



**CRANFIELD UNIVERSITY**  
**ROYAL CHARTER NUMBER 000151**  
**FINANCIAL STATEMENTS**  
**for the year ended 31st July, 2022**

<b>CONTENTS</b>	<b>Page</b>
Highlights report	2
Strategic report	15
Corporate governance	34
Primary responsibilities of the Council of Cranfield University	45
Independent auditors' report for the members of Cranfield University	48
Principal accounting policies	51
Consolidated statement of comprehensive income and expenditure and University	58
Consolidated statement of changes in reserves	59
University statement of changes in reserves	60
Statement of financial position	61
Statement of consolidated cash flows	62
Notes to the accounts	63

## CRANFIELD UNIVERSITY

### HIGHLIGHTS REPORT

#### FOR THE YEAR ENDED 31ST JULY, 2022

##### Summary and key highlights

2021/2022 has seen Cranfield focus on recovery from the Covid 19 pandemic, supporting students to complete their courses, welcoming new students to the University, and piloting new working arrangements with our staff. In-person graduation ceremonies were held again for the first time since 2019, blended with the best elements from the past two years' online ceremonies to create an innovative and inclusive celebration format with graduates able to join live online as well as in-person.

The development of our new working arrangements has been guided with a focus on enhancing the experience of our staff, students, business partners and the wider Cranfield community. The wellbeing of our staff and students is at the heart of our new arrangements, which are consistent with our values and our commitment to equality, diversity and inclusion.

We have also monitored closely the impact on our community of the situation in Ukraine since the launch of Russia's full-scale invasion in February. Our Student Advice Centre, working with Cranfield Students' Association and HR colleagues, reached out to Ukrainian and Russian students and staff, and offered support to members of our community affected by the conflict.

##### **Key highlights in 2021/2022 included:**

- Professor Karen Holford CBE FREng took up her role as Cranfield's new Chief Executive and Vice-Chancellor following the retirement of Professor Sir Peter Gregson. Professor Holford joined Cranfield from Cardiff University where she was Deputy Vice-Chancellor. Professor Holford was elected as a Fellow of the Royal Academy of Engineering in 2015 and was named as one of the top 50 most influential women engineers in the UK in 2016. In 2018, she received a CBE for services to engineering and the advancement of women in engineering and, in 2019, received the Suffrage Science award in Engineering and Physical Sciences.
- We developed of a new, five-year corporate plan (2022-2027) with our values as a bedrock. Extensive consultation and engagement with senior management, staff and wider stakeholders – students and business partners – took place throughout the year as we work towards the launch of the new plan for the beginning of the 2022/2023 academic year. Strategic priorities guiding the development of the plan – 'Ambition 2027' – include:
  - being the organisation that people want to work for (employer of choice)
  - putting Cranfield at the heart of a collaborative network (partner of choice)
  - transformational research (creating the UK's applied research powerhouse)
  - helping our learners to stand out from the crowd (distinctive Cranfield learners)
- We continue to implement of our Diversity and Inclusion Strategy and embed of our University values to help us maintain and promote an inclusive environment for our entire staff and student community. Additional staff employee networks and working groups – Cranfield Disability Network and the EmBRace Network – have been set up over the last year, and an LGBTQ+ network is being established. We have recently expanded our Wellbeing Working Group to be more representative across the University, linking in with the Student Wellbeing Group where appropriate.
- Cranfield Aerospace Solutions (CAeS) continues work to develop the world's first zero emissions, regulatory certified, commercially viable, hydrogen aircraft. CAeS received £10.4 million from Safran Corporate Ventures and HydrogenOne Capital Growth and a further £3.9 million from the Strategic Development Fund – the investment arm of Tawazun Economic Council of the United Arab Emirates – and California venture capital firm Motus Ventures as part of its Series A funding round. CAeS is

developing a hydrogen fuel cell powertrain conversion for the Britten-Norman BN2 Islander with service entry envisaged in 2025.

## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

#### **FOR THE YEAR ENDED 31ST JULY, 2022**

- We continue our work on the development of MK:U, a proposed new technical university in Milton Keynes in partnership with Milton Keynes Council. MK:U's first ever degree apprenticeship course started in October 2021 with a pioneer cohort of Santander management apprentices. MK:U's temporary home at the newly refurbished Bouverie House in the city centre was officially opened, along with a new Innovation Hub to support local businesses and foster innovation. Plans for the future of MK:U continue to be developed by Cranfield University, Milton Keynes Council and its business supporters who are all encouraging the government to support this new kind of university. Milton Keynes Council opted in March to extend the terms of the existing agreement with Cranfield University, demonstrating local aspirations to develop the project.

#### **Laying the foundations for our new corporate plan: Ambition 2027**

Developments across the University in 2021/2022 have provided a strong foundation for working towards the ambitions outlined in our new corporate plan to: be an employer of choice; be a partner of choice; create the UK's applied research powerhouse and create distinctive Cranfield learners.

#### **Employer of choice**

- Cranfield committed to implementing ten recommendations from the TALENT Commission report, published in February, that will strengthen the future of technical skills and staff in higher education and research. The University is one of eight in the Midlands Innovation group to pledge to action the TALENT Commission employer recommendations. This includes taking a strategic approach to future technical skills and plugging future skills gaps, addressing existing EDI challenges, costing technicians on grants and proposals consistently, broadening technical career pathways and expanding technician job families, making it easier to attract the best talent to create a diverse technical workforce.
- Engaging with staff over our new Corporate Plan which began earlier in the year with a number of focus groups over a 6 week period (Big Corporate Plan Conversation). We asked staff to share their thoughts, ideas and experiences around the 4 proposed areas of focus in the Plan. As a follow up, we are currently holding regular drop-in sessions to update staff on the agreed plan and to think about how this relates to their role and how they can contribute to its success.
- We also consider the social and environmental consequences of all our activities. The University organises, sponsors and supports a variety of public engagement events in which staff are actively encouraged to participate. There was a staff event in June for colleagues and their families with outdoor games, vintage fairground rides and free food and drink from a range of local vendors. In addition, many of our staff are engaged in a wide range of public engagement and outreach activities on an individual basis.
- The Cranfield Engineering Heroes initiative organised for International Women in Engineering Day (INWED) 2021 and open to all primary and secondary school students nationwide has formed the beginnings of a permanent programme for young people: the Cranfield Hero Alliance. The idea is to deliver regular activities and communicate to pupils/schools periodically with further resources to have longer-term impact. The first more in-depth collection of content and activities – 'Climate change heroes' – was launched in autumn 2021 with videos and resources targeted at school-aged children to engage on the topic of climate change and recruit more heroes into the alliance.

## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

**FOR THE YEAR ENDED 31ST JULY, 2022**

#### **Partner of choice**

- Engagement with Marshall Aerospace and Defence Group (MADG) is ongoing regarding proposals to relocate its global Aerospace headquarters and operations to Cranfield Airport. After an initial consultation in March, a second public exhibition was held in July. Proposals are now being finalised with a view to submitting a planning application to Central Bedfordshire Council in the autumn of 2022.
- Cranfield University and the Royal Air Force Rapid Capabilities Office (RCO) signed a Strategic Relationship Charter setting out guiding principles for how the two organisations will work together more closely in research, innovation and education. The strategic partnership agreement recognises the importance of research and experimentation in defence science and technology to the strategic goals of both organisations. Cranfield and the RAF have a long relationship going back to before the Second World War. The signing of the Charter marks a new phase in which we will work together on initiatives covering sustainability and the drive for net zero, unmanned aerial systems, space, AI and autonomy.
- Cranfield, along with the policy research organisation RAND Europe, is supporting the King's Institute for Applied Security Studies (KIAS) to deliver future command and staff academic provision for the Royal College of Defence Studies (RCDS) in London, and the Joint Services Command & Staff College (JSCSC) and Army Division based at the Defence Academy in Shrivenham. The new academic and research partnership combining the knowledge and expertise of three world-renowned institutions is poised to enhance professional defence and security education for UK service personnel, civil servants and international allies.
- Airbus signed a partnership agreement with Cranfield at Farnborough International Airshow 2022 to help ensure its graduates have the right skills to face future challenges in a complex and competitive aerospace environment. Cranfield is the latest University to join the Airbus Academic Programme, which aims to partner with universities and higher education institutions around the world to develop an industry leading pipeline of talent and innovation. Cranfield also signed a Memorandum of Understanding with Regional & City Airports (RCA) at Farnborough. The strategic partnership will focus on developing the future technologies and skills required to deliver a sustainable future for aviation, a progressive passenger experience and to foster greater collaboration around future skills and sharing best practice.
- Aerospace, defence and security company Babcock International Group (Babcock) renewed its partnership with Cranfield as part of its ongoing commitment to invest in technology research. The three-year extension with the University's Through-Life Engineering Services Centre (TES) will focus on exploiting areas of digital technology development, including artificial intelligence, digital twins and augmented reality.
- Cranfield joined the Campaign for Science and Engineering (CaSE) as an organisational member, demonstrating its commitment to sharing knowledge and expertise to advance change in the sector. CaSE is the UK's leading independent advocate for science and engineering, representing over 115 scientific organisations, with a mission to ensure the UK has the skills, funding and policies to ensure science and engineering thrive.
- Cranfield University and the Instituto Tecnológico de Aeronáutica (ITA), one of the top engineering schools in Brazil, signed a Memorandum of Understanding to foster closer collaboration in research

and education. The two universities will work together to develop joint degrees and academic research, as well as PhD student exchange, staff exchanges and joint industry collaborations.

## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

#### **FOR THE YEAR ENDED 31ST JULY, 2022**

- Cranfield and the University of Aeronautics in Querétaro (UNAQ), a higher education institution located in the state of Querétaro, the hub of the aerospace industry in Mexico, signed a Memorandum of Understanding to develop joint academic research and education. Cranfield and UNAQ will work together to develop joint degrees and academic research.
- Cranfield launched a new Seed Fund, using philanthropic gifts from alumni donors to provide early investment for promising business owners who have a link to the University. Launched by the Bettany Centre for Entrepreneurship in the School of Management, Cranfield University Seed Fund gives entrepreneurs and start-ups access to capital from a diverse pool of supporters, alongside advice and education to help scale their businesses.
- Experts from Cranfield School of Management are supporting the development of Saudi Arabia's defence sector and the Saudi General Authority for Military Industries (GAMI) in delivering on its Military Industries Human Capital strategy. Cranfield will work with GAMI to bridge the gap between the skills required in the sector and the outputs of the Kingdom's university education, technical and vocational training. This will involve developing educational and training programmes, policy programmes, mentorship and counselling programmes.

#### **Applied research powerhouse**

- The 2021 Research Excellence Framework (REF) results rated 88% of Cranfield's research as world-leading or internationally excellent, reflecting our global reputation for excellence in applied research that has a real-world impact. Cranfield submitted research to three Units of Assessment: 'Agriculture, Food and Veterinary Science', 'Engineering', and 'Business and Management'. In 'Agriculture, Food and Veterinary Science', Cranfield saw increases in its Grade Point Average across all sub-categories of assessment and was ranked 7th in the UK for its research impact. 'Engineering', a new Unit of Assessment in 2021, was ranked 7th in the UK for research power. 'Business and Management' increased its ranking for research impact, ranked 7th in the UK out of 108 institutions.
- Cranfield was ranked amongst the world's top universities in the latest QS World University Rankings by Subject. In 'Engineering – Mechanical, Aeronautical and Manufacturing' the University was ranked 27th in the world, climbing 18 places from last year's ranking and attaining top scores in Employer and Academic Reputation. 'Business and Management Studies' rose to 110th in the rankings with Cranfield's highest H-index score, and 'Environmental Sciences' is now in the top 200, achieving Cranfield's highest score for Citations per Paper. The University also improved its rankings in 'Agriculture and Forestry' and in 'Materials Science'.
- Cranfield was awarded £3.1 million to advance its sustainable aviation research, both into developing low-carbon aircraft, and decarbonising airport logistics. The funding from Research England will also have an immediate impact on reducing or eliminating greenhouse gas emissions from flying and airside operations at the University, amounting to 305 tonnes of CO<sub>2</sub>e (carbon dioxide equivalent) per year. The Net Zero Research Airport project won the funding from the UK Research Partnership Investment Fund (UKRPIF) Net Zero pilot funding scheme and will unlock further potential from two existing Cranfield UKRPIF projects – the Aerospace Integration Research Centre (AIRC) and the Digital Aviation Research and Technology Centre (DARTeC) – by providing new facilities and equipment to support research focused on sustainable aviation.

- We established a new research Institute to accelerate developments in sustainable aerospace, creating a cleaner, quieter and more efficient industry. The Cranfield Air & Space Propulsion Institute (CASPI) will champion pan-University research with close industry, academia and

## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

#### **FOR THE YEAR ENDED 31ST JULY, 2022**

government collaboration. It aims to help develop new, revolutionary technologies for use in air and space propulsion and power system applications.

- Cranfield joined the Henry Royce Institute (Royce), the UK's national centre for advanced materials research and innovation, as an Associate Partner. The formal partnership means Cranfield can share its expert capability in advanced materials research through its National High Temperature Surface Engineering Centre. The University in turn will benefit from a direct link to Royce's academic and industrial community, supporting national research and development requirements.
- Cranfield joined Spirit Europe's Aerospace Innovation Centre (AIC) as an academic partner at the newly opened research and development facility in Prestwick, Scotland. The AIC was officially opened by Scotland's First Minister, Nicola Sturgeon, and has been established as a centre of excellence in advanced materials, digital technologies and processes. The circa £30 million centre will explore innovative design techniques for products such as aircraft wings, using lightweight composite material technology to reduce flight emissions and lower costs.
- His Royal Highness The Duke of Kent visited Cranfield in February to see the latest research developments and new facilities at the Bedfordshire campus. The visit was an opportunity to thank The Duke of Kent for his support as Visitor to the University, as he steps back from this role after many years of loyal service.

#### **Distinctive Cranfield learners**

- Cranfield and Santander Universities renewed their long-standing partnership for an additional three years. Santander Universities has supported students at the University for over eight years, providing bursaries and financial support for course fees. The success has provided life-changing opportunities and experiences for the beneficiaries and funding will continue to support education, employability, and entrepreneurship.
- Cranfield launched a first-of-its-kind, custom-made executive development programme addressing management and leadership skills shortage at scale, eligible to be funded by the Apprenticeship Levy. Designed to develop the talent of companies' whole leadership pipelines, the Senior Leader Executive Programme is an in-work level 7 apprenticeship tailored to the strategic needs and agenda of individual businesses. The 20-month programme aims to equip 'accidental' leaders and experienced managers alike with the knowledge, skills and capabilities they need to help shape and drive forward their company's strategic agenda. Leading global professional services firm Aon was the first to sign up to the new programme.
- Cranfield launched a new sustainability master's-level apprenticeship, among the first of its kind in the UK to be available via the Apprenticeship Levy. The programme is linked to the new Sustainable Business Specialist Apprenticeship Standard and those who complete it will receive a Sustainability MSc. Matching the sustainable nature of the course content, the course is delivered almost wholly online with a three-day 'Spring School' being held at Cranfield each year.
- The final two blocks of Baroness Young Hall, our new hall of residence, were also completed during the year and handed over to the University ahead of schedule. Building work on the first blocks commenced in February 2020 and it has been very pleasing to see all five blocks completed ahead

of schedule and on budget with the majority of construction taking place during the pandemic. Feedback from students staying in the new accommodation has been very positive.

## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

**FOR THE YEAR ENDED 31ST JULY, 2022**

#### **2021/2022 highlights: recognition of expertise, key appointments and academic awards, research developments and environmental and sustainability achievements**

##### **Recognition of expertise**

One of the University's greatest strengths is its people, its staff and its students, and 2021/2022 continued to see outside recognition of their expertise. Below are just some of the recognitions in the last year:

- Cranfield achieved national award success with two engineers being named as winners in the 2022 Top 50 Women in Engineering (WE50) and three others reaching the final 100 of the annual awards linked to International Women in Engineering Day (INWED). Dr Navya Thomas, Research Fellow in Membrane Crystallisation and Dr Tosin Adedipe, Technical Project Manager were selected as Top 50 winners and Dr Carol Verheecke-Vaessen, Natalia Jawiarczyk and Yadira Bajon Fernandez, were among the 100 highly commended finalists. This year the awards celebrated inventors and innovators who can imagine the future with the ability to identify an unmet need then create the solution, or improve on existing products and processes.
- Professor Dame Helen Atkinson DBE FREng, Pro-Vice-Chancellor of the School of Aerospace, Transport Systems and Manufacturing, received her Damehood in an investiture ceremony at Windsor Castle. She was recognised in the Queen's Birthday Honours 2021 for services to engineering and education. Dame Helen also received the President's Medal from the Royal Academy of Engineering, one of the Academy's most prestigious awards, in recognition of her enormous contribution to the Academy's work, particularly in education and careers outreach.
- An aeronautical heritage award from the Royal Aeronautical Society was unveiled at Cranfield, paying tribute to one of the world's leading experts on air passenger safety. The plaque was given in recognition of Professor Helen Muir's significant work in developing passenger safety, which influenced the design of today's aircraft and has resulted in safer air travel.
- Dr Sarah Morris, Senior Lecturer in Digital Investigation in the Centre for Electronic Warfare, Information and Cyber, was appointed to the UK Government's Biometrics and Forensics Ethics Group (BFEG). The BFEG is an advisory non-departmental public body, sponsored by the Home Office, and provides independent ethical advice to Home Office ministers on issues related to the collection, use, and retention of biometric and forensic material.
- Dr Michelle Cain, Lecturer in Environmental Data Analytics in the Centre for Environmental and Agricultural Informatics, was named as one of the most promising science and research leaders in the UK for her project to develop a more holistic and accurate approach to assessing what contributes to climate change. Dr Cain was awarded funding by UK Research and Innovation's (UKRI) flagship Future Leaders Fellowships programme which aims to address major global issues and commercialise innovation.
- Dr Jacqueline Hannam began work with the Welsh Government to develop the first Soil Policy Statement for Wales. Dr Hannam, President Elect of the British Society of Soil Science and Senior Lecturer in Pedology in the Soil Informatics Group, will spend 12 months on part-time secondment to the Soil Policy & Agricultural Land Use Planning Unit at the Department for Climate Change. Together, they will conduct an evidence review to better understand the current condition of soils in Wales, as well as future challenges facing Welsh soils managed under agriculture within the context of biodiversity loss and climate change.

## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

#### **FOR THE YEAR ENDED 31ST JULY, 2022**

- Sue Vinnicombe, Professor of Women and Leadership in Cranfield School of Management's Gender, Leadership and Inclusion Centre was honoured for the 'profound impact' she has had on global management practice by being inducted into the Thinkers50 Management Hall of Fame in recognition of her globally-influential research into diversity and women's leadership.
- Richard Wilding OBE, Professor of Supply Chain Strategy in the School of Management, was awarded the Sir Robert Lawrence Award from the Chartered Institute of Logistics and Transport. First presented in 1986, the award recognises an individual's outstanding contribution to the profession of logistics and transport.
- Professor Clare Kelliher, Professor of Work and Organisation at Cranfield School of Management, was conferred as a Fellow of the Academy of Social Sciences. Professor Kelliher was recognised for the excellence and impact of her work, as well as her wider contributions to the social sciences for public benefit.
- David Grayson, Emeritus Professor of Corporate Responsibility in Cranfield School of Management, was honoured with the Responsible Business Honouree Award at the Reuters Responsible Business Awards 2021.
- Hyo-Sang Shin, Professor of Guidance, Navigation and Control, was named as the 18th recipient of the Jeong Hun Cho Award. The prestigious South Korean academic award recognises promising young scientists who have made significant achievements in the field of aerospace engineering.
- Natalia Falagán, Lecturer in Food Science and Technology, was recognised by the Royal Academy of Engineering of Spain with the Early Career Researchers Award for her research into the optimisation of food chains with the aim of increasing resilience and sustainability globally.
- Dr Zhugen Yang, Lecturer in Sensor Technology, was shortlisted for the 2022 James J. Morgan Early Career Award. The award recognises contributions of early-career researchers who are leading the field in new directions through innovative ideas.
- Dr Yicheng Sun, Research Fellow in Aerospace Vehicle Design, was the runner-up at the final of the Red Bull Paper Wings competition after throwing a paper plane 57.07 metres. Dr Sun beat 60 competitors from 58 countries in the longest distance category.
- The Association of MBAs (AMBA) and the Business Graduates Association (BGA), together awarded a thesis by Dr Wendy Shepherd, Director of Individual and Organisational Impact within Cranfield Executive Development the DBA Impact Prize for 2021. Design for Impact was conceived by Dr Shepherd during her DBA studies in the School of Management as a way to understand, monitor and measure impact of executive learning at an organisational level.
- The CranSEDS Vicinity team swept the board at the annual UK Students for the Exploration and Development of Space (UKSEDS) Satellite Design Competition, winning all five categories to take home the overall competition prize. The Cranfield team won best CDR (Critical Design Review), best TRR (Test Readiness Review), best prototype, best presentation and best overall at the competition, which is sponsored by Airbus and SSPI.
- A master's thesis submitted by Adam Bissmire-Mullen as part of his MSc in Strategic Marketing during the 2020/2021 academic year was recognised by the Worshipful Company of Marketors with a national award for work on executive engagement.



## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

#### **FOR THE YEAR ENDED 31ST JULY, 2022**

- Two students from Cranfield won prestigious International Society of Air Safety Investigators (ISASI) Rudolf Kapustin Memorial Scholarships in the same year for the first time. Ao Sun and Yifan Wang – both Safety and Human Factors in Aviation MSc students – were awarded the \$2,000 scholarships after submitting essays focusing on the protection of mental health for accident investigators and the use of 3D accident scene reconstructions, respectively.
- Cranfield University's third recipient of the annual \$5,000 aviation scholarship for women, funded by the International Aviation Women's Association (IAWA), was Zoe Ashford, an MSc Astronautics and Space Engineering student.

#### **Key appointments and academic awards**

In addition to Professor Karen Holford taking up her role as Cranfield's new Chief Executive and Vice-Chancellor, a number of other key appointments and academic awards were made over the year:

- Professor Chris Fogwill joined Cranfield as Pro-Vice-Chancellor and Head of the School of Water, Energy and Environment. Professor Fogwill joined from Keele University where he was Head of the School of Geography, Geology and the Environment, Professor of Glaciology and Palaeoclimatology, and Director of the University's Institute for Sustainable Futures.
- Professor Leon Terry, previously Director of Environment and Agrifood at Cranfield, was appointed as the University's Pro-Vice-Chancellor for Research and Innovation, responsible for continuing to drive excellence in Cranfield's transformational research across the University.
- Professor Angel Medina Vaya took up the permanent post of Director of Environment and Agrifood in the School of Water, Energy and Environment. With more than 20 years of experience in research, he had been the Agrifood MSc Programme Director for six years, and Acting Director of Environment and Agrifood since August 2021.
- Alicen Nickson began as the new Director of Research and Innovation at Cranfield University, joining the University from Royal Holloway University, where she was Director of Research and Innovation.
- David Ford started as Director of Information Technology, joining Cranfield from the University of Hertfordshire where he worked in various IT roles, most recently as Chief Information Officer, during his 11-year tenure.
- Mark Westwood was appointed as the new Head of the Centre of Aeronautics. Mark joined Cranfield from the Connected Places Catapult where he was the Chief Technology Officer.
- Professor Upul Wijayantha moved to Cranfield from Loughborough University to become the new Head of the Centre for Renewable Energy Systems. Professor Wijayantha brings considerable expertise in low-carbon hydrogen technologies, electrochemical energy storage, energy materials and the circular chemical economy.
- Former employment relations minister, Jo Swinson, joined Cranfield as a Visiting Professor to head up the steering group for a research project looking at the impact of so-called 'flexible furlough' during the coronavirus pandemic on employer attitudes to part-time working.
- Marshall Chief Technology Officer, Patrick Wood, was appointed as a Visiting Professor to provide valuable industrial insights into Cranfield's educational and research programmes.

## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

#### **FOR THE YEAR ENDED 31ST JULY, 2022**

Before joining Marshall, Patrick worked for over 22 years in the space industry, working for the sector's leading companies delivering space and satellite missions.

- Cranfield was successful in receiving a Royal Academy of Engineering (RAEng) award to bring Jeremy Hadall to the University as a Visiting Professor in Horizontal Innovation for smarter and greener manufacturing. Jeremy is working to enhance cross-sectoral collaboration in innovation and technology adoption.
- Cranfield awarded honorary degrees to distinguished leaders in the world of science, aviation, finance, management and engineering: Dr Adesola Kazeem Adeduntan FCIB, FCA, Chief Executive Officer, FirstBank Group; Professor Angela Karp, Director and Chief Executive of Rothamsted Research; Grazia Vittadini, Chief Technology and Strategy Officer of Rolls-Royce; Dr Charmaine Griffiths, Chief Executive of the British Heart Foundation; Winnie Byanyima, Executive Director of UNAIDS and Under-Secretary-General of the United Nations; Lindy Cameron CB OBE, Chief Executive Officer, National Cyber Security Centre.

#### **Research developments**

Our industry-focused research continues to change the way businesses work, save lives and act as a force for good in an increasingly challenging world. Some examples of the impact Cranfield research had in 2021/2022 include:

- The James Webb Space Telescope (JWST) was launched in December from French Guiana. Cranfield University's ultra-precision engineering expertise developed the manufacturing capability and produced all the MIRI spectrometer mirrors. This amounted to 132 flight mirrors on 24 substrate components, together with a full set of flight spares. The development of the JWST MIRI optics, from initial samples through to delivery, was performed by the Cranfield team within a three-year period.
- F1 driver Zhou Guanyu credited the Halo device – tested at Cranfield during its development by the FIA (Federation Internationale de l'Automobile) prior to its adoption – with saving his life after a high-speed crash at the British Grand Prix in July. The head protection device was tested extensively at Cranfield Impact Centre, one of just two FIA-approved test centres in the world. The device was also credited with saving Sir Lewis Hamilton's life after an incident with Max Verstappen at the Italian Grand Prix in September.
- A project managed by Cranfield to advance electric aviation achieved a significant milestone with what is thought to be the first ever flight by a British designed and built, all-electric conventional aeroplane. The single seat Sherwood eKub made its first flight from Little Snoring airfield in Norfolk. The eKub is a British designed and built all-electric microlight aeroplane and has been developed by a consortium of Cranfield University, TLAC, Flylight Airsports and CDO<sup>2</sup>. Funded by consortium partners and UK Research and Innovation (UKRI) as part of the Future Flight Challenge (FFC) initiative, the eKub is part of the broader Enabel project focused on delivering safe, viable, and environmentally-efficient aeroplanes.
- Cranfield researchers are taking part in several projects announced as winners of UK Research and Innovation's Future Flight Challenge Phase 3. Cranfield is working with a range of industry partners and organisations – including airports, start-ups, regional and local authorities – on the projects as part of the challenge which aims to revolutionise aviation and drone usage to transform the way people, goods and services fly.

## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

#### **FOR THE YEAR ENDED 31ST JULY, 2022**

- Measurement trials with uncrewed aerial vehicles (UAVs) at Cranfield are paving the way for a better understanding of the noise impact of drones. A research event hosted at Cranfield Airport – in partnership with noise specialists Envirosuite and drone industry group ARPAS-UK, and observed by the CAA and Cranfield environmental noise experts – confirmed that microphones can effectively capture UAV noise levels at different altitudes and that noise spectra can be used to identify types of UAV.
- The first trial demonstration took place at Cranfield for the AMU-LED project, a Very Large-scale Demonstration (VLD) project funded by the SESAR Joint Undertaking under the European Union's Horizon 2020 research and innovation programme to demonstrate the safe integration of manned and unmanned aircraft with the ultimate goal of realising increasingly sustainable smart cities. A key step towards this is performing flight demonstrations with various scenarios, situations and use cases in urban environments. The project uses large electrical Vertical Take-off and Landing (eVTOL) platforms for passenger and cargo transport, combined with smaller Unmanned Aerial Systems (UAS) performing delivery of goods and medical supplies, surveillance or support for emergency services.
- A report by Inmarsat and Cranfield University examined the wealth of new possibilities and applications unlocked by commercial UAVs. The report, 'UAVs: Unlocking positive transformation in the world', found that commercial UAVs have the potential to almost halve the carbon dioxide (CO<sub>2</sub>) emissions of urban freight transport compared to small light commercial vehicles, providing an unprecedented opportunity for the logistics industry to reduce its environmental impact.
- Another report by Cranfield and Inmarsat highlighted the critical role that digital connectivity will play in accelerating aviation's long-term recovery from the Covid-19 pandemic. The report, 'Why the future of aviation starts with connectivity', offers insights and direction for key aviation stakeholders and governments as they reconsider their priorities for the industry's future.
- Cranfield coordinated a report setting out how collaboration in the aviation industry can increase much-needed levels of automation and autonomy in air traffic management (ATM) and meet safety standards for uncrewed traffic being set out by the International Civil Aviation Organisation. The 'Development of an UTM system using cross-cutting technologies: Distributed Ledgers and Artificial Intelligence' report proposed a new governance framework for stakeholders to provide and receive data and services in a trustworthy environment, and highlighted the need for modernisation of ATM to allow for interoperability between UTM (Uncrewed Aircraft Systems (UAS) Traffic Management) and ATM.
- A first of its kind study focusing primarily on emissions from the operational aspects of airports looked at how carbon capture, utilisation and sequestration (CCUS) technologies could be deployed across the sector to help some airports effectively become green energy 'power stations' to fuel the aircraft they serve for achieving the true net zero target. The report – The viability of Carbon Capture at Airports using Innovative Approaches – says that multi-million-pound investment is urgently needed in technologies including direct air capture (DAC) if the UK is to make 'green' airports a reality in the future.
- A new research consortium led by the University of Birmingham and Cranfield will investigate how extreme environments affect human biology. Projects in the Consortium for Organotypic Research on Ageing and Microgravity will range from studying tissue loss in a simulated microgravity environment through to the shock response of tissues, such as in tissue degeneration, disuse or damage during ageing or injury. The work will inform research on protective measures and

interventions in the defence and space fields, including suit design and protective equipment for defence personnel.

## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

#### **FOR THE YEAR ENDED 31ST JULY, 2022**

- A four-year research project was launched to help tackle the biodiversity crisis by identifying how the UK's most precious woodland and meadow habitats can be successfully restored by looking at how all the different plants, animals and other organisms in ecosystems work together. The £2 million project, funded by Natural Environment Research Council, aims to reverse habitat loss and the degradation of land caused by agricultural intensification, urban development, climate change and pollution.
- Research at Cranfield, in collaboration with Severn Trent and Microvi Biotech, is utilising the ability of bacteria to recover nutrients from wastewater. The recovered product has the potential to provide a sustainable, green fertiliser alternative in the food sector and for the public's use in gardens and allotments.
- The 'triple carbon reduction' initiative, led by Anglian Water and delivered together with Cranfield and other partners, secured more than £3.5 million in the inaugural Water Breakthrough Challenge led by economic water regulator Ofwat. Cranfield's winning project aims to achieve a 'triple carbon' synergy and contribute towards the UK's target of achieving net zero carbon emissions by 2030 by using novel technologies to target a step-change reduction in greenhouse gas emissions and electricity use in wastewater treatment. It also seeks to provide a new renewable energy source through green hydrogen production.
- Cranfield was awarded funding from UKCCSRC (UK Carbon Capture and Storage Research Centre) to investigate a new technology that could minimise the impact of amine scrubbing technology – a widespread form of carbon dioxide (CO<sub>2</sub>) capture. The Cranfield team will be working with a team of experienced engineers at Petrofac, a leading services provider to the energy sector. Amine scrubbing is a method of chemically capturing CO<sub>2</sub> and concentrating it such that it can be utilised or sequestered and is poised to be widely deployed in the decarbonisation of industrial and power generation processes to meet global net zero targets.
- Surveys carried out by Cranfield revealed that the public is more open to wastewater recycling than the water sector has historically believed. The surveys, distributed to over 2,500 participants in the UK, Spain and the Netherlands, were part of the Horizon2020 (H2020) NextGen collaboration that aims to drive the circular economy through a wide range of water-embedded resources, including water, energy and materials.
- Cranfield academics contributed to the Our Phosphorus Future report, supported by the United Nations Environment Programme (UNEP), the most comprehensive global analysis of the challenges and possible solutions to the phosphorus crisis which threatens food and water security. The report calls on governments across the world to adopt a '50, 50, 50' goal: a 50 per cent reduction in global pollution of phosphorus and a 50 per cent increase in recycling of the nutrient by the year 2050.
- The benefits of organic based fertilisers are being trialled by researchers at Cranfield as part of a new partnership with the fertiliser company Yara UK. Researchers are trialling organo-mineral fertilisers, a new product that aims to help growers add organic matter and create a greater "nutrient store" in their soil as a result.
- Cranfield is working with industry and academic partners to develop a new kind of overhead railway line mast made from composite materials with integrated smart sensors. Researchers have partnered with engineering firm Furrer+Frei and composite materials manufacturer Prodrive to develop the prototype mast with rail technology developers TruckTrain, and Southampton and

Newcastle Universities. The Innovative MAsT for Greener Electrification (IMAGE) project won funding from the Government's £9 million support for First of a Kind railway innovation.

## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

#### **FOR THE YEAR ENDED 31ST JULY, 2022**

- Research from Cranfield School of Management and the CBI found that the Government's furlough scheme may also have ongoing benefits. A cross-sector survey of 208 UK businesses conducted in February found that the Coronavirus Job Retention Scheme (CJRS) had fundamentally changed employers' perceptions around working practices, increasing openness to part-time working and other forms of flexible working as viable options for their business.
- Research led by Cranfield found that the spread of Covid-19 in passenger ships is exacerbated when a cabin door is left open to let in fresh air. High performance simulations were developed to show how infected particles from a person's mouth were distributed onboard small passenger ships. The research aims to aid the post-pandemic recovery of the maritime industry and advance on-board protection measures against future viruses.
- Scientific analysis by Cranfield Forensic Institute (CFI) proved a stoneware dish to be a thousand-year-old Chinese Song dynasty treasure, the rarest of all Imperial Chinese ceramics. On public display at the British Museum as part of the Sir Percival David Collection, the small green-glazed brush washer, long believed to be of Korean origin, is in fact one of under 100 surviving known examples of 'Ru' ware.
- X-ray experts from Cranfield are supporting a project to uncover the 200-year-old secrets of children's mummies housed in the Capuchin Catacombs in Sicily, southern Italy. The project team has been given exclusive access to a previously unstudied part of the underground cemetery of the Capuchin Convent in Palermo which contains the largest collection of mummies in Europe, with over 1,284 mummified and skeletonised bodies dating from the late 16th to early 20th century.

#### **Environmental and sustainability achievements**

- The University had further success with its infrastructure funding bids to support its Estates strategy and the corporate plan with a £4.9 million grant through Phase 2 of the Public Sector Decarbonisation Scheme (PSDS). The funding will be used to increase the capacity of the solar farm and improve University heating control systems, resulting in a cut to carbon emissions by 1,214 tonnes per year.
- Cranfield was also awarded a second PSDS grant for £11.28 million to be spent by March 2023. This will enable Hangars 1 and 2 to be updated with new roofing and solar panels, wall cladding, replacement hangar doors with cladding and new heating and ventilation from air source heat pumps.
- Cranfield was recognised as having a hedgehog-friendly campus after receiving a bronze level award from the British Hedgehog Preservation Society. The national Hedgehog Friendly Campus initiative encourages teams of staff and students at universities to improve habitats for hedgehogs across campuses and raise awareness of hedgehog-friendly actions.
- When world leaders gathered in Glasgow in November for the UN Climate Change Conference – COP-26 – Cranfield featured as part of the Green Zone activity taking place during the summit. Delegates had the opportunity to take part in our Exploring Sustainable Futures Game, a role-playing experience used by the Sustainability Group at Cranfield to think about strategic decision making towards a sustainable future by 2050. Prior to COP-26, a team of early career researchers from across the University led and organised a road to COP-26 conference through the Cranfield Doctoral Network. The two-day conference in October showcased research across every School, highlighting the breadth of research and crucially the synergies between our Schools and Research Themes.

## **CRANFIELD UNIVERSITY**

### **HIGHLIGHTS REPORT**

#### **FOR THE YEAR ENDED 31ST JULY, 2022**

- Cranfield was selected to help search for solutions to repair and regenerate our planet as an official nominator for the 2022 Earthshot Prize. Launched by Prince William and The Royal Foundation of The Duke and Duchess of Cambridge, the Earthshot Prize is the most prestigious environmental prize in the world, with over 300 organisations nominated in 2022 to seek out innovative answers to some of our most pressing environmental issues.
- Cranfield signed the Sustainable Development Goals Accord, signalling the University's ongoing commitment to sustainability and environmental responsibility. The Accord commits the University to embedding the United Nations Sustainable Development Goals (SDGs) into all aspects of education, research, leadership, operations and activities. In addition, Cranfield will continue to collaborate with other institutions at a regional, national and international level to collectively respond to the goals and will report annually on its contributions.
- Cranfield continues to lead the way in supporting the drive for net zero emissions and this has been a central theme in 2021/2022 through work to enhance our infrastructure and progress major research projects, including significant developments with hydrogen:
  - the £8 million HyPER (Hydrogen Production by Sorbent Enhanced Reforming) project to test an innovative hydrogen production technology that substantially reduces greenhouse gas emissions. The project is a collaboration between Cranfield University, GTI, and Doosan Babcock and is funded through the Department for Business, Energy and Industrial Strategy's Energy Innovation Programme. The project is working to design, construct and operate a state-of-the-art 1.5 MWth hydrogen production pilot plant.
  - the opening of a new hydrogen refuelling station on campus. Vehicles from the University and outside which use the pioneering fuel can top-up at the new facility. There are only a handful of hydrogen refuelling stations around the UK, with the one at Cranfield ideally placed for researchers working on projects such as autonomous vehicle development, as well as industry partners at the nearby Millbrook vehicle test track.
- The first flight by a hybrid electric aircraft across the English Channel landed at Cranfield Airport. VoltAero's Cassio 1 demonstrator aircraft flew from Calais in northern France and used electric propulsion for its take-off and landing. During its stopover at Cranfield, Cassio 1 was also presented to University faculty and students.

## **CRANFIELD UNIVERSITY**

### **STRATEGIC REPORT**

#### **FOR THE YEAR ENDED 31ST JULY, 2022**

Cranfield University is a research intensive, postgraduate university with a mission to create leaders in technology and management, unlocking the potential of people and organisations by partnering with business and governments to deliver transformational research, postgraduate education and professional development.

The activities of the University include teaching, research, design and development work in the themes of Aerospace, Defence and Security, Energy and Power, Environment and Agrifood, Management, Manufacturing, Transport Systems and Water. Operations are primarily carried out on campus at Cranfield in Bedfordshire and the facility at Shrivenham in Oxfordshire. The University is an exempt charity subject to the Charities Act 2011.

The financial statements comprise the consolidated results of the University and its subsidiaries. Subsidiary companies undertake activities which, for legal and commercial reasons, are more appropriately channelled through a limited company and include the development of activities emanating from Cranfield University.

Cranfield's mission is to create leaders through our education and research in technology and management.

Our activities are undertaken in support of the University's aims, as referenced in our Charter, and the strategic direction, as outlined in our corporate plan.

Cranfield's current corporate plan which ran until 31 July 2022 outlined our four strategic priorities:

- To provide a premier learning experience that enhances the capabilities of individuals and their organisations.
- To be recognised for outstanding transformational research that meets the needs of business, government and wider society.
- To grow an efficient, effective and sustainable enterprise.
- To be renowned for our impact and influence - regionally, nationally and internationally.

A new, five-year corporate plan (2022-2027) with our values as a bedrock has been under development in 2021/2022. Extensive consultation and engagement with senior management, staff and wider stakeholders – students and business partners – took place throughout the year as we work towards the launch of the new plan for the beginning of the 2022/2023 academic year. Strategic priorities guiding the development of the plan – 'Ambition 2027' – include: being the organisation that people want to work for (employer of choice); putting Cranfield at the heart of a collaborative network (partner of choice); transformational research (creating the UK's applied research powerhouse); helping our learners to stand out from the crowd (distinctive Cranfield learners).

#### **Key Performance Indicators (KPIs):-**

The University benchmarks its performance against key indicators that measure whether it is on track to deliver the Corporate Plan which is identified as 415i. This represents towards 400 staff being submitted in the 2020 Research Excellence Framework, being a top 10 university for the student experience, a 5% operating surplus and the University's impact and influence both nationally and internationally.

# STRATEGIC REPORT

FOR THE YEAR ENDED 31ST JULY, 2022

(continued...)

Goal	Measure (indicator)	2020/21 actual	2021/22 target	2021/22 actual
H&S	Maintain OHSAS45001	Maintain	Maintain	Maintain
Diversity & Inclusion	Deliver of diversity & inclusion plans (inc. Athena Swan action plan)	Specific actions	Specific actions	Specific actions
400	Research volume (Annual research income/REF heads submitted)	103	Specific actions	Specific actions
400	Ready for REF2021	367	367	367
10	Strengthen Cranfield's home student cohort	1,293	1,443	1,125
10	Advocacy (PTES feedback % prepared to recommend Cranfield)	90.2%	91.0%	90.4%
5	Income growth [£million] (Total income)	168	179	197
5	Financial performance (Operating surplus as % of total income)	(6.1%)	(3.3)%	(1.9)%
i	Industry engagement (Total income from industry [£million])	40.1	41.7	43.7
i	International impact (All fee paying EU/RoW students)	1,909	1,974	2,052



**CRANFIELD UNIVERSITY**

**STRATEGIC REPORT**

**FOR THE YEAR ENDED 31ST JULY, 2022**

(continued...)

**Results for the year and position at year end**

Operating income for the year (excluding donations and endowments) increased by 15.4% as summarised below:-

	<b>2022</b>	<b>2021</b>
	£'000	£'000
Funding Council grants	21,239	22,868
Tuition fees and education contracts	87,640	72,224
Research grants and contracts	44,725	41,769
Other income	42,666	34,161
Investment income	97	182
	<hr/>	<hr/>
	196,367	171,204
	<hr/>	<hr/>

The total comprehensive gain for the year was £25,874,000 (2021 – comprehensive loss £9,802,000) as reported on page 58. Of this comprehensive gain, £13,797,000 related to the tri annual revaluation of land, and £25,307,000 related to a decrease in the University share of the scheme deficits in the defined benefit pension schemes. It is disappointing to report that the University's Corporate Plan surplus, which measures the underlying operating position has been assessed by management to be a deficit of £3,736,000 (2021 – deficit £10,332,000) but this is an improvement of £6,455,000 in the position for the year as the University starts to recover from the pandemic. This reduction in operating deficit is as a result of increases in long course fees, professional development, research and residential income offset by reductions in Government Coronavirus grants following the United Kingdom going into lockdown in March 2020 as a precaution against Coronavirus and significant increases in utility costs during the year. The reported management deficit was £212,000 better than budgeted for the year.

The University has utilised the Government Coronavirus schemes available. Where appropriate staff were put on furlough claiming £45,000 (2021 - £2,401,000) from the Job Retention Scheme which is included in other income. The University continued to top up salaries to 100% as opposed to paying staff on furlough at the 80% that was allowed under the scheme and no staff members who were placed on furlough have been made redundant.

The table on page 18 shows the reconciliation between the comprehensive loss and the underlying operating position. The adjustments relate to the removal of non-operating items that fall outside of management control. Included in the underlying position is the removal of one off donations in the year and the re-introduction of deferred capital grants which spreads the one off donations over the life of the assets that they have constructed as was required under the previous Statement of Recommended Accounting Practice.

CRANFIELD UNIVERSITY

STRATEGIC REPORT

FOR THE YEAR ENDED 31ST JULY, 2022

(continued...)

Results for the year and position at year end (continued)

**OPERATING SURPLUS RECONCILIATION**

	2022		2021	
	£'000	£'000	£'000	£'000
<b>Group comprehensive gain/(loss)</b>		<b>25,874</b>		<b>(9,802)</b>
<b>Non 415i Adjustments</b>				
<i>Pensions</i>				
<i>LGPS</i>				
Less actuarial (gain)/loss	(52,369)		(722)	
Add net interest charge on pension scheme	1,439		1,209	
Add additional deficit repayment	1,603		1,547	
		(49,327)		2,034
<i>USS</i>				
Add actuarial loss/(gain)	28,327		1,923	
Add net interest charge on pension scheme	331		262	
Less other pension adjustments	(1,264)		(981)	
		27,394		1,204
<i>Other</i>				
Less donations	(3,458)		(8,625)	
Less permanent endowments	-		(2,000)	
Add deferred capital grants	8,243		6,712	
Add staff restructuring	180		65	
Less Foreign exchange loss/(gain)	(264)		438	
Add corporation tax	668		210	
Less revaluation reserve movement	(13,797)		-	
		(8,428)		(3,200)
<b>Operating deficit</b>		<b>(4,487)</b>		<b>(9,764)</b>
Cranfield Group Holdings Group deficit/(surplus)		751		(568)
<b>Corporate plan deficit</b>		<b>(3,736)</b>		<b>(10,332)</b>

Capital expenditure in the year amounted to £27,701,000 (2021 - £66,581,000). This continues to reflect Cranfield's success in winning and delivering a number of key infrastructure projects, including the new SAAB 340B aircraft for the National Flying Laboratory Centre and a Public Sector Decarbonisation Scheme for additional solar power with battery backup and significantly improved heating controls. Both projects were significantly funded by external parties with this income included in the year. The spend in 2021 was significantly higher due to the majority of Baroness Young Hall being constructed last year.

In addition to these projects, significant investment has continued to be made into new student accommodation which will come into full use in the next financial year. 400 additional units of accommodation became available in

September 2021 with a further 200 units available in September 2022. This development has been funded by the private bond that was taken out in March 2020.

