

## THE BCO RESEARCH PROGRAMME – WORKING DOCUMENT

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**Rob Harris**  
*Chair,  
BCO Research Committee*



### The BCO and research

Research lies at the core of the BCO's purpose. It has done so since the BCO was founded, and over the past two decades it has produced a large library of work looking at all aspects of real estate – design, construction, occupation and management. The BCO responds to its members' wishes for research, allocating an annual budget to produce around six publications per year.

Against this backdrop, we find that our industry is experiencing an unprecedented level of challenge and change. The recent COVID-19 pandemic caused a wholesale change to hybrid working, which requires new thinking in the design and management of the workplace. At the same time, before the pandemic, the economy was undergoing rapid change, driven largely by the impact of technological innovation, and businesses were responding by reshaping their work processes. And, to make the picture more complex still, the environmental crisis, changes to society and issues around personal choice and well-being, and a growing focus on corporate responsibility were all adding to the need to re-evaluate the role and purpose of the office.

Real estate cannot remain immune from the technological, social, economic and environmental changes that are taking place all around us. It must become an active agent of those changes. And this means that old attitudes, practices and perceptions must change.

There is a need for cultural changes, as well as new skills and competencies. Real estate must support and enhance

the activities and needs of its customers; it must enhance productivity and performance. We will need new measures and indices and fresh approaches. We need to focus on environment, social justice and business performance. Perhaps above all else, real estate needs to demonstrate its social relevance.

### Pillar research

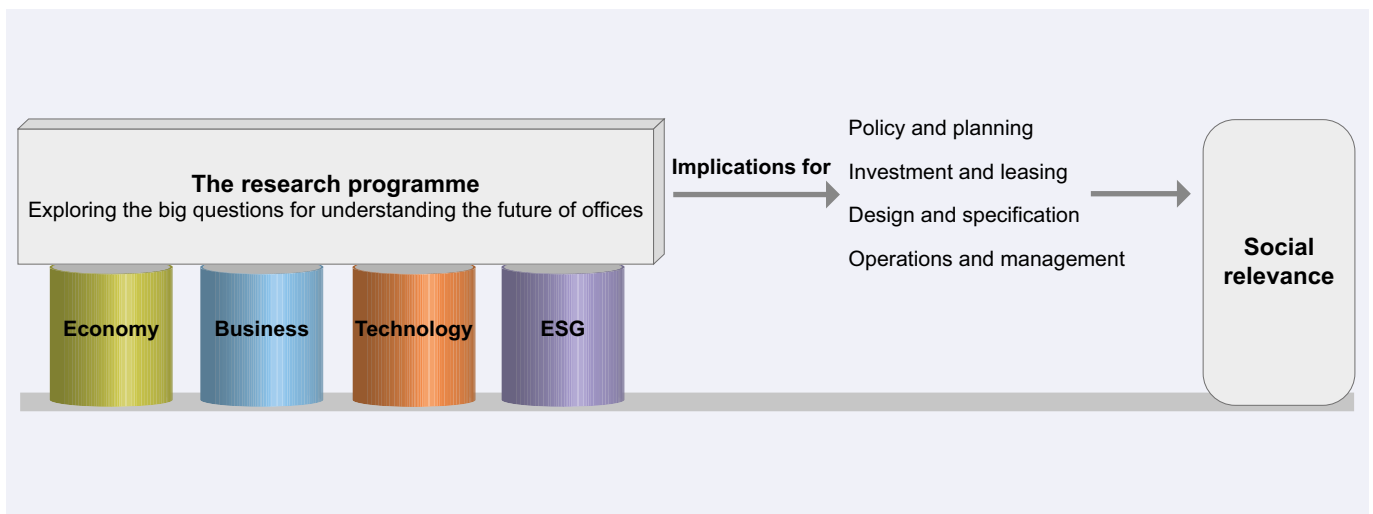
It was against this turbulent backdrop that the BCO's Research Committee decided to pause its business-as-usual programme and take a step back to consider its work in the broader context of change. This publication is the result of that pause.

In the autumn of 2022, I chaired a Research Committee workshop to consider how the research programme could respond to the changes taking place with a coordinated and structured programme of work. The workshop determined four 'Pillars' of work to shape a framework for a new research agenda – Economy, Business, Technology, and Environmental, Social and Governance (ESG). It also determined that each of these Pillars should consider implications for policy and planning, investment and leasing, design and specification, and operations and management.

Following the creation of this framework for the research programme, we commissioned four subject-matter experts to explore each of the Pillars in more detail. Nick Axford of Avison Young, Chris Kane of EverythingOmni, Nigel Miller of Cordless Consultants and Hannah Davis of Faithful+Gould were asked to explore Economy, Business, Technology and ESG, respectively.

An integral part of the brief for each Pillar was the need to consider change, not only in terms of the detailed issues being faced today but, critically, also to take a longer-term perspective – say, 10 or even 20 years. We asked the experts to identify the critical challenges that the BCO and its research agenda should focus on in the medium term.

The Committee also determined that the Pillars and research work should consider social relevance. As the industry's customers change and its role in society evolves, it is critical that we convey the social relevance – in addition to the financial relevance – of our industry's output.



Each of the subject-matter experts consulted extensively during their research. I would like to add my thanks to everyone who so positively and creatively contributed to the discussions, helping to create four excellent Pillar papers. The names of all of those who participated are given in the acknowledgements at the end of each paper.

The Pillar initiative has been overseen by the BCO Research Committee, and I would like to thank every member of the Committee for their contributions, enthusiasm, ideas and critical thinking during the process. This document would not have been possible without their help. I would particularly like to thank Derek Clements-Croome and Peter Grant for their help in reviewing this document and bringing it to publication.

## Purpose of this publication

The Pillar Papers were showcased in the seminar programme at the BCO's annual conference in Dublin in June 2023. We were delighted that Bill Hughes, Head of Real Assets at Legal & General, was able to join us to introduce the programme.

This publication has been prepared in order to consolidate the thinking that evolved in each of the Pillar subjects and to make it available to the wider BCO membership, and beyond. As described above, each Pillar group was tasked with identifying the issues and challenges around which we might build a research programme. It was not intended that they undertake the research itself!

The aim of this publication is to make those challenges available to members and beyond, and to solicit thoughts and ideas regarding our unfolding research agenda. We will use the feedback to help shape projects and the BCO's research programme generally.

## Summary findings

The main findings of the four research Pillars are summarised below.

### Economy Pillar

Nick Axford concludes that the UK office market is facing a series of structural and cyclical challenges that pose fundamental questions about the future of the sector. Some may prove to be temporary or short term; others may represent the start of a longer-term shift in the way occupiers think about their real estate needs and how investors therefore view office property as an asset class. The research identified a myriad of individual topics and questions that may be deemed worthy of further investigation. These were grouped into four main interlinked areas:

- *The UK economy* – including issues relating to the nature of the global and domestic economic cycle, the future of the UK economy in a global and European context, and the future economic structure of the UK by sector and size of business. These factors will influence the aggregate demand for office space in the future, the sizes and types of space required, and the most appropriate national and local policies for promoting growth and prosperity across all stakeholder groups.
- *The new economic geography* – looking at how future economic activity, and thus demand for office space, will be distributed across the country. This encompasses the type and scale of activity across different regions, as well as more micro-distributional issues relating to the differing prospects for larger cities compared with smaller towns, the differing prospects for individual cities, and the relationships between different areas of the country.

- *The role of offices in people, community and place* – identifying key questions around issues relating to national and local demographics and labour-force issues, as well as the way office buildings support the development of vibrant, prosperous communities and places, thereby generating wider social benefits as well as delivering attractive financial returns for developers and investors.
- *The future of offices as an investment asset* – summarising the key dimensions of investment performance that will be influenced by the changes identified in the preceding topics, which will inform the focus of research to ensure that projects deliver relevant, applicable insight that can be utilised effectively by the BCO membership.

It should be noted that the individual issues identified range across areas where the BCO and its membership have particular expertise – for example, in the factors driving the financial performance of real estate or best practices in ‘place-making’ – to those such as macroeconomics, geopolitics, demographics or financial regulation where others outside the real estate industry may be best placed to provide insight. Whether by commissioning new research into topics that are not currently well understood, or by collating existing academic or commercial research from specialists in these areas, the BCO can play a role in elevating thinking and debate on the future for our sector.

Which questions should be prioritised for investigation, how this research should be done and who is best placed to undertake the work requires further discussion within the membership. It is hoped that this report will stimulate the interest and desire of the BCO to respond to the issues raised within it, for the benefit of all stakeholders in the office market.

## **Business Pillar**

Chris Kane starts by pointing out that since we were released from the COVID lockdowns many businesses have felt that the pandemic was ‘just one of those things’, a mainly transitory event. But he observes that we can now see it for what it was and remains: the trigger for fundamental and permanent change to our economies, societies, and patterns of work and employment. COVID completely upended well-established office working practices and models, and there will be no reversal. This study Pillar identified a set of trends which the BCO needs to understand as a matter of urgency.

The nature of customer demand is no longer rigid or predictable; it has morphed into a multi-dimensional dynamic proposition. Businesses are now actively questioning the purpose of the office, and it is important for the BCO to rapidly build an understanding of the implications.

The Pillar research identified the need for a collective approach, comprising landlords, occupiers and policymakers, to reconsider the purpose of the office in post-pandemic times. There is a clear need for a proper dialogue between the property industry and its occupier clients. The key driver for such dialogue is the conflation of four interconnected contributory factors:

- Consumer power in all its guises will dominate for the foreseeable future.
- The pace of change has been accelerated by recent digital advances. The last obstacles to embracing digital technologies were swept away by the COVID-19 pandemic.
- Environmental, social, governance (ESG) is now centre stage.
- Carbon reduction is now non-negotiable.

Climate change is no longer a distant threat that we can push to the back of our minds. With successive warnings from scientists and world leaders, it is clear that we need to take immediate and decisive action. Given that business consumers are sceptical of words and badges, the study identified one ‘quick win’. People want to see real tangible action; so, as was pointed out in our innovation incubator, why don’t we ‘just switch off the lights’ at night?

When taken in the round, the four factors listed above contribute to a fundamental change in how people relate to place. All these factors have, in a space of three years, redefined the relationship between people and place, and there will be no reversal of the changes.

