

## Innovation. Partnership. Impact.

Annual Review

2024





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## Foreword

Since joining Cambridge Enterprise in November 2024, I have been continually impressed by the individuals, organisations and communities across the University and throughout the wider innovation ecosystem.

Our focus is to ensure that Cambridge research makes a significant contribution to the world, delivering impactful and transformative outcomes that address worldwide challenges and enhance the quality of life.

It has been another successful year. In supporting our researchers, innovators, entrepreneurs, founders and portfolio companies to deliver global impact from the outstanding research within the University, we distributed £12.6 million of returns to the University, its departments and Principal Investigators, while enabling 469 patent applications, 778 commercial and research licences, 474 consultancy agreements, approved 41 Ventures investments and formed 25 new companies.



Dr Jim Glasheen

Chief Executive Cambridge Enterprise Cambridge is recognised among UK universities for its culture of fostering and enabling university entrepreneurship. The most recent additions to our suite of innovation services for the University have completed their first year with strong success and expansion.

Cambridge Enterprise remains committed to ensuring the innovations that spring from the University achieve their broader positive impact on society, and to our vital role in activating and enhancing the globally recognised Cambridge innovation ecosystem.



#### University of Cambridge Enterprise Fund X

Working with Parkwalk Advisors, the University of Cambridge Enterprise Fund X was launched. Almost £27 million has been raised across Funds I–IX, which have invested in 60 spinout companies that have collectively raised over £550 million of syndicated capital and are valued at more than £1 billion.



#### Technology Investment Fund

The Technology Investment Fund committed over £2 million investment across 20 projects covering the breadth of disciplines in the University during its first nine months, de-risking and adding value to technologies and supporting the accelerated translation of University research in preparation for future licensing or spinout.



#### IE Cambridge

IE Cambridge continued to establish itself as a central hub for all the University's innovation and entrepreneurship activities, delivering and signposting a range of events, activities and resources to connect, guide and inspire. The first Innovation and Entrepreneurship at the University of Cambridge report was published, showcasing the University as a powerhouse of entrepreneurship.



#### **Consultancy Services**

It was another exceptional year of delivering impact at scale through our support for academic consultancy, with a 14% increase in new disclosures and a 16% increase in new consultants engaged. In parallel, we are broadening our outreach to the academic community to further support the global community's access to their expertise.

#### Founders at the University of Cambridge

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The Founders at the University of Cambridge initiative completed its inaugural START 1.0 accelerator programme with an impressive cohort of 11 companies addressing global challenges ranging from climate change to healthcare. To support, accelerate and scale new founders and companies from the University, a new co-founder matching programme, SYNC, was launched.

## A new identity

We unveiled a new identity and website to reflect our increasing suite of innovation support activities for the University, and to better communicate the who, why and how of Cambridge Enterprise. Our refreshed brand brings to the fore the wide-reaching societal impact of University research and the innovators addressing global challenges.

#### Innovate Cambridge

In partnership with Cambridge Innovation Capital and the University of Cambridge, we continued to lead an inclusive, ambitious innovation roadmap for Cambridge, and to encourage collaboration and action to help Cambridge realise its potential as a globally leading cluster. In October 2024, a transformative ten-year plan to supercharge impact was unveiled at the Innovate Cambridge Summit, attended by over 400 leaders.



# highlights



#### 24 January

Chief Executive appointed new Pro-Vice-Chancellor for Innovation





05 February

Cambridge Enterprise and ideaSpace launch new home for start-ups in Cambridge West







13 June

#### o6 August

surging global demand for quantum error





01 September

ICM+ celebrates 20th anniversary of advanced neuromonitoring for intensive care

## 23 October

innovation blueprint to become world's leading science and tech region





15 November

New Chief Executive joins Cambridge Enterprise

#### 26 November

\$4.6 million



"Cambridge Enterprise is crucial in translating the University's research into positive social and economic change. From the full spectrum of innovation services that it provides for the University to its critical role in enabling transformational impact from University research, Cambridge Enterprise sets the standard for university innovation."

Dr Diarmuid O'Brien Pro-Vice-Chancellor for Innovation University of Cambridge "Cambridge Enterprise is in an incredibly strong position, with consultancy and research tools revenues at an all-time high, new initiatives to accelerate innovation and spinout formation, record levels of venture investment and great achievements for our portfolio companies."

Ajay Chowdhury, Chair, Cambridge Enterprise











"Providing expert guidance and support to our academic colleagues is our core strength. Our team works with brilliant research from Life Sciences, Arts, Humanities, Social Sciences and Physical Sciences to identify, protect and promote new innovations that will change our world for the better."

## Pioneering research innovations

Outstanding research delivers vital impact through innovation. Accelerating innovation requires pioneering approaches.

