

2022 ANNUAL REPORT AND FINANCIAL STATEMENTS

**TWI LIMITED
REGISTERED COMPANY
NO. 03859442**



TABLE OF CONTENTS

Company Information - TWI Limited	3
Key Statistics	6
Spotlight On Our People	10
Spotlight On Our Projects	16
Spotlight On Our Global Impact	20
Strategic Report	22
Section 172 Statement	26
Business Review	28
Client Satisfaction	32
Financial Results	34
Principle Risks and Uncertainties	38
Key Performance Indicators	44
Environmental, Social, Governance	46
Board Decision Making	52
The Executive Board	56
Directors' Report	60
Independent Auditors' Report	64
Statement of Comprehensive Income	70
Balance Sheet	72
Statement of Changes in Equity	74
Statement of Cash Flows	76
Notes to the Financial Statements	78

COMPANY INFORMATION

DIRECTORS

Aamir Khalid
John Hill (appointed 18 April 2022)
Leonie Stewart
Paul Woollin
Shahid Aslam
Tat-Hean Gan

INDEPENDENT AUDITORS

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Chartered Accountants & Statutory Auditor
101 Cambridge Science Park
Milton Road
Cambridge CB4 0FY

REGISTERED OFFICE

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Great Abington
Cambridge CB21 6AL

BANKERS

Barclays Bank PLC
Market Place
Saffron Walden
Essex CB10 1HR



INTRODUCING TWI LIMITED

TWI Limited ("TWI") is one of the world's foremost independent research and technology organisations, with expertise in solving problems in manufacturing, fabrication and whole-life integrity management technologies. The company has a first-class reputation for service through its teams of internationally respected consultants, scientists, engineers and support staff. Supported by a successful international training and examinations network, TWI Limited also takes technical and practical know-how to regions which are looking to develop local expertise.

TWI Limited has been serving the needs of The Welding Institute's Professional and Industrial Members for over 75 years, and this still leads the direction of our work today. The constantly shifting needs of industry over the years has meant that TWI Limited has remained dynamic in this support, with companies being invited

to work alongside our experts on-site and universities working in collaboration with TWI Limited within the structure of our innovation centres. Our experts not only support innovation driven by universities and the needs of industry, but also create underpinning technology and research to develop products that can be brought to market by subsidiary companies.

TWI Limited actively supports the development of the next generation of trained and competent employees through our training and certification programmes. The advancement of the next generation of global engineering experts is coupled with the development of our own staff through sponsored Master's programmes, apprenticeships, the National Structural Integrity Research Centre and our diversity and inclusion initiatives.





As the UK government seeks to address future challenges through the development of areas such as artificial intelligence, big data, clean growth and the future of mobility, so our work aligns with this strategy to provide solutions for the future of industry and society in general. This innovation and expertise works alongside the needs of our Members on a regional, national and international level.

Our responsibilities do not end with industry and academia. TWI Limited's corporate and social responsibility work uses educational outreach programmes to promote science, technology, engineering and maths (STEM) in

schools, colleges and at university. We have a demonstrable commitment to caring for the environment. By meeting the needs of industry with a view to the environment and changes in the global population year on year, TWI Limited remains at the forefront of providing innovative solutions to tomorrow's problems.

TWI Limited operates management systems which are independently certified by Lloyds Register Quality Assurance to BS EN ISO 9001, for Quality Management Systems, as well as for Health and Safety (BS ISO 45001) and Environment (BS EN ISO 14001).

TWI Limited is a world leader in joining, materials and structural integrity.

KEY STATISTICS

KEY STATISTICS

PROJECT DELIVERY

Successfully delivering projects in a fast moving dynamic environment is challenging. TWI Limited has been delivering technically demanding projects to our Members that provide value and competitive advantage for many years. We have a team of dedicated project management professionals that follow established project management principles to ensure delivery meets expectation. Across the organisation we strive to continuously improve

our project management processes as the business grows into new markets and the demands of these manifest in new requirements for the teams to meet. We see, from our Members, an increasing need for improved delivery and communication that TWI Limited is ready to meet. We look forward to working with our Members on many more exciting and beneficial projects.



2083

ACTIVE PROJECTS

ONGOING PROJECTS PER ANNUM



852

SINGLE CLIENT



197

COLLABORATIVE



128

CORE RESEARCH



15

JOINT INDUSTRY

SECTORS WE SERVE



**AEROSPACE
AND SPACE**



DEFENCE



**FUTURE
INFRASTRUCTURE**



MEDICAL



**AUTOMOTIVE AND
ELECTRIFICATION**



RAIL



**ELECTRONICS
AND SENSORS**



POWER



NEW ENERGY



MARINE



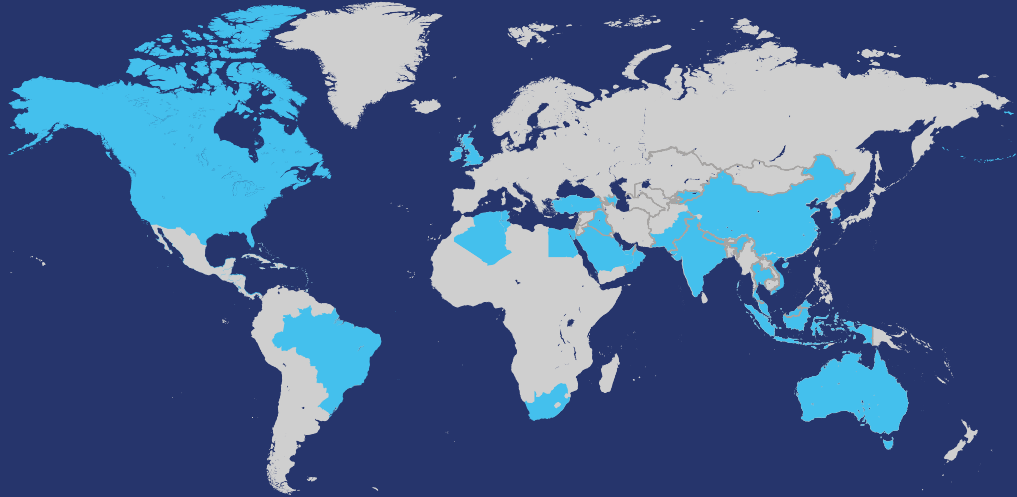
**HYDROGEN
ECONOMY**



OFF HIGHWAY



TWI LIMITED INTERNATIONAL PRESENCE



533

INDUSTRIAL MEMBERS



4000

PROFESSIONAL MEMBERS

CORPORATE IMPACT



11000

CERTIFICATES ISSUED



128

PHD AND MSC COMPLETED



500+

WELDING SOFTWARE LICENCES



3000+

STUDENTS REACHED VIA EDUCATION OUTREACH



45+

TECHNOLOGY CONFERENCES AND SEMINARS



18000+

PEOPLE TRAINED



600

LIBRARY ENQUIRIES



SPOTLIGHT ON OUR PEOPLE

OUR PEOPLE

ADRIENNE BARNES - CONSULTANT



Adrienne joined the Ferrous section of TWI in 1988 after graduating in Metallurgy and Materials Science from Imperial College, London, becoming a Section Manager in 1994. She took a career break in mid-2001, re-joining TWI in September 2009,

so has cumulatively worked for TWI for circa 27 years!

She is currently a Consultant in metallurgy and Material Performance in the Materials and Structural Integrity Group, working principally on ferritic steel consultancy and failure investigations covering a wide range of industry sectors and equipment including offshore pipelines and structures, mooring chains, pressure vessels and piping, automotive and transport. This work has involved travel to sites in the UK (including offshore), continental Europe and the USA.

Over the past few years, Adrienne has led a number of projects focusing on materials testing in aggressive environments for the oil & gas industry for the purpose of determining flaw tolerance of oil and gas assets operating with harsh internal environments and determining the applicability and implications of various test results and historical information

to integrity assessments of these assets.

Adrienne has published a number of papers, both in the UK and internationally, primarily on HAZ toughness in C-Mn steels and on creep strength-enhanced ferritic steels.

Q. What do you find most fulfilling about your current role at TWI ?

I value the variety of work, client interactions, teamwork and TWI's core values.

Q. Can you share a significant achievement in your career that you are most proud of ?

When I completed a secondment to Nippon Steel Research Labs in Japan, working with key experts in ferritic steel toughness.

Q. When you have a day off, what do you enjoy doing the most ?

I enjoy a nice meal out with family, spending time with my dogs, and painting.

Q. If you could do it all over again, would you pursue the same career?

Yes, I love the challenges and variety in my career, although I could be tempted to explore something new.

ANAS YAGHI - PRINCIPAL SIMULATION AND MODELLING ENGINEER



Anas obtained his BEng (Honours) in Mechanical Engineering from the University of Nottingham in 1989 and continued to do his PhD at the same university over the following three years, also in Mechanical Engineering, after receiving a full studentship. He then worked as

a Researcher in the same department where he graduated. His speciality has always been Mechanics of Solids and the Finite Element Method. In 2012 he left the University of Nottingham to work at the Manufacturing Technology Centre (MTC) in Coventry as a Senior Research Engineer in the Department of Physics Modelling. He finally joined TWI as a Principal Engineer in July 2023. Since 2003, Anas' main speciality has been the application of the finite element method to model and simulate thermo-mechanical manufacturing and industrial processes such as fusion welding and additive manufacturing, as indicated by his numerous conference and journal publications in this field of numerical and applied engineering. In 2016, he was one of the founders of the Manufacturing Working Group in NAFEMS, which is the International Association for the Engineering Modelling, Analysis and Simulation Community, and he has been the Vice-Chair of that technical working group ever since.

Q. What do you find most fulfilling about your current role at TWI ?

I enjoy the intellectual challenge and constant problem-solving nature of my work. I specialise in modelling and simulating manufacturing processes, and find immense satisfaction when my models show results. I value the collaborative and supportive atmosphere in my diverse team and the people around me drive my productivity and enjoyment in my role.

Q. Can you share a significant achievement in your career that you are most proud of ?

I specialise in modelling welding and additive manufacturing processes. I am most proud of my publications (over 60 of them) in this field, including an award-winning paper.

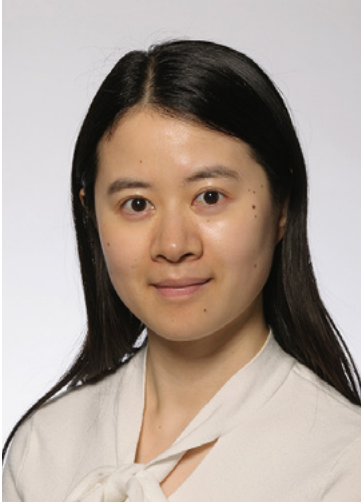
Q. When you have a day off, what do you enjoy doing the most ?

I cherish quality time with my family, travelling, camping, playing sports and reading.

Q. Reflecting on your career journey, would you choose the same career path if you had the opportunity to start over ? Is there anything you would change ?

Yes, I would follow a similar career path. In particular I would focus on continuous learning and programming skills.

MULAN MU - PROJECT LEADER, TECHNOLOGY



Mulun joined TWI in April 2019 and is a project leader in the NPT Section of technology at TWI.

Q. What do you find most fulfilling about your current role at TWI ?

I find the friendly work environment and helpful colleagues in my section the most fulfilling part of

the job. I would describe all of my colleagues as being kind and I am able to rely on them for help with teamwork which is a core aspect of my work.

Q. Can you share a significant achievement in your career that you are most proud of ?

I introduced AI techniques into traditional welding methods, which resulted in streamlining research work.

Q. When you have a day off, what do you enjoy doing the most ?

I enjoy watching football matches and generally socialising with family and friends.

Q. Reflecting on your career journey, would you choose the same career path if you had the opportunity to start over ? Is there anything you would change ?

Yes, I would follow a similar career path. I would aim to apply advanced AI techniques to traditional manufacturing methods.

NATHANIEL SWAIN - TECHNICIAN



Nathaniel joined TWI in September 2018 as a technician working in the SCI Section of TWI having completed his level 3 apprenticeship in mechanical engineering.

Q. What do you find most fulfilling about your current role at TWI ?

I enjoy the variety of work and the motivating team environment at TWI.

Q. Can you share a significant achievement in your career that you are most proud of ?

I completed my level 3 apprenticeship in mechanical engineering at a young age, demonstrating my dedication to the industry and my skills.

Q. When you have a day off, what do you enjoy doing the most?

I have an interest in radio controlled cars so enjoy fixing, modifying and driving my RC cars.

Q. Reflecting on your career journey, would you choose the same apprenticeship if you had the opportunity to start over ? Is there anything you would change ?

Yes, I would chose the same apprenticeship. It is a broad course and has significant learning opportunities.

TRISTON DOURADO - APPRENTICE NDT TECHNICIAN



Triston joined TWI at the end of 2022, after doing a level 2 light vehicle maintenance and repair course at college. He is currently an apprentice in the NDT department, aspiring to take a lead role in projects as a technician in 2 to 3 years. After his apprenticeship is complete, he

will be able to gain more specialised expertise in multiple NDT techniques, such as penetrant testing, magnetic particle inspection and radiographic testing. He aspires to study a degree following the completion of his apprenticeship

Q. What do you find most fulfilling about your current role at TWI ?

I enjoy meeting various people within the company and the diverse interactions.

Q. Can you share a significant achievement in your career that you are most proud of?

I recently passed my qualification in Penetrant testing at TWI and completed a college course in vehical maintenance and repair.

Q. When you have a day off, what do you enjoy doing the most ?

I enjoy quality time with my family, relaxing at home, go -karting and playing football.

Q. Reflecting on your career journey, would you chose the same career path if you had the opporunity to start over ? Is there anything you would change ?

Yes, I would chose the same career path, although possibly with a stronger focus on mechanics.

MIHALIS KAZILAS - BUSINESS GROUP MANAGER



Mihalis joined TWI in 2012 and is a chemical engineer with a specialisation in materials science (process monitoring of aerospace composites production). He participated in academic and commercial projects and holds responsabilites in experiental design

work, data analysis and extensive reporting. Non-metallics is one of the statigic growth areas of TWI, including joining technologies and phenomena that occur at the interface of composites and polymers.

Over the years, TWI has successfully developed new innovative techniques along with a wealth of expertise in processes and operations that use non-metallic assets. In addition to the innovative and advisor work carried out by the Polymer and Composites Technology Team, TWI is instrumental on a number of committees to develop, produce and revise standards related to polymers and composites in engineering.

Q. What is your favourite thing about your current job ?

Being able to enable (de-risk, speed up, chase) the technology teams and sections to deliver value to Members.

Q. What energizes you about your career ?

Ambition.

Q. What are your hobbies ?

Board games collecting and playing. I was heavily involved into MMORPG (Lineage, warcraft) with real life friends. One day we all gathered and play a board game called Puerto Rico... and I got hooked !

Q. The one thing that can instantly make your day better ?

A positive message from my wife or my son.

HUAN WU - PROJECT LEADER



Huan joined TWI in 2018 after completing her PhD in Mathematics and Statistics at the University of Warwick. Huan is currently a Senior Project Leader in Numerical Modelling and Optimisation (NMO). Her main area of expertise is in mathematical modelling and

numerical optimisation. She leads and supports R&D projects in finite element analysis, additive manufacturing, solid mechanics, welding and joining processes modelling, fracture and fatigue analysis, multi-physics and multi-scale modelling and data analysis. She is a member of The Institute of Mathematics and its Applications (MIMA) and a certified NAFEMS Professional Simulation Engineer (PSE).

Q. What is your favourite thing about your current job ?

The variety of challenges that I face every day. The areas I work on cover almost all industrial sectors. Coming from a mathematics background it is very refreshing and exciting to see the most cutting edge technology and applications, and to solve real-world problems.