As for an agenda for research over the next three years, the research suggested three key potential areas of focus for the BCO’s research programme:

- The industry should look beyond the building itself, consider its wider purpose (not just as an asset) and re-examine the design process to include a wider range of stakeholders.
- How might the industry adapt its approach to the emerging new reality of ubiquitous choice in the context of the development, consumption and management of offices for the post-pandemic world?
- Perhaps there is a need for a fundamental rethink about how we do things. Should we take a leaf out of the book of car manufacturers with their approach to switching from combustion engines to electric cars? Can we bring ourselves to reimagine offices in terms of how they could be funded, designed, built and operated in a smarter more sustainable manner?

## Technology Pillar

Nigel Miller observes that, exacerbated by the COVID-19 pandemic, recent years have witnessed a sea change in expectations of the workplace and how it is used. As a consequence, the BCO needs to consider what it provides in terms of best practice and values to members in order to stay current and provide meaningful guidance to the industry – across both developer/landlords and the building occupiers at both a corporate and individual level.

For more than 20 years, technology has underpinned the use of the workplace but, strangely, little proactive attention has been paid to this by the core fit-out or property industry. Often considered a ‘bolt-on’ (historically, some wires and screens), the design and installation of technology has been relegated to second level, even post practical completion. As systems have developed into a wide range of useful tools supporting the workplace, this approach has more recently resulted in difficult integration between advanced, but often siloed, systems.

There has now been a step change in the market – a change that was already happening but was accelerated by the COVID-19 pandemic – and the focus has moved to the occupier. The employee is now the customer (as opposed to the C-suite or other stakeholders), and organisations wishing to attract rather than mandate employees back into the workplace to re-establish lost energy, creativity, socialising and learning by osmosis will use these innovative technology systems to be more successful in the medium to long term.

To create the right attraction, the facilities of the workplace need to be slick and seamless, and a new approach needs to be taken by the property industry to the services, experience and products they offer, with technology being a key component.

To lead the market, the BCO is in a position to identify and develop thinking about how technology, both information technology and wider technology use, can be adopted into the build and fit-out process, and how this may impact some of the traditional processes and design-team engagement.

Using technology to monitor, measure, adjust and manage our buildings and cities should not be in question; it should be an integral component of the build and fit-out process. This will require the breaking down of silos in the design, delivery and management of buildings.

We can influence this objective through the value proposition of digitally driven, centralised deployment of smart systems, based on defining a typical architecture that strips out redundant wastage. However, to achieve this requires real coordination between environment, controls, architecture and technology.

The BCO needs to consider the importance and role that workplace technology and ‘prop-tech’ has in the fit-out/building design process, and the new order and strategic manner in which this is incorporated – from early brief, throughout fit-out and then into the life cycle, such that the full potential of IT in the workplace can be leveraged in a collaborative team delivery for the best outcomes to be achieved.

Supporting with the correct approach as an integral part of the design and management, and not as an add-on or ‘technology for technology’s sake’, will also lead to optimised property outcomes, reduced overengineering and improved capital and operational spend, as well as improved sustainability.

## ESG Pillar

Hannah Davis describes the need for a fundamental social and cultural change in the perception of the environmental and social quality of the workplace. She argues that significant changes in the way we design and operate buildings are required in order to make ESG outcomes a reality.

Her Pillar research respondents and roundtable participants issued a strong call for a more proactive approach from the BCO to facilitate the transition to ESG mandatory and best practice requirements.

The research suggested that currently there is a lack of a common definition of ESG principles across the industry, which is driving the lack of accountability by individuals and organisations. The work also identified a lack of balance in defining and actioning the ESG principles.

Three further findings of the research suggest that:

- there is most focus on the ‘environmental’ of ESG, with both ‘social’ and ‘governance’ receiving limited attention
- a reconsideration of what the purpose of an office is will help to link office buildings with environmental and societal ecosystems through stronger governance
- asset management principles need to be embedded to deliver a solution to achieving ESG outcomes.

The ESG Pillar suggested that the BCO needs to consider the importance and role that sustainability has in the fit-out/building design process and the new order in which this is incorporated – from early brief, into the fit-out and then throughout the life cycle to the end of life, such that the full economics, environmental and social potential of the workplace can be leveraged.

This research highlighted the variety of challenges facing office-based organisations on their ESG journey. Creating sustainable business practices that address the environmental and social challenges is a key priority.

The BCO has a key role to play in ensuring a sustainable future for offices in our society. The industry could benefit from a better understanding of sustainability requirements and simplified ESG outcomes. All office-sector stakeholders need to be supported in making the ESG visions a reality through deliverable action plans.

The BCO must lead the office sector in embedding ESG. This can be driven by providing a clear and consistent definition and methodology to support organisations in meeting their ESG objectives. Examples of best practice and sharing of lessons learned will accelerate the pace of change and uptake of ESG within the industry. The provision of tools for which stakeholders need to be involved at the different RIBA stages to ensure ESG design is aligned with the construction and operation phases, and even providing a template policy, would support organisations that are struggling with the vastness and intangibility of ESG to begin their journey.

The ESG Pillar proposed a series of recommendations.

- *Vision*
  - The BCO needs a ‘2030 Vision for the Office’, and this vision must fully embrace the principles of ESG.
  - The BCO should show greater leadership in creating a vision for net zero – at the moment the organisation is notable by its absence.

- *Technical*
  - The BCO needs to focus on the full life cycle of a development and its impact, including design, planning, operation and asset management.
  - The BCO could ensure that there is equal emphasis on the ‘social’ and ‘governance’ aspects of ESG alongside the ‘environmental’ aspect.
  - The BCO could make available more case studies for practitioners – this may include benchmarking to help understand what ‘good’ looks like – and provide ESG governance templates to support wider adoption of ESG principles.

### **Looking ahead**

As already stated, the purpose of this document is to help frame the content of the BCO’s research programme over the medium term. I encourage all readers to consider the questions and challenges laid out and to provide us with your ideas on how the research programme might inform industry thinking during the turbulent times that lie ahead. ■



## OFFICES IN A RAPIDLY CHANGING WORLD

**Bill Hughes**  
*Global Head of Real Assets,  
Legal and General Investment  
Management*



When I began my career, I arrived at my allocated desk to find three trays: an in-tray, an out-tray and an ashtray. Offices in the early 1990s could be described as clerical factories where written tasks were assigned and completed, with paper shuffled from one side of a desk to another.

Current definitions still reflect this, with online dictionaries defining an office as: 'A room or set of rooms in which business, professional duties, clerical work, etc., are carried out.' Or: 'A space where the employees of an organisation perform administrative work in order to support and realise the various goals of the organisation.' There is nothing in these definitions about collaboration, generating ideas, networking or client hospitality.

BCO members will recognise that official definitions are outdated, unhelpful and misleading, and that the office has, for some time now, asserted its role as a corporate tool rather than a corporate cost. But the office sector finds itself in a challenging place. Structural and cyclical pressures are combining to create a tough situation where, for many investors, the easiest decision is not to invest further capital into the sector.

The BCO has a key role in affirming the role the office has in society, in a more localised sense of place, the attributes that good office space can bring to working life – and indeed economic productivity – and, like all membership organisations, in telling its members something they don't already know and that they can do something useful with.

Some of the themes we are grappling with as investors go well beyond post-COVID impacts to utilisation. The rapid maturity of the funding levels of defined benefit (DB) pension fund is enabling significant risk transfer to insurers and asset managers. These managers will typically retain

lower-risk assets and seek to dispose of higher-risk assets. Property is one asset class on which managers will be opining and, within property, we would expect some office buildings to represent an unwelcome risk. The scale of DB funding maturity suggests significant releases of office stock to an investment market that is not yet comfortable with pricing.

Separately, the swing in debt costs faced by leveraged investors at refinancing is historically high. Interest coverage ratios will be challenged, and in sectors where void risks are higher – like offices – many may prefer to dispose of assets rather than inject fresh equity. We therefore think we are facing a period of significant price discovery and that office yields will, in short order, be notably higher than they are today.

This journey may well be painful. But there is the prospect of a destination where certain risks, which have been evolving for some time, are finally 'in the price'. For instance, we think that valuations have long been underpinned by overambitious reversion assumptions. We recognise that management costs have increased, and rightly so as investors work harder to provide a better experience for their occupiers. Capital expenditure requirements have gone up significantly as investors strive to meet sustainability requirements but also to ensure their offices provide a quality of space that encourages employees to switch from their home set-ups for at least part of the week.

Income has also, of course, got shorter. This is an investment risk that traditionally would demand a higher yield but is also something that more enlightened investors are embracing. This is helped by experience with operational assets like hotels and sectors like build-to-rent, where a rapidity of releasing is accepted and encouraged rather than resisted. The Investment Property Forum recently released a paper which suggested that the overall risk–return trade-off for investors was better in running a portfolio of flexible 1–2 year office leases than pursuing a 20-year term to a serviced office operator, given the binary risk of default in the latter. This all makes sense to us and represents a mindset shift that is still required by many in the market.

In general, we think investors require income, growth, diversification, liquidity and purpose. Offices can provide attractive blended income with shorter leases balanced by longer terms on corporate headquarters. Growth can come from location choice and occupier partnerships, as well as market timing. Diversification and liquidity can be

achieved by holding different risk profiles within an office allocation. And, if purpose can be exemplified as ‘protecting the environment and enhancing society’, then there is a key role for net zero offices that enable the best outcome for occupiers and wider societal networks.

This is a challenging time for office investment performance. But it is the perfect time to remind ourselves of the positive attributes offered by the sector when provision is done right. We need the BCO to help us navigate this new landscape and ensure the sector can be purposeful as well as profitable. ■

## ABOUT THE AUTHOR

Bill Hughes joined Legal & General in 2007, and is responsible for transforming its UK property fund management business into a global-reaching real assets platform. Operating in both the direct investment and lending markets, today Legal & General actively invests and manages over £35 billion AUM, providing capabilities in real estate, infrastructure and corporate debt. Bill previously held positions at RREEF, the real estate fund management business of Deutsche Bank, and Schroder Property Investment Management.

Bill is currently a trustee of the UKGBC and Chair of the Property Industry Alliance (PIA), bringing together the UK's leading property bodies to give them a stronger collective voice on issues such as policy, research and best practice. Bill was a Commissioner for the Lyons Review, is a Past Chairman of the Association of Real Estate Funds (AREF) and a Past President of the British Property Federation (BPF).

## ECONOMY PILLAR RESEARCH

**Nick Axford**  
*Global Head of Research,*  
*Avison Young*



### Executive summary

The UK office market is facing a series of structural and cyclical challenges that pose fundamental questions about the future for the sector. Some may prove to be temporary or short term; others may represent the start of a longer-term shift in the way occupiers think about their real estate needs and how investors therefore view office property as an asset class.

