

<b>Institution:</b> University of Kent
<b>Unit of Assessment:</b> 17: Business and Management Studies
<p><b>1. Unit context and structure, research and impact strategy</b></p> <p>Established in 1989, Kent Business School (KBS) has grown significantly, now including 74 Category A staff. Over the REF2021 period, KBS became an international leader in sustainable innovation research. The School has achieved this aim through its staffing strategy (see Section B) and strategic research initiatives, including establishing two new research clusters, focused on innovation and sustainable economic growth: the Centre for Technology, Innovation Management, and Entrepreneurship (TIME), and the Productivity Research Hub.</p> <p>Since 2014, our Category A staff base has grown from 60 to 72 FTE (74 headcount) across our Canterbury and Medway campuses, with 55 and 19 Category A staff, respectively. Over the same period, KBS also moved into its new £35 million Royal Institute of British Architects (RIBA) award-winning building (Sibson) on the Canterbury campus, and invested a further £1.2 million in the Sail and Colour Loft facilities situated in the Historic Dockyard at the University's Medway campus. As a mark of its growing reputation, the School achieved Association to Advance Collegiate Schools of Business (AACSB) accreditation in 2019, one of only 36 business and management schools in the UK to hold the award. Our commitment to gender equality was recognised by our 2020 Athena SWAN Bronze Award, with our first female Dean's career progression through the School exemplifying the equality of opportunity that we are committed to offering all our researchers.</p> <p>In 2019-20, the University undertook a large-scale reorganisation, as a result of which the various academic Schools were restructured within six academic Divisions. KBS is one of those Divisions: its status as the only single-School Division reflecting both its size and its distinct identity.</p> <p>During the REF2021 period, our research community received international recognition for its contribution to:</p> <ul style="list-style-type: none"> <li>• <i>Thought leadership.</i> Our researchers are recognised for their contributions to a range of fields. In Ioannidis' 2020 Stanford University Report, seven KBS staff were ranked in the Top 2% of Scientists in the World, with Mingers ranked in the top two for Operational Research in the UK and in the top 17 in the world (Ioannidis, Baas et al, 2019). Clark was listed as a Web of Science Highly Cited Researcher 2018, and Oxford University Press described Funnell as 'the world's leading scholar of public sector accountability' in 2016.</li> <li>• <i>International research projects.</i> Significant projects addressing the United Nations' Sustainable Development Goals have been led by Scaparra, who received funding through the Global Challenges Research Fund (GCRF) for 'Optimal Investment Strategies to Minimise Flood Impact on Road Infrastructure Systems in Vietnam (OSIRIS)' (2017; £291,876) and 'Improving Community Resilience and Sustainability Through Operational Research Capacity Building in Southeast Asia (CREST-OR)' (2019; £265,126). Acquaye leads the KBS team for a Horizon 2020-funded project, 'Re-Evaluating the Transition to the Circular Economy: Models, Methods, and Applications (ReTraCE)' (2018; €303,172.58). Scaparra's projects focus on Southeast Asia and Acquaye's on Europe (see Section D). Other projects, such as Hampton's work on resilience and tourism in Southeast Asia, have had a major impact on local stakeholders.</li> <li>• <i>Business transformation.</i> KBS has achieved significant impact on small and medium enterprises (SMEs) in the South-East region, as recognised by the Small Business Charter (SBC) Award in 2018. The initiatives behind this include a number of successful Knowledge Transfer Partnerships (KTPs). All the completed KTPs have been awarded the highest grade ('Outstanding'), and they represent long-established collaborations with key players in the UK's transport infrastructure, such as the Port of Dover and Eurostar, as well as with regionally based businesses such as Parker Steel, Priority Freight, and Zero Trace</li> </ul>

Procurement (see the impact case studies 'Meeting Complex Logistics Challenges to Reduce CO<sub>2</sub> Emissions and Improve Efficiency' and 'New Decision Analytics Models Generate £5 Million Savings and Increased Efficiency for Port of Dover'). The KTPs with Port of Dover and Eurostar were featured in the Operational Research Society's 'Impact' practitioner magazine, with the Port of Dover article being the third most read in the magazine's history.

- *Developing the next generation of researchers.* Since 2014, our PhD students have achieved against every performance indicator: completion rates (74.5 completions, 100% of students); active involvement in international conferences; winning prizes for their papers and awards for their doctoral projects. They have gone on to careers in academia and industry, with posts at institutions such as the Bank of England and the Sasin School of Management in Thailand. At the next point in the academic pipeline, early career researchers (ECRs) have been supported to achieve promotion and make considerable contributions to their fields (see Sections B and D).

These activities have helped KBS to deliver on its core research theme of sustainable innovation, organised around three principal themes:

- *Environmental sustainability and natural resources.* Our research in this area addresses responsible consumption and renewable energy, as well as climate change.
- *Social sustainability.* Our research in this area explores the impact of innovation in sustainable business practices, in terms of improving diversity, health, and wellbeing within organisations as well as society.
- *Sustainable economic growth.* Our research in this area looks at how to create and support innovative business practices that enable sustainable long-term economic growth.

### Research Strategy 2014-20

The School's mission, as reported in REF2014, has been to build 'a research-intensive business school that produces rigorous and applicable knowledge', which 'informs the practice of management in public and private, local and global communities for a sustainable future'. This involved three components: 1) sustainable growth of research capacity; 2) developing enterprise and sustainability as priority areas; and 3) developing multi-disciplinary research partnerships.

#### 1. Sustainable growth of research capacity

Over the REF2021 period, KBS has continued to broaden and deepen its research activities, with a commensurate net growth in Category A staff headcount from 65 to 74. The alignment of these appointments with our strategic priorities is outlined in Section B. New colleagues have brought new expertise in priority areas (for instance, Hassan and Krasnikolakis in digital marketing) and bring a global perspective to sustainable innovation. We are proud that KBS's supportive and inclusive community attracts research talent from an international pool, with 21 different nationalities represented in our community. KBS has invested £1 million in scholarships over the period. The achievements of our PhD students are outlined in Section B.

The investment in infrastructure and the work it facilitates are outlined below, but equally important has been the additional investment in professional service support for research, with the research support team now including a Research Grants Manager in addition to the Research Manager.

#### 2. Enterprise and Sustainability

Reflecting the School's research strengths and aligned with UKRI's Global Challenges, as well as the United Nations' Sustainable Development Goals, our focus on sustainability evolved into the core theme of sustainable innovation. Our commitment to this theme is evidenced by the eight researchers with sustainability expertise appointed since REF2014. A key element in our research strategy was to build on expertise in enterprise and entrepreneurship by establishing the

Technology, Innovation Management, and Entrepreneurship (TIME) research centre. The centre is led by Papadopoulos, who was appointed in 2016 and was included in the Top 2% of Scientists in the World.

In 2016, KBS established the Accelerator Space for Innovation and Responsible Enterprise (ASPIRE) Lab to accelerate the progress of student entrepreneurs' ideas. ASPIRE brings together KBS's research in innovation and enterprise, as well as industry mentors and partners such as Google, the Kent Foundation, the National Association of College and University Entrepreneurs (NACUE), IPSE, and Tech Nation. Twenty-eight businesses have been supported to launch, 15 of them owned by BAME entrepreneurs, including: RR Collective, a sustainable fashion business upcycling Nigerian rubbish into jewellery; ethical beauty brand Nadia Esi Naturals; and sustainable fashion brand Jehu-cal (featured in *Vogue*). Each business demonstrates how effectively messages around ethical business practices and sustainability are embedded into the Business Start-Up Journey. For example, Nadia Esi, who received funding through ASPIRE's partnership with Santander, switched to recycled packaging.

Our impact on the local business community was recognised in 2018 when KBS led the University's successful Small Business Charter (SBC) application. Activities recognised by the award include the School's annual Business Summit and the Business Soundbites events. KBS works in close partnership with the Institute of Directors (IoD) and the Federation of Small Businesses (FSB), to organise and host the annual Kent and Medway Business Summit, the largest conference of its kind in the region. The one-day event brings together academics, local government, and Kent business leaders to discuss sustainable economic growth for the region. The summit focuses on positive action and cross-sectoral collaboration in priority areas, with high-profile speakers bringing relevant insights to bear on critical business issues. The outcomes of the summits have helped inform research into both the short- and the long-term economic implications for Kent and the UK in this highly dynamic economic environment, particularly since the local economy and its transport infrastructure are particularly affected by Brexit.

