

Annual Review 2017

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Who we are

Cambridge Enterprise was created by the University of Cambridge to help students and staff commercialise their expertise and ideas. Our role is central to the mission of the University, which for more than 800 years has contributed to society through the pursuit of education, learning and research at the highest levels of international excellence.

At Cambridge Enterprise we help University researchers achieve the impact that is central to securing long-term funding for research. Our success is measured in the achievements of our academic partners as they bring their work to market.

We are here to make the world a better place by helping to create a legacy of products, services and advice that benefits not just the University and the UK, but everyone.

generating more power and improving fuel efficiency and range as well. See page 10 for the full story.

The Hauser Forum, home of Cambridge Enterprise, at night. Photograph by Ken Barley.

From the Chief Executive

Dr Tony Raven

More than most, the past year has been one of simultaneously looking to the past and planning for the future. The publication of this Annual Review marks the happy conclusion of our 10th anniversary year. We have had the pleasure of celebrating a decade's worth of brilliant inventions, therapeutics, ideas and businesses. These successes are a tribute to the extraordinary community that we serve and the drive, creativity and genius of its academics.

We've also spent the past year gearing up for Cambridge Enterprise's second decade. We have kicked the proverbial tyres to see what is working best and what could do with upgrading. To help us respond to increasing demand for our services, we've overhauled our internal IT systems. These new systems will also populate a virtual dashboard that will enable customers to track the progress of current work with Cambridge Enterprise and review data on past projects.

This organisational MOT comes at a key juncture. University commercialisation in this country is entering an exciting new period. In October the British government announced its intention to put science, innovation and its translation at the heart of its industrial strategy, designed to strengthen the economy and improve productivity. Public funding is the main source of support for the R&D that leads to our work. With increased research funding for universities in the UK will come greater opportunities for successful commercialisation. It will also bring a greater responsibility to ensure that taxpayers see the benefits of the money they entrust to research, and we take our share of that responsibility seriously.

Cambridge Enterprise exists to help usher discoveries out of the lab and into practical use. We look forward to continuing to play our part in helping our academic colleagues translate their great research into great commercial success.

What we do and how we do it

Cambridge Enterprise helps get ideas and inventions patented, licences granted and expertise shared. We support new start-ups and companies spinning out of the University.

We offer expertise in business creation, consultancy and intellectual property management to University staff and students who want to commercialise their research or share their knowledge. Cambridge Enterprise provides funding, advice and contract management to members of the University, in departments from science, technology, engineering, maths and medicine to the arts, humanities and social sciences.

Whether our academic partners have the germ of an idea, expertise to share or have created intellectual property that they need to protect, Cambridge Enterprise is here to help.

The work of our three core teams—Technology Transfer, Seed Funds and Consultancy Services—can be quantified in a variety of ways. The numbers displayed here are the headline metrics for the key areas of our business, from the total number of University researchers we have helped in the past year to the amount of translational research funding that has been won with our support.

consultancy contracts

signed, including extensions

229 external clients served by consultants 276patent applications filed $\pounds 355k$ income from research tools invested in patents and proof of £5. concept

> invested in spin-out companies



commercial and research licences signed

£16.9m

in operating income raised from licensing and consulting

1,714

researchers supported

£1.6bn in follow-on funding raised by our portfolio companies since

1995

£13m

in translational funding won with our support



The power of an infinitesimal sea urchin

The tangled mass pictured here is a nanoscopic particle, but it has the potential to vastly improve the performance of lithium ion batteries. It's currently being commercialised by **Echion Technologies** with the help of Cambridge Enterprise.

A thousand times thinner than a human hair, this structure is composed of nanotubes grown from a central metal oxide nanoparticle. To Jean de la Verpilliere, a NanoDTC Translational Fellow and managing director of the spin-out, the shape suggested a spiky sea urchin. The name Echion was inspired by the ancient Greek word for spiny (*ekhinos*). The technology, which comes out of the Boies Group at the Department of Engineering and the De Volder Group at the Institute for Manufacturing, involves innovation around the fundamental chemistry and nanostructure of a lithium ion battery's active anode material.

