

<b>Institution:</b> Cranfield University
<b>Unit of Assessment:</b> 17
<p><b>1. Unit context and structure, research and impact strategy</b></p> <p><i>Context and Structure</i></p> <p>Cranfield is an exclusively postgraduate university, focused on technology and management. Our activities in business and management studies began in 1953 with the formation of the Work Study School at the postgraduate-only College of Aeronautics, Cranfield. The School of Management (SoM) was created in 1967, two years prior to Cranfield's award of a Royal Charter giving it university status.</p> <p>The School of Management is an exclusively postgraduate and post-experience business school that is triple accredited (AACSB, AMBA, EQUIS). The School's mission is to transform the practice of management around the world by creating and disseminating applied knowledge; summarised as 'Knowledge into Action'. Its vision is to be a world leader for responsible management thinking and practice, conducting research that has a genuine and meaningful impact on the practice of management. To achieve this, business and management research at Cranfield needs to meet not only academic rigour but also practitioner relevance. The aim is to create a virtuous circle linking research, teaching and practice.</p> <p>The Unit's work is guided by the university values of Ambition, Impact, Respect and Community, as described in the institutional environment statement (REF5a). For example, ambition and impact are embodied in the user-focused approach taken to developing the research strategy and in the selection of research priorities, informed by engagement with policy and practice through, for example, the Unit's Research Clubs, Industry Forums and Steering Groups.</p> <p>Leadership and Management is one of eight Themes at Cranfield, broadly sector focussed equivalents of Departments at a conventional university (REF5a). Leadership and Management, that constitutes the business and management studies UoA at Cranfield, is led by SoM, one of the 4 Schools at Cranfield which act as the University's budgetary business units. It is led by a Pro-Vice-Chancellor (PVC) and Dean, Prof David Oglethorpe, who reports directly to the Vice-Chancellor and is a member of the University's Executive. Within UoA17, 42 staff (40.10 FTE) are included: 41 from SoM and one with a management focus from the Cranfield Defence and Security Theme. Of these, 20 are Professors and 3 Early Career Researchers (ECRs). Many of the Unit's staff have both business and academic experience, which combine to inform their thought leadership (e.g., Anderson, Dickmann, Franco-Santos, Maklan, Moro, Pavlov, Turner).</p> <p><b>Line management within SoM is structured into six Centres</b> which deliver the research and education portfolios (Fig. 1.).</p>

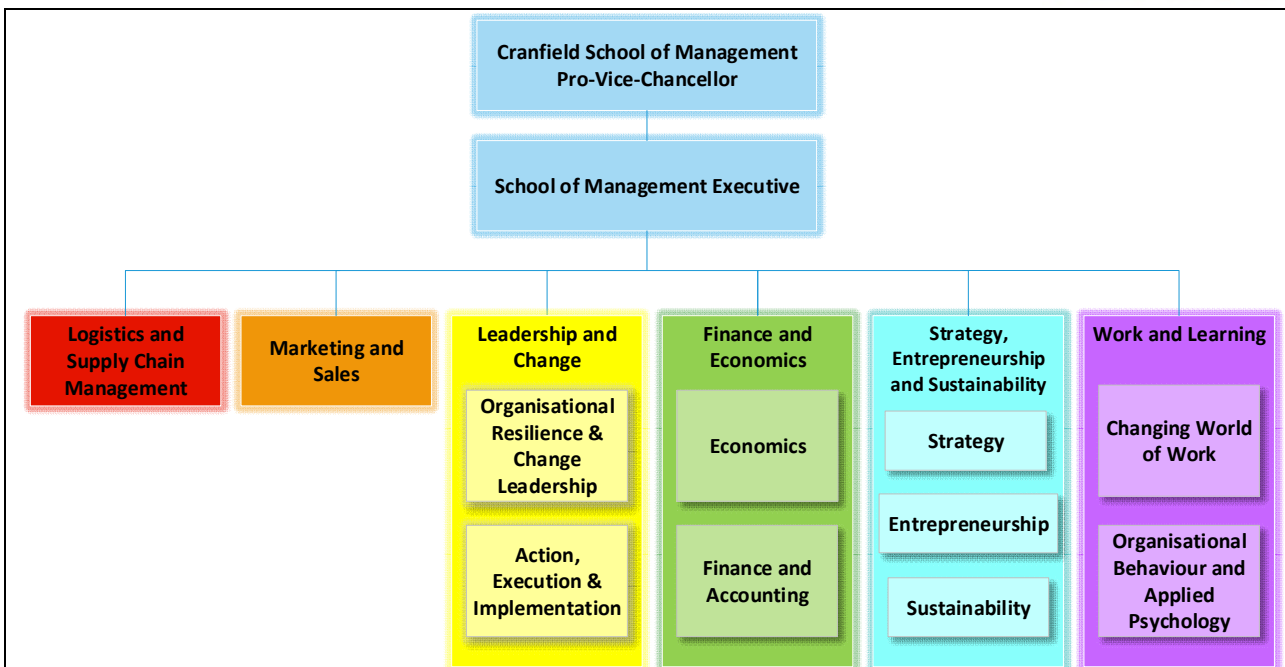


Fig. 1. School of Management organisational structure

Four of these Centres have a sub-structure of **Thought Leadership Groups (TLGs)**, which, along with the other two centres, form eleven TLGs that provide the intellectual home for academic staff:

- Logistics & Supply Chain Management
- Marketing and Sales
- Organisational Resilience & Change Leadership
- Action, Execution & Implementation
- Economics
- Finance & Accounting
- Strategy
- Entrepreneurship
- Sustainability,
- Changing World of Work
- Organisational Behaviour & Applied Psychology

Alongside this line management structure, SoM has **five long-standing, outwardly facing research and practice focussed Centres**. These Centres are cross-School and have membership from more than one TLG; they are the:

- Gender, Leadership, and Inclusion Centre (GLIC)
- Centre for Logistics, Procurement and Supply Chain Management
- Centre for Strategic Marketing and Sales'
- Centre for Business Performance (CBP)
- Bettany Centre for Entrepreneurship

This overall structure was established following a review in 2017 and involved a reorganisation from four larger Community groupings, as described in the REF2014 environment statement. The motivation behind the reorganisation was to create clusters of research excellence, where

smaller, more specialist groups of staff could work on distinct themes. For example, staff previously located in the Strategy, People and Leadership Community are now distributed across several TLGs, including Strategy, Changing World of Work, Organisational Behaviour and Applied Psychology and Organisational Resilience and Change Leadership.

The affiliation with the broader subject-led Centres is designed to ensure research activity is aligned with the overall strategic goals of the Unit. The TLG members are physically co-located to facilitate frequent, informal interaction and the development of research culture. Importantly, in addition to their primary TLG, staff can have a secondary TLG affiliation which has been instrumental in fostering cross-disciplinary and interdisciplinary interaction in business and management studies, by bringing individuals from different sub-disciplines together to work on thematic areas, such as sustainability, corporate responsibility, identity, and entrepreneurship. For example, the Sustainability TLG positions itself as being a hub for the integration of sustainability across different areas of business and management. Outputs concerned with sustainability have been authored from several TLGs including Entrepreneurship (Adams), Logistics, Procurement and Supply Chain Management, (Aktas) and Sustainability (Watson, Wilson). The Sustainability TLG also collaborates pan-university with colleagues in the School of Water, Energy and Environment and the School of Aerospace, Transport and Manufacturing and has resulted in, for example, involvement in the UK Collaboratorium for Research on Infrastructure and Cities (UKCRIC, Urban Observatory at Cranfield ([www.cranfield.ac.uk/facilities/urban-observatory](http://www.cranfield.ac.uk/facilities/urban-observatory))). Likewise, the Organisational Resilience and Change Leadership TLG collaborates across the university and the Connected Resilience Grand Challenge Project is led by the TLG head (Denyer, <https://cranfield.shorthandstories.com/resilience/index.html>).