A collaborative initiative to accelerate agri-tech innovations from university science, Ceres Agri-Tech is helping to underpin food security, reduce environmental impacts and increase the sustainability of agriculture. All projects in the strong pipeline are addressing UN Sustainability Development Goals. Since its inception, Ceres Agri-Tech has created four spinouts, leveraged over £6.07 million and trained more than 380 academics, helping the continued pipeline and positive impact of agri-tech research innovations.

The Technology Investment Fund (TIF) is a £10 million commitment over five years that bridges the gap from early-stage research to market, securing higher-value licensing deals more quickly. By de-risking technologies, TIF accelerates commercial endpoints and maximises impact. In the first year, we have committed over £2 million investment across 20 projects in a portfolio including therapeutics, medical devices, artificial intelligence (AI), sustainability solutions and industrial processes – such as Protonera.

Protonera is addressing the issue of plastic waste – over 400 million tonnes of which are generated annually – with a novel chemoenzymatic photoreforming process.

Co-founded by Dr Jack Chengzhi Guo, Professor Erwin Reisner, Professor Florian Hollfelder and Dr Subhajit Bhattacharjee, Protonera is revolutionising waste management by converting plastic waste into hydrogen, providing a sustainable alternative to fossil fuels by enabling re-processing and reducing landfill waste.

Protonera has been working with Cambridge Enterprise since the beginning in 2022, and in addition to receiving TIF investment, it has filed initial patent applications and completed the Founders at the University of Cambridge START 1.0 accelerator programme.

#### Founders

Dr Jack Chengzhi Guo Co-founder & CEO Department of Biochemistry Professor Erwin Reisner

Ceres

Agri-Tech spinouts

created

>380

academics

trained via Ceres

Agri-Tech

support

>£2m

investment committed

across 20 TIF projects

Co-founder & CSO Yusuf Hamied Department of Chemistry

Professor Florian Hollfelder Co-founder & Technology Advisor Department of Biochemistry

Dr Subhajit Bhattacharjee Co-founder & former PhD student of Professor Reisner Yusuf Hamied Department of Chemistry





"BioTryp Therapeutics' innovative approach to developing anti-biofilm drugs is a huge step forward in the fight against persistent bacterial infections. Their work addresses a significant unmet clinical need, potentially improving patient outcomes, and can have a real impact on global health. This is a great example of how fundamental biological research can lead to therapeutic innovations that transform lives."

## BioTryp Therapeutics: breaking down bacterial defences

£300k

1 in 8 deaths worldwide is due to bacterial infections Biofilm-associated infections that are difficult to treat pose a significant global challenge and represent a major unmet clinical need.

Approximately three quarters of bacterial infections manifest as biofilms, which possess a complex structure that shields bacteria from antibiotics and the host immune system, making infections difficult to treat. Biofilms often act as reservoirs for pathogenic bacteria and drive recurrent infections. This is especially problematic in urinary tract infections (UTIs), which affect 400 million individuals annually worldwide, with high recurrence rates and potentially fatal outcomes.

BioTryp Therapeutics is developing innovative biofilm-inhibiting technology designed to enhance traditional antibiotics by preventing biofilm formation, leading to quicker infection clearance and reduced recurrence. The technology has already been shown to successfully inhibit biofilm formation by E. coli strains that are responsible for most UTIs.

Established in early 2024, BioTryp Therapeutics is based on more than eight years of research conducted by Dr David Summers' group at the University of Cambridge. Since 2020, Cambridge Enterprise has worked with Dr Summers and Research Fellow Dr Ashraf Zarkan, now BioTryp's Chief Executive Officer, to bring in translational support and develop the commercial and intellectual property strategy.

In 2024, BioTryp Therapeutics joined the inaugural cohort of the Founders at the University of Cambridge START 1.0 accelerator programme, and subsequently raised £300k in pre-seed funding, including investment from the Cambridge Enterprise Ventures team, to advance the development of its novel compounds.

#### Founders

Dr Ashraf Zarkan Co-founder & CEO Research Fellow, Department of Genetics; Bye Fellow, Fitzwilliam College

Dr David Summers Co-founder & Scientific Director Emeritus Professor, Department of Genetics; Life Fellow, Gonville & Caius College

Dr Jehangir Cama

Co-founder & Commercial Director PDRA, Department of Materials Science & Metallurgy; Official Fellow and Tutor, Clare Hall College







"This Ultra-Fast Current Shunt technology provides a step change in measurement accuracy that allows the improved performance of many devices we rely on in our daily lives, from cars to induction cookers."

### Ultra-Fast Current Shunt: increasing accuracy, efficiency, and sustainability in current measurement devices

High-speed power electronics play a crucial role in making our lives more convenient, efficient and sustainable. They are embedded in many technologies, from household appliances to renewable energy systems. The Ultra-Fast Current Shunt (UFCS) technology, developed within the Department of Engineering and supported by Cambridge Enterprise, represents a significant advancement in the tools required to enable even more efficient, compact and cost-effective devices to be realised.