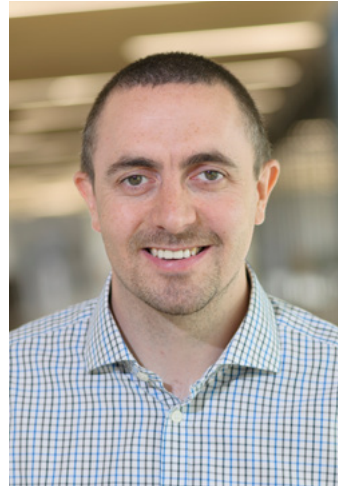
Q. What is your career highlight you are most proud of ?

A water hammer project I worked on, regarding the rapid condensation and consequently the damages in water and steam pipes. It's not the price of the project but the technical challenge that I am proud of. It was a very complex model involving rapid moment, heat transfer and phase-transition, which I created from scratch without any modelling software. It was a very challenging and rewarding experience and the project team managed to deliver satisfactory results.

Q. What is your favourite way to spend a day off ?

I'm based in Middlesbrough, so love walks, and hikes in the national parks and the seaside around here. I've started hiking Munros in Scotland when time permits.

MATTHEW HASLETT - TEAM LEADER



Matthew joined TWI in 2012. He read Mechanical Engineering (MEng) at the University of Cambridge and has prior work experience in nuclear engineering, the Royal Navy and the M.O.D. He is currently the Team Leader for Environmental Testing in the Fatigue and Fracture Integrity

Management (FIM) section, a Chartered Engineer (IMechE) and a Fellow of The Welding Institute. Matthew's main areas of expertise lie in fracture toughness testing (in air and environment), general mechanical testing and engineering critical assessment. In addition, he lectures on a number of TWI training courses and mentors colleagues working towards Chartership. He is currently studying for an Executive MBA, and is a previous Chair of The Welding Institute Younger Members' Committee, with a particular interest in education outreach. Talking about education outreach, Matthew says, "The importance cannot be underestimated. The STEM professions are crying out for good quality scientists and engineers and it is vital that children are shown, at an early age, the fantastic opportunities that are out there for them in their future careers".

Q. What is your favourite thing about your current job ?

The variety is what keeps me engaged. Every day really is different, as we work with such a diverse range of member companies across all sectors. I enjoy the challenge of juggling multiple, differing requests and requirements, and serving our members.

Q. What originally got you interested in your current field of work ?

My interest came from two places; my dad who was a mechanical engineer in the nuclear industry for most of his career, and an after-school engineering club at secondary school. Both helped me really understand what engineering was about, meaning I could make an informed decision to pursue it as a career.



SPOTLIGHT ON OUR PROJECTS

OUR PROJECTS

TWI Limited continued to work on numerous projects to address the challenges of our Industrial Members in 2022, including:

- Development of composite hydrogen storage vessels with a polymeric liner;
- Developing novel and cost-effective coatings for high-energy industrial processing applications;
- Creating remote robotic offshore wind turbine and marine inspection solutions;
- Developing innovative manufacturing processes and in-line monitoring techniques for photovoltaic module production;
- A novel precision laser welding system optimised for use on large aerospace and automotive structures.

EXAMPLES OF RESEARCH PROJECTS WORKED ON IN 2022

MAREWIND



The MAREWIND Project aims to deliver solutions for the development of durable materials and recyclable solutions for offshore wind to help meet European Union climate targets. This includes enhanced durability and corrosion protection systems as well as anti-fouling solutions, erosion protection, and predictive modelling and monitoring to extend asset lifecycles along with improvements to recyclability.

The project, which includes input from organisations from seven different nations, created new job opportunities as the consortium completes nine work packages covering the whole value chain of the offshore wind sector.



MAST3RBOOST

The MAST3RBOOST project aims to deliver improved hydrogen storage solutions to help progress what many see as the most environmentally friendly answer to clean transport.

Hydrogen fuel cells have been shown to outperform batteries and are a cleaner solution for the decarbonisation of buses, large cars, ship, trucks and trains.

TWI has joined 12 other organisations on the MAST3RBoost project to bring a new generation of ultraporous materials for high-density hydrogen storage to maturity. The state-of-the-art hydrogen testing facilities at TWI will be used as part of this project, where TWI is able to quantify hydrogen permeation rates.

GEO THERMAL ENERGY



TWI has been working on a range of projects related to geothermal energy, including: S4CE (Science for Clean Energy) - implementing innovative technologies to monitor, manage and mitigate environmental risks;

Geo-Coat - high performance erosion and corrosion-resistant coatings;

GeoSmart – storing heat energy to cost-effectively respond to network demands;

GeoDrill - developing holistic drilling technologies that have the potential to reduce the cost of drilling to large depths and at high temperatures;

GeoPro - developing a verified set of robust, user friendly, flexible and accessible tools to optimise sustainable geothermal reservoir management, power and heat production and reinjection strategies;

GeoHex - developing heat exchanger (HX) materials, addressing both the improvements in the anti-scaling and anti-corrosion properties as well as the heat transfer performance of the HX material.

SHEARIOS



The Horizon 2020 funded ShearRIOS project developed a robotically deployed inspection system for in-situ wind turbine blades. The ShearRIOS system combines shearography and robotics to improve health and safety for onsite personnel by providing semi-automated blade inspection.

This project brought together expertise and capabilities from seven pan-European organisations to develop the ShearRIOS system. TWI developed a laser shearography system suitable for onsite inspection of wind turbine blades.

MASCOTS



The Manufacturing and Advanced Simulation of Composite Tow Shearing ("MASCOTS") project focuses on the development of hardware as well as design and analysis tools for the commercialisation of the innovative technology of rapid composite tow shearing developed by iCOMAT.

TWI's advanced composites and adhesives section is managing the testing activities and applying 3D digital image correlation to two components that are used to validate the benefits of the composite tow shearing technology.

During 2022 the bend test on a typical wingbox structure was successfully performed.

PINWELD



TWI has been working alongside Industrial Member company Pinweld, to help develop their innovative welding system. The discreet welding technique delivers welds with good fusion and fine joints without the use of adhesives, solvents or consumables.

Currently able to achieve joints with strengths above 70% of the parent material, the Pinweld system is undergoing further development and optimisation with assistance from TWI. Future plans include the development of robot

mounting for the system, allowing it to be used on larger sized work pieces and to create more complex, continuous joints.

The new, innovative system is already demonstrating how it can solve welding problems for a range of industries including automotive, medical, aerospace, plastic pipes and more.

GREEN PROPELLANTS



TWI assisted with a recent project funded by the European Space Agency (ESA) to test greener propellants for spacecraft. This novel field of research plays a vital role in improving the environmental sustainability of the Space Sector.

TWI's role in the activity was to investigate whether and how the green propellants influenced the structural integrity of the various materials and weld samples. This required undertaking metallography, tensile, fracture toughness and harness testing of samples prior and after various times of immersion in fuel. TWI also developed a friction stir welding procedure for joining Al-Li alloys, which is of particular relevance in the context of fuel tank manufacturing for launch vehicles and satellites.



SPOTLIGHT ON OUR GLOBAL IMPACT

OUR GLOBAL IMPACT



NSIRC MARKS 10 YEAR ANNIVERSARY

2022 marked the National Structural Integrity Research Centre (NSIRC's) 10th anniversary, since being established by founding partners Lloyd's Register Foundation, BP and TWI to bridge the gap between industry and academia, and deliver a new model for the training and development of future generations of engineering leaders. During that time, NSIRC students, supported by their industrial and academic supervisors, have worked tirelessly and diligently to advance fundamental research into real world applications for a safer world, enabled through undertaking industry-based PhDs and MScs at TWI, awarded by NSIRC university partners in the UK.

2022 saw NSIRC embark on significant expansion plans with the launch of NSIRC International, the objective of which is to extend NSIRC's pioneering industry-academia model out to university partners internationally, supporting the career development of future engineers, and contributing to the economic and societal infrastructure in overseas regions.

NSIRC International, funded by Lloyd's Register Foundation, is now offering qualifications based on NSIRC's Technology Strategy and Roadmap themes of digitalisation, smart manufacturing, new materials, circular economy and net zero



SEASEP MAKING THE WORLD A SAFER PLACE

The South East Asia Skills Enhancement Programme (SEASEP) was launched by TWI Limited and the Lloyd's Register Foundation in 2018 with a specific focus on improving health and safety standards in the South East Asia region.

The programme delivers funded skills development training which leads to an internationally recognised qualification and certification, ensuring that in-country skills shortages are addressed. The programme also provides access to training to disadvantaged or under-represented groups through the additional support offered with course fees.

During 2022 SEASEP entered its second phase. This new phase of the programme has been developed to offer the following training:

- An additional 1000 students trained in Indonesia
- An additional 1000 students trained in India
- 2000 students trained in the Philippines
- 2000 students trained in Thailand

Phase Two is a three-year programme to continue delivering societal impacts including improved safety of physical assets, fewer people being harmed or killed in workplace accidents, delivering a higher proportion of female trainees and other underrepresented groups, and helping to grow infrastructure across South East Asia.

STRATEGIC REPORT

STRATEGIC OBJECTIVES

Throughout the year we relentlessly focused on our efforts to push the boundaries of technology through collaboration and innovation, so that we could better position TWI to successfully provide the expertise necessary to meet the challenges of tomorrow, across our Member base.

Recognising our role as a world leader in joining, materials and structural integrity, we develop our people, capabilities and networks to provide stakeholders with independent and authoritative support, innovation and expertise. To achieve this we set a five-year strategy on:

1. Improving our focus and performance on Health, Safety, Environment and Diversity & Inclusion.
2. The stable and reliable generation of cash from profits needed to invest in the company's future sustainability.
3. Building closer relationships with our key Members, and adding greater value to their operations, either individually through single client projects or collectively through the very popular and effective joint industry projects.
4. Targeting specific TWI generated knowledge and technologies for exploitation
5. Targeting high growth markets through our overseas subsidiaries around training in India, South East Asia, the Middle East and Central Asia, as well as consultancy in China, Japan and USA.
6. Exploiting TWI's property portfolio to provide underlying stability for the wider business.

The metrics used to judge our success in these

endeavours are set over five years, with annual milestones around the following strategic areas:

- Health Safety and Environment
- Diversity and Inclusion
- Technology Leadership
- Customer Satisfaction
- Governance
- Financial: Turnover, Profit, Cash Generation, Group Value
- Performance of Property Portfolio

HEALTH, SAFETY AND ENVIRONMENT

Delivering a zero harm culture change plan that would include:

- An organisational structure to remove conflicts between operations and HSE
- An evaluation framework involving a trial HSE scorecard and RACI matrix
- Greater and more frequent employee engagement across the group
- Implementing HSE appraisal objectives for greater involvement in improvements
- Better hazard identification and assessment with new risk assessment tools
- More training with a skills audit and root cause training
- Improved operational controls around investigation, change management, contractor management and lifting

DIVERSITY AND INCLUSION

The Company's Diversity & Inclusion strategy foccuses on promoting an inclusive culture at TWI, including:

- A 'Living the Values' Programme with each of the 6 TWI values being evaluated by staff in succession over the course of 2022. This was achieved through surveys and a series of meetings with breakout sessions, during which staff were asked to answer 6 questions:
 - What does the value mean to them;
 - What does the value mean at corporate level;
 - What currently works well;
 - What could we do better;
 - What policies and procedures support the value; and
 - What criteria could be used to measure the value in the appraisals
- Pay and award benchmarking with Mercers to ensure equitable pay
- Progression framework for all staff to reduce the gender pay gap

GROWING SINGLE CLIENT PROJECTS INCOME

- Focusing on Industrial Members that place single client projects (SCP) and recruiting new Members based on our 'Future Sectors'.
- Growth of membership in Asia
- Building more and better key account relationships, rebuilding the connections within Member companies and creating internal champions in Member companies.

PROFESSIONAL MEMBERS AND STRATEGY

- Improving communications with Professional Members and building the value of membership to them.
- Building closer alignment with Industrial Members (e.g. via Institute ambassadors)
- Developing overseas networks and opportunities (e.g. China, SEA)



TARGET MARKETS



TRANSITION TO NET ZERO



ENERGY (RENEWABLES, H2 AND NEW NUCLEAR)



TRANSPORT (ELECTRIC VEHICLES, SPACE)



DEFENCE



CIRCULAR ECONOMY INCLUDING DECOMMISSIONING



**DIGITAL ECONOMY
INCLUDING MODELLING AND SIMULATION**

SECTION 172 STATEMENT

SECTION 172 STATEMENT

The Companies (Miscellaneous Reporting) Regulations 2018 require qualifying companies to publish a statement explaining how the directors have had regard to the matters set out in section 172(1)(a) to (f) of the Companies Act 2006 in performing their duties under section 172. In accordance with section 172, the Directors confirm that they have acted in the way that they consider, in good faith, would be most likely to promote the success of the Company for the benefit of its shareholders as a whole. The paragraphs below identify key stakeholders and provide examples of how the Directors have had regard to the matters set out in section 172(1)(a) to (f) of the Act.

S172(1)(a) - The likely long term consequences of decisions

The Directors regularly consider the long term consequences of the Board's decisions and actions. As an example of this following the sale of the zone 2 land in prior years and the resulting increase in the Company's cash resources the Directors' have, as part of the overall strategy of the Company, carefully considered how best to invest these resources to ensure that TWI can successfully provide the expertise necessary to meet the challenges of tomorrow.

S172(1)(b) - The interests of the Company's employees

The interests of TWI Limited's employees have been key to decisions made by the Directors. Subsequent to the Covid-19 pandemic there has been a shift to a more agile working environment with a greater proportion of administrative functions working from home there has been a continued focus on how to work effectively while prioritising staff safety and wellbeing. Accordingly, company-wide protocols and initiatives initially put in place in previous years have been maintained and are regularly reviewed and updated to protect and support employees. The implementation of our diversity and inclusion strategy continues to be a key component, as detailed in our Directors Report under Board Decision Making.

S172(1)(c)- The need to foster business relationships with suppliers, customers and others

The Directors have regard to the need to foster good relationships with customers through, for example, the implementation of key account management, the development and improvement of service offerings, and the on going review and strengthening of the Company's Quality Assurance procedures. The Directors take into account the need for good business relationships with suppliers when reviewing key and critical supplier lists, and supplier payment terms

S172(1)(d) - The impact of the Company's operations on the community and the environment

The Directors are conscious of the importance of investing in and caring for the physical environments and communities in which TWI Limited operates. These initiatives are detailed in our Directors Report under Environmental, Social and Governance.

S172(1)(e) - The desirability of maintaining a reputation for high standards of business conduct

The Directors are committed to high standards of business conduct throughout the Company and take into account the desirability of maintaining its reputation for the same in their decision making. To support this the company has initiated a policy review and consultation process to provide our stakeholders on clear guidelines for our operations.

S172(1)(f) - The need to act fairly as between shareholders

Due to the governance nature of TWI Limited, the Directors ensure that there are regular, formal meetings with the various committees and representatives of its key shareholder (and parent company) – The Welding Institute, this is detailed in our Director's Report under Corporate Governance.



BUSINESS REVIEW

BUSINESS REVIEW



Aamir Khalid
Chief Executive

TWI Ltd is the main technology delivery vehicle for The Welding Institute, its parent company. It delivers Technology in the form

of R&D and Consultancy for the Industrial and Professional Members of the Welding Institute.

It also delivers training courses in the UK to operators in the field of welding and joining.

2022 was a year of considerable investment for TWI. During the year the Company has invested significantly in improving TWI's governance, investing in its property portfolio and investing into its technology. This is reflected in the results for the year both in terms of the capital expenditure incurred together with the overall loss for the year.

I recognise that none of this is possible without the dedicated and diligent work of our staff, from our technical experts and project leaders to the laboratory staff who work tirelessly to deliver on the requirements of our Members. For this reason, I am pleased that we can look to reward our staff for their hard work, over the past two years in particular, through our 'share in success.'