A variety of issues are currently attracting most of the headlines – including those relating to environmental, social and governance (ESG) considerations, the impact of artificial intelligence and other technological changes, and the rise of flexible working. However, this section of the BCO Research Agenda project focuses on some of the more traditional but nevertheless fundamentally important drivers of the office market: the economy and other ‘macro’ drivers of the sector, such as geopolitics and demographics.

As with other areas of the overall project, the task was not to provide answers but to highlight the questions that the BCO and its members should be asking to inform debate about how the UK office market should evolve to meet the needs of all stakeholders in the built environment – including architects, designers, developers, owners, occupiers, financiers, policymakers and advisors. This will guide thinking on issues where the BCO should undertake or participate in research to develop an evidence-based view, so it can participate effectively in the debate about policy and practice in the sector.

This report identifies a myriad of individual topics and questions that may be deemed worthy of further investigation. These have been grouped into four main areas, although it should be noted that there are many linkages between individual topics and sections, and indeed

with the topics identified by the other three areas of the overall project.

- *The UK economy as a whole* – including issues relating to the nature of the global and domestic economic cycle, the future of the UK economy in a global and European context, and the future economic structure of the UK by sector and size of business. These factors will influence the aggregate demand for office space in the future, the sizes and types of space required, and the most appropriate national and local policies for promoting growth and prosperity across all stakeholder groups.
- *The new economic geography of the UK* – looking at how future economic activity, and thus demand for office space, will be distributed across the country. This encompasses the type and scale of activity across different regions, as well as more micro-distributional issues relating to the differing prospects for larger cities compared with smaller towns, the differing prospects for individual cities, and the relationships between different areas of the country. It also focuses on the particular issue of the future for London in a changing economic and political context, which will have significant implications not just for the nation’s largest office market but also for the UK economy as a whole.
- *The role of offices in terms of people, community and place* – identifying key questions around issues relating to national and local demographics and labour force issues, as well as the way office buildings support the development of vibrant, prosperous communities and places, thereby generating wider social benefits as well as delivering attractive financial returns for developers and investors.
- *The future of offices as an investment asset* – summarising the key dimensions of investment performance which will be influenced by the changes identified in the preceding topics, which will help inform the appropriate focus of research to ensure that projects deliver relevant, applicable insight that can be utilised effectively by the BCO membership.

It should be noted that the individual issues identified range across areas where the BCO and its membership have particular expertise – for example, in the factors driving the financial performance of real estate or best practices in ‘place-making’ – to those such as macroeconomics, geopolitics, demographics or financial regulation where others outside the real estate industry may be best placed to provide insight. Whether by commissioning new



research into topics that are not currently well understood, or by collating existing academic or commercial research from specialists in these areas, the BCO can play a role in elevating thinking and debate on the future for our sector.

Which questions should be prioritised for investigation, how this research should be done and who is best placed to undertake the work requires further discussion within the membership. It is hoped that this report will stimulate the interest and desire of the BCO to respond to the issues raised within it, for the benefit of all stakeholders in the office market and the wider built environment, including society as a whole.

### **A BCO economic research agenda for the UK office sector**

Since the UK's first purpose-built offices were developed in the early 18th century, the changing nature of our economy has seen the office emerge as the workplace of choice – or necessity – for almost a third of the UK workforce. Yet, in a few short years, the combination of technological advancement, concerns over climate change and a post-pandemic work-style revolution have presented a set of significant new challenges that are even being described as existential threats to the UK office sector, at least as we know it today.

These more recent topics that are currently grabbing the headlines are undoubtedly reshaping our thinking about the sector. They will impact the way in which companies use office space, the type and location of that space, and how much of it they need. But these changes will still, in the overall scheme of things, be 'at the margin'. The likelihood is that office space will remain a crucial component of the UK's business infrastructure, acting as a place of work for a significant proportion of the working population for a significant proportion of the time – albeit that this is itself an assertion that deserves to be tested! Ultimately, therefore, the future demand for office space in the UK will depend on the size, shape and distribution of the country's economy: we need to understand who will be doing how much, of what, where, how and with whom, and how will this change over time.

Breaking these questions down into their constituent parts helps us identify some fundamental questions about the future of 'work' in the UK. In this part of the BCO's Research Agenda project, we focus on those questions that relate to the size, shape and distribution of economic activity – mainly from a macro perspective. Other groups are considering the impacts of technology, ESG and business-related issues (such as flexible working) which are integrally linked to this macro discussion, but which we (largely) leave for them to discuss elsewhere.

We have sought to group the key issues into a logical structure to aid discussion and the framing of a research agenda, but even within the scope of our remit there are clear overlaps and linkages between the groupings we identify. Nevertheless, we believe that there are some distinct areas of focus that have implications across the entire range of real estate stakeholders – architects, designers, developers, owners, occupiers, financiers, policymakers and advisors – where the BCO should develop an evidence-based view in order to participate effectively in the debate about the future for offices in the UK economy.

As so correctly identified by Douglas Adams,<sup>1</sup> the starting point – and the objective of this report – is not to come up with the answers but to identify 'what are the questions we should be asking?'.

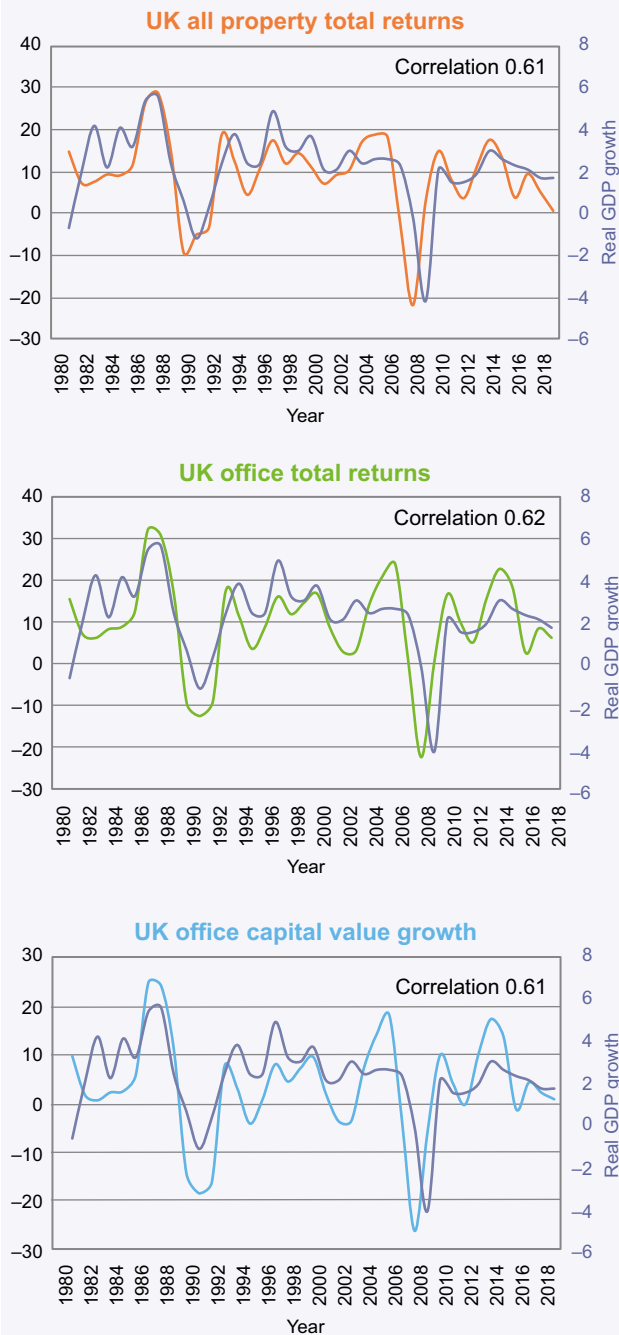
### **The UK economy**

Supply and demand for office space will fundamentally be influenced by cyclical and structural changes in the economy, both globally and within the UK. Many of the structural changes currently being seen are identified in subsequent sections of this report, or within the reports from the other research Pillars of this BCO project (Technology, Business and ESG). However, there are some fundamental questions about the nature of the global economic and business cycle that have implications for the UK economy and, therefore, by extension, for the UK office sector that merit exploration. The economic cycle is not the only factor that drives the performance of the office sector, but analysis shows that real GDP growth explains around 60% of UK property – and office – total return and capital value movement (Figure 1).

Developing an understanding of the macro factors which will drive the future trajectory of the UK economy is therefore essential to support the work of both individual members of the BCO and the work of the BCO as a whole in informing the debate about how the office sector needs to respond. While some of the issues raised may seem somewhat remote from the day-to-day workings of the office market, they are nevertheless fundamental to its overall health and prosperity. The interests of the BCO and its membership are integrally linked to the UK's economic fortunes. If the BCO is to effectively advocate for those interests, it must be prepared to enter into political debate about the most appropriate policies for national and local government to pursue. This takes the BCO into sensitive territory, and it is therefore essential that its position and advocacy is based on authoritative, informed research rather than any philosophical political preferences.

**“It’s the economy, stupid ...”**

- Economic growth determines occupier demand for (office) real estate
- Which drives rent and investor sentiment
- Which drive values and returns



*Figure 1*  
Total return on all property and on offices, and office capital values 1980–2018 (millions GBP).

Source: MSCI, Oxford Economics, Avison Young

There are various ways in which the fundamental macroeconomic and policy issues raised in this section could be addressed, given that the subject matter has relevance outside the specific focus on the BCO, and thus requires specialist knowledge and expertise that may not be available within the BCO membership. The most appropriate approach may well be the synthesis of existing academic or other research already being undertaken, and/or partnership with academic or research institutions with relevant expertise – but that is a matter for the BCO and its Research Committee to determine.

