

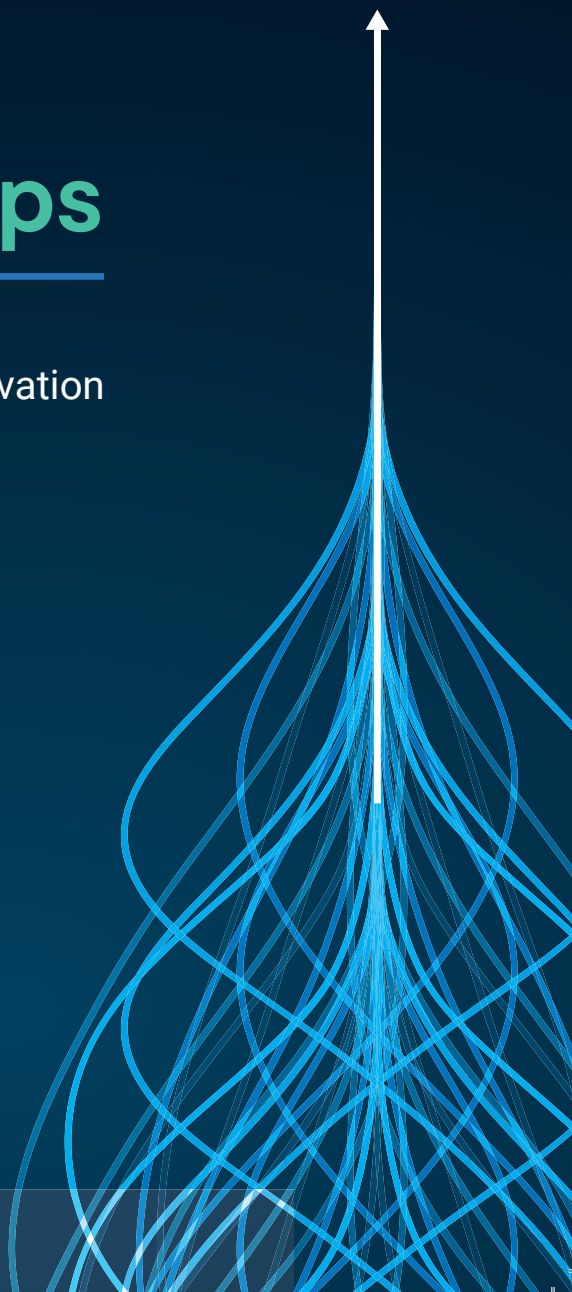


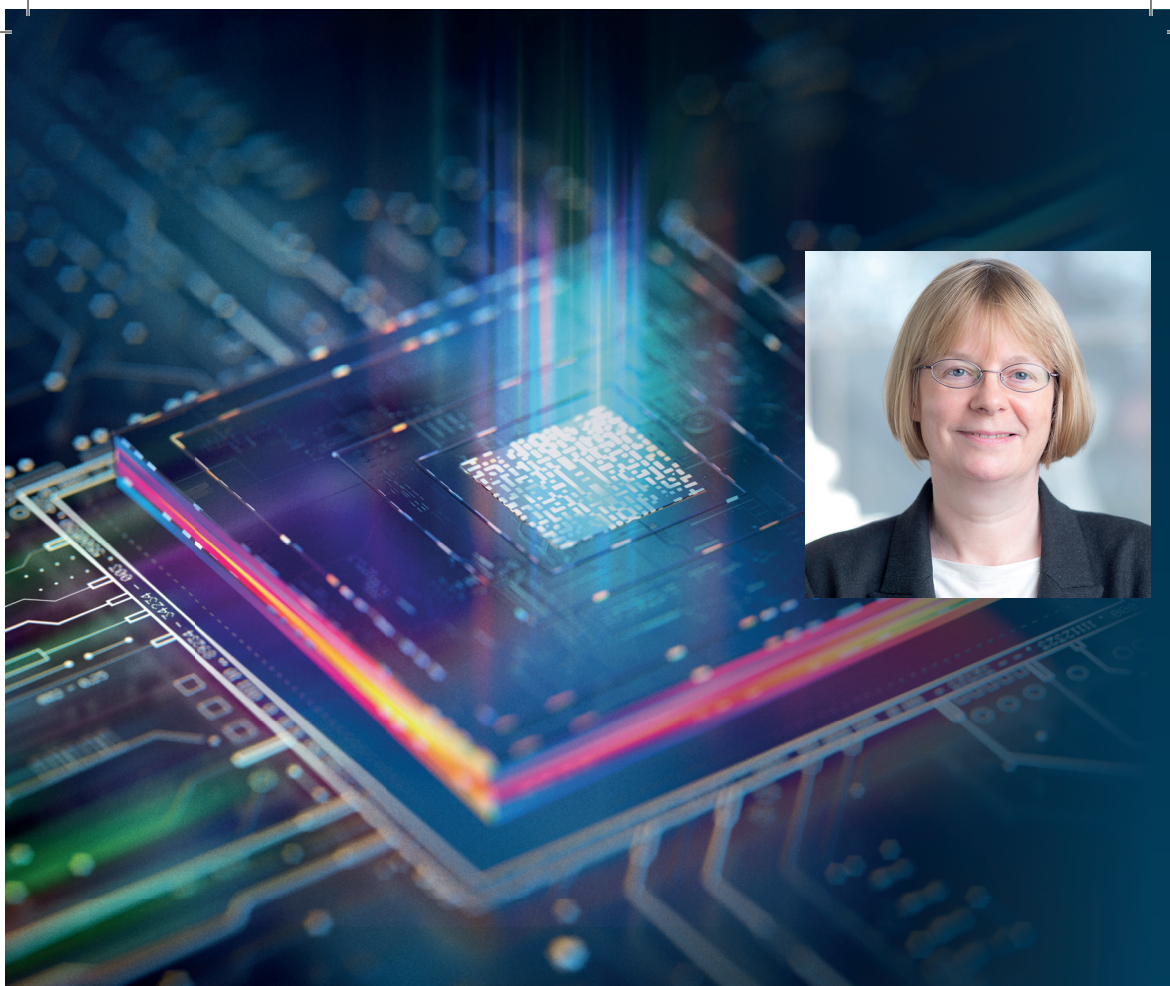
Engineering and
Physical Sciences
Research Council