TWI Limited carried out £12.6m of research and development activities for its industrial and professional members which was funded by its parent company, The Welding Institute.

The following services were provided to its Members using the funds of its parent company, The Welding Institute:

- R&D for the use of its Industrial and Professional Members. This created knowledge and trained hundreds of young engineers in R&D. It also created a reputation in R&D. The results of the knowledge generated

are made available through dissemination (seminars, webinars, scientific publications and contributions to over 50 standard bodies) to the TWI Industrial and Professional Membership. The Members are provided reports and the output of the results.

- Education and Training provision to the Industry. The TWI Group provided Education and Training to thousands of Students Worldwide using TWI Ltd. This training is free of charge and includes stipends for students. This training is provided on behalf of its 550 Industrial and 4,000 Professional Members.

TWI Ltd in partnership with Lloyds Register Foundation (LRF) has provided free training to hundreds of PhDs and MScs and thousands of CSWIP Operators, Nationally and Internationally. Most students received a full stipend for their studies at TWI and LRF cost. LRF funds these activities partially; with TWI providing the balance of funding required.

We are in a strong position, looking forward to building upon the foundation paved this year, and fulfilling our 5-year strategy to 'stabilise, focus, grow,' with enhanced governance, diversity and inclusion, systems and financial reporting structures. We are at a very exciting point in the wonderful history of this organisation and I am immensely proud to be leading TWI through another successful year.

' I want to thank all of our people, including Members of Council, Boards and Committees and those who have supported us in our work over the past 12 months. '

OUR PURPOSE

Pushing the boundaries of technology through collaboration and innovation to provide our Members with the expertise necessary to meet the challenges of tomorrow.

VALUES



TEAM WORK



INNOVATION AND EXPERTISE



TAKING RESPONSIBILITY



CUSTOMER FOCUS



ADAPTABILITY



INCLUSION

OUR MISSION

TWI Limited is a world leader in joining, materials and structural integrity. We develop our people, capabilities and networks to provide Members and stakeholders with independent and authoritative support, innovation and expertise.



A photograph showing the silhouettes of five business professionals in a meeting. One man stands on the left, while four others are seated around a table. The scene is backlit by a large window, creating a bright, high-contrast environment. A blue diagonal graphic element is overlaid on the image.

CLIENT SATISFACTION

CLIENT SATISFACTION

We help our Members to better design, create, operate and decommission their products. We put ourselves in our Members' shoes to identify their specific issues and challenges. We then figure out innovative ways to help solve these. In order to remain competitive, we have actively monitored client satisfaction rates for the past 10 years and collate data quarterly through the use of client satisfaction surveys.

The average rate of triple excellent project responses was 52% in 2021. The following three KPI's are measured, indicating the percentage of 'good' and 'excellent' scores:

- (1) Technical Quality: 93%
- (2) Delivery Timescales: 81%
- (3) Staff Support: 94%.

SELECTION OF THE 533 INDUSTRIAL MEMBERS WE WORK FOR



FINANCIAL RESULTS

FINANCIAL RESULTS



Leonie Stewart
Director of Finance

The results of the company are set out on page 71 and show revenue of £63m (2021: £62m). This includes £12.6m of research income under subcontract from The Welding Institute (which holds Scientific Research Association status) (2021: £14m). The Company reported a loss before tax of £1.6m (2021: profit of £34.4m). Included within the loss before tax is £7.6m of unrealised fair value losses on investment property (2021 gain of £9.2m) and £nil of contribution from The Welding Institute towards the Defined Benefit pension scheme (2021: £16.8m).

The net profit after tax and movements in other comprehensive income, decreased to a loss of £14.6m (2020: profit of £76.8m). The following are a summary of the key movements in the statement of other comprehensive income, which are not disclosed as movements in our before tax profits. The 2022 total comprehensive income reflects the decrease (after deferred taxation) in the value of operational property (held at fair value) of £5.6m (2021: increase of £25.3m); and the increase in the Defined Benefit Pension Scheme deficit (net of deferred tax) of £7.8m (2021: reduction of £14.5m).

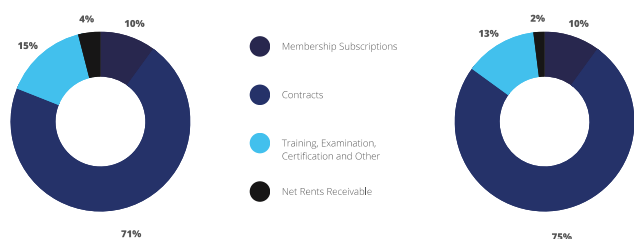
PROFIT AND LOSS RESULTS

TURNOVER

The nature of TWI Limited operations are summarised under "Introducing TWI" on page 4. The company saw an increase in turnover from £62m in 2021 to £63m in 2022. This was primarily due to increases in revenue from the training, examination and certification business together with increase in net rents receivable during the year. The turnover includes £12.6 m of subcontracted Research activity (19.5% of total revenue) from The Welding Institute (2021: £14 m; 23%), which holds Scientific Research Association status and is accordingly entitled to certain government incentives. During 2022 TWI Limited worked on 2,083 projects (2021: 1,745).

The majority of external turnover earned in the year is from Single Client Projects, which are the most profitable of the income streams. Collaborative projects include internal funding from The Welding Institute, and represents industrial research supported by government funding from the European Commission and UKRI. Industrial Membership subscriptions and the training income streams were greatly impacted by the pandemic in 2020, a number of courses were transitioned to online delivery and revenue continued to recover in 2022.

TWI LIMITED TURNOVER BY TYPE



OTHER OPERATING INCOME

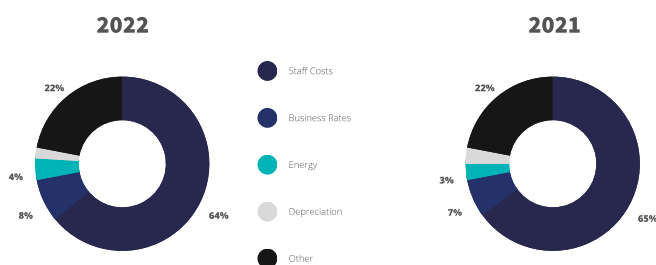
The company qualifies for Research and Development tax credits, which amounted to £1.9m (2020: £1.8 m). Details of other Government Grants including income recognised from an initiative from the Welsh Government (AMERI) are provided in note 6 and amounted to £0.9m in 2022 (2021 £0.8m).

COST OF SALES AND ADMINISTRATION EXPENSES

Direct costs have increase from £20.4m in the prior year to £39.8m in the current year. Included within prior year cost of sales is a credit of past service costs arising from the voluntary pension contribution made by the Institute of £16.8m, which was assigned to The Welding Institute. Excluding this item the prior year cost of sales were £37.2m and therefore there has been a like for like increase in direct costs of approximately £2.6m.

Administration expenses increased by £2.5m (2022: £20.3m (2021: £17.8m). The material drivers for the increase in administrative expenses in the year were increases in electricity costs (which have increased by £0.8m from prior year) and insurance costs (which have increased by £1m from the prior year). These increases in expenditure are reflective of the increase in energy prices in the year together with the impact of inflation on the Company.

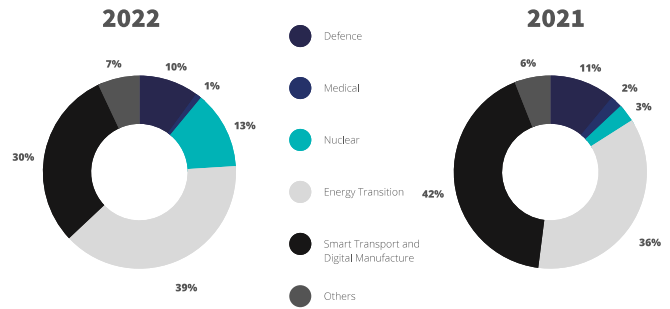
TWI LIMITED - EXPENSES BY TYPE



ORDERBOOK

At Dec-22 TWI Limited had 7.1 months of labour orders in hand (2021: 6.8 months). Single client projects (SCP) made up 79% of the labour orders, 21% on Collaborative projects (2020: 87% SCP and 13% Collaborative). The predominant sector that our orders come from are Energy Transition (Power, Oil and Gas) followed by the defence sector.

TWI LIMITED - ORDER INTAKE BY SECTOR



FINANCING AND CASH

TWI Limited cash position increased to £48.7m (2021: £10.9m). Cash flow from operating activities was £51.4m (2021: £24.9m), from investing activities was -£13.4m (2021: -£5.1m) and from financing activities -£0.1m (2021: -£0.3m). TWI Limited held no bank loans as at 31 December 2022 (2021: £nil).

BALANCE SHEET

As at the year end, total assets less total liabilities decreased to £91.9m (2021: £106.5m). This £14.6m decrease was largely driven by a decline in value of the combined freehold and investment property portfolio together with an increase in the value of the defined benefit obligations.

The total value of long leasehold property and investment property decreased in the year from £143m in the prior year to £135m in the current year. During the year the Company spent significant capital expenditure on both long leasehold property (£4.8m) and on investment property (£4.4m). This capital expenditure was offset by unrealised fair value losses in the year of £7.3m on long leasehold property and £6.7m on investment property.

The Defined Benefit pension scheme is recognised within TWI Limited balance sheet, however it has participating employers in the form of The Institute. During the year the obligation has increased from £4.5m in prior year to £15m in the current year.

At the end of 2022 TWI Limited remains in a strong balance sheet position with significant cash reserves, which will provide a solid foundation for the existing operations and the potential to pursue growth opportunities should they arise. As a result, TWI Limited is well positioned for the year ahead.

DEFINED BENEFIT PENSION PLAN

The Employer (TWI Limited) meets the costs of administration and investment management of The Welding Institute Defined Benefit Pension scheme. The deficit increased from £4.5m in 2021 to £15m in 2022. This was driven by changes in market rates.

On 1 January 2000, all The Welding Institute employees were transferred to TWI Limited and the Pension Trustees agreed that the full deficit and related pension costs for the scheme be borne by TWI Limited; this has been reflected in the audited financial statements for both entities. The Welding Institute retains its designation as a participating employer of the scheme, which had allowed it to make a voluntary contribution in the prior year as agreed with the Trustees.

A guarantee remains in place between The Welding Institute as parent and TWI Limited, which would realise should TWI Limited be in an position where it is not financially able to meet its overall commitments. The likelihood of this is considered to be low, as TWI Limited continues to have strong operational prospects and is able to continue as a going-concern for the foreseeable future.

The last triennial valuation was for the period ended 31 December 2019. The recovery plan (as agreed with the Trustees and Pension Regulator) remains unchanged however, following the injection of £16.8m from The Welding Institute in 2021, no further cash payments under the current contribution schedule are required until 2025. TWI Limited closed the defined benefit pension scheme to future accruals in Sep 2020.



A close-up photograph of a metallic bolt and nut, showing the threads and the hexagonal shape of the nut. The image is set against a vibrant blue background with a diagonal split between a darker and a lighter shade. The lighting highlights the metallic texture and the precision of the hardware.

PRINCIPAL RISKS AND UNCERTAINTIES

PRINCIPAL RISKS AND UNCERTAINTIES

Risk Management is key to achieving the strategic objectives of the company. TWI's management continually reviews its risk management structure to ensure that the risks are managed within an acceptable risk appetite. TWI Limited has a low appetite for contextual risks. Our organization operations and activities have a balanced geographic and thematic spread to set overall risk levels at low. There are certain projects funded by different government bodies and institutes, where TWI operates in challenging contexts; but the risk bar for TWI remains low due to its operational approach and policies and procedure.

Risk is inherent in the challenging contexts in which we operate, so we aim to find an acceptable balance between the costs of managing the risks, and the likely costs and impacts if the risks materialize, as well as the costs of not acting. TWI Limited calculates an overall rating of an identified risk by assessing the likelihood and impact.

The executive board review the risk register on monthly basis and the Council of The Welding Institute review the risk register as part of the quarterly agenda. The major risks TWI is currently facing are summarised below:

RISK	NATURE OF RISK	MANAGEMENT OF RISK
Governance Risk	<ul style="list-style-type: none"> ▪ Expansion of business and failure to adhere to statutory requirements of its key markets. ▪ Sudden change in regulatory requirements (e.g. sanctions, export control and trade laws). ▪ Risk of delay or failure in submission of and/or accuracy of statutory reports to appropriate authorities. 	<p>To mitigate those governance related risks, TWI Limited is proactively reviewing its governance framework, company policies and procedures to ensure compliance with international and local legislation, where applicable.</p> <p>A policy framework to standardise the creation, adoption and implementation of policies across the organisation is being developed. This includes a review of existing policies, gap analysis, creation and implementation of new policies.</p>

RISK	NATURE OF RISK	MANAGEMENT OF RISK
Operational Risk	<ul style="list-style-type: none"> ■ Disruptions in supply chains. ■ A shortage of supply in the employment market. ■ High turnover of technical and professional staff. ■ Disruption due to breakdown or dysfunctional equipment, machines and tools. 	<p>To mitigate these risks, TWI has policies and procedures to ensure business continuity without disruption. TWI staff who have responsibility for operational activities regularly review these risks to maintain the supply chain by engaging alternative suppliers, service providers and third parties. Training and succession planning are part of our risk mitigation framework.</p>
Financial Risks	<p>The volatility of the current economic environment, political unrest and the complexity of the regulatory environment create uncertainties and put pressure on activity levels, profitability and cash flow.</p>	<p>TWI Limited has financial and accounting systems that are designed to ensure accuracy and transparency. The Finance department creates detailed monthly financial reports showing performance against budget and forecast for Executive Board, and reports regularly to Council, Finance and General Purposes Committee, and Audit Committee who provide oversight of TWI Limited operations. This allows informed decisions and mitigating actions to be taken where appropriate. The Finance department carry out gap analysis, and also develop and implement new policies to strengthen existing controls.</p>

RISK	NATURE OF RISK	MANAGEMENT OF RISK
Fraud - Bribery and Corruption	<ul style="list-style-type: none"> ■ Risk of fraud and misrepresentation by customers, suppliers and third parties. ■ Risk of bribery and corruption while dealing with government officials, third parties, suppliers and service providers. 	<p>TWI Limited has a policy of zero tolerance towards fraud, bribery, corruption, misrepresentation and misconduct. The business has comprehensive policies in place that form part of employee contracts. Third party whistle blowing channels are established where employees, clients, Members and other third parties can report incidents of misconduct and noncompliance.</p>
Health – Safety - Environment	<p>TWI Limited’s work can be hazardous and requires appropriate controls.</p>	<p>TWI Limited is an accredited organization for ISO 9001, 14001 and 45001 standards to mitigate risks of health and safety, handling and storage of hazardous material and monitor of high-risk operational activities to prevent incidents.</p> <p>Monthly health and safety incident reports are presented to the directors and appropriate actions taken. All employees undergo training in Health and Safety on joining TWI.</p>
People and Culture Risks	<p>TWI Limited’s success is built on the quality of its people and their work. People risk is the risk that ensues if TWI fails to provide a supportive and collegiate culture.</p>	<p>The risk is mitigated through:</p> <ul style="list-style-type: none"> ■ effective recruitment ■ effective succession management ■ effective management and development programmes ■ effective leadership ■ promoting diversity and inclusion throughout the business ■ wellbeing policies and processes ■ appropriate remuneration and benefits

RISK	NATURE OF RISK	MANAGEMENT OF RISK
Information Management, IT and Security Risk	Data and information systems are at threat from unauthorised access, inappropriate use, disclosure, disruption to operations, modification, or accidental and/or deliberate destruction.	TWI Limited's Chief Security Officer has implemented a security framework that includes enhanced information security policies. This framework provides greater information security assurance to TWI Limited technology users and those third parties for whom we carry out sensitive work. TWI Limited has developed a set of policies and procedures along with robust mandatory training to create awareness for its management, staff and related parties. TWI Limited systems are accredited under Cyber Essentials Plus, this is tested and renewed annually.
Global Operations Risk	Consistent corporate governance management, policies and procedures required to ensure global harmonisation around legislation regulation and culture.	<p>Directors take responsibility for risk management within their respective operating segments. The management team of each is delegated to the appropriate managers who support the directors in management of operational risk.</p> <p>In our global operations, the local operations managers take responsibility for risk management within their respective operating entities.</p> <p>Actioned through consultation and engagement and regular review of the company risk register.</p>
Reputational Risk	Reputational risk is the risk of failure to meet customer, supplier and employee expectations as a result of any event, behaviour, action or inaction, either by TWI Limited itself, our employees or those with whom we are associated, that may cause stakeholders to form a negative view of TWI Limited.	Our policies ensure reputational risk matters are managed in a consistent manner and align with TWI Limited strategic priorities. Our legal and governance team the control and oversight standards to effectively manage reputational risk and are supported by procedures across our global businesses and functions.