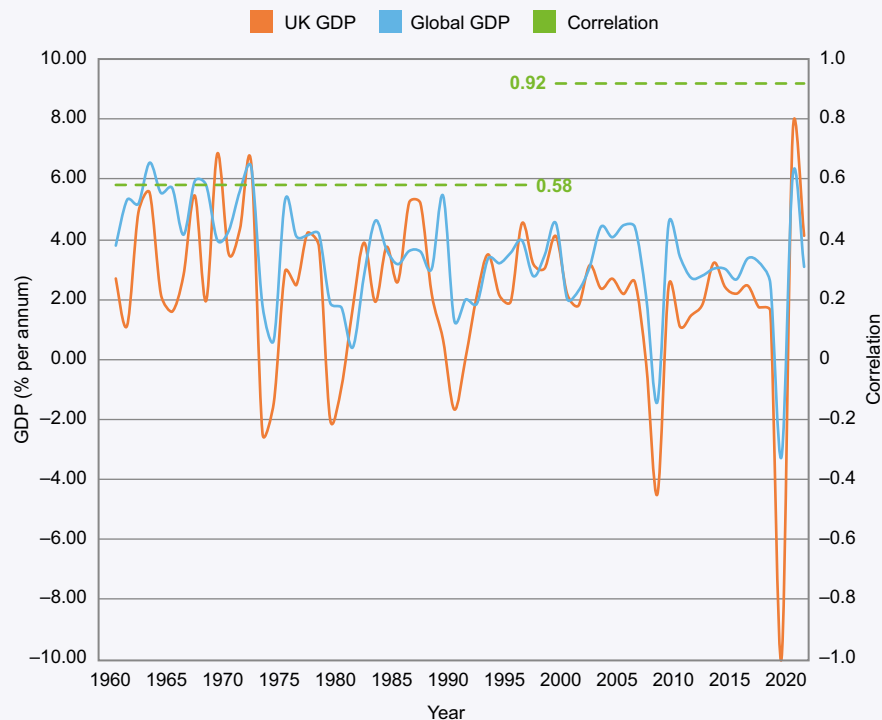
The topics addressed below fall into three main subsections:

- the nature of the economic cycle
- the future of the UK economy in a global and European context
- the future economic structure of the UK.

**The nature of the economic cycle**

To begin, we consider a set of issues and questions relating to the fundamental nature of the UK and global economic cycles (Figure 2).

- How are economic and/or business cycles changing? Are these cycles getting shorter, or more volatile? Superficially, this may appear to be the case, but is this just perception based on recent experience?
- Within little more than a decade, we have seen two globally synchronised cycles – driven by the 2007–2008 global financial crisis and the COVID-19 pandemic (2019–2023). The correlation between the UK and global economies has increased in the last decade compared with previous periods, but will this increased correlation persist?
- We have also seen an increase in geopolitical tensions – notably between the Western economies and China, and more recently with Russia. This has created a sense that globalisation (in all its forms) has increased the risk of ‘systemic’ crises, making individual economies (such as the UK’s) more vulnerable to events beyond government control.
  - Is this a valid concern?
  - What are the implications for the UK office sector?
  - To what extent can we ‘future-proof’ the UK office market against increased global/UK economic risks and volatility?
- Should we prepare for (a return to?) more ‘boom/bust’ economic cyclicality? What does this mean for offices as an investment asset?



*Figure 2*  
 The UK and global economic cycles.  
 Source: World Bank, Oxford Economics, Avison Young

- What is the root cause of any increased volatility, and is it overall positive or negative?
  - If there is volatility due to frequent geopolitical events and a difficult transition to a post-Brexit environment, is this a negative for property?
  - If the volatility is due to ‘creative destruction’, where the economy is seeing ‘sunrise’ industries emerge as others go into structural decline, then are we entering a period of increased opportunity, with ‘change’ replacing ‘growth’ as the key driver of demand for (office) real estate?
- What parts of the property market would suffer or even gain from that volatility?
- What implications would increased volatility have for patterns of occupier demand and lease structures?
- Will the UK economy be more volatile following its departure from the European Union (EU), as greater exposure to non-European economies opens the UK up to influence from a wider range of individual economies around the world? If so, why? Does this matter, and what measures could be taken to mitigate this risk?
- What would the impact of increased UK economic volatility be on the value of sterling and exchange rate volatility? What implications could this have for international investment into the UK office sector?
  - Would investors continue to perceive a fall in the sterling exchange rate as an opportunity to buy UK assets cheaply if there was growing doubt about the stability or long-term prospects of the UK economy?
  - Would this mean the UK would attract more ‘high risk/high reward’ investors, and therefore yields would have to rise so that assets match their return criteria?
  - Might foreign investors that had originally bought into the UK seeking a stable income stream and low risks decide to disinvest?

Whatever the nature of the global economic cycle, a key issue remains the relationship between the UK and the rest of the world, which leads to our second issue – *the future of the UK economy in a global and European context.*

## **The future of the UK economy in a global and European context**

The detailed nature of office demand will be influenced by a huge range of factors. In the short term, demand will be most obviously influenced by changes in the nature of work (due to technology and automation), by environmental considerations (impacting the construction, selection and operation of office buildings) and by changing working practices (due to increased flexibility in where and how work takes place). However important these changes are in determining the quantum of demand for offices at the margin, it is likely that the majority of knowledge-based workers will continue to utilise some form of purpose-built ‘office’ for at least a significant part of their working lives.\* The future demand for office space in the UK will therefore be crucially determined by the size and shape of the UK economy at a macro level. This, in turn, will be shaped by the role that the UK plays in the evolving global and European economies.

- What will be the impacts of the emerging ‘deglobalisation’ on the UK economy? How will the linkages between the UK and other economies change over different timescales?
- What are the various driving forces behind deglobalisation, particularly for the UK, and what are their respective impacts and implications? How should the UK government respond – will we see a return of previous-era ‘industrial policy’ (which is arguably the core function of the US Inflation Reduction Act)? Possible driving forces are:
  - Brexit
  - a return of populism and protectionism
  - pandemic aftermath/nearshoring
  - geopolitical tensions and ‘friend-shoring’
  - rising costs in former ‘low-cost’ countries and reshoring/advanced manufacturing and automation.
- Which activities could reshore to the UK? Will this drive office demand, or is this more likely to favour industrial property?
- What is the linkage, if any, between changes in production/trade of physical goods and changes in demand for (a) office space and (b) service activity?<sup>†</sup>
- What role will geopolitics play in driving future patterns of trade, inward investment and economic growth within and beyond Europe?

- In addition to offshoring/nearshoring driven by ‘economic’ imperatives, what impact will reshoring/friend-shoring have on the UK economy? What sectors/types of activity are likely to expand or contract over time?
- Could we see ‘friend shoring’ of financial and business services? Could the UK gain from being a financial and business services (FBS) centre that is not directly aligned with the USA, EU or China?
- In a world of heightened geopolitical risk, will the UK’s geographic position offshore from the north-west corner of Europe mean it will be seen as safe haven, far from potential flashpoints? Or a marginalised backwater of the global economy?
- What will ‘deglobalisation’ look like: will it involve a reduction in (service sector) linkages between different national/regional economies, or simply be a reshaping of those that already exist?
- What variations will we see in national/regional performance around the world, and how will this influence the UK given the varying nature of its relationships with those economies?
  - Europe (and its key major economies)
  - North America
  - Asia Pacific (particularly China and India)
  - (when) will Africa/South America emerge as ‘powerhouse’ global economies?
- Specifically, what is the role/relationship of the UK in a post-Brexit Europe, given that the EU is currently and arguably likely to remain the UK’s key trading partner?
  - Does the UK move towards a Swiss-type relationship with the EU, with a series of smaller treaties covering specific industries and markets?
  - How much access can the UK maintain via equivalence?
  - Would the UK joining the European Free Trade Association (EFTA) and seeking readmission to the European Economic Area (the Single Market) revive London’s fortunes in financial markets?
  - Are centres of excellence, such as foreign exchange (FX) trading and the Lloyd’s Insurance market, still drawing EU-based custom?
  - Might the UK signing its own network of trade deals with larger service sector elements than found in the

\* We accept this assertion is open to challenge, but the overall research agenda which we hope will emerge from this BCO project should help determine whether or not it proves to be correct!

<sup>†</sup> These two are not necessarily the same; production of, and trading in, goods can give rise to direct demand for office space – and also to demand for associated services, which themselves generate ‘knock-on’ demand for office space.

EU's deals with the same countries lead to EU firms establishing UK subsidiaries?

- Should the UK target areas where little protectionism applies, such as software and vital medicines?
- Given recent polling and speculation of a change in policy towards Europe on the part of the Labour Party, is there any realistic prospect that the UK could rejoin the EU? If so, when? On what terms? With what implications?
- How will the desire to reduce the carbon footprint of food/manufactured goods coupled with changes in technology (via automation of manufacturing/3D printing, etc.) impact the distribution of production activity? With what impacts on the UK economy?
- The UK is not alone in facing a productivity challenge, but what is the nature of this challenge? How is it similar to, or different from, trends being seen in other countries? Is declining productivity a temporary or enduring trend?
- How does declining productivity, which significantly predates the COVID-19 pandemic and flexible working, link to lower office attendance? There is a clear link here to the Business Pillar of the BCO Research Agenda, but with significant economic implications.
- Particularly crucial from a policy perspective, as it will influence almost every other dimension of policy and have implications for private sector decision-making, is what the UK wants to be. What role does it see itself playing in Europe/the world economy:
  - 'Singapore-on-Thames'
  - knowledge-based, service sector dominated
  - resurgent 'fourth industrial revolution'-driven manufacturing hub?
- How does the UK need to change to match one or even all of these ambitions? What policy changes are needed – tax, regulation, incentives, training, migration?
- Does the UK have a particular advantage for one of these paths? Are any paths already crowded with competitors better placed to succeed?
- What is the timeline for achieving these ambitions? Might one route be quicker to achieve?
- Does a services route have an advantage over a manufacturing route given the current shape of the UK economy?
- How can relations between Westminster and the business world be improved to achieve these national goals?