The five established research and practice focussed Centres are based around core areas of research that have been central to SoM over a long period of time. Several have a high profile and national and international reputations for their research and impact on policy and practice. Several centres run **externally sponsored Research Clubs, Industry Forums and Roundtables**. These act as vehicles for dissemination of research findings and routes to impact for both policy and practice. They also serve as means of gaining external input in shaping future research agendas and provide some research funding.

The **Gender, Leadership and Inclusion Centre (GLIC)** builds on Cranfield's long-standing international reputation for research in the area of gender leadership, as exemplified by the work resulting in the annual publication of the Female FTSE Report ([www.ey.com/en\\_uk/news/2020/09/targets-bring-more-women-on-boards-but-they-still-dont-reach-the-top](http://www.ey.com/en_uk/news/2020/09/targets-bring-more-women-on-boards-but-they-still-dont-reach-the-top)). The Centre pursues an applied research agenda and has become established as a principal source of expertise in gender, inclusion, and leadership for UK organisations. Research falls into a number of themes developed in collaboration with practitioner and academic partners. These include: gender and boardroom cultures; gender and ethnicity pay gap; gender and ethnicity in board diversity reporting; inclusive leadership; evidence-based unconscious bias training; intersectionality and multiple identities; whiteness and privilege; executive education on gender, leadership, and inclusion. The Centre works closely with government departments (Government Equalities Office, Department for Business, Energy and Industrial Strategy), regulators and industry bodies (Financial Reporting Council, Financial Conduct Authority) and professional membership organisations (Institute of Directors, Chartered Management Institute). Major projects during the REF period include:

- Gender Equality in Decision Making (GEM) 2014-2016, funded by the European Commission's PROGRESS Programme

([https://ulsites.ul.ie/gemsprogress/sites/default/files/gemsprogress\\_best\\_practice\\_guide.pdf](https://ulsites.ul.ie/gemsprogress/sites/default/files/gemsprogress_best_practice_guide.pdf))

- Unconscious Bias Training: an assessment of the evidence for effectiveness, 2018, funded by the Equality and Human Rights Commission ([www.equalityhumanrights.com/sites/default/files/research-report-113-unconscious-bias-training-an-assessment-of-the-evidence-for-effectiveness-pdf.pdf](http://www.equalityhumanrights.com/sites/default/files/research-report-113-unconscious-bias-training-an-assessment-of-the-evidence-for-effectiveness-pdf.pdf))
- Ethnic Diversity Reporting across the FTSE 350 companies, 2019, funded by the Financial Reporting Council (<https://www.frc.org.uk/news/july-2019/more-needs-to-be-done-to-promote-diversity-across>)

One of the impact case studies submitted to REF2021 is based on the work of this Centre

The **Centre for Logistics, Procurement and Supply Chain Management** builds on Cranfield's established reputation and research leadership in this developing field and focusses on issues of importance to practitioner audiences. It covers almost all supply chain domains and employs interdisciplinary approaches. Research areas include manufacturing and retail supply chains; supply chain agility, service supply chains; procurement; outsourcing; sustainable and reverse logistics; Supply Chain 4.0. Examples of funded research have included:

- The role of value and reverse logistics in the circular economy (Horizon 2020, €4.00M total, [www.cranfield.ac.uk/som/research-projects/reverse-logistics-in-circular-economy](http://www.cranfield.ac.uk/som/research-projects/reverse-logistics-in-circular-economy))
- E-Commerce in the world of B2B (DHL Express, [www.cranfield.ac.uk/som/press/dhl-report-reveals-how-ecommerce-is-transforming-the-world-of-b2b](http://www.cranfield.ac.uk/som/press/dhl-report-reveals-how-ecommerce-is-transforming-the-world-of-b2b))
- Safeguarding Food and Environment in Qatar (Qatar Foundation, <http://public.cranfield.ac.uk/e800578/Other/SAFE-QCARD.pdf>)
- Delivery of food products from food supply chain members to consumers (U-TURN) funded by Horizon 2020 (EU H2020, €2.7M total, <https://cordis.europa.eu/project/id/635773>)

The Centre hosts the Reverse Logistics Forum and the **Agile Supply Chain Research Club** ([www.cranfield.ac.uk/som/research-clubs/agile-supply-chain-research-club](http://www.cranfield.ac.uk/som/research-clubs/agile-supply-chain-research-club)). The latter has an average annual membership of fourteen organisations, with current membership including DHL, Marks & Spencer, Mars, Nestle, Coca Cola, Network Rail and Jaguar Land Rover. It meets for a one-day event four times a year, with members paying a fee to participate. Two of the impact cases submitted to REF2021 are based on the work of this Centre.

The **Centre for Strategic Marketing and Sales** research and thought leadership focusses on improving marketing and sales practices and helping businesses transform into customer-centric, high sales-performing organisations. The group enjoys an international reputation for practitioner-oriented research, particularly in the areas of strategic sales and key account management, relationship management, and digital transformation. Further research areas include branding and marketing communications, complex buyer-seller relationships and retail marketing. The Centre hosts two research-oriented practitioner forums:

- **Cranfield Customer Management Forum** ([www.cranfield.ac.uk/som/research-clubs/customer-management-forum](http://www.cranfield.ac.uk/som/research-clubs/customer-management-forum))
- **Key Account Management Best Practice Forum** ([www.cranfield.ac.uk/som/research-clubs/key-account-management-forum](http://www.cranfield.ac.uk/som/research-clubs/key-account-management-forum)),

Both forums have acted as mechanisms for engaging with practitioners and establishing collaborative relationships. For example, Marcos-Cuevas and Ryals conducted research on the implementation of Key Account Management with the Forum members, leading to published

outputs in both journal article and book form. Within the REF period, the Centre has delivered two Knowledge Transfer Partnerships (KTPs) with MESH Planning Tools (£65K) and Pamela Steel Associates (£103K). The former was a finalist in the KTP RCUK Knowledge Base Impact Awards at the Innovate UK 2015 conference. Further industry funding for research projects has been received e.g., Maklan secured £100K from Publicis for a project on Digital Transformation and Marketing.

The **Centre for Business Performance (CBP)** is concerned with understanding the design, implementation, use and on-going maintenance of performance measurement and management systems ([www.cranfield.ac.uk/som/research-centres/centre-for-business-performance](http://www.cranfield.ac.uk/som/research-centres/centre-for-business-performance)). Activity is focussed on applied research and knowledge transfer, involving the development of practical tools, underpinned by high-quality academic research. Research areas of expertise include theoretical foundations in performance management; strategy and performance; measurement behaviours including unintended consequences; performance and the implementation of change; performance management in different environments (public and private sectors, volatile environments) and for different types of employee (e.g., knowledge work and knowledge workers); performance management and rewards. Cranfield thinking on the theoretical foundations in performance management, in particular, is represented in a series of outputs. The Centre hosts The Business Performance Roundtable ([www.cranfield.ac.uk/som/research-clubs/the-business-performance-roundtable](http://www.cranfield.ac.uk/som/research-clubs/the-business-performance-roundtable)) and The Public Sector Performance Roundtable ([www.cranfield.ac.uk/som/research-clubs/public-sector-performance-roundtable](http://www.cranfield.ac.uk/som/research-clubs/public-sector-performance-roundtable)).

Funded research includes:

- Examination of Performance Management in UK Higher Education Institutions funded by the Leadership Foundation for Higher Education.
- Project X, a research collaboration between the UK government and academia to create better government projects ([www.bettergovprojects.com/about](http://www.bettergovprojects.com/about)).

Bourne is Chair of the PMA (the Performance Measurement Association, the international association of academics and practitioners in the field). The Centre's work has also had led to significant impact, for example, leading to the creation of a performance framework which has been rolled out in central government functions led by the Cabinet Office.