In addition to the principal risks and uncertainties above, TWI Limited faces other risks that include but are not limited to: increased competition; failure to retain, or loss of, customer contracts; customer concentration; technology leadership; counterparty risk; risk of adverse valuation of operational and investment properties; changes in legislation or regulations relating to trading, taxation or accounting practice.





KEY PERFORMANCE INDICATORS

KEY PERFORMANCE INDICATORS

OUR KEY PERFORMANCE INDICATORS (KPIs) ARE SELECTED TO MONITOR BOTH FINANCIAL AND OPERATIONAL PERFORMANCE



DETAILED KPI'S ARE SET AROUND:

Health Safety and Environment	Reducing emissions, delivering the HS&E culture action plan, maintaining RoSPA Gold for TWI Ltd, having more than 95% of our Management completing the IOSH Managing Safely course
People and Culture	Having greater than 25% of women in leadership positions, improving engagement scores on the annual staff satisfaction survey, reducing the gender pay gap, implementing a mentor program and revising progression (career path) frameworks.
Governance and compliance	Delivery of the compliance framework.
Technology	Delivery of the technology roadmap.
Customer satisfaction	Increasing customer satisfaction and enhancing professional membership benefits.
Financial	Meeting targets related to turnover, profit, cash generation and rental returns.

These indicators provide a detailed focus on the key elements of the business and measure progress against the company's strategic objectives. A balanced score card is reviewed by the executive team on a periodic basis which is used to monitor and assess the achievement of these KPIs. This scorecard is used to determine actions and performance targets to ensure that the KPI's are achieved.



ENVIRONMENTAL, SOCIAL, GOVERNANCE

ENVIRONMENTAL, SOCIAL, GOVERNANCE

ENVIRONMENTAL

The most carbon intensive areas of TWI Limited UK operations are the consumption of electricity, and business travel. TWI Limited is committed to understanding and reducing its environmental impacts year on year.

Annually TWI Limited reports on its greenhouse gas emissions and participates in the Energy Savings Opportunity Scheme (ESOS) from which a number of recommendations for improving energy efficiency have been implemented across its facilities. The Executive Board supports the company's goals and initiatives with regard to reducing adverse impacts on the environment. In 2022 we have considered the company's approach to climate change and have continued to implement additional measures that contribute to the reduction of our impact on the environment.

TWI Limited supports a number of different environmental sectors and is working with large companies and SMEs to help drive technological improvements and innovation in these areas. Growth areas for TWI Limited include pioneering research in geothermal resources to improve the efficiency of geothermal heat and power systems, supporting the automotive and aerospace industries through various e-mobility solutions and its continued provision of technical support for the renewables sector including research into concentrating solar power (CSP). TWI Limited will continue to take an active role in managing its own environmental impact as well as influencing the wider industry through our expertise and the advice that we provide to our customers.

EMISSIONS AND CARBON ENERGY

This is the third year of mandatory reporting under SECR. The Welding Institute have however reported energy and emissions now for several years and 2019 has been chosen as a base year. Between 2019 and 2022, the current gross emissions have decreased by 1,829.6 tonnes of CO₂e, which accounts for a 37% decrease.

Some of the larger changes between 2019 and 2022 are energy and emissions associated with flights which fell significantly between 2020 and 2021 due to the Covid-19 pandemic and, whilst emissions associated with flights increased again in 2022 they remain significantly lower than 2019 levels.

QUANTIFICATION AND REPORTING METHODOLOGY

HM Government Environmental Reporting Guidelines, including streamlined energy and carbon reporting guidance (March 2021) has been used for the collation of data sources and reporting of emissions. UK Government GHG conversion factors for company reporting has been used for the reporting of emissions, using the 2022 version. Fugitive emissions from refrigerants adopts the screening method in annex C of the guidance. The financial boundary of the business has been used to determine the reporting boundary. Measurements include mandatory scope 1, 2 and 3 emissions. Negligible estimates have been made with the collation of data. Optional scope 3 emissions have also been included in the reporting.

TARGET SETTING AND RESPONSIBILITIES

The target is to reduce gross scope 1, 2 and 3 emissions in tonnes of CO₂e per £100,000 turnover and per full time equivalent ('FTE') members of staff used by 2% per year against the chosen base year of 2019. The performance against target will be reviewed periodically.

INTENSITY MEASUREMENT

The reporting metrics chosen are gross scope 1, 2, and 3 emissions in tonnes of per £100,000 turnover and FTE members of staff, as these best reflect business activities. The intensity measurement will be reported each year, with comparison made against previous years' performance.

The emissions per £100,000 reduced by over 38% between 2019 and 2021 and the emissions per FTE reduced by 30% compared with 2019.

CARBON OFFSETTING

From October 2022, TWI Limited has purchased electricity on a green contract. The impact of this is included within this report.

ENERGY EFFICIENCY ACTIONS

TWI is committed to improving its environmental impact and announced in its 5-year strategy in 2021 the goals of reducing its carbon footprint by 25% by 2025 and being carbon neutral by 2035.

The consumption of electricity remains the most carbon intensive area.

Several measures to reduce this have been agreed to, which include:

- Switching to a green energy tariff when contracts end in 2022.
- Increasing use of renewable energy through growth of self-generated electricity in solar

PV cells.

- Sourcing greener energy from responsible providers through power purchase agreements.
- Gaining certification to ISO 50001:2018, Energy Management Systems standard by 2024.

The energy saving opportunities that COVID-19 provided have continued, and a 'hybrid working policy' is operated by TWI Limited giving staff the flexibility to work from home. This helps to reduce the impact of commuting.

TWI has reviewed its utilisation of its property inventory and downsized the number of offices and facilities. The Aberdeen office and the Baglan building in Wales have closed operations and have been redirected to our Port Talbot property, and space at Cambridge is being leased to tenants. This decrease in office and laboratory space will help to reduce gas and electricity usage.

Staff have adjusted to the use of video conferencing technologies, which reduces the need for travel between the regional offices. When staff do travel, they are required to use their own vehicles as the pool car fleet has been removed. Investment is planned in sustainable travel such as the cycle to work scheme and assistance in the procurement of electric vehicles through subsidies. Other basic energy saving measures, including switching off lights and equipment when not in use or at the end of day, have continued. These measures have now been included in the new starter training package to ensure all staff are made aware of how they can contribute to reducing energy usage throughout TWI.



2022 CARBON REPORTING STATISTICS

SCOPE 1 CO2E (TONNES)	2022	2021	2020	2019
Natural gas consumption	513.91	688.65	670.82	800.48
Company cars (essential car users)	37.56	9.40	7.36	21.38
Pool cars	1.41	28.02	45.93	109.18
LPG	1.07	0.79	0.64	0.63
Refrigeration and air condition equipment	339.08	184.42	73.85	48.65
Site maintenance – red diesel	0.36	1.22	2.76	1.30
Total Scope 1	893.39	912.50	801.36	981.62
SCOPE 2 CO2E (TONNES)	2022	2021	2020	2019
Electricity	1,381.92	1,939.31	2,271.52	2,583.90
Total Scope 2	1,381.92	1,939.31	2,271.52	2,583.90
SCOPE 3 CO2E (TONNES)	2022	2021	2020	2019
Electricity T & D losses	126.41	171.62	195.35	219.37
Hire vehicles for business use	179.56	39.73	43.99	97.68
Taxi and chauffeur	7.38	1.33	6.39	19.71
Personal lease cars - business use	5.14	0.81	3.16	9.49
Employee owned cars – business use	123.42	N/A	N/A	N/A
Domestic and international flights	416.15	38.16	240.63	1,024.72
Rail travel	3.70	1.20	5.83	29.79
Potable water	1.73	1.27	3.86	4.65
Waste water	0.03	0.05	0.09	0.07
Waste	9.53	28.08	18.14	6.96
Total Scope 3 CO2e (tonnes)	873.05	282.25	517.44	1,412.44
TOTAL CO2E SCOPE 1, 2, 3 GROSS EMISSIONS (TONNES)	3,148.38	3,134.07	3,590.32	4,977.96
Intensity Metric Measure (£100,000 turnover)	682.59	676	639	659
Intensity Metric Measure (FTE)	564	533	568	590
Intensity Metric (gross emissions) tCO2e/£100,000 turnover	4.61	4.63	5.62	8.44
Intensity Metric (gross emissions) tCO2e/FTE	5.58	5.88	6.32	7.55
ENERGY CONSUMPTION (EXCLUSIONS)	2022	2021	2020	2019
KWh (as above)	19,683,388	14,113,908	15,025,581	19,927,491
INTENSITY METRIC (NET EMISSIONS)	2022	2021	2020	2019
Scope 1, 2, 3 emissions (gross) tCO2e	3,148.38	3,134.07	3,590.32	4,975.73
Carbon Offsets	473.01	0.00	0.00	2,467.45
Scope 1, 2, 3 emissions (net) tCO2e	2,675.37	3,134.07	3,590.32	2,508.28
Intensity Metric (net emissions) tCO2e/£m turnover	3.92	4.63	5.62	3.81
Intensity Metric (net emissions) tCO2e/FTE	5.88	5.88	6.32	4.25

SOCIAL RESPONSIBILITY

Social aspects are a fundamental part of TWI Limited principles, and underpin our activities across all jurisdictions where we operate. Our approach forms the basis of our decisions by focussing on business ethics and compliance, people and culture and community involvement.

We aim to foster openness, sustainability, and respect. We value everyone and strive to work as one team. We invest significantly in our people and their working environment by creating and maintaining a safe and healthy working environment and ensuring their ongoing professional and personal development.

We strive to create workplaces in which there is mutual trust and respect and where every person feels responsible for the performance and reputation of our group. We respect one another and each other's individual rights and customs. We work towards achieving a diverse workforce, recruiting, employing and promoting people only on the basis of objective criteria and the qualifications and abilities needed for the job to be performed.

We encourage our people to give something back to their local communities, whether it is time, effort or a financial contribution. It's

important that we play our part to build a better world for current and future generations.

TWI Limited has supported a number of charities during 2022 and provided donations to: the National Autistic Society, Parkinsons UK, The Kite Trust and Crisis as well as supporting a local rugby team and sponsoring staff partaking in Movember.

Our support is delivered through initiatives that support local communities and those in need. We welcome initiatives from all sources but especially those from our own people.

On a discretionary basis, the Company operates a scheme to match charitable donations raised by employees up to a specified limit. Charitable donations related to this programme were similar to the prior year. In addition, the Group made donations to local foodbanks and health-related charities local to its sites specifically to support local communities facing hardship. As a result, total charitable contributions made in 2022 were approximately £3,000 (2020: £24,000). No political donations were made during the period (2021: £nil).



CORPORATE GOVERNANCE

Corporate governance is important in delivering our long-term success and TWI Limited works towards the UK Corporate Governance Code as it seeks to improve transparency, accountability and promote the values of the business as a whole. Representation from The Welding Institute Industrial and Professional Members enables the organisation to set and deliver the strategic aims of the business.

For TWI Limited, corporate governance also involves matters such as commitment to corporate and social responsibility, minimising impact on the environment, and sustainable procurement. These factors need to be balanced with effective leadership and accountability to maintain confidence while pushing a continued improvement in standards, decision-making and policy.

An important aspect of our day-to-day activities, it has been shown that companies who are well governed also perform better commercially.

TWI Limited is governed by the following Boards and Committees, which met regularly throughout 2022:

Executive Board	Aamir Khalid, Chair (11 meetings) John Hill, Chair (1 meetings)
Council	Humbert Mozzi, Chair (6 meetings) Andrew Schofield, Chair (2 meetings)
Health Safety and Environment Committee	Gareth Hopkin, Chair (2 meetings)
Audit Committee	David Wrathmall, Chair (3 meetings) Annelise Fournier, Chair, Chair (1 meeting)
Research Board	Simon Webster, Chair (1 meeting)
Finance and General Purposes Committee	Humbert Mozzi, Chair (8 meetings)
Professional Board	Claire Kimpton, Vice-Chair (2 meeting)
Remuneration Committee	Humbert Mozzi, Chair (4 meetings)
Nominations Committee	John O'Brien, Chair (1 meeting)

The review of the business and its future development in this Strategic Report has been prepared solely to provide additional information to TWI Limited's shareholder to assess the business strategies and the potential for these strategies to succeed. It should not be relied on by any other party for any other purpose. The review contains forward looking statements which are made by the Directors in good faith based on information available to them up to the time of the approval of these reports and should be treated with caution due to inherent uncertainties associated with such statements.

BOARD DECISION MAKING

BOARD DECISION MAKING

The directors recognise their duty to act in good faith, and in a manner which would most likely promote the success of the company for the benefit of its Members as a whole. When making decisions, the directors consider the interests of all key stakeholder groups and seek to arrive at decisions which do not adversely impact those groups as a whole.

EMPLOYEE ENGAGEMENT

As one of the world's leading independent research and technology organisations, we are committed to attracting, motivating and retaining the best talent from around the world. Our goal is to develop the next generation of experts to address future industry challenges. We are committed to creating a culture that recognises and respects the differences between people while valuing the contribution everyone makes to TWI. The diversity of our staff and students makes a positive and important contribution to our continuing success.

Our Diversity and Inclusion Statement underpins our D&I Strategy and forms our long-term mission. We recognise that a diverse

and inclusive workforce provides a wealth of talent that will assist us in achieving our goal of developing the next generation of experts to address future industry challenges. Our employees need to reflect the society we seek to serve, they provide the diversity and inclusion required to find innovative solutions for our Members and customers, and create a workforce that feels engaged and empowered to achieve to the best of their ability. Our D&I Strategy provides the direction to shape an inclusive culture at TWI and play a crucial role in shaping the world around us.

We operate in a business where the safety and wellbeing of all our stakeholders is pivotal in our business decisions. That is why we have a dedicated department to oversee the health and safety of all our staff and the projects that are undertaken. However we know that the safety of our staff is not just the physical wellbeing, but also incorporates mental wellbeing, with this in mind we have trained a team of mental health first aiders to support our staff, we have an on-site Occupational Health Advisor, a well-being committee and an employee assist programme.





TWI SPONSORS THE TIPPER GROUP, A STAFF LED DIVERSITY AND INCLUSION COMMITTEE, WHICH HOLDS EVENTS AND NETWORKING OPPORTUNITIES TO RAISE AWARENESS OF DIVERSITY AND INCLUSION WITHIN OUR GLOBAL COMPANY AND WITHIN OUR INDUSTRIAL PARTNERS' NETWORK.

Attracting and retaining women with careers in engineering is a key driver in our 5 year strategy. We have a committed to closing the gender pay gap from 20.6% to less than 10% and to have a third of female representation in leadership roles by 2026. In 2019 we launched our Women in Leadership programme to encourage more women into management positions and this has led to the implementation of a mentor programme in 2023.