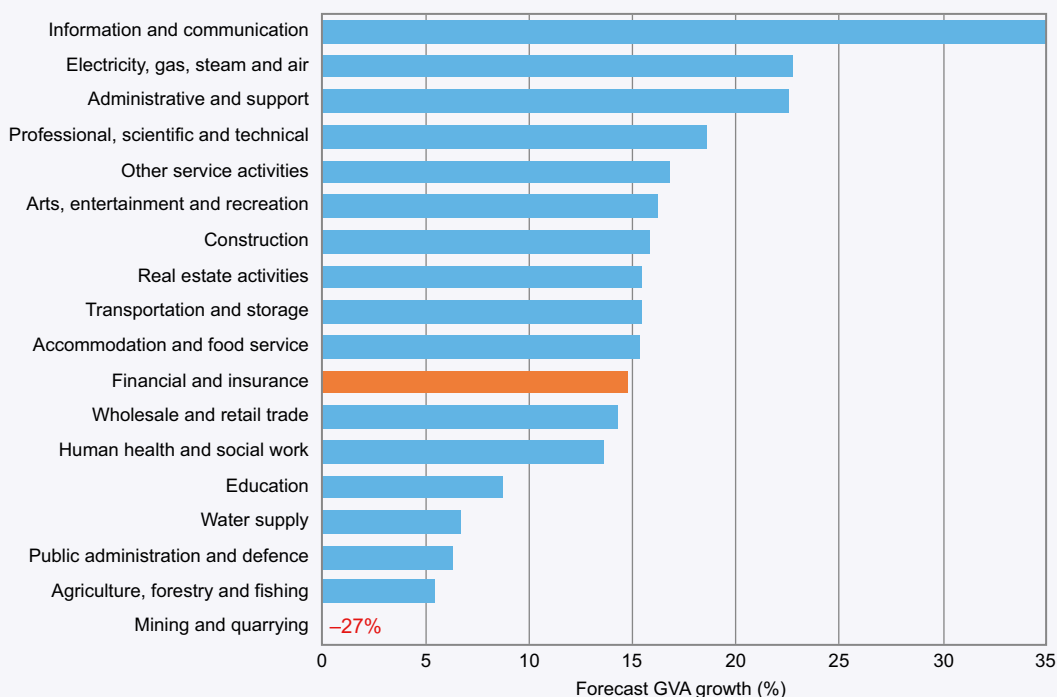
This issue of an economic 'vision' for the UK is more than just a slogan or short-term political rhetoric – it is about building a consensus about the fundamental economic direction and role of the UK, grounded in reality, around which public and private sectors can plan and invest over the long term. There will never be unanimity of opinion, but the BCO needs to have a view on what that vision should look like and help build a consensus to bring it to fruition. Not least this is because it will have a critical influence on our next key issue: *the future economic structure of the UK*.

### **The future economic structure of the UK**

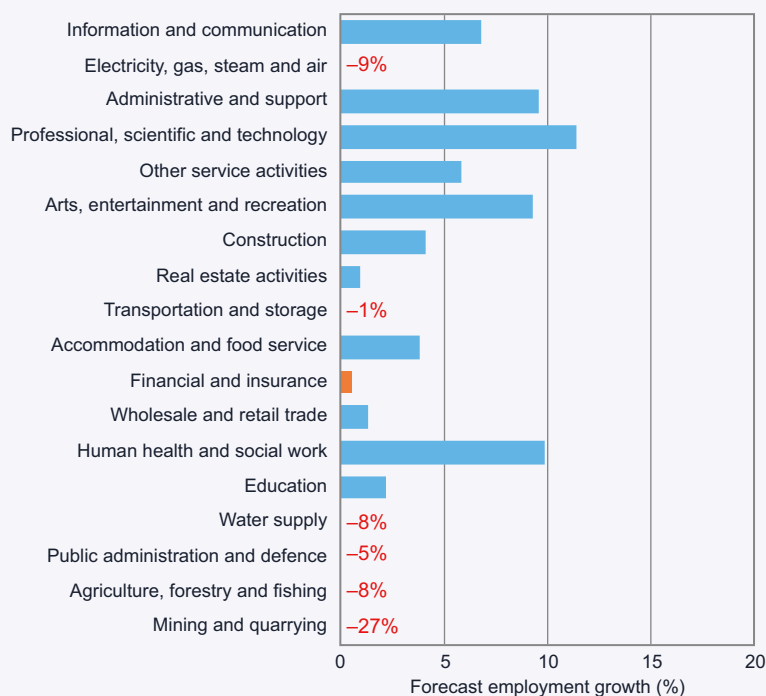
The composition of economic activity and employment will be a key determinant of the quantum and type of office demand that we will see. This has two dimensions: the sectors that will drive economic growth and employment; and the size and types of companies that will require office space to house their employees and activities.

- What does a SWOT analysis of the UK economy look like?
  - What are we genuinely good at? Why?
  - What do we need to aspire to be good at?
- Which sectors will make up the UK economy of the future?
- Which sectors will be growing, and which will be contracting (Figure 3)?
- How does economic growth equate to employment growth and demand for (office) space (Figure 4)?
- What activities will these sectors undertake in the UK, and what sizes and types of office space in what types of environment (towns, cities, science parks, clusters) will they require?
- Specific identification of growth/underserved business sectors is needed to help understand the quantum and exact nature of their requirements:
  - healthcare/pharmaceuticals
  - life sciences/biosciences
  - banking and financial services
  - professional services
  - technology/data and analytics
  - green industries/climate technologies
  - energy and infrastructure
  - advanced manufacturing.
- There is potentially an opportunity for the BCO to establish a series of research projects along sectoral lines, looking each sector in turn to examine:





*Figure 3*  
 What are the needs of growing industries? Forecast gross value added (GVA) growth 2022–2032.  
 Source: Oxford economics

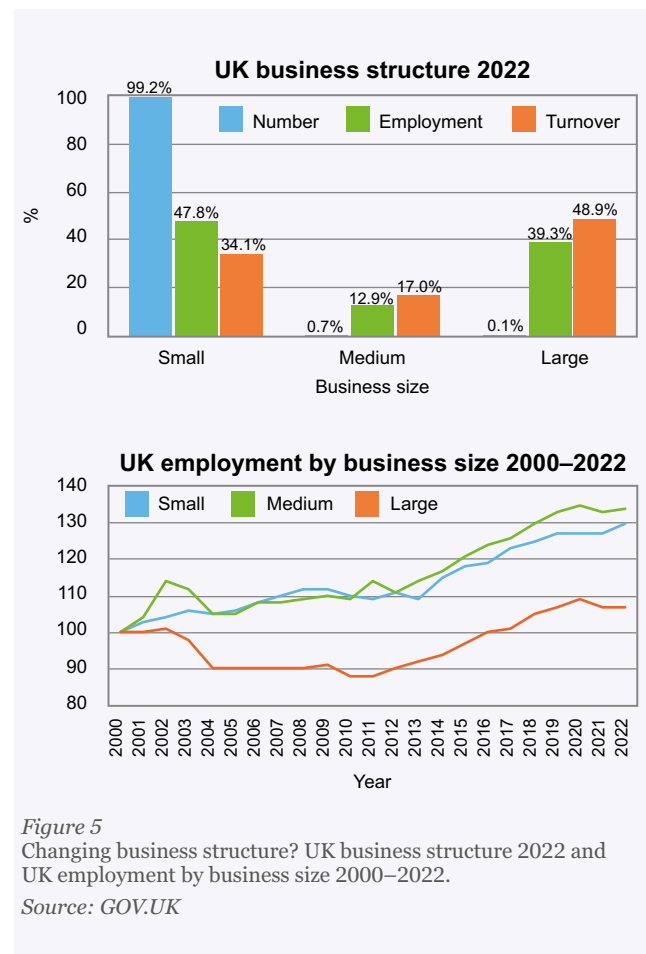


*Figure 4*  
 Does growth = ‘bums on seats’? Forecast employment growth 2022–2033.  
 Source: Oxford Economics

- the current size, health and geographic distribution of the sector in the UK
  - its international competitiveness, SWOTs and growth potential
  - its specific current and future real estate needs and the extent to which the market currently satisfies those needs
  - the role that (office) real estate and government policy can play in fostering growth in the sector, and the wider economic and societal benefits that growth would bring.
- What grants, incentives and other policies are needed to foster the growth and development of these industries to make the UK competitive internationally?
  - The USA is explicitly targeting these and other strategically important growth industries as part of its Inflation Reduction Act. What implications does this have for UK competitiveness? Should the UK institute a similar programme?
  - What will the economic role/demand and requirements of the public sector be?
  - What other sectors risk being overlooked given that, even if they are not expected to see significant growth, they are still/will remain significant users of office space?

Business sectors are not the only dimension that needs to be considered. The ‘shape’ of the UK business community is also highly relevant (Figure 5).

- What will the ‘corporate structure’ of the UK look like:
  - MNCs/large corporates
  - SMEs
  - small businesses
  - self-employed/independent contractors?
- What is the future growth trajectory of SMEs? Will they account for a larger proportion of the office-using community in future?
- Will the ‘gig economy’ and the impact of technology lead to more rapid growth in small independent businesses operating as networks rather than larger integrated corporations? What impact would this have on office demand?
- To what extent does the UK office stock currently cater for the needs of all office users, not just ‘UK PLC’?
- Is this stock adequate to support the growth of different sizes of organisation, including SMEs?



- There is a clear link here to the Business Pillar of the BCO Research Agenda, which reflects the organisational structures that organisations will adopt in future. Will larger organisations pursue a more diverse occupational strategy requiring a wider range of smaller premises?

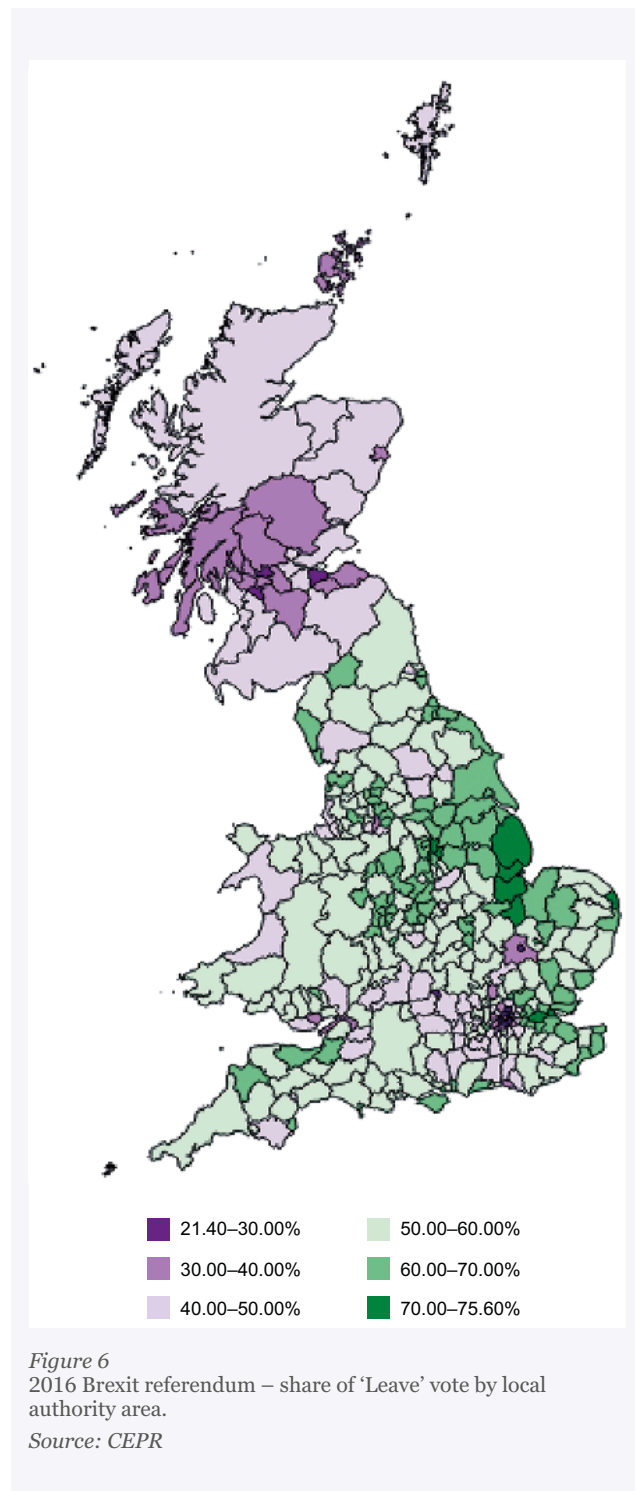
All this will play out with a spatial dimension which is the subject of the next major group of issues: *the new economic geography of the UK*.