Cambridge Enterprise Seed Funds made a Pathfinder loan to Echion Technologies in 2017. It has since secured additional investments in preparation for a seed funding round, which it hopes to close in early 2018.

Photo by Christian Hoecker and Jean de la Verpilliere

Technology Transfer

Out of the lab and into the market

Helping academics develop their ideas and inventions into opportunities that are attractive to business and investors is at the heart of Cambridge Enterprise, and the Technology Transfer team is at the heart of that work.

Composed of two groups—Life Sciences and Physical Sciences—the team helps academics and researchers bring their most promising ideas to market, develops licensing opportunities and assists with the creation of new companies.

In both areas, commercialisation covers a wide range of activities. We often work with academics whose ideas are in the earliest stages of development, helping to build substantial licensable or investable opportunities, securing proof of concept funding (from public and charitable sources), building prototypes, seeking external expert advice and understanding the market. We seek development partners, licensees and investors and then negotiate and manage commercial deals through licensing intellectual property, including patents, know-how, data and copyright.

This year, the Technology Transfer team signed 48 commercial licences and filed 245 patent applications. A further 31 patent applications were filed by our commercial research sponsors.

Technology Transfer invested £1.1m

> in patents and proof of concept 2016–17

Technology Transfer Life Sciences

Growing the portfolio

The Life Sciences team's work covers activities across the University and at Cambridge University Hospitals (CUH) ranging from gene therapy and antibody drug conjugate technologies to agritech and veterinary innovations. This work culminated in 26 commercial deals in the past year.

Apollo Therapeutics—the collaborative venture among three universities and three pharmaceutical companies that we helped to launch in 2016continues to thrive. It has funded four projects at Cambridge. Among these is a project to enhance the efficacy and persistence of autologous and in vivo T-cell therapies, with Professor Randall Johnson.

Approximately 400,000 people in the world suffer from haemophilia, a genetic disorder that causes uncontrolled bleeding. The standard treatment becomes ineffective for a quarter of patients. In the past year we protected the IP arising from the research of Professor Jim Huntington of the Cambridge Institute for Medical Research and CUH's Dr Trevor Baglin and jointly launched **ApcinteX**, which is developing a new therapy for haemophilia.

In September we licensed IP for the treatment of 'Tauopathies', such as Alzheimer's disease and dementia, to Cantabio Pharmaceuticals. Development was led by Cambridge's Dr Gergely Tóth along with partners at the Max Planck Institute as well as collaboration with NovAliX and Elan Pharmaceuticals.

In December we licensed IP to produce platelets from stem cells to US start-up Platelet BioGenesis. The licences represent nearly a decade of work making human platelets from pluripotent stem cells ex vivo by Dr Cedric Ghevaert of Cambridge's Department of Haematology and the Stem Cell Institute.

Work on the genetics of metabolism, in this case with a veterinary application, included support for technology developed by Dr Eleanor Raffan of the Institute of Metabolic Science that identifies whether Labrador retrievers carry a mutation predisposing them to obesity. This opportunity was licensed to The Animal Health Trust which will supply the test to breeders and pet owners.



Better diagnosis for better treatment

Millions of people suffer from immune-mediated inflammatory diseases such as inflammatory bowel disease (IBD), vasculitis and Lupus / SLE. These diseases are common, chronic and incurable. The illnesses can take either an aggressive or a latent form, which vary widely and benefit from different treatments. There is currently no way of knowing, at diagnosis, which course an individual's case will follow. This can lead to over-treating those with the quiescent form, causing unnecessary side effects, and excessive morbidity from under-treating the aggressive form.

New Cambridge spin-out **Predictimmune** tackles this unmet need head on. Founded by Professor Kenneth Smith, Head of the Department of Medicine, Predictimmune's first product addresses IBD

(both Crohn's and ulcerative colitis). It will use a small blood sample to identify those patients at risk of experiencing severe, relapsing disease. The test measures expression levels of a disease-related gene panel which, when analysed using proprietary software, will identify those patients at the highest risk. The result of 15 years of research, the test has been validated in multiple, independent patient cohorts.

