any one shareholder, individually or acting in consort with others, to have ultimate control of the Group.

25. Lease arrangements

The amounts of minimum lease payments under non-cancellable operating leases are as follows:

	2021 Land and buildings £'000	2021 Plant and machinery £'000	2020 Land and buildings £'000	2020 Plant and machinery £'000
– within one year	**–**	**1**	–	1
– within two to five years	**–**	**2**	–	3
Aggregate amounts payable	**–**	**3**	–	4

Payments recognised as an expense under these leases were as follows:

	2021 Land and buildings £'000	2021 Plant and machinery £'000	2020 Land and buildings £'000	2020 Plant and machinery £'000
Operating lease expense	–	1	–	1

Leases pertain to the office and unit contracts for the three UK facilities of in aggregate £0.16 million. Of the £0.16 million, certain leases are cancellable with three months' notice.

Within the minimum lease payments for plant and machinery is the cost relating the general office equipment.

26. Defined Benefit Pension Scheme

HCT operated a defined benefit pension scheme. The scheme was closed in November 2006 for any new participants.

Contributions of Nil were made to the scheme during the year ended 30 June 2021 (2020: Nil).

Included in the loss before tax during the year:

	2021	2020
	£'000	£'000
Net Interest Expense	**47**	24

Included in other comprehensive income during the year:

	2021	2020
	£'000	£'000
Actuarial loss / (gain) from demographic assumptions	208	292

The following table sets forth the pension plan's funded status as of 30 June:

	2021	2020
	£'000	£'000
Accumulated benefit obligation	**(3,834)**	(4,275)
Projected Benefit obligation	**(3,834)**	(4,275)
Plan assets at fair value	**2,808**	2,840
Funded Status	**(1,026)**	(1,435)
Accrued Pension Cost	**(1,026)**	(1,435)

Net amount recognised in the consolidated balance sheet as of 30 June, consisted of the following:

	2021	2020
	£'000	£'000
Non-current Liabilities	**(1,026)**	(1,435)

The discount rate is based on the yield curve of government bonds in the applicable region adjusted with a credit spread of one of the two highest ratings given by a recognized ratings agency. Future cash outflows of the plans are then related with the yield curve. The average is the discount rate. The weighted average assumptions used to develop the actuarial present value of benefit obligations and net periodic benefit costs for the pension plan are as follows for the year ended 30 June 2021:

Discount rate for periodic benefit costs	2.75%
Discount rate for benefit obligations	2.75%
Rate of increase in compensation levels	3.50%
Investment return rate	3.00%

Mortality Assumptions are as follows:

Longevity at retirement age (current & future pensioners)	**2021**	2020
– Males	**20.4 years**	22.6 years
– Females	**22.3 years**	25.0 years

Plan Assets

Pension assets are managed by an outside investment manager and are rebalanced periodically. The Company establishes policies and strategies and regularly monitors performance of the assets, including the selection of investment managers, setting long-term strategic targets, and monitoring asset allocations. Target allocation ranges are guidelines, not limitations, subject to variation from time-to-time or as circumstances warrant, and occasionally, the Company may approve allocations above or below a target range.

26. Defined Benefit Pension Scheme (continued)

The pension plan's investment strategy with respect to pension assets is to invest the assets in accordance with ERISA and fiduciary standards. The long-term primary objective for the pension plan assets are to protect the assets from erosion of purchasing power and to provide a reasonable amount of long-term growth of capital, without undue exposure to risk. Currently, the strategic targets are 45% for equity securities, 50% for debt securities, and no more than 5% for other categories.

The fair value of the Company's pension plan assets valued at 30 June 2021, by asset category were as follows:

Description	Total Carrying Amount £'000	Assets/ Liabilities Measured at Fair Value £'000	Fair Value Measurements at 30 June 2021 using Level 1 Inputs £'000	Level 2 Inputs £'000
Cash	141	141	141	–
Corporate Equities	1,596	1,596	1,596	–
Fixed Income:				
US Government	14	14	–	14
Municipal	1	1	–	1
Corporate debt	942	942	–	942
Mutual Funds	114	114	114	–
	2,808	**2,808**	**1,851**	**957**

All corporate equities are quoted securities.