## CRANFIELD UNIVERSITY

### STRATEGIC REPORT

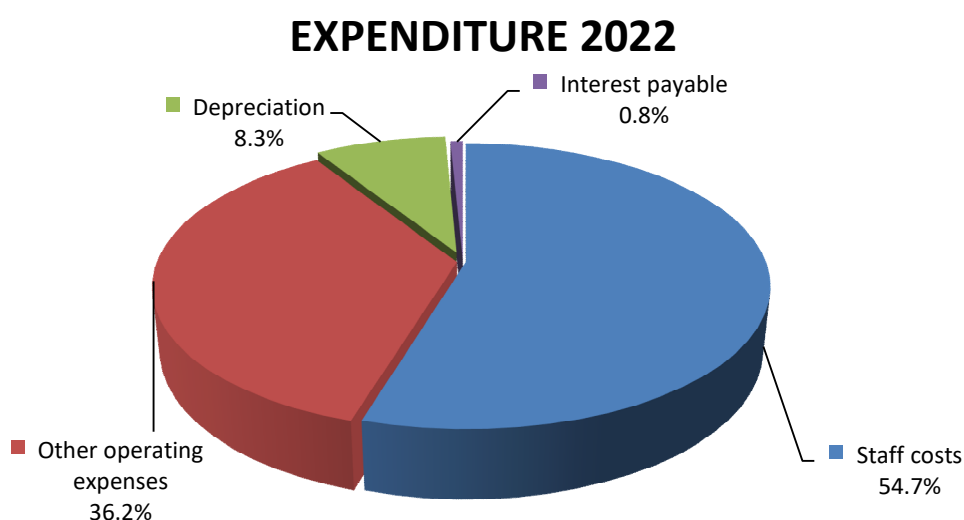
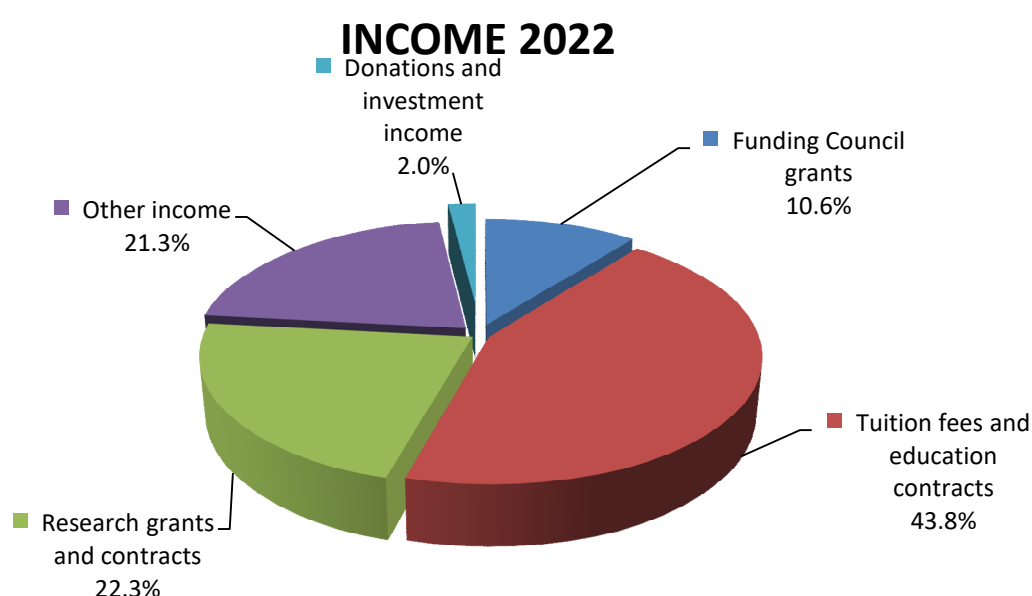
#### FOR THE YEAR ENDED 31ST JULY, 2022

(continued...)

#### Results for the year and position at year end (continued...)

The statement of consolidated cash flow shows a decrease in cash of £24,012,000. Net cash inflows from operating activities were £2,286,000. The overall decrease in cash was mainly as a result of the £27,701,000 of capital additions during the year.

Consolidated total reserves increased by £33,692,000 (2020 – decreased by £9,802,000) as explained in the statement of changes in reserves on page 59.



## **CRANFIELD UNIVERSITY**

### **STRATEGIC REPORT**

**FOR THE YEAR ENDED 31ST JULY, 2022**

(continued...)

#### **Pensions**

The University implemented the provisions of FRS 102 in 2015 and therefore continues to take onto the consolidated balance sheet the actuarial valuation of the pension liability in respect of its share of the Bedfordshire County Council Pension Fund. It also has to recognise on balance sheet the obligation for its share of the University Superannuation Scheme (USS) deficit recovery plan. The USS has deficit recovery plans in place covering the period following each triennial valuation which include additional employer contributions to correct the shortfall in the scheme.

The total USS pension deficit across the sector has been calculated by the USS Actuaries. The University share of the deficit has been estimated through the use of the British Universities Finance Directors Group (BUFDG) calculator as at 31 July, 2022 and there is a net pension liability of £48,089,000 (2021 - £20,695,000) applicable to the University. Details are provided in Note 23.

The share of underlying assets and liabilities of the Local Government Pension Scheme (LGPS) is able to be identified as at 31st July, 2022 the scheme actuaries have identified that there is a net pension liability of £40,939,000 (2021 - £91,869,000) applicable to the University. Details are provided in Note 23.

#### **Trading activities of subsidiaries**

The venture companies are financially independent from the University and are administered through Cranfield Group Holdings Limited. In addition to these companies, there are other subsidiaries undertaking certain teaching, research and residential activities for the University. A full list of subsidiaries is provided in note 12.

It is pleasing to report that on the 24<sup>th</sup> March, 2022 Cranfield Group Holdings Limited authorised Cranfield Aerospace Solutions Ltd (which was a 100% owned subsidiary until this point) to issue 2,310,000 preference shares at £3.636364 each to HydrogenOne Capital and Safran Ventures, generating an investment of £8,400,000 into Cranfield Aerospace Solutions Limited. This investment will be used for the development of hydrogen fuelled aircraft in the UK. In addition, Cranfield Group Holdings Limited also authorised 1,750,000 ordinary shares to go into a staff option pool. As at 31<sup>st</sup> July, 2022 Cranfield Group Holdings Limited held 30.21% of the Cranfield Aerospace Solutions share capital pre diluted and 19.76% of the shares full diluted. The Cranfield Group Holdings Limited shares are all ordinary shares.

On the 11<sup>th</sup> August, 2022 further preference shares were issued to Tawazun Strategic Development Fund and Motus Ventures generating a further investment of £3,833,333. This further reduces the Cranfield Group Holdings Limited investment in Cranfield Aerospace Solutions Limited to 23.98% on an undiluted basis and 16.89% of the shares on a fully diluted basis.

#### **Liquidity and borrowing**

The University has seen the total of its cash and cash equivalents decrease during the year from £38.1 million at 31 July 2021 to £14.1 million at 31 July 2022 as budgeted. This is primarily as a result of a £27.7 million spend on capital infrastructure during the year. Correspondingly, University borrowings decreased by £1.7 million with the Nat West fixed rate loan now having been repaid.

The University will always ensure that an appropriate minimum cash level is maintained for working capital purposes.

**CRANFIELD UNIVERSITY**  
**STRATEGIC REPORT**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
(continued...)

**Payment of creditors**

It is the University's policy to obtain the optimum terms for all business and, thus, there is no single policy as to the terms used. The University looks to use small and local suppliers where appropriate and looks to pay them within two weeks of invoice wherever possible. In agreements negotiated with other suppliers, the University endeavours to include and abide by specific payment terms in accordance with best commercial practice.

**Principal risks and uncertainties**

The University maintains a dynamic Major Risks Register with proactive controls and has a range of embedded measures and spread of risk ownership among the Senior Management Team. Currently the most important strategic risks as identified by the Major Risks Register are as follows :-

- adverse impact of external environment, including geopolitical matters, on student and other income growth. In addition, our cost base, including energy prices, continues to be impacted by spiralling inflation. Pension deficit recovery plan challenges remain.
- current business model and organisational size impacts adversely on the University's ability to capitalise on major growth opportunities and future investment;
- recruitment, retention, performance and well-being of staff through a period of considerable change, including adapting to new working arrangements both at Cranfield and UK workplaces more generally;
- changing nature of education including government changes, including ability to adapt to evolving Apprenticeship regimes.

The University mitigates these strategic risks by a range of interventions including the following:-

- prepares annual plans, both at University and school level, and closely monitors them throughout the year. These are anchored to the new five year Corporate Plan which was approved by Council in July 2022. As part of the plan there are seven 'super' key performance indicators that will be closely monitored by the Executive, with all staff receiving quarterly updates on progress to ensure interventions can be made on a timely basis.
- actively consider diversification to achieve new income streams beyond incremental growth. The MK:U development, along with the Air Park, are very significant opportunities to expand both the scope and scale of the University;
- seek through our HR strategy to recruit, retain and develop a diverse range of high quality, staff and provide appropriate reward and flexible working arrangements. Well-being programmes are an integral part of the support we offer to staff together with a wide range of internally delivered training programmes.
- whilst the financial impact of Covid-19 has been significant, the projections for the new Corporate Plan indicate a stronger financial outcome will return. Cranfield continues to invest in its physical and IT infrastructure to ensure it is well placed to grow its influence and scale into the future.

As part of the new Corporate Plan, Cranfield is developing a new risk and resilience framework drawing on expert advice and emerging best practice to further strengthen our position in the event of further 'external shocks'.

## CRANFIELD UNIVERSITY

### STRATEGIC REPORT

FOR THE YEAR ENDED 31ST JULY, 2022

(continued...)

#### Public Benefit report

The University is an exempt charity under the terms of the Charities Act 2011. The objects of the University are to:

- advance, disseminate and apply learning, knowledge and understanding with particular emphasis on the disciplines of the Sciences, Technology, Engineering and Management; and
- promote and encourage the transformation and application of that wisdom, knowledge and learning for the benefit of industry, the public services, and individuals and for the public benefit.

In reviewing the University's activities, Council has had due regard to the Charity Commission's guidance on the reporting of public benefit as amended in 2014. Cranfield makes a significant contribution to the majority of the specific examples of charitable activities highlighted in section 3 of the 2011 Act. These include:

- *the advancement of education;*

Cranfield University was awarded more than £200,000 to help UK higher education to identify and manage risks arising from international collaborations. Together with project partners the University of Edinburgh and Universities UK (UUK), the University has been given £224,800 from UK Research and Innovation (UKRI)'s Research England Development fund to develop strategic export control training for the sector. The money will fund the development of a free, virtual learning tool specific to the higher education sector and centred around its needs, including real-life case studies looking at what happens when things go wrong.

Cranfield School of Management and Central Bedfordshire Council worked together to create an innovative scholarship programme to support the growth of local Small and Medium Enterprises (SMEs). Up to 90 businesses were able to apply for scholarship places on Cranfield's leading business growth courses Ready for Scale and the highly regarded Business Growth Programme.

A new partnership between Cranfield University and Parkdean Resorts, the UK's leading holiday park operator, aims to develop the leisure sector's talent of the future. Cranfield Executive Development is working with Parkdean to enhance its leadership and development offering to employees, enabling it to attract and grow talent at all levels across the business. A chosen cohort will undertake a bespoke two-year programme to grow and develop their skills, including leadership and management coaching.

Milton Keynes Council is funding 50 places on the University's Ready For Net Zero Growth Programme, which will help SMEs to understand their carbon footprint and why it matters, as well as make a plan to reduce emissions and reap the rewards of doing so as part of their growth strategy.

Luton-based SMEs working in or supplying the aviation sector were eligible for free coaching and support to grow their business from experts at Cranfield School of Management. Luton Council funded 30 places on the University's Ready for Scale aviation programme for ambitious business leaders looking to take the next step in growing their business with masterclasses led by expert faculty from Cranfield's Aerospace Integration Research Centre (AIRC).

- *the prevention or relief of poverty;*

Cranfield's Resilience Grand Challenge group hosted an online session as part of the UNGA76 Science Summit around the 76th United Nations General Assembly in New York. Academics from the University spoke about how an interconnected, transdisciplinary approach looking at resilience across multiple different levels is key to securing the United Nations Sustainable Development Goals (SDGs).

- *the advancement of health or the saving of lives;*

Cranfield Impact Centre – an internationally renowned facility with expertise in impact testing and safety of structures, and one of just two FIA-approved test centres in the world – achieved ISO 17025:2017

## CRANFIELD UNIVERSITY

### STRATEGIC REPORT

FOR THE YEAR ENDED 31ST JULY, 2022

(continued...)

accreditation following an extensive audit process. It means Cranfield is one of the only UK universities to hold the accreditation for an impact laboratory facility. The accreditation, for testing a range of items such as Formula One cars, wheelchairs and coach seats, certifies that laboratories operate competently and generate reports to a high standard. It is awarded by United Kingdom Accreditation Service who conducted a full and thorough inspection and audit process. CIC tested the Halo head protection device which has been credited with saving the lives of several F1 drivers after high-speed crashes.

- *the advancement of citizenship or community development;*

We also consider the social and environmental consequences of all our activities. The University organises, sponsors and supports a variety of public engagement events in which staff are actively encouraged to participate. There was a staff event in June for colleagues and their families with outdoor games, vintage fairground rides and free food and drink from a range of local vendors. In addition, many of our staff are engaged in a wide range of public engagement and outreach activities on an individual basis.

The Cranfield Engineering Heroes initiative organised for International Women in Engineering Day (INWED) 2021 and open to all primary and secondary school students nationwide has formed the beginnings of a permanent programme for young people: the Cranfield Hero Alliance. The idea is to deliver regular activities and communicate to pupils/schools periodically with further resources to have longer-term impact. The first more in-depth collection of content and activities – ‘Climate change heroes’ – was launched in autumn 2021 with videos and resources targeted at school-aged children to engage on the topic of climate change and recruit more heroes into the alliance.

Our worldwide community is a powerful professional network with students and learners from 169 countries. We have over 30 international alumni communities across the world, including in China, India, Russia, Switzerland and Brazil.

- *the advancement of the arts, culture, heritage or science;*

Research at Cranfield Forensic Institute (CFI) revealed how gold was rejected for hundreds of years by societies which had previously been at the centre of the world’s gold mining and gold-working arts. The research was based on gold objects from 89 sites in the South Caucasus region using geospatial analysis and archaeological evidence – including findspots, quantities, dates, and working techniques – to test different explanations for the rapid decline in the use of gold across a significant part of the region between 1500-800 BC.

Thousands of photos of Cranfield University’s early days in aviation are being digitised with a £3,000 grant provided by Archives Revealed, a partnership programme between The National Archives, The Pilgrim Trust and the Wolfson Foundation. 20,000 of some 100,000 negatives will soon be available for the public to view on the University’s website and some of the images have already been shared on social media with the hashtag #cranfieldphotoarchive. Photos include aircraft of international significance and the collection of images begins from 1957. Archivists are now seeking additional funding to make the whole collection digital and move it online.

## STRATEGIC REPORT

FOR THE YEAR ENDED 31ST JULY, 2022

(continued...)



Image: an aerial view of Cranfield in 1946

- *the advancement of human rights, conflict resolution or reconciliation or the promotion of religious or racial harmony or equality and diversity;*

Researchers from Cranfield joined the launch of a world-leading study to determine the impact of digitalised services on minority ethnic (ME) groups. The £3.3 million Protecting Minority Ethnic Communities Online (PRIME) project is funded by UK Research and Innovation (UKRI) through the Strategic Priority Fund as part of the Protecting Citizens Online programme. PRIME will identify the distinctive online harms that ME communities experience because of the digitalisation of public services and draw upon a range of academic expertise to develop innovative and ground-breaking policy guidance and tools for tackling deeply entrenched and persistent racial inequalities in the UK.

- *the advancement of environmental protection or improvement;*

Scientists at Cranfield are working with partners at the National Oceanography Centre (NOC), the University of Liverpool and St Andrews University to develop environmentally sustainable solutions for future coastal and shoreline management. The £1.6 million UK Research and Innovation (UKRI)-funded Co-Opt project will develop new tools to allow better decisions to be made to both protect coasts from changing climate and help deliver net zero ambitions.

- *the promotion of the efficiency of the armed forces of the Crown, or of the efficiency of the police, fire and rescue services or ambulance services;*

Cranfield delivers a suite of MScs, executive education programmes on forensics and research and consultancy support for law enforcement. We continue to support the Defence Academy of the UK with the Managing Defence in the Wider Security Context (MDWSC) and Strategic Leadership Programme (SLP) courses in countries around the world, enhancing the knowledge and analytical skills of leaders and those who work in the wider security sector. This contributes to improving and transforming the governance and management of defence and security systems.

Cranfield University delivered the Chevening Cyber Security Fellowship programme to participants from across the Western Balkans region at the Defence Academy of the United Kingdom in Shrivenham. Founded in 1983, Chevening Scholarships and Fellowships are the UK Government's flagship global scholarship programme, funded by the Foreign, Commonwealth and Development Office. The 10-week programme provides mid-career professionals with an understanding of policy and legislative



## **CRANFIELD UNIVERSITY**

### **STRATEGIC REPORT**

**FOR THE YEAR ENDED 31ST JULY, 2022**

(continued...)

approaches in cyber security and implications for national security, commercial opportunity, crime prevention, and the right to privacy.

Cranfield's mission is to create leaders through our education and research in technology and management.

Our activities are undertaken in support of the University's aims, as referenced in our Charter, and the strategic direction, as outlined in our corporate plan.

Cranfield awards around 2,500 degrees each year, giving our graduates a learning experience which provides them with the opportunity to join some of our distinguished alumni as leaders in their fields. Over 4,500 people come to Cranfield each year to benefit from our executive and professional development programmes.

Our alumni include Warren East, CEO of Rolls-Royce; John McFarlane, Chairman of Westpac and former Executive Chairman of Barclays; Omobola Johnson, Partner at TLCom Capital LLP and former Minister for Communication Technology, Nigeria; Air Marshal Dame Susan Gray DBE CBE FREng, Engineer and Senior Royal Air Force Officer; Chris Hopson, Chief Strategy Officer, NHS England; Zak Hydari, Chief Executive of Rasmala Group, one of the largest managers of sharia-compliant funds in the world; Dr Clifford Braimah, Managing Director, Ghana Water Company, Dean of the School of Engineering, Tamale Technical University; Dr Sarah Quereschi, CEO at Aero Engine Craft, developing contrail-free aero-engines; Charan Sekhon MBE, Senior Environment Officer and EDI Project Coordinator, Environment Agency and Founder and Chairman, Social Education Voluntary Association (SEVA) Trust UK; Dr Winnie Byanyima, Executive Director, UNAIDS, former Executive Director, Oxfam Internationals and former Director of Gender and Development, United Nations Development Programme; Aishah Ahmad, Deputy Governor, Central Bank of Nigeria; Neil Heslop, CEO, Charities Aid Foundation.

Throughout 2021/2022, we have continued to develop new facilities and bolster our infrastructure to deliver our mission:

- the £8 million HyPER (Hydrogen Production by Sorbent Enhanced Reforming) project to test an innovative hydrogen production technology that substantially reduces greenhouse gas emissions. The project is a collaboration between Cranfield University, GTI, and Doosan Babcock and is funded through the Department for Business, Energy and Industrial Strategy's Energy Innovation Programme. The project is working to design, construct and operate a state-of-the-art 1.5 MWth hydrogen production pilot plant.
- the opening of a new hydrogen refuelling station on campus. Vehicles from the University and outside which use the pioneering fuel can top-up at the new facility. There are only a handful of hydrogen refuelling stations around the UK, with the one at Cranfield ideally placed for researchers working on projects such as autonomous vehicle development, as well as industry partners at the nearby Millbrook vehicle test track.
- the University had further success with its infrastructure funding bids to support its Estates strategy and the Corporate Plan with the successful application for a £4.9 million grant through Phase 2 of the Public Sector Decarbonisation Scheme (PSDS). The funding will be used to increase the capacity of the solar farm and improve University heating control systems, resulting in a cut to carbon emissions by 1,214 tonnes per year. Cranfield was also awarded a second PSDS grant for £11.28 million to be spent between April 2022 and March 2023. This will enable Hangars 1 and 2 to be updated with new roofing and solar panels, wall cladding, replacement hangar doors with cladding and new heating and ventilation from air source heat pumps.
- the final two blocks of Baroness Young Hall, our new hall of residence, were also completed during the year and handed over to the University ahead of schedule.

Work continues to develop MK:U, a proposed new technical university in Milton Keynes led by Cranfield in partnership with Milton Keynes Council. MK:U's first ever degree apprenticeship course started in October with a pioneer cohort of Santander management apprentices. MK:U's temporary home at the newly

## **STRATEGIC REPORT**

### **FOR THE YEAR ENDED 31ST JULY, 2022**

(continued...)

refurbished Bouverie House in the city centre was officially opened, along with a new Innovation Hub to support local businesses and foster innovation. The space includes a podcasting studio, professional photography studio, flexible workspaces and a design lab with 3D printing facilities. The physical workspaces and labs can be used by companies in the area to develop their businesses, products and marketing.

Plans for the future of MK:U continue to be developed by Cranfield University, Milton Keynes Council and its business supporters who are all encouraging the government to support the new university. Milton Keynes Council opted in March to extend the terms of the existing agreement with Cranfield University, demonstrating local aspirations to develop the project.

None of what we achieve as a University would be possible without the dedication and commitment of our staff to realising the ambitions of our institution:

- Cranfield achieved national award success with two engineers being named as winners in the 2022 Top 50 Women in Engineering (WE50) and three others reaching the final 100 of the annual awards linked to International Women in Engineering Day (INWED).

As an institution, we aim to spread knowledge and learning not just to our learners and research partners but to the wider public:

- a garden developed for the RHS Chelsea Flower Show by Cranfield University and the Royal Horticultural Society (RHS) encouraged the UK's 30 million gardeners to save water. The 'Water the way nature intended: switch from Mains2Rains' garden in the Discovery Zone demonstrated how small actions to make better use of rainwater can lead to reduced dependence on mains water in gardens and allotments. Visitors to Chelsea were also asked to pledge to adopt measures to reduce pressure on water resources by understanding how to manage rainwater better in their gardens via the Mains to Rains website. To date it is estimated that over 12.5 million litres of mains water has been saved per year through users of the Cranfield/RHS project.

Professor Ian Holman, Professor of Integrated Land and Water Management, also gave the RHS John MacLeod Lecture in November at RHS Hilltop, Surrey. The annual lecture was established in memory of the late John MacLeod, RHS Professor of Horticulture and Chairman of the RHS Science Committee. Professor Holman's lecture focused on how gardeners and the wider horticultural sector could improve water management in gardens and outdoor spaces and so be part of the solution to water scarcity and flooding.

#### **Employee engagement**

Engagement with our staff community remains a priority for the University. This year we have particularly focused on bringing people together again, post pandemic, establishing several new staff ED&I networks and seeking views from our staff community on our new Corporate Plan. Some of the key actions over the past year include:

- Engaging with staff over our new Corporate Plan which began earlier in the year with a number of focus groups over a 6 week period (Big Corporate Plan Conversation). We asked staff to share their thoughts, ideas and experiences around the 4 proposed areas of focus in the Plan. As a follow up, we are currently holding regular drop-in sessions over the summer period to update staff on the agreed plan and to think about how this relates to their role and how they can contribute to its success.
- Meeting regularly with the recognised Trade Unions to promote engagement and discuss proposed decisions on various topics for example the working arrangement framework (hybrid working) and keeping our site safe.