We have supported this project from the filing of the first patent in 2008, through multiple rounds of translational funding applications to the successful completion of a £4.7 million fundraising round in May 2017. Predictimmune has licensed three patent families, know-how and a software algorithm from Cambridge Enterprise.



The greatest thermocouple innovation in 50 years

It's not often that a device that's been widely used in multiple industries for nearly 200 years is changed, vastly improving its performance and giving it the potential to alter many markets. But that's what happened when Cambridge Enterprise licensed a revolutionary double-walled thermocouple cable technology, developed by Dr Michele Scervini and Professor Cathie Rae, both at the Department of Materials Science and Metallurgy, to **TE Wire & Cable**.

Sensors for measuring temperature, thermocouples are widely used in home appliances (such as fridges, ovens and thermostats), and have many industrial applications. Their role in aviation is critical. The hotter a jet engine burns, the more power it generates, improving fuel efficiency, range and thrust. But accurate temperature readings are essential; an error of just a few degrees can lead to engine failure. At temperatures above 1000 degrees centigrade, however, the accuracy of traditional single-walled thermocouples steadily declines with use, a phenomenon called drift. The resulting inaccuracy has meant that engine temperature, and therefore efficiency, must to be set below maximum to leave a safety margin for the survival of engine components.

Thanks to its double-walled design, the new thermocouple has significantly decreased drift, cutting the required safety margin. This in turn can increase the lifetime of engine components and decrease maintenance costs without any reduction in safety.

The licence with TE Wire & Cable marks the culmination of six years of outreach, negotiation and product development. TE is well placed to take this new thermocouple design forward in applications including the aviation, nuclear and heat treatment industries.

Technology Transfer Physical Sciences

Supporting innovation

The Physical Sciences team works on innovations arising from many of the University's faculties and departments, in particular in those from the School of the Physical Sciences and the School of Technology, and in fields ranging from nanotechnology to recycling.

One of these fields is the science and technology of sensors. The University is a world-leader in this area, and it has enormous commercialisation potential. In the past year, we worked with Professor Florin Udrea and Dr Andrea De Luca from the Department of Engineering, protecting their remarkable new flow sensor technology. Working with our Seed Funds team, we also helped to launch their spin-out, **Flusso**.

In addition to helping create new spin-outs, we work with portfolio companies long after their launch. We began work with Dr Sabesan Sithamparanathan of the Engineering Department's Centre for Photonic Systems in 2008, while he was still a PhD student. Together with Professors Ian White and Richard Penty and Dr Michael Crisp, he was developing a sensor capable of highly reliable reading of low-cost, off-the-shelf radio frequency identification (RFID) tags across wide areas. The technology, which has many promising applications, including retail, healthcare and logistics, was licensed to **PervasID**, which spun out in 2011. In the past year we licensed further IP to PervasID.

We similarly licensed IP to **8power**, which spun out of the Cambridge Centre for Smart Infrastructure and Construction in the Department of Engineering in 2016. 8power develops technologies that not only conduct autonomous sensing but also supply their own power, for instance harvesting energy from the vibration present on a vehicle or machine.

The Physical Sciences team also licensed IP to another spin-out from the Department of Engineering, **Silicon Microgravity**. The company was founded by Dr Ashwin Seshia whose team are working with BP to develop a novel gravity sensor that improves oil recovery operations by tracking subterranean water.



Innovation to ensure clean water for all

One in ten people lack access to reliably clean drinking water. The implications of this are devastating. Waterborne bacterial pathogens kill more than 2.2 million people annually.

In 2015 University biologist Dr Alexander Patto, engineer Dr Tianheng Zhao and physicists Dr Nalin Patel and Dr Richard Bowman pooled their talents to found a company called **WaterScope**. Its mission was simple: give communities the tools to test their own water. The team pitched WaterScope at our first Postdoc Business Plan Competition in 2015, winning a £7,500 investment from Seed Funds.