The **Bettany Centre for Entrepreneurship** was founded through a philanthropic donation from Tim Bettany in 2006. It focuses on the study and facilitation of entrepreneurial growth. By linking research, education, and practice, it aims to unlock the entrepreneurial potential of high-growth businesses ([www.cranfield.ac.uk/som/research-centres/bettany-centre-for-entrepreneurship](http://www.cranfield.ac.uk/som/research-centres/bettany-centre-for-entrepreneurship)). The Centre's research is designed to add to the cumulative knowledge in entrepreneurship and reflecting Centre members' expertise, includes entrepreneurial mind sets and behaviours; entrepreneurial leadership and teams; family business growth and succession; entrepreneurship in large organisations; entrepreneurial finance and de-risking ventures; social impact and social entrepreneurship/ sustainability. It serves as the entrepreneurial hub of the University bringing together research, education, and practice in the field of entrepreneurial growth. It is involved in a number of national and international research collaborations, for example:

- The Knowledge-Empowered Entrepreneurship Network (KEEN) is an EU funded project involving Cranfield and Kaunas University of Technology, Lithuania, Wuppertal University, Germany, and St Gallen University, Switzerland to position Kaunas at the forefront of EU research in entrepreneurship ([www.keenetwork.com](http://www.keenetwork.com))
- The Blockchain for Good (B4G) project, partly supported by a BA/Leverhulme Small Research Grant (SRG 2016) and Society for the Advancement of Management Studies,

in partnership with Exeter University and the University of the West of England (<https://b4g.mystrikingly.com>).

- The Lived Life of the Entrepreneur (LLEnt) project involves collaboration with Pakistan and draw on entrepreneurs' longitudinal, personal digital data to map the entrepreneurial experience in and over real-time ([www.cranfield.ac.uk/som/research-centres/bettany-centre-for-entrepreneurship/research-focus](http://www.cranfield.ac.uk/som/research-centres/bettany-centre-for-entrepreneurship/research-focus)).
- Developing business models for the award-winning Cranfield nanomembrane toilet funded by the Bill and Melinda Gates Foundation ([www.nanomembranetoilet.org](http://www.nanomembranetoilet.org)).

Following REF 2014 and in line with the Cranfield's research priority to be recognised for outstanding transformational research that meets the needs of business, government and wider society (REF5a, ([www.cranfield.ac.uk/research/rio/research-strategy](http://www.cranfield.ac.uk/research/rio/research-strategy)), **Research Objectives during the REF period** were set for management and business studies research with a vision to be:

- renowned for research, informed impact and influence internationally, nationally and regionally,
- the first place that managers turn to for impactful research that enables them to enhance or transform management practice and organisational performance.

The vision sets out three main objectives, focussing, in particular, on repositioning the research culture through:

- raising the research profile,
- enhancing research partnerships and income,
- supporting research dissemination.

**Raising the research profile** was central to the thinking behind the formation of the smaller, more specialised TLGs described above. The TLGs developed research agendas and outlined plans to sustain internationally excellent research, in relation to originality, significance and rigour. In line with the SoM's mission, staff are encouraged to develop research agendas that focus on real-world organisational problems, offering the potential for impact and the generation of a 'virtuous circle' linking research, practice, teaching and organisational development/consultancy. Regular engagement with practising managers participating in executive education and post-experience, postgraduate degree programmes enables their concerns and perspectives to inform the business and management research agenda. Engagement with practitioners in a learning environment is also often used as a 'test bed' for the development of ideas. This engagement also provides potential routes to impact as well as opportunities for access to sites for fieldwork and the generation of research funding from industry sources.

Staff in SoM have been active in leading and participating in two major international research collaborations over many years:

- Cranfield founded CRANET (<https://businessapps.cranfield.ac.uk/cranet/cranet.html>) in 1989, a network of universities in over 40 countries, including Australia, Canada, China, France, Germany, India, New Zealand, Russia, South Africa, Spain, UK and USA. The network has a well-established record of collecting representative, longitudinal data, conducting rigorous cross-national analysis and widespread dissemination of results (<https://cbs-executive.dk/wp-content/uploads/2018/01/Cranet-International-Report-2017-FINAL-160118.pdf>).

- Cranfield has also been involved with leading the Cross-Cultural Collaboration on Contemporary Careers (5C) Network (<https://5c.careers/>) since 2008, which was set up to examine the nature of careers and career success across countries, including examining the role of national context, and individual differences. This is a collaboration between over 30 countries worldwide, including Australia, Brazil, Canada, China, Germany, Italy, Japan, Nigeria, UK and USA.

**Enhancing research partnerships and income** has been achieved through leveraging cross-university funded research projects, developing cross-institutional grant applications and funding from new organisations, e.g., a grant from the Institution of Occupational Safety and Health (IOSH) for health and safety leadership research (<https://iosh.com/more/news-listing/research-reveals-workplace-safety-and-health-implications-of-outsourcing/>). Existing relationships and networks with practitioners have been used to diversify the research funding from industry partner sources.

For doctoral researchers, plans focus on:

- development of PhD and DBA programmes to further enhance the student experience and increase their contribution to the research environment in SoM (Section 2)
- increase the number of industry-funded PhD students through the Cranfield Industrial Partnership PhD Scholarships Scheme
- continuing provision of a small number (4-6 per year) of fully funded PhD scholarships for exceptional candidates to build on existing research strengths
- donations have supported PhD scholarships, including from the Energy Institute and a Visiting Professor.
- increasing the number of high-quality academic outputs from doctoral students, through co-publication with their supervisory team and by the adoption of the university default of 'thesis-by-papers' format on the PhD Programme

**Supporting Research Dissemination** to a range of audiences is seen as an important route to wider impact. On-going support has been provided to help staff increase the number of high-quality outputs. This has involved running writing and publishing workshops and seminars with editors of leading business and management journals; mentoring in writing for academic journals for ECRs; and an internal, pre-submission, peer-review process (Section 2). Staff are also encouraged to publish in leading practitioner-oriented journals, such as the Harvard Business Review, the California, and Sloan Management Reviews.

Working closely with external organisations also means the research agenda has been influenced by structural change and problems experienced by business organisations. This has often led to original approaches in academic research influencing managerial and government thinking. For example, research carried out by the Changing World of Work TLG has driven the academic, managerial and policy agenda in relation to gender leadership and new forms of (flexible) work organisation. Cross-disciplinary work has allowed groups of staff to draw their expertise together to solve wider organisational problems. For example, expertise in human resource management, logistics and marketing specialisms has been brought together to examine the impacts of digital transformation in different business environments. Likewise, research incorporating thinking from different subject domains such as organisational change, leadership, entrepreneurship, finance and supply chains has been applied to advance understanding of the role and importance of organisational resilience. Supply chain

management specialists have employed modelling, simulation and optimisation in relation to sustainable operations and reduced operational complexity for both public and private organisations. Likewise, expertise in economics has been used to provide theoretical underpinning to sustainable business behaviour, with application to technological advancement.

Staff are encouraged to attend and present their research at international conferences and Cranfield has been consistently well represented at the leading business and management studies academic conferences e.g., Academy of Management (AoM), British Academy of Management (BAM), European Academy of Management, (EURAM) European Group on Organisation Studies (EGOS), European Operations Management Association (EUROMA) and European Marketing Academy (EMAC), as well as specialist events. Staff have presented their research and acted as organisers and chairs of streams, symposia, panel sessions and professional development workshops (Section 4). In addition, Cranfield has hosted a number of business and management conferences, e.g., 17th British Accounting and Finance Association (BAFA) Special Interest Group Workshop on Accounting and Finance in Emerging Economies (2017), 8th International Conference on Operations and Supply Chain Management (2018); and capacity development events such as a BAM Workshop for ECRs (2019).