**STRATEGIC REPORT**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
(continued...)

- Measuring and tracking staff engagement and wellbeing through regular pulse surveys.
- Vice Chancellor Live events with question-and-answer sessions for staff during which the Vice Chancellor and members of the senior management team provide topical updates on University activities and respond to live staff questions. Staff meetings were also held regularly in the four schools and individual professional service units.
- Setting up new staff networks to include the staff disability network and EmBrace, in addition to the Step-Up Network, to promote further staff engagement in broader areas of diversity. We are also at the early stages of establishing an LGBTQ+ staff group and recently held a successful coffee and catch-up morning.
- Issuing regular communications, including the staff e-bulletin, and continuing to build on the Cranfield Community Facebook group, as a way for staff to connect informally with friends and colleagues across the University.
- To thank staff for their continued hard work and commitment, the University held a Staff Celebration Fun Day in June, with free refreshments and family-oriented activities. Well over 1000 staff registered for the event and it was received very positively by staff.
- A number of Schools and PSUs have held social events such as BBQ and Team Days to bring the community together again on a face-to-face basis.
- We have a planned calendar of events in relation to general health and wellbeing and where possible have aligned these to National Campaigns – to include Mental health Awareness week in May, where we organised ‘Happy to Chat’ drop in coffee mornings for staff to come along and talk to members of the Wellbeing Group and this was well attended. As a result, the ‘Happy to Chat’ coffee mornings’ are continuing throughout the coming year.
- To help shape the mental health and wellbeing agenda at the University, we recently sought volunteers from across the University to join our University wide Wellbeing Group. The group has now been set up and is more reflective of our diverse workforce.
- We have widened our programme of training for additional staff to become Mental Health First Aiders to boost our current regularly accessed provision.

We are encouraged that staff engagement levels continue to remain high at Cranfield and as we look forward, this will continue to be a key priority for the University and intrinsic in all we do.

#### **Employment of disabled persons**

Applications by disabled persons for employment and for admission to courses of study or research are always fully considered, bearing in mind the aptitudes of the applicant concerned. In the event of existing staff and students becoming disabled every effort is made to ensure that their employment or study with the University continues and that appropriate training and support is arranged. It is the policy of the University that the training, career development and promotion and opportunities to undertake study and research should, as far as possible, be identical for all staff and students.

#### **Health and Safety**

The University is committed to providing a safe and healthy environment by taking effective means to manage our risks and protect people from being harmed. There is a process of continuous improvement through a programme connected to the University having ISO 45001 Health and Safety Management accreditation across the University in all areas of work and study. The University first achieved full accreditation under OHSAS 18001 in July 2016 and has been re-accredited for ISO 45001 in 2021. Since the start of the pandemic the University has taken the opportunity to undertake a number of initiatives with respect to the mental health of staff and students.

**CRANFIELD UNIVERSITY**

**STRATEGIC REPORT**

## Modern Slavery and Human Trafficking

The University is committed to improving practices to combat slavery and human trafficking and supports the UK Government's approach to implementing the UN Guiding Principles on Business and Human Rights.

In implementing this approach the University supports the Base Code of the Ethical Trading Initiative. This Base Code is an internationally recognised code of labour practice requiring that:

- Employment is freely chosen
- Freedom of association and the right to collective bargaining are respected
- Working conditions are safe and hygienic
- Child labour shall not be used
- Working hours are not excessive
- No discrimination is practiced
- Regular employment is provided
- No harsh or inhumane treatment is allowed

## Trade Union Facility Time

### *Background*

Our Trade Union Facility Time data, shown below, has been prepared in accordance with our duty under Section 13 of the Trade Union Act 2016. The data has been collated and extracted from our HR & Payroll database and covers the 12 month "relevant period", which is the 12 months from 1 April to 31 March every year, with the current period being from 1 April 2021 to 31 March 2022.

At Cranfield there are three Unions who are recognised for consultation and negotiation purposes, these being UCU, Unite and Unison.

**Table 1 - Relevant union officials**

Total number of our employees who were relevant union officials during the relevant period?

Number of employees who were relevant union officials during the relevant period	Full-time equivalent employee number
<b>13</b>	<b>11.03</b>

**Table 2 - Percentage of time spent on facility time**

Number of employees who were relevant union officials employed during the relevant period spent a) 0%, b) 1%-50%, c) 51%-99% or d) 100% of their working hours on facility time?

**FOR THE YEAR ENDED 31ST JULY, 2022**  
(continued...)

<i>Percentage of time</i>	<i>Number of employees</i>
0%	<b>7</b>
1-50%	<b>6</b>
51%-99%	<b>0</b>
100%	<b>0</b>

**Table 3 - Percentage of pay bill spent on facility time**

Figures determining the percentage of the total pay bill spent on paying employees who were relevant union officials for facility time during the relevant period.

Provide the total cost of facility time	<b>£17,489</b>
Provide the total pay bill	<b>£91,837,983</b>
Provide the percentage of the total pay bill spent on facility time, calculated as: (total cost of facility time ÷ total pay bill) x 100	<b>0.02%</b>

**Table 4 - Paid trade union activities**

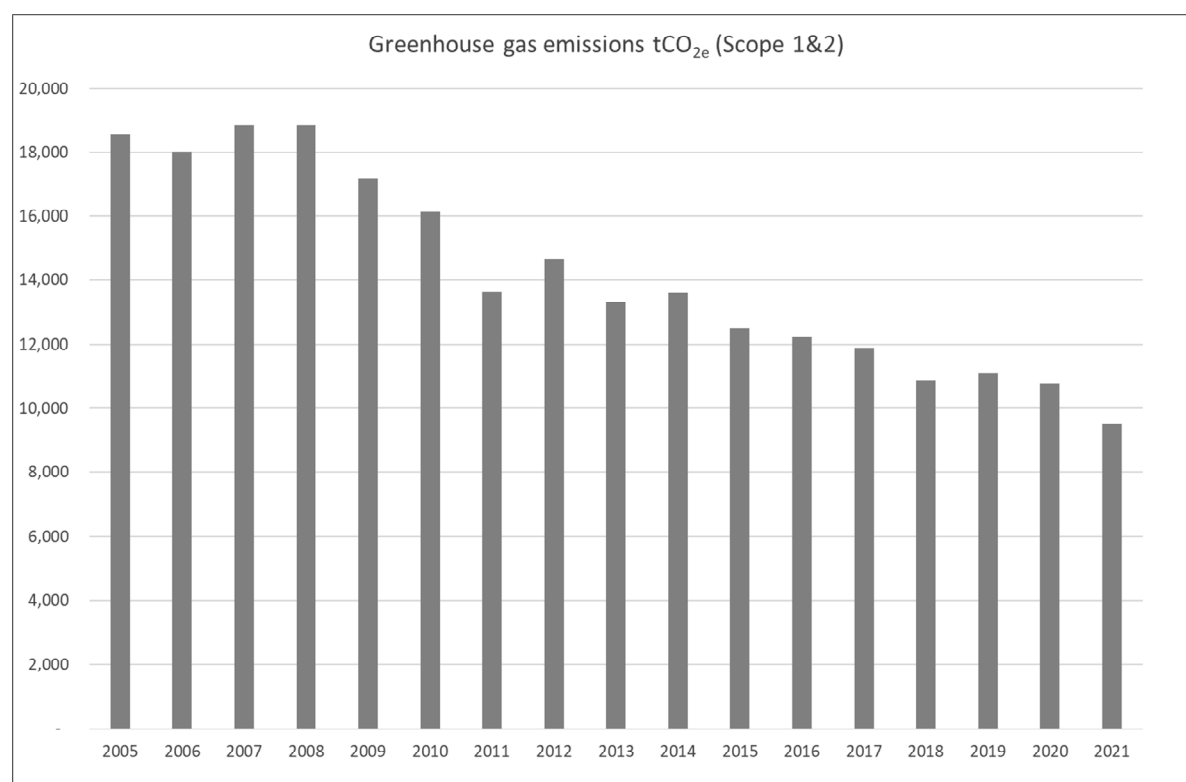
As a percentage of total paid facility time hours, the number of hours spent by employees who were relevant union officials during the relevant period on paid trade union activities?

<i>Time spent on paid trade union activities as a percentage of total paid facility time hours calculated as: (total hours spent on paid trade union activities by relevant union officials during the relevant period ÷ total paid facility time hours) x 100</i>	<b>100%</b>
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**FOR THE YEAR ENDED 31ST JULY, 2022**  
(continued...)

**Streamlined Energy and Carbon Reporting (SECR) and Carbon Management Plan**

The University has a target to reduce its Carbon emissions to Net Zero by 2030/31 academic year. Since the implementation of carbon management planning in 2009 Scope 1 and 2 emissions have reduced steadily. They are now 49% lower than the original 2005 baseline. Our carbon footprint has been restated for previous years in accordance with Government Greenhouse Gas reporting guidelines which take account of changes in our estate and also national conversion factors.



The decrease reflects the significant investment the University has put into energy saving initiatives such as a large Combined Heat and Power unit, a new Biomass boiler, improvements to the district heating system, a solar farm and energy efficient refurbishments to the real estate. This was boosted this year with a successful bid for a Public Sector Decarbonisation Grant which has enabled an extension to the solar farm, a large-scale Air Source Heat Pump for the district heating, new Building Management System for the district heating along with other improvements, LED lighting installations and a 1 MWh battery to help balance the University's private wire network.

The emissions reported above are for scope 1 and 2 greenhouse gas emissions (excluding scope 3 electricity transmission and distribution emissions) include electricity, heating, process fuels and on-site vehicle fuels for the whole University estate but excluding activity at Shrivenham Campus which is managed by the MOD. Reporting years are from August to July. Other transport emissions and emissions associated with waste and water are not included at present although there are plans to include these within the footprint for future reports. Further information on the Carbon Management Plan can be found on the University website.

For SECR reporting purposes additional scope 3 emissions from business travel involving cars and motorbikes has been included. A breakdown of the emissions is detailed below. Note the SECR total is slightly different from the carbon management plan total shown above, because business mileage has not been included in the latter.

**CRANFIELD UNIVERSITY**

**STRATEGIC REPORT**

**FOR THE YEAR ENDED 31ST JULY, 2022**

(continued...)

**SECR data for 2021/2022**

Fuel Type	Energy Purchased kWh		tCO <sub>2e</sub>				
	2021/22	2020/21	Sc 1	Sc 2	Sc 3	2021/22	2020/21
Gas	37,835,753	48,913,762	6,810			6,810	8,959
Electricity	12,790,371	7,596,622	0	2,357	216	2,572	1,756
Biomass	2,389,428	1,325,419	31			31	20
Gas Oil	246,330	423,534	64			64	109
Aviation Turbine Fuel	641,815	456,332	160			160	113
Diesel	231,980	192,925	53			53	46
Aviation Spirit	117,323	84,471	29			29	21
Petrol	28,363	17,385	7			7	4
Burning Oil	9,771	20,587	2			2	5
LPG	1,893	1,285	0			0	0
<b>Sub-Total</b>	<b>54,293,027</b>	<b>59,032,323</b>	<b>7,156</b>	<b>2,357</b>	<b>216</b>	<b>9,728</b>	<b>11,032</b>
Business Travel (miles) (rental/employee owned vehicles where fuel is purchased)	254,122	110,013			70	70	30
<b>Total Gross tCO<sub>2e</sub></b>			<b>7,156</b>	<b>2,357</b>	<b>285</b>	<b>9,798</b>	<b>11,063</b>

The Intensity Ratio in 2021/22 for all emissions reported in table is 4.87 tCO<sub>2e</sub>/£100,000 turnover. In 2020/21 it was 6.02 tCO<sub>2e</sub>/£100,000 on the same basis.

**Notes:**

1. The methodology used follows the UK Government Environmental Reporting Guidelines. The University has an energy management system certified to ISO50001. Data from invoices is used unless this relies on estimates otherwise the University has extensive automatic meter reading and manual reading processes. Where no data is not available, estimates have been used in a few very minor instances amounting to less than 0.3% of the total. These estimates are based on existing data. The reporting period is August 2021 to July 2022. Government greenhouse gas emission factors for 2022 have been used.
2. The University generates more than half of its electricity from an on-site gas fuelled CHP with an output of 1.4 MW and also a 1.45 MW Solar farm and other smaller roof mounted PV systems. The output of the CHP in 2021/2022 was 6,877,930 kWh consuming 19,023,883 kWh of gas, and the output of the solar installations was 955,432 kWh. Note this means the overall consumption of electricity was 20,019,614 kWh.
3. More detailed information on the progress of the University towards reducing its greenhouse gas emissions and other aspects of environmental performance can be found in the annual environmental report on the website [www.cranfield.ac.uk](http://www.cranfield.ac.uk).

**CRANFIELD UNIVERSITY**

**STRATEGIC REPORT**

## **Environmental issues**

The University is committed to sustainable development by integrating environmental issues into all aspects of its work and management processes. Environmental responsibilities are met through the management of the University's campuses and premises, through its dealings with client groups and trading partners, through the design and delivery of its academic, research and professional services and through its interaction with the local community. There is an Environmental Management System certified to ISO14001 to oversee this and an Energy Management System certified to ISO 50001.

The University has several environmental targets related to the issues it faces, details of which can be found on the web site and in the Annual Environmental Report. We have made good progress towards the University's target to Net Zero Carbon with a significant reduction this year in emissions and a significant investment in clean technology through the Public Sector Decarbonisation Scheme. As part of development of the residential estate 6,000 m2 of tree cover and woodland were planted, with further planting as part of the Queens Green Canopy. The University has committed to further reporting on its contribution to the Sustainable Development Goals through the THE Impact Awards. Further details have been included in the Highlights Report.

## **Outlook for 2022/2023**

Cranfield will continue to develop its thematic offerings in Aerospace, Defence and Security, Energy and Power, Environment and Agrifood, Management, Manufacturing and Materials, Transport Systems and Water, supported by the University's professional service units.

The University is forecasting to return to an operating surplus as it continues to recover from the pandemic. This is supported by a record number of acceptances for award bearing courses starting in September 2022. International students enrolling have increased by 7% from 2021. It is currently forecast that professional development will not return to pre pandemic levels until 2024/25. A strong research order book and an additional 600 units of student accommodation being available compared to 2020 should lead to further income growth in both areas.

Cranfield will continue to utilise all appropriate Government Coronavirus schemes during the year to the extent relevant and available. Two smaller subsidiaries had taken out CLBILS loans in 2020 and will continue to make repayments during 2022/23.

As part of the Council's consideration of the appropriateness of adopting the going concern basis in preparing the financial statements, a severe scenario has been reviewed. The assumptions modelled are based on reductions in Government funding along with the projected increases in student numbers not materialising. For each income stream the University has sensitised the revenue, profit and cash flow impact of reduced trading activity. The scenarios are most sensitive to the assumptions made for student numbers. The University has not assumed any increases in student numbers for either UK or international students for the purpose of the scenario modelling. A key judgement applied is the willingness of international students to travel. Our severe scenario deficit would likely lead to a deficit of £1 million based on these assumptions. Under this scenario, mitigating actions are all within management control, can be initiated as they relate to discretionary spend and do not impact the ability to meet demand. These actions include the stopping of all non-essential and non-committed unfunded capital expenditure in the next 12 to 18 months. It is believed that the risk of enforced closure from Covid 19 is very low as the University can revert to teaching students online during any periods of any local or national lockdowns. The University has implemented additional health and safety measures on each campus to reduce the risk of disruption. It has been assumed that no significant structural changes to the business will be needed in the scenario modelled. As at 31 July 2022, the consolidated statement of financial position reflects a net asset position of £74 million and the liquidity of the Group remains strong. In the scenario modelled the University remains within the private bond facility and bank covenants.



## FOR THE YEAR ENDED 31ST JULY, 2022

(continued...)

New educational initiatives continuing in 2022/23 include the further development of MK:U that is now based in Central Milton Keynes and provides undergraduate courses in business and STEM subjects aligned to both Milton Keynes and Cranfield.

With regard to capital expenditure, Cranfield has continued to be successful in winning high profile investment bids for the development of facilities and should see further energy saving facilities come on line during 2022/23.

### **Conclusion**

The University had a very successful intake of students during the year which helped to offset significant increases in utility costs and the impacts of general inflation. Although this has continued to be a very difficult financial period it also led to a growing community spirit within the University as staff and students continued to make great efforts to resolve issues that they encountered as they moved into new hybrid working models.

Having taken out the private bond in March 2020 the University created some financial headroom to see through the difficult days of the pandemic and come out of the other side with a healthy balance sheet and a greater sense of community to help build on new opportunities in a new world. The University balance sheet remains strong with total net assets excluding the pension provision of £155 million and cash and cash equivalents of £14.1 million. It should also be noted that although the University revalues freehold land, buildings are not revalued, with many fully depreciated. University buildings are currently insured for £450 million compared to their net book value of £162 million.

The University has had further success with its infrastructure funding bids to support its Estates strategy and the Corporate Plan and is confident that, through its thematic approach to research, education and executive development, it will continue to add significant value for its students, business and government partners and for the wider public benefit.

Ian Hart ACA

**Chair of Finance Committee**

**CRANFIELD UNIVERSITY**  
**CORPORATE GOVERNANCE**

The University is committed to following best practice in all aspects of corporate governance and is in full compliance with the CUC Higher Education Code of Governance as updated in 2020. The following statement is given to enable readers of the financial statements to obtain a better understanding of the legal structure of the University and the governance procedures applied by the University's Council.

In March 2013, Her Majesty The Queen in Council approved revisions to the University's Charter and Statutes. The primary impact of these revisions on governance was to make the University Council the unambiguous governing body for the University, in line with the governance guidelines of the Higher Education Funding Council for England. Following the approval of the Charter and Statutes, Council approved a revised set of Ordinances and Senate approved new Regulations; together, the Charter, Statutes, Ordinances and regulations make up the University Laws.

Council's functions, as articulated in the Charter, are to: be ultimately responsible for the affairs of the University; determine the strategic direction of the University; ensure the effective management and control of the University's affairs, property and finances; determine the structure, staffing and overall composition of the University; appoint the Pro-Chancellor; and appoint and dismiss the Vice-Chancellor.

The principal academic and administrative officer of the University is the Chief Executive and Vice-Chancellor who has a general responsibility to the Council for maintaining and promoting the efficiency and good order of the University. Under the terms of the formal Financial Memorandum between the University and the Office for Students terms and conditions of funding, the Vice-Chancellor is the accountable officer of the University and in that capacity can be summoned to appear before the Public Accounts Committee of the House of Commons.

The matters specially reserved to the Council for decision are defined by the University Laws and by custom in line with the Financial Memorandum with the Office for Students terms and conditions of funding.

The Council has a majority of members from outside the University, (described as independent members), from whom the Chair and Deputy Chair must be drawn. Also included in its membership are staff of the University and a member nominated by the student body. The composition of the Council and the procedures for appointment of members, their tenure and removal from office, are determined by the Statutes of the University.

The Council meets at least four times a year and has four standing Committees, Finance, Nominations, Remuneration and Audit. Each of these Committees is formally constituted with terms of reference and comprises mainly independent members of the Council.

## CRANFIELD UNIVERSITY

### CORPORATE GOVERNANCE

(continued ...)

- **Finance Committee** - meets at least four times a year and, inter alia, recommends to the Council the University's annual revenue and capital budgets and monitors performance quarterly in relation to the approved budgets. The Committee also reviews the University's annual financial statements for reporting to the Council.

Attendance of members during the year is outlined below:

	No. Of Meetings Entitled to Attend	No. of Meetings Attended
Mrs Lesley Chen Davison	4	4
Mr Colin Day	4	4
Mr Paul Fairweather	4	4
Professor Karen Holford	4	4
Dr Simon Rowlands	4	4
Mr Ian Hart	4	4

- **Nominations Committee** - considers nominations for vacancies in the independent membership of Council under the relevant Statute and makes recommendations to the Council for such appointments.
- **Remuneration Committee**

#### *Terms of Reference for the Remuneration Committee*

The Remuneration Committee at Cranfield, established by Council, has delegated authority to determine the Executive Reward Strategy, setting and reviewing the salaries and other emoluments, terms and conditions and where appropriate, severance payments of the Executive, to include the following members of staff:

- a. The Chief Executive and Vice-Chancellor;
- b. Members of the University Executive;
- c. Such other members of staff as decided by Council.

The Remuneration Committee also have oversight of the remuneration of all staff earning £100,000 or more.

While the primary focus of the Remuneration Committee are the internal relativities and needs of Cranfield University, comparable information on salaries and other emoluments both within the University sector and as appropriate, the wider market, are taken into account.

#### *Remuneration Committee Membership*

The membership of the Remuneration Committee as at 31 July 2022 comprise the following members of Council:

- Chair of the Remuneration Committee - Miss Caroline Carter, Dean at the University of Law, and former partner of Ashurst LLP.
- Chair of the Finance Committee - Mr Paul Fairweather - Former Partner of PricewaterhouseCoopers LLP and Business Fellow, The Honourable Society of Gray's Inn.
- Dr Jaz Saggu, Chair, Watmos Ltd; INED, BHSF Group Ltd and INED, A2 Dominion
- Mr Simon Rowlands, retired Co-Founder of Cinven, Founder of Africa Platform Capital, Board member of British International Investments and Spire Healthcare.

### CORPORATE GOVERNANCE

(continued ...)

Mr Paul Fairweather completed his term of office and retired from Council and Remuneration Committee at the end of July 2022. Mr Fairweather will be replaced by the new Chair of Finance Committee, Mr Ian Hart.

Advisory and secretarial services for the Committee are provided by the Director of Human Resources and their nominated representative. The Director of Human Resources was invited to be on the Executive in October 2021, and as such, is not in attendance for the discussion of her remuneration or targets.

The Pro-Chancellor, Mr Iain Ferguson is in attendance at the Remuneration Committee meeting but is not a member.

The Chief Executive and Vice-Chancellor is in attendance at the Remuneration Committee for consideration of remuneration for her direct reports but is not a member. She is not present for the discussion of her remuneration.

The Remuneration Committee meets three times a year and any three members present will constitute a quorum.

Attendance of members between July 2021 and July 2022 is detailed below:

	No. Of Meetings (Aug 21-Jul 22)	No. Of Meetings Entitled to Attend	No. of Meetings Attended
Miss Caroline Carter	3	3	1*
Mr Paul Fairweather	3	3	3
Dr Jaz Saggu	3	3	3
Mr Simon Rowlands	3	3	3

\* Exceptional absence due to unavoidable personal circumstances.

#### ***Key decisions taken by the Remuneration Committee between August 2021 to July 2022***

In line with the Remuneration Committee's Terms of Reference and our cyclical standing agenda, three meetings were held during the year, with interim updates to the Committee via paper circulation as appropriate.

#### **Exceptional circumstance paper circulation**

The Remuneration Committee had agreed previously that there may be exceptional circumstances where 'out of cycle' salary review needs to occur and that such reviews could be managed through paper circulation to the Committee membership. One such case was circulated to the Committee in July 2021 for consideration and was put into effect from 1 August 2021.

#### **October 2021**

**The October meeting typically concentrates on the review of performance of the University and individual members of the Executive during the year and the resulting agreement of any pay increases and bonus payments.**

At the October meeting, the Remuneration Committee reviewed progress against the corporate and individual objectives for the Executive and agreed performance against the corporate scorecard at 100%. It was noted by the Committee that the **Executive** had performed well, despite the continuing impacts of COVID creating a difficult operating environment. It was agreed that exceptional performance should be acknowledged, in line with the wider University pay principles.

## **CORPORATE GOVERNANCE**

(continued ...)

**The Committee agreed it was appropriate for bonus payments to be made to all members of the Executive based on their performance, both at a corporate and individual level. No other increases, to include salary uplifts or cost of living, were agreed at this point.**

As the new Chief Executive and Vice-Chancellor commenced employment with the University on 1 August 2021, it was not appropriate for a bonus payment to be made or a salary uplift given.