Achievements of

Prosperity Partnerships

Research collaboration for
economic impact and innovation





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I have been involved with leading GSK's diverse and wide-ranging academic collaborative research activities with EPSRC for over 20 years. These have resulted in many significant long-term benefits for both GSK, the academic researchers, and others. The Prosperity Partnerships Scheme offers a means for GSK to really engage in longer-term collaborations with the UK's world-leading academic researchers. The Scheme's inherent flexibility allows us to change our research programme to suit our needs. I highly recommend it to all businesses in all sectors. It is truly a UK success story and EPSRC is to be applauded for its vision in establishing it.

”

Malcolm Skingle, Director of Academic Liaison at GSK

Foreword

It gives me great pleasure to introduce this publication, “Achievements of Prosperity Partnerships”.

EPSRC have long recognised the value of business-academic research collaborations and the potential that lies in bringing together diverse perspectives, expertise, and resources. The Prosperity Partnerships scheme embodies this spirit of cooperation, and its success is a testament to the great things that can be achieved when industry and academia work together.

EPSRC commissioned Technopolis to evaluate the impacts and benefits of the Prosperity Partnerships scheme. Even at this relatively early point in their existence, their report clearly demonstrates the tremendous value of these collaborations and recognises the opportunities and achievements captured by this funding. The insights and discoveries that have emerged from Prosperity Partnerships have made significant contributions to our understanding of the world and the challenges faced by both industry and academia. These achievements underscore the importance of investing in both discovery and mission-led research, and the powerful role that continued collaboration between those working in business and universities can play in driving progress forward. The expansion of the Prosperity Partnership scheme, both into other parts of UKRI and to support nascent partnerships with high potential, will help to catalyse and amplify the benefits of business-academic research collaborations and pave the way for new and exciting discoveries and innovation.

The success of the Prosperity Partnerships scheme is very much due to all those who have been involved, across business, academia, and UKRI. This has made a real difference and has brought the UK closer to a more prosperous and enlightened future. EPSRC looks forward to working together with partners to build upon the successes of the Prosperity Partnerships scheme, paving the way for even greater impact that helps transform tomorrow.

Professor Dame Lynn Gladden,
UKRI EPSRC Executive Chair

Economy and productivity

The Prosperity Partnerships are generating benefits for our economy and wider productivity. Those benefits come in a wide range of forms, from the creation of products and services that can boost companies' revenues to improvements in manufacturing processes, which can help businesses cut costs and improve their profit margins.