The **Research Strategy for the next 5 years** is based upon a review of all of SoM's activities undertaken in September 2019 upon the appointment of a new Pro-Vice-Chancellor. The new strategic roadmap was developed with three key strands, one addressing research. An enhanced commitment to research and thought leadership will involve:

- further strengthening research culture across all areas of business and management through building research teams of critical mass
- development of a more international outlook through forming strategic research partnerships with like-minded groups
- ensuring impact is considered at all stages of the research process, partly through a more deliberate focus on client needs
- a focus on securing research funding to help grow critical mass in designated areas and for more PhD studentships

The Unit has research interests in most mainstream subject areas within a generic business and management offer, however the refocusing will capture a more specialised and distinct offer around productivity and innovation. These are key issues for Cranfield and can exploit existing areas of activity, for example, the changing world of work (productive and innovative people management), supply chain management (productive and innovative systems), resilience (productive and innovative organisations) and strategy (productive and innovative futures). A focus on research excellence will be augmented through making key appointments. For example, in 2020 SoM received an endowment of £2M for transformational strategy (£2M) enabling a new Professorial appointment (Section 4).

#### *Facilitating the achievement of impact*

Impact on policy and practice has long been central to business and management research at Cranfield. However, since REF2014, there has been a more explicit focus on delivering impact from research and greater attention placed on gathering evidence of impact. This has involved engaging stakeholders in research design and in the sense-making of findings; widespread dissemination designed to reach a variety of audiences (public and private organisations; government; policy organisations; consumer and employee representative groups) who may be able to use the findings, together with developing systematic ways of capturing impact.



Examples include greater use of 'Discovery' events and development of Networks to communicate research findings to potential users, providing opportunities for early access to findings and building relationships. Support has been provided for staff to use a greater variety of communication channels to potential users and to engage with social media. The Executive Education team is also tasked with reviewing research to explore with staff ways of translating their research findings into materials and tools for practical use and commercialisation. Research is also fed into teaching across the postgraduate degree programmes.

The four **Impact Case Studies** submitted are exemplars of the nature and range of impact achieved by the Unit's research conducted in this REF period.

**Increasing Gender Diversity at Board level in UK FTSE 350 Companies.** The work of the International Centre for Women's Leadership provided the academic underpinning for the significant change in the representation of women on FTSE 350 boards over the past decade through voluntary, business-led targets and the now general acceptance that gender diversity is a prerequisite for board legitimacy and effectiveness. The Centre's Trajectory Model informed the work of the Davies and Hampton-Alexander Reviews. Research monitoring progress in Board Diversity Reporting and on the role of consultants undertaking external evaluations of FTSE Boards in encouraging board diversity, has influenced the work of the Financial Reporting Council.

**Saving Lives: Improving Efficiency and Reducing Wastage in the Blood Supply Chain.** Innovative research on supply chain blood inventory management and logistics modelling has had a significant impact on improving efficiency and reducing wastage of a perishable and critical resource. The UK National Health Service Blood and Transplant (NHSBT) has now reduced national bloodstocks held at any one time by 33%, whilst ensuring stocks are available to meet the NHS average annual need for 1.4 million units of blood. The findings were also adopted by the National Blood Authority, Australia.

**Transforming the Management of Reverse Logistics within the UK Retail Sector.** Collaborative research using co-production and interventionist methods, has resulted in the extension of the Reverse Logistics Performance Improvement Toolkit, which has had a significant impact on the management of reverse logistics. This has enabled both retailers and specialist 3rd part logistics providers to reduce the number of returns, cut operational costs involved in the process, limit the environmental cost through product recovery, improve customer service and achieve higher product recovery values.

**Transforming Standards of Organisational Safety and Resilience.** Research has helped organisations take practical steps to strengthen resilience for long-term success. Through the application of the frameworks and models developed, impact has been achieved through establishment of a British Standard for Organisational Resilience; improvement in Safety and Airspace Regulations by the UK Civil Aviation Authority; shaping policy in the European System of Central Banks and enhanced safety, risk, and resilience outcomes for public and private sector organisations in the UK and internationally.

#### *Interdisciplinary research*

As noted above, much of the research across business and management studies involves co-operation of colleagues across the Unit from different disciplinary backgrounds, as well as engagement with other institutions (Section 4). Cranfield further supports interdisciplinarity through four Grand Challenges linked to the UN Sustainable Development Goals: Connected Resilience; Smart Living; Green Technologies; Security for Development (REF5a,

[www.cranfield.ac.uk/research/why-cranfield/grand-challenges](http://www.cranfield.ac.uk/research/why-cranfield/grand-challenges)). Since its formation in 2019, Denyer is leading Connected Resilience with staff from across Cranfield, in particular the Defence & Security and Environment & Agrifood Themes to support government, business and society to prepare and respond to disruptive events and build resilience ([www.cranfield.ac.uk/press/news-2020/we-need-a-new-approach-to-uk-resilience-leading-cranfield-academics](http://www.cranfield.ac.uk/press/news-2020/we-need-a-new-approach-to-uk-resilience-leading-cranfield-academics) <https://www.resiliencefirst.org/news/resilience-reimagined-practical-guide-organisations>). There is also a 'bottom up' mechanism for academics to co-operate across disciplines through formation of Networks with support from RIO, e.g., Social Sciences which involves several of the Unit's academics and ECRs.

#### *Research integrity and open research environment*

Cranfield has a full suite of policies and processes for an open research environment and ensuring research integrity (REF5a, [www.cranfield.ac.uk/about/governance-and-policies/policies-and-regulations](http://www.cranfield.ac.uk/about/governance-and-policies/policies-and-regulations)). Cranfield research integrity commitment is based on the 2012 (and 2019 update) Concordat to Support Research with associated ethics policies and processes (REF5a, [www.cranfield.ac.uk/about/research-integrity](http://www.cranfield.ac.uk/about/research-integrity)).

All research within business and management studies complies with the Research Data Management Strategy. (<https://library.cranfield.ac.uk/knl/research-data-management>). Data and other outputs are stored on the Cranfield Online Research Data (CORD) repository (<https://cord.cranfield.ac.uk/>) at the conclusion of the project when there is no suitable external database. Within SoM, there have been 19 uploads onto CORD since CORD was set up at Cranfield in 2016 and over the 12-month period to February 2021 there have been around 16,000 views and 12,000 downloads.

The Cranfield Research Information System (CRIS) is the central repository of the Unit's research publications, awards and other research related information. All academic staff have a profile in CRIS, which feeds a personal scholarly profile on the University website. Publications are added to CRIS within three months of acceptance and can also be deposited on Cranfield's digital, open access repository, CERES (REF5a).

All staff and students are expected to act in accordance with Ethics Code and Research Ethics Policy which requires research activity to be granted ethical approval, via the Cranfield University Research Ethics Systems (CURES) (REF5a). All research within UoA17 maintained 100% compliance with our Research Ethics Policy that requires all research, including 'nil' returns, to be logged through our online system CURES ([www.cranfield.ac.uk/about/governance-and-policies/policies-and-regulations](http://www.cranfield.ac.uk/about/governance-and-policies/policies-and-regulations)).

## **2. People**

#### *Staffing strategy*

Cranfield submitted 42 staff (40.1 FTE) to Unit of Assessment 17 Business and Management, 41 from SoM and 1 from Cranfield Defence and Security at the Defence Academy site where some management research is undertaken. The job titles of staff on the Research and Teaching career pathway in the main HESA return categories is shown in Table 2 (it should be noted that leaders of some Centres are teaching-only staff). Twenty-three of the staff (55%) were submitted by Cranfield to UoA 19 Business and Management in REF2014. Thirty-nine (93%) of

the staff returned for this UoA are on a permanent contract, whilst 3 (7%) are on fixed-term contracts.

Table 2. Job titles of staff submitted in UoA17.

Job Title (HESA Return)	No.	%
Professor/SL with management responsibility, e.g., PVC, Centre Lead	5	12
Professor (L 8)	15	36
Associate Professor, Reader, Senior Lecturer (L 7)	16	38
Lecturer, Senior Research Fellow (L 6)	6	14

Cranfield School of Management has a number of distinctive features which influence the staffing strategy. First, research and teaching are strongly connected with impact, influence and relevance to business. Second, since the University is postgraduate only, engagement is with post-graduate and post-experience students and senior executives. These two features combine to place uncommon demands on staff, including the need to conduct high-quality, impactful research; publish high-quality outputs in journals with wide reach; engage with policy makers and practitioners to generate impact; secure research income; and engage with experienced learners, managers, and senior executives, in the teaching environment. These combined demands have implications for the approach to the management and development of academic staff.