The money helped WaterScope develop a novel disposable cartridge that simplifies sample collection, refine their innovative 3D-printable microscope to examine the samples and create image-recognition software to analyse the resulting pictures. The microscope, which was designed by Bowman, is linked to a Raspberry Pi, which tracks the growth of bacteria and presents the results to users on a smartphone, tablet or PC.

Traditionally water testing has taken 10 to 20 hours; requires expensive, heavy equipment and must be done by highly trained workers, usually off site. WaterScope's technology is significantly smaller, lighter and cheaper. It can be used on site, doesn't require an extensively trained technician and provides results in just an hour or two. This means more sites can be monitored, more frequently, ensuring that no one drinks from contaminated sources. The results can also be mapped, potentially allowing almost immediate intervention from NGOs.

In July WaterScope's accomplishments were honoured with the University of Cambridge Vice-Chancellor's Impact Award, which recognises research that has major benefits outside of academia.

Seed Funds

Support from the start

Seed Funds supports the creation of companies based directly on University research or people. This year we made 17 investments, totaling £5.2 million, in promising new businesses—ranging from £20,000 Pathfinder pre-seed awards to £700,000 equity investments. Seed Funds also returned £1.1 million to the University from realised investments.

The team started the year with a bang, investing in the \$95 million launch of oncology company **Carrick Therapeutics**, the largestever early stage investment in a UK university spin-out. Carrick's first IP acquisition was developed at the University's Gurdon Institute and was licensed by our Life Sciences team. We provided initial seed funding to Carrick in 2015.

Other work with the Life Sciences team included seeding **Predictimmune**, which is developing prognostic tests for immune-mediated illnesses (see page 9) and **Polypharmakos**. A collaborative venture with the Royal Botanic Gardens, Kew, Polypharmakos is screening natural sources for novel, anti-microbially active substances and developing them to address the emerging global antimicrobial resistance crisis.

Working with the Physical Sciences team, we supported several early stage spin-outs, including **Immaterial**, which manufactures super-adsorbent nanomaterials that can slash the cost of separating, storing and transporting gas and **Flusso**, from the Centre for Advanced Photonics and Electronics, which is developing next generation flow sensors.

Seed Funds continues to support companies after they have spun out. In the past year, for instance, we invested in a £2.4 million Series A funding round for **Cytora**, an AI start-up we first seeded in 2015, and a £4 million Series A for **Focal Point Positioning**, developing revolutionary indoor positioning software.

This year saw the fifth University of Cambridge Enterprise Fund (UCEF), which has helped support the University's efforts to stimulate economic growth. In total UCEF has raised £10 million from friends and alumni of the University to co-invest in our portfolio companies.

This year we made 17 investments, totalling £5.2m

Get something started

The University's 4,000 postdocs are the lifeblood of its world-class research. Passionate about their work, they want it to have a positive impact on the world. To support this energy and idealism, we teamed up with the Entrepreneurial Postdocs of Cambridge (EPOC) to create a business plan competition. Our goal was simple: give great researchers the experience and tools to become great academic entrepreneurs.

The number of entrants and the sophistication of proposals have grown steadily since the Postdoc Business Plan Competition was launched. The third annual competition came to a close in November. The process kicked off in May with the Seed Funds team helping potential entrants sharpen their business propositions.

Twelve semi-finalists were chosen from among all the entries, and each was paired with a seasoned entrepreneur as a mentor. A semi-finalist round in September winnowed the group down to six. This group further polished its proposals and received coaching from an expert in the art of pitching to investors.

Finally, in November, the six finalists took the stage at a gala Grand Finale. A panel of judges, plus a lively audience, scrutinised the pitches. The winner scored a £20,000 investment; the second place winner secured £10,000; and third place took £5,000.

Competition was stiff with exciting pitches from all. In the end **Hanbin Ma** (pictured) took first prize with his active-pixel technology for handling liquids. It's designed to make the ubiquitous, but often clumsy, laboratory pipette a thing of the past.

Akshay Rao placed second with a platform technology, Slate2Learn, to give children in developing countries access to tutoring. **Davor Copic** won the third prize with a company that will use nanotechnology to improve the cooling efficiency of electronic devices.