More widely, the partnerships are expected to lead to spin-out companies being formed by the universities and their industrial partners. Once innovations have been introduced to the market in the form of new products, services, and processes, they are also expected to be scaled and replicated, triggering benefits for businesses and sectors beyond the initial partnership.

Partners have already identified potential opportunities to create 87 products, services, or processes, while a further 200 opportunities are expected to come either during or after the partnerships. Many of those products, services, and processes will be created after the partnerships have been completed, but exciting results are already emerging, even while the partnerships are still running.

At least £24 million of additional income will have been generated by the industrial partners by the end of the programme. The partners also expect a potential £373 million of additional revenue will be generated every year following the programme.

Most industrial partners have already created jobs as a direct result of the partnerships or expect to create roles either during or after the end of their project. The equivalent of 26 full-time jobs has already been created while the projects are ongoing. The equivalent of a further 404 full-time roles is forecast.

As well as the jobs created directly, the income generated by the new products, services and patents is expected to lead to a further 187 new jobs.

Wrightbus and Queen's University Belfast – “Roadmaps to zero-net emissions in urban public transport”

Wrightbus developed a portfolio of zero-emission buses, which now forms the core of its business, through its Prosperity Partnership with Queen's University Belfast. The partnership led to Wrightbus securing contracts for hundreds of buses from customers in the UK and abroad. This allowed the company to improve the skills of its workforce and support the creation of hundreds of jobs.

Unilever and the University of Manchester – “The Centre in Advanced Fluid Engineering for Digital Manufacturing” (CAFE4DM)

Adam Kowalski, Global Head of Modelling & Analytics for Product, Process and Pack, Unilever R&D says, “The CAFE4DM Prosperity Partnership has enabled Unilever to build a deeper and more extensive relationship with our partners to accelerate our Digital Manufacturing ambitions. The closer and more flexible working relationship with our academic partners, led by University of Manchester and including University of Cambridge and the STFC, has delivered breakthrough science and engineering which is impacting the way we approach the design and scale-up of our products. The EPSRC are to be applauded for this innovative scheme which is accelerating the impact of the world class research of UK universities.”



Collaborations and investments

The Prosperity Partnerships have formed strong links between companies and universities, with 33 of the academic partners expecting those relationships to continue once the programme has ended, along with 32 of the industrial partners. The partnerships are also leading to further collaborations, with 35 of the academic partners forming links or planning to form links with other companies or institutions as a result of the work conducted during the Prosperity Partnerships, along with 33 of the industrial partners.

“For us, the Prosperity Partnership is mostly a multiplier, so that we can get a larger footprint, we can punch above our weight and have the ability to partner with the university and use the government contribution to effectively cover some of the more risky research that we do,” explained Andrea Munafo, Research Technology Programme Manager at software company SeeByte, which has been working with Heriot-Watt University in Edinburgh.

The partnerships bring benefits to sectors of the economy and academic disciplines far beyond their own. Some 71% of academic principal investigators (PIs) and 55% of industrial PIs expect that the innovations developed during their partnership will bring benefits to industrial sectors other than their own.

The collaborations are also leading to companies investing more money in the UK. 36% of industry report investments in the technology domain of the Partnership from non-UK company sources/budgets (i.e. from a parent company).

British and overseas companies will have invested £354 million by the end of the partnership and by the end of the partnerships, they plan to invest £175million annually.

Nikon and University College London – “Prosperity Partnership on Next Generation X-Ray Imaging”

Camera maker Nikon and University College London (UCL) will continue to work together on further early-stage X-ray imaging research once their current partnership comes to an end. Nikon hailed its work with UCL as improving the research culture within its business.



£322m is being or will be invested by overseas companies by the end of the partnerships

£157m follow on grants from UK sources have been received or are expected by industry partners

83% of academic partners plan to continue undertaking early-stage research in partnership with industry partners as a result of the partnerships

52% of industry partners plan to establish new collaborations with other UK academic and research institutions

Knowledge and skills

The Prosperity Partnerships are adding to the UK's knowledge and skills in a wide variety of ways. The knowledge gained through the partnerships is leading to scientific research papers being written and published, as well as patents to protect intellectual property. Both academia and industry are benefiting from the skills generated, including through students and employees working on their doctorates and through secondments for both academics and industrialists.

The academics and industrial partners have produced nearly 500 papers already. A further 900 are expected once the projects have ended.

The innovations created through the partnerships are leading to patents. More than 30 patents have already been granted with an expectation that a further 60+ will be granted by the end of the Partnerships, and another 70+ after the Partnerships.