The regular Business Soundbites events provide a more informal forum for knowledge exchange. This networking event series aims to develop closer link between local business, alumni, students, and academics. The events take place in various locations across Kent and enable researchers to share the latest business research with the business community. Topics address the current concerns of the sector, such as Brexit, internationalisation of businesses, and happiness in the workplace

### 3. *Multidisciplinary research partnerships*

There are three specific areas where KBS has developed multidisciplinary partnerships during the period:

- *Infrastructure development and logistics research.* This area is pursued by a wide range of academics across our research groups (Acquaye, Afrifa, Garcia, Lowe, Lyngdoh, Papadopoulos, Salhi, Scaparra). Scaparra's GCRF-OSIRIS (Optimal Investment Strategies to Minimise Flood Impact on Road Infrastructure Systems in Vietnam) project exemplifies this. Scaparra, who specialises in Operational Research (OR), collaborated with researchers from meteorology, hydrology, and transport economics to blend optimisation modelling with tools from other disciplines to minimise flood impacts on road infrastructure in Vietnam, by optimising investments in flood mitigation interventions. The project developed a 20-year investment plan for the City of Hanoi (GCRF British Academy 2017-19). Scaparra has been shortlisted for the International Federation of OR Societies' Prize for Operations Research in Development 2020 for her work on this project (winner to be announced 2021).
- *Productivity.* As anticipated, the co-location of the new Sibson building with the Schools of Mathematics, Statistics and Actuarial Science (SMSAS) and Economics has resulted in greater collaboration, with the Productivity Research Hub being a joint endeavour with the

School of Economics. The Hub is linked with the National Institute for Economic and Social Research (NIESR) through Robinson's visiting post and Chadha's (School of Economics) secondment to the role of Director at NIESR.

- *Food systems.* The School's expertise in this area has developed through the REF period (see special issues co-edited by Fraser, Lowe, and Souza Monteiro in *Psychology and Marketing* (2015), and Lowe, Petrovici, and colleagues in the *European Journal of Marketing*), and multidisciplinary partnerships have been nurtured through events such as the 'Food and Consumers: Current Issues and Future Directions' research forum in 2018, which featured Professor Grunert as a guest speaker. Lowe's current work in the area includes his involvement in the recently awarded BBSRC project, 'Co-production of Healthy, Sustainable Food Systems for Disadvantaged Communities' (2020; £145,564). The project team includes researchers from the areas of agricultural, environmental, and nutritional science, as well as psychology and sociology. The team will work with people from a variety of disadvantaged communities (Whitley-Reading, Brighton & Hove, Tower Hamlets, and Plymouth), small and large food businesses and policy-makers to co-develop solutions to give improved access to fresher food and identify opportunities to prevent food loss in mainstream supply chains. Going forward, the School will actively engage with the University's recently established Signature Research Theme: Environment, Food Systems, and Natural Resources (see Section 4 for Growing Kent and Medway).

### Impact Strategy 2014-20

Our core research theme supports the creation of social and economic impact, and the School's emphasis in working with SMEs is an important driver of economic growth in the South-East. Examples of projects that achieve these goals are included throughout this Environment Statement, with staff leading high-impact activities supported through various School-level initiatives, including workshops, a £10,000 impact generation fund, and an External Services Team with a remit for creating knowledge transfer opportunities. The School identifies projects with high-impact potential and supports leads through mentoring, funds for impact-generating activities, and dedicated time in each lead's workload allocation. Support for enhancing the impact potential of projects at design stage is provided by both the professional service team and the Associate Dean for Research and Innovation. Further embedding impact is an explicit aim of our future strategy, as detailed below.

### Research Strategy 2021-27

The School's strategic research aims build upon those of the 2014-20 strategy, with a stronger focus on global reach and activity with direct societal or economic impact. Our research will contribute to the wider mission of KBS as a leader in sustainable innovation research and as a hub for entrepreneurs in academia, business, and society seeking to effect positive change.

- *Sustainable innovation scholarship.* KBS will remain an environment where thought leaders can undertake innovative and pioneering research with closer alignment to sustainable innovation and to realising the potential of our early career staff. While strategic appointments will still play a role, we will enable excellence through embedded support and revitalised structures.
- *Transformative knowledge exchange.* Our greatest international successes have come through our funded work on global challenges, and our biggest achievements regionally and nationally have come through business transformation activities. In recognition of this, the School will build on the following translational activities: externally funded projects; relationships with practitioners; and more effective dissemination of our research findings and our offering across the sustainable innovation sub-themes.
- *Interdisciplinary and international partnerships.* We will continue to support successful partnerships and, through alignment with University and School strategies, we will nurture collaborations that further the above objectives.

Our strategy with regard to each of these elements is outlined below.

### 1. *Sustainable innovation scholarship*

*Structure and governance.* As part of the University reorganisation, from 2021 the School's research groups will be restructured into four departments: Accounting and Finance; Leadership and Management; Marketing, Entrepreneurship, and International Business; Analytics, Operations, and Systems. The Heads of Department will drive forward the research strategy at departmental level, and research leads for each unit will be appointed. While the Heads will retain line-management responsibilities, the research leads will work with the Associate Dean for Research and Innovation to deliver the research and innovation strategy, adapt departmental-level implementation plans, and provide specialist mentoring to colleagues.

*Investment and support.* While the external environment is extremely challenging, KBS has committed to continued investment in research. This includes pump priming, research allowances, seminars, and bespoke training (see Section B), as well a significant increase in professional service staff support. From 2021, the professional service Research and Innovation Team will consist of: Research and Business Development Manager; External Engagement Manager; two Research and Innovation Managers (with grant-writing and funding bid development expertise); ASPIRE Officer; and a Research and Innovation Coordinator. This enhanced team will support researchers, deliver training, and work collaboratively with academic staff on securing knowledge exchange opportunities.

*Appointment strategy.* We will continue to recruit world-class researchers and will ask all applicants to demonstrate how their work aligns to our core research theme of sustainable innovation. KBS will establish a KBS Fellowship Programme to attract and nurture highly talented people, from our gifted PhD students to early and mid-career researchers. The School will further develop its postgraduate researcher community and is committed to increasing the external funding for these roles.

### 2. *Transformative knowledge exchange*

*Business transformation.* We will build on our strong track record in knowledge transfer and enterprise engagement, and will continue to nurture long-term partnerships built around the needs of businesses, with a view to: better understand clients' research needs; capitalise on the relationships generated by our business events; continue to secure KTPs; and extend activities for more general support for business. Our research centres will continue to play a key role here.

*Entrepreneurship.* ASPIRE will continue to support and nurture the new generation of entrepreneurial leaders as part of our mission to develop responsible enterprise. The Growing Kent and Medway project will utilise aspects of the ASPIRE Business Start-Up Journey (BSUJ), and research activities will focus on analysing the effectiveness of the approach in this context.

*Global impact through funded projects.* The KBS community of researchers is a global one, with 21 nationalities represented. This brings a global perspective to our research, and staff are leading projects that have direct societal or economic impact across Europe and internationally (see Section D). The profound impact we anticipate from Scaparra and Acquaye's GCRF and Horizon 2020 projects is something we want to replicate, and the School has the expertise and skills to realise this aim. We will build on this success and will capitalise on our interdisciplinary focus, in attracting funded projects that address UN Sustainable Development Goals, Global Challenges, and Grand Challenges outlined in the UK Government Industrial Strategy.

*Communication and engagement.* Kent and Medway Television (KMTV) is a public service OFCOM-regulated television broadcaster, part-owned by the University. KBS will sponsor a weekly Business Show, providing expert comment on current affairs. KMTV is currently producing a documentary on Scaparra's GCRF projects in Southeast Asia. The three KBS Research Centres

and Hub will act as mechanisms for practitioner engagement, with the Centre for Logistics and Heuristic Optimisation (CLHO) acting as a model in this respect, as it hosts the three annual meetings of the regional branch of the Chartered Institute of Logistics and Transport. We will also involve end users in research design. For example, when designing the project that resulted in the paper 'The Influence of Geographic and Psychic Distance on Online Hotel Ratings', Philips worked with the Senior Director of Tripadvisor.