TWI provides regular appraisal, training and subsidised education to staff. We promote transparency and communication across all levels of the business, through weekly news briefings, monthly employee engagement newsletters, frequent business updates from the CEO, monthly executive briefings, and our comprehensive online resource.

More recently we have become aware of how important communications are to the engagement of our people. We have an active staff consultation committee to ensure that all staff are given a voice. The business consults regularly with the committee to ensure any staff feedback is considered and factored into decision making.

The Executive Team actively seeks ways to engage the workforce in strategy and the direction of the business, holding monthly leadership brunches and Town Hall meetings. We believe that our people play a crucial role in shaping the world around us, interacting with our Members to find sustainable solutions to the biggest engineering challenges our world faces.



CUSTOMER ENGAGEMENT

TWI Limited focusses on delivering excellent service and meeting or exceeding expectations is at the heart of everything we do. Each month we review our performance using Client Satisfaction Surveys. We continuously engage with the Institute's members throughout the project lifecycle, using enhanced CRM tools to monitor all communications, and are backed by an extensive commercial team which oversees the work ensuring work is delivered on time and within budget.

Members' experiences do not fall just to our project and commercial teams, colleagues across the entire business are involved in creating exceptional service. Our goal is to solve the challenges of Members, so we align strategically with their needs and invest heavily in technical resources, equipment and capacity. This positioning is reflected in our 5-year strategy, which is driven by the future needs of Members - it is important we engage and understand the factors that influence their industries.

SUPPLIER ENGAGEMENT

Given the range of projects we work on, the ability to source materials and resources efficiently is imperative. We have a specialist purchasing department, which secures our supply chain to ensure it can continue to meet the demands of the business. We actively engage and have long established relationships with our suppliers. We acknowledge that our business contributes to the local and wider community; we have an indirect corporate responsibility to this economic supply chain. Our diversity and inclusion initiative is being driven across the business; in instances where we are tendering for new services / suppliers, we embed an element of this to the selection process. We want to deal with suppliers who are aligned to our values.





THE EXECUTIVE BOARD

THE EXECUTIVE BOARD

The Executive Board provides input and recommendations to assist the Chief Executive in the day to day management of the business and its operations. It meets twice weekly, and meets formally one full day per month. The Executive Board assists the Chief Executive in:

- Developing the group strategy and budgets for approval by the Finance and General Purposes Committee;
- Executing the strategy once agreed by the Council of The Welding Institute; and
- Providing assurance to the Council of the Welding Institute in relation to overall performance and risk management.



AAMIR KHALID

CHIEF EXECUTIVE

Aamir became the Chief Executive of TWI Limited in February 2019 and has worked at TWI Limited for the past 20 years. He obtained an applied physics degree from University College London, a Masters and PhD in NDT from Brunel and Cranfield Universities and later an MBA from London South Bank University. He spent several years in industry before joining TWI as NDT Section Manager, specialising in applying robotics to non-destructive testing. From here, he progressed to lead the company's non-destructive testing technology group in 2004 and became TWI Technology Director in 2010.



JOHN HILL

DIRECTOR OF TECHNOLOGY

John joined TWI in 2022, having spent the first decade of his forty-year career in manufacturing. He is a Chartered Production Engineer, specialising in polymers, composites and adhesives. John moved into manufacturing research, training and consulting at PERA, where he spent 28 years. He rose to CEO and finally Chair, representing the UK RTO sector on the board of EARTO and became a Fellow of the Institute of Directors. In 2016, he moved into Whitehall to better influence the government's industrial strategy and spent time as a Director in the Department for Business, Energy and Industrial Strategy (BIS) and the Department for International Trade (DIT). He has worked with the Mayoral Combined Authority, and helped turn around a former Local Enterprise Partnership (LEP); transforming it from the poorest performing UK LEP to the highest, where 20,000 jobs were created and a new university in Peterborough established.



LEONIE STEWART

DIRECTOR OF FINANCE

Leonie joined TWI in 2019 as Business Transformation Project Manager, where she helped to implement a programme of change to prepare the business for future growth. She has spent 25 years working in finance and operations, half of this time at Global FD and CFO level. She has worked in the USA, Middle East, Europe and Asia Pacific regions, predominantly with high growth companies in the financial markets and IT sectors. Leonie is a contributor and guest lecturer on the 'Entrepreneurship for Physicists' course at Imperial College, London.



SHAHID ASLAM

DIRECTOR OF LEGAL AFFAIRS AND GOVERNANCE

Shahid joined TWI as the Director of Legal Affairs and Operations in February 2020, having over 30 years' experience in the legal profession.

He has an LLB (Hons) degree from University College London, Solicitors Finals from the College of Law and a Masters level qualification in media law from UCL. Shahid is a qualified civil and commercial mediator and a fully qualified solicitor of the Supreme Court of England and Wales and a Commissioner for Oaths. Shahid has also served as a local councillor for the Borough of Gravesham as well as having been the Secretary of Gravesend and Dartford Muslim Association (2002-2003) a registered charity, during which time he took a leading role in developing strong community relations and updating the governance structure.



PAUL WOOLLIN

DIRECTOR OF RESEARCH

Paul joined the materials department at TWI in 1992, earlier graduating and gaining a doctorate from the University of Cambridge. He specialises in the metallurgy, weldability and weld properties of stainless steels and nickel alloys. In 2000, he became Head of the Materials Department and was appointed Director of Research in 2010.



TAT-HEAN GAN

DIRECTOR OF INNOVATION AND SKILLS

Tat-Hean joined TWI in 2006 after graduating with a first-class honours degree in electrical and electronics engineering from the University of Nottingham before pursuing an MSc in advanced mechanical engineering, his PhD in engineering from Warwick University and his executive MBA degree from the University of Birmingham. Tat-Hean's areas of expertise include non-destructive testing, signal processing and imaging techniques, structural and condition monitoring, technology transfer and exploitation, business and technology development, IP and patents, project management, collaborative programmes, public funding, international business and recruitment for engineering services.



DIRECTORS REPORT

DIRECTORS REPORT

The directors present their report and the financial statements for the year ended 31 December 2022.

Accompanying the Report of the Directors is the Strategic Report and related Section 172 disclosures which include the details of risk management.

REVIEW OF THE BUSINESS AND ITS FUTURE DEVELOPMENT

A review of the business and its future development is set out in the Strategic report, incorporating the statement of the Chief Executive and Financial Report.

RESULTS AND DIVIDENDS

The results of the Company are set out in detail on page 71.

Due to the operating performance of the Company and utilisation of existing tax assets, no distribution under the Deed of Covenant is proposed for the year ended 31 December 2022.

CAPITAL STRUCTURE

Details of the Company's issued share capital are set out in Note 25 to the Financial Statements.

RESEARCH AND DEVELOPMENT

TWI Limited provides research and development consultancy to its members, and has an inherent and continuing commitment to high levels of research and development, primarily on behalf of its members but also, on its own behalf as detailed in the Spotlight on our projects on pages 17-19.

STATEMENT ON ENGAGEMENT WITH EMPLOYEES

Employees have been provided with information on matters of concern to them through the Company's intranet; revised policies and updates from the People and Culture Team; and formal and informal meetings and other communications with line managers and Senior Managers. Employees have various forms of engagement with Leadership, including platforms such as the webinars, staff engagement committee.

EMPLOYMENT POLICIES

The Company seeks to ensure that every employee, without exception, is treated equally and fairly and that all employees are aware of their responsibilities. The Company is responsive to the needs of its employees and provides full support to our disabled colleagues. This includes ensuring that robust and reasonable adjustments are made to their working environments in order to ensure that we continue to retain and attract the best talent.

STATEMENT ON ENGAGEMENT WITH CUSTOMERS, SUPPLIERS AND OTHERS

Engagement with customers, suppliers and other stakeholder in the business is an important factor in ensuring the successful implementation of the Company's strategy. For information on how the Directors have had regard to the need to foster these business relationships, see the Section 172 statement.

OVERSEAS BRANCHES AND OPERATIONS

The company operates on an international level and this is undertaken through its subsidiaries and branches located outside of the United Kingdom. Details of our international operations are disclosed in note 34.

DIRECTORS INDEMNITIES

The Directors have the benefit of an indemnity provision contained in the Articles. The Directors have also been granted a qualifying third party indemnity provision which was in force throughout the financial year and remains in force. In addition, throughout the year the Company purchased and maintained Directors' and Officers' liability insurance in respect of itself and for its Directors and Officers.

DIRECTORS

The directors who served during the year were:

Aamir Khalid	
John Hill	Appointed 18 April 2022
Leonie Stewart	
Paul Woollin	
Shahid Aslam	
Shervin Maleki	Resigned 12 May 2023
Tat-Hean Gan	



POST BALANCE SHEET EVENTS

There are no post balance sheet events to disclose.

DIRECTORS' RESPONSIBILITIES STATEMENT

The directors are responsible for preparing the Strategic Report, the Directors' 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 financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice), including Financial

Reporting Standard 102 'The Financial Reporting Standard applicable in the UK and Republic of Ireland'. 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 company and of the profit or loss of the company for that period.

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

- Select suitable accounting policies for the company's financial statements and then apply them consistently;
- Make judgements and accounting estimates that are reasonable and prudent;
- State whether applicable UK accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that 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 to enable them to ensure that the financial statements comply with 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 corporate and financial information included on the company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

GOING CONCERN STATEMENT

The Directors' have assessed the continued appropriateness of preparing these financial statements on the going concern basis.

In forming this assessment the Directors' have assessed the forecast financial performance of the Company for a period of at least 12 months

from the date that these financial statements are approved. The Directors' have also considered the impact that potential adverse scenarios may have on the Company's projected cash flows. This includes the impact of a potential fall in revenue similar to that occurred during 2020 as a result of the Covid-19 pandemic together with the impact of further increases in the Company's cost base.

Based on the projections prepared together with a consideration of broader economic and geopolitical events the Directors' remain satisfied that the Company has sufficient resources to meet its ongoing obligations as and when they fall due and that it is appropriate for these financial statements to be prepared on the going concern basis.

AUDITOR

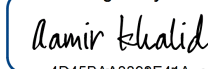
Grant Thornton UK LLP are willing to continue in office and a resolution to reappoint them was confirmed at the Council Meeting of 15 March 2023.

DISCLOSURE OF INFORMATION TO AUDITORS

Each of the persons who are directors at the time when this Directors' Report is approved has confirmed that:

- So far as the director is aware, there is no relevant audit information of which the company's auditor is unaware, and
- The director has taken all the steps that ought to have been taken as a director in order to be aware of any relevant audit information and to establish that the company's auditor is aware of that information.

This report was approved by the board and signed on its behalf by:

DocuSigned by:

 Amir Khalid, Chief Executive
 Date: 30 November 2023

INDEPENDENT AUDITORS REPORT

INDEPENDENT AUDITORS REPORT

OPINION

We have audited the financial statements of TWI Limited (the 'company') for the year ended 31 December 2022, which comprise the statement of comprehensive income, the balance sheet, the statement of changes in equity, the 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 their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102 'The Financial Reporting Standard applicable in the UK and Republic of Ireland' (United Kingdom Generally Accepted Accounting Practice).

In our opinion:

- the financial statements give a true and fair view of the state of the company's affairs as at 31 December 2022 and of its loss for the year then ended;
- the 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 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, 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 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 company to cease to continue as a going concern.

In our evaluation of the directors' conclusions, we considered the inherent risks associated with the company's business model including effects arising from macro-economic uncertainties such as the increased levels of inflation, we

assessed and challenged the reasonableness of estimates made by the directors and the related disclosures and analysed how those risks might affect the company's financial resources or ability to continue operations over the going concern period.

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..

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 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.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

OTHER INFORMATION

The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. The directors are responsible for the other information contained within the annual report. 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.

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 themselves. 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.

OPINIONS ON OTHER MATTERS PRESCRIBED BY THE COMPANIES ACT 2006

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 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, or returns adequate for our audit have not been received from branches not visited by us; or
- the 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

As explained more fully in the directors' responsibilities statement set out on page 62 and 63, 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 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 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.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below:

- We obtained an understanding of the legal and regulatory frameworks applicable to the group and the industry in which it operates. We determined that the following laws and regulations were most significant; UK GAAP (FRS102), Companies Act 2006 and the relevant tax compliance regulations in the jurisdictions in which the company operates. In addition, we concluded that there are certain significant laws and regulations that may have an effect on the determination of the amounts and disclosures in the financial statements, including laws and regulations relating to employment matters, health and safety, data security and protection.
- We obtained an understanding of how the Company is complying with those legal and regulatory frameworks by making inquiries of management. We corroborated our inquiries through our examination of board minutes and risk register;
- We enquired of management, whether they were aware of any instances of non-compliance with laws and regulations or whether they had any knowledge of actual, suspected or alleged fraud. The Company's management has not noted any matters of non-compliance with laws and regulations or fraud that were communicated with the audit team. We corroborated this through procedures such as unusual journals testing, assessing controls and assessing the relevant governance procedures;
- These audit procedures were designed to provide reasonable assurance that the financial statements were free from fraud or error. The risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error and detecting irregularities that result from


fraud is inherently more difficult than detecting those that result from error, as fraud may involve collusion, deliberate concealment, forgery or intentional misrepresentations. Also, the further removed non-compliance with laws and regulations is from events and transactions reflected in the financial statements, the less likely we would become aware of it;

- It is the engagement partner's assessment that the engagement team collectively had the appropriate competence and capabilities to identify or recognise non-compliance with laws and regulations. Assessment of the appropriateness of the collective capabilities of the engagement team included the consideration of the engagement team's understanding and experience of, and practical experience with engagements of a similar nature and complexity including appropriate training; and
- We communicated relevant laws and regulations and potential fraud risks to all engagement team members and remained alert to any indications of fraud or non-compliance with laws and regulations throughout the audit

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.

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.

DocuSigned by:

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Paul Brown

**Senior Statutory Auditor
 for and on behalf of Grant Thornton UK LLP
 Statutory Auditor, Chartered Accountants
 Cambridge
 30-Nov-23**



STATEMENT OF COMPREHENSIVE INCOME

REGISTERED NUMBER: 03859442
STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEAR ENDED 31 DECEMBER 2022

		2022	2021 (As restated)
	Note	£000	£000
Turnover	5	62,895	62,037
Cost of sales	14	(39,756)	(20,427)
GROSS PROFIT		23,139	41,610
Administrative expenses		(20,260)	(17,751)
Exceptional administrative expenses	14	-	(164)
Other operating income	6	3,747	2,843
Other operating charges		417	135
OPERATING PROFIT	8	7,043	26,673
Unrealised (loss)/gain on revaluation of investment property	7	(6,733)	9,165
Interest receivable and similar items	12	590	-
Interest payable and similar expenses	12	(2,437)	(952)
Other finance costs	13	(81)	(497)
(LOSS)/PROFIT BEFORE TAX		(1,618)	34,389
Tax on profit	15	319	(2,271)
PROFIT FOR THE FINANCIAL YEAR		(1,299)	32,118
OTHER COMPREHENSIVE INCOME FOR THE YEAR			
Unrealised (deficit)/surplus on revaluation of tangible fixed assets		(7,279)	43,820
Deferred tax on revaluation of tangible fixed assets		1,820	(13,632)
Actuarial (losses)/gains on defined benefit pension scheme		(10,465)	19,359
Movement of deferred tax relating to pension surplus		2,616	(4,840)
TOTAL OTHER COMPREHENSIVE (LOSS)/INCOME FOR THE YEAR		(13,308)	44,707
TOTAL COMPREHENSIVE (LOSS) INCOME FOR THE YEAR		(14,607)	76,825

There were no recognised gains and losses for 2022 or 2021 other than those included in the statement of comprehensive income.