The partnerships are helping to develop the UK's talents and skills by giving students the chance to gain PhDs. So far, 101 people have already gained their doctorates through the programme, 198 expect to complete their PhDs by the end of the partnerships and 116 once the projects are over.

Companies including drug developer GSK, defence firm QinetiQ, and industrial giant Siemens have hailed the benefits of seconding academics into their businesses during the partnerships, with many firms going on to hire their secondees. Industry partners reported over 100 completed or expected incoming secondments. 22 secondments had been organised or expected into the academic partner by the end of the partnerships.

All the academic and industry partners believe the projects have already led to their researchers gaining or improving their knowledge and skills.

Siemens Gamesa and the University of Sheffield – “A New Partnership in Offshore Wind”

Siemens Gamesa's partnership with the University of Sheffield reported that working closely with academic researchers had improved the skills of the company's engineers and research and development staff, which in turn has led to better maintenance of offshore wind farms. The Partnership has supported high-risk research on offshore wind technologies resulting in clear commercialisation pathways and the future growth of offshore wind power at a lower cost.



500

scientific research papers have already been published by academic and industrial partners

30

patents have already been filed

101

PhDs have already been completed

100%

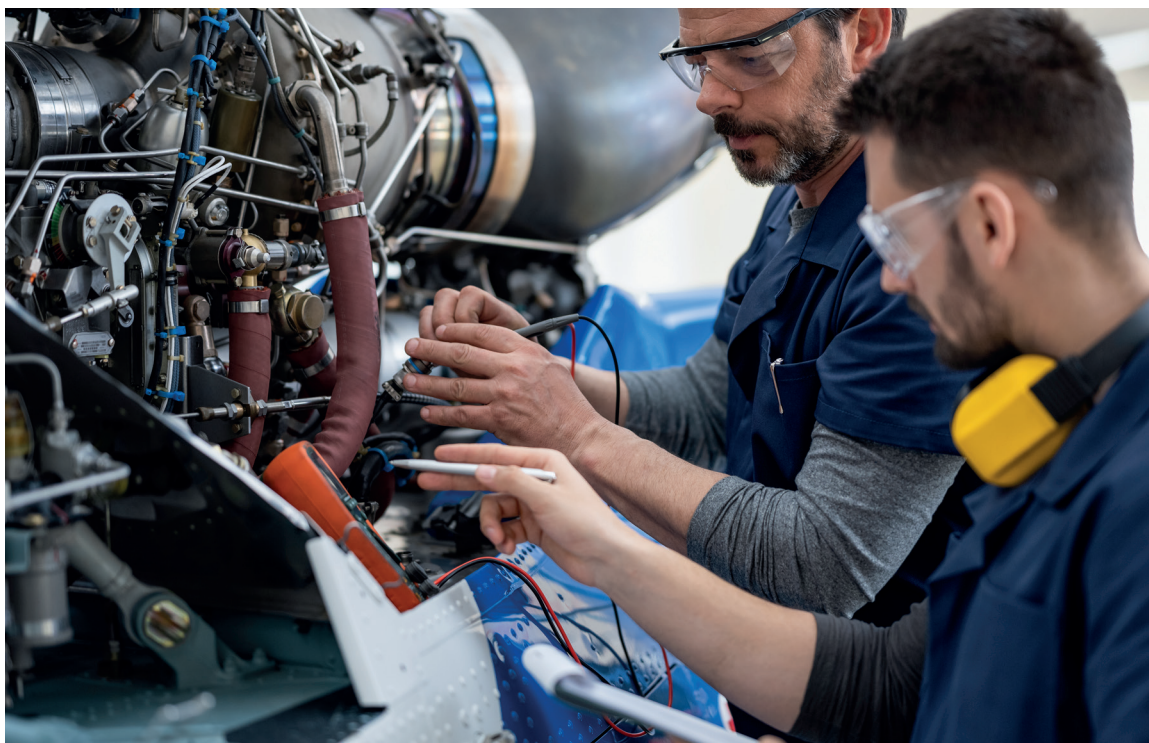
of academic partners think the projects have improved their researchers' knowledge and skills

Policy and other benefits

The Prosperity Partnerships will continue to generate wider benefits for society, alongside their clear economic and scientific benefits.

Some 45% of companies and 40% of universities think that their partnerships will have applications and benefits when it comes to designing public policies and improving the efficiency of public services.