### 3. *Interdisciplinary and international partnerships*

*Extending 'the region'.* Our impact in the South-East is clear, and our position in Kent means that there has always been a European dimension to our KTPs. For example, our KTP with Eurostar has informed the redesign of border control checks at the Paris Gare du Nord station and the introduction of a new email and online early arrival notification system. KBS worked with the University on the development of the new 3i University Network (Interregional Internationalisation Initiative), which will intensify collaboration between the member partners: Ghent, KU Leuven, Lille, and Kent. 3i aims to respond to shared cross-border regional challenges, by bringing together higher education, local and regional business, and governmental organisations to identify strategies and approaches to address these shared challenges.

*Disciplinary leadership.* We aim to attract one major international conference to the School every year. KBS will provide support for hosting internationally recognised conferences and workshops, such as the two scheduled for 2021-22 on the Canterbury campus: 'Gender, Work, and Organisation' conference (2021); and the Academy of Marketing Science World Marketing Congress (2023). Details of current editorships and other contributions can be found in Section D.

*Signature Research Themes.* Our expertise in the broad area of sustainable innovation equips us to engage meaningfully with the Eastern Academic Research Consortium (Eastern ARC), as well as the University's new Signature Research Themes, with 'Environmental sustainability and natural resources' mapping directly onto the Environment, Food Systems, and Natural Resources Signature Research Theme. Eastern ARC is a strategic collaboration between the universities of Kent, Essex, and East Anglia that was launched in 2013. Eastern ARC's Enabling Innovation: Research to Application (EIRA) network (supported by the UKRI Connecting Capability Fund) has established a collaborative environment focused on delivering knowledge exchange and research support to industry.

## **Organisational Structure**

### 1. *Research leadership and governance structures*

KBS is a community of researchers from diverse disciplines and backgrounds. The School's strategic direction is provided by leadership teams and committees, who are reflective of this diversity, and therefore able to meaningfully translate the strategic vision into policy and practice across the subject specialisms. While the School has a relatively flat structure, and discussion is actively encouraged, the governance structures set common agendas and drive forward strategic aims. Each of the committees below includes an Athena SWAN advocate.

Leadership roles are appointed to through an open recruitment process and are fixed-term for three years. The interview process is conducted by a gender-inclusive assessment panel whose members have undergone recruitment and Equality, Diversity, and Inclusivity (EDI) training. Recent recruitment processes have strengthened female representation at senior leadership level, with women now making up 50% of Head of Groups and over 50% of the Senior Leadership Team. From 2021, the School's research groups will be restructured into four departments: Accounting and Finance; Leadership and Management; Marketing, Entrepreneurship, and International Business; Analytics, Operations, and Systems. Sustainable innovation will remain the School's core research theme across all four groupings, and the new Heads of Department will sit on the Senior Leadership Team to provide strategic input and support to the Dean.

*Senior Leadership Team (SLT).* The SLT manages KBS's 'devolved' responsibilities for the implementation of the University's research and innovation strategy, as well as setting aims and objectives at School level. The team oversaw the evolution of the core research theme into 'sustainable innovation', as well as the design and implementation of the research strategy.

*Research Committee.* This Committee supports the Associate Dean for Research and Innovation to develop and implement the Research Strategy, in alignment with the School's strategic aims. This strategy encompasses research management (including policies and procedures), as well as development activities at individual and environment level. Membership includes academic and professional service staff involved in research and staff management, as well as the School's EDI representative and an ECR.

*International Advisory Board (IAB).* The IAB is an external committee established in 2017 with representation from government, academia, and business. It meets twice a year to provide strategic advice, contribute to the development of collaborations with other business schools, and assist in developing research networks and corporate engagement.

*Research Groups.* During the REF2021 period, KBS operated a devolved governance structure, with academic staff divided into six groups, each focusing on a different research specialism: Accounting; Finance; Marketing; Management Science; People Management and Organisation; and Strategy and International Business. Each Head of Group (HoG) was responsible for implementing the research strategy and supporting the individual research programmes of members, with highlights as follows:

- Accounting.** Led by Bigoni, this group includes six Category A staff and is considered an international leader on research of public-sector accounting, critical accounting, and accounting history. Bigoni and Funnell were both included among the 'thought leaders' in the field of accounting and religion by Carolyn Cordery, the editor of *Accounting History*. The appointment of Hilson as an expert in environmental accounting aligns with our sustainable innovation theme. In 2020, Hilson published a report for [www.planetgold.org](http://www.planetgold.org) titled *Access to Finance: Options for Artisanal and Small-Scale Mining*. planetgold's ultimate aim is to reduce the use of mercury in the sector through improving production practices and increasing artisanal and small-scale miners' access to finance and markets. Recognition of the group's excellence in the area is evidenced by the number of prizes awarded over the REF period. Funnell won both the Academy of Accounting Historians' Barbara Merino Prize (for the book *Accounting by the First Public Company: The Pursuit of Supremacy*) and the Enrique Fernandez Pena Prize for best paper from the Spanish Accounting Association (2015). Bigoni won the Academy of Accounting Historians' Margit F. and Hanns Martin Schoenfeld Award, awarded in recognition of contributions to accounting history studies made by emerging scholars (2016). Iqbal won the Excellent Paper Award at the International Conference on Economics, Business and Management for the paper 'Effects of business excellence frameworks on quality culture' (2018). Bigoni's paper 'Accounting for power and resistance: The University of Ferrara under the Fascist regime in Italy' was judged to be best Accounting History paper written by an Italian author in the year 2019 and awarded the Alberto Bisaschi Prize.
- Finance.** Led by Shamshur, this group includes eight Category A staff who carry out research into corporate finance, derivatives pricing, risk management, financial econometrics, international banking, financial regulations, asset pricing, and real-estate modelling. The group works closely with practitioners, facilitated by the Centre for Quantitative Finance (see below). For example, in 2015, Tunaru jointly hosted a workshop at KBS with Jokivuolle, Head of Research at the Bank of Finland, discussing potential future financial crises that could impact financial systems worldwide and what would safeguard institutions in this scenario. It was attended by representatives from Goldman Sachs, the Bank of England, the Federal Reserve Bank of Atlanta, and the European Central Bank, in addition to leading researchers in the area. Turnaru and Jokivuolle subsequently published *Preparing for the Next Financial Crisis: Policies, Tools and Models*

(2017), summarising the discussions, with contributions from the participants. Tunaru followed this with the books *Model Risk in Financial Markets* and *Real Estate Derivatives*. The group's work has had significant impact over the period (see impact case studies 'Property Valuation Tool Promotes Fairer Taxation in Greece and Reduces Mortgage Lender Risk' and 'Modelling the Future: Investments in an Uncertain World'). Panopoulou developed an economic evaluation model that is used in HM Treasury's Green Book to provide guidance on how to appraise, cost, and evaluate public projects in the UK. Alexandridis' research for Eurobank Property Services (a leading Greek and Romanian mortgage lender) resulted in an automatic mass valuation system for the real-estate sector, which was also used by the Greek Ministry of Finance and the European Commission to objectively define the value of real estate in Greece. Oberoi (whose KTP is described in Section C) won the 2018 research prize from the International Centre for Pension Management, for his paper on population structure and asset values.