## The new economic geography of the UK

The overall size and composition of the UK economy will determine the quantum and type of office space needed, but it is the distribution of that activity that will shape the ‘economic geography’, which determines *where* that space is needed. That geography will be influenced by a variety of factors, including economics, politics, industrial policy and infrastructure, as well as, crucially, labour market dynamics (which is dealt with on p. 18). It also inevitably raises discussion about the future prospects for London in particular.

We examine this issue in two subsections:

- the distribution of activity across the UK
- the future for London.



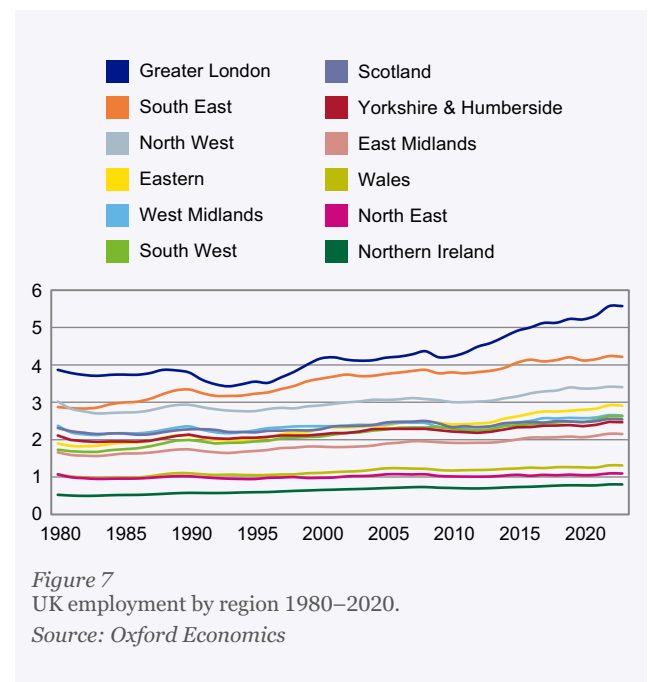
### The distribution of activity across the UK

The current regional and economic geography of the UK is a hot topic, and is inextricable from national and local politics. There was a distinct geographic pattern to the result of the 2016 Brexit referendum, with research suggesting that economic structure (including share of employment in manufacturing, unemployment and average wages) explains 70% of the 'Leave' vote share in any given area (Figure 6).<sup>2</sup>

Disparities in the economic fortunes of different parts of the country are inherently political, with the current Conservative government's 'Levelling Up' agenda the latest in a long line of regional policy initiatives enacted by politicians, with varying degrees of success, over the decades.

Despite being potentially sensitive political territory, the distribution of economic activity is the very substance of the real estate market – 'location, location, location' is still a fundamental tenet of the sector (Figure 7). The BCO therefore needs an informed view on the opportunities and challenges presented by the UK's current economic geography, and how it believes that should evolve into the future.

- To what extent is the UK economy geographically integrated? Is the success of one region necessarily a 'loss' for another, or is growth anywhere a 'win-win'?
- What are the linkages between London and the regional cities/the rest of the UK economy? How will/should these evolve in the future?



- What is the economic role of the regional cities/economies? And what is the role of smaller towns? Will we see increasing concentration of activity in larger cities, or a dispersion of activity:
  - from London outwards
  - away from the south-east ('levelling up')
  - away from existing concentrations generally, into smaller towns?
- Is the concept of the 'Big Six' cities still relevant?
- What are the linkages between the regional cities and their hinterlands, and between those regional economies (ex-London)?
- What are the drivers of 'localisation' and how strong/enduring will they be? Is localisation a short-term fad or a long-term trend?
- What is the existing geographic distribution of identified growth industries?
  - Why?
  - Which factors drive the locations of those sectors?
  - What can be done to attract and then foster the growth/development of those industries in the locations optimally suited to their needs?
- Are (big) cities/clusters still relevant in an automated/fragmented/gig economy supported by remote working/ability to access specialists anywhere in the world?
- How do we foster indigenous/endogenous growth in UK industries rather than relying on foreign direct investment/overseas demand? How do regional economies 'grow their own growth'?
- What can we learn from existing concentrations of economic activity/growth centred around particular 'centres of excellence':
  - Formula 1, Brackley
  - the Oxford-Cambridge Arc.
- What is the role of infrastructure in promoting economic growth in a region:
  - physical/transport infrastructure
  - health and education (particularly higher education/R&D, but see p. 18)
  - energy and data infrastructure?
- What is the role of (local/central) government policy? What is needed to promote regional economic growth and development?
- What role does decentralisation of political power/changing political structures play, and with what implications (regional authorities, mayors)?

- What powers/financial structures are needed to best facilitate growth?
- What impact does decentralisation of Civil Service functions play in fostering the development of regional economies – directly and indirectly?

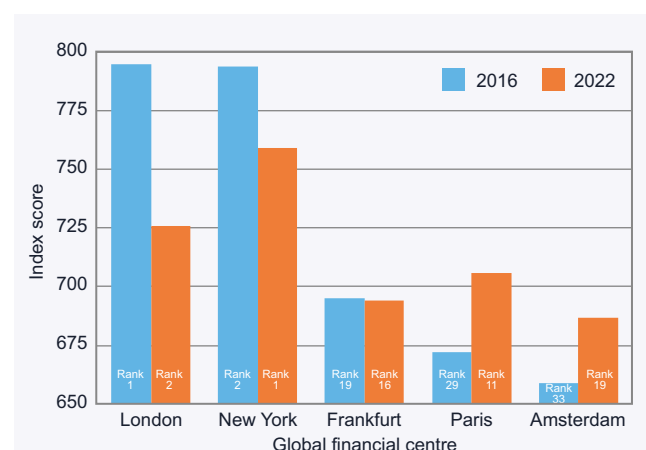
While it is important to take a holistic view of the prospects for the UK as a whole, it is unavoidable that much of the discussion about the distribution of economic activity, and thus demand for office space, will centre around – or at least be influenced by – the issue of *the future for London*.

### The future for London

The future of the UK economy is inextricably linked with the future of London, as a world city, as a global financial centre, and as a concentration of wealth and decision-making, both economic and political. Depending on how you define 'London', the nation's capital directly accounts for between a quarter and a third of the UK economy. It is the focus for the financial services sector, which in conjunction with related professional services activity accounts for over 12% of UK economic output.<sup>3</sup>

The prospects for London are, therefore, key to the prospects for the UK as a whole. As one of the world's largest and most important international office markets, this is also key for members and wider stakeholders of the BCO.

According to Z/Yen, which produces an annual global financial services index,<sup>4</sup> while still one of the dominant global financial hubs, London has been losing ground to its rivals in recent years, and has been overtaken by New York as the world's premier location for financial services (Figure 8). The City of London Corporation's own



**Figure 8**  
 Is London losing ground as a financial centre? Global financial centres index score and global rank.

Source: Z/Yen

benchmarking paints a slightly more optimistic picture,<sup>5</sup> but it recognises that there are underlying challenges to London's competitiveness, and reforms of various aspects of the city's functioning are underway. Understanding London's key strengths and weaknesses, and what it needs to do to retain its place at the top table, is a key issue.

The BCO may well be able to leverage work done elsewhere, but developing a clear view on the right future for London and what is needed to achieve that vision will be key to effective participation in national and regional policy debates that will be key to the future of the UK's leading office market.

- Perhaps synthesising the significant body of existing work, what does a SWOT analysis of London look like:
  - as a (world) city, versus Paris, New York, Tokyo, etc.
  - as a global financial centre
  - as a place to live and work
  - as an engine of the UK economy (what are the linkages between London and the rest of the UK)?
- How well does London's office market meet the needs of the financial services and wider professional services business community? What role does or could the office (and wider real estate/planning) sector play in supporting those industries?
- What impact are we already seeing post-Brexit, and what is the future for London as a financial market?
  - Can London be the financial capital of Europe if it isn't 'in Europe'?
  - What are the risks to its position, given that the EU can (and probably will) regulate to London's disadvantage relative to other European markets?
- What is the current/future role of London in different aspects of the global capital markets, and what implications does this have for office demand:
  - bonds, equities, FX trading
  - corporate investment banking/mergers and acquisitions
  - listings for UK/global businesses
  - insurance
  - investment management?
- To what extent is London's future – and that of its office market – tied to the prospects for financial services?
- Can London reinvent itself? What other emerging sectors are forming clusters of expertise that will drive future demand for space, and what are their needs:
  - life sciences

- technology/digital industries
- creative industries, film and television
- other growth sectors?

Whether in London or elsewhere, the key challenge facing the UK office sector is appreciating and responding to the need to remain relevant to its end-users and wider stakeholders. This means focusing on our third set of issues – *the role of offices in people, community and place*.

## The role of offices in people, community and place

Offices have played a key role in individual working lives, but as part of the fabric of the built environment they also play a key role in building the places in which we live, work and play. Post-pandemic, it is becoming even more evident that businesses need to focus on meeting the needs of their employees, and that employees are becoming more demanding about when, where and how they want to live and work. The future of the office is becoming ever more closely linked to the future of the workforce, and the future of 'place'. Therefore, the following issues are important potential areas of focus for the BCO:

- demographics and labour force issues
- offices, communities and place-making.