Health and welfare applications and benefits are expected by 40% of universities and 35% of companies. Applications and benefits in regulations and standards are forecast by 49% of the academic partners and 27% of their industrial collaborators.



Costain, the University of Cambridge and digital roads for decarbonisation

Costain and the University of Cambridge's partnership focused on digital roads, which investigates how digital twins, smart materials, data science and robotic monitoring can work together to create a connected physical and digital product and associated processes with a strong focus on the flow of data.

Tim Embley, Director of Innovation at Costain, said "We have been communicating with the scientific advisor to the government... the Prosperity Partnership allowed us to work closely with policymakers. The Partnership will have an impact on the decarbonisation of the heavy roads network and the electrification of heavy vehicles. If we improve our digital capabilities, it enhances National Highways."

Rolls-Royce and the University of Nottingham – "Cornerstone: Mechanical Engineering Science to Enable Aero Propulsion Futures"

Cornerstone is a partnership between Rolls-Royce, the University of Nottingham, and several other academic partners, which is aimed at advancing scientific knowledge in the field of mechanical engineering and resolving the technological challenges that will enable a step-change towards hybrid and all-electric aerospace engines. The technological advancements are expected to be used by Rolls-Royce to reduce operating and maintenance costs. In the long term, these improvements will result in environmental benefits in the form of lower carbon dioxide emissions and noise pollution.

Evaluating the process

Academic and industrial partners praised the Prosperity Partnerships for their long-term focus, the scale of their investments, their focus on low TRLs, and the control that industry could exert on the direction of the research.

Mark Jefferies, Chief of University Research Liaison at engine maker Rolls-Royce, said: **“Compared to EPSRC programme grants, the Prosperity Partnerships facilitate more long-term planning and provide security and continuity; it is at a bigger scale, which allows for elevating the problem. Instead of focusing on one particular problem, the company can consider the system and larger-scale challenge. Prosperity Partnerships give the company a little more control over balancing the work. We can shape the direction of the work.”**

Among the universities, the majority said they had undertaken the Prosperity Partnership to “deepen” their existing collaborations with their industrial partner, a sentiment echoed by most of their industrial partners. Professor Mark Spearing, Vice-President at the University of Southampton, said: **“Prosperity Partnerships provide a way of furthering an existing relationship, helping bring about a step change in engagement levels and encouraging companies to think more strategically about their long-term research needs.”**

Many companies were motivated to pursue Prosperity Partnerships because they wanted to increase their early-stage research. The financial scope and timeframe for the partnerships allowed companies to bring together several projects and address larger-scale problems.

BT and Lancaster University – “Next Generation Converged Digital Infrastructure”

BT built on its existing relationships with a group of universities – led by Lancaster University and including the universities of Bristol, Cambridge, and Surrey – to make the UK’s communications infrastructure more resilient, more responsive, and able to respond automatically without human input. The partnership has helped to shape BT’s strategy. Successes from the partnership have included techniques to optimise network design and engineering priorities, and the deployment of computer algorithms in BT’s operations centres to detect anomalies in the networks’ behaviour automatically and then alert staff so they can fix the problems.

GSK and the University of Strathclyde – “Research for Accelerated Discovery and Development of New Medicines”

The partnership between drug developer GSK and the University of Strathclyde – along with the University of Nottingham and additional partners Added Scientific, Key Organics, and Strem – focused on improving productivity by using data and artificial intelligence (AI), lowering the environmental impact of manufacturing medicines, and training researchers. The partnership has used AI to speed up drug discovery, developed faster manufacturing techniques, and created a digital manufacturing platform that could be adopted by the wider pharmaceutical sector, as well as other industries.



Stephen Cassidy, Principal Investigator at BT, said: **“The Prosperity Partnership programme was an opportunity for BT to take... what have been smaller-scale endeavours with individual universities and now bring them together as a partnership in a significant endeavour with a very ambitious goal.”**

The partnerships’ flexibility appealed to many researchers. Professor Zoe Shipton, principal investigator for the “Smart Pulses for Subsurface Engineering” Prosperity Partnership, said that the programme **“is really exciting and no other funding compares. It is adventurous. Whenever you fund research, it is inevitable that something will not work and the Prosperity Partnerships programme allows flexibility in the research programme and adjusting it as research progresses.”**



Oxford PV and the University of Oxford – “All-Perovskite Multi-junction solar cells”

Oxford PV was spun-out from the University of Oxford in 2010 and has continued to work with the university through licensing, research, and services. Their Prosperity Partnership has focused on developing the next generation of solar panels using “perovskite”, a material that could be used to make really thin panels. Their work has included using tools at the university to produce thin films for solar cells and make devices, as well as improving efficiency and stability, and identifying ways that the solar cells could be manufactured on an industrial scale.