- Management Science.** Led by Scaparra, this group includes 14 Category A staff and has an international reputation in the areas of operational research, big data analytics, operations management, information systems, and environmental management. This covers the spectrum of Operational Research (OR) from Soft OR (Mingers, Papadopoulos) through to Hard OR (O'Hanley, Salhi, Scaparra, Wassan, Wu), and those researchers whose work bridges both fields (Acquaye, Kotiadis, Liu). Four members of the group featured in the Top 2% of Scientists in the World (Mingers, Papadopoulos, Salhi, Wu). Mingers is considered a pioneer in the field of Soft OR, and he is ranked in the top two for Operational Research in the UK and top 17 in the world. The economic and societal impact on the group's research internationally is illustrated by the examples throughout this document (KTPs, CREST-OR, ReTraCE), while its contribution to the research base is outlined in Section D. This academic influence is nurtured through events such as the three international conferences the group has hosted over the REF period: International Symposium on Combinatorial Optimisation (2016); Data Envelopment Analysis International Conference (2019); and OR Society Annual Conference (2019, co-chairs Kotiadis and Salhi).
- Marketing.** Led by Lowe, this group includes 12 Category A staff whose research spans four main themes: new product development and innovation; buyer behaviour and marketing communications; marketing sustainability and ethics; and the management of supply (value) chains and market delivery systems. The group has a long tradition based around its sectoral focus on the food industry, and recent research in the group has contributed to debates on behaviour change around key societal issues such as food consumption (Lowe, Petrovici), household water consumption (Lowe), energy conservation (Chryssochoidis), and health behaviours (Garcia, Lowe, Petrovici). Ongoing and future projects will continue to extend its sectoral foci on emerging market economies, high-technology and new (social and digital) media environments. In 2023, the group will host the Academy of Marketing Science's World Marketing Congress. Garcia, who appears in the Top 2% of Scientists, has worked with Kaggle, the leading online platform in data analytics, in a project to examine the role of intrinsic and extrinsic motivation in online communities' participation and determine the impact of contests' task and knowledge characteristics in participants' motivation. Marketing researchers will have a pivotal role in leading involvement in the University's Environment, Food Systems, and Natural Resources Signature Research Theme, as well as the Growing Kent and Medway project (Chryssochoidis, Lowe). The COVID-19 pandemic has resulted in a number of businesses approaching the School for support in developing digital marketing strategies, an area where the group has particular expertise (see Krasonikolakis' impact case study 'Helping Greek Banks to Move Online').
- People Management and Organisation (PMO).** Led by Lewis, this group includes 11 Category A staff and conducts research in: employment relationships; diversity; the role of social partners; the effects of skills, technology, and culture on the world of work; employee engagement; and the role of leadership. The group's international reputation in the

discipline is evidenced through Lewis's inclusion in the Top 2% of World Scientists, Georgellis' position as a Top 10% author in the RePEc worldwide citation rankings, and Clark's award of Web of Science Highly Cited Researcher 2018. Clark and Georgellis are internationally recognised for their work in the area of wellbeing, with Georgellis (a Distinguished Associate of the International Atlantic Association) providing the keynote at the Organization for Economic Cooperation and Development, Humanistic Management Network Conference. Aligned with the School's focus on entrepreneurship, Georgellis has examined job satisfaction and self-employment (Georgellis, 2016), Koch explored the career patterns of the self-employed and the success associated with different career patterns (Koch, 2019), and Lewis has published on female entrepreneurs and 'mumpreneurs' (Lewis, 2014 and 2017). The group currently hosts two funded projects, with Leicht's work with the Templeman Foundation outlined in Section D. Lewis's Leverhulme Fellowship focuses on her project 'Postfeminism in the City: Leadership as Lived Experience'. The first two papers documenting this project won the Best Developmental Paper Award in the Gender in Management track at the British Academy of Management Conference in 2019 and 2020. It is through Lewis's position as Joint Editor-in-Chief of *Gender, Work and Organization* that KBS secured the 11th Biennial International Interdisciplinary Gender, Work and Organization Conference.

- **Strategy and International Business (SIB).** Led by Saridakis, this group includes 23 Category A staff and conducts research in strategic alliances, non-market strategies, performance management, business in emerging economies, international strategy, management of multinational enterprises, and corporate social responsibility. Included within the list of the Top 2% of Researchers is Amankwah-Amoah, who won the European Academy of Management and European Management Review Best Paper (2018) for his work 'Integrating the Dark Side of Competition into Explanations of Business Failures: Evidence from a Developing Economy'. In 2019, the group organised a research panel on Migrants' Entrepreneurship with group members (Khan, Saridakis, Puthuserry) and top scholars from the USA (including Gary Knight) at the annual conference of the Academy of International Business at Copenhagen. Since 2018, Saridakis has been Track Chair for 'Business Creation, Early-Stage Development and Business Closure' for the Institute for Small Business and Entrepreneurship (ISBE). Members of this group frequently contribute to think pieces and blogs, with Stoian's article on Unilever's decision to move its headquarters from London to Amsterdam reaching a global audience of more than 5 million readers, with citations in more than 10 newspapers worldwide, including the *New York Times*, *AFP European*, the *Gulf Times*, and *Kuwait Times*. Stoian won the 2018 Danny Van Den Bulcke Best Paper Prize at the 44th European International Business Academy conference for her article on the impact of foreign direct investment on institutional change in African countries.

*Research Centres and Hub.* KBS currently hosts three Research Centres and one Hub, all of which contribute applied research expertise to organisations and government agencies, regionally and nationally.

- **Centre for Logistics and Heuristic Optimisation (CLHO).** Led by Salhi, this Centre focuses on the development of new applied research in logistics, using heuristic search and practical optimisation. The research carried out in CLHO has helped to tackle real-life problems arising both in the public and in the private sectors. This has led to the generation of optimisation tools to improve scheduling and routing, production, facility location, and network security enhancement for a wide range of stakeholders. Current areas of interest include green logistics such as environmental routing, routing of electric vehicles, and scheduling with drones. CLHO is at the forefront of theoretical research in the most common areas of heuristic search: design of new facets within heuristics; constructing efficient data structures and appropriate neighbourhoods; robust optimisation; and the use of information, combining exact and heuristic methodologies and analysis of heuristic methods, among others. Members of the Centre have implemented this applied research in four of the five KTPs hosted by the School: Dover Harbour Board (O'Hanley); Eurostar

(O'Hanley); Parker Steel (Wassan); Priority Freight (Salhi). These projects built on its active engagement with practitioners through the Centre's hosting of the three annual regional meetings of the Chartered Institute of Logistics and Transport.

- Centre for Quantitative Finance (CeQuFin).** Led by King, this Centre aims to bridge the gap between academia and industry. To this end, the research carried out in CeQuFin focuses on finance and governance affecting the corporate and banking sectors, as well as financial markets, with a specific focus on quantitative approaches and on research that dynamically addresses key challenges raised by the 2007-9 Global Financial Crisis (GFC). The Centre hosts successful seminar and working paper series, and the 16 associate members include representatives both from industry and from external academic collaborators. In 2015, the Centre, together with a group of international collaborators from the universities of Surrey, Maastricht, and Orleans, won seminar funding from the ESRC. The 'New Financial Reality' series included five seminars that took place across all four partner institutions. The events included both academic and finance sector participants, with sessions on new risks and new asset classes, as well as new measures of risk and risk transmission mechanisms.
- Technology, Innovation Management, and Entrepreneurship (TIME).** Led by Papadopoulos, this is a new multidisciplinary research centre that explores digital innovation and industry 4.0. TIME's research addresses key managerial challenges and practices, and aims to generate a corpus of knowledge that can help both academics and practitioners tackle the organisational, social, environmental, and economic challenges emerging from the rapid development and use of new digital technologies and innovation. Papadopoulos is Special Interest Group Chair, eBusiness and eGovernment, for the British Academy of Management. Through this role and joint events and projects, the Centre is building links with similar research clusters at other universities. TIME hosted the two-day event sponsored by Society for Advancement of Management Studies, 'Open Collaboration for Innovation and Change in Healthcare and Medicine', and has recently shifted activity online in response to COVID-19, co-organising a webinar in May 2020 ('Hidden Power of Theoretical Mechanisms') in collaboration with the Special Interest Group e-Business and e-Government of the British Academy of Management and the eBusiness Research Centre of University of Newcastle Business School.
- Productivity Research Hub.** The Hub is led by Robinson (Co-Director) with Howells, Lyngdoh, and Ko, in conjunction with the School of Economics staff Siegel (Co-Director), with Bailey, Klein, Ledesma, Savager). The Hub was created to contribute to current debates around productivity, in terms of both macro- and micro-economic perspectives, from explaining and addressing regional inequalities to establishing models of cooperation that help firms of all sizes to increase their output per hour and per worker. The Hub has already secured funding from the Office of National Statistics (ONS) for a pilot study into AI robotics and skill complementarity (May 2020). This study examines whether firms that invest in AI robotics have identified a training need or recruited into the area, to realise the productivity gains. Robinson is conducting a study for the Scottish Government, through the National Institute of Economic and Social Research, that investigates the factors driving Scotland's productivity gap (March 2020). The study, which does not limit comparison to the UK, was conducted in partnership with Cambridge Econometrics and the University of Perugia.