In line with University policies (REF 5a), the approach to the recruitment of academic staff is designed to attract high calibre candidate and ensure fairness and equality of opportunity. Steps are taken to attract applications from groups not well represented amongst the existing academic staff. This includes signalling the availability of flexible working arrangements on job advertisements, mandatory equality, diversity, and inclusion training (ED&I), including unconscious bias training, for those involved in the selection process. Interview panels are composed of a diverse membership and include representation from another part of the University.

Recently there has been growth in the number of post-doctoral researchers, termed Research Fellows at Cranfield, in SoM. This growth in such ECR positions is expected to continue with the refocussing of our research activities. Progress has already been made on this priority with the appointment of Sun as a Cranfield 75th Anniversary Research Fellow in Finance and Accounting for 3 years. The £6M 75th Anniversary Fellowship Scheme will support up to 30 early career fellowship positions across the University over the next 3 years

([www.timeshighereducation.com/hub/p/cranfield-universitys-fellowship-scheme-tackling-problems-future](http://www.timeshighereducation.com/hub/p/cranfield-universitys-fellowship-scheme-tackling-problems-future)).

Through a deliberate strategy of internationalisation, the number of international staff in SoM has increased substantially in recent years, with just under half (48%) originating from outside the UK, representing 28 different nationalities.

In 2020, a revised SoM HR strategy was developed in line with the newly stated University Values, of Ambition, Impact, Respect and Community, focussing on 5 key objectives:

- embrace and live our values
- attract, identify, and retain high performing talent
- define clear performance objectives which are effectively managed
- develop and support leaders
- recognise fairly the contributions of staff.

For each objective deliverables and measures of success have been identified and are being implemented.

*Staff development and support*

The overall aim is to ensure that staff can be retained and developed to meet the Unit's research and teaching needs, whilst ensuring that working at Cranfield adds value to the individual and their career. Staff development at Cranfield is underpinned by a long-established annual Performance and Development Review (P&DR) (REF5a). The annual P&DR is used to encourage staff development to be seen as a shared responsibility between the individual and their line manager. The P&DR encourages reflection on successes and challenges in the past year; sets objectives for the coming year; identifies development needs to achieve these objectives and includes a discussion of career plans and related development. The participation rate in the P&DR process in SoM is high, at 93% in 2019/20. Achievements across five areas (research, income generation, leadership, teaching volume, teaching quality) are collated in the Faculty Contribution Model (FCM), which is used as a basis for the P&DR discussion.

The School of Management undertakes to provide staff with the necessary skills and knowledge to achieve their roles, enhance their subject expertise, and provide opportunities for personal and academic development. This is supported by, for example:

- Programmes run by the Centre for Andragogy and Academic Skills designed to support professional development and improvement of skills.
- Mentoring and coaching for early career staff
- A research seminar series and a visiting Cranfield International Fellows programme
- An individual budget for development activities (currently £4K pa). This is typically used to support attendance at academic conferences but can also be used to support other development activities, such as relevant training or access to datasets for research.

Newly appointed, inexperienced academic staff, are expected to enrol on the Postgraduate Certificate in Academic Practice (PgCAP) (REF5a). This M-level Academic Practice course is designed to support the development of staff, including supervision of research students. Successful completion of the PgCAP modules provides professional recognition by the Higher Education Academy (HEA).

Staff in the Unit participate in training programmes run by the central Human Resources and Development function, including those specifically designed for research active staff. Examples include, Business Skills Development programme, designed to prepare staff for research projects with industry partners, developing proposals for funding and assisting with impact (attended by Aktas, Battista, Yates) and academic paper writing clinics (Alinaghian, Koryak, Aktas, Reefke, Wilding). Cranfield's Research and Innovation Office (RIO) also run training programmes linked to for example, Knowledge Transfer Partnership Scheme and EU Research Funding. Staff also participate in externally run programmes concerned with researcher well-being (Supporting Researcher Wellbeing, Coping with Stress and Anxiety: Health and well-being for Researchers) and a programme run by the Parliamentary Office for Science and Technology for Women Researchers (Kelliher).

In addition, a series of development activities are run specifically to meet the needs of business and management studies staff. For example, a residential writing workshop, led by an external expert, was held in 2015-16 (two-day event with a follow-up one-day event 6 months later). This

was targeted at ECRs and other staff wishing to reinvigorate their writing. An additional one-day event was held in 2018, with follow-up sessions for participants.

There is a vibrant lunchtime seminar programme with academics from other universities. Over the REF period these have mainly taken two forms; those concerned with research approaches, methodological issues and publishing high-quality outputs; and subject specific sessions primarily focused on staff with interests in the relevant area. Examples of sessions in the first category include Prof Briner (Queen Mary University) on Evidence-Based Management; Prof Martin Everett (University of Manchester) on Social Network Analysis; various sessions on publishing high quality outputs including those run by Prof Jain (University of Washington) and Prof Choi (Arizona State University) and Prof Ahlstrom (Stockholm School of Economics) focusing on publishing case study research. Examples in the second category include, for Supply Chain & Logistics Profs Koh (Sheffield University), Kotzab (University of Bremen), Onkal (Newcastle University), Reis (University of Paulista, Brazil); for Gender and Careers, Profs Hamori (IE, Madrid), Cohen (Loughborough), Arthur (Suffolk University, Boston), van den Brink (Radboud); for Strategy Profs Nadkarni (Cambridge Judge Business School), La Bianca (University of Kentucky).

The School funds a Cranfield International Fellow (CIF) programme to allow distinguished international scholars to visit Cranfield to work intensively on research projects with staff. Recent CIFs include Profs Jain (University of Washington), La Bianca (University of Kentucky), Thurick (Erasmus School of Economics).

The University considers applications for promotion on an annual basis, against specified criteria for each level. Applications are first evaluated in the School and where supported, progress to the University-wide Senior Academic Promotions Board (SAPB). Cases are assessed for promotion on merit, with no cap on the number of promotions that can be made at each level. Active steps are taken to ensure that there are no discriminatory barriers to promotion for staff. Applications are monitored and where appropriate encouragement is given to candidates to apply, particularly amongst female staff, who have been found previously to be more reticent to apply.

Twenty-three of the 42 staff submitted to UoA 17 were also submitted in REF2014. Ten of these were Professors at that time, and of the remainder, thirteen, were promoted during the REF period, including 4 more than once. Five promotions were to Professor (Belghitar, Kostantinos, Maklan, Parry, Pavlov), three to Reader/Associate Professor (Franco-Santos, Skipworth, Turner), six to Senior Lecturer (Franco-Santos, Pavlov, Schoenberg, Skipworth, Turner, Yates). Of those promoted more than once in the REF period, half were female. Of the nineteen staff submitted who were appointed during the REF period (1 Pro VC, 2 Professors, 2 Readers, 7 Senior Lecturers, 7 Lecturers), three have been promoted, one each to Professor (Aktas), Reader (Moro) and Senior Lecturer (Alinaghian).

#### *Research students*

SoM offers two doctoral programmes: the PhD (FT and PT) and the Executive DBA (PT). The annual completions for doctoral students, on average over the REF period, has been 21.3 per year (REF4a), a significant increase on the REF 2014 average of 12.6 per year. In 2019/2020 there were a total of 137 (51 full-time and 86 part-time) doctoral students registered from 35 different countries. The PhD aims to train researchers to become academic scholars, whilst the DBA is designed for those wishing to become scholar-practitioners and achieve as senior practitioners or policy makers. All research students are also encouraged to create a profile in

the Cranfield Research Information System (CRIS) that feeds a web profile to promote their research.