BAE Systems and the University of Southampton – “Intelligent Structures for Low Noise Environments”

BAE Systems and the University of Southampton – along with Lloyd’s Register and the University of Nottingham – joined forces to develop structures and machines that would reduce the noise and vibration pollution caused by large ships, which can affect sea life, including fish, turtles, and whales. The researchers have investigated ways to make structures lighter in order to reduce vibrations, instead of current methods, which make them heavier to reduce vibrations. The project has also investigated how materials can be manufactured to reduce noise pollution and has led to several patents being granted.



How we designed and evaluated the Prosperity Partnerships

Bringing together businesses and universities has sat at the heart of the UK's research and innovation policies for more than 20 years, stretching from EPSRC's Faraday Partnerships in the late 1990s through to the science and innovation policies of successive UK governments and the current UK Innovation Strategy, published in 2021. EPSRC's current Prosperity Partnerships build on the research council's solid base, which includes collaborations with major companies including BT, GSK, and Rolls-Royce.

This evaluation of the Prosperity Partnerships aimed to:

- Identify what quantifiable impacts and benefits these investments have had, or are expected to have, at a local and national level on the UK's economy, productivity, policy and scientific advancement
- Identify the key process areas such as the successful features of the programme and how have they mobilised businesses and the research community to deliver the programme's objectives

The evaluation began to collect data and conduct interviews with participants in September 2022 and ran through until January 2023, ahead of the partnerships beginning to end over the course of this year. The study looked at the outputs during the projects, the outcomes that are expected in the 5 years following the completion of the projects, and the impacts that will form the legacies of the projects between 5 and 10 years after they end.

The overarching approach to the evaluation of the Prosperity Partnerships programme is a theory-based evaluation. The full report draws on a mix of methods and evidence sources, including a desk-based review of programme documentation and data; interviews with programme staff; surveys and interviews with academic and industry PIs and 15 in-depth case studies covering the impact of the successful partnerships.

The survey element of the evaluation questioned the partners in all 47 collaborations, with responses received from 33 lead industrial partners, 8 additional industrial partners, and 35 lead academic partners. A total of 42 of the 47 projects were covered during the survey. Interviews were also conducted with 15 industrial partners and 15 academic partners to create 15 in-depth case studies covering the impact of the collaborations.

Annex

Prosperity Partnership Projects from all five rounds – Title of project and lead business and academic partners

- **A New Partnership in Offshore Wind:** Siemens Gamesa (Arwyn Thomas); University of Sheffield (Zi-Qiang Zhu)
- **A Systems Chemical Biology Paradigm to Accelerate the Discovery of New Medicines for Patients: A Prosperity Partnership for a Healthier Nation:** GlaxoSmithKline (David House); Francis Crick Institute (Simon Boulton)
- **Advanced Research into Crystallographic Anisotropy & Nucleation Effects in single crystals (ARCANE):** Rolls-Royce (Owen Draper); University of Birmingham (Nick Green)
- **Advancing Probabilistic Machine Learning to Deliver Safer, More Efficient, and Predictable Air Traffic Control:** NATS (Richard Cannon); Alan Turing Institute (Tim Dodwell)
- **All-Perovskite Multi-junction solar cells:** Oxford PV (Chris Case); University of Oxford (Henry Snaith)
- **ANTENNA – Advanced tools for predictive cleaning in a world of resource scarcity:** Proctor & Gamble (David Baez); Durham University (Mark Wilson)
- **BBC Prosperity Partnership: Future Personalised Object-Based Media Experiences Delivered at Scale Anywhere:** BBC (Graham Thomas); University of Surrey (Adrian Hilton)
- **Biobased And Biodegradable Polymers For A Sustainable Future:** Croda Europe (Ian Tooley); University of Nottingham (Steve Howdle)
- **Centre of Excellence for Hybrid Thermal Propulsion Systems:** Jaguar Land Rover (Rachel McCorriston); University of Oxford (Martin Davy)
- **Centre for Robotic Autonomy in Demanding and Long-lasting Environments (CRADLE):** Jacobs (Duncan Steel); University of Manchester (Barry Lennox)
- **Cleaner Futures (Next-Generation Sustainable Materials for Consumer Products):** Unilever (Ian Howell); University of Liverpool (Matthew Rosseinsky)