## 2. People

### Staffing Strategy

Since 2014, KBS's staffing strategy has aligned with the strategic aim of pursuing excellence in sustainable innovation research. The School has appointed nine researchers specialising in sustainability, including: sustainable finance (King); the circular economy (Acquaye); sustainable supply chain performance management (Afrifa); the environmental and social impacts of the oil

and gas and mining industries in developing economies (Hilson); wellbeing and sustainable human resource management (Georgellis, Clark); sustainable health-care systems (Lyngdoh, Papadopoulos); and sustainable growth in emerging markets (Amankawah-Amoah).

The ASPIRE initiative has formed part of the staffing strategy within the innovation area, with two ASPIRE Postdoctoral Research Associates (PDRAs) in Innovation appointed in 2017 and two new Professors of Innovation (Flowers and Howells). Other appointments over the REF period include experts in new venture financing and strategy (Park); big data management and industry 4.0 (Shamim); and digital economy and dynamic capabilities (Zeng).

*Senior appointments.* New professorial appointments have brought leadership to the research groups (Saridakis; Shamshur) and centres (Papadopoulos), led the recent funding success through Growing Kent and Medway (Chryssochoidis; Howells), and played a pivotal role in strategic development through leadership roles such as Associate Dean for Research and Innovation.

*Mid-career researchers.* Appointments at the mid-career level have brought energy and ambition to the community, with Kotiadis' work on the PartiSim approach being utilised by PhD students and integrated into the curriculum, and Robinson leading the new focus on productivity. These staff have developed into leadership roles while at KBS, with Kotiadis now Director of Graduate Studies (Research), King leading CeQuFin, and Bigoni serving as Head of the Accounting Group.

*Early career researchers (ECRs).* Aligned with the University's commitment to supporting the next generation of researchers, the majority of appointments over the REF2021 period have been at the Lecturer and Senior Lecturer level. We are committed to recruiting, developing, and retaining researchers with the potential to produce world-leading research. Appointed as a Lecturer in 2011, Wyatt has since been promoted and leads an impact case study. Scaparra and O'Hanley were recruited at Lecturer level in 2006 and are both now members of the School's professoriate: leading grant applications and KTPs, generating impact locally and internationally, and now mentoring the new ECR recruits within the Management Science research group, which Scaparra leads.

Within the REF2021 period, the School also recruited Afrifa, who has worked with Acquaye on environmentally sustainable supply chain performance and whose work on corporate governance has covered both gender (2019) and greenhouse gas reporting (2020). Since his employment in 2019, Raeesi has been supported to publish his work on a new methodology for making mobile battery swapping an alternative to intra-route recharging of Electric Commercial Vehicles. Raeesi has been invited to the EPSRC Network-H2 call on the 'Economic Feasibility of Hydrogen-Fuelled Transportation'. Leicht's work with the John Templeman Foundation is outlined in Section D below.

*Promotions.* Since REF2014, 27 members of academic staff have been promoted: 12 female and 15 male. Female Readers have been supported to undertake significant roles of responsibility, to enable them to apply for promotion to Professor, as part of activities to address the professoriate gender imbalance. While we aim to retain staff through our supportive and enabling culture, we recognise that academic staff movement is an inherent part of the domestic and international sector. The progression and development of researchers during their time at KBS, and their subsequent attractiveness on the market, is a source of pride, and their ongoing relationship with the School helps to extend research networks. Panopoulou progressed from Senior Lecturer to Professor at KBS, and is now Deputy Head of the Finance Group at Essex, while remaining a member of CeQuFIN.

Our staffing strategy for 2021-27 will remain focused on: recruiting at professorial and ECR levels in alignment with strategic aims; retention through development and progression; and maintaining relationships with leavers. However, the introduction of the new departmental structure in 2021 will inform where these new appointments are focused, to ensure capacity across the Departments.

**Staff Development**

KBS is committed to developing individual research trajectories through a culture of support and mentoring, aided by annual personal development plans.

*Review and mentoring.* The School undertakes annual Individual Research Planning (IRP) meetings with all research staff to support their research activities. Meetings with the Associate Dean for Research and Innovation provide an opportunity to acknowledge achievements, identify barriers, connect staff to support, and indicate development needs at School and University levels. New academics on probation are allocated a dedicated research mentor to provide support, advice, and guidance.

*Research allowances.* Researchers each receive £2,000 per annum and are encouraged to use their allowances to support publication, impact development, and winning research funding.

*Staff training.* The University runs an annual programme of workshops through the established ECR Network and Grants Factory programme for staff at all career stages. Staff have found these training opportunities very useful, with Lewis attending a Grants Factory session on Leverhulme funding prior to her successful application. KBS 'Lunch and Learn' events run throughout the year, with topics informed by feedback and the research strategy. For example, given wide interest across KBS in health and wellbeing research, a workshop on 'Applying for National Institute of Health Research (NIHR) Funding' was run with the NIHR Research Design Service South-East in 2020. Annual Research Induction events for new joiners introduce the professional research support team (see below) and provide sessions on matters such as Open Access, research ethics procedures, and research support mechanisms.

*Advanced research training.* KBS allocates £15,000 to this activity each year. This funding can be utilised for individual development, but workshops and sessions that benefit groups are given priority. Topics for forthcoming workshops are identified through a review of IRPs.

*School research seminars.* Since REF2014, the School's research seminar series has included external conferences, funded workshops, and 51 invited speaker seminars. The budget for the seminar series is £7,000 per annum, enabling KBS to invite external speakers from the UK and abroad. As an example, Professor David Lane (recipient of the OR Society's President's Medal and System Dynamics Society's 'System Dynamics Application Award') was an invited speaker in 2019.

*Research support team.* Our researchers are supported by a dedicated professional service support team comprising: Research Manager (Cockell); Research Grants Manager (Garcia-Suarez); and Research and PhD Coordinators (Pemble, Krafft). This team keeps the administrative burden of research activity low for academic colleagues and provides tailored support, including workshops and grant application feedback, as well as facilitating collaborations. The coordinators support staff to make their research Open Access compliant, advise on research ethics, undertake event organisation, and advise academic colleagues on external regulations and University procedures and policies.

**Research Students**

In 2019-20, the KBS PhD community included 55 postgraduate research (PGR) students (52 full-time and three part-time). Our cohort of PGRs is enrolled on seven distinct programmes: Accounting; Finance; Management; Management Science; Marketing; Operational Research; and Organisational Behaviour and Human Resource Management. In 2019-20, a further 18 students enrolled on the KBS PhD programme, which has the following indicators of success:

- *Completion rates.* Since REF2014, 74.5 students have completed their PhDs and of these 84% of KBS registered students completed within four years (one part-time student within six years).

- *Recognition.* PGR Jeeu Fong Sze won the 2017 OR Society Doctoral Award for 'Most Distinguished Body of Research leading to the Award of a Doctorate in the field of OR' and was one of the ORS Beale Lecture 2020 speakers. Starita was a finalist for the same award and was selected to present his research in the House of Commons during the STEM for Britain 2017 exhibition for early career researchers. Luo was awarded the 2018 Chinese Government Award for Outstanding Self-Financed Students Abroad.
- *Publication.* While still a PhD student, Bochra Idris won the Best Paper Award at the Institute for Small Business and Entrepreneurship Conference (2019) for a paper co-authored with Saridakis. Allahi won the Best Student Paper Award of the 2017 International Conference of Financial Engineering.
- *Careers.* Recent graduate Mattia Bevilacqua is now a Postdoctoral Research Fellow at the Systemic Risk Centre at the London School of Economics. Annunziata Esposito Amideo is a Lecturer in Business Analytics at the Quinn School of Business at University College Dublin, and Stefano Starita is a Lecturer at the Sasin School of Management in Thailand: both continue to work with members of the Management Science Group. Rufus Howard is Director of Sustainable Development at Royal Haskoning DHV, and Davide Vioto is a Policy Analyst at the Bank of England. Vioto, Howard, Starita, Esposito Amideo, and Bevilacqua all received University-funded PhD studentships. Over the REF2021 period, Simeonova progressed from being a PhD scholarship student to KTP Associate at Parker Steel, and is now a Lecturer in the Management Science Group.
- *Externally funded studentships.* Since REF2014, 10 KBS students have been supported through externally funded scholarships, including: four South-East Network for Social Sciences (SeNSS) awards; three EPSRC awards; and two ESRC and one European Commission H2020 scholarships.
- *School studentships.* Across this REF cycle, KBS has invested £1 million in PhD scholarships, with 33 studentships awarded during the period, a significant investment in providing opportunities to outstanding students. In recognition of the international profile of the student cohort, the School introduced KBS International Scholarships, which include fees at the overseas student rate, facilitating recruitment of excellent students.
- *PGR training.* KBS PhD students complete four compulsory, discipline-specific PGR modules that complement Graduate and Researcher College provision. In 2016, these modules were reviewed to ensure compliance with ESRC requirements, and, in 2017, a KBS quantitative module was developed and introduced. In addition to this formal training, the annual PhD Conference provides the opportunity for students to receive feedback on their research and present to a wide audience. Following her success in the poster competition in the 2020 PhD Conference, Arwa Alhyari went on to win the Best Developmental paper award at the British Academy of Management Conference (Public Management and Governance Track).
- *Culture.* KBS PhD students are fully integrated into the wider research community, as well as within the research group aligned to their programme of study. They attend seminars at School and Group level, and are included in meetings and social events. Our PGR community also runs monthly colloquia throughout the term, where they present to their colleagues. The Director of Graduate Studies (Research) and research support team have fostered this supportive culture through regular coffee mornings, the provision of student support, and informal interactions.