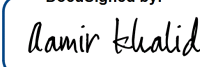
The notes on pages 79 to 104 form part of these financial statements.

BALANCE SHEET

REGISTERED NUMBER: 03859442
BALANCE SHEET
AS AT 31 DECEMBER 2022

		2022	2021
	Note	£000	£000
FIXED ASSETS			
Tangible assets	16	107,290	140,266
Investment property	17	45,300	17,700
Total fixed assets		152,590	157,966
CURRENT ASSETS			
Debtors: amounts falling due within more than one year	18	6,033	3,717
Debtors: amounts falling due within one year	18	37,221	46,895
Cash at bank and in hand	19	48,729	10,914
Total Current Assets		91,983	61,526
Creditors: amounts falling due within one year	20	(51,047)	(61,474)
NET CURRENT ASSETS		40,936	52
TOTAL ASSETS LESS CURRENT LIABILITIES		193,526	158,018
Creditors: amounts falling due after more than one year	21	(66,464)	(23,985)
PROVISIONS FOR LIABILITIES			
Deferred tax	24	(19,284)	(21,849)
Onerous contracts provision	22	(791)	(1,168)
Pension liability	30	(15,046)	(4,468)
NET ASSETS		91,941	106,548
CAPITAL AND RESERVES			
Share premium account	26	10,307	10,307
Revaluation reserve	26	59,670	65,129
Profit and loss account	26	21,964	31,112
TOTAL SHAREHOLDERS FUNDS		91,941	106,548

The financial statements were approved and authorised for issue by the board and were signed on its behalf on 30 November 2023.

DocuSigned by:

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Aamir Khalid

Director

The notes on pages 79 to 104 form part of these financial statements.

STATEMENT OF CHANGES IN EQUITY

STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED 31 DECEMBER 2022

	Share premium account	Revaluation reserve	Profit and loss account	Total equity
	£000	£000	£000	£000
At 1 January 2022	10,307	65,129	31,112	106,548
COMPREHENSIVE INCOME FOR THE YEAR				
Profit for the year			(1,299)	(1,299)
Actuarial gains on pension scheme (net of deferred tax)			(7,849)	(7,849)
Deficit on revaluation of freehold property		(7,279)		(7,279)
Deferred tax on revaluation		1,820		1,820
TOTAL COMPREHENSIVE LOSS FOR THE YEAR	-	(5,459)	(9,148)	(14,607)
AT 31 DECEMBER 2022	10,307	59,670	21,964	91,941

STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED 31 DECEMBER 2021

	Share premium account	Revaluation reserve	Profit and loss account	Total equity
	£000	£000	£000	£000
At 1 January 2021	10,307	34,941	(15,525)	29,723
COMPREHENSIVE INCOME FOR THE YEAR				
Profit for the year	-	-	32,118	32,118
Actuarial gains on pension scheme (net of deferred tax)	-	-	14,519	14,519
Surplus on revaluation of freehold property	-	43,820	-	43,820
Deferred tax on revaluation	-	(13,632)	-	(13,632)
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	-	30,188	46,637	76,825
AT 31 DECEMBER 2021	10,307	65,129	31,112	106,548

The notes on pages 79 to 104 form part of these financial statements.



STATEMENT OF CASHFLOWS

**STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED 31 DECEMBER 2022**

	2022	2021
	£000	£000
CASH FLOWS FROM OPERATING ACTIVITIES		
(Loss)/profit for the financial year	(1,299)	32,118
ADJUSTMENTS FOR:		
Depreciation of tangible assets	4,703	3,540
Interest receivable and similar items	(590)	-
Interest payable and similar expenses	2,437	952
Taxation credit/(charge)	(319)	2,271
(Increase)/decrease in debtors	(2,423)	2,129
Decrease/(increase) in amounts owed by group undertaking	12,097	(12,935)
(Decrease)/increase in creditors	(19,407)	21,883
Increase in amounts owed to group undertakings	49,752	3,604
(Decrease)/increase in provisions	(378)	40
Net interest on defined benefit liability	81	497
Past service cost	-	(16,830)
Contributions to defined benefit plan	-	(3,217)
Net fair value loss/(gains) recognised in profit and loss	6,733	(9,165)
NET CASH GENERATED FROM OPERATING ACTIVITIES	51,387	24,887
CASH FLOWS FROM INVESTING ACTIVITIES		
Purchase of tangible fixed assets	(8,995)	(5,258)
Sale of tangible fixed assets	-	45
Purchase of investment property additions	(4,434)	-
Other non-cash movements	-	62
NET CASH OUTFLOW FROM INVESTING ACTIVITIES	(13,429)	(5,151)
CASH FLOWS FROM FINANCING ACTIVITIES		
Interest receivable	590	-
Interest paid	(269)	-
Repayment of finance leases	(464)	(327)
NET CASH OUTFLOW FROM FINANCING ACTIVITIES	(143)	(327)
NET INCREASE IN CASH AND CASH EQUIVALENTS	37,815	19,409
Cash and cash equivalents at beginning of year	10,914	(8,495)
CASH AND CASH EQUIVALENTS AT THE END OF YEAR	48,729	10,914
CASH AND CASH EQUIVALENTS AT THE END OF YEAR COMPRISE:		
Cash at bank and in hand	48,729	10,914
	48,729	10,914

NOTES TO THE FINANCIAL STATEMENTS

NOTES TO THE FINANCIAL STATEMENTS

1. GENERAL INFORMATION

TWI Limited is a private limited company incorporated in the UK. The registered office is Bevan Braithwaite Building, Granta Park, Great Abington, Cambridge, CB21 6AL.

The principal activity of TWI Limited is independent research and technology, with expertise in solving problems in manufacturing, fabrication and whole-life integrity management technologies.

The company is exempt from producing consolidated accounts as it is included in the group accounts of a larger group The Welding Institute. The directors consider that The Welding Institute, a company limited by guarantee registered in England and Wales, is the company's ultimate holding company. Copies of the group financial statements of The Welding Institute may be obtained from the Institute's registered office at Granta Park, Great Abington, Cambridge, CB21 CAL.

2. ACCOUNTING POLICIES

2.1 BASIS OF PREPARATION OF FINANCIAL STATEMENTS

The financial statements have been prepared under the historical cost convention except for the modification to a fair value basis for freehold property as specified in the following accounting policies. The financial statements have been prepared in accordance with Financial Reporting Standard 102, the Financial Reporting Standard applicable in the UK and the Republic of Ireland (FRS102) and the Companies Act 2006.

The company's financial statements are presented in Sterling and all values are rounded to the nearest pound (£'000) thousands except

when otherwise stated.

The preparation of financial statements in compliance with FRS 102 requires the use of certain critical accounting estimates. It also requires management to exercise judgement in applying the company's accounting policies (see note 4).

The following principal accounting policies have been applied:

2.2 GOING CONCERN

The Directors' have assessed the continued appropriateness of preparing these financial statements on the going concern basis.

In forming this assessment the Directors' have assessed the forecast financial performance of the Company for a period of at least 12 months from the date that these financial statements are approved. The Directors' have also considered the impact that potential adverse scenarios may have on the Company's projected cash flows. This includes the impact of a potential fall in revenue similar to that occurred during 2020 as a result of the Covid-19 pandemic together with the impact of further increases in the Company's cost base.

Based on the projections prepared together with a consideration of broader economic and geopolitical events the Directors' remain satisfied that the Company has sufficient resources to meet its ongoing obligations as and when they fall due and that it is appropriate for these financial statements to be prepared on the going concern basis.

2.3 TURNOVER

Turnover is the delivery and the provision of services. This can take the form of provision of skilled labour in support of research and

development consultancy (including provision of technical advice); the training and upliftment of persons in accredited courses; provision of cutting edge laboratory space; and subscription fees for membership of The Welding Institute. The company recognises income at the fair value of the consideration received or receivable when the significant risks and rewards have been transferred, the amount of income can be measured reliably and it is probable that future economic benefits will flow to the company. It is measured as the fair value of the consideration received or receivable, excluding discounts, rebates, value added tax and other sales taxes. The following criteria must also be met before revenue is recognised:

INCOME RECOGNITION RESEARCH AND DEVELOPMENT CONSULTANCY

Turnover from the provision of research and development consultancy is recognised in the accounting period in which the services are rendered. The majority of contracts are fixed-price, where turnover is recognised based on the proportion of deliverables provided, with consideration to the overall cost to deliver the project to the client with an adjustment if the project is forecast to overrun. Estimates of turnover or extent of progress toward completion are revised if circumstances change. Any resulting increases or decreases in estimated turnovers are reflected in the profit or loss statement in the period in which the circumstances that give rise to the revision become known by management. Estimated total hours are calculated for each project and progress to completion is based on detailed timesheets submitted.

Where the estimated costs to deliver a project exceed the amount of turnover the company will receive for the deliverables of the project, the company recognizes an onerous contract provision when these circumstances are identified. This is recognized through the profit and loss statement at the date that the circumstances are identified by the company. An annual review of all such projects is reviewed and the provision is accordingly adjusted as required.

In the case of both time and materials and fixed-price contracts, the customer pays for the value of services provided based on an invoicing and payment schedule. If the services rendered by the company at the reporting date exceed the payments received to date, a contract

asset is recognised (within trade receivables if the sales invoice has been raised or amounts recoverable on contracts if the services rendered have not been invoiced). If the payments exceed the services rendered, a contract liability is recognised as a payment on account. Consideration is payable when invoiced based on contractual payment terms.

TRAINING AND UPLIFTMENT SERVICES

Turnover from training and upliftment services is recognised when the course is delivered to the candidate. Where the course is yet to be delivered, any amounts received are deferred and recognised as a liability on the balance sheet.

PROVISION OF CUTTING EDGE LABORATORY SPACES

Turnover from the provision of laboratory space is recognised over the rental period. Any amounts received in advance are recognised on a straight line basis.

The aggregate costs of lease incentives are recognized as a reduction to the income recognized over the lease term on a straight-line basis.

SUBSCRIPTION INCOME

Subscription income for membership services is recognised on a straight-line basis over the period of membership.

2.4 GOVERNMENT GRANTS

Grants are accounted under the accruals model in accordance with FRS 102.

Where the grant is drawn down based on expense submissions provided by the company and subject to approval by the funding body, amounts received are recognised as capital or income at the point of approval as this is the point at which the amount of income can be measured reliably and it is probable that future economic benefits will flow to the Company. These amounts include costs incurred and a mark-up in line with the contract.

Grants relating to expenditure on tangible fixed assets are credited to profit or loss at the same rate as the depreciation on the assets to which the grant relates. The deferred element of grants is included in creditors as deferred income.

Grants that are aligned to our research and development consultancy services are recognised as income in the same period as the related expenditure.

The deferred element of grants is included in creditors as deferred income.

2.5 FINANCE COSTS

Finance costs are charged to profit or loss over the term of the debt using the effective interest method so that the amount charged is at a constant rate on the carrying amount.

2.6 PENSIONS

DEFINED CONTRIBUTION PENSION PLAN

The company operates a defined contribution plan for its employees. A defined contribution plan is a pension plan under which the company pays fixed contributions into a separate entity. Once the contributions have been paid the company has no further payment obligations.

The contributions are recognised as an expense in profit or loss when they fall due. Amounts not paid are shown in accruals as a liability in the Balance Sheet. The assets of the plan are held separately from the company in independently administered funds.

DEFINED BENEFIT PENSION PLAN

The company operates a defined benefit plan for certain employees. A defined benefit plan defines the pension benefit that the employee will receive on retirement, usually dependent upon several factors including but not limited to age, length of service and remuneration.

The liability recognised in the Balance Sheet in respect of the defined benefit plan is the present value of the defined benefit obligation at the end of the balance sheet date less the fair value of plan assets at the balance sheet date out of which the obligations are to be settled. The defined benefit obligation is calculated using the projected unit credit method. Annually the company engages independent actuaries to calculate the obligation. The present value is determined by discounting the estimated future payments using market yields on high quality corporate bonds that are denominated in sterling and that have terms approximating to the estimated period of the future payments.

The fair value of plan assets is measured in accordance with the FRS 102 fair value hierarchy and in accordance with the company's policy for

similarly held assets. This includes the use of appropriate valuation techniques.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to other comprehensive income. These amounts together with the return on plan assets, less amounts included in net interest, are disclosed as 'Remeasurement of net defined benefit liability'.

The cost of the defined benefit plan, recognised in profit or loss as employee costs, except where included in the cost of an asset, comprises:

- the increase in net pension benefit liability arising from employee service during the period; and
- the cost of plan introductions, benefit changes, curtailments and settlements.

The net interest cost is calculated by applying the discount rate to the net balance of the defined benefit obligation and the fair value of plan assets. This cost is recognised in profit or loss as a 'finance expense'.

2.7 HOLIDAY PAY ACCRUAL

A liability is recognised to the extent of any unused holiday pay entitlement which has accrued at the balance sheet date and carried forward to future periods. This is measured at the undiscounted salary cost of the future holiday entitlement so accrued at the balance sheet date.

2.8. CASH AND CASH EQUIVALENTS

Cash and cash equivalents comprise cash at bank and in hand and on demand deposits, together with short term, liquid investments that are readily convertible to a known amount of cash and that are subject to a minimal risk of changes in value.

2.9. LEASES

LEASED ASSETS: LESSEE

Where assets are financed by leasing agreements that give rights approximating to ownership (finance leases), the assets are treated as if they had been purchased outright. The amount capitalised is the present value of the minimum lease payments payable over the term of the lease. The corresponding leasing commitments

are shown as amounts payable to the lessor. Depreciation on the relevant assets is charged to profit or loss over the shorter of estimated useful economic life and the term of the lease.

Finance lease payments are analysed between capital and interest components so that the interest element of the payment is charged to profit or loss over the term of the lease and is calculated so that it represents a constant proportion of the balance of capital repayments outstanding. The capital part reduces the amounts payable to the lessor.

All other leases are treated as operating leases. Their annual rentals are charged to profit or loss on a straight-line basis over the term of the lease.

LEASED ASSETS: LESSOR

Where the Company acts as lessor, it determines at lease inception whether each lease is a finance lease or an operating lease. To classify each lease, the Company makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incident to ownership of the underlying assets. If this is the case, then the lease is treated as a finance lease; if not, then the lease is treated as an operating lease. The Company recognises lease payments received under operating leases as income on a straight-line basis over the lease term. The aggregate costs of lease incentives are recognized as a reduction to the income recognized over the lease term on a straight-line basis.

2.10 CURRENT AND DEFERRED TAXATION

The tax expense for the year comprises current and deferred tax. Tax is recognised in profit or loss except that a charge attributable to an item of income and expense recognised as other comprehensive income or to an item recognised directly in equity is also recognised in other comprehensive income or directly in equity respectively. The current income tax charge is calculated on the basis of tax rates and laws that have been enacted or substantively enacted by the balance sheet date in the countries where the company operates and generates income.

Deferred tax balances are recognised in respect of all timing differences that have originated but not reversed by the Balance Sheet date, except that the recognition of deferred tax assets is limited to the extent that it is probable that they will be recovered against the reversal of deferred tax liabilities or other future taxable profits.

Deferred tax balances are not recognised in respect of permanent differences. Deferred tax is determined using Deferred tax is determined using rates and laws that have been enacted or substantively enacted by the Balance Sheet date.

2.11 EXCEPTIONAL ITEMS

Exceptional items are transactions that fall within the ordinary activities of the company but are presented separately due to their size or incidence.

2.12 RESEARCH AND DEVELOPMENT

Research and development expenditure is expensed in the year in which it is incurred. Any tax credit receivable under the large company Research and Development tax scheme is recognised on an accruals basis and is included as operating income.

2.13 TANGIBLE ASSETS AND DEPRECIATION

Tangible fixed assets under the cost model are stated at historical cost less accumulated depreciation and any accumulated impairment losses. Historical cost includes expenditure 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.