- **Cornerstone: Mechanical Engineering Science to Enable Aero Propulsion Futures:** Rolls-Royce (Sophoclis Patsias); University of Nottingham (Seamus Garvey)
- **Decarbonising the Acrylic Value Chain via Resource Circularity:** Mitsubishi Chemical UK (Jonathan Runnacles); University of Nottingham (Alex Conradie)
- **Delivering Enhanced Through-Life Nuclear Asset Management:** Babcock (Jim Sibson); University of Strathclyde (Stephen McArthur)
- **Developing a rule book for rational discovery of molecular glues for intractable targets:** AstraZeneca (Emanuela Cuomo); Francis Crick Institute (Julian Downward)
- **Developing New Biocatalytic Technologies for Chemical Manufacturing in the Pharmaceutical Industry:** AstraZeneca (Jeremy Parker); University of Manchester (Nicholas Turner)
- **Digital Roads: Towards a digitised, self-monitored, and proactive road network:** Costain (Tim Embley; University of Cambridge (Ioannis Brilakis)
- **Digital Transformation of Electromagnetic Material Design and Manufacturing for Future Wireless Connectivity (DREAM):** Qinetiq (Sajad Haq); Queen Mary University London (Yang Hao)
- **Dyson Future Power Systems Lab:** Dyson (Daniel Smith); Newcastle University (Barrie Mecrow)
- **Dyson Imperial College Robotics Lab:** Dyson (Charles Collis); Imperial College London (Andrew Davison)
- **Engineered Diamond Technologies:** Element Six (Daniel Twitchen); University of Warwick (Mark Newton)
- **ENSIGN: ENergy System dIGital twiN:** Scottish Power Energy Networks (James Yu); University of Strathclyde (Campbell Booth)
- **Environmentally Sustainable Polymeric Coatings by Design:** AkzoNobel (Claudio Di Lullo); University of Manchester (Stuart Lyon)
- **Extending the clinical reach of MRI scanning through innovative low-field engineering and hyperpolarised xenon technology:** GE Healthcare (Jan Wolber); University of Sheffield (Jim Wild)

- **FAIR: Framework for responsible adoption of Artificial Intelligence in the Finance seRvices industry:** HSBC (Penny Robertson); Alan Turing Institute (Lukasz Spruch)
- **FASTNET – Revolutionary hollow core low-latency fibres and cables for ultrafast next-generation optical networks:** Lumenisity (Andrew Appleyard); University of Southampton (Francesco Poletti)
- **HUman-machine teaming for Maritime Environments (HUME):** SeeByte (Andrea Munafo); Heriot-Watt University (Helen Hastie)
- **Inertial Fusion Energy: Optimising High Energy Density Physics in Complex Geometries:** First Light Fusion (Nicholas Hawker); Imperial College London (Simon Bland)
- **INFUSE: Interface with the Future – Underpinning Science to Support the Energy transition:** Shell (Lisa Brook); Imperial College London (Mary Ryan)
- **Innovative Material, Processes and Devices for Low Power Flexible Electronics:** Creating a Sustainable Internet of Everything: PragmatiC Semiconductor (Feras Alkhail); University of Bath (Andrew Johnson)
- **Intelligent Structures for Low Noise Environments:** BAE Systems (Mark Scaife); University of Southampton (Steve Daley)
- **Jaguar Land Rover and the University of Warwick: A Prosperity Partnership:** Jaguar Land Rover (Mike Innes); University of Warwick/ Kings College London (Barbara Shollock)
- **M Squared Lasers – University of St Andrews Biophotonics Nexus:** M Squared Lasers (Graeme Malcolm); St Andrews University (Kishan Dholakia)
- **Machine Learning for Tomorrow: Efficient, Flexible, Robust and Automated:** M Squared Lasers (Nils Hempler); University of Strathclyde (Jonathan Pritchard)
- **Mlniature Sensing and Timing with QUantum Enhancement – MISTIQUE:** BAE Systems (Henry White); University of Birmingham (Kai Bongs)
- **Next Generation Converged Digital infrastructure (NG-CDI):** BT (Steve Cassidy); University of Lancaster (Nick Race)
- **Nikon and UCL – Prosperity Partnership on Next Generation X-Ray Imaging:** Nikon (David Bate); University College London (Sandro Olivo)