Both programmes provide rigorous research methods training. For the PhD this involves an intensive orientation week, followed by a series of Masterclasses and interactive workshops. The Masterclasses are mandatory, but there is flexibility over when they are taken. This allows the student, with their supervisors, to tailor their training to their needs. PhD students also have access to University-wide Doctoral Core Researcher Development (DCRD) training (REF5a). Each student completes a Development Needs Analysis (DNA) at the commencement of studies and at each progress review. This provides an opportunity for the student to assess their development needs and for the supervisor and review panel to consider how they can be met. The DBA provides equivalent training, with a structured research skills programme scheduled in 8 one-week residentials and a final half week over the 4-year programme. The training is based upon the Vitae Researcher Development Framework, although for Executive DBAs this has been adapted to allow a greater focus on engagement, influence and impact. On both programmes each student is supported by two supervisors, a primary and an associate, often from different TLGs. Supervisors are required to complete supervision training provided by the University.

Both the DBA and PhD programmes have been reviewed during the REF period. The Executive DBA was redesigned in 2013 to increase the emphasis on practical relevance and impact as well as increase the levels of structure and support. This has resulted in an increase in the number of on-time completions. The programme was re-accredited by AMBA in 2017 for a further 5 years. The default PhD thesis style was changed to 3-5 core chapters in the format of a manuscript suitable for submission to a refereed journal, together with introduction and conclusion sections. The move from a structured, but less flexible research skills training programme, to the current programme of Masterclasses and workshops was in 2017.

Individual progress is formally monitored through regular progress review panel meetings after 4, 9 and 24 months, and then annually until 6 months before submission for PhD students, and on the submission of each deliverable for DBA students. Quarterly Research Student Progress Meetings monitor student progress across the programme. The doctoral programmes are reviewed at the SoM Research Development Group (RDG) and at the Research and Academic Processes Sub-committee (RAPS) of the University Research Committee (REF5a). The management of the programme is supported by the SoM Student Academic Support (SAS) team, with a dedicated lead for the doctoral programmes. Pastoral support is provided by the Deputy Director of Doctoral Programmes for PhD students, and by a Cohort Leader assigned to each intake of DBA students. Full-time PhD students are allocated desk space either within their groups physically located close to their supervisors, or they can use hot desks in the doctoral offices.

The programmes are reviewed regularly via student feedback including University committees (REF5a). As well as course evaluations for each taught session, face-to-face feedback sessions are held at the end of each Executive DBA residential week and at regular intervals for PhD students. In addition, series of focus groups were held with PhD students in 2019 to obtain feedback specifically relating to supervision, research skills training and research culture, the areas that were highlighted as important in PRES 2019. Recent work has centred on enhancing the research culture within the doctoral student community.

Activities and initiatives to develop the research community and culture include:

- social events, including monthly coffee mornings, lunchtime seminars for doctoral students with academic staff
- cohort systems on the DBA and the PhDs, the latter at University-level (REF5a)
- participation in the Cranfield Doctoral Network
- a doctoral colloquium held five times a year
- CRANIUM, the Cranfield Researchers Active Network for Innovation Understanding and Mastery, set up in 2016, focuses on intellectual peer-support through conversations in the doctoral community (social media and in-person), as well as regular meetings, some with invited speakers. Monthly meetings are held, with very positive feedback received from participants.
- the Peer-to-Peer Mentoring Programme, set up in 2018, focuses on peer support for the socio-emotional journeys of doctoral study. This emerged from discussions in CRANIUM about the need for this kind of support. All PhD students are offered a mentor pairing and mentoring trained is provided. To date, over 100 pairings have been offered. Participation is voluntary and although levels of activity are not recorded, feedback from discussions in CRANIUM and mentor training suggest that activity is needs-driven and that approximately 25 pairings are active at any one time.

#### *Equality, diversity, and inclusion (ED&I)*

The University operates an equal opportunities policy to ensure fairness, transparency and openness to ensure an inclusive approach to career progression. Cranfield has taken action to embed ED&I practices across the university, e.g., achieving an institutional-level Athena SWAN Bronze Award in 2017 and a further 5 years from 2020; joining Stonewall; member of Working Families (REF5a). The School of Management has responsibility for implementing the University strategies and policies to support equality and diversity and enable staff and research students drawn from a wide cross-section of society to engage in research (REF5a). For example, efforts have been targeted at continuing to promote SoM as an inclusive employer and address the potential for unconscious bias in the shortlisting and interview processes, moving beyond raising awareness to taking positive action.

Just over a third (34%) of those submitted to UoA 17 are female. Of those that declared their ethnicity (95% of those submitted), 20% were BAME, comprising UK BAME (5%): Rest of the World (ROW) BAME (15%). No disabilities were declared by staff submitted to UoA 17. University efforts to increase ethnic diversity have produced marked results in SoM. Of the new starters during the REF period 37% were BAME (UK BAME = 21%, EU BAME = 3%, ROW BAME = 13%).

The Unit has been able to draw on the expertise of academic staff relating to ED&I, including work on the implementation of flexible working practices for better work-life balance and enabling wider labour market participation (Kelliher and Anderson), and career advancement for women (Vinnicombe) and ethnic minorities (Atewologun).

Flexible working has been a well-established practice amongst academic staff in the Unit for many years, with remote working being commonplace. This has largely operated on an informal basis where staff have discretion over when and where to work. In practice, this resulted in a variety of different working patterns, from those who mainly work from their campus-based office to those who work remotely on a regular basis. Access to University buildings is available on a 24/7 basis, so staff may choose when to work, subject to compliance with the University lone-working policies. Well in advance of the Covid-19 lockdown, efforts were made to accommodate

remote workers' attendance at meetings via on-line or teleconference facilities. Meetings have been scheduled in 'core hours' to maximise the opportunity for participation, irrespective of working patterns. Whilst most support services have guaranteed designated hours, in practice many operate longer hours because these staff also work on a flexible basis and are therefore available to support research active staff who have flexible work patterns.

A number of staff currently work on a on a part-time basis (King, Ladkin, Vinnicombe) and this has varied across the REF period as staff have cycled between full and part-time, depending on life circumstances, needs and preferences. For example, one academic reduced her hours following childbirth and for childcare commitments but returned to full-time working as care commitments reduced. A more recent trend has been for late-career staff to reduce their hours and some senior staff have been on part-time contracts during the REF period (Vinnicombe is currently 40% FTE).

A University-wide women's leadership programme has been run for several years, drawing on the work of the Gender, Leadership and Inclusion Research Centre, and Prof Vinnicombe has acted as an informal mentor and role model for several female staff in the Unit in this REF period. A range of programmes and support activities are run specifically to help women develop their careers and include:

- Step-Up Network: designed to support women across the University with developing their skills, career, and confidence.
- Women as Leaders: delivered by Cranfield HR with the involvement of SoM expert academics.
- Advance HE's Aurora: leadership development initiative for women in higher education and there is encouraging evidence of this assisting women's career progression.

For example, the Aurora programme has helped a female staff member obtain an internal role with responsibility for a pan-School research activity.

### **3. Income, infrastructure and facilities**

#### *Research income*

A total of £7.95M research income was raised in the REF period, averaging approximately £1.14M per annum. In line with the core strength of the Unit and the University in working closely with business, approximately 47% of research income came from UK industry and commerce and a further 9% from overseas industry and commerce. This is consistent with the vision set out for the Unit 'to be the first place that managers turn for impactful research that enables them to enhance or transform management practice and organisational performance'. European Union government bodies (e.g., Horizon 2020, Marie Skłodowska-Curie Actions) accounted for 19% of research income and UKRI funding contributed 14%. The remaining 11% came from government departments and UK based charities. A significant proportion of research income was won through competitive processes that included peer review evaluation.

Research funding from UK industry and commerce has been secured through various mechanisms including, bespoke industry funded projects addressing specific organisational issues, KTPs and membership fees for Research Clubs. Some sector-specific projects received collaborative funding. For example, Yates receiving funding from both a medical technology company and the NHS Blood and Transport unit, and this project formed the basis of one of the Unit's impact cases submitted to REF2021.