### Equality and Diversity

*Gender.* KBS has worked hard to improve female representation at the higher levels and in leadership positions. Three of the six Heads of Group and 50% of the Senior Leadership Team are female. The new Dean (Garcia) was promoted to Professor while at KBS, successfully led

KBS at Medway, and is now the School's first female Dean. Kotiadis is Director of Graduate Studies (Research), and Scaparra is the incoming Associate Dean for Research and Innovation. In 2019-20, 22% of Professors within KBS are women (up from 18% in 2015-16), with 40% of Readers being female (up from 0% in 2015-16). While improved, these statistics are far from the equal representation to which KBS aspires. To create a targeted and effective action plan, the School used the Athena SWAN framework and successfully applied for a Bronze Award in 2020: KBS is now one of only 31 business schools to hold an Athena SWAN award. Actions will build on existing targeted intervention: three of the School's female academics were selected for the University's first Aurora leadership programme cohort, with one of our impact case study leads (Wyatt) participating in the programme. KBS is able to apply its research excellence in gender and diversity to our programme of cultural and structural change. Three members of the PMO Group play a key role in the Athena SWAN self-assessment team (Evans as Chair, Leicht, Wyatt), with Lewis providing advice. Our researchers are involved in other disciplinary initiatives, with Kotiadis a founding member of Women in OR and Analytics (WORAN) for the OR Society (UK).

*International and ethnically diverse staff base.* KBS is one of the most international Schools in the University, with more than half of its academic members holding non-UK passports and 21 nationalities represented within the cohort. The School has a high proportion of BAME staff (39%, of whom 20% are UK nationals and 54% international), with 20% of the professoriate being BAME. The HESA data for 2018-19 showed that, across the UK higher education sector, only 140 academic staff at professorial level identified as Black, equating to 0.7%. The KBS professoriate includes two Black Professors (one UK national and one international), one of whom was promoted to Professor in 2020. For details of the School's impact on BAME leaderships within higher education as a sector, see Wyatt's impact case study, 'Supporting the Career Advancement of BAME Professionals in Healthcare, Education, and Industry'.

*Inclusive culture.* KBS has invested in, and remains committed to, a comprehensive range of inclusivity actions and objectives. One example is the change to the research seminar series, which was moved to lunchtimes in 2018, with vegan and halal options made available. The Research Manager and Associate Dean for Research and Innovation have experience of leading Athena SWAN activities at a national and institutional level. While our researchers are mainly in the 36 to 45 age range (43%), there is representation from 26 to over 65. Research support is offered to staff of all ages and at every career stage (with the two not being conflated) through IRP meetings. While the policy is universal, implementation is designed to avoid indirect discrimination: staff are confidentially asked if they consider any circumstances to have impacted negatively upon their research outcomes, and support is tailored to each staff member's individual circumstances. Examples of support include proofreading for non-native speakers of English and specialist software for disabled staff members.

### 3. Income, infrastructure and facilities

#### Research Income

The School's research income for the REF2021 period show an increase of 550% in comparison with REF2014, from £88,533 in 2013-14 to £477,652 in 2018-19. A disappointing drop in 2019-20 (£157,550) is attributed to the pausing of projects owing to COVID-19 (for example, the Eurostar KTP and CREST-OR), though the securing of £1.1 million in new funding in 2019-20 will ensure that this dip is temporary. The generally improving trend evidences the impact of the enhanced peer-review process and IRP meetings, as well as the regular funding workshops. The £930k awarded to the UKRI 'Strength in Places' research project, 'Growing Kent and Medway', is representative of our potential and strategy for the next REF cycle (see Section A).

The above figures refer to the income the School receives as a result of its involvement in a wide range of different projects, rather than to the total values of the individual awards themselves. For example, while Acquaye and Spiegler's contribution to the ReTraCE project (2018-22) is recognised through a €303,173 award to KBS, the total value of this European Commission H2020 project is €4,039,862.

Many of our smaller awards from funders such as the British Academy (King, Matousek, Shamshur) and the Society for the Advancement of Management Studies (Garcia) have led to larger projects, such as Acquaye's capacity-building 'Environmental Sustainability Modelling' workshops creating the foundation for his ReTraCE involvement. Funded by the Society for the Advancement of Management Studies in 2018, the event attracted attendees from 19 universities, banks, and the private sector.

Much of the funding for our business transformation initiatives comes through KTPs, where KBS has a particularly strong track record. The funding for these projects over the REF2021 period has totalled £800,213, and KTPs form the basis of two of our impact case studies. InnovateUK data for the REF2021 period shows KBS received the third highest share of the available funding, out of the 36 business schools participating in the initiative.

### **Infrastructure and Facilities**

*KBS Canterbury.* In 2017, our Canterbury-based team moved to the £35 million Sibson building, which won a RIBA South-East Award in 2018 for design and sustainability. The new building promotes our research culture in a number of ways. The building is shared with the School of Mathematic, Statistics and Actuarial Sciences (SMSAS), and located next to the School of Economics, creating links with Schools that share research interests (see Section A: Productivity Hub). A large and attractive atrium provides an ideal venue for events. A staff room and café facilitate further informal interaction. PhD students are housed in shared offices next to academic staff offices, which enables our PGRs to have easier access to supervisors and other experts in their field. There is also dedicated space for our postdoctoral researchers.

*KBS Medway.* Our Medway-based team is located in the Sail and Colour Loft on the Historic Dockyard. In 2018-19, KBS invested a further £1.2 million in additional space and facilities at this site. Improved amenities include: PhD office spaces; social spaces for informal interactions and the daily coffee mornings for researchers and PhD students; and a new group learning room which hosts the Medway seminars, as well as TIME meetings and events.

*Bloomberg facilities.* Bloomberg software provides real-time and historical financial data for our finance researchers. All staff and PhDs have access to the data and Excel plug-ins allow for easier download and manipulation of data. This facility provided empirical data used in the CeQuFin study 'Equity Release Mortgages: No Negative Equity Guarantee (NNEG)', which was funded by the Institute and Faculty of Actuary and the Association of British Insurers in 2019.

*Specialist research software and IT equipment.* The University holds site licences for Matlab, SPSS, and NVivo, while more specialist software can be bought via individual research allowances. For high-end calculations, KBS is an early subscriber to the University's two High-Performance Computing (HPC) clusters: Phoenix, which is a 96-core Matlab machine; and Tesla, which has a 4096-core GPU system and can be additionally used with R and Python. The HPC cluster was utilised during the recent KTP with the energy management consultancy, Zero Trace Procurement Limited (ZTP).

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

Our organisational structures, funded projects, and service to the disciplines all combine to ensure that we play a significant role with academic and other stakeholders regionally, nationally, and internationally. Our focus on sustainable innovation ensures a balance of academic, economic, and societal contributions from disciplines as varied as operational research, finance, marketing, accounting, strategy, and human resource management.