## Demographics and labour force issues

Labour and talent comprise a key driver of economic growth, and of individual business location decisions. An understanding of the UK's demographic outlook, both structurally and distributionally, is key to future patterns of office demand. This is relevant at various levels:

- *macro* – the UK compared with other countries
- *regional* – distribution across the UK
- *local* – between individual towns/cities/labour market catchments
- *micro* – larger urban versus towns versus decentralised.

There are a number of questions to be addressed:

- What is the UK's domestic demographic outlook?
- What are the implications of a shrinking domestic labour force?
- What are the current skills shortages within the UK (service sector) economy?
- What are the implications of the decline/death of 'blue collar' office work? (There is a clear link here to work being done in the Technology Pillar of the BCO)



Research Agenda, in relation to the impact of artificial intelligence, the changing nature of work, automation and other related issues.)

- Assuming that hybrid working is currently reducing the total demand for offices from existing businesses (an issue itself worthy of significant research), how long will it take for economic/population growth to fill the gap and restabilise the supply–demand balance?
- What are the implications of current (reduced) labour migration from the EU?
- To what extent can/will this be compensated for by increased immigration from non-EU markets?
- Should we/how do we retain talent in the labour pool for longer?
- What does a SWOT analysis of the UK's current education/higher education/vocational training sectors look like?
- What is the role of different elements of the education and training pyramid in developing talent and attracting/retaining employment/economic growth in a region/in the UK?
- What are the locational preferences of the talent we need to drive the UK economy? What drives these and how can we best appeal to the talent we need:
  - now and into the future
  - in the UK compared with other countries
  - across different parts of the UK regions
  - in London compared with other UK cities?
- What is the role of the housing market in facilitating/inhibiting labour mobility around the UK?

A lot of the issues around labour markets relate to issues of education, health, housing and employment opportunity in particular locations. This links to our next key theme: *the role of the office in developing and maintaining communities and places.*

### **Offices, communities and place-making**

Offices are not just 'capital assets' for owners or 'factors of production' for occupiers. They form part of the fabric of our built environment and the backdrop against which we live our lives. They are a critical component of the form and character of towns and cities, contributing to the 'sense of place' that is increasingly recognised as critical to building successful communities. Offices have a social as well as a capital and rental value. The BCO must recognise and embrace this aspect of our activities, recognising our responsibility towards society and communities. The BCO should embrace the opportunity

our industry has to improve the lives of the people who live and work in the places we help to create.

This is not simply about altruism, although there is nothing wrong with recognising that our industry has a wider responsibility to all stakeholders in the built environment or that we should have a sense of purpose beyond delivering short-term financial returns to 'shareholders'. It is also about good business sense. While there are clear links here to the work being done on the ESG Pillar of the BCO Research Agenda, consideration of the wider contribution that offices make to building sustainable places and communities deserves its place in any discussion of the economic forces that will influence supply and demand for office space across the UK.

*“We recognise that our places thrive when local people and organisations prosper, meaning our enhanced social impact commitments are not just the right thing to do but also make good commercial sense.”*

*Anna Devlet  
Head of Social Sustainability, British Land*

- What role do offices play in the development of local communities?
- How does office space contribute to the creation of employment opportunities for local residents, and how can this be maximised?
- What are the wider benefits of office space to the community, in terms of improved standards of living, health and education outcomes, and quality of life?
- How does the structure of towns and cities, including office components, contribute to a 'sense of place'? What impact does this have on the building of successful communities, and what 'returns' (financial or otherwise) does this generate to different groups of stakeholders, over different timescales?
- To what extent does recognition of the wider role that offices play in places and communities – and seeking to maximise the positive impacts beyond short-term financial return – 'make good commercial sense'?
- What role does office design, architecture and site planning play in creating successful micro-locations within the built environment?
- How can office space best be integrated into/contribute to the wider activities of the community, such that it

is seen as a ‘community asset’? Is this important, and, if so, why?

- Does mixed-use development offer advantages to communities and other stakeholders beyond those indicated by short-term financial cost–benefit analysis?
- What role could multifunctional buildings play in generating community and/or shareholder benefits?
- Should the focus shift from ‘planning policy’ to ‘place policy’ in order to emphasise the role of offices in creating successful places and communities? What would this look like? Should the principles of Baukultur be embedded in urban planning policy?
- What role can offices play in supporting equality across gender, race and sexual orientation?
- How does office space support and recognise socio-economic diversity within communities, integrating rather than marginalising different groups and interests?
- Is the concept of the ‘15-minute city’ viable from a commercial and community perspective? In what situations can the principles embodied in the concept contribute to successful development and investment in office buildings?
- What impact have business parks and out-of-town developments had on communities, places and the environment?
- Should future planning (place?) policy be refocused around integration of office buildings into existing or new urban environments, rather than creating stand-alone ‘islands’ of office buildings?
- To what extent do owners of (office) buildings have a responsibility to the community which endures beyond the useful life of the building as an office?
- How can redundant/obsolete office buildings be repurposed in ways that recognise the obligation of the current owners to people and planet, as well as profit?
- Recognition of the wider function and impact of office space on places, people and communities cannot ignore the investment role that offices play, which leads to our final area of investigation: *the future of offices as an investment asset*.

### **The future of offices as an investment asset**

Offices still account for around a quarter of investment assets in UK commercial real estate.<sup>6</sup> If those assets are not viable from a development or investment perspective, there will be a critical impact on the places, people and the UK economy as a whole.

- How are UK offices performing as an investment asset class?
- What variations are we seeing, and will we see, in office investment performance? What is driving these variations by geography (at different scales) and subsector?
- What do changing occupation patterns imply about future tenure and lease characteristics?
- What are the implications of the increasing ‘operationalisation’ of (office) real estate and the growth of the flex sector for development, investment and financing of (office) buildings?
- Will the income profile and return characteristics of the sector change? How do the anticipated changes in the UK office sector compare with those likely to be seen in other sectors/geographies?
- What do these relative changes imply for asset allocation/investment in UK offices compared to other sectors/geographies?
- What are the implications of the trends identified elsewhere in this report – and identified by the other three Pillars of the BCO Research Agenda– for different aspects of office investment performance:
  - rental levels/rental growth
  - income and income return
  - capital value
  - obsolescence and depreciation
  - capital expenditure
  - development
  - risk return (absolute and relative to other sectors/asset classes)?
- Offices, both individually and collectively, will only be successful if they have a continuing role in community and place. Arguably, it will become ever more important to be able to monitor, measure and demonstrate the wider social value created by the office sector.
  - How can this best be achieved, and what metrics and methodologies can be used?
  - How should social value metrics be incorporated in ‘traditional’ cost–benefit/return calculations?
  - Do we need a standard approach for evaluating ‘social value’ across places and schemes? Is this viable or desirable?

Ultimately, this final set of issues relating to a holistic view of the true contribution of the office sector to society could yet prove to be the most important of all to address. ■

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## ABOUT THE AUTHOR

Dr Nick Axford is an independent real estate analyst and market commentator with over 30 years' experience in leading private sector research and consultancy functions. From 1994 to 2018 he worked for CBRE, including five years as Global Head of Research. Most recently he served as Global Head of Research and Chief Economist at Avison Young. An economic geographer by background, he has particular interest in the way occupiers use real estate to support business processes, and the implications this has for regional and urban development and the property investment community. Nick is a regular presenter at leading industry conferences and events, appearing frequently in the print and broadcast media commenting on topical issues relating to the commercial real estate market.

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## BUSINESS PILLAR RESEARCH

**Chris Kane**  
Co-Founder,  
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### Executive summary

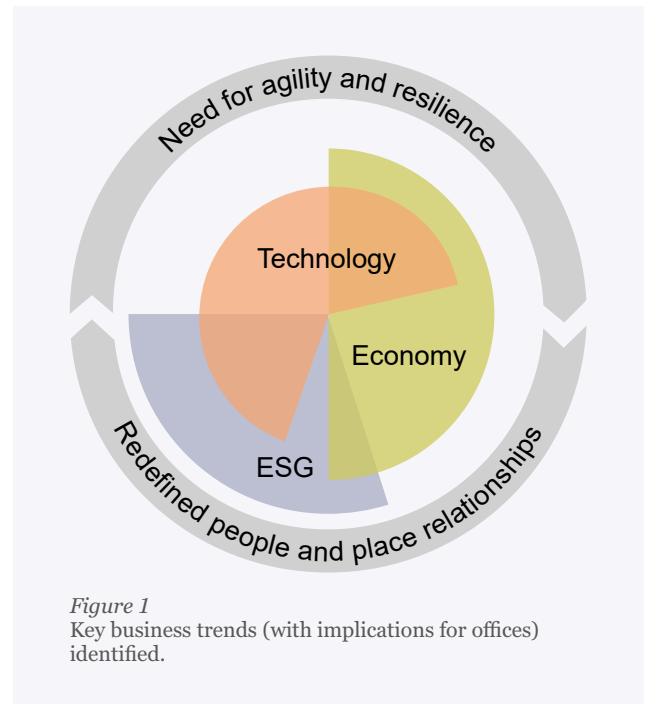
Looking back on life since we were released from the COVID-19 lockdown, many businesses felt that the pandemic was just one of those things, a mainly transitory event. Now we can see it for what it was and remains, the trigger for fundamental and permanent change to our economies, societies, and patterns of work and employment. Dealing with the pandemic brought about a sea change in how business thinks about offices. COVID-19 completely upended well-established office working practices and models, and there will be no reversal. This study identified a set of trends which the BCO needs to understand as a matter of urgency. These are summarised below and considered in detail in this Business Pillar report.

The nature of customer demand has been upended – it is no longer rigid or predictable; it has morphed into a multi-dimensional dynamic proposition. As business is now actively questioning the purpose of the office, it is incumbent on the BCO to rapidly build an understanding of the implications of such.

The study identified the need for a collective approach, comprising landlords, tenants and policymakers, to reconsider the purpose of the office in post-pandemic times. There is a clear need for a proper dialogue between the property industry and its occupier clients.

The key trends that surfaced during this exercise are set out in Figure 1. These trends are underpinned by the realisation that business now requires greater agility and resilience than ever before. The key driver for such is the conflation of four interconnected contributory factors:

- Consumer power in all its guises will dominate for the foreseeable future.