In power electronics, switching speeds are becoming increasingly fast, in the order of nanoseconds. It is very difficult to accurately measure current at these fast-switching speeds. Traditional current measurement methods are either too slow or have high parasitic inductance, which can damage power devices. The UFCS allows accurate, active current measurement over ultra-fast switching times. It is convenient to use and enables the minimisation of switching loss, which can result in energy dissipation and reduced overall system efficiency. By allowing users to see signals that were previously undetectable, the UFCS enables the development of new designs and systems that minimise system losses. The new UFCS not only enhances performance but also contributes to sustainability by driving improvements in power electronic lifetime and efficiency.

The foundation of the UFCS innovation lies in the research conducted by Dr Luke Shillaber and Professor Teng Long in the Department of Engineering. In December 2022, supported by Cambridge Enterprise, Luke successfully applied for Impact Acceleration Accounts (IAA) funding. By 2024, five companies had taken out evaluation licences for the device. In October 2024, PMK – a specialist in electrical probes – took out an exclusive licence to the technology. As part of this relationship, Luke has joined PMK to work on building and developing the devices and establish a UK arm to their company.

Academics Dr Luke Shillaber Department of Engineering

Professor Teng Long Department of Engineering





"Cambridge Enterprise was pivotal in making it all happen. They helped me to open doors and helped me to see things differently. I never thought of myself as an entrepreneur until it was pointed out to me that I was essentially creating a start-up for social impact."

## Innovating for good

Cambridge researchers are driven by an appetite to ensure that communities worldwide can benefit from the research carried out here. We ensure that they are supported in doing so.

It has been a record year for social venture engagement, venture building and investment. Forming new recommendations around support for social innovators, we connected with over 75 social enterprises within the University ecosystem. We are also working with peers at ImpactU to grow systematic support and investment routes for students, researchers and alumni in this area.

Kalamna Global, a new Arabic language learning platform from the Faculty of Asian and Middle Eastern Studies, has received funding from both ImpactU and Cambridge Enterprise to scale up its cutting-edge educational resources. It was also a recipient of Social Pathfinder investments made from the Discovery Fund, as were Cosysense, a smart energy-saving retrofit company reducing costs and carbon associated with commercial air conditioning, and Majicom, a research spinout from the Department of Materials Science & Metallurgy providing affordable clean drinking water solutions in sub-Saharan Africa.

We work with innovators to help them build their ventures and deliver impact for communities, improving lives around the world.

Founded by Dr João Costa, Gustavo Almeida and Duarte Fonseca, VOI Global is a practical tool for resolving real-world conflicts in fragile communities. The VOI methodology promotes social cohesion and local development, leading to significant improvements in well-being among participants, and has positively affected over 10,000 people worldwide.

Cambridge Enterprise has worked with the team to transform their concepts into a practical solution for resolving real-world conflicts, helping to unlock funding and support from programmes internationally. Two projects to promote peaceful coexistence between communities in Guinea-Bissau used an intervention co-led with villagers to improve social cohesion, community resilience and well-being, yielding 98% improvement in success indicators.

#### Founders

Dr João Costa Co-founder & creator of the VOI methodology Institute of Criminology, School of the Humanities and Social Sciences

enterprise connections

University

ecosystem)

£60k

Social

Pathfinder

investments in

3 companies

made (in the

Gustavo Almeida Co-founder & CEO

Duarte Fonseca Co-founder & COO





"Founders gave Molyon the boost to get started. The programme supported us through mentorship, upskilling and access to a high-calibre network. This provided Molyon with the ideal environment to start bringing our breakthrough battery technology one step closer to commercialisation."

## Accelerating brilliance

303 applications for pre-seed and talent accelerator programmes





Created to accelerate the brilliance of Cambridge innovations and entrepreneurs through new business creation, Founders at the University of Cambridge bridges the gap between groundbreaking research and market success through capital investment, growth programming and curated access to an expert community.

Founders at the University of Cambridge has made a strong debut, completing its inaugural START 1.0 pre-seed accelerator programme with a cohort of 11 companies addressing global challenges, from health and air quality to semiconductors. The programme culminated in an Investor Day that took Cambridge innovation to London, and the cohort has quickly gone on to achieve significant milestones, securing investment and partnerships.

Cleantech startup and START 1.0 alumnus Molyon became the first Founders at the University of Cambridge company to raise external funding, raising \$4.6 million from IQ Capital and Plural, to advance its next-generation battery technology. This followed investment from Cambridge Enterprise Ventures and Parkwalk Advisors through the Founders programme. Molyon's lithium–sulfur batteries deliver superior performance with twice the energy density of current lithium-ion batteries, while using more abundant materials such as sulfur. Molyon aims to decarbonise industries, supporting the transition to electrification and net-zero.

Expanding the offering of support to accelerate and scale new founders and companies from the University, a new co-founder matching programme, SYNC, was launched in November 2024. Focused on AI and software, the programme attracted more than 160 applicants, and resulted in a cohort of 31 engineers, scientists, mathematicians and computer scientists who are ready to become founders, tackling some of the world's greatest challenges. SYNC enhances the Founders multi-stage programming – supercharged by sponsor partners AstraZeneca, Hitachi and KPMG – to support University founders and unlock Cambridge's innovation potential.