Close monitoring protects heritage

How do you build a 21st century transit hub directly underneath two of London's architectural treasures, a 17th century church and an 18th century mansion? Very carefully. That's why Transport for London turned to the Cambridge Centre for Smart Infrastructure and Construction (CSIC), as it prepared to bore new tunnels under Christopher Wren's St Mary Abchurch and George Dance's Mansion House to upgrade Bank station.

Regularly cited as one of London's most congested stations, Bank serves 337,000 passengers a day and numbers are rising. A main gateway to the City of London, the station is strategically important to the UK's economy. It's also a key interchange in London's transport network; problems at Bank can slow the entire system. These factors meant there was no question of leaving the station as is.

Upgrading and expanding Bank requires tunnelling, which is scheduled to continue until 2021.

While only negligible impact on St Mary Abchurch and Mansion House is expected, tunnelling can cause ground settlement and structural deformation, which is particularly difficult to predict for historic structures. Close monitoring of the buildings was therefore essential.

CSIC researchers led by **Dr Matthew DeJong**, Senior Lecturer in Structural Engineering at Cambridge University, and **Dr Sinan Acikgoz**, Brunel Research Fellow, met the need by installing new generation sensors, including fibre optic strain sensing and laser scan displacement monitoring. The Consultancy Services team negotiated the contractual arrangements for this work. The resulting data will allow the contractor and London Underground to intervene, if necessary, at the slightest sign of trouble. This not only protects the historic buildings, but also averts expensive remedial measures.

Consultancy Services

Sharing knowledge and expertise

The mission of Consultancy Services is to support University staff and researchers serving as outside experts to industry, government and public bodies. The Consultancy Services team provides dedicated support to facilitate consultancy, including guidance on fees, contract negotiation and handling invoicing and distribution.

Working as a consultant is a highly effective way for University academics to share their expertise with external organisations, for instance as members of scientific advisory boards or giving expert witness advice. In addition to income, consulting frequently yields concrete examples and data that researchers bring back to use in labs and lectures. It is often the foundation for developing further relationships and has led to collaborations and studentships.

In 2016–17 Consultancy Services worked with 211 academics across the University. Among them were **Professor Pauline Rose**, director of the Research for Equitable Access and Learning (REAL) Centre in the Faculty of Education, and Centre members **Dr Ricardo Sabates**, **Dr Nidhi Singal** and **Dr Ben Alcott**. Working collaboratively, the group consulted to both Save the Children and the UNESCO Institute for Statistics.

Save the Children turned to the REAL Centre for expert advice as it created a professional development programme for teachers. The Centre prepared and delivered a three-day workshop and produced a guidance document for Save the Children. The team provided advice on quantitative and qualitative research methodologies and strategies for evaluating teacher effectiveness. Rose, Sabates and Alcott worked with the UNESCO Institute for Statistics to support publication of a handbook on the measurement of equity in education.

UNIVERSITY O CAMBRIDGE enterprise

Celebrating ten years of Ideas to Reality

On 29 March some 230 of Cambridge's finest academic entrepreneurs gathered in the Great Hall of King's College to mark ten years of transforming University research into commercial reality. The occasion was Ideas to Reality, an annual celebration of successful licensing, consultancy and investment in innovative research from across the University. Exhibits arrayed around the Georgian Gothic hall featured some of the world-changing ideas we have helped to commercialise over the past decade.

The evening's guest speaker was Sir John Kingman, Chair of UK Research & Innovation. Speaking on the day that Article 50 was triggered, Kingman said it was a "fateful day" that would bring many challenges. "In a world where we have to think very hard about how we're going to earn our living

as a country outside the European Union," said Kingman, "we have to think really deeply about what we as a country are really good at, and we really have to back that and go after it big time."

The answer, at least in part, is science and innovation. Government support for research and its commercialisation is smart macroeconomic policy, said Kingman. "If I wanted to demonstrate to anyone why that is, Exhibit A would be the people in this room; the Cambridge Cluster is just an extraordinary phenomenon."