The changes in the fair value of the Company's pension plan assets for the year ending 30 June 2021, were as follows:

	2021 £,000	2020 £,000
Opening Balance	**2,840**	2,875
Contributions	**–**	–
Distributions	**(217)**	(245)
Earnings	**111**	177
Net realised gain	**449**	20
Administrative expenses	**(64)**	(66)
Foreign exchange gain/(loss)	**(311)**	79
Balance at Year End	**2,808**	2,840

Cash Flows

The Company expects benefits paid for the next five fiscal years and the five years thereafter as follows:

	2021 £,000	2020 £,000
2022	**247**	266
2023	**245**	274
2024	**250**	272
2025	**249**	276
2026	**249**	275
Thereafter	**1,270**	1,411
	2,510	2,774

The company's pension plan asset allocations by asset category were as follows as of 30 June 2021:

Asset Category	
Cash	5%
Equity Mutual Funds	57%
Fixed Income	34%
Other	4%

Plan Obligations

	2021	2020
	£,000	£,000
Benefit Obligation at 01 July	**4,275**	3,960
Foreign exchange movement	**(452)**	114
Interest cost	**109**	136
Actuarial loss	**120**	310
Benefits paid	**(218)**	(245)
Benefit Obligation at 30 June	**3,834**	4,275
Fair Value of Plan Assets at 01 July	**2,840**	2,875
Foreign Exchange movement	**(311)**	79
Actual Return on plan assets	**449**	19
Interest Income	**47**	112
Employer contributions	**–**	–
Benefits paid	**(217)**	(245)
Fair Value of Plan Assets at 30 June	**2,808**	2,840
Funded Status at 30 June	**(1,026)**	(1,435)

Defined benefit obligation – sensitivity analysis.

The impact to the value of the defined benefit obligation of a reasonably possible change to one actuarial assumption, holding all other assumption constant, is presented in the table below:

	Reasonably	Defined Benefit Obligation (£'000)	
Actuarial Assumption	**Possible Change**	**Increase**	**Decrease**
Discount Rate	(+/- 0.25%)	(91)	95
Mortality Rate	(+/-1.00%)	12	(12)

HCT also has a defined contribution plan under Section 401(k) of the Internal Revenue Code which provides for voluntary participation. All employees who have completed one hour of service are eligible to participate in this plan beginning the first pay period of the month following the date an hour of service is first performed. Participants may contribute on a pre-tax basis from 1% to 60%, in 1% increments, of their annual base salary. Company contributions under the plan are required to be equal to 100% of that portion of participant contributions which do not exceed 6% of the participant's annual base compensation rate. Participants are immediately vested in their voluntary contributions plus actual earnings and Company contributions. The Company contributions for the year ended 30 June 2021, were £47,000 (2020: £24,000).

27. Taxes

Deferred tax is calculated in full on temporary differences under the liability method. Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset realised, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

The movement on the deferred tax account is as shown below:

	2021	2020
	£'000	£'000
At 1 July	**–**	–
Recognised in profit and loss:		
Tax expense	**–**	7
Recognised in other comprehensive income:		
Movement due to changes in exchange rates	**–**	(7)
At 30 June	**–**	–

Deferred tax assets have been recognised in respect of tax losses and other temporary differences giving rise to deferred tax assets where the directors believe it is probable that these assets will be recovered.

27. Taxes (continued)

Detail of the deferred tax liability, amounts recognised in profit and loss and amounts recognised in other comprehensive income are as follows:

	Asset 2021 £'000	**Liability 2021 £'000**	**Net 2021 £'000**	**(Charged)/ credited to profit or loss 2021 £'000**
Employee pension liabilities	**215**	**–**	**215**	**(86)**
Available losses	**494**	**–**	**494**	**(142)**
Fixed assets	**–**	**(709)**	**(709)**	**228**
Net tax assets/(liabilities)	**709**	**(709)**	**–**	**–**

	Asset 2020 £'000	Liability 2020 £'000	Net 2020 £'000	(Charged)/ credited to profit or loss 2020 £'000
Employee pension liabilities	301	–	301	73
Available losses	636	–	636	(30)
Business combinations	–	(937)	(937)	(43)
Net tax assets/(liabilities)	937	(937)	–	–

A deferred tax asset has not been recognised for the following:

	2021 £'000
Accelerated capital allowances	**(49)**
Unused tax losses	**23,677**
	23,628

The unused tax losses can be carried forward indefinitely in the UK and up to a maximum of 20 years in the US.