### **Research Collaborations, Networks, and Partnerships**

Both our organisational structures and our individual research programmes result in formal collaborations worldwide. At School level, our International Advisory Board, visiting academic programme, Research Centres, and programme of external events ensure regular interchange

and networking with scholars from other institutions, countries, and disciplines. These activities are described throughout this document and particular highlights are also listed below.

One specific route to high-quality, high-impact international collaborations has been through our growing portfolio of externally funded research and innovation projects, such as:

- ReTraCE (Acquaye, Spiegler, 2018-22, Horizon 2020) develops a holistic approach for evaluating and realising the transition towards the Circular Economy, addressing economic, environmental, and social issues. The consortium comprises: seven academic institutions from Germany, Greece, Holland, Italy, and Sweden; two industrial partners, Tata Steel UK and Olympia Electronics SA; and a not-for-profit organisation, the Academy of Business in Society.
- Leicht's projects for the John Templeton Foundation with the University of Birmingham (UK), Kent State University (US), and York University (Canada) have expanded the Foundation's research on science and religion, from the humanities (History of Science, Philosophy, Theology), to a new research field within the social sciences.
- Enhancing fisheries resilience and hydropower development: the road to sustainable energy-water-food NEXUS in Brazil (O'Hanley, 2018 British Council, Newton Fund grant). This project supports networking with South American researchers working on river conservation, river connectivity enhancement, and optimally locating/removing hydropower dams in Brazil.
- GCRF-OSIRIS (Optimal Investment Strategies to Minimise Flood Impact on Road Infrastructure Systems in Vietnam; Scaparra, 2017-19). This GCRF project funded by the British Academy through the Cities and Infrastructure programme is a collaboration between the UK universities of Kent and Nottingham together with Vietnamese cross-sectoral stakeholders involved in flood risk management. These include the Vietnam Ministry of Transport, the Vietnamese Academy of Science and Technology, and the Vietnam Institute of Meteorology, Hydrology, and Climate Change. This project generated momentum around the use of analytics tools for sustainable development in Southeast Asia and fostered the creation of a wider multi-institution, multi-country partnership in the region, which ultimately led to the CREST-OR capacity-building project.

Building on individual achievements in the area, in 2020 the School hosted a two-day workshop on 'Open Collaboration for Innovation and Change in Healthcare and Medicine', sponsored by the Society for the Advancement of Management Studies, and hosted by TIME. The event was open to academics and practitioners, and panel discussions included representatives from NHS Trusts and a local children's hospice, as well as the Director of the Institute for Patient Experience.

These formal collaborations are complemented by our active programme of academic visits. As well as welcoming 37 visiting researchers from 13 countries during the REF2021 period, KBS researchers are visitors at several international institutions, as well as collaborators in projects based in overseas institutions. Examples include:

- Clark's position at the Paris School of Economics and co-directorship of the CEPREMAP Well-Being Observatory, where researchers from a range of institutions (including Paris School of Economics, Sciences Po MediaLab, Sciences Po Cevipof, and the OECD) work on wellbeing in France.
- Bigoni's relationship with the University of Ferrara, where he is a member of the Research Centre on Public Value, as well as of the Scientific Committee for the executive education course Local Government and Other Public Administrations Performance Improvement. Bigoni delivers an annual invited lecture on public sector accounting every year, to an audience including public servants and managers. This interaction led to a paper on the public value management system adopted by the municipality of Ferrara.

- In 2018, King won a visiting research ACRI fellowship for emerging international research talent (under 40), which was hosted by the Department of Communications and Economics at the University of Modena and Reggio Emilia.
- Hampton is a Visiting Professor of Tourism at Universiti Teknologi, Malaysia, and a founding member of the International Small Island Studies Association (ISISA).
- Lewis was a Visiting Professor at the Centre for Research in Equality and Diversity at the School of Business and Management, Queen Mary, University of London, in 2020.

### Contributions to the Research Base

The highlights of the School's contributions to the research base include prominent editorial roles across a wide range of academic journals, as well as the hosting of academic conferences for learned societies at our Kent campuses. Through collaborative projects, particularly those awarded through GCRF and KTP mechanisms, our staff also help build research capacity in the diverse settings of low- and middle-income countries (LMICs) and organisations that develop tools based on our research, as well as building innovative academic collaborations that open up new fields of study internationally.

Individually, many of our researchers are recognised for their contributions to a range of fields. In Ioannidis' 2020 Stanford University Report, seven KBS staff were ranked in the Top 2% of Scientists in the World, with Mingers ranked in the top two for Operational Research in the UK and top 17 in the world. Clark was listed as a Web of Science Highly Cited Researcher 2018 and Oxford University Press described Funnell as 'the world's leading scholar of public sector accountability' in 2016.

As a School, we also take advantage of our excellent location for national and international meetings of scholars and learned societies. High-profile events that took place on campus during the REF2021 period include:

- BAM Eastern Academic Research Consortium Seminar on Innovation, Sustainability, and Performance (December 2014)
- ESRC Research Seminars on Volunteer Tourism (Hampton, June 2015 and 2016).
- ESRC Research Seminar series on Gendered Inclusion in Contemporary Organisations, a collaboration with the University of Essex, Cranfield University, and Middlesex University, with two seminars taking place at KBS (Lewis 2015- 19).
- International Symposium on Combinatorial Optimisation (September 2016).
- Data Envelopment Analysis International Conference (June 2019).
- UK OR Society Annual Conference OR61 (2019, co-chairs Kotiadis and Salhi).

These contributions and markers of esteem are in addition to the prizes, awards, and grants detailed elsewhere in this document.

### Editorial Roles, Reviewing, and Learned Societies

The School currently has seven Editors-in-Chief, Founding Editors or equivalent at publications including: *British Journal of the OR Society* (Salhi); *Gender, Work and Organization* (Lewis); *Health Systems Journal* (Kotiadis); and *International Journal of Multinational Corporation Strategy* (Amankwah-Amoah). Scaparra is a member of the Scientific Committee for the 2021 CABS Academic Journal Guide (2020-21).

In addition, staff at the School are Co-Editors and members of the Editorial Board or equivalent on a further 37 journals, including: *European Journal of Marketing* (Lowe); *International Journal of Operations and Production Management* (Papadopoulos); *Accounting, Auditing and Accountability* (Funnell); *Institute of Industrial and Systems Engineers Transactions* (Scaparra, Wu); *Reliability Engineering and System Safety* (Wu); and *Technological Forecasting and Social Change* (Lee, Papadopoulos).

A number of our researchers have also been awarded 'Outstanding Reviewer' status for their contribution to the peer-review process for respected journals, including: Kotiadis (*European Journal of Operational Research*); Lowe (*International Journal of Bank Marketing* in the Emerald Literati Network 2016 and 2019 Awards for Excellence, plus 'Outstanding Journal Contribution' for the *European Journal of Marketing*, 2019); Wu (*European Journal of Operational Research*, *Reliability Engineering and System Safety*, and *International Journal of Production Economics*).

Members of KBS also contribute to a range of professional societies, hosting and delivering joint events with the Chartered Institute Professional Development (CIPD). Wyatt is chair of the British Psychological Society's (BPS) Division of Occupational Psychology's (DOP) international working group.

### **Developing Capacity and New Directions for Management Scholarship**

In addition to the disciplinary contributions listed above, our research community uses formally constituted research collaborations and externally funded projects to build capacity amongst a wide range of stakeholder groups, and to establish new fields of enquiry for the discipline. Some indicative examples are listed below:

- Kotiadis, O'Hanley, Scaparra: CREST-OR (Improving Community Resilience and Sustainability Through Operational Research Capacity Building in Southeast Asia), 2019-21. This EPSRC-funded project aims to build research capacity in OR and address UN Sustainable Development Goals in Southeast Asia (SEA), specifically four challenge areas: disaster management; resilient transport infrastructure; food supply security; and smart cities (Scaparra et al. [2019], 'Community perceptions of social, economic and environmental impacts of flooding in central districts of Hanoi, Vietnam'). The project, which involves three UK universities (Kent, Lancaster, Southampton) and seven academic institutions in four SEA countries, is endorsed by both the UK Operational Research Society and the International Federation of OR Societies (IFORS). One of its objectives is to lay the groundwork for the establishment of a Southeast Asia OR Society.
- Kotiadis' PartiSim uses soft OR methodology to create simulation models for non-specialist audiences. Originally developed for the NHS to support an obesity patient pathway, the dedicated toolkit is now publicly available. The PartiSim approach has been embedded into undergraduate and MSc modules and taught as part of NATCOR, the Behavioural OR summer school. Two of Kotiadis' PhD students are now applying PartiSim techniques in studies related to mental healthcare and to ageing populations in South America, with Vivianne Horsti Dos Santos being funded through the University's Global Challenge Doctoral Centre (GCDC).
- Leicht's two social science and religion projects for the John Templeton Foundation resulted in the Foundation's three-pillar initiative on the Social Scientific Study of Science and Religion, worth \$10 million. Leicht and her team were awarded £2.2 million to grow the international research network that underpins this initiative. The resulting networking project focuses on academic capacity-building and extending the field through a sub-granting scheme along with regular workshops, summer schools, and conferences. Leicht serves on both the advisory board and the current grant funding sub-committee of the scheme. The network works with scholars across 26 countries, including Argentina, Australia, Germany, Spain, and Sri Lanka.