- **PEEK-OPTIMA as a Platform for Natural Total Knee Replacement:** Inivbio (Adam Briscoe); University of Leeds (Louise Jennings)
- **Optimisation of CHO for Biotherapeutic Manufacture:** Fujifilm Diosynth Biotechnologies (Leon Pybus); University of Edinburgh (Susan Rosser)
- **Preventing Surface Degradation in Demanding Environments:** BP (Sheetal Handa); University of Manchester (Philip Withers)
- **Prosperity Partnership in Innovative Continuous Manufacturing for Industrial Chemicals (IConIC):** BASF (Darren Budd); Imperial College London (Mimi Hii)
- **Prosperity Partnership in Rapid Product Development:** Tata Steel UK (Martin Brunnock); Swansea University (Nick Lavery)
- **Quantum Software for Modeling and Simulation:** Google (Markus Hoffmann); University College London (John Morton)
- **Research for Accelerated Discovery and Development of New Medicines:** GlaxoSmithKline (Diane Coe); University of Strathclyde (William Kerr)
- **Roadmaps to Zero Net Emissions in Urban Public Transport:** Wrightbus (Robert Best); Queens University Belfast (Juliana Early)
- **Rockley Photonics and the University of Southampton: A Prosperity Partnership:** Rockley Photonics (Andrew Rickman); University of Southampton (Graham Reed)
- **Scalable Qubit Arrays for Quantum Computing and Optimisation:** Microsoft (Kenji Takeda); University of Cambridge (Richard Turner)
- **Secure Wireless & Agile Infrastructures (SWAN):** Toshiba (Magnus Sandell); University of Bristol (Mark Beach)
- **SINDRI: Synergistic utilisation of INformatics and Data centRic Integrity engineering:** EDF (Richard Jones); University of Bristol (David Knowles)
- **Smart biomanufacturing for genomic medicines:** Pall Europe (John Welsh); University College London (Daniel Bracewell)
- **Smart Products Made Smarter:** Leonardo (Iain Scott); Heriot-Watt University (Steve McLaughlin)
- **Smart Pulses for Subsurface Engineering:** Silixa (Athena Chalari); University of Strathclyde (Zoe Shipton)

- **STEP Aluminium:** Constellium (Martin Jarrett); Brunel University (Zhongyun Fan)
- **Strategic Partnership in Computational Science for Advanced Simulation and Modelling of Engineering Systems – AsiMoV:** Rolls-Royce (Leigh Lapworth); University of Edinburgh (Mark Parsons)
- **Sustainable Catalysis for Clean Growth:** BP/Johnson Matthey (James Paterson); Cardiff University (Duncan Wass)
- **Sustainable Chemicals Innovations Enabling Net Carbon Emissions (SCIENCE):** Lubrizol (Mike Sutton); University of Nottingham (Peter Licence)
- **Swansea TATA Research and Innovation Prosperity Partnership for Printed Perovskite PV (STRIPS):** Tata Steel UK (Chris Hill); Swansea University (Trystan Watson)
- **Swarm Spatial Sound Modulators:** Ultraleap (Orestis Georgiou); University College London (Sriram Subramanian)
- **Thales-Bristol Partnership in Hybrid Autonomous Systems Engineering (T-B PHASE):** Thales (Matt Ball); University of Bristol (Arthur Richards)
- **The Centre in Advanced Fluid Engineering for Digital Manufacturing (CAFE4DM):** Unilever (Adam Kowalski); University of Manchester (Chris Hardacre)
- **The Tailored Electromagnetic And Acoustic Materials Accelerator (TEAM-A):** Qinetiq (Chris Lawrence); University of Exeter (Geoff Nash)
- **Transforming the future use of injectable medicines outside the hospital:** Increasing capacity in the NHS: QPHL/Corsham Science (Chris Watt); University of Bath (Andrew Watts)
- **Transformative Imaging for Quantitative Biology (TIQBio) Partnership:** M Squared Life (Nils Hempler); University of Southampton (Sumeet Mahajan)
- **Transforming synthetic drug manufacturing: novel processes, methods and tools:** Eli Lilly (Savador Garcia Munoz); Imperial College London (Claire Adjiman)
- **UNderwater IntervEnTion for offshore renewable Energies (UNITE):** Fugro GB Marine (Mike Liddell; Heriot-Watt University (Yvan Petillot)
- **Zero-Emission: the Next-generation of Integrated Technology for Hydrogen storage (ZENITH):** GKN Aerospace (Daniel Graham); University of Bath (Richard Butler)





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