"Through the Infosys consultancy, our researchers have shared their expertise with a global company, resulting in potential worldwide economic and societal impact. The insight gained from their interactions with industry specialists has allowed the researchers to hone their skills and expertise, further ensuring that Cambridge remains at the forefront in the rapidly evolving field of AI."

## Providing University expertise to deliver impact across the world



consultancy

agreements

activity

357 consultants supported across 474



Academic consultancy is a powerful and effective way of achieving immediate impact at scale. It bridges academic, government, business and industry needs, sharing expertise and insights with external organisations locally, nationally and globally. Often leading to further collaborations, it can lay the foundations for larger-scale partnerships. It spans all disciplines and can take many forms, from providing expert advice to organising bespoke training programmes.

Our role is to simplify the process and minimise risk, enabling our consultants to focus on delivering the work and maximising impact. Last year, once again, set new records and increased activity, with new disclosures, executed agreements and new consultants engaged up 14%, 8% and 16%, respectively, on the previous year.

Consultancy activity generates positive outcomes beyond the societal impact from the sharing of expertise. Income from consultancy is frequently donated to fund other activities within University departments, such as research posts. Undertaking consultancy can lead to skills expansion and provides a mechanism to put research into practice with real data, gathering real-life examples for teaching.

A pilot project was recently completed with global next-generation digital services and consulting firm Infosys. Led by Dr James Fergusson, a team from the Department of Applied Mathematics and Theoretical Physics delivered an innovative training programme for Infosys, focused on the mathematical underpinnings and applications of machine learning and AI.

During an 18-month collaboration, 400 Infosys employees were provided with specialised training in data-science methods and advanced algorithms to upskill their approach to, and the quality of, their work. Additionally, 60 top-performing employees attended a two-week training course in Cambridge focused on the latest machine-learning techniques and developments.

The collaboration leveraged the capabilities and legacies of Infosys and University research to foster innovation and digital expertise, facilitating knowledge exchange for mutual benefit and leading to other exciting partnership opportunities.



"The CSIM is an exciting addition to our ever-expanding portfolio of Research Tools created by academics and staff members at the University of Cambridge. It has a clear ability to enhance factory sustainability born out of an understanding of the importance of working with not only the factory management but also those people working day to day on the factory floor."

## Extending the reach of Research Tools for accelerated impact





It has been another exceptional year for Research Tools, with a record invoiced income of  $\pm 1.2$  million and a record number of executed agreements (144), representing increases of 18% and 14%, respectively, on the previous year.

These increases are in part due to the extended and accelerated reach enabled by the express licensing platform e-lucid. The platform now hosts 87 research tools, and the combined benefits of greater efficiency and increased end-user experience have resulted in 33% of all new licences for these tools being processed through e-lucid.

As a world-class, research-intensive university, our portfolio includes a broad range of research tool types and applications. These include methodologies such as the Cambridge Sustainability Improvement Method (CSIM), which addresses the challenge of achieving sustainability in manufacturing – a critical success factor for reaching net-zero goals.

Developed by Gary Punter, Ian Bamford and Steve Evans at the Institute for Manufacturing (IfM), CSIM is an eight-step organisational programme that engages front-line workers to align sustainability with business goals, resulting in a 15–30% improvement in energy, waste, materials, water and rework efficiencies within 12 months. CSIM analyses factory data to identify key operational drivers for eco-friendly practices.

CSIM was integrated into our portfolio in 2023 and immediately licensed to IfM Engage, who provide the methodology as part of its consultancy and training offering. An exciting development for CSIM has been a handbook, created in 2024 to help companies engage staff for sustainability programmes, especially brands or conglomerates creating their own internal transformation teams. CSIM has attracted global interest for its potential to deliver world-leading sustainability improvements within the factory setting.

#### Founders

Gary Punter Visiting Fellow IfM Engage, Institute for Manufacturing

Ian Bamford Commercial Director at the University of Cambridge's UK Centre for Industrial Sustainability, Institute for Manufacturing

Professor Steve Evans Director of Research in Industrial, Institute for Manufacturing







"IE Cambridge is successfully underpinning the University's commitment to building an entrepreneurial culture. Connecting our innovators to the right support - whether it's developing entrepreneurial skills or supporting venture growth - ensures that they have what they need at every stage of their journey."

Activating Cambridge innovation

35

#### 000 1,049 uuu' people engaged in IE Cambridge events

105 activities brought together by the University Enterprise Network (UEN)



plus 1,100 alumni

Cambridge is recognised globally for its culture of fostering and enabling university innovation and entrepreneurship. We help to activate this, by convening and connecting activities across the University and leveraging the wider ecosystem.