### **Contributions to the Economy and Society**

As a business school that specialises in sustainable innovation, we are particularly proud that our research makes important societal contributions across a range of sectors, both nationally and internationally, as well as being applied directly by businesses. In a number of the examples below, our research achieves this societal benefit through commercial partnerships.

Our contributions to the economy and society within the UK include:

- *Growing Kent and Medway project.* This project (commencing in September 2020) focuses on the production and processing of high-value foods and plant-based compounds. The consortium includes four large agri-food companies (Berry Gardens Growers, Thanet Earth, APS Salads, Worldwide Fruit) and delivers an inclusive and innovation-led growth cluster to develop the region's advanced horticulture and food and drink processing and packaging industries. The project builds on regional projects related to food, such as Wu's 2015 ESRC project 'Smart data analytics for business and local government', which analysed the association between fly-tipping, food hygiene, and the environmental factors of food establishments in Kent, with findings informing county council decisions.
- *Kent County Council.* Filippaios undertook two studies as part of an Interreg Project on Small and Medium Enterprises Information Exchange (SIE), engaging seven EU regions (2016). The first study analysed the internationalisation activities of 268 Kent-based SMEs and their evaluation of existing support mechanisms at regional and national level. The second project focused on the internationalisation of SMEs. Outcomes of the studies have informed policy development in the areas of SME support at Council level, and an article based on the research outcomes was awarded Best Paper by the Institute of Small Business and Enterprise (ISBE) at their annual conference in Belfast, 2017.
- *Kent Resilience Forum.* Our researchers are contributing their skills and expertise to support efforts to tackle the multitude of challenges engendered by the COVID-19 pandemic. The Kent Resilience Forum consists of all the major agencies (police/fire rescue, Public Health England, local trusts, local councils, Kent County Council), and Kotiadis has been supporting their decision-making with regard both to COVID-19 and to Brexit, particularly how the agencies work together to make the best use of resources.
- *Social enterprises.* Between 2014 and 2019, Robinson led a work package for the WISERD Civil Society ESRC Research Centre, led by Cardiff University. While not new, social enterprises have gained in popularity since the financial crisis, as they offer a more socially sustainable way of doing business. The project focused on defining social enterprises as business entities, and found that they offer employment opportunities to marginalised elements of the labour force. Robinson subsequently authored a chapter in the *Handbook of Quantitative Research Methods in Entrepreneurship* and a State of the Art Review (SOTA) through the Enterprise Research Centre (ESRC-funded and led by the universities of Warwick and Aston).
- *Racial inequality in senior management.* Since 2014, Wyatt has worked directly with sector-leading organisations on evidence-based initiatives that address racial inequality in senior management. Partners include a leading international professional services consultancy, several NHS Trusts in London, and Advance HE, a UK charity that supports organisational development across the UK's higher education sector. In every case, Wyatt's research has contributed to new training or organisational development initiatives, which focus on the role of informal and political workplace dynamics. Outcomes include a more representative board at the professional services consultancy and improved diversity in senior management across UK higher education. For further details on the impact, see the impact case study 'Supporting the Career Advancement of BAME Professionals in Healthcare, Education, and Industry'.
- *Zero Trace Procurement KTP.* The risk management tool developed by Panopoulou and Oberoi (2018-20) enables Zero Trace Procurement to help its clients manage their energy market activity more effectively, by giving them the ability to forecast price movements and model the risk associated with their open contracts. The resulting product (Kiveev) won the 'Broker Initiative of the Year' award, and was also shortlisted for 'Innovation of the Year'.

Software, Digital, and Data' at the Energy Awards, the premier energy industry event, in November 2019.

- *Equity Release Mortgages*. The project 'Equity Release Mortgages: No Negative Equity Guarantee (NNEG)' was funded by the Institute and Faculty of Actuary and the Association of British Insurers. The study identified a more accurate model for forecasting short- and medium-term house prices in the UK, and results were released at a launch event in February 2019, which was filmed so that the recommendations could be widely disseminated to the actuarial profession. David Rule, the Executive Director (Insurance Supervision) of the Bank of England Prudential Regulatory Authority, stated: 'We believe the research paper's advocacy of ERM valuation using risk-neutral techniques is clearly expressed and merits serious consideration by firms and their auditors.' Tunaru conducted the study with the support of Quaye, a KBS Research Scholarship PhD student, recruited to the post of Lecturer in September 2020.

Our International contributions to the economy and society include:

- *IPCC*. Acquaye's expertise in climate change is recognised by his role as Lead Author for the United Nations' Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6), 2018-21. He previously acted as a Lead Author for the Fifth Assessment Report (AR5) (2012-14) and Contributing Author for the Technical Summary Report of the IPCC. Released in 2012, AR5 informed the Paris Agreement in 2015.
- *Indonesian Ministry of Tourism*. In 2019, Hampton designed and delivered a GCRF-funded workshop for senior officials from the Disasters Department and Destinations Department at the Indonesian Ministry of Tourism and 30 government, private sector, NGO, and academic stakeholders from Vietnam, Thailand, and Malaysia. Coastal tourism in Southeast Asia is particularly vulnerable to natural disasters, such as tsunamis and earthquakes, as well as to human-originated hazards, including terrorism and political instability. This vulnerability constrains the sustainable development that comes from tourism, and specifically impedes effective poverty alleviation in the host communities (see Jeyacheya and Hampton (2020), 'Wishful thinking or wise policy? Theorising tourism-led inclusive growth: supply chains and host communities').
- *OptiPass*. This is an optimisation-based decision support tool developed by O'Hanley, which was designed to help restore river habitats impacted by artificial river barriers (e.g. culverts, dams, and weirs). The tool has been used by a range of government agencies and non-profit organisations, including the US Forest Service, North Olympic Salmon Coalition, and Squaxin Island Tribe (see King and O'Hanley (2016), 'Optimal fish passage barrier removal – revisited'). O'Hanley's work on OptiPass was recognised in 2015 by the EURO Excellence in Practice Award from the Association of European Operational Research Societies (EURO). His ongoing work includes the optimal location of hydropower dams.
- *Korean cultural institutions*. Following the publication of his study 'Business model innovation through digitisation in social purpose organisations: A comparative analysis of Tate Modern and Pompidou Centre' (2020), Lee provided his findings to the Goyang Cultural Foundation and Sesomun Shrine History Museum in Korea. He provided advice on digitalisation and audience engagement, and was invited to deliver lectures at both institutions to curators, cultural programmers, academics, and policy-makers.
- *Injurymap*. Lowe and Laffey were awarded an EU Interreg voucher to evaluate user experience for Injurymap, a physiotherapy app developed by a Danish company with a global user base (2018-19). This involved a 12-month free trial of the app and a subsequent global survey of user experience. The study provided insights into further increasing the

value of Injurymap to users; for example, through making exercises available beyond the recovery phase, to prevent relapse.

Since 2014, Kent Business School has significantly extended the reach of its research, its contribution to capacity building, and its international societal impact across multiple sectors through its commitment to sustainable innovation. Throughout the REF2021 period, we have used this mission to drive forward new directions in management scholarship, as illustrated throughout this environment statement, and effect positive societal, economic, and environmental change on a global scale. This commitment has required significant investment and resourcing since 2014, and is now fully integrated into the activities of the whole School. Further realisation of this potential remains at the core of our research and innovation strategy for the next REF cycle.