At each reporting date the company assesses whether there is any indication of impairment. If such indication exists, the recoverable amount of the asset is determined which is the higher of its fair value less costs to sell and its value in use. An impairment loss is recognised where the carrying amount exceeds the recoverable amount.

Long-term leasehold properties are held under a 125-year lease from the parent company, The Welding Institute, with a peppercorn rent payable. These are carried at fair value at the date of the revaluation less subsequent accumulated impairment losses and depreciation. Revaluations are undertaken annually. Fair values are determined from market-based evidence normally undertaken by professionally qualified valuers. Depreciation is charged so as to allocate the cost or value of assets less their residual value over their estimated useful lives, using the straight-line method.

Depreciation is provided on the following basis:

Long-term leasehold property	2% per annum
Short-term leasehold property	Over the period of the lease
Plant & Machinery	10% or 20% per annum
Fixtures, Fittings and Computer Equipment	10% or 20% per annum

The assets' residual values, useful lives and depreciation methods are reviewed, and adjusted prospectively if appropriate, or if there is an indication of a significant change since the last reporting date. Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised in profit or loss.

2.14 REVALUATION OF TANGIBLE FIXED ASSETS

Individual leasehold properties are carried at fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses.

Revaluations are undertaken with sufficient regularity to ensure the carrying amount does not differ materially from that which would be determined using fair value at the balance sheet date.

Fair values are determined from market based evidence normally undertaken by professionally qualified valuers. Revaluation gains and losses are recognised in other comprehensive income unless losses exceed the previously recognised gains or reflect a clear consumption of economic benefits, in which case the excess losses are recognised in profit or loss.

2.15 INVESTMENT PROPERTY

Investment property is carried at fair value determined annually by external valuers and derived from the current market rents and investment property yields for comparable real estate, adjusted if necessary for any difference in the nature, location or condition of the specific asset. No depreciation is provided. Changes in fair value are recognised in profit or loss.

2.16 PROVISIONS FOR LIABILITIES

Provisions are made where an event has taken place that gives the company a legal or constructive obligation that probably requires settlement by a transfer of economic benefit, and a reliable estimate can be made of the amount of the obligation. Provisions are charged as an expense to profit or loss in the year that the company becomes aware of the obligation, and are measured at the best estimate at the balance sheet date of the expenditure required to settle the obligation, taking into account relevant risks and uncertainties. When payments are eventually made, they are charged to the provision carried in the Balance Sheet.

2.17 FINANCIAL INSTRUMENTS

The Company has chosen to adopt Sections 11 and 12 of FRS 102 in respect of financial instruments. All financial assets and liabilities are initially measured at transaction price (including transaction costs), except for those financial assets classified as at fair value through profit or loss, which are initially measured at fair value (normally the transaction price excluding transaction costs), unless the arrangement constitutes a financing transaction. If an arrangement constitutes a financing transaction, the financial asset or financial liability is measured at the present value of the future payments discounted at a market rate of interest for a similar debt instrument.

Financial assets which qualify as basic financial instruments as laid out in FRS 102 paragraph 11.8, including trade and other receivables and cash and bank balances, are subsequently valued at amortised cost and assessed for impairment at the end of each reporting period. Any other financial assets, are subsequently valued at fair value. Financial liabilities and equity instruments are classified according to the substance of the contractual arrangements entered into. Financial assets and liabilities are only offset in the Balance Sheet when there exists a legally enforceable right to set off the recognised amounts and the Company intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

Financial assets are de-recognised only when (a) the contractual rights to the cash flows from the financial asset expire or are settled, (b) the company transfers substantially all of the risks and rewards of ownership or control of the financial asset, or (c) the company, despite having retained some, but not all, significant risks and rewards of ownership, has transferred control of the asset to another party.

details of collateral, loan defaults or breaches, details of hedges, hedging fair value changes recognised in profit or loss and in other comprehensive income.

The financial statements of the company are consolidated in the financial statements of The Welding Institute. These consolidated financial statements are available from its registered office, Bevan Braithwaite Granta Park, Great Abington, Cambridge, CB21 6AL.

2.19 FOREIGN CURRENCY TRANSACTIONS

In preparing these financial statements transactions in currencies other than the functional currency are recognised at the spot rate at the date of the transaction, or at an average rate where this rate approximates the actual rate at the date of the transaction.

At the end of each reporting period monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date.

Non-monetary items that are measured in terms of historical cost are translated using the exchange rate at the date of the transaction.

Non-monetary items measured at fair value are translated using the exchange rate when fair value was determined.

Exchange differences are recognised in profit or loss in the period in which they arise.

3.0 REDUCED DISCLOSURES

The company is a qualifying entity for the purposes of FRS 102, being a member of the group where the parent of that group prepares publicly available consolidated financial statements, including this company, which are intended to give a true and fair view of assets, liabilities, financial position and profit or loss of the group. The company has therefore taken advantage of exemptions from the following disclosure requirements:

- Section 11 'Basic Financial Instruments' and Section 12 'Other Financial Instrument Issues': Interest income/expense and net gains/losses for financial instruments not measured at fair value; basis of determining fair values;

4. JUDGEMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY

The preparation of the financial statements requires the application of certain estimates and judgements. Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The material areas of either estimation or judgement are set out below.

MATERIAL JUDGEMENTS

CLASSIFICATION OF PROPERTY

The Company owns a portfolio of properties. Certain of these properties are held by the Company for their own use and, accordingly, are classified as freehold land and buildings in accordance with Section 17 of FRS 102. The Company also manages a portfolio of investment properties which are classified as investment properties in accordance with Section 16 of FRS 102.

During the year the Company has been investing in its property portfolio with the view to maximising the rental income potential from its properties. As a result there has been a material transfer of assets from long leasehold property to investment property as disclosed in notes 16 and 17 to these financial statements. The point in time at which a property ceases to be tangible fixed assets for own use and becomes investment property is judgemental.

The Director's note that budget approval for the conversion of these properties and the capital expenditure to be incurred was obtained at the commencement of the year, and that, accordingly, the intention to convert these properties to investment properties existed at the start of the year. The subsequent development activity undertaken during the year was reflective of those intentions. Accordingly it has been deemed that the transfers to investment property in the year occurred with effect from 1 January 2022. The result of this judgement made is that during the year there were transfers from long leasehold property to investment property of £29.9m, revaluation losses on long leasehold land and buildings of £7.3m and revaluation losses on investment property of £6.7m.

Had reasonable alternative assumptions concerning the timing of the transfer of assets from freehold property to investment property been made the above amounts may differ. However any change in these amounts would have a compensating effect such that a change in the value of the amount transferred to investment property would be offset by compensating differences to the revaluation losses on long leasehold and investment properties such that they have £nil overall impact on the Group's total comprehensive income for the year, net assets or reserves. It is however noted that any change in assumption would result in a difference in the value of unrealised losses recognised in profit or loss with a compensating difference in other comprehensive income.

4. JUDGEMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY (CONT.)

Key sources of estimation and uncertainty made in applying the company's accounting policies:

LIABILITIES ON DEFINED BENEFIT PENSION SCHEME	
The actuaries provide a summary of the actuarial assumptions proposed based on FRS 102 requirements and these are reviewed and, where appropriate, challenged by management.	Key estimates are the rate of future salary increases, the discount rate applied, the rate of inflation and the determination of past service costs and associated obligation. A key management judgement relates to the accounting treatment applied to the voluntary pension contribution paid by The Welding Institute during the previous year and how the impacts of this are presented in the Company's financial statements.
INVESTMENT PROPERTY VALUATION	
Fair values are prepared by recognised external valuers and reviewed and challenged by management.	Key estimates include discount rates and other future market conditions.
CONTRACT INCOME	
Income on certain projects is recognised on a percentage completion basis.	Key estimates are the estimated stage of completion which is based on the proportion of costs incurred compared to total expected costs to completion, and the identification of any potential project overruns.
PROVISIONS FOR TRADE AND GROUP DEBTS	
Provisions are made for any amounts considered to be irrecoverable.	Factors considered are failure to meet payment terms and known market conditions.
DEFERRED TAX	
Deferred tax assets and liabilities are calculated based on expected timings and tax rates of reversals of timing differences.	Key estimates are the ability to meet the conditions for the reversal of the timing differences, the timing of the reversal and the tax rates at the time of reversal.
ONEROUS CONTRACTS	
A provision for onerous contracts are recognized where the estimated costs to completion will exceed the expected turnover received from the client on a fixed-priced project.	Key estimates and judgments are made on the costs and efforts in order to meet the deliverables as per the agreed customer contract. Considerations such as technological challenges and testing failures are considered.

5. TURNOVER

An analysis of turnover by class of business is as follows:

TURNOVER BY CLASS OF BUSINESS	2022	2021 (As restated)
	£000	£000
Membership subscriptions	6,690	6,415
Contracts	44,515	46,459
Training, examination, certification and other	9,360	7,705
Net rents receivable	2,330	1,458
TOTAL TURNOVER	62,895	62,037

During the prior year net rents receivable of £1,458,000 were classified as other operating income. During the current year given the increase in value of investment property and the resulting increase in activity associated with this portfolio of assets this income stream is more significant to the Company and, accordingly, it is considered appropriate that this should now be classified within turnover. For consistency of presentation the net rents receivable in the prior year have been reclassified from other operating income to turnover. This is consistent with the presentation of net rents receivable in the Groups financial statements.

An analysis of turnover by country of destination is as follows:

TURNOVER BY COUNTRY OF DESTINATION	2022	2021 (As restated)
	£000	£000
United Kingdom	50,570	44,109
Rest of Europe	4,240	8,247
Rest of the world	8,085	9,681
TOTAL TURNOVER	62,895	62,037

6. OTHER OPERATING INCOME

OTHER OPERATING INCOME	2022	2021 (As restated)
	£000	£000
Research & development expenditure credit	1,905	1,823
Government grants released	392	134
Other operating Income	919	886
Management charge	531	-
TOTAL OTHER OPERATING INCOME	3,747	2,843

Income recognised from an initiative with the Welsh Government, (AMERI) is recognised as follows; 2022 £919,000 (2021: £886,000).

7. UNREALISED FAIR VALUE MOVEMENTS ON INVESTMENT PROPERTIES

UNREALISED FAIR VALUE MOVEMENTS ON INVESTMENT PROPERTIES	2022	2021
	£000	£000
Revaluation (loss)/gain on Investment Property	(6,733)	9,165

During the prior year the Company reported a fair value gain on its investment property of £9.2m and this gain was recognised within the Statement of Comprehensive Income as other operating income. In the current year the Company has reported an unrealised fair value loss on its investment property portfolio of £2.4m. This has been recognised on the face of the Statement of Comprehensive Income as an unrealised fair value movement. To ensure consistent and comparable presentation the comparative figure has been reclassified and presented as an unrealised fair value loss and recognised as such in the Statement of Comprehensive Income. The impact of this is that the comparative operating profit has decreased by £9.2m but the total profit before tax and comprehensive income remains unchanged from the prior year.

A material judgement has been made in these financial statements in relation to the estimate of the timing of the transfer of property from freehold property to investment property, further details of this are disclosed in note 4 to these financial statements.

8. OPERATING PROFIT

The operating profit is stated after charging/(crediting) the following:

	2022	2021
	£000	£000
Research & development charged as an expense	12,089	13,536
Exchange Differences	(417)	(135)
Other operating Lease Rentals	-	787
Depreciation	4,703	3,540
Profit and loss on disposal of tangible fixed assets	92	-

9. AUDITORS REMUNERATION

	2022	2021
	£000	£000
The auditing of accounts of the company pursuant to legislation	117	54
Fees payable to the company's auditor and its associates in respect of:	-	
Audit of other group companies annual accounts	-	71
Other audit services	-	27
TOTAL AUDITORS REMUNERATION	117	152

10. EMPLOYEES

Staff costs, including directors' remuneration, were as follows:

	2022	2021
	£000	£000
Wages and salaries	24,792	23,075
Social security costs	2,659	2,450
Cost of defined contribution scheme	1,973	2,861
TOTAL STAFF COSTS	29,424	28,386

The average monthly number of employees, including the directors, during the year was as follows:

	2022	2021
	No. Employees	No. Employees
Average number of employees	543	566

11. DIRECTORS' AND KEY MANAGEMENT REMUNERATION

	2022	2021
	£000	£000
Directors' emoluments	1,850	1,954

During the year retirement benefits were accruing to 0 directors (2021: 0) in respect of the defined benefit pension scheme. During the year retirement benefits were accruing to 8 (2021: 8) directors in respect of the defined contribution plan pension scheme.

The highest paid director received remuneration of £333,000 (2021: £299,800). The value of the company's contributions paid to a defined contribution pension scheme in respect of the highest paid director amounted to £71,000 (2021: £67,800)

12. INTEREST RECEIVABLE AND INTEREST PAYABLE

	2022	2021
	£000	£000
Bank interest receivable	590	-
TOTAL INTEREST RECEIVABLE AND SIMILAR ITEMS	590	-

	2022	2021
	£000	£000
Bank interest payable	170	198
Interest on loans from group undertakings	2,169	646
Finance leases	98	108
TOTAL INTEREST PAYABLE AND SIMILAR CHARGES	2,437	952

13. OTHER FINANCE COSTS

	2022	2021
	£000	£000
Net interest on net defined benefit obligation (note 30)	81	497

14. EXCEPTIONAL ITEMS

	2022	2021
	£000	£000
Impairment of Intercompany Debt	-	164
Credit to past service costs	-	16,862
	-	17,026

There were no exceptional items incurred in the current year. In the prior year two exceptional items were incurred.

Firstly, a one-off impairment charge of £0.2m in relation to a more prudent approach towards providing for intercompany debt were recognized during the financial period. This was recognised in administrative expenses.

Secondly, during the prior financial period a voluntary contribution of £16.8m was made by The Welding Institute, the parent of TWI Limited, who is a participating employer as part of the Defined Benefit Pension Scheme. The contribution was made as a one-off transaction in 2021 and has resulted in a profit and loss gain due to the reduction of the obligation by TWI Limited to the Defined Benefit Pension Fund. The parent was in a position to make this payment due to windfall profits in the sale of Land by a fellow subsidiary, Granta Park Estates Limited. The contribution and the amount paid was agreed with the trustees of the Pension Scheme. This was recognised within cost of sales.

15. TAXATION

	2022	2021
	£000	£000
CORPORATION TAX		
Current tax on profits for the year	122	(890)
Adjustment in respect of prior periods	4	
TOTAL CURRENT TAX	126	(890)
DEFERRED TAX		
Origination and reversal of timing differences	(445)	8,088
Adjustments in respect of prior periods	-	(2,904)
Effect increased/decreased tax rate on opening balance	-	(2,023)
TOTAL DEFERRED TAX	(445)	3,161
TAXATION ON PROFIT/(LOSS) ON ORDINARY ACTIVITIES	(319)	2,271

TAXATION - CONTINUED

FACTORS AFFECTING TAX CHARGE FOR THE YEAR

The tax assessed for the years is lower than (2021: lower than) the standard rate of corporation tax in the UK of 19% (2021: 19%). The differences are explained below:

	2022	2021
	£000	£000
(Loss)/profit on ordinary activities before tax	(1,618)	34,389
(Loss)/profit on ordinary activities multiplied by standard rate of corporation tax in the UK of 19% (2020: 19%)	(307)	6,534
EFFECTS OF:		
Fixed asset differences	246	198
Expenses not deductible for tax purposes	1,344	56
Income not taxable for tax purposes	(208)	(2,184)
Other tax adjustments, reliefs and transfers	-	2
Chargeable gains/(losses)	(1,154)	323
Payment/(receipt) for s171A transfers	-	(3,227)
Research and development expenditure tax credits	299	-
Adjustments to tax charge in respect of previous periods	4	(25)
Remeasurement of deferred tax for changes in tax rates	(543)	763
Movement in deferred tax not recognised	-	(169)
TOTAL TAX CHARGE FOR THE YEAR	(319)	2,271

FACTORS THAT MAY AFFECT FUTURE TAX CHARGES

In the Finance Bill 2021, the UK Government announced that from 1 April 2023, the Corporation Tax rate would increase to 25%. This new law was substantively enacted on 24 May 2021. Deferred tax has been calculated at a rate of 25% (2021: 25%).