28. Post Balance Sheet Event

On 20 September 2021 the Group successfully raised £5.10 million (gross) of new funds before costs via a placing, retail offer and subscription of new ordinary shares in the Company.

29. Reconciliation of liability movement as a result of financing activities

	Non-current Loans and borrowings £'000	Current loans and borrowings £'000	Total £'000
At 1st July 2019	388	1,568	1,956
Interest accruing in period	14	30	44
New loans in year	–	50	50
Loan repayments in year	–	(835)	(835)
Lease Liability transaction to IFRS 16	1,648	559	2,207
Lease Liability repayments in year	–	(559)	(559)
Effect of foreign exchange	9	24	33
Loans classified as non-current at 30 June 2019 becoming current during year.	(107)	107	–
Loans classified as non-current at 30 June 2019 becoming current during year.	(617)	617	–
At 30th June 2020	1,335	1,561	2,896
Interest accruing in period	**3**	**15**	**18**
New loan in year	**800**	**–**	**800**
Loan repayments in year	**–**	**(219)**	**(219)**
Lease Liability addition	**1,647**	**–**	**1,647**
Lease Liability repayments in year	**–**	**(561)**	**(561)**
Effect of foreign exchange		**(117)**	**(117)**
Loans classified as non-current at 30 June 2020 becoming current during year.	**(263)**	**263**	**–**
Lease Liability classified as non-current at 1 July 2020 becoming current during year	**(308)**	**308**	**–**
At 30th June 2021	**3,214**	**1,250**	**4,464**

PARENT COMPANY BALANCE SHEET
As at 30 June 2021

Company Registration No. 07228939

PARENT COMPANY REPORT

	Note	2021 £'000	2020 £'000
Fixed assets			
Property, plant and equipment		**27**	129
Investments	6	**1,497**	1,299
		1,524	1,428
Current assets			
Debtors	7	**6,393**	5,297
Cash at bank and in hand		**283**	323
		6,676	5,620
Creditors: amounts falling due within one year	8	**(408)**	(584)
NET CURRENT ASSETS		**6,268**	5,036
TOTAL ASSETS LESS CURRENT LIABILITIES		**7,792**	6,464
Creditors: amounts falling due after more than one year		**–**	–
NET ASSETS		**7,792**	6,464
Capital and reserves			
Called up share capital	9	**8,505**	6,804
Share premium account	9	**28,820**	27,764
Profit and loss account		**(29,533)**	(28,104)
SHAREHOLDER'S FUNDS		**7,792**	6,464

As permitted by section 408 of the Companies Act 2006, the Company's profit and loss account has not been included in these financial statements. The loss of the Company for the year ended 30 June 2021 was £1,533,000 (2020: £5,720,000).

The financial statements on pages 68 to 74 were approved and authorised for issue by the Board of directors on 14 December 2021 and signed on its behalf by:

David Banks
Chair

Keith Broadbent
Chief Executive Officer

COMPANY STATEMENT OF CHANGES IN EQUITY

For the year ended 30 June 2021

	Share capital £'000	Share Premium £'000	Profit and loss account £'000	Total Equity £'000
At 1 July 2019	6,354	27,764	(22,215)	11,903
Comprehensive Income for the year				
Loss for the year	–	–	(5,720)	(5,720)
Contributions by and distributions to owners				
Recognition of share-based payments	–	–	(155)	(155)
Issue of ordinary share capital, net of transaction costs	450	–	–	450
Share issue costs	–	–	(14)	(14)
At 30 June 2020 and 1 July 2020	6,804	27,764	(28,104)	6,464
Comprehensive Income for the year				
Loss for the year	–	–	(1,533)	(1,533)
Contributions by and distributions to owners				
Recognition of share-based payments	–	–	104	104
Issue of ordinary share capital	1,701	1,276	–	2,977
Share issue costs	–	(220)	–	(220)
At 30 June 2021	**8,505**	**28,820**	**(29,533)**	**7,792**

NOTES TO THE PARENT COMPANY BALANCE SHEET
For the year ended 30 June 2021

1. Basis of preparation
The parent company financial statements of Haydale Graphene Industries Plc, a public company incorporated and registered in England and Wales under the Companies Act 2016 with company number 07228939 which is limited by shares, have been prepared in accordance with Financial Reporting Standard 101 Reduced Disclosure Framework. The principal accounting policies adopted in the preparation of the financial statements are set out below. The policies have been consistently applied to the years presented, unless otherwise stated.