IE Cambridge acts as the central hub for all the University's innovation and entrepreneurship activities, supporting innovators and entrepreneurs to navigate more effectively the rich support on offer. Highlighting various entrepreneurial journeys, the website provides resources, information on the wealth of support programmes and activities available, and a calendar of events to inspire and support entrepreneurs at whatever stage they are at. It is an essential tool for guiding students, postdoctoral, and academic researchers.

IE Cambridge has also been instrumental in convening the entrepreneurial ecosystem through a range of high-profile, well-attended events – from IE Expo, which coincides with Global Entrepreneurship Week and showcases over 16 entrepreneurial programmes, to a specific event aimed at postdoctoral researchers exploring research commercialisation.

This convening role also saw the launch of the first Innovation and Entrepreneurship at the University of Cambridge report, a compelling overview illustrating the breadth of activities at Cambridge and showcasing the University as a powerhouse of entrepreneurship.

ideaSpace, the University's incubator and community for founders and early-stage ventures, became the home to the Founders at the University of Cambridge START 1.0 cohort in February 2024. The 11 companies joined the community of member companies at West Cambridge and benefited not only from peer networking but also from tapping into the wider network of over 1,100 alumni members. From the three sites across the city, ideaSpace also celebrated the graduation and growth of members, including Smartbell, Epitopea and Bainbridge Bio.

Cambridge Where Innovation Makes History

# Where life-changing science changes lives here first

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"Innovate Cambridge was founded to turbocharge innovation by empowering the city's companies, institutions and organisations to fast-track their breakthroughs and catalyse growth at pace, whilst at the same time ensuring this success benefits the wider community and the UK."



## Co-creating Cambridge's innovation blueprint to be the world's leading science and tech region



partners. organisations and Innovation Charter for Cambridge signatories



Renowned for its rich history of innovation, Cambridge is home to world-leading research, cutting-edge startups, and a collaborative community of academics, investors and industry leaders. The University of Cambridge stands at the heart of this vibrant and dynamic network, which forms the foundation of the Cambridge innovation ecosystem. This ecosystem plays a crucial role in driving global technological advancements and economic growth.

Cambridge Enterprise, Cambridge Innovation Capital and the University of Cambridge founded and collaborate closely with Innovate Cambridge and its partners. We engage stakeholders across the ecosystem to deliver an ambitious and inclusive innovation vision for the Greater Cambridge region.

This momentum has garnered the support of over 200 partners, organisations and Innovation Charter for Cambridge signatories, each committed to realising the strategy, fostering collaboration and generating sustainable economic growth.

At the 3rd Annual Summit, Innovate Cambridge unveiled an ambitious ten-year innovation blueprint. The plan emphasises the importance of Cambridge as a national asset, which is capable of accelerating the growth of the entire UK economy by doubling the rate of unicorn creation, venture capital investment, and the number of science and innovation companies within a decade.

Cambridge has been named the world's most intensive science and technological cluster by the Global Innovation Index for the third consecutive year. It boasts over 5,000 innovation-driven companies, 36 research parks, five hospital trusts, two universities, and a thriving start-up and investor community.

Innovation moves fast, and so must the ecosystem to achieve its goals.



"Converting world-leading university research and innovation into successful businesses is key to economic growth. By uniting our efforts, combined experience and expertise, we can drive university innovation and establish best practices that resonate with the sector, inform policymakers and sharpen a more robust and dynamic innovation environment."

Dr Ananay Aguilar, Head of TenU

### Fostering critical conversations to boost partnerships and collaboration



300 attendants at the TenU Innovation Summit Cambridge Enterprise continues to play an active role in fostering best practice and policy recommendations through collaboration with other leading university innovation offices. As a member and host of TenU, an international collaboration formed to capture effective practices in research commercialisation and share these with governments and higher education communities, we work in partnership with other leading innovation arms of top universities around the world to increase the impact of research.

This year, TenU hosted its first TenU Innovation Summit in London, an event designed to cut across traditional silos and create a space for connection between universities, investors, founders and funders. Taking place one year after the launch of the University Spin-out Investment Terms (USIT) Guide, which has now been adopted by over 50 universities across the UK, the Summit also provided a stage for the launch of the USIT Guide for Software. Aligned to the same principles as the original USIT Guide, the USIT Guide for Software serves as set of recommendations for negotiating investment deals in the software space, specifically addressing the unique challenges and opportunities associated with software development and commercialisation.

Once again, in convening the collective experience and commitment across both the university and venture capital communities to accelerate the pathway to bringing life-changing university innovations to market, the USIT Guide for Software covers everything from software licensing and intellectual property rights to the nuances of open-source software.

In continued collaboration across the sector and wider communities, TenU provides a clear, unified voice and guidance for policymakers and practitioners to help unlock university commercialisation and spinout creation, driving economic growth and positive impact from university research.

TenU is funded by Research England and hosted by Cambridge Enterprise.