16. TANGIBLE FIXED ASSETS

	Long Leasehold Property	Short-term Leasehold Property	Plant and Machinery	Fixtures, Fittings and Computers	Total
	£000	£000	£000	£000	£000
COST OR VALUATION					
At 1 January 2022	129,860	6,456	37,132	4,474	177,922
Additions	4,798	410	3,366	421	8,995
Disposals	(63)	-	(28)	-	(91)
Transfers between classes	(326)	326	-	-	-
Transfer to investment property	(29,899)	-	-	-	(29,899)
Revaluations in year	(7,279)	-	-	-	(7,279)
At 31 December 2022	97,091	7,192	40,470	4,895	149,648
At 1 January 2022	4,977	1,292	27,686	3,701	37,656
Charge for the year on owned assets	2,647	345	1,467	243	4,702
Eliminated on disposals	-	-	-	-	-
At 31 December 2022	7,624	1,637	29,153	3,944	42,358
NET BOOK VALUE					
At 31 December 2022	89,467	5,555	11,317	951	107,290
At 31 December 2021	124,883	5,164	9,4456	773	140,266

17. INVESTMENT PROPERTY

LONG-LEASEHOLD INVESTMENT PROPERTY

	2022	2021
	£000	£000
VALUATION		
At beginning of year	17,700	8,535
Additions	4,434	-
Transfer from freehold property	29,899	-
(Loss)/gain on revaluation	(6,733)	9,165
AT END OF YEAR	45,300	17,700

The valuations in both 2021 and 2022 valuations were made by a qualified external party, on an open market value for existing use basis.

18. DEBTORS

	2022	2021
	£000	£000
DUE WITHIN MORE THAN ONE YEAR		
Deferred tax asset	6,033	3,717

	2022	2021
	£000	£000
DUE WITHIN ONE YEAR		
Trade debtors	10,045	6,284
Amounts owed by group undertakings	11,374	23,471
Other debtors	1,809	2,807
Prepayments and accrued income	2,935	3,040
Amounts recoverable on long-term contracts	7,664	8,048
Tax recoverable	3,394	3,245
Deferred taxation	-	-
TOTAL DEBTORS DUE WITHIN ONE YEAR	37,221	46,895

An impairment loss of £197,000 (2021: £304,000) was recognised against trade debtors. A provision for impairment losses on amounts owed by group undertakings of £3,187,000 (2021: £3,187,000).

19. CASH AND CASH EQUIVALENTS

	2022	2021
	£000	£000
Cash at bank and in hand	48,729	10,914
TOTAL CASH AND CASH EQUIVALENTS	48,729	10,914

20. CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2022	2021
	£000	£000
Payments received on account	10,739	16,423
Trade creditors	7,468	3,664
Amounts owed to group undertakings	17,239	7,786
Other taxation and social security	602	21,699
Corporation tax	126	-
Obligations under finance lease	464	356
Other creditors	1,825	311
Accruals and deferred income	12,584	11,235
TOTAL CREDITORS FALLING DUE WITHIN ONE YEAR	51,047	61,474

Details on the terms for amounts owed to group undertakings are included in note 21.

21. CREDITORS: AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR

	2022	2021
	£000	£000
Payments received on account	-	2,385
Net obligations under finance leases	2,441	2,915
Amounts owed to group undertakings	55,881	11,245
Accruals and deferred income	8,142	7,440
	66,464	23,985

Amounts owed to group undertakings are unsecured. These amounts attract an interest rate of 3.015% per annum.

22. PROVISIONS

ONEROUS CONTRACT PROVISION	2022	2021
	£000	£000
At 1 January	1,168	1,128
Additions in the year	478	40
Utilised in the year	(855)	-
At 31 December	791	1,168

Where the estimated costs to deliver a project exceed the amount of turnover the company will receive for the deliverables of the project, the company recognizes an onerous contract provision when these circumstances are identified. Onerous contracts are reviewed on an annual basis.

23. FINANCE LEASES

Minimum lease payments under hire purchase fall due as follows:

	2022	2021
	£000	£000
Within one year	464	356
Between 1-5 years	1,660	1,729
Over 5 years	781	1,186
TOTAL FINANCE LEASES	2,905	3,271

24. DEFERRED TAXATION

	2022	2021
	£000	£000
At 1 January	(18,132)	3,500
Credited/(charged) to profit or loss	445	(3,160)
Credited/(charged) to other comprehensive income	4,436	(18,472)
AT 31 DECEMBER	(13,251)	(18,132)

The deferred tax balance is made up as follows:

	2022	2021
Capital gains	(16,583)	(20,495)
Accelerated capital allowances	(2,701)	(1,354)
Other short term timing differences	1,294	1,263
Losses and other deductions	4,739	2,454
	(13,251)	(18,132)
COMPRISING:		
Asset - due after one year	6,033	3,717
Liability	(19,284)	(21,849)
	(13,251)	(18,132)

25. SHARE CAPITAL

	2022	2021
	£	£
ALLOTTED, CALLED UP AND FULLY PAID		
Ordinary shares of £1.00 each	2	2

There is a single class of ordinary shares. There are no restrictions on dividends and the repayment of capital.

26. RESERVES

SHARE PREMIUM ACCOUNT

This reserve records the amount above the nominal value received for shares sold, less transaction costs.

REVALUATION RESERVE

This reserve represents the cumulative gain, net of deferred tax on the revaluation of long leasehold properties held within tangible fixed assets (excluding investment properties).

PROFIT AND LOSS ACCOUNT

This reserve includes all current and prior period retained profits and losses.

27. ANALYSIS OF NET DEBT

	At 1 January 2022	Cash flows	Other non-cash movements	At 31 December 2022
	£000	£000	£000	£000
Cash at bank and in hand	10,914	37,815	-	48,729
Finance leases	(3,271)	464	(98)	(2,905)
TOTAL	7,643	38,279	(98)	45,824

28. CAPITAL COMMITMENTS

	2022	2021
	£000	£000
Contracted for but not provided in these financial statements	-	

29. PENSION COMMITMENTS - DEFINED CONTRIBUTION PENSION SCHEME

The company operates a defined contribution pension scheme in the UK. The assets of the scheme are held separately from those of the company in independently administered funds. The pension cost charge represents contributions payable by the company to the funds and amounted to £1,973,000 (2021: £2,861,000). Contributions totalling £277,673 (2021: £277,673) were payable to the funds at the balance sheet date and are included in other creditors.

There were 510 active members of the Defined Contribution Pension Scheme as at the end of 2021 (2021: 510).

30. PENSION COMMITMENTS - DEFINED BENEFIT PENSION SCHEME

The company operates a Defined Benefit Pension Scheme.

This is a separate trustee administered fund holding the pension scheme assets to meet long term pension liabilities. The triennial valuation was carried out at 31 December 2019 by Mercer Limited independent of the scheme's sponsoring employer. The major assumptions used by the actuary are shown below.

The most recent completed triennial actuarial valuation as at 31 December 2019 showed a deficit of £56,935,000. The company has agreed with the trustees that it will aim to eliminate the deficit over a period of 8 years 9 months from 1 April 2021 by the payment of monthly contributions of £296,667 increasing at a rate of 4% pa. In addition, the company will meet the cost of levies to the Pension Protection Fund. The scheme closed to accruals on 11 September 2020.

There were nil active members of the Defined Benefit Pension Scheme at the end of 2022 (2021: Nil). During the prior period The Welding Institute made a voluntary pension contribution payment of £16.8m to the defined benefit scheme. As a participating employer is was authorized by the pension trustees to effect the contribution in relation to the scheme.

PENSION COMMITMENTS – CONTINUED

Reconciliation of present value of plan liabilities:

RECONCILIATION OF PRESENT VALUE OF PLAN LIABILITIES	2022	2021
	£000	£000
At the beginning of the year	4,468	43,377
Current service cost	-	-
Interest income	113	497
Contributions	-	(20,079)
Loss/(gain) on settlement or curtailment	10,465	(19,327)
AT THE END OF THE YEAR	15,046	4,468
ANALYSIS OF ACTUARIAL GAIN/(LOSS) RECOGNISED IN OTHER COMPREHENSIVE INCOME	2022	2021
	£000	£000
Return on plan assets (excluding amounts included in net interest costs)	65,914	16,358
Experience gains and losses arising on the plan liabilities	12,055	711
Effects of changes in the demographic and financial assumptions underlying the present value of the plan liabilities - Gain/(loss)	(67,504)	4,421
TOTAL	10,465	21,490

Composition of plan assets:

PLAN ASSETS	2022	2021
	£000	£000
Other assets	32,931	50,237
Equities	58,310	108,346
Debt instruments	10,491	13,211
Cash	9,705	8,047
TOTAL PLAN ASSETS	111,437	179,841
PENSION SCHEME LIABILITY	2022	2021
	£000	£000
Fair value of plan assets	111,437	179,841
Present value of plan liabilities	(126,483)	(184,309)
NET PENSION SCHEME LIABILITY	(15,046)	(4,468)

PENSION COMMITMENTS – CONTINUED

The amounts recognised in profit or loss are as follows:

	2022	2021
	£000	£000
Reduction in past service costs	-	(16,862)
Current service cost	-	-
Interest on obligation	81	497
Expenses	32	32
TOTAL	113	(16,333)

Reconciliation of opening and closing balances of the defined benefit obligation were as follows:

CHANGES IN DEFINED BENEFIT OBLIGATION	2022	2021
	£000	£000
Opening defined benefit obligation	184,309	194,625
Current service cost	-	-
Interest cost	3,267	2,670
Actuarial gains and (losses)	(55,449)	(5,132)
Contributions by scheme participants	-	-
Benefits paid	(5,644)	(7,854)
CLOSING DEFINED BENEFIT OBLIGATION	126,483	184,309

Reconciliation of opening and closing balances of fair value of the plans assets were as follows:

CHANGE IN FAIR VALUE OF PLAN ASSETS	2022	2021
	£000	£000
At the beginning of the year	179,841	149,117
Interest income	3,186	2,173
Return on plan assets in excess of interest income	(65,914)	16,358
Contributions by the company	-	20,079
Contributions by scheme participants	-	-
Benefits paid	(5,644)	(7,854)
Administrative expenses	(32)	(32)
TOTAL	111,437	179,841

PENSION COMMITMENTS – CONTINUED

Principal actuarial assumptions at the balance sheet date (expressed as weighted averages):

	2022	2021
	%	%
Discount rate	5.00	1.80
Salary increase rate	2.50	1.95
Price inflation rate (RPI)	3.25	3.45
Price inflation rate (CPI)	2.75	2.95
Mortality rates		
For a male aged 65 now	21.9	21.8
At 65 for a male aged 45 now	23.2	23.1
For a female aged 65 now	23.8	23.7
At 65 for a female member aged 45 now	25.3	25.3

As agreed with the trustees, the company will not be liable to pay any deficit reduction contributions in 2023. Repayments are expected to recommence in 2025 based on an updated triennial review.

31. COMMITMENTS UNDER OPERATING LEASES

At 31 December 2022 the company had future minimum lease payments due under non-cancellable operating leases for each of the following periods:

	2022		2021	
	LAND AND BUILDINGS	OTHER	LAND AND BUILDINGS	OTHER
	£000	£000	£000	£000
Not later than 1 year	-	14	212	41
Later than 1 year and not later than 5 years	-	-	713	14
Later than 5 years	-	-	268	55
TOTAL OPERATING LEASES - LAND AND BUILDINGS	-	14	1,193	110

During 2022, the company purchased its Property in Port Talbot for an amount of £2.1m completing the acquisition in February 2022.

RENTS RECEIVABLE UNDER NON-CANCELLABLE OPERATING LEASES	2022	2021
	£000	£000
Not later than 1 year	1,153	755
Later than 1 year and not later than 5 years	3,940	2,634
Later than 5 years	1,285	-
TOTAL OPERATING LEASE COMMITMENTS - LAND AND BUILDINGS	6,378	3,389

At 31 December 2022 the company had future minimum lease payments receivable under non-cancellable operating leases for each of the above periods.

32. RELATED PARTY TRANSACTIONS

The parent company prepares consolidated group accounts and, accordingly, the company has taken advantage of the exemptions contained within FRS 102 paragraph 33.1A not to disclose transactions with wholly owned group undertakings.

No member of the directors or key management had any related party transactions during the period.

33. ULTIMATE PARENT UNDERTAKING AND CONTROLLING PARTY

The sole shareholder is The Welding Institute. The company is considered a wholly owned subsidiary of The Welding Institute for accounting purposes and its assets and liabilities have been consolidated with those of The Welding Institute as required by section 9 of FRS 102. The ultimate parent company and controlling entity is The Welding Institute, which is the parent company of the smallest and largest group to consolidate these financial statements. Copies of the financial statements of The Welding Institute are available at its registered office, Bevan Braithwaite Building, Granta Park, Great Abington, Cambridge, CB21 6AL.

34. INVESTMENTS AND SUBSIDIARY COMPANIES

NAME	Location	Class of shares	Holding
TWI Training and Consultancy Limited	Canada	N/A	100%
TWI (India) Pvt. Limited	India	Ordinary	100%
TWI Middle East FZ-LLC	UAE	Ordinary	100%
TWI Technology Engineering (Private) Ltd	Pakistan	Ordinary	100%
TWI Turkey Muhendislik Tic. Ltd.sti	Turkey	Ordinary	50%
TWI Gulf WLL	Bahrain	Ordinary	100%
TWI Kazakhstan LLP	Kazakhstan	Ordinary	100%
Fullagar Technologies Limited	England	Ordinary	100%
TWI Hellas	Greece	Ordinary	100%

In previous years the cost of investments were expensed in the period that they arose. The initial costs of the investments are not material.

DETAILS OF REGISTERED OFFICES

NAME	Registered office
TWI Training and Consultancy Limited	Office 36 & 44, 4620 Manilla Road S.E., Calgary, Alberta, T2G 4B7, Canada
TWI (India) Pvt. Limited	Old No.85, New No.60, Ellaiamman colony, Vellala Teynampet, Chennai 600086, India
TWI Middle East FZ-LLC	Dubai Knowledge Park, Block 13 Office F104A, P.O. Box 502931 Dubai, UAE
TWI Technology Engineering (Private) Ltd	Office No. 706/707 A-B, 7TH Floor, DHA Haly Tower, Sector R, Phase 2, DHA Lahore, Punjab, Pakistan
TWI Turkey Muhendislik Tic. Ltd.sti	Tatlı Su Mahallesi, Şenol Güneş Bulvarı, Mira Tower, No:2/A, Kat:7, Daire:25, Ümraniye / Istanbul, Postcode:34770; Turkey
TWI Gulf WLL	13th Flr., Unit 1302, Al Wahda City Commercial Tower, Hazza Bin Zayed Street, PO Box 39237, Abu Dhabi, UAE
TWI Kazakhstan LLP	Business Centre, Atyrau Plaza, 7-th floor, Office No.707; Satpayev street 17B; P.O 060000, Atyrau city, Kazakhstan
Fullagar Technologies Limited	Bevan Braithwaite Building, Granta Park, Great Abington, Cambridge, CB21 6AL, UK
TWI Hellas	Leof. Kifisias 280, GR-152 32 Chalandri, Greece



TWI is the business name of The Welding Institute, a company limited by guarantee.

The Welding Institute – Registered number 00405555 England.

TWI Limited – Registered number 3859442 England.