The financial statements have been prepared on a historical cost basis. The presentation currency used is sterling and amounts have been presented in round ("£000's").

Disclosure exemptions adopted
In preparing these financial statements the company has taken advantage of all disclosure exemptions conferred by FRS101. Therefore these financial statements do not include:

- certain comparative information as otherwise required by IFRS;
- certain disclosures regarding the company's capital;
- a statement of cash flows;
- the effect of future accounting standards not yet adopted;
- the disclosure of the remuneration of key management personnel; and
- disclosure of related party transactions with other wholly owned members of the group headed by Haydale Graphene Industries Plc.

In addition, all in accordance with FRS 101, further disclosure exemptions have been adopted because equivalent disclosures are included in the consolidated financial statements of Haydale Graphene Industries Plc. These financial statements do not include certain disclosures in respect of:

- Share based payments;
- Business combinations; and
- Financial Instruments

2. Accounting policies
With the exception of the adoption of IFRS 16 discussed further below, the following accounting policies have been applied consistently in dealing with items which are considered material to the company's financial statements:

Investment in subsidiary undertakings
Where the company has control over an investee, it is classified as a subsidiary. The company controls an investee if all three of the following elements are present: power over the investee, exposure to variable returns from the investee, and the ability of the investor to use its power to affect those variable returns. Control is reassessed whenever facts and circumstances indicate that there may be a change in any of these elements of control.

Investments in subsidiary undertakings where the company has control are stated at cost less any provision for impairment.

Financial assets
Impairment of financial assets
- The Company assesses at each balance sheet date whether a financial asset or group of financial assets is impaired.

Assets carried at amortised cost
These assets arise principally from the provision of services and advancing of monies to the company's subsidiaries, but also incorporate other types of financial assets where the objective is to hold these assets in order to collect contractual cash flows and the contractual cash flows are solely payments of principal and interest. They are initially recognised at fair value plus transaction costs that are directly attributable to their acquisition or issue, and are subsequently carried at amortised cost using the effective interest rate method, less provision for impairment.

The Company's financial assets measured at amortised cost comprise intercompany receivables, trade and other receivables and cash and cash equivalents in the consolidated statement of financial position.

The intercompany receivables are interest-free loans that are repayable on demand. In applying IFRS 9 to these balances, the company assesses the ability of the debtor subsidiary to repay the loan on demand at each reporting date. A loan is considered to be in default where there is evidence that the borrower has insufficient liquid assets to repay the loan on demand. This is assessed with reference to key liquidity and solvency ratios. Where the borrowing subsidiary has sufficient liquid assets to repay the loan immediately, meaning the risk of default is very low, the loan is considered to be in Stage 1 of the expected credit loss model, meaning that there is deemed to have been no significant increase in credit risk. However, should the borrowing subsidiary not have sufficient liquid assets to repay the loan on demand, the loan is considered to be at Stage 3 of the expected credit loss model and credit impaired. Where a loan is deemed to be credit impaired, an expected credit loss provision is recognised based on a 'repay over time' approach applying a discounted cashflow analysis.

Cash and cash equivalents includes cash in hand for the purpose of the statement of cash flows – bank overdrafts. Bank overdrafts are shown within loans and borrowings in current liabilities.

Share-based payments
When the company grants options over equity instruments directly to the employees of a subsidiary undertaking, the effect of the share-based payment is capitalised as part of the investment in the subsidiary as a capital contribution, with a corresponding increase in equity.

Depreciation
Depreciation is provided to write off cost, less estimated residual values, of all tangible fixed assets, evenly over their expected useful lives. It is calculated at the following rates:

Furniture and fittings	33% per annum straight line
Computer equipment	33% per annum straight line

Impairment
The need for any fixed asset impairment write-down is assessed by comparison of the carrying value of the asset against the higher of realisable value and value in use.

Taxation
The charge for taxation is based on the loss for the period and takes into account taxation deferred.