An example of innovative and practical funded research was the MESH project. This was a KTP between a market research agency (MESH) and Cranfield which enabled the agency to establish a lead in the research-tracker market and expand their business five-fold during the first three years of the KTP. This project was a finalist in the Best UK Partnership Award and also in the RCUK Knowledge Base in 2015. This project also led to high quality academic outputs in both far reaching and highly ranked journals (Harvard Business Review (FT50) and the Journal of Retailing (CABS 4)). A further KTP with Pamela Steele Associates analysed public health supply chains in low and middle-income countries, led by Nellis.

Staff worked closely with more than 200 organisations for research purposes in the REF period including private (e.g., 3M UK, BAE Systems, BP, Coca Cola Europe, DHL, Ericsson, HSBC, Marks & Spencer, Mercedes, Nestlé, Pfizer, Royal Bank of Scotland, Volkswagen Group), and public sector organisations (e.g., NHS Hospital Trusts, Universities, Local (County and Borough Councils), and central government (e.g., Ministry of Defence, Cabinet Office) and government agencies (e.g., Ordnance Survey).

Much of the publicly funded research income during the REF period was EU funding, mainly involving collaboration with international consortium partners. Examples included Athens University of Economics & Business (Greece), Delft University of Technology (Netherlands), Dortmund Technical University (Germany), Ellen Mc Arthur Foundation (UK), Intrasoft International (Belgium), Barilla (Italy), DHL (UK), Toyota Material Handling Europe. Examples of projects involving collaboration with international partners include:

- CirCuit (Circular European Economy Innovative Training Network, €546K to Cranfield), a Horizon 2020 Marie Skłodowska Curie Actions project started in 2016 and led by Bourlakis, which aims to train 15 PhD researchers in the field of Circular Economy, with 2 being based at Cranfield.
- GLOMO (Global Mobility of Employees, €546K to Cranfield) project led by Dickmann, a Horizon 2020 Marie Skłodowska Curie Actions project, involves 2 PhD researchers based in SoM and aims to build a network of experts in the field of global labour mobility with the longer-term aim of tackling increasing labour and skills shortages in the EU.
- EU InnovatE was a Framework Programme 7 project (€390K), examining how EU policy can encourage citizens to generate innovations which will help them live more sustainable lives and led to high quality outputs.
- U-TURN was a Horizon2020 project (€320K) led by Bourlakis, analysing transportation flows of food products in urban areas to identify opportunities for consolidating transportation flows.

The Unit has also been involved with significant projects funded by UK Research Councils including the Economic and Social Research Council (ESRC) e.g., Project X, £142K, led by Bourne, concerned with improving project delivery and the Engineering; and Engineering and Physical Sciences Research Council (EPSRC) e.g., ENCORE, £400K, evaluating network resilience and the Water / Energy / Food Nexus.

As described in Section 1, a commitment was made to reprioritise and refocus research and the development of thought leadership. Progress has already made on this, with significant UKRI and industry funding being awarded recently. For example, an award from the Biotechnology and Biological Sciences Research Council (BBSRC) for research on co-production of healthy food systems for disadvantaged communities (£6M total, £505K to Cranfield) led by Bourlakis,

part of a large interdisciplinary consortium led by Reading. A recent success in industry funding was from BAE Systems for a series of projects (£500K total) led by Parry. In July 2020, an MBA Alumnus provided funding (£2M) to endow a new Chair in Transformational Strategy, to pioneer research in this field ([www.cranfield.ac.uk/som/press/cranfield-school-of-management-announces-new-rowlands-chair-in-transformational-strategy](http://www.cranfield.ac.uk/som/press/cranfield-school-of-management-announces-new-rowlands-chair-in-transformational-strategy)). In terms of forging strategic research partnerships with the best like-minded international groups the School is using its existing networks, e.g. CRANET and 5C (Section 1), to develop bilateral relationships. Discussions are taking place with universities that have highly ranked specialisms, for example in relation to logistics, and supply chain management with Michigan State University (No 1 global ranking for Supply Chain Management, Gartner) and Wageningen University (No 1 global ranking for agribusiness and food research, THES).

#### *Research infrastructure and facilities*

The University library is an important resource for business and management studies research. Our library subscribes to more than 34,000 journals including approximately 8,000 business and management titles. In addition, it has a separate dedicated facility located in SoM's main building, the Management Information Research Centre (MIRC) where many online databases are available, including ABI/Inform, EBSCO Business Source Complete as well as current (e.g. Bloomberg) and historical financial and company data (e.g. Capital IQ, DataStream, FAME), global financial data (e.g. FitchConnect, Factiva ) and other global and national market research databases (e.g. Passport, Mintel) to primarily support research in Finance, Economics and Marketing.

Business and management research frequently does not require high levels of investment in physical infrastructure. However, there a number of high-quality specialist facilities available to support staff research, some of which have been supported by donations and in-kind contributions. For example, £100K was donated by Alumnus, Grenville Turner, for the Grenville Turner studio where innovative technology enables dissemination of research and expertise globally and assists with widening the reach of its impact. As noted in Section 2 (Staff development and support), funding is provided for Cranfield International Fellowships to support the research infrastructure through visits by scholars.

An important development at the beginning of the REF period in 2014 was the establishment of the central Research and Innovation Office (RIO) as a University research support function (REF5a, [www.cranfield.ac.uk/research/rio](http://www.cranfield.ac.uk/research/rio)). RIO supports the University and School research strategies, by providing services and expert advice. Specifically, they:

- identify and communicate potential funding opportunities, including specific calls, relevant to business and management
- provide extensive support for the development and submission of applications for research finding
- contribute to research funding culture in the Unit, by running events on applying for research funding, targeting both ECRs and established staff and providing insight into different sources of funding
- work closely with staff to develop and strengthen relationships and partnerships with stakeholders.

For the Unit, support from RIO has been particularly helpful in the preparation of bids to UKRI funding bodies, e.g., BBSRC, KTPs.

In addition, there is one Senior Administrator in SoM who supports research activity including the Research Development Group (Section 1), matters relating to research income, PhD scholarships and research growth funding applications. A full-time administrator provides student and academic support for the Doctoral programmes (PhD and DBA) covering issues such as, student recruitment, progress and completion rates, doctoral panels, and reviews. The School has a Website Manager who incorporates research related issues and provides analytics of the effectiveness of web and social media presence. There is also a Strategic Marketing and Partnerships team involving 9 FTE staff who have oversight of research related issues. The School has relevant technical infrastructure for running and disseminating research through webinars using via channels such as YouTube.

#### 4. Collaboration and contribution to the research base, economy and society

Cranfield staff submitted to UoA 17 are actively involved in collaboration and contribution to the research base, economy, and society. This reflects the relevance and significance of research undertaken and the reputation of staff members. It also reflects Cranfield's maxim of 'Knowledge into Action' and expertise in engaging with practise and translating research findings into forms that are accessible and impactful for business, government, and policy organisations. Staff are encouraged to participate in a wide range of external outreach activities, and this is accounted for in the performance management system (Section 2) and discussed in P&DRs. Some examples of this are detailed below.

Notably, three members of staff have been recognised in the Queen's Honours Lists. Vinnicombe was awarded a CBE in 2014 for services to Gender Diversity. Wilding was awarded an OBE in 2013 for Services to Business and Ryals an OBE for services to Higher Education in 2019.