## Equity portfolio

ilf 174

companies in

>£3bn

funding raised

portfolio

follow-on

We invest University of Cambridge capital into high-impact, high-growth Cambridge spinouts and start-ups. We are Cambridge, investing in Cambridge, supporting future generations of early-stage companies.

This year, our Seed Funds team was renamed Ventures, reflecting the range of stages at which we invest and the support we provide Cambridge entrepreneurs.

Our portfolio now includes 174 companies in a wide range of sectors and with a total value of  $\pm$ 104 million. In 2023–24, we invested  $\pm$ 6.5 million in 41 transactions and formed 25 new companies.

Since 1995, we have managed investments made by the University Venture Fund into new companies. As an evergreen impact investor, the fund uses ring-fenced University capital, with all returns supporting future Cambridge innovations. The fund holds several key investments, including companies in our sustainability portfolio.

A donated fund, the University Discovery Fund, was created in 2008. The original raise of £1.8 million has since returned £8.6 million to invest in the next generation of innovation. Most recently, it has supported our Social Ventures programme and the Founders at the University of Cambridge START 1.0 accelerator programme, whereby the fund invested £20k into each cohort company.

Managed by Parkwalk Advisors in collaboration with Cambridge Enterprise, the University of Cambridge Enterprise Fund (UCEF) can double the capital provided to investee companies by investing alongside the University. Launched in 2012, the first nine funds, UCEF I to UCEF IX, have raised £26.8 million to invest in Cambridge spinouts. UCEF portfolio companies have collectively raised over £550 million of syndicated capital and are valued at more than £1 billion. This year saw the launch of the tenth fund – UCEF X – which will enable continued investment in future Cambridge companies.



"The digitisation of healthcare can often exacerbate health inequality. We are focused on reinventing the healthcare journey and urgent care pathways for patients worldwide, keeping health equity and improved health outcomes at the heart of our work."

Umaima Ahmad, Co-founder and CEO, 52North



care, particularly for those with cancer. Its innovation allows cancer patients to monitor their risk of neutropenic sepsis, a serious side effect of chemotherapy, without needing to visit a hospital. Neutrocheck® is a low-cost finger-prick test and app that provides rapid and reliable results at home.

52North: bringing healthcare

closer to patients through

52North's technology integrates seamlessly with digital platforms, enabling decentralised clinical decision-making, cost reduction and more efficient, personalised care. By facilitating at-home monitoring, Neutrocheck® is expected to significantly improve health outcomes, quality of life and safety for patients. It is designed to enhance health equity, particularly benefiting cancer patients from lower socio-economic backgrounds who are disproportionately affected by the necessity of urgent hospital visits.

The innovative approach has the potential to greatly improve urgent care pathways, streamline healthcare delivery and substantially improve chemotherapy patient outcomes globally.

In December 2024, 52North announced the close of a major funding round, co-led by KHP Ventures, and Cedars-Sinai Intellectual Property Co. in California, affiliated with Cedars-Sinai Medical Center, one of the largest nonprofit academic medical centres in the USA.

This deal marks the first instance of an investment being co-led by leading hospital ventures funds from both the UK and the USA, underlining 52North's positioning as a healthcare innovator for global impact.

#### Founders

Umaima Ahmad MPhil Co-founder & CEO Bioscience Enterprise

raised to

date

1St

investment

co-led by UK &

ventures funds

USA hospital

Dr Saif Ahmad, Co-founder, Chief Scientific & Medical Officer Department of Oncology

Dr Mireia Crispin Co-founder & CDO Department of Oncology

Dr Nikki Weckman Co-founder & CTO Department of Engineering





Cancer profoundly affects millions of lives worldwide, driving an urgent need for innovative solutions to improve diagnosis, treatment and patient outcomes.

Turning research into something that can improve patient outcomes and benefit healthcare systems around the world is not easy, even when you are part of the UK's leading life sciences cluster. Working together, we are helping Cambridge research to change the story of cancer.

#### **T**-Therapeutics

46

Harnessing the power of natural T cells to transform cancer care



#### PhoreMost

Creating new treatment for diseases which were previously considered 'undruggable'



#### Verinnogen

Cutting-edge tools for cancer researchers worldwide to bring critical new treatments to patients faster



#### Spirea

Better treatment options for hard-to-treat cancers



#### Astex Pharmaceuticals

Pioneering fragment-based drug discovery



Getting more information from DNA





"Decarbonising cement is one of the world's most difficult challenges. Cambridge Electric Cement produces a true zero-emission cement with the potential to save gigatonnes of carbon. This is a huge step forward for our planet, made possible by the partnership of great science and founders from the University of Cambridge and Cambridge Enterprise."

## Cambridge Electric Cement: making net-zero, recycled cement a possibility







our sustainability portfolio

#### Concrete is essential to our built environment. We use over four tonnes of it every year for every person alive on the planet. However, cement, which is used to bind concrete, contributes 7.5% of global carbon emissions – triple that of aviation.