**The Committee discussed the weighting of targets, given the above corporate scorecard, and it was agreed that there was a need to review this in order to drive positive behaviours and key priorities, particularly financial performance. It was agreed that the University would consider how best this could be achieved, taking into account that this year's targets had already been agreed and the contractual nature of bonus payments.**

To assist the above decision-making, the Committee received the following background documents:

- Summary salary report including the Chief Executive and Vice-Chancellor and other members of Executive, detailing basic salary and other emoluments.
- Performance and development review documentation for members of the Executive, detailing individual and corporate scorecards and a qualitative performance assessment against wider behavioural characteristics. For the two new members of the Executive this took the format of their provisional scorecard for the forthcoming year 2021/22, as they had not been in post for the relevant period.
- Performance and development review documentation for the Chief Executive and Vice-Chancellor undertaken by the Pro-Chancellor and Chair of Council. The documentation took the format of her provisional scorecard for the forthcoming year 2021/22, as Professor Holford had not been in post for the relevant period.
- A detailed report providing a general overview on pay, both within the sector and wider, together with independent salary data/benchmarks relevant to the roles within the Remuneration Committee remit. Cranfield typically benchmarks against Russell Group institutions and leading Business Schools. The information was compiled using the Committee of University Chairs report on Vice-Chancellors pay, the Universities and Colleges Association Senior Staff Remuneration Survey and data from sector pay experts at Korn Ferry.
- Summary report on basic salary and other emoluments for the Senior Management Team and staff earning over £100,000.

## **April 2022**

**The April Remuneration Committee meeting allows for strategy and policy decisions together with an overview of progress towards the plan for next year, alongside any other business.**

At the meeting, the proposed plan to make changes to the scorecard to reflect high performance/results against quantitative targets and drive qualitative performance supporting our values and behaviours was discussed. The Committee discussed effective dates and it was agreed that **rather than making significant changes to how the reward process operates, mid-year**, this would be implemented for the new PD&R year.

For 2021/22, the Committee were **comfortable with the use of a moderator being applied to the current process, to ensure that financial performance, both at University and School level was more appropriately reflected in the overall calculation.**

At the meeting, the University presented the recently published Gender Pay Report and relevant benchmark data from the higher education sector. **The report was duly noted, and the Committee expressed an interest in viewing the preliminary figures for the next reporting year.**

The University provided an overview of the **process and outcomes of the recently concluded Professorial Range Review process, together with the related equality impact assessment.**

A brief overview of the University's progress towards becoming an Accredited/Real Living Wage Employer was also provided. The Committee discussed the indicative costs and the impact on the wider pay framework.

## July 2022

The July Remuneration Committee meeting typically focuses on target setting for the forthcoming year.

Following on from the presentation of the new Corporate Plan 2022 – 2027 at Council, the Chief Executive and Vice-Chancellor gave an overview of the related strategic targets for the Executive Team, recognising that not only the quantitative targets, but also the qualitative targets were key in this process. The Committee reviewed the strategic targets and objectives for each member of the Executive Team for forthcoming financial year (to include our ED&I related objectives aligned to our Diversity and Inclusion Plans & objectives). Some further clarity/amendments were proposed as appropriate.

Moving to local matters, the University provided an update on:

- The pay negotiation process at Cranfield for 22/23
- The gender pay gap figures for 2021/22
- Cranfield's application to become an Accredited Living Wage employer and
- General reward and wellbeing matters.

The Remuneration Committee's Terms of Reference were also discussed and provisionally amended, pending Council approval, to incorporate delegated authority for the University in the absence of member of Remuneration Committee being present at senior recruitment interviews.

### **Approach to Remuneration**

A copy of the Remuneration Framework, under which the Committee operates, is available below. It has been designed to ensure that the University remains competitive in the market place, aligns to our core values and can deliver the University's strategy, priorities and targets, while providing an environment where everyone can achieve their potential, thrive and contribute at their best.

Cranfield University operates outside of the higher education sector National Pay Framework (JNCHES); however, the University maintains an overview of the national pay bargaining process. Roles at the University are evaluated using the Hay Grading methodology for determining job size.

### **Reward Strategy**

The University's reward strategy takes into account a range of information from Cranfield, the HE sector and wider market practice, and aligns to our core values and behaviours. It is kept under review and may be adjusted, depending on the University's strategy and circumstances, the market, the requirements of key stakeholders and the Regulator (Office for Students (OfS)).

### **Definition of reward**

Reward is a combination of different elements. Cranfield's reward offer includes:

- A package of pay and benefits which is competitive in the market and reflects everyone's role and contribution.
- The opportunity to carry out interesting work which makes an impact – on students, the institution, industry and society.
- Access to development and support for all our people.
- Access to career opportunities.
- A culture and community where we respect everyone and we value diversity and support wellbeing.
- The opportunity to work alongside colleagues and with an organisation that recognises and celebrates ambition and success.

### **Purpose**

The purpose of the reward strategy is to:

- Enable the recruitment and retention of people with the talent, skills and commitment the University needs.
- Support the delivery of the University's strategy, priorities and targets, and demonstrate and underpin our core values.
- Provide an environment where everyone can achieve their full potential and contribute at their best.

### **Principles**

We will:

- Reward our people for the work they do and how well they do it.
- Ensure rewards are competitive in the sector and where relevant in the wider market.
- Ensure reward arrangements reflect the nature of the work and the market for the skills concerned.
- Ensure rewards are fair and equitable.
- Provide the opportunity for everyone to develop and progress in their career.
- Promote a culture which values diversity, supports wellbeing and embodies our core values.
- Ensure we celebrate and recognise success.
- Communicate the full value of pay and benefits as part of our total reward offer.

### **Taking principles into practice**

The table below summarises how we will put our principles into practice.

Principle	What we will do
Reward people for the work they do and how well they do it	Maintain our pay and benefits structures to match the level and type of role and provide the mechanisms for performance to be recognised and rewarded.
Ensure rewards are competitive	Undertake regular monitoring on external market practice – in the higher education sector and beyond – and consider internal indicators, such as recruitment, retention and staff opinion.
Ensure rewards reflect the nature of the work and the market for the skills concerned	Have distinct policies for different groups of roles but founded on the same principles (see below). Allow for pay differences where they are well justified by market evidence.
Ensure rewards are fair and equitable	Create and maintain policies and governance structures, which promote fairness and conduct and where appropriate, undertake reviews of their impact (e.g. biennial equal pay review, annual gender pay reporting and workforce audits).
Provide the opportunity to develop and progress	Offer programmes of training and development and provide the opportunity to discuss job and career development with line managers and HR.
Promote a culture which values diversity, supports wellbeing and embodies our core values	Embed our shared values within the University, to support the University's transition to becoming a modern inclusive employer and enhancing our Employee Value Proposition. Delivering on our key targets in our Diversity and Inclusion Plan, Athena Swan Action Plan and other related initiatives and providing an environment, which looks after everyone's wellbeing.
Celebrate and recognise success	Promote and keep under review all forms of recognition, ranging from 'thank you' to a formal salary adjustment, bonus or use of the recognition scheme, to ensure appropriateness to the role and its setting.
Communicate the full value of pay and benefits	When we have the supporting systems in place, provide an annual statement of the value of the pay and benefits package, in the context of the total reward offer.

### ***Policies***

In keeping with our third principle, the approach to pay and rewards will reflect the character of each job family. There are differences in: whether salaries are a spot rate or sit within a range; the markets used for benchmarking pay and reward practices; and how performance is recognised and rewarded (although all staff are subject to a performance and development review on an annual basis).

All policies take account of:

- The distinctive character of Cranfield, as a postgraduate institution, which has close links to, and partnerships with industry.
- Governance requirements, including those set out by the Office for Students and the Committee of University Chairs.
- The need to secure value for money.

#### ***a) University Executive***

Rewards for members of the University Executive are determined and reviewed by the Remuneration Committee, who have full delegated authority for the salaries and other emoluments, terms and conditions and, where appropriate, severance payments of:

- the Chief Executive and Vice-Chancellor;
- full members of the University Executive;
- and such other senior members of staff as decided by Council.

Our Executive reward reflects the need for competitive spot salaries and includes an incentive scheme, which is appropriate for jobs at this level and provides a strong link to performance. The package includes USS pension or a payment in lieu (PILP) for those who have reached their Lifetime Allowance, plus an optional USS Life Assurance.

#### ***b) Senior managers***

Rewards for senior managers are determined by the Chief Executive and Vice-Chancellor and the Executive Team. The Remuneration Committee has oversight of the remuneration of all members of the Senior Management Team and any other staff earning £100,000 per annum, or above.

The policy for this group provides for spot salaries to reflect the role, the market and the value of the individual to the University. Amounts are benchmarked mainly against other universities, with a check on other markets where appropriate. Performance can be rewarded with a non-consolidated annual bonus, linked to the achievement of agreed performance indicators aligned to the delivery of the Corporate Plan and a qualitative assessment of individual contribution and wider contribution to the Executive Team.

Senior managers are also eligible to receive the annual negotiated pay settlement with the Trade Unions (normally taking effect from 1 August).

The package includes USS pension provision or a payment in lieu (PILP) for those who have reached their Lifetime Allowance, plus an optional USS Life Assurance.

#### ***c) Professors***

Rewards for Professors are determined by the Chief Executive and Vice-Chancellor and Executive Team through the annual review and the Professorial Pay Review processes, within a policy agreed and assured by the Remuneration Committee. The Cranfield University Professorial Range Review was established to provide a transparent framework for competitive performance-related remuneration of the professoriate.

Professors are recruited and retained in a distinctive national and international market, in which identifying, benchmarking and rewarding different levels of professorial contribution has become common. Cranfield's policy provides for four levels of professor, each with a standard pay range. Performance is recognised by remuneration within the level and exceptionally by change of level. Variations in market rate are handled through evidence-based market supplements.



*(continued ...)*

The Professorial Pay Review, undertaken on a triennial basis, supports the review of all professorial salaries, providing consistency of approach across the University and is informed and benchmarked against relevant peer groups within the higher education sector and beyond.

On an annual basis, the overall performance of Professors is assessed against generic academic standards tailored to individual targets established through annual Performance and Development Reviews together with the annual assessment of the individual's contribution to the School by the relevant Pro-Vice-Chancellor. There is also the opportunity for advancement via exceptional management-led recommendations for outstanding performance.

The Professoriate are also eligible to receive the annual negotiated pay settlement with the Trade Unions (normally taking effect from 1 August).

The package includes USS pension or a payment in lieu (PILP) for those who have reached their Lifetime Allowance, plus an optional USS Life Assurance.

***d) Staff within Salary Level 1 to 7***

Rewards for staff within salary levels 2 to 7 are determined through both an annual negotiated pay settlement with the Trade Unions (normally taking effect from 1 August) and a governed annual review management process (normally taking effect from October of every year). The salary structure has strong parallels with the nationally negotiated Pay Framework Agreement for University staff but recognises the distinctive nature of Cranfield.

Each salary level has related pay ranges, which are determined and reviewed taking account of practice in the sector. The salary levels have a core of increments, through which staff move, subject to satisfactory performance, on an annual basis. Once an individual reaches the top of the incremental range, performance over time can be recognised through use of a high-performance zone (salary levels 3 to 7).

Exceptional performance or one-off achievements can be recognised through a non-consolidated Recognition Award Scheme.

The package includes pension provision linked to the level and type of role or where appropriate a payment in lieu for those who have reached their Lifetime Allowance, plus for those in USS, an optional USS Life Assurance.

The University is an accredited Living Wage Employer and rates for Level 1 staff align with the Living Wage Foundation rates.

Plans for the forthcoming year include undertaking a pay review with to ensure our pay framework remains relevant, allows for flexibility and is both competitive and innovative.

***Diversity and Inclusion considerations***

The University published a full gender pay report in March 2022 and the Remuneration Committee received a copy of this report, alongside a more detailed analysis at the April meeting.

At various points throughout the reporting cycle, the Remuneration Committee review the approach adopted by the University in ensuring equal pay across their areas of remit, to include the Executive, the Senior Management Team and those earning over 100k. It was agreed there were no instances where there were gender-related differences in reward for roles of the same type.

All of the Executive have diversity related objectives within their P & DR (in 2020/21 these aligned to our Athena Swan Action Plans and for 2021/22 these were widened to align with our Diversity and Inclusion Action Plans) and the outputs are considered alongside the achievement of the other objectives during the Annual Review process.

**CORPORATE GOVERNANCE**

*(continued ...)*

Equality Impact Assessments are undertaken at key stages of pay reviews to ensure that there is no apparent bias or disadvantage for any particular groups of staff.

For the forthcoming year, we will be undertaking a biennial Equal Pay Review Audit and for the first time, reporting on the Ethnicity Pay Gap, alongside our Gender Pay Gap. The Remuneration Committee will receive copies of these reviews.

### **Remuneration of the Chief Executive and Vice-Chancellor**

Details of the remuneration for the CEO and VC are summarised in note 6 of the Financial Statement.

Professor Karen Holford joined the University on 1 August 2021, following the retirement of Professor Sir Peter Gregson. Professor Holford's engineering career spans industry and academia; beginning at Rolls-Royce (Aero), before pursuing an academic career where, during 31 years at Cardiff University, she engaged in research with industrial impact and research-led learning and teaching together with a significant administrative and leadership profile. She served as Deputy Vice Chancellor from 2017 – 2021, led the College of Physical Sciences and Engineering as the founding Pro Vice-Chancellor 2012 -2017 and prior to this she was Head of the School of Engineering. Since 2020 Karen have been a member of the National Physical Laboratory Science and Technology Advisory Council.

In 2018, Professor Holford received a CBE for services to engineering and the advancement of women in engineering, and in 2019 received the Suffrage Science award in Physical Sciences and Engineering. She has served as a Council member for UKRI STFC and a member of the EPSRC Strategic Advisory Network, having previously served as the external Chair of the EPSRC Engineering Strategic Advisory Team. In 2020, Professor Holford took up the role of Chair of the Royal Academy of Engineering Research Committee.

As Chief Executive and Vice-Chancellor at Cranfield University, Professor Holford serves on the Oxford-Cambridge Arc Leaders Group and the Midlands Innovation University Partnership Board.

The remuneration received by Professor Holford in 2021/22 included a base salary of £270,000. It is considered that Professor Holford's overall remuneration reflects her significant experience and leadership within the higher education sector.

From 1 March 2022, Professor Holford has been in receipt of a Pay in Lieu of Pension (PILP) allowance on the same terms as other relevant members of staff. This payment does not attract bonus or other benefits based on basic salary.

The Chief Executive and Vice-Chancellor resides in Cayley Lodge, a property owned by the University. The occupancy of Cayley Lodge is treated as a taxable benefit, with the tax being paid by the University via a PAYE Settlement Agreement (PSA). The taxable benefit, taking into account property values, utilities, Council tax etc. is based on £5,612.

Pay multiple calculation:

<b>Cranfield University</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>
Vice-Chancellor basic salary multiplier	7.16	7.99	7.96	7.99	7.85	7.72
Vice-Chancellor total remuneration multiplier	6.92	6.61	7.89	8.56	7.71	8.78

### **Severance Payments**

The University's principle is to manage all departing staff fairly and equitably, taking into account the circumstances of their departure. Where restructurings occur, impact assessments are undertaken to ensure there are no biases on any protected characteristic.

Members of the Executive, as for all other staff, are entitled to be paid their contractual base salary and contractual benefits, during any notice period. In exceptional circumstances, the University has the discretion to make a lump sum payment, as pay in lieu of notice (PILON).

## **CORPORATE GOVERNANCE**

*(continued ...)*

All Executive members (including the Chief Executive and Vice-Chancellor) have permanent contracts and have notice periods of 6 months.

Typically, no additional enhanced payments are made to compensate members of the Executive when their employment terminates, unless the employment ends by means of redundancy. In exceptional circumstances, a settlement agreement may be put in place and the University may make payments it considers reasonable in settlement of any potential litigation.

During 2021/22, no severance payments were made to members of the Executive.

***Payment of Directorships, Consultancies and Outside Work***

The University recognises the benefits that outside work whether voluntary or remunerated can bring to both employees and the University.

All employees (to include the Executive) must seek written approval from the relevant Senior Line Manager (PVC, COO or CEO and VC).

For the CEO and VC approval is sought from the Pro-Chancellor. The treatment of remuneration received from such activities is considered on a case-by-case basis as part of the approval process. It is the responsibility of those undertaking external work to ensure that it is fully declared in the Register of Interest.

- **Audit Committee** - meets on at least three occasions annually to review the work of the internal and external auditors. The Committee considers detailed audit reports, together with recommendations, for the improvement of the University's systems of internal control, governance, risk management and value for money, as well as management's responses and implementation plans.

Attendance of members during the year is outlined below:

	<b>No. Of Meetings Entitled to Attend</b>	<b>No. of Meetings Attended</b>
Miss Alice Hynes	4	4
Dr Maxine Mayhew	4	4
Dr Jaz Saggu	4	4
Mrs Claire Stokes	4	4
Mr Peter Watkins	4	3

## CRANFIELD UNIVERSITY

### CORPORATE GOVERNANCE

*(continued ...)*

Most independent members of the Council do not receive any payment, apart from the reimbursement of expenses, for the work they undertake for the University. However, certain members are remunerated for specific responsibilities other than those of the Council membership.

The report of the Chair of Finance Committee is given on pages 15 to 33 and the responsibilities of the Council are outlined on page 45. The annual financial statements are presented in a format which is in accordance with applicable Accounting Standards and the 2019 Statement of Recommended Practice - Accounting for Further and Higher Education.

The Council is also responsible for the University's internal control system and for monitoring its effectiveness. Such a system is designed to manage rather than eliminate the risk of failure to achieve the University's overall objective and mission, as well as its annual strategic aims. It can only provide reasonable, but not absolute, assurance against any material misstatement or loss. The key features of the control system are:-

- **Risk management** – whilst it is neither possible nor desirable to eliminate risk from the University's activities, there is an on-going process for the recognition, assessment and management of all significant opportunities and risks. This process has been in place for the year and up to the date of approval of the annual financial statements. The process is reviewed annually by the Audit Committee on behalf of the Council. The Audit Committee reports annually to the Council on its review. Exposure and control analyses, including mitigating factors and counter measures, are prepared annually and are monitored by key performance indicators and controls. The results from these reviews inform the planning, reporting and budgetary control processes. The management of each significant risk is assigned to one or more individuals and built into personal objectives as part of the staff development and appraisal procedures, which identify training needs. Staff generally are asked to report perceived significant risks.
- **Control environment** – clear definitions of the responsibilities of, and the authority delegated to, heads of academic and administrative departments are established. There is a Financial Manual, detailing financial controls and procedures which is approved by the Council as well as other management policies. Compliance with the Financial Manual is a requirement included in contracts of employment. The approach to internal control is risk based and embedded in effective management systems.
- **Information and control systems** – the University has a comprehensive medium and short-term planning process, supplemented by detailed annual revenue, capital and cash flow budgets. There are clearly defined and formalised requirements for approval and control of expenditure with investment decisions involving capital or revenue expenditure being subject to formal detailed appraisal and review according to approval levels set by the Council. There are regular reviews of operating results involving variance reporting and updates of estimated out-turns. In relation to academic information and control systems, the University's Senate, Education Committee, Research Committee and Directors of Education and Research in the Schools oversee detailed processes to maintain and control the quality and standards of the University's academic work.
- **Monitoring system** – the effectiveness of the information and internal control systems and control environment are monitored by management review, the internal audit function and the Audit Committee, on behalf of the Council. As part of their audit responsibilities, the external auditors also provide reports to the Audit Committee on the operation of aspects of the University's internal control system.

On the basis of the above control system, procedures have been in place for the whole financial year to enable a full statement on internal control to be made for the year and up to the date of the approval of the Financial Statements.

## **PRIMARY RESPONSIBILITIES OF COUNCIL**

The Council is the supreme governing body of the University. Its principal responsibilities are based on the Model Statement taken from the Committee of University Chairs(CUC) Higher Education Code of Governance (2020), adapted to reflect the powers and responsibilities that Council derives from the University Laws. These responsibilities are to:

- set and agree the mission, strategic vision and values of the University with the Executive;
- agree long-term academic and business plans including key performance indicators and to ensure that these meet the interests of stakeholders, especially staff, students and alumni;
- appoint, on the recommendation of a Joint Appointing Committee of Council and Senate, the Vice-Chancellor as Chief Executive of the University and to establish suitable arrangements for monitoring their performance;
- be responsible for the removal of the Vice-Chancellor for good cause in accordance with the University Laws;
- delegate authority to the Vice-Chancellor for the academic, corporate, financial, estate and human resource management of the institution, and establish and keep under regular review the policies, procedures and limits within such management functions as will be undertaken by and under the authority of the Vice-Chancellor;
- ensure the establishment and monitoring of systems of control and accountability, including financial and operational controls, risk assessment, value for money arrangements and procedures for handling internal grievances and managing conflicts of interest;
- ensure that processes are in place to monitor and evaluate the performance and effectiveness of Cranfield University against the strategy, plans and approved key performance indicators, which will, where possible and appropriate, be benchmarked against other comparable institutions;
- establish processes to monitor and evaluate the performance and effectiveness of Council;
- conduct its business in accordance with best practice in higher education corporate governance and with the principles of public life drawn up by the Committee on Standards in Public Life;
- safeguard the good name and values of the University;
- appoint a Secretary to Council, on the recommendation of a Joint Appointing Committee of Council and Senate, and to ensure that if the person appointed has managerial responsibilities in the University, there is an appropriate separation in the lines of responsibility;
- be the employing authority for all staff in the University and to be accountable for ensuring the establishment of a human resources strategy;
- be the principal financial and business authority of the University, to ensure that proper books of account are kept, to approve the annual budget and financial statements, and to have overall accountability for the University's assets, property and estate;
- be the University's legal authority and, as such, to ensure that systems are in place for meeting all the University's legal obligations, including those arising from contracts and other legal commitments made in the University's name. This includes accountability for health, safety and security and for equality, diversity and inclusion;

## PRIMARY RESPONSIBILITIES OF THE COUNCIL

(continued ...)

- receive assurance that adequate provision has been made for the general welfare of students; make such provision as it thinks fit for the general welfare of students, in consultation with Senate;
- act as trustee for any property, legacy, endowment, bequest or gift in support of the work and welfare of the University;
- ensure that the University's Laws are followed at all times and that appropriate advice is available to enable this to happen;
- promote a culture which supports inclusivity and diversity across the institution;
- maintain and protect the principles of academic freedom and freedom of speech legislation; and
- ensure that all students and staff have opportunities to engage with the governance and management of the University.

### Members of Council

The following members served throughout the period from 1<sup>st</sup> August 2021 to 25<sup>th</sup> November 2022 unless otherwise stated:

Name	Sub-Committee Membership	Position	Period
Ferguson, Mr Iain	N, HD	Pro-Chancellor & Chair of Council	
Holford, Professor Karen	F, N, HD	Chief Executive & Vice-Chancellor	
Atkinson, Professor Helen			
Carter, Caroline	R, N	Chair of Remuneration Committee	
Chen Davison, Lesley	F, N		
Day, Colin	F, HD		
Fairweather, Paul	F	Chair of Finance Committee	to 31 July 2022
Greening, Connie			from 1 October 2022
Hart, Ian	F, R	Chair of Finance Committee (from 1 August 2022)	
Hill, James			
Hubble, Jane			from 1 October 2022
Hynes, Alice	A, N	Chair of Audit Committee	
Mayhew, Maxine	A, N		to 31 July 2022
Rowlands, Simon	F, R		
Saggu, Jaz	A, R		
Smallwood, Anna	A		from 1 August 2022
Stokes, Claire	A		
Thompson, Chris			to 30 September 2022
Wainwright, James			
Watkins, Peter	A		

CRANFIELD UNIVERSITY

## PRIMARY RESPONSIBILITIES OF THE COUNCIL

(continued ...)