Current tax is measured at amounts expected to be paid using the tax rates and laws that have been enacted by the balance sheet date. The substantively enacted rate has been used for deferred tax balances, which are recognised in respect of all timing differences that have been originated but not reversed by the reporting date, except that the recognition of deferred tax assets is limited to the extent that the Company anticipates making sufficient taxable profits in the future to absorb the reversal of the underlying timing differences.

Foreign Currency
Foreign currency transactions are translated at the rates ruling when they occurred. Foreign currency monetary assets and liabilities are translated at the rate of exchange ruling at the balance sheet date. Any differences are taken to the profit and loss account.

Critical accounting judgements and estimation uncertainty
The preparation of the financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities, at the end of the reporting period. However, uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of the assets or liabilities affected in future periods.

The key sources of estimation uncertainty that have a significant effect on the amounts recognised in the financial statements include estimation, where applicable, for items relating to revenue recognition and impairment of receivables.

Impairment of Investments
The company considers the impairment of investments on an annual basis. An estimate of the values of investments is calculated on a discounted cash flow basis. Our value in use calculations require estimates in relation to uncertain items, including management's expectations of future revenue growth, operating costs, profit margins, operating cashflows and the discount rate applied.

2. Accounting policies (continued)

Future cash flows used in the value in use calculations are based on our latest Board approved five-year financial plans. Expectations about future growth reflect expectations of growth in the markets applicable to the group. The future cashflows are discounted using a pre-tax discount rate that reflects current market assessments of the time value of money. The impairment of investments has been considered under note 10 of the consolidated financial statements.

Impairment of debtors

The company applies the expected credit loss model under IFRS 9 in assessing the impairment of receivables. As intercompany receivables are repayable on demand, the debtor is considered to be in default if they would be unable to repay the balance at the reporting date. In such circumstances, the receivables are impaired to the extent that the debtor company is not considered able to repay the receivable if it were to be recalled at the balance sheet date. Where a loan is deemed to be credit impaired, an expected credit loss provision is recognised based on a 'repay over time' approach applying a discounted cashflow analysis.

3. Audit Fees

The audit fees of the parent company have been disclosed within note 6 of the consolidated financial statements, which form part of these financial statements.

4. Employees

The average number of employees during the year, including executive directors, was:

	2021	2020
	No.	No.
Administration	**9**	9

Staff costs for all employees, including executive directors, consist of:

	2021	2020
	£' 000	£' 000
Wages and Salaries	**642**	716
Social Security Costs	**79**	86
Pension Costs	**53**	44
Share based payment (income)/expense	**48**	(40)
	822	806

5. Directors' remuneration

In respect of directors' remuneration, the disclosures required by Schedule 5 to the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 are included in the detailed disclosures in the audited Group accounts in Note 7, which are ascribed as forming part of these financial statements.

6. Fixed asset investments

	Investment
	£'000
Cost	
At 1 July 2020	1,299
Additions	198
At 30 June 2021	**1,497**

The impairment reviews have been carried out on the same basis as those applied to goodwill and intangibles of the Group (see note 10 in the Group accounts for further detail).

The undertakings in which the company's interest at the period end is 20% or more are as follows:

Name of subsidiary company	Country of incorporation or registration	Proportion of ordinary share capital held	Nature of business
Haydale Ltd	England & Wales	100%	R&D, sales and distribution
Haydale Composite Solutions Limited	England & Wales	100%	R&D, sales and distribution
Haydale Composites Ltd	England & Wales	100%	Dormant
EPL Composites Limited	England & Wales	100%	Dormant
Haydale Technologies Korea Co., Ltd	South Korea	100%	Sales and distribution
Haydale Technologies Incorporated LLC	North America	100%	R&D, sales and distribution
Haydale Technologies Thailand Ltd	Thailand	100%	R&D, sales and distribution
Haydale Ceramic Technologies LLC	North America	100%	Sales and distribution

Haydale Composites Ltd & EPL Composite Limited are exempt from audit in accordance with the Companies Act 2006, as a result of them remaining dormant throughout the current and previous financial years.

Haydale Technologies Korea Co., Ltd is exempt from audit.