It was a fine affirmation for ten years of support by Cambridge Enterprise for University innovation and the many decades of research and innovation that led to its creation. It was, unsurprisingly, greeted by hearty applause.



Marketing and Communications

Right message, right time, right place

How do you spread the word about the benefits of commercialisation to academics intently focused on their research? And how do you explain technology transfer to policymakers and potential business partners? We use a variety of approaches, ranging from our website, social media and press releases to workshops and special events.

Our **Consultancy 101 Workshop** provides an overview of the advantages, impact and process of consultancy to staff and researchers across the University. Although we run the workshop twice a year, the sessions are routinely oversubscribed. To make the information more widely accessible, we created an online consultancy course this year.

The Cambridge Enterprise 10th Anniversary Roadshow took commercialisation success stories back to the departments where the ideas originated. The events included a talk by Professor Jim Huntington, founder of biotech companies XO1, ApcinteX, Z Factor and SuperX, at the Department of Haematology and one by Dr Jason Mellad, CEO of Cambridge Epigenetix, at the Department of Chemistry, where pioneering work on epigenetic sequencing began.

We also work to spread our message internationally. Now in its sixth year, our International Outreach Programme provides training and support to universities and governments—from Kazakhstan to Colombia and from Norway to Southern Africa—seeking to improve the commercialisation of their scientific research and knowledge base.

This year we launched our first **Research Commercialisation Open Programme**, which brought together technology transfer professionals from around the world. They convened here in Cambridge to learn about licensing, spinning out new ventures and facilitating external consulting. The 14 delegates, who hailed from Austria, Chile, the Czech Republic, Finland, Ghana, Lebanon, Spain and Turkey, learned "how we do it in Cambridge" and tackled a range of specific issues that practitioners faced at home.

Cambridge Innovation Capital

Building companies in the Cambridge Cluster

Cambridge Innovation Capital plc (CIC) develops IP-rich companies emerging from the University of Cambridge or based in the Cambridge Cluster. It is a preferred investor for the University and has financial support from the Cambridge University Endowment Fund.

In August 2016, CIC raised £75 million from a range of existing and new investors, including further funding from the Cambridge University Endowment Fund, to increase its capital resources to £125 million. During 2016-17, CIC invested £41 million of these funds as it helped eight new and 11 portfolio businesses to develop their plans further.

Five of the eight new businesses are University of Cambridge spin-out companies which had received initial support from Cambridge Enterprise. These are **Carrick Therapeutics** (see opposite); **Exvastat**, developing a novel treatment for acute respiratory distress syndrome; Fluidic Analytics, selling tools for protein characterisation; PervasID, implementing long-range, accurate, passive RFID tag reading and **Z Factor**, treating alpha-1-antitrypsin deficiency.

The three other companies that joined the CIC portfolio are Bicycle Therapeutics, pioneering a new class of therapeutics based on its proprietary bicyclic peptide product platform; **PROWLER.io**, a world-leading AI decision-making platform and **Microbiotica**, a leader in discovery and development of novel microbiome-based therapeutics and biomarkers based on world-class science from the Wellcome Trust Sanger Institute.

£41m committed to investments in 2016–17



Creating an oncology powerhouse

In 2016 CIC and Cambridge Enterprise worked together to invest in the largest-ever early stage investment in a UK university spin-out. Carrick Therapeutics, a leading European oncology company, raised \$95 million to develop a portfolio of new therapies. A global investor group participated alongside CIC and Cambridge Enterprise.

One of Carrick's founding scientific programmes is derived from work undertaken at the Gurdon Institute, University of Cambridge.

Cambridge Enterprise licensed the intellectual property and provided seed funding to Carrick.

Carrick has a world class management team together with a clear vision for cancer patients, targeting the molecular pathways that drive the most aggressive and treatment resistant forms of cancer. Carrick's suite of first-in-class treatments is advanced through understanding the mechanisms that cause cancer and resistance and is tailored to an individual patient's tumour.