A=Audit, F=Finance, R=Remuneration, N=Nomination, HD=Honorary Degrees

The Council is required to present audited financial statements for each financial year and for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the University and to enable it to ensure that the financial statements are prepared in accordance with the Statutes of the University, the 2019 Statement of Recommended Practice - Accounting for Further and Higher Education and other relevant Accounting Standards. In addition, within the terms and conditions of a Financial Memorandum agreed between the Higher Education Funding Council for England and the Council of Cranfield University, the Council, through its designated office holder, is required to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the University and the Group and of the surplus or deficit and cash flows for that year.

In causing the financial statements to be prepared, Council has ensured that:

- suitable accounting policies are selected and applied consistently;
- judgements and estimates are made that are reasonable and prudent;
- applicable Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- financial statements are prepared on the going concern basis unless it is inappropriate to presume that the University will continue in operation. The Council is satisfied that the University has adequate resources to continue in operation for the foreseeable future: for this reason the going concern basis continues to be adopted in the preparation of the financial statements.

The Council has taken reasonable steps to:

- ensure that funds from Research England and the Office for Students are used only for the purposes for which they have been given and in accordance with the Financial Memorandum with Research England and the Office for Students terms and conditions of funding and any other conditions which the Funding Council of Office for Students may from time to time prescribe;
- ensure that there are appropriate financial and management controls in place to safeguard public funds and funds from other sources;
- safeguard the assets of the University and the Group and prevent and detect fraud; and
- secure the economical, efficient and effective management of the University's resources and expenditure.

# ***Independent auditors' report to the Council of Cranfield University (the "University")***

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## **Report on the audit of the financial statements**

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### **Opinion**

In our opinion, Cranfield University's group financial statements and University financial statements (the "financial statements"):

- give a true and fair view of the state of the group's and of the University's affairs as at 31 July 2022 and of the group's and of the University's income and expenditure, gains and losses and changes in reserves, and of the group's cash flows for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland", and applicable law); and
- have been properly prepared in accordance with the requirements of the Office for Students' Accounts Direction (OfS 2019.41).

We have audited the financial statements, included within the Financial Statements (the "Annual Report"), which comprise the consolidated and University Statements of financial position as at 31 July 2021; the consolidated and University statements of comprehensive income and expenditure, the consolidated and University statements of changes in reserves, and the statement of consolidated cash flows for the year then ended; the Principal accounting policies and the notes to the financial statements .

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### **Basis for opinion**

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities under ISAs (UK) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### **Independence**

We remained independent of the group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

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### **Conclusions relating to going concern**

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

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

However, because not all future events or conditions can be predicted, this conclusion is not a guarantee as to the group and University's ability to continue as a going concern.

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

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### **Reporting on other information**

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The Council is responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we



identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

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## **Responsibilities for the financial statements and the audit**

### *Responsibilities of the Council for the financial statements*

As explained more fully in the Primary responsibilities of the Council of Cranfield University, the Council is responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The Council is also responsible for such internal control as they 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 Council is responsible for assessing the group and University'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 Council either intends to liquidate the group and University or to cease operations, or has no realistic alternative but to do so.

### *Auditors' 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 auditors' 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. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

Based on our understanding of the institution/industry, we identified that the principal risks of non-compliance with laws and regulations related to UK employment legislation and immigration laws regarding international students, and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the financial statements such as the Office for Students' Accounts Direction (OfS 2019.41). We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls), and determined that the principal risks were related to manipulation of financial information through the posting of journal entries, or undue bias exhibited in accounting estimates and judgements. Audit procedures performed included:

- discussions with management in relation to known or suspected instances of fraud, or non-compliance with laws and regulations;
- testing of significant estimates and judgements made by management, including the verification of the data and accuracy of the models;
- incorporating elements of unpredictability into our audit procedures;
- testing of journal entries using a risk-based approach, including entries which credit revenue offset by an unusual counter entry, as well as postings made by unexpected users; and
- review of the financial statements for disclosures required by the accounting standards and the accounts direction provided by the OfS

There are inherent limitations in the audit procedures described above. We are less likely to become aware of instances of non-compliance with laws and regulations that are not closely related to events and transactions reflected in the financial statements. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

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](http://www.frc.org.uk/auditorsresponsibilities). This description forms part of our auditors' report.

### *Use of this report*

This report, including the opinions, has been prepared for and only for the Council as a body in accordance with section 5 of the Charters and Statutes of the University and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

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## ***Other required reporting***

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### **Opinions on other matters prescribed in the Office for Students' Accounts Direction (OfS 2019.41)**

In our opinion, in all material respects:

- funds from whatever source administered by the University for specific purposes have been properly applied to those purposes and, if relevant, managed in accordance with relevant legislation;
- funds provided by the Office for Students, UK Research and Innovation (including Research England) and the Education and Skills Funding Agency have been applied in accordance with the relevant terms and conditions.

Under the Office for Students' Accounts Direction, we are required to report to you, if we have anything to report in respect of the following matters:

- The University's grant and fee income, as disclosed in note 2 to the financial statements, has been materially misstated; or

We have no matters to report arising from this responsibility.

PricewaterhouseCoopers LLP  
Chartered Accountants and Statutory Auditors  
Milton Keynes  
16 January 2023

## CRANFIELD UNIVERSITY

### PRINCIPAL ACCOUNTING POLICIES

#### 1. Basis of accounting and preparation

These financial statements have been prepared in accordance with the Statement of Recommended Practice (SORP): Accounting for Further and Higher Education 2019 and in accordance with Financial Reporting Standards (FRS 102). They have also been prepared in accordance with the 'carried forward' powers and duties of previous legislation (Further and Higher Education Act 1992 and the Higher Education Act 2004) and the new powers of the Higher Education and Research Act 2018 during the transition period to 31 July 2019, the Royal Charter, the Accounts Direction issued by the Office for Students (OfS), the Terms and conditions of funding for higher education institutions issued by the OfS and the Terms and conditions of Research England Grant. The University is a public benefit entity and therefore has applied the relevant public benefit requirements of FRS 102. The financial statements are prepared in accordance with the historical cost convention (modified by the revaluation of certain assets). The following exemptions available under FRS 102 has been applied to these financial statements:

- Disclosures in respect of transactions with wholly owned subsidiaries
- University cash flow

#### 2. Basis of consolidation

The consolidated financial statements include the financial statements of the University and all its subsidiaries prepared up to the end of the financial year. They do not include the financial statements of student associations as it is considered the University has limited financial interest and no control or significant influence over policy decisions.

#### 3. Foreign currencies

Transactions denominated in foreign currencies are recorded at the rate of exchange ruling at the dates of the transactions. Monetary assets and liabilities in foreign currencies are translated into sterling at the rate of exchange ruling at the balance sheet date. The resulting exchange differences are reflected in the income and expenditure account for the financial year.

#### 4. Recognition of income

Income from the sale of goods and services is credited to the Statement of Comprehensive Income and Expenditure when the goods or services are supplied to the external customers or the terms of the contract have been satisfied. Other income received in relation to the utilisation of the University estate is recognised when the services or goods have been delivered.

##### 1) Tuition fee income

Tuition fee income is stated gross of any expenditure over the period in which the students are studying. Bursaries and scholarships are accounted for gross as expenditure and not deducted from income. Fee discounts are treated as a fee bursary. Tuition fee refunds would be charged to tuition fee income.

##### 2) Grant Funding

Grant funding including Funding Council block grant, research grants from government sources, grants (including research grants) from non government sources are recognised as income when the University is entitled to the income and performance related conditions have been met. Income received in advance of performance related conditions being met is recognised as deferred income within creditors on the balance sheet and released to income as the conditions are met.

Government grant funding has been received in the year in relation to the Coronavirus Job Retention Scheme (CJRS) and is recognised within other income in the period in which amounts become receivable.

## PRINCIPAL ACCOUNTING POLICIES

(continued...)

### 3) **Donations and endowments**

Non exchange transactions without performance related conditions are donations and endowments. Donations and endowments with donor imposed restrictions are recognised in income when the University is entitled to the funds. Income is retained within the restricted reserve until such time that it is utilised in line with such restrictions at which point the income is released to general reserves through a reserve transfer.

Donations with no restrictions are recognised in income when the University is entitled to the funds.

Investment income and appreciation of endowments is recorded in income in the year in which it arises and as either restricted or unrestricted income according to the terms applied to the individual endowment fund.

There are four main types of donations and endowments identified in reserves:

1. Restricted donations – the donor has specified that the donation must be used for a particular objective.
2. Unrestricted permanent endowments – the donor has specified that the fund is to be permanently invested to generate an income stream for the general benefit of the University.
3. Restricted expendable endowments – the donor has specified a particular objective other than the purchase or construction of tangible fixed assets, and the University has the power to use the capital
4. Restricted permanent endowments – the donor has specified that the fund is to be permanently invested to generate an income stream to be applied to a particular objective.

### 4) **Capital grants**

Capital grants are recognised in income when the University is entitled to the funds subject to any performance related conditions being met.

### 5) **Investment income**

Investment income is credited to the Consolidated Statement of Comprehensive Income and Expenditure on a receivable basis.

## 5. **Research and development**

Expenditure on research and development is charged to the income and expenditure account in the year in which it is incurred.

## 6. **Tangible fixed assets**

### (1) *Land and buildings*

Land is stated at valuation and is formally revalued triennially, with consideration made at each period end to ensure that the carrying value of an asset at the reporting date is not materially different from its fair value. The basis of valuation is open market value for existing use, and in the case of the technology park, open market value with vacant possession. The most recent valuation was carried out as at 31st July, 2022 by Gerald Eve LLP. Freehold land is not depreciated as it is considered to have an indefinite useful life. Where land is held for resale and a conditional sale agreement is in place at the year end the land is revalued to the anticipated net proceeds and retained in fixed assets.

Freehold and leasehold buildings are stated at cost and depreciated over their expected useful lives or the life of the lease, whichever is shorter. Where there is a permanent reduction in value, provision is made in the financial statements.

**CRANFIELD UNIVERSITY**

## PRINCIPAL ACCOUNTING POLICIES

(continued...)

Where buildings are acquired with the aid of specific grants, they are capitalised and depreciated as below.

### (2) *Equipment*

Equipment, plant and machinery and fixtures and fittings costing less than £5,000 per individual item or group of related items is written off in the year of acquisition. All other equipment is capitalised at cost and depreciated over its expected useful life. Equipment costing more than £5,000 purchased as part of the construction of prototype or pilot plants for specific research projects are also written off in the year of acquisition.

Where equipment is acquired with the aid of specific grants or gifts, it is capitalised and depreciated as above.

### (3) *Depreciation*

Depreciation is calculated on the original cost of the assets at the following rates:-

Buildings	2% - 5% per annum
Equipment	20% - 33.33 % per annum
Fixtures plant and machinery	5% - 25% per annum

## 7. **Leases**

Leasing agreements that transfer to the University substantially all the benefits and risks of ownership are considered to be finance leases. All other leases are operating leases.

Fixed assets held under finance leases and the related lease obligations are recorded in the balance sheet at the fair value of the leased assets at the inception of the lease. The excess of lease payments over recorded lease obligations is treated as finance charges which is amortised over each lease term to give a constant rate of charge on the remaining balance of the obligations.

Rental costs under operating leases are charged to expenditure over the periods of the leases.

## 8. **Investments**

- (1) Non current asset investments that are classified as basic financial instruments are held on the Balance Sheet at amortised cost less impairment.
- (2) Complex financial instruments are initially measured at fair value, which is normally the transaction price. These are subsequently carried at fair value and the changes in fair value are recognised in the statement of comprehensive income and expenditure.
- (3) Investment in subsidiaries is included in the balance sheet at cost, less any provisions for impairment.

## 9. **Stock**

Stock is valued at the lower of cost and net realisable value on a first in, first out basis. Provision is made for obsolete or surplus material.

## PRINCIPAL ACCOUNTING POLICIES

(continued...)

### 10. Work in progress

Work in progress is stated at cost plus attributable overheads less provisions for any known or anticipated deficits and payments on account receivable.

### 11. Taxation status

The University is an exempt charity within the meaning of Schedule 3 of the Charities Act 2011 and as such is listed as a charity within the meaning of Paragraph 1 of Schedule 6 to the Finance Act 2010. Accordingly, the University is potentially exempt from taxation in respect of income or capital gains received within categories covered by Sections 472–488 of the Corporation Tax Act 2010 and Section 256 of the Taxation of Chargeable are applied to exclusively charitable purposes.

Current tax, including UK corporation tax and foreign tax, is provided at amounts expected to be paid (or recovered) using the tax rates and laws that have been enacted or substantively enacted by the reporting date.

Most of the University's principal activities are exempt from Value Added Tax ('VAT'), but certain activities and other ancillary supplies and services are liable to VAT at various rates. Expenditure includes VAT charged by suppliers to the University where it is not recoverable and is likewise included in the cost of fixed assets.

Commercial trading activities undertaken by the University are operated through its subsidiary companies. This income will attract applicable VAT and the profits are liable to Corporation Tax. However, the taxable profits made by these companies are covenanted to the University and paid under Gift Aid, to the extent that the companies have distributable reserves, which negates that liability.

### 12. Deferred taxation

Deferred taxation is recognised as a liability or asset if transactions or events have occurred by the balance sheet date that give rise to an obligation to pay more taxation, or a right to pay less taxation, in future. An asset is not recognised to the extent that the transfer of economic benefits in future is uncertain. Deferred tax assets and liabilities recognised are not discounted.

### 13. Maintenance of premises

The cost of all maintenance is charged to the income and expenditure account as incurred. Provisions are made for dilapidation of leasehold property where an appropriate obligation exists.

### 14. Pension schemes

The two principal pension schemes of the University's employees are the Universities Superannuation Scheme (USS) and the Local Government Pension Scheme (LGPS) administered by Bedfordshire County Council. The USS scheme is a multi-employer scheme as defined by FRS 102.

#### *Defined benefit schemes*

A defined benefit plan is a post-employment benefit plan other than a defined contribution plan. Under defined benefit plans the Universities obligation is to provide the agreed benefits to current and former employees, and actuarial risk (that benefits will cost more or less than expected) and investment risk (that returns on assets set aside to fund the benefits will differ from expectations) are borne in substance by the Institution.

CRANFIELD UNIVERSITY

PRINCIPAL ACCOUNTING POLICIES

*(continued...)*

The net liability is recognised in the balance sheet in respect of each scheme and is the present value of the defined benefit obligation at the reporting date less the fair value of the plan assets at the reporting date.

The group should recognise a liability for its obligations under defined benefit plans net of plan assets. This net defined benefit liability is measured as the estimated amount of benefit that employees have earned in return for their service in the current and prior periods, discounted to determine its present value, less the fair value (at bid price) of plan assets. The calculation is performed by a qualified actuary using the projected unit credit method. Where the calculation results in a net asset, recognition of the asset is limited to the extent to which the Institution is able to recover the surplus either through reduced contributions in the future or through refunds from the plan.

Annually actuaries are engaged on behalf of the University to calculate the obligation for each scheme. The present value is determined by discounting the estimated future payments at a discount rate based on market yields on high quality corporate bonds denominated in sterling with terms approximating to the estimated period of the future payments. The fair value of a scheme's assets is measured in accordance with the FRS 102 fair value hierarchy and in accordance with the Universities 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 actuarial gains and losses.

The cost of the defined benefit plan, recognised in expenditure as staff costs, except where included in the cost of an asset, comprises the increase in 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 liability. This cost is recognised in expenditure as a finance cost. Details of the schemes are included in Note 23.

**15. Provisions**

Provisions are recognised when the University has a present legal or constructive obligation as a result of a past event and it is probable that a transfer of economic benefit will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

**16. Going concern**

As highlighted in the outlook for 2022/23 on page 32, the University considers that it has sufficient financial resources and is confident that its future income streams will maintain these resources. Council believe that the University is well placed to effectively manage its business risks, despite the current uncertain economic situation.

The budgeted operating surplus for 2022/23 is based on expected student numbers registering in September 2022 and a slow return to pre pandemic operating levels for professional development and research income. Costs will continue to be managed carefully with all discretionary spend and travel budgets on hold. The University is forecasting not to breach the bond covenants.

Council have a reasonable expectation that the University has adequate resources to continue operating in existence for the foreseeable future. Thus, they continue to adopt the going concern basis in preparing the financial statements.

**CRANFIELD UNIVERSITY**

**PRINCIPAL ACCOUNTING POLICIES**

*(continued ...)*

**17. Financial instruments**

The Institution has elected to adopt Sections 11 and 12 of FRS 102 in respect of the recognition, measurement, and disclosure of financial instruments. Financial assets and liabilities are recognised when the Institution becomes party to the contractual provision of the instrument and they are classified according to the substance of the contractual arrangements entered into.

A financial asset and a financial liability are offset only when there is a legally enforceable right to set off the recognised amounts and an intention either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

#### *Financial assets*

Basic financial assets include trade and other receivables, cash and cash equivalents, and investments in commercial paper (i.e. deposits and bonds). These assets are initially recognised at transaction price unless the arrangement constitutes a financing transaction, where the transaction is measured at the present value of the future receipts discounted at a market rate of interest. Such assets are subsequently carried at amortised cost using the effective interest rate method. Financial assets are assessed for indicators of impairment at each reporting date. If there is objective evidence of impairment, an impairment loss is recognised in the statement of comprehensive income.

For financial assets carried at amortised cost the impairment loss is the difference between the carrying amount of the asset and the present value of the estimated future cash flows, discounted at the asset's original effective interest rate.

Other financial assets, including investments in equity instruments which are not subsidiaries, associates, or joint ventures are initially measured at fair value, which is typically the transaction price. These assets are subsequently carried at fair value and changes in fair value at the reporting date are recognised in the statement of comprehensive income. Where the investment in equity instruments are not publicly traded and where the fair value cannot be reliably measured the assets are measured at cost less impairment.

Financial assets are de-recognised when the contractual rights to the cash flows from the asset expire or are settled or substantially all of the risks and rewards of the ownership of the asset are transferred to another party.

#### *Financial liabilities*

Basic financial liabilities include trade and other payables, bank loans, and intra-group loans. These liabilities are initially recognised at transaction price unless the arrangement constitutes a financing transaction, where the debt instrument is measured at the present value of the future payments discounted at a market rate of interest. Debt instruments are subsequently carried at amortised cost using the effective interest rate method.

Trade payables are obligations to pay for goods and services that have been acquired in the ordinary course of business from suppliers. Accounts payable are classified as current liabilities if payment is due within one year or less. If not, they are presented as non-current liabilities. Trade payables are recognised initially at transaction price and subsequently measured at amortised cost using the effective interest rate method.

## **CRANFIELD UNIVERSITY**

### **PRINCIPAL ACCOUNTING POLICIES**

*(continued ...)*

#### **18. Significant accounting estimates and judgements**



In the process of applying these accounting policies, the University is required to make certain estimates, judgements and assumptions that management believe are reasonable based on the information available. These are reviewed on a regular basis by the University's senior management team. Significant estimates and material judgements used in the preparation of the financial statements are as follows:

**Estimates:**

*Recoverability of debtors*

The provision for doubtful debts is based on our estimate of the expected recoverability of those debts. Assumptions are made based on the level of debtors which have defaulted historically, coupled with current economic knowledge. The provision is based on the current situation of the customer, the age profile of the debt and the nature of the amount due.

*Valuation of land*

Valuations are undertaken every three years by an independent external team of chartered surveyors. This is then updated annually by senior management based on the current economic developments and other factors that may be considered to have an impact on the rental yield going forward.

*Retirement benefit obligations*

The University contributes to the Local Government Pension Scheme (LGPS) administered by Bedfordshire County Council which is accounted for as a defined benefit scheme. The recognised liability is based on the valuation provided by professionally qualified independent actuaries which is based on a number of assumptions. These include the future cash flows of the scheme, the discount rate used, the pensionable salary growth going forward and proposed price inflation. Further details can be found in note 23. Management reviews the assumptions made to derive the provisions recorded in the balance sheet to ensure that they are reasonable.

The University also operates within the Universities Superannuation Scheme ('USS') which is accounted for as a defined contribution scheme since insufficient information is available to identify the University's share of the underlying assets and liabilities. As the University is contractually bound to make deficit recovery payments to USS, this is recognised as a liability on the balance sheet. The USS deficit recovery plan defines the deficit payment required as a percentage of future salaries until 2031. These contributions will be reassessed within each triennial valuation of the scheme. The provision is based on management's estimate of expected future salary inflation, changes in staff numbers and the prevailing rate of discount.

*Provisions*

Management apply judgement to arrive at the best estimate for any obligation required. The amount recognised as a provision is management's best estimate of the present value of the amount required to settle the obligation. To arrive at this amount management assess the likelihood and extent of any future settlement and make judgements based on these.

**Judgements:**

*Revenue recognition*

Revenues are subject to judgement over when and by how much revenues should be recognised in the financial statements. This includes determining when performance criteria have been met, recognising research and other funding revenues in line with expenditure once a right to the funding is deemed to have arisen, and determining the revenues associated with partially delivered courses and training where the activities have not been fully completed at the reporting date.

**CRANFIELD UNIVERSITY**

**CONSOLIDATED AND UNIVERSITY STATEMENT OF COMPREHENSIVE INCOME AND EXPENDITURE**

**FOR THE YEAR ENDED 31ST JULY, 2022**

		<b>CONSOLIDATED</b>		<b>UNIVERSITY</b>	
		<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
	<b>Notes</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>
<b>Income</b>					
Tuition fees and education contracts	1	87,640	72,224	77,512	63,718
Funding Council grants	2	21,239	22,868	21,239	22,868
Research grants and contracts		44,725	41,769	41,754	37,296
Other income	3	42,666	34,161	37,021	28,110
Investment income	4	97	182	110	215
<b>Operating income</b>		<b>196,367</b>	<b>171,204</b>	<b>177,636</b>	<b>152,207</b>
Donations and endowments	5	3,946	11,544	3,946	11,544
<b>Total income</b>		<b>200,313</b>	<b>182,748</b>	<b>181,582</b>	<b>163,751</b>
<b>Expenditure</b>					
Staff costs					
Operating staff costs	6	103,417	98,797	91,101	85,608
Pension provision movement	23	30,174	5,064	30,068	4,981
Total staff costs		133,591	103,861	121,169	90,589
Other operating expenses		88,482	75,684	82,030	70,998
Depreciation	10	20,175	16,787	19,569	16,057
Interest and other finance costs	8	1,899	1,587	1,794	1,533
<b>Total expenditure</b>	<b>7</b>	<b>244,147</b>	<b>197,919</b>	<b>224,562</b>	<b>179,177</b>
<b>(Deficit)/surplus before other gains and losses</b>		<b>(43,834)</b>	<b>(15,171)</b>	<b>(42,980)</b>	<b>(15,426)</b>
Result on disposal of assets		126	18	(7)	18
Gain on investments		972	261	45	261
<b>(Deficit)/surplus before tax</b>		<b>(42,736)</b>	<b>(14,892)</b>	<b>(42,942)</b>	<b>(15,147)</b>
Taxation	9	(668)	329	(23)	(210)
<b>(Deficit)/surplus for the year</b>		<b>(43,404)</b>	<b>(14,563)</b>	<b>(42,965)</b>	<b>(15,357)</b>
Unrealised surplus on revaluation of land		13,797	-	13,797	-
Actuarial gain/(loss) in respect of pension schemes	23	55,481	4,761	55,481	4,761
<b>Total comprehensive gain/(loss) for the year</b>		<b>25,874</b>	<b>(9,802)</b>	<b>26,313</b>	<b>(10,596)</b>
Represented by:					
Endowment comprehensive income for the year		(1,364)	2,914	(1,364)	2,914
Unrestricted comprehensive loss for the year		27,238	(12,716)	27,677	(13,510)
		<b>25,874</b>	<b>(9,802)</b>	<b>26,313</b>	<b>(10,596)</b>

The notes on pages 63 to 84 form part of these financial statements.