Cambridge Electric Cement (CEC) has developed the world's first process for creating low-carbon, recycled cement, making zero-carbon cement a possibility. This innovative technology involves recycling cement from demolition waste by replacing the lime flux used in steel recycling with recovered cement paste. This process produces a clinker that can be used to make new cement, without impacting steel production.

The performance of this recycled cement can match that of Portland cement (the cement most used to make concrete) but importantly it has a significantly reduced environmental impact.

CEC already has 75,000 tonne trials with industrial partners underway to scale the technology.

The company was established in 2022 by Professor Julian Allwood, Dr Cyrille Dunant and Dr Pippa Horton from the Department of Engineering at the University of Cambridge. In July 2024, CEC announced a £2.25 million seed funding round, led by Zero Carbon Capital with Legal & General, Cambridge Enterprise Ventures, Parkwalk Advisors, and others.

As the 16th company in our sustainability portfolio, CEC takes the total investment in this portfolio since August 2020 to over  $\pm$ 7 million.

Founders Professor Julian Allwood Co-founder Department of Engineering

Dr Cyrille Dunant Co-founder & CTO Department of Engineering

Dr Pippa Horton Co-founder & Advisor Department of Engineering



## Forging a future for our planet

Echion

Technologies

and rapid charging of

industrial lithium-ion

As part of the University's net-zero commitments, the University of Cambridge Venture Fund, managed by Cambridge Enterprise, has invested over £7 million in 16 sustainability companies since 2020, with a combined value of over £0.5 billion.

Pioneering Cambridge research that is seeking to address the climate emergency is being translated into real-world applications with our support, through the development and licensing of technologies, tools and expertise.

#### Colorifix

50

A revolutionary dyeing process to help the textile industry





Seprify

Sustainable cellulose



#### Evoralis

Making textiles truly recyclable with enzymatic solutions



#### H<sub>2</sub>Upgrade

Hydrogen production powered by industrial waste streams



#### **9SIMS**

tool for analysing nine environmental, social and governance (ESG) factors across global value chains





"RoboK is a clear example of how Cambridge AI innovation is making a real difference. By enhancing safety and efficiency in industrial sectors, RoboK's technology is driving significant improvements, and showcasing the transformative potential of AI on a national and global scale."

## RoboK: enhancing efficiency with AI-driven vision technology



potential safety breaches



Growth and Grant funding A start-up from the Department of Computer Science and Technology, RoboK is developing advanced an AI-powered computer vision software platform aimed at improving safety and efficiency in industrial workplaces.

RoboK's computer vision solutions enable the often-overlooked potential of existing CCTV systems to be unlocked. Its AI software is built on a deep behavioural understanding of people, plant movement and industrial workflows. By using computer vision to monitor on-site CCTV visual data, RoboK can report high-value insights to customers, thereby helping to prevent on-site accidents, highlight process inefficiencies and spot potential signs of delays.

Safety hazards and delays can have substantial economic and environmental impacts particularly in large-scale infrastructure settings such as highways and ports. RoboK is partnering with several organisations in this sector, including the UK port industry. Within three months of implementing RoboK's technology, the Bristol Port Company has seen its potential safety breaches reduced by more than 90%.

An initial seed funding round in 2020 was followed in 2023 by £3 million Growth and Grant funding, with participation in both rounds by Cambridge Enterprise Ventures. In 2024, RoboK was awarded £1 million by the UK Research and Innovation (UKRI) Technology Missions Fund as part of a £32 million initiative to accelerate productivity across high-growth industries, signifying the value and importance of Cambridge innovation for the UK.

Founders

Hao Zheng MPhil Co-founder & CEO Economics, King's College

Chao Gao Co-founder Department of Computer Science and Technology

Liangchaun Gu MPhil Co-founder Computer Science, Robinson College



## Leveraging AI to address global challenges

Artificial intelligence (AI) is reshaping our world, leading to breakthroughs in healthcare, energy and sustainability. We support Cambridge research that enhances human capabilities and fosters collaboration, bringing AI into real-world applications. By leveraging AI, we are unlocking its global potential to deliver innovative and impactful solutions.

#### Dementia AI

Al-guided solutions for early dementia detection and robust prediction of individualised disease progression





Machine-learningpowered platform enabling seamless grid connections for renewable energy projects



#### Concr

Using astrophysics to revolutionise cancer treatment



#### Carbon Re

Al-driven solutions for industrial decarbonisation

#### Materials Nexus

Using Al to discover new materials for net- zero technologies



Creating revolutionary new medicines with an Al-enabled platform



# Financial



### **Financial summary**

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In 2023–24, Cambridge Enterprise supported 2,580 researchers, and distributed £12.6 million to the University, Principal Investigators (PIs) and its departments.

Consultancy had another exceptional year, generating nearly £10 million income. Record numbers were achieved for disclosures (440) and executed agreements (474), which equate to increases of 14% and 8%, respectively, on the previous year.