##### *Contributions to Government*

A number of the Unit's staff have been invited to act in advisory roles to government and government sponsored groups and committees:

- Vinnicombe: member, Davis Review which examined the lack of women on corporate boards (2010-2015); member, Advisory Board, Hampton Alexander Review of Women Leaders in FTSE companies (2016-2021); member, Parker Review on the lack ethnic minority directors on FTSE Boards (2017- present; evidence to the House of Commons Select Committee on Equalities).
- Bourne: evidence to the Houses of Parliament to the Public Administration and Constitutional Affairs Committee conducting an inquiry into the Government's management of major projects (2019).
- Kelliher: member of the Department of Education's Steering Group on Flexible Working in Schools (2018-20); involved with government-sponsored initiatives such as the Agile Futures Forum (2016-18) and the Steering Group for Engage for Success.
- Bourlakis has acted as an expert advisor for DEFRA (2018-9) and contributed to the All-Party Parliamentary Group on Retail's inquiry into the Impact of Technology on Retail (2016).
- Denyer: member, Department of International Trade's Business Resilience Taskforce.
- Parry: member of the Defence People Strategy Advisory Group (2019-20).
- Franco-Santos: involved with Steering Group for Engage for Success

*Industry Recognition*

As a reflection of Cranfield's approach, many staff have close associations with business and industry associations or related bodies and some have been recognised for their work. Wilding is chair of the Chartered Institute of Logistics and Transport, UK and was named in the Top 50 Influencers in E-Commerce and Shipping and in Logistics 100 in 2019, in the UK Top 100 Corporate Modern Slavery Influencers Index in 2018 and was granted the Chartered Institute of Logistics and Transport Meritorious Award in 2019. Vinnicombe has been named in the HR Most Influential Thinker list every year since 2016. Anderson, Denyer, Dickmann, Kelliher and Parry are all Academic Fellows of the Chartered Institute of Personnel and Development.

*Contributions to the research base*

Fellowship of the Academy of Social Sciences has been conferred on Denyer and Jenkins. Several staff have been members of the BAM Council and Denyer, Parry and Vinnicombe are all BAM Fellows, with Vinnicombe currently Deputy Dean of the Fellows. In addition, in 2017 she was awarded the BAM Richard Whip Lifetime Achievement Award. Jenkins is a trustee and committee member for the Society of Advanced Management Studies. Franco-Santos has held office as Vice President of the Iberoamerican Academy of Management (an affiliate of the Academy of Management) from 2014. Bourlakis is a Fellow of the Chartered Institute of Logistics and Transport (UK). Oglethorpe served as member of the Chartered Association of Business School Research Committee 2012-2015 and is a member of the AACSB continuous Improvement Research Committee, the only UK Dean ever to serve in this capacity. He has been a member of Peer Review Teams for AACSB and EQUIS, mainly taking the lead on the research contributions of staff.

SoM staff are represented on the editorial teams of a wide range of business and management journals, including many that are highly ranked. This reflects both their subject expertise and their commitment to the on-going development and dissemination of knowledge in the business and management field. As editors, for example, Dickmann is Senior Editor-in-Chief for the International Journal of Human Resource Management, and Parry is Co-Editor-in-Chief for this journal. Alexiou is the Founding Editor of the International Journal of Economics. Staff also hold associate editorships (AEs) with Leadership and for the Journal of Business Ethics (both Ladkin), with Belghitar and Radic acting as AEs for the Journal of Frontiers in Finance and Economic. Staff are represented on a total of 53 journal editorial boards including both general management journals and those which are concerned with sub-disciplines in business and management. Representation on the boards of general management journals include the Journal of Management Studies (Jenkins), the British Journal of Management (Vinnicombe) and the International Journal of Management Reviews (Bourne, Denyer). In sub-discipline fields these include Organisation Studies (Jenkins), Leadership Quarterly (Ladkin), Human Resource Management Journal (Kelliher, Parry), Group and Organisation Management (Parry), Long Range Planning (Jenkins), the International Journal of Operations and Production Management (Bourne, Bourlakis), Supply Chain Management: an international journal (Bourlakis), the International Journal of Production Economics (Bourlakis) and the International Journal of Operations and Production Research (Franco-Santos). In addition, staff act as reviewers for a wide range of academic journals, at all levels (CABS ranking) and across the range of management sub-disciplines.

The Unit's staff are called on to assess applications for research funding by a range of funding organisations both in the UK and internationally, an indication of their standing in their respective fields and the role they play in shaping the direction and standard of future research. These include the EPSRC (Bourlakis), ESRC (Bourlakis, Kelliher, Parry), NWO Dutch: Nederlandse Organisatie voor Wetenschappelijk Onderzoek (Kelliher), Social Science and Humanities Research Council of Canada (Parry), European Union (Bourlakis), Leverhulme Trust (Bourlakis), Christian Doppler Forschungsgesellschaft, Austria (Kelliher), and the Association of Project Management (Turner).

#### *Research collaborations*

Staff at Cranfield engage in collaborative research with colleagues in other universities of high standing, both in the UK and internationally.

- Bourne collaborates with researchers at 12 other UK universities on the ESRC Project X, Improving Project Delivery (<https://www.bettergovprojects.com>).
- Bourlakis has collaborated with colleagues at Brunel, Birmingham and Manchester Universities on a five-year project concerned with Sustainable Energy Use in Food Chains.
- Alinaghian has worked on projects in collaboration with ESCP Business School and University College London, Oregon State and Cambridge Universities. She is also an active member of the Complex Adaptive Supply Network Research Accelerator at the WP Carey School of Business at Arizona State University involving 100 world-leading scholars.
- Franco-Santos collaborates with Zaragoza University in Spain on Value Creation for Organisations funded by the Spanish government.
- Skipworth has been involved in several international collaborations (University of Rome, Waikato University, New Zealand) on supply chain research resulting in high quality outputs.
- Adams is a member of the Knowledge-Empowered Entrepreneurship Network ([www.keenetwork.com](http://www.keenetwork.com)) with Kaunas University of Technology, Lithuania, Wuppertal University, Germany, and St Gallen University, Switzerland.
- Anderson has collaborated with several UK universities on an ESRC sponsored seminar series concerned with Work-Life Balance in the Recession (2014-15).
- Jenkins has worked with colleagues at Cass Business School on a project examining cluster emergence and at Coventry on research relating to the motorsport industry.
- Dickmann and Parry are involved in the 5C research network which is a cross-cultural collaboration examining Contemporary Careers and involves academic institutions in 30 countries (Section 1). Dickmann also collaborates with the Universities of Vasa, Bamberg, and Reading. Parry played a lead role in the Cranet network which examines comparative HRM and involves research partners in 40 countries.

#### *Conference organisation*

Academics have been involved in the organisation of academic conferences throughout the REF period and have organised streams and tracks at major conferences and acted as members of conference scientific committees and advisory boards. Staff across the Unit have been particularly involved in organising activities at the British Academy of Management (Doctoral Colloquium, Parry, Fellows sessions Vinnicombe) and at the Academy of Management

(symposia and panel sessions for example, Denyer, Franco-Santos, Kelliher, Parry, Vinnicombe) and acting as stream convenors at EGOS (Kelliher). In addition this includes membership of the organising team and advisory board for the International Symposium on Logistics (Ghadge), acting as academic chairs of the International Conference on Operations and Supply Chain Management (Reefke and Saghiri), membership of the organising committee for the International conference of the Financial Engineering and Banking Society (Radic), co-chair of the Project Management Association Conference (Bourne), membership of the scientific committees for the European Operations Management Conference and the International Conference of PROLOG (project and logistics) (Bourlakis), Conference of the Iberoamerican Academy of Management (Franco-Santos).

#### *Capacity building*

Business and Management staff make significant contributions to capacity building reflecting their willingness to support professional development of colleagues, particularly the next generation of management scholars, both in their specific fields of expertise and with research more generally, e.g., research methods, doctoral supervision. For example, Jenkins and Parry have been involved with BAM DBA workshops over several years and Parry is President of the Executive DBA Council. Staff have also run workshop sessions on writing research papers at other universities (Jenkins, Parry) and on supervision of research degrees. Some have had formal advisory roles on funded research projects at other universities (Kelliher on ESRC funded project at Kent, Ladkin at Tampere, Finland). Throughout the REF period several staff have been organisers of and speakers at Professional Development Workshops at for example Academy of Management and BAM annual conferences and contributed to doctoral track/stream sessions and workshops (Vinnicombe, Denyer, Parry, Kelliher), covering for example, doing impactful research, gender research, supervising research degrees, writing for US management journals, and responding to reviewers' comments.