CRANFIELD UNIVERSITY

CONSOLIDATED AND UNIVERSITY STATEMENT OF CHANGES IN RESERVES  
FOR THE YEAR ENDED 31ST JULY, 2022

Consolidated	Income and expenditure account			Revaluation reserve	Total
	Endowment	Restricted	Unrestricted		
	£'000	£'000	£'000	£'000	£'000
<b>Balance at 1 August 2020</b>	<b>6,679</b>	<b>-</b>	<b>(18,696)</b>	<b>61,289</b>	<b>49,272</b>
Surplus/(deficit) from the income and expenditure statement	2,914	-	(12,716)	-	(9,802)
Transfer between revaluation reserve and income and expenditure reserve	-	-	-	-	-
Other comprehensive income	-	-	-	-	-
<b>Total comprehensive income/(loss) for the year</b>	<b>2,914</b>	<b>-</b>	<b>(12,716)</b>	<b>-</b>	<b>(9,802)</b>
<b>Balance at 31 July 2021</b>	<b>9,593</b>	<b>-</b>	<b>(31,412)</b>	<b>61,289</b>	<b>39,470</b>
Surplus/(deficit) from the income and expenditure statement	(1,364)	-	27,238	-	25,874
Transfer between revaluation reserve and income and expenditure reserve	-	-	(13,797)	13,797	-
Other comprehensive income	-	-	-	-	-
<b>Total comprehensive income/(loss) for the year</b>	<b>(1,364)</b>	<b>-</b>	<b>13,441</b>	<b>13,797</b>	<b>25,874</b>
<b>Balance at 31 July 2022</b>	<b>8,229</b>	<b>-</b>	<b>(17,971)</b>	<b>75,086</b>	<b>65,344</b>

University	Income and expenditure account			Revaluation reserve	Total
	<i>Endowment</i>	<i>Restricted</i>	<i>Unrestricted</i>		
	£'000	£'000	£'000	£'000	£'000
<b>Balance at 1 August 2020</b>	<b>6,679</b>	-	<b>(18,742)</b>	<b>61,289</b>	<b>49,226</b>
Surplus/(deficit) from the income and expenditure statement	2,914	-	(13,510)	-	(10,596)
Transfer between revaluation reserve and income and expenditure reserve	-	-	-	-	-
Other comprehensive income	-	-	-	-	-
<b>Total comprehensive income/(loss) for the year</b>	<b>2,914</b>	<b>-</b>	<b>(13,510)</b>	<b>-</b>	<b>(10,596)</b>
<b>Balance at 31 July 2021</b>	<b>9,593</b>	<b>-</b>	<b>(32,252)</b>	<b>61,289</b>	<b>38,630</b>
Surplus/(deficit) from the income and expenditure statement	(1,364)	-	27,677	-	26,313
Transfer between revaluation reserve and income and expenditure reserve	-	-	(13,797)	13,797	-
Other comprehensive income	-	-	-	-	-
<b>Total comprehensive income/(loss) for the year</b>	<b>(1,364)</b>	<b>-</b>	<b>13,880</b>	<b>13,797</b>	<b>26,313</b>
<b>Balance at 31 July 2021</b>	<b>8,229</b>	<b>-</b>	<b>(18,372)</b>	<b>75,086</b>	<b>64,943</b>

The notes on pages 63 to 84 form part of these financial statements.

**CRANFIELD UNIVERSITY**  
**STATEMENT OF FINANCIAL POSITION AT 31ST JULY, 2022**

		<b>CONSOLIDATED</b>		<b>UNIVERSITY</b>	
		<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
	<b>Notes</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>
<b>Non-current assets</b>					
Fixed assets	10	315,274	294,439	310,919	289,304
Investments	11	5,129	5,449	5,073	5,393
Investments in subsidiaries	12	-	-	5,186	5,186
		<u>320,403</u>	<u>299,888</u>	<u>321,178</u>	<u>299,883</u>
<b>Current assets</b>					
Stock		260	464	203	196
Trade and other receivables	13	46,256	45,985	44,379	45,334
Cash and cash equivalents	19	14,076	38,088	10,023	30,851
		<u>60,592</u>	<u>84,537</u>	<u>54,605</u>	<u>76,381</u>
<b>Current liabilities</b>					
Creditors: amounts falling due within one year	14	(74,465)	(78,569)	(69,982)	(72,284)
<b>Net current (liabilities)/assets</b>		<u>(13,873)</u>	<u>5,968</u>	<u>(15,377)</u>	<u>4,097</u>
<b>Total assets less current liabilities</b>		<u>306,530</u>	<u>305,856</u>	<u>305,801</u>	<u>303,980</u>
Creditors: amounts falling due after more than one year	15	(152,158)	(153,762)	(152,000)	(152,828)
<b>Provisions</b>					
Pension provisions	16	(89,028)	(112,564)	(88,858)	(112,502)
Other provisions	17	-	(60)	-	(20)
<b>Total net assets</b>		<u>65,344</u>	<u>39,470</u>	<u>64,943</u>	<u>38,630</u>
<b>Financed by:-</b>					
<b>Restricted Reserves</b>					
Income and expenditure reserve – endowment reserve	18	8,229	9,593	8,229	9,593
<b>Unrestricted Reserves</b>					
Income and expenditure reserve - unrestricted		(17,971)	(31,412)	(18,372)	(32,252)
Revaluation reserve		75,086	61,289	75,086	61,289
<b>Total Reserves</b>		<u>65,344</u>	<u>39,470</u>	<u>64,943</u>	<u>38,630</u>

The financial statements on pages 51 to 84 were approved by the Council on 15<sup>th</sup> January 2023 and signed on its behalf by:-

I Hart ACA  
**CHAIR OF FINANCE COMMITTEE**

PROFESSOR K HOLFORD CBE FEng  
**CHIEF EXECUTIVE & VICE-CHANCELLOR**

I SIBBALD FCA  
**DIRECTOR OF FINANCE**

The notes on pages 63 to 84 form part of these financial statements.

CRANFIELD UNIVERSITY

STATEMENT OF CONSOLIDATED CASH FLOWS

FOR THE YEAR ENDED 31ST JULY, 2022

	Notes	2022 £'000	2021 £'000
<b>Cash flows from operating activities</b>			
(Deficit)/surplus for the year		(42,736)	(14,563)
<b>Adjustment for non-cash items</b>			
Depreciation	10	20,175	16,787
Gain on investments		(972)	(261)
Exchange (gain)/loss		(264)	439
(Decrease)/increase in stock		204	(217)
Increase in debtors		(271)	(517)
(Decrease)/increase in creditors		(1,694)	11,573
Pension movement		30,174	4,998
(Decrease)/increase in other provisions		(60)	13
<b>Adjustment for investing or financing activities</b>			
Investment income	4	(97)	(182)
Interest payable	8	1,899	1,587
Result on the sale of fixed assets		(126)	(18)
Capital grant income	5	(3,946)	(11,544)
<b>Net Cash inflow from operating activities</b>		<u>2,286</u>	<u>8,095</u>
<b>Cash flows from investing activities</b>			
Proceeds from sale of fixed assets		126	18
Capital grants receipts		3,851	5,141
Disposal of non-current asset investments		501	461
Investment income		-	15
Payments made to acquire fixed assets		(29,115)	(65,611)
New non-current asset investments		(106)	(2,000)
<b>Total cash outflow from investing activities</b>		<u>(24,743)</u>	<u>(61,976)</u>
<b>Cash flows from financing activities</b>			
Interest paid		(123)	(311)
Interest element of finance lease		(10)	(10)
Endowment cash received		488	2,918
New unsecured loans		-	1,550
Repayments of amounts borrowed		(1,667)	(11,118)
Capital element of finance lease and service concession payments		(243)	(265)
<b>Total cash outflow from financing activity</b>		<u>(1,555)</u>	<u>(7,236)</u>
<b>Decrease in cash and cash equivalents in the year</b>		<u>(24,012)</u>	<u>(61,117)</u>
Cash and cash equivalents at beginning of the year	19	38,088	99,205
Cash and cash equivalents at end of the year	19	14,076	38,088
<b>Movement in cash</b>		<u>(24,012)</u>	<u>(61,117)</u>

The notes on pages 63 to 84 form part of these financial statements.

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**

	<b>CONSOLIDATED</b>		<b>UNIVERSITY</b>	
	<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
	£'000	£'000	£'000	£'000
<b>1. Tuition fees and education contracts</b>				
Long course fees	64,564	53,724	64,564	53,724
Professional development courses	15,997	11,167	5,733	2,708
Teaching contract	7,079	7,333	7,215	7,286
	<u>87,640</u>	<u>72,224</u>	<u>77,512</u>	<u>63,718</u>
<b>2. Funding Council grants</b>				
Recurrent grant	12,338	12,962	12,338	12,962
Special initiatives	8,901	9,906	8,901	9,906
	<u>21,239</u>	<u>22,868</u>	<u>21,239</u>	<u>22,868</u>
<b>Details of grant and fee income</b>				
Grant income from OfS	2,729	3,532	2,729	3,532
Grant income from Research England	18,510	19,336	18,510	19,336
Fee income for taught awards (exclusive of VAT)	71,643	61,057	71,779	61,010
Fee income from non-qualifying courses (exclusive of VAT)	15,997	11,167	5,733	2,708
Total grant and fee income	<u>108,879</u>	<u>95,092</u>	<u>98,751</u>	<u>86,586</u>
<b>3. Other income</b>				
Residences and conference centres	14,257	7,554	11,720	7,320
Rents from tenant organisations	740	702	1,348	1,422
Other	27,669	25,905	23,953	19,368
	<u>42,666</u>	<u>34,161</u>	<u>37,021</u>	<u>28,110</u>

The Coronavirus Job Retention Scheme (CJRS) grant relates to staff who have been furloughed due to Covid-19. This scheme runs until September 2021 with employers able to claim up to 80% of a furloughed employee's wages/salaries up to a maximum of £2,500 plus associated employer's costs (e.g. employer's national insurance contributions). This grant has been paid to the employer by HMRC.

The Group received £45,000 (2021 £2,401,000) (University: £20,000 2021:£1,668,000) in relation to the CJRS and there are no unfulfilled contingencies or commitments attached to this balance.

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS  
FOR THE YEAR ENDED 31ST JULY, 2022**  
(continued...)

		<b>CONSOLIDATED</b>		<b>UNIVERSITY</b>	
		<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
		£'000	£'000	£'000	£'000
<b>4.</b>	<b>Investment income</b>				
	Investment income from endowments	97	168	99	201
	Other investment income	-	14	11	14
		<hr/>	<hr/>	<hr/>	<hr/>
		97	182	110	215
		<hr/>	<hr/>	<hr/>	<hr/>
<b>5.</b>	<b>Donations and endowments</b>				
	New endowments ( <i>Note 18</i> )	488	2,919	488	2,919
	Donations without restrictions	3,458	8,625	3,458	8,625
		<hr/>	<hr/>	<hr/>	<hr/>
		3,946	11,544	3,946	11,544
		<hr/>	<hr/>	<hr/>	<hr/>



**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS  
FOR THE YEAR ENDED 31ST JULY, 2022  
(continued...)**

**6. Staff**

**a. Staff costs**

Wages and salaries	80,143	77,379	69,704	66,181
Social security costs	8,610	7,910	7,570	6,824
Other pension costs	14,484	13,443	13,647	12,538

	103,237	98,732	90,921	85,543
Staff restructuring	180	65	180	65

Operating staff costs	103,417	98,797	91,101	85,608
Pension provision movement	30,174	5,064	30,068	4,981

Total staff costs	133,591	103,861	121,169	90,589
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Number of staff receiving payment for loss of office	22	13	22	13
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Emoluments of the Vice-Chancellor (as detailed in the Remuneration Committee report on page 35)

Base salary	270	296	270	296
Pension cost	54	-	54	-
Cost of pension opt-out	-	41	-	41
Salary waived	-	(35)	-	(35)
Taxable benefit	6	-	6	-
Performance related pay	-	-	-	-
	330	302	330	302

In addition, the Vice-Chancellor is able to reside in Cayley Lodge, a property owned by the University. This changed from being a non-taxable benefit in 2021 and was valued at £15,000 based on the rental value opportunity cost to a £6,000 taxable benefit in 2022.

The Vice-Chancellors salary and total remuneration expressed as a multiple of median salary and total remuneration of all other staff was:

Vice-Chancellor basic salary multiplier	7.16	7.99	7.16	7.99
Vice-Chancellor total remuneration multiplier	7.32	7.01	6.92	6.61

**b. The average number of employees during the year, expressed as full-time equivalents, was as follows:-**

Academic	450	427	435	411
Research	220	290	220	217
Technical	154	150	114	119
Other	939	928	752	718
	1,763	1,795	1,521	1,465

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS  
FOR THE YEAR ENDED 31ST JULY, 2022  
(continued...)**

**6. Staff (continued...)**

	<b>CONSOLIDATED</b>		<b>UNIVERSITY</b>	
	<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
	Number	Number	Number	Number
c. Remuneration of other higher paid staff, excluding employer's pension contributions, were as follows:-				
£100,000 - £104,999	4	8	3	7
£105,000 - £109,999	6	6	6	5
£110,000 - £114,999	11	8	9	7
£115,000 - £119,999	4	5	4	4
£120,000 - £124,999	2	2	1	2
£125,000 - £129,999	1	2	1	2
£130,000 - £134,999	1	4	1	4
£135,000 - £139,999	4	1	4	1
£140,000 - £144,999	1	1	1	1
£145,000 - £149,999	2	1	2	1
£150,000 - £154,999	-	-	-	-
£155,000 - £159,999	1	1	1	1
£160,000 - £164,999	1	3	1	2
£165,000 - £169,999	1	1	1	1
£170,000 - £174,999	-	-	-	-
£175,000 - £179,999	-	2	-	2
£180,000 - £184,999	1	-	1	-
£185,000 - £189,999	3	-	3	-
£190,000 - £194,999	2	-	2	-

**Key Management personnel**

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the University. 2022 12 Members (2021: 11 members).

	<b>CONSOLIDATED &amp; UNIVERSITY</b>	
	<b>2022</b>	<b>2021</b>
	£'000	£'000
Key management personnel compensation	2,336	1,832

**Council Members**

The University's council members are the trustees for charitable law purposes. Due to the nature of the University's operations and the compositions of the Council, it is inevitable that transactions will take place with organisations in which a member of the Council may have an interest. All transactions involving organisations in which a member of Council may have an interest are conducted at arm's length and in accordance with the University's Financial Regulations and usual procurement procedures.

No Council member received any payment for their role as a trustee. Mr P Fairweather has provided consultancy services in the year and was paid, including expenses, £8,813 (2021 9,750). The total expenses paid to or on behalf of 6 council members was £2,213 (2021 £496 to two council members). This represents travel and subsistence expenses incurred in attending Council, Committee meetings and Charity events in their official capacity.

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS  
FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

	<b>CONSOLIDATED</b>		<b>UNIVERSITY</b>	
	<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>
<b>7. Other operating amounts charged include:-</b>				
Equipment expensed	5,627	4,239	5,586	4,199
Operating lease rentals	285	260	285	260
Auditors' remuneration:-				
- external audit	177	224	111	91
- other services including tax	62	92	62	92
Council members' expenses	11	1	11	1
	<hr/>	<hr/>	<hr/>	<hr/>
<b>8. Interest and other finance costs</b>				
Loan interest	119	301	15	248
Finance leases	10	10	10	10
Exchange differences	-	(196)	-	(196)
Net charge on Pension schemes	1,770	1,472	1,769	1,471
	<hr/>	<hr/>	<hr/>	<hr/>
	1,899	1,587	1,794	1,533
	<hr/>	<hr/>	<hr/>	<hr/>
<b>9. Taxation</b>				
Recognised in the statement of comprehensive income:-				
Current tax expense	-	-	-	-
Overseas tax	908	210	23	210
R&D tax credits	(240)	(539)	-	-
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Total tax (credit)/expense</b>	<b>668</b>	<b>(329)</b>	<b>23</b>	<b>210</b>
	<hr/>	<hr/>	<hr/>	<hr/>

The tax assessed for the year is higher than the standard rate (2021 higher than the standard rate) of corporation tax in the UK. The differences are explained below:

Deficit on ordinary activities before taxation	(42,736)	(14,892)	(42,942)	(15,147)
	<hr/>	<hr/>	<hr/>	<hr/>
Tax on deficit on ordinary activities before taxation multiplied by the lower rate of corporation tax in the UK of 19% (2021 – 19%)	(8,120)	(2,829)	(8,159)	(2,878)
Factors affecting charge:				
Tax losses	8,120	2,829	8,159	2,878
University surplus exempt from corporation tax	-	-	-	-
R&D tax credits	(240)	(539)	-	-
Overseas tax	908	210	23	210
Other permanent differences	-	-	-	-
	<hr/>	<hr/>	<hr/>	<hr/>
Corporation tax (credited)/charged in the year	668	(329)	23	210
	<hr/>	<hr/>	<hr/>	<hr/>

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

	<b>Land &amp; Buildings</b>			<b>Fixtures, Plant &amp; Machinery</b>	
	<b>Freehold</b>	<b>Leasehold</b>	<b>Equipment</b>		<b>Total</b>
<b>10. Fixed assets</b>					
<i>a. Consolidated</i>					
Cost/valuation					
At beginning of year	259,979	7,437	74,207	136,438	478,061
Additions	9,245	-	9,087	9,369	27,701
Disposals	-	(537)	(5,371)	(3,337)	(9,245)
Revaluation	13,797	-	-	-	13,797
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
At end of year	283,021	6,900	77,923	142,470	510,314
Consisting of valuation as at:					
31 July 2022	75,086	-	-	-	75,086
Cost	207,935	6,900	77,923	142,470	435,228
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Depreciation					
At beginning of year	36,455	6,039	53,012	88,116	183,622
Charge for year	3,425	230	8,408	8,112	20,175
Disposals	-	(537)	(5,371)	(2,849)	(8,757)
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
At end of year	39,880	5,732	56,049	93,379	195,040
Net book amount					
At end of year	243,141	1,168	21,874	49,091	315,274
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
At beginning of year	223,524	1,398	21,195	48,322	294,439
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

	Land & Buildings			Fixtures, Plant & Machinery	Total
	Freehold	Leasehold	Equipment		
	£'000	£'000	£'000	£'000	£'000
<b>10. Fixed assets (continued ...)</b>					
<i>b. University</i>					
Cost/valuation	253,930	7,437	73,430	127,201	461,998
At beginning of year					
Additions	9,245	-	9,070	9,178	27,493
Disposals	-	(537)	(5,371)	(702)	(6,610)
Revaluation	13,797	-	-	-	13,797
At end of year	276,972	6,900	77,129	135,677	496,678
Consisting of valuation as at:					
31 July 2022	75,086	-	-	-	75,086
Cost	201,886	6,900	77,129	135,677	421,592
Depreciation					
At beginning of year	33,597	6,039	52,343	80,715	172,694
Charge for year	3,292	230	8,368	7,679	19,569
Disposals	-	(537)	(5,371)	(596)	(6,504)
At end of year	36,889	5,732	55,340	87,798	185,759
Net book amount					
At end of year	240,083	1,168	21,789	47,879	310,919
At beginning of year	220,333	1,398	21,087	46,486	289,304

At 31 July, 2022, freehold land and buildings included £75,086,000 (2020 £61,289,000) in respect of freehold land at valuation and is not depreciated.

The net book amounts of tangible fixed assets include £53,000 (2021 - £118,000) in respect of assets held under finance leases in the consolidated and University financial statements respectively. The related depreciation charge for the year was £65,000 (2021 - £64,000). At 31st July 2022, buildings, fixtures and plant included £8,471,000 (2021 - £59,469,000) in respect of assets under construction in the consolidated financial statements. In the University assets under construction amounted to £8,471,000 (2021 - £59,469,000).

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

	<b>CONSOLIDATED</b>		<b>UNIVERSITY</b>	
	<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
	£'000	£'000	£'000	£'000
<b>11. Investments</b>				
Investments at beginning of year	5,449	3,501	5,393	3,445
Additions	105	2,000	105	2,000
Gains in year	76	409	76	409
Disposals	(501)	(461)	(501)	(461)
At end of year	5,129	5,449	5,073	5,393

Investments are in three key areas:

- a. Prodigy loan scheme which enables the University to invest in bonds that will finance Cranfield student tuition and maintenance loans of £331,000 (2021 - £847,000) in the consolidated and University financial statements.
- b. CCLA Investment funds for specific endowments of £2,820,000 (2021 - £2,649,000) in the consolidated and University financial statements.
- c. Investments in spin out companies and associates of £1,978,000 (2021 - £1,953,000) in the consolidated financial statements and £1,922,000 (2021 - £1,897,000) in the University.

	<b>UNIVERSITY</b>	
	<b>2022</b>	<b>2021</b>
	£'000	£'000
<b>12. Investment in subsidiaries</b>		
At beginning of year	5,186	5,186
Additions	-	-
Disposals	-	-
At end of year	5,186	5,186

At 31st July, 2022 the group's principal subsidiaries, all of which were wholly owned and registered in England and Wales at the same address as the University, comprised:-

<b>COMPANY</b>	<b>NATURE OF BUSINESS</b>
<b>Cranfield Group Holdings Limited</b>	Holding company
Cranfield Airport Operations Limited	Provision of air traffic control services
<b>Cranfield Conference Centre Limited</b>	Provision of conference and accommodation services
<b>Cranfield Quality Services Limited</b>	Provision of residential support services
Cranfield Regatta Limited	Organisation of an annual sailing event
<b>Cranfield Innovative Manufacturing Limited</b>	Consultancy and development programmes in manufacturing
<b>Cranfield Management Development Limited</b>	Provision of executive development programmes
<b>Cranfield Defence and Security Services Limited</b>	Provision of defence and security services
<b>MK:U Limited</b>	Dormant company

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS  
FOR THE YEAR ENDED 31ST JULY, 2022**  
(continued...)

On the 24<sup>th</sup> March, 2022 Cranfield Group Holdings Limited authorised Cranfield Aerospace Solutions Ltd (which was a 100% owned subsidiary until this point) to issue 2,310,000 preference shares at £3.636364 each to HydrogenOne Capital and Safran Ventures, generating an investment of £8,400,000 into Cranfield Aerospace Solutions Limited. This investment will be used for the development of hydrogen fuelled aircraft in the UK. In addition, Cranfield Group Holdings Limited also authorised 1,750,000 ordinary shares to go into a staff option pool. As at 31<sup>st</sup> July, 2022 Cranfield Group Holdings Limited held 30.21% of the Cranfield Aerospace Solutions share capital pre diluted and 19.76% of the shares full diluted.