Subsidiary	Registered office
Haydale Ltd	Clos Fferws, Parc Hendre, Capel Hendre, Ammanford, Carmarthenshire, SA18 3BL
Haydale Composites Ltd	Clos Fferws, Parc Hendre, Capel Hendre, Ammanford, Carmarthenshire, SA18 3BL
EPL Composites Ltd	Clos Fferws, Parc Hendre, Capel Hendre, Ammanford, Carmarthenshire, SA18 3BL
Haydale Composite Solutions Limited	Unit 10 Charnwood Business Park, North Road, Loughborough, Leicestershire, LE11 1QJ
Haydale Technologies Korea Co., Ltd	16F, Gangnam Bldg. 396, Seocho-daero, Seocho-gu, Seoul 137-857, South Korea
Haydale Technologies Thailand Ltd	Room 510 – 515, Tower D, 5th Floor, Thailand Science Park Phahon Yothin Road, Luang District, Pathum Thani Province, 12120, Thailand
Haydale Technologies Incorporated LLC	1446 South Buncombe Road, Greer, South Carolina. 29651, USA
Haydale Ceramic Technologies LLC	1446 South Buncombe Road, Greer, South Carolina. 29651, USA

7. Debtors

	2021 £'000	2020 £'000
Amounts owed by group companies	**6,217**	5,164
Corporation tax	**76**	95
Other debtors	**91**	16
Prepayments and accrued income	**9**	22
	6,393	5,297

During the year an impairment provision of £nil (2020: £1.42 million) was recognised in relation to Intercompany balances.

Loans to subsidiary organisations are denominated in their local currency in line with IAS21, for consolidation purposes these loans are classified as part of the net investment in the subsidiary and foreign exchange movements on these balances are recorded through the Other Comprehensive Income.

Amounts owed by group companies are in foreign currencies, predominately USD and Thai Baht a 10% movement in the exchange rate would result in a gain of £1.14m or a loss of £0.93m.

8. Creditors: amounts falling due within one year

	2021 £'000	2020 £'000
Trade creditors	**19**	79
Other creditors including tax and social security	**46**	84
Accruals and deferred income	**343**	421
	408	584

9. Share capital and share premium

	Number of shares No.	Share capital £' 000	Share premium £' 000	Total £' 000
At 1 July 2020	340,223,848	6,804	27,764	34,568
Issue of £0.02 ordinary shares	85,055,950	1,701	1,056	2,757
At 30 June 2021	**425,279,798**	**8,505**	**28,820**	**37,325**

During the year, the Company issued 85,055,950 new ordinary shares of 2p each during September 2020. There were £220,000 issue costs associated with the new ordinary share issue.

10. Ultimate controlling party

The Directors do not consider any one shareholder, individually or acting in consort with others, to have ultimate control of the Company.

11. Related party transactions

The Company is exempt from disclosing transactions with wholly owned subsidiaries within the Group. Other related party transactions are included within those given in note 21 of the consolidated financial statements.

Corporate Directory

Company Number	07228939
Directors	David Doidge Richard Banks Keith Broadbent Mark Chapman Graham Dudley Eves Theresa Anne Wallis
Secretary	Matt Wood
Investor Relations	investor.relations@haydale.com
Head Office and Registered Office	Clos Fferws, Parc Hendre, Capel Hendre, Ammanford, Carmarthenshire, Wales, SA18 3BL
Website	www.haydale.com
E-mail	info@haydale.com
Telephone	+44 (0)1269 842946
Advisers	
Independent Auditor	Grant Thornton UK LLP Seacourt Tower, Botley, Oxford, OX2 0JJ
Nominated Advisor and broker	Arden Partners 125 Old Broad Street, London, EC2N 1AR
Registrars	Share Registrars Limited Suite E, First Floor, 9 Lion and Lamb Yard, Farnham, Surrey, GU9 7LL
Solicitors	Field Fisher LLP Riverbank House, 2 Swan Lane, London EC4R 3TT
Intellectual Property Solicitors	Mewburn Ellis LLP 33 Gutter Lane, London, EC2V 8AS

Perivan 262133

www.haydale.com

Haydale Graphene Industries Plc

Clos Fferws, Parc Hendre,
Capel Hendre, Ammanford,
Carmarthenshire, SA18 3BL

T: +44 (0)1269 842946
F: +44 (0)1269 831062