Ventures also had a record year having invested £6.5 million across 37 companies, bringing the total invested over the lifetime of the fund to £49.9 million. The total value of the portfolio under management is £104 million, comprising £74.8 million invested portfolio value with the remainder the value of equity from intellectual property. During the year, we made 28 pre-seed investments, including Simple Agreement for Future Equity (SAFE) investments in the 11 cohort companies of the Founders at the University of Cambridge START 1.0 accelerator programme. Equity realisations for the year totalled £1.2 million.

Technology Development and Licensing activities generated revenues of £4.4 million. During the year, a further £1.8 million was invested in patents and proof of concept, and 469 patent applications were filed.

#### Group accounts

The Group income and expenditure summary comprises consolidated results for Cambridge Enterprise Limited and its wholly-owned subsidiary company, Cambridge University Technical Services Limited, presented in a management accounts format. The financials exclude the effect of the estimated charitable donation for the year and the effects of FRS 102 accounting adjustments.

#### Financial performance Cambridge Enterprise income (in 'ooos) 95% A Income generated by Cambridge Enterprise 14,784operations **B** University and Higher Eduction Innovation 65% Fund (HEIF) funding C Income from services and other income D Income before returns from equity realisation 21,712 **E** Equity realisation: income to Cambridge Enterprise and University Seed Funds Total Income Cambridge Enterprise IP investment, distributions and operating costs (in m) A Distribution to academics & external parties **B** Distribution to University (departments' share 4,623 of IP income and Gift Aid from academics) 57% C Return to University of Cambridge Seed Funds 828 D Distributions to University, Principal Investigators and its departments **E** Investment in IP assets (patent and proof of 1,828 concept)

Operating costs

Total expenditure

4,995

1,933

1,161

22,873

7,199

12,650

10,719

## Governance and structure

#### Chair

Ajay Chowdhury	Regional Lead, Western Europe, South America & Africa, Managing Director and Senior Partner, BCG Digital Ventures
Executive Directors	
Dr Diarmuid O'Brien	Advisor to the Chief Executive (from 15 November 2024)
Dr Jim Glasheen	Chief Executive (from 15 November 2024)
Dr Paul Seabright	Deputy Director, Cambridge Enterprise
Non-Executive Directors & Ad	visors
Ajay Chowdhury	Board Chairman, Cambridge Enterprise
Dr Jim Glasheen	Chief Executive (from 15 November 2024), Cambridge Enterprise
Dr Paul Seabright	Deputy Director, Cambridge Enterprise
Dr Diarmuid O'Brien	Pro-Vice-Chancellor for Innovation, University of Cambridge
Anthony Odgers	Chief Financial Officer, University of Cambridge
Professor Laura Diaz Anadon	Climate Change Policy and Director, Cambridge Centre for Environment, Energy and Natural Resource Governance
Professor Patrick Maxwell	Regius Professor of Physic
Professor Róisín Owens	Professor of Bioelectronics, Department of Chemical Engineering and Biotechnology
Annalisa Gigante	Board Member, Henry Royce Institute
David Washburn	Chief Executive Officer, Michigan State University Research Foundation
Debu Purkayastha	Managing Partner, 3rd Eye
Sam Pringle	Chief Financial Officer, Cambridge Enterprise

#### Company Secretary

Sam Pringle

Chief Financial Officer, Cambridge Enterprise

#### Nominated Officer of Shareholder

David Hughes	Director of Finance, University of Cambridge (until December 2024)
Investment Committee	
John Lee	Chair, Investment Committee
Dr Andy Sandham	Deputy Chair, Investment Committee
Dr Barbara Domayne-Hayman	Biotechnology entrepreneur and Chief Business Officer, Autifony Therapeutics
Pam Garside	Fellow, Cambridge Judge Business School & Chair, Cambridge Angels
Annalisa Gigante	Board Member, Henry Royce Institute
Dr Jim Glasheen	Chief Executive, Cambridge Enterprise (from November 2024)
Dr Iris Good	MedTech entrepreneur
Dr Vishal Gulati	Venture Capital Investor, Founder and Managing Partner, Recode Ventures
John Halfpenny	Technology entrepreneur
Dr Andrew Herbert	Computer technology entrepreneur
Dr Richard Jennings	Technology transfer consultant (until June 2024)
Derek Jones	CEO, Babraham Research Campus (until December 2023)
Professor Patrick Maxwell	Regius Professor of Physic
Robert Miller	Chair in Aerothermal Technology and Whittle Lab Director
Dr Diarmuid O'Brien	Pro-Vice-Chancellor for Innovation, University of Cambridge
Heather Richards	Technology executive
Dr Paul Seabright	Deputy Director, Cambridge Enterprise
Professor Steve Young	Emeritus Professor of Information Engineering

Cambridge Enterprise University of Cambridge Hauser Forum 3 Charles Babbage Road Cambridge, CB3 oGT, UK

<mark>in</mark> cambridge-enterprise enterprise.cam.ac.uk