Cambridge Enterprise income

Years to 31 July	2016–17 £000	2015–16 £000
Income generated by Cambridge Enterprise operations	16,914	15,987
University and Higher Education Innovation Fund (HEIF) funding	2,199	2,200
Income for services and other income	991	921
Income before returns from equity realisation	20,104	19,108
Equity income to Cambridge Enterprise and University Seed Funds	3,679	6,522
Total income	23,783	25,630



School of the **Physical Sciences**

Social Science

Cambridge Enterprise IP investment, distributions and operating costs

Years to 31 July	2016–17	2015–16
	£000	£000
Investment in IP assets (patent and proof of concept)	(1,060)	(792)
investment in Passets (patent and proor of concept)	(1,000)	(792)
Distributions to academics and external parties	(9,616)	(9,205)
Distributions to University (departments' share of IP and gift aid from academics)) (5,583)	(4,209)
Returns to University of Cambridge Seed Funds	(1,109)	(4,942)
Operating costs (staff and other costs)	(4,569)	(3,887)
		()
Total expenditure	(21,937)	(23,035)

1,846

2,595

23

£792,121

School of Technology

£787,357

School of **Clinical Medicine**

Equity portfolio

In 2017 there were 78 companies in the Cambridge Enterprise portfolio. As spin-outs grow and succeed, they exit the portfolio, either via sale or public listing. Collectively this process has generated billions of pounds in value. The logos displayed here are a few representatives of current holdings.









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Governance and structure

Cambridge Enterprise is a wholly owned affiliate of the University of Cambridge.

Board of Directors

Chair Sir Keith O'Nions **Non-Executive Directors** Professor Alan Blackwell Charles Cotton Professor Andrew Neely Anthony Odgers Dr Jane Osbourn Debu Purkayastha **Professor Florin Udrea Executive Directors**

DrTony Raven Dr Paul Seabright Company Secretary

Emma Rampton Nominated Officer of the Shareholder Andrew Reid

Senior Management Team DrTony Raven Dr Paul Seabright **Boris Bouqueniaux** Paul Cox (from 01/08/17) Dr Anne Dobrée Dr Malcolm Grimshaw Shirley Jamieson (until 31/12/17) **Mark Parsons** Christian Pratt (from 01/01/18) Ruth Queen **Dr** lain Thomas Dr Amanda Zeffman Investment Committee **Charles** Cotton Dr Barbara Domayne-Hayman Pam Garside Dr Iris Good Dr Hermann Hauser Dr Andrew Herbert **Dr Richard Jennings Dr Derek Jones**

Dr Henry Kressel

John Lee (Chair)

DrTony Raven

Andrew Sandham

Professor Steve Young

Dr Robert Swann

Professor Chris Lowe

Professor Duncan Maskell

Professor Patrick Maxwell

Registrary, University of Cambridge

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- Cambridge Phenomenon Limited
- Pro-Vice-Chancellor Enterprise and Business Relations
- Chief Financial Officer, University of Cambridge
- Vice President of Research & Development, MedImmune
- Entrepreneur-in-Residence, Octopus Investments
- Professor of Semiconductor Engineering
- Chief Executive
- **Deputy Director**

Director of Finance, University of Cambridge

- Chief Executive
- **Deputy Director**
- Head of Support Services
- Chief Information Officer
- Head of Seed Funds
- Head of Physical Sciences
- Head of Marketing
- Head of Finance and Accounting
- Head of Marketing and Communications
- Head of Human Resources
- Head of Life Sciences
- Head of Consultancy Services
- Cambridge Phenomenon Limited
- **Biotechnology entrepreneur**
- Healthcare investor
- **Biotechnology entrepreneur**
- Amadeus Capital Partners Limited
- Computer technology entrepreneur
- Technology transfer consultant
- Babraham Bioscience Technologies Limited
- Warburg Pincus LLC
- **DisplayLink Limited**
- Director, Cambridge Academy of Therapeutic Sciences
- Senior Pro-Vice-Chancellor
- **Regius Professor of Physic**
- **Cambridge Enterprise Limited**
- Biotechnology entrepreneur
- **Technology entrepreneur**
- **Professor of Information Engineering**



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