On the 11<sup>th</sup> August, 2022 further preference shares were issued to Tawazun Strategic Development Fund and Motus Ventures generating a further investment of £3,833,333. This further reduces the Cranfield Group Holdings Limited investment in Cranfield Aerospace Solutions Limited to 23.98% on a pre diluted basis and 16.89% of the shares on a fully diluted basis.

	<b>CONSOLIDATED</b>		<b>UNIVERSITY</b>	
	<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
	£'000	£'000	£'000	£'000
<b>13. Trade and Other receivables</b>				
Work in progress	10,251	11,331	10,251	10,321
Other trade debtors	28,292	28,203	24,692	26,683
Prepayments and accrued income	7,296	5,954	6,396	4,802
Other taxes	417	497	414	134
Amounts receivable from subsidiary Undertakings	-	-	2,626	3,394
	<u>46,256</u>	<u>45,985</u>	<u>44,379</u>	<u>45,334</u>

Included in amounts receivable from subsidiary undertakings is £765,000 (2021 - £956,000) which is recoverable after more than one year and interest is charged at 1% over the Bank of England base rate.

**14. Creditors: amounts falling due within one year**

Unsecured loans	1,565	1,677	790	1,060
Finance lease obligations	-	243	-	243
Amounts owed to subsidiary undertakings	-	-	1,084	778
Trade creditors	34,059	32,489	31,862	30,501
Social security costs and other taxation payable	2,651	4,594	2,042	2,096
Accruals and deferred income	36,190	39,566	34,204	37,606
	<u>74,465</u>	<u>78,569</u>	<u>69,982</u>	<u>72,284</u>

**15. Creditors: amounts falling due after more than one year**

Finance lease obligations	-	-	-	-
Unsecured loans	152,158	153,762	152,000	152,828
	<u>152,158</u>	<u>153,762</u>	<u>152,000</u>	<u>152,828</u>

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

	<b>CONSOLIDATED</b>		<b>UNIVERSITY</b>	
	<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>
<b>15. Creditors: amounts falling due after more than one year</b> <i>(continued ...)</i>				
<b><i>Analysis of secured and unsecured loans</i></b>				
<b>due within one year or on demand</b> (note 14)	1,565	1,677	790	1,060
Between one and two years	628	1,415	470	798
Between two and five years	1,411	1,751	1,411	1,434
Five years or more	150,119	150,596	150,119	150,596
<b>Due after more than one year</b>	152,158	153,762	152,000	152,828
<b>Total secured and unsecured loans</b>	153,723	155,439	152,790	153,888
<b><i>The net finance lease obligations</i></b>				
<b>Due within one year or on demand</b> (note 14)	-	243	-	243
Between one and two years	-	-	-	-
Between two and five years	-	-	-	-
Five years or more	-	-	-	-
<b>Due after more than one year</b>	-	-	-	-
<b>Total net finance lease obligations</b>	-	243	-	243

The Group had the following loans at 31st July, 2022:-

	<b>Interest Rate</b>	<b>Loan Type</b>	<b>Security</b>	<b>Final Repayment</b>	<b>Loan Outstanding £'000</b>
1.	Euro base + 0.18%	Floating(Euros)	None	15th August 2027	2,470
2.	Interest Free	Salix Fixed	None	1st April 2023	320
3.	2.20%	Private Bond	None	3rd March 2030	25,000
4.	2.30%	Private Bond	None	3rd March 2035	40,000
5.	2.49%	Private Bond	None	3rd March 2040	40,000
6.	2.60%	Private Bond	None	3rd March 2045	30,000
7.	2.67%	Private Bond	None	3rd March 2050	15,000
8.	Base + 2.08%	CLBILS Loan	None	20 <sup>th</sup> November 2023	500
9.	Base + 2.08%	CLBILS Loan	None	28 <sup>th</sup> August 2023	433
					<b>153,723</b>



**CRANFIELD UNIVERSITY**  
**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

**16. Pension provisions**

<b>Consolidated</b>	<b>Obligation to fund deficit on USS pension £'000</b>	<b>Defined Benefit Obligations (Note 23) £'000</b>	<b>Total Pensions Provisions £'000</b>
At 1 August 2021	20,695	91,869	112,564
Utilised in year	-	-	-
Increase/(decrease) in provision	27,394	(50,930)	(23,536)
At 31 July 2022	48,089	40,939	89,028

<b>University</b>	<b>Obligation to fund deficit on USS pension £'000</b>	<b>Defined Benefit Obligations (Note 23) £'000</b>	<b>Total Pensions Provisions £'000</b>
At 1 August 2021	20,633	91,869	112,502
Utilised in year	-	-	-
Increase/(decrease) in provisions	27,286	(50,930)	(23,644)
At 31 July 2022	47,919	40,939	88,858

**Pension enhancement**

The assumptions for calculating the provision for pension enhancements on termination under FRS 102 are as follows:

	<b>Consolidated</b>
Discount rate	3.40
Inflation	3.85

**USS deficit**

The obligation to fund the past deficit on the University's Superannuation Scheme (USS) arises from the contractual obligation with the pension scheme for total payments relating to benefits arising from past performance. Management have assessed future employees within the USS scheme and salary payment over the period of the contracted obligation in assessing the value of this provision.

CRANFIELD UNIVERSITY

NOTES TO THE ACCOUNTS  
FOR THE YEAR ENDED 31ST JULY, 2022  
(continued...)

	Staff restructuring	Other	Total
	£'000	£'000	£'000
<b>17. Other provisions</b>			
<i>a. Consolidated</i>			
At beginning of year	-	60	60
Utilised	-	(20)	(20)
Released	-	(40)	(40)
Charged to income and expenditure account	-	-	-
	<hr/>	<hr/>	<hr/>
At end of year	-	-	-
	<hr/>	<hr/>	<hr/>
<i>b. University</i>			
At beginning of year	-	20	20
Utilised	-	(20)	(20)
Released	-	-	-
Charged to income and expenditure account	-	-	-
	<hr/>	<hr/>	<hr/>
At end of year	-	-	-
	<hr/>	<hr/>	<hr/>

**CRANFIELD UNIVERSITY**  
**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

**18. Income and expenditure  
reserve - endowment reserves**

	<b>Expendable endowments</b>	<b>Permanent endowments</b>	<b>2022 Total</b>	<b>2021 Total</b>
	£'000	£'000	£'000	£'000
<b>Balances at 1 August 2021</b>				
Capital	7,255	2,000	9,255	6,532
Accumulated income	81	257	338	147
	<hr/>	<hr/>	<hr/>	<hr/>
	7,336	2,257	9,593	6,679
New endowments	382	106	488	2,919
Investment income	53	47	100	141
Expenditure	(1,959)	(38)	(1,997)	(407)
Increase/(decrease) in market value of investments	66	(21)	45	261
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Total endowment comprehensive income for the year</b>	(1,458)	94	(1,364)	2,914
	<hr/>	<hr/>	<hr/>	<hr/>
<b>At 31 July 2022</b>	5,878	2,351	8,229	9,593
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Represented by:</b>				
Capital	5,691	2,106	7,797	9,255
Accumulated income	187	245	432	338
	<hr/>	<hr/>	<hr/>	<hr/>
	5,878	2,351	8,229	9,593
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Analysis by type of purpose:</b>				
Lectureships	869	2,240	3,109	3,062
Scholarships and bursaries	887	111	998	897
Research support	505	-	505	2,013
Prize funds	157	-	157	161
General	3,460	-	3,460	3,460
	<hr/>	<hr/>	<hr/>	<hr/>
	5,878	2,351	8,229	9,593
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Analysis by asset</b>				
Fixed assets	339	-	339	339
Current and non-current asset investments	2,369	2,351	4,720	4,706
Cash & cash equivalents	3,170	-	3,170	4,548
	<hr/>	<hr/>	<hr/>	<hr/>
	5,878	2,351	8,229	9,593
	<hr/>	<hr/>	<hr/>	<hr/>

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS  
FOR THE YEAR ENDED 31ST JULY, 2022  
(continued...)**

**19. Cash and cash equivalents**

	<b>At 1st August 2021 £'000</b>	<b>Cash Flows £'000</b>	<b>31st July 2022 £'000</b>
Consolidated			
Cash and cash equivalents	38,088	24,012	14,076
	<u>38,088</u>	<u>(24,012)</u>	<u>14,076</u>

**20. Consolidated reconciliation of net debt**

	<b>2022 £'000</b>	<b>2021 £'000</b>
Net debt 1 August	(117,594)	(66,506)
Movement in cash and cash equivalents	(24,012)	(61,117)
New finance lease liabilities	-	-
New unsecured loans	-	(1,550)
Repayments of finance leases	243	265
Repayments of unsecured loans	1,716	11,118
Repayment of secured loans	-	-
Changes in market value and exchange rates		196
Net debt 31 July	<u>(139,647)</u>	<u>(117,594)</u>
Change in net debt	<u>(22,053)</u>	<u>(51,088)</u>

Analysis of net debt:	<b>2022 £'000</b>	<b>2021 £'000</b>
Cash and cash equivalents	14,076	38,088
Borrowings: amounts falling due within one year		
Unsecured loans	1,565	1,677
Obligations under finance leases	-	243
	<u>1,565</u>	<u>1,920</u>
Borrowings: amounts falling due after more than one year		
Obligations under finance lease	-	-
Unsecured loans	152,158	153,762
	<u>152,158</u>	<u>153,762</u>
Net debt	<u><u>139,647</u></u>	<u><u>117,594</u></u>

**CRANFIELD UNIVERSITY**  
**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

		<b>CONSOLIDATED</b>		<b>UNIVERSITY</b>	
		<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
		£'000	£'000	£'000	£'000
<b>21. Lease obligations</b>					
Non-cancellable operating lease rentals are payable as follows:					
Land and buildings					
Within one year		285	285	285	285
Between two and five years		769	110	769	110
In more than five years		-	-	-	-
		<u>1,054</u>	<u>395</u>	<u>1,054</u>	<u>395</u>
Other					
Within one year		-	11	-	-
Between two and five years		-	-	-	-
In more than five years		-	-	-	-
		<u>-</u>	<u>11</u>	<u>-</u>	<u>-</u>

During the year £285,000 was recognised as an expense in the profit and loss account in respect of operating leases (2021 £285,000).

**22. Capital and other commitments**

a. Commitments contracted but not provided in the financial statements		<u>6,596</u>	<u>17,496</u>	<u>6,596</u>	<u>17,496</u>
b. Commitments authorised but not Contracted for		<u>24,591</u>	<u>1,224</u>	<u>24,591</u>	<u>1,224</u>

## CRANFIELD UNIVERSITY

### NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31ST JULY, 2022 (continued...)

#### 23. Pensions

The two pension schemes for the University's staff are the Universities Superannuation Scheme (USS) and the Local Government Pension Scheme (LGPS) administered by Bedfordshire County Council. The assets of the USS are held in a separate trustee-administered fund and a Pension Fund Investment Advisory Panel is responsible for the investment arrangements of the assets of the LGPS. Both schemes are defined benefit schemes, which are externally funded, valued every three years by actuaries using the projected unit method and are contracted out of the State Earnings Related Pensions Scheme. In the intervening years, the actuaries review the progress of the schemes.

Between October 2011 and March 2016 USS provided two schemes, the first for existing members of staff at 30<sup>th</sup> September 2011 who were existing members of USS, this scheme had benefits based on final pensionable salary for academic and related employees of all universities in the United Kingdom and some other employers, the second for new entrants (other than in some specific, limited circumstances) were provided on a career re-valued benefit basis. From 1 April 2016 one revised career re-valued benefit scheme has been introduced for all academic and related employees.

LGPS provides similar benefits for other staff of the University, based on their final salary.

Pension costs are assessed, in accordance with the advice of the actuary, based on the latest actuarial valuation of the schemes and are accounted for on the basis of charging the cost of providing pensions over the period during which the University benefits from the employees' services.

#### USS

The institution participates in Universities Superannuation Scheme. The assets of the scheme are held in a separate trustee-administered fund. Because of the mutual nature of the scheme, the assets are not attributed to individual institutions and a scheme-wide contribution rate is set. The institution is therefore exposed to actuarial risks associated with other institutions' employees and is unable to identify its share of the underlying assets and liabilities of the scheme on a consistent and reasonable basis. As required by Section 28 of FRS 102 "Employee benefits", the institution therefore accounts for the scheme as if it were a defined contribution scheme. As a result, the amount charged to the profit and loss account represents the contributions payable to the scheme. Since the institution has entered into an agreement (the Recovery Plan) that determines how each employer within the scheme will fund the overall deficit, the institution recognises a liability for the contributions payable that arise from the agreement (to the extent that they relate to the deficit) with related expenses being recognised through the profit and loss account.

FRS 102 makes the distinction between a group plan and a multi-employer scheme. A group plan consists of a collection of entities under common control typically with a sponsoring employer. A multi-employer scheme is a scheme for entities not under common control and represents (typically) an industry-wide scheme such as Universities Superannuation Scheme. The accounting for a multi-employer scheme where the employer has entered into an agreement with the scheme that determines how the employer will fund a deficit results in the recognition of a liability for the contributions payable that arise from the agreement (to the extent that they relate to the deficit) and the resulting expense in profit or loss in accordance with section 28 of FRS 102. The directors are satisfied that Universities Superannuation Scheme meets the definition of a multi-employer scheme and has therefore recognised the discounted fair value of the contractual contributions under the recovery plan in existence at the date of approving these financial statements.

**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

**23. Pensions (continued...)**

The latest available complete actuarial valuation of the Retirement Income Builder is at 31 March 2020 (the valuation date), which was carried out using the projected unit method.

Since the institution cannot identify its share of USS Retirement Income Builder (defined benefit) assets and liabilities, the following disclosures reflect those relevant for those assets and liabilities as a whole.

The 2020 valuation was the sixth valuation for the scheme under the scheme-specific funding regime introduced by the Pensions Act 2004, which requires schemes to have sufficient and appropriate assets to cover their technical provisions. At the valuation date, the value of the assets of the scheme was £66.5 billion and the value of the scheme's technical provisions was £80.6 billion indicating a shortfall of £14.1 billion and a funding ratio of 83%.

The key financial assumptions used in the 2020 valuation are described below. More detail is set out in the Statement of Funding Principles ([uss.co.uk/about-us/valuation-and-funding/statement-of-funding-principles](http://uss.co.uk/about-us/valuation-and-funding/statement-of-funding-principles)).

CPI assumption	Term dependent rates in line with the difference between the Fixed Interest and Index Linked yield curves, less 1.1% p.a. to 2030 reducing linearly by 0.1% p.a. to a long term difference of 0.1% p.a. from 2040
Pension increases (subject to a floor of 0%)	CPI assumption plus 0.05%
Discount rate (forward rates)	Fixed interest gilt yield curve plus: Pre-retirement: 2.75% p.a. Post retirement: 1.00% p.a.

The main demographic assumption used relates to the mortality assumptions. These assumptions are based on analysis of the scheme's experience carried out as part of the 2020 actuarial valuation. The mortality assumptions used in these figures are as follows:

	<b>2020 valuation</b>
Mortality base table	101% of S2PMA "light" for males and 95% of S3PFA for females
Future improvements to mortality	CMI 2019 with a smoothing parameter of 7.5, an initial addition of 0.5% p.a. and a long-term improvement rate of 1.8% p.a. for males and 1.6% p.a. for females

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS  
FOR THE YEAR ENDED 31ST JULY, 2022  
(continued...)**

**23. Pensions (continued...)**

The current life expectancies on retirement at age 65 are:

	<b>2021</b>	<b>2020</b>
Males currently aged 65 (years)	23.9	24.7
Females currently aged 65 (years)	25.5	26.1
Males currently aged 45 (years)	25.9	26.7
Females currently aged 45 (years)	27.3	27.9

A new deficit recovery plan was put in place as part of the 2020 valuation, which requires payment of 6.2% of salaries over the period 1 April 2022 until 31 March 2024, at which point the rate will increase to 6.3%. The 2022 deficit recovery liability reflects this plan. The liability figures have been produced using the following assumptions:

	<b>2022</b>	<b>2021</b>
Discount rate	3.40%	1.60%
Pensionable salary growth	3.85%	2.85%

		<b>CONSOLIDATED 2022</b>	<b>2021</b>
		£'000	£'000
<b>USS pension provision</b>			
At beginning of the year	16	20,695	19,473
Interest payable		331	262
Contributions paid against deficit		(1,264)	(983)
Charged/(credited) in the year		28,327	1,943
At end of the year		<u>48,089</u>	<u>20,695</u>

**LGPS**

The rate of the University's employer's contributions for LGPS is determined by the actuaries and is presently 19.6% of pensionable salaries. Employee rates for LGPS are statutorily prescribed. Variations from regular cost are spread over the expected average remaining working lifetime of members of the scheme after making allowances for future withdrawals.

The figures disclosed below estimated by the actuary as at 31st July, 2022 have been derived by suitable approximation methods from the full actuarial valuation as at 31st March, 2019. Surpluses or deficits that arise may impact on the University's future contribution commitment.



**CRANFIELD UNIVERSITY**  
**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

23. **Pensions** *(continued...)*

The major assumptions used by the actuary as at 31st July, 2022 are as follows:-

	2022	2021	2020
	%	%	%
Salary scale increases per annum	3.85	3.85	3.25
Pension increases per annum	2.85	2.85	2.25
Discount rate per annum	3.40	1.60	1.35
Members opting for enhanced commutation pre 2008 service	50.00	50.00	50.00
Members opting for enhanced commutation post 2008 service	50.00	50.00	50.00

The assumed life expectations on retirement at age 65 are:-

	2022	2021	2020
Retiring today			
Males	22.0	21.9	22.2
Females	24.4	24.3	24.3
Retiring in 20 years			
Males	22.9	22.8	23.4
Females	26.0	26.0	26.1

The estimated University share of the assets in the scheme were:-

	2022	2021	2020
	£'000	£'000	£'000
Equities	66,498	76,292	66,495
Property	14,899	10,170	9,265
Bonds	25,036	20,378	15,757
Cash	4,159	2,404	5,877
	<hr/>	<hr/>	<hr/>
	110,592	109,244	97,394

There is no provision for unitising the assets of a Fund under LGPS. The asset of the scheme, as a whole, is allocated to participating bodies on a consistent and reasonable basis.

**CRANFIELD UNIVERSITY**

**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

23. **Pensions** *(continued ...)*

**The University's share of the underlying assets and liabilities are as follows:-**

	<b>2022</b> £'000	<b>2021</b> £'000
Market value of assets	110,592	109,244
Present value of liabilities	(151,531)	(201,113)
<b>Deficit in the scheme – net pension liability recorded within pension provisions</b> (note 16)	(40,939)	(91,869)
Current service cost	6,990	5,831
Loss due to curtailments	-	-
Past service cost	106	1,884
<b>Total operating charge</b>	7,096	7,715
<b>Analysis of the amount charged to interest payable</b>		
Interest on pension scheme liabilities	3,185	2,523
Interest on pension scheme assets	(1,746)	(1,314)
<b>Net charge to other finance costs</b>	1,439	1,209
<b>Total income and expenditure account charge</b>	8,535	8,924
<b>Analysis of other comprehensive income</b>		
(Loss)/gain on assets	(78)	10,749
Change in demographic assumptions	-	2,155
Change in financial assumptions	67,065	(11,764)
Experience (loss)/gain on liabilities	(11,506)	3,621
Gain/(loss) on liabilities	-	-
<b>Total other comprehensive income before deduction for tax</b>	55,481	4,761
<b>Cumulative actuarial loss recognised as other comprehensive income for LGPS Scheme</b>		
Cumulative actuarial losses recognised at the start of the year	36,952	41,713
Cumulative actuarial (gains)/losses recognised at the end of the year	(18,529)	36,952
<b>Analysis of movement in deficit during the year:</b>		
Deficit in scheme at beginning of the year	(91,869)	(91,382)
Movement in year:		
Current service cost	(6,861)	(5,723)
Contributions	3,984	3,676
Administration expenses	(129)	(108)
Past service cost	(106)	(1,884)
Curtailment cost	-	-
Other finance charge	(1,439)	(1,209)
Actuarial gain	55,481	4,761
<b>Deficit in scheme at end of the year</b>	(40,939)	(91,869)

**CRANFIELD UNIVERSITY**  
**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

23. **Pensions** *(continued ...)*

	<b>2022</b>	<b>2021</b>
	£'000	£'000
<b>Analysis of movements in the present value of the scheme liabilities:-</b>		
Present value at beginning of year	201,113	188,776
Current service cost	6,861	5,723
Interest cost	3,185	2,523
Contributions by members (including notional contributions)	745	690
Actuarial (gains)/losses	(55,559)	5,988
Past service costs	106	1,884
Losses on curtailments	-	-
Actual benefits paid	(4,920)	(4,471)
	<hr/>	<hr/>
Present value at end of year	151,531	201,113
	<hr/>	<hr/>
<b>Analysis of movement in the fair value of the scheme assets:-</b>		
Fair value at beginning of year	109,244	97,394
Interest on plan assets	1,746	1,314
Contributions by members	745	690
Contributions by the employer	3,984	3,676
Actuarial (losses)/gains	(78)	10,749
Actual benefits paid	(4,920)	(4,471)
Administration expenses	(129)	(108)
	<hr/>	<hr/>
Fair value at end of year	110,592	109,244
	<hr/>	<hr/>

Estimated contributions for LGPS in the Financial year 2023 is £3,945,000 (Financial Year 2022 £3,739,000).

In addition to the main schemes described above, some of the subsidiaries operate their own immaterial pension schemes, details of which can be found in the individual company financial statements.

	£'000	£'000
24. <b>Access funds</b>		
Funding Council grants in year	-	-
Disbursed to students in year	-	-
	<hr/>	<hr/>
Balance unspent at end of year	9	9
	<hr/>	<hr/>

Funding Council grants are available solely for students: the University acts only as paying agent. The grants and related disbursements are therefore excluded from the income and expenditure account.

**CRANFIELD UNIVERSITY**  
**NOTES TO THE ACCOUNTS**  
**FOR THE YEAR ENDED 31ST JULY, 2022**  
*(continued...)*

**25. Related party transactions**

The following exemptions available under FRS 102 have been applied to these financial statements:

- Disclosures in respect of transactions with wholly owned subsidiaries

Invoices net of VAT of £96,257 have been issued to Cranfield Aerospace Solutions Limited since the Universities share interest was diluted in March 2022. Of this amount, £93,561 net of VAT was outstanding at 31 July 2022.

	<b>CONSOLIDATED</b>		<b>UNIVERSITY</b>	
	<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
	£'000	£'000	£'000	£'000
<b>26. Financial instruments</b>				
Financial assets at fair value through the comprehensive income account	5,640	5,449	5,073	5,393
Financial assets that are debt instruments measured at amortised cost:				
Cash and cash equivalents	14,076	38,088	10,023	30,851
Other investments measured at amortised costs	-	-	-	-
Trade debtors	28,292	28,203	27,318	30,077
Other debtors	7,713	6,451	6,810	4,936
	<u>55,721</u>	<u>78,191</u>	<u>49,224</u>	<u>71,257</u>
Financial liabilities measured at amortised cost:				
Secured loans	-	-	-	-
Unsecured loans	(153,723)	(155,439)	(152,790)	(153,888)
Finance leases	-	(243)	-	(243)
Trade creditors	(34,059)	(32,489)	(32,946)	(31,288)
Accruals	(13,622)	(16,204)	(12,867)	(15,355)
	<u>(201,404)</u>	<u>(204,375)</u>	<u>(198,603)</u>	<u>(200,774)</u>