*Figure 1*  
Key business trends (with implications for offices)  
identified.

- The pace of change has been accelerated by recent digital advances. The last obstacles to embracing digital technologies were swept away by the COVID-19 pandemic. It is not that the pandemic inspired an overnight giant leap in technological innovation; far from it, we simply adopted at massive scale the tools we were already familiar with.
- Environmental, social, governance (ESG) is now centre stage.
- Carbon reduction is now non-negotiable.

We need to get serious about carbon, and fast. Climate change is no longer a distant threat that we can push to the back of our minds. With successive warnings from scientists and world leaders, it is clear that we need to take immediate and decisive action. Given that business consumers are sceptical of words and badges, the study identified one 'quick win'. People want to see real tangible action, so, as was pointed out in our innovation incubator, why don't we 'just switch off the lights' at night?

When taken in the round, the four factors listed above contribute to a fundamental change in how people relate to place. All of these factors have in a space of three years redefined the relationship between people and place and there won't be any reversal of such.

As for an agenda for research over the next three years, the BCO may wish to address this by pondering on the following:

- Should the industry look beyond the building itself, consider its wider purpose (not just as an asset) and re-examine the design process to include a wider range of stakeholders?
- Is there merit in examining how the industry could adapt its approach to the emerging new reality of ubiquitous choice in the context of the development, consumption and management of British offices for the post-pandemic world?
- Has the time arrived for a fundamental rethink about how we do things? Should we take a leaf out of the book of car manufacturers with their approach to switching from combustion engines to electric cars? Can we bring ourselves to reimagine offices in terms of how they could be funded, designed, built and operated in a smarter more sustainable manner?

## Introduction

### A research agenda for the UK office sector

Dealing with the pandemic brought about a sea change in how business thinks about offices. COVID-19 completely upended well-established office working practices and models, and there will be no reversal. The enforced work-from-home experience turned out to be much more than an emergency effort, it turned out to be a global experiment in working in a completely different way. This resulted in both bosses and workers realising that they can work differently. This has opened up a Pandora's box of challenges not only for business but for the British office industry. For the first time ever, tenants have started to question the need for offices.

Coupled with all the wider macro-scale challenges such as the energy and climate crisis, geopolitical instability, inflation and the explosion of digital technology, bosses and workers alike are asking what the purpose of the office is. As an industry body, should the BCO regard this as, as Nick Axon puts it, 'a genuinely existential threat to the UK office sector – at least as we know it today'?

As discussed in the other three Research Pillars in this series (ESG, technology, economy), future demand for office space in the UK will depend on a mix of factors – economic activity, rapidly expanding technology and the ESG factor. While there are many overlaps, one key aspect that readers of this series of reports need to take into consideration is best summed up by Leonardo Da Vinci: 'Realise that everything connects to everything else'. Although we have written our four Pillar Reports independently, there is a common thread – social relevance.

This opens up a new dimension to a world dominated by design, investment, leasing and construction considerations. The wider business world is also having to adjust to this phenomenon. It is not comfortable for many business leaders to consider a shift in focus away from just shareholder value to the broader stakeholder value. Nevertheless, due to a combination of factors which we will touch on in this report, leaders now recognise that not only has the game changed but so too has the entire stadium.

Much of this can be traced to the impact of the pandemic. The global lockdown gave rise to a period of reflection like never before, and in the context of how we work in offices it gave rise to a plethora of searching questions: Why go to the office just to send emails? Why do we carry on using offices in the way we do? How do I interact with my colleagues? Where do I do my best work? Why do many of us use offices in the same way as our parents did when it's so patently outdated? Who would have thought that all generations would become comfortable with Teams and Zoom?

As business leaders start to think differently about work and the workplace there will be a direct impact not only on future demand for new space but also on the size of existing portfolios. For decades going to the office was taken for granted, it was just one of those things we did, and occupying acres of office floor space was an essential part of business life. No longer.

What we are starting to see across the business world is a growing realisation that one-size-fits-all thinking is over and there is a need to experiment and to iterate with a variety of permutations of space consumption. While the wider discourse focuses on the debate about the merits or otherwise of working from home, remote working and return to the office, little consideration is given to thinking about the situation holistically and standing back to look at these issues at a system level. The media coverage has until now mainly been focused on the changing nature of work, but in recent months the press has turned the spotlight onto the impact of these changes on the consumption of office space, and so all the more reason for a joined-up approach to understand the link between people and place. This report aims to provide a starting point for such. Accordingly, we've adopted the following as our central hypothesis: the pandemic brought about massive changes in the bedrock of how we can work today, and this has significant implications for the post-COVID workplace – the office. This shift is structural and far reaching, and should not be confused with a traditional market adjustment. This is a once in a lifetime occurrence brought about by the COVID-19 pandemic, which has changed the structure of the market from a single dimension to multi-dimensional.



In this report we have attempted to build a picture of the emerging and dynamic business environment and how it might impact the development, consumption and management of British offices for the post-pandemic world. The harnessing of a wide range of voices from within and without the office sector has enabled us to bring together a very diverse range of perspectives. We paid particular attention to the human dimension, as the aspects of social relevance merit careful consideration. Overall, we have, like the other Research Pillars, focused on identifying the key questions that the BCO ought to address and the context for these.

## Methodology

This paper draws upon four primary streams of research to inform its findings. Firstly, a contemporary literature review was conducted to capture the tone and temperature of discourse in the public domain. This literature review (see Bibliography) included an analysis of academic publications, industry reports and media coverage related to the subject matter.

Secondly, two senior leader roundtable conversations were held, with representation from landlords, occupiers and service providers. The discussions were focused on key challenges, trends and opportunities in the sector.

Thirdly, a live innovation incubator was conducted using the EverythingOmni Discovery\* programme, with diverse representation which included many external perspectives on our industry. The innovation incubator was designed to identify key trends, explore new ideas and develop future scenarios.

Lastly, an end-user survey was conducted across all UK business sectors, with 150 participants responding to the online survey. The survey aimed to gather insights into end-users' preferences and expectations regarding the industry.

Throughout the research process, findings and open questions were continuously carried forward and informed subsequent activities. The research concluded within the innovation incubator, where conventional and contrarian views alike were harnessed to identify key trends and opportunities for the sector.

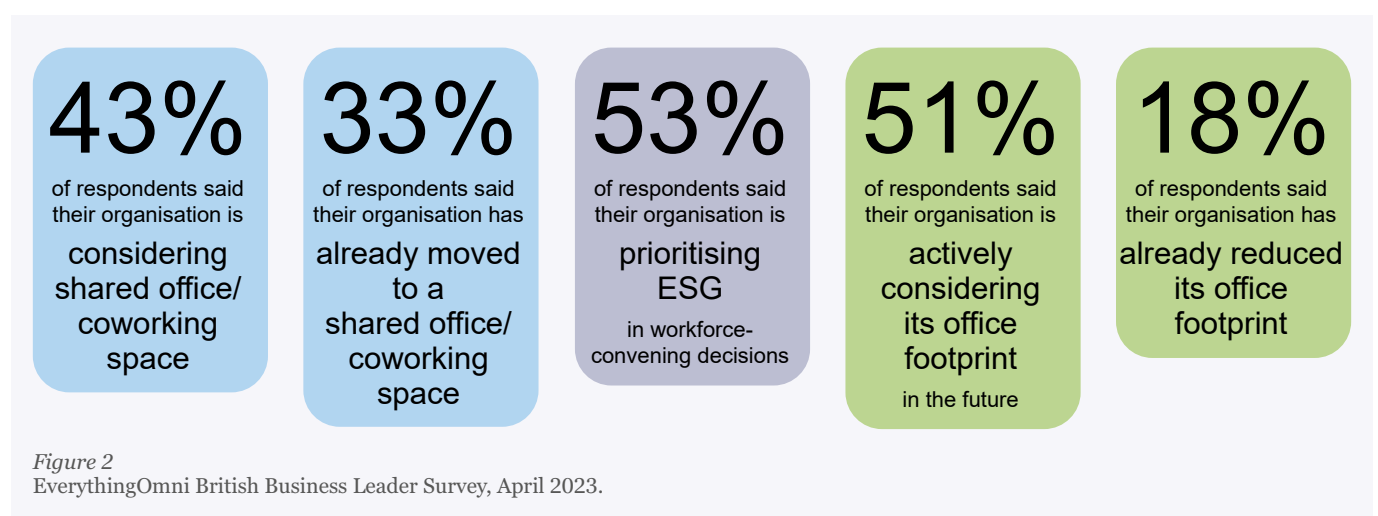
Overall, this research drew upon a range of qualitative and quantitative research methods to gather insights from a diverse range of more than 250 stakeholders from both within and outside of the sector.

## Survey findings

An end-user survey of 150 business leaders carried out in early May 2023 across a range of British businesses generated some interesting results. It reinforces the view that everyone is up for a change when it comes to how we consume offices. Figure 2 summarises some of the key results.

## Workshop outputs

Building on the survey results the main focus of our workshop sessions was to engage with delegates to consider the development, consumption and management of British offices for the post-pandemic world. To facilitate a



\* EverythingOmni Discovery is a collaborative innovation incubator, designed to help enterprises imagine, consider and address their work and workplace dilemmas.

different type of conversation than the usual format these sessions convened a very diverse range of voices, and it was encouraging to receive feedback that many of the 100 delegates who attended for the first time saw and heard different faces and voices discuss the future of the office. It was an experiment in trying to examine a challenging situation using a range of different perspectives.

## Headlines

- The workshops produced a rich vein of discussion which was thought-provoking and highlighted a number of interesting areas for further consideration. This was made possible by the *diversity of the delegates*, both consumers and providers.
- The nature of *customer demand has been upended* – it is no longer rigid or predictable, it has morphed into a multi-dimensional dynamic proposition.
- The industry needs to get its head around the *new reality that underpins demand for offices* – office workers no longer have to go to the office. Nowadays they will go to the office only if there is a reason for them to do so. The overall operating model for how we provide and consume offices needs to shift.
- We need to collectively reconsider the *purpose of the office* in post-pandemic times.
- Never before has there been a greater *need for a proper dialogue* between property and occupiers.
- It is futile to resist the *tsunami of change* already underway in how customers are consuming our product (or not). We may already be too late in developing a response. This is not a typical negotiation. The current adversarial, lowest common denominator, disconnected model cannot persist.
- We haven't really wholeheartedly *embraced the workplace experience* dimension.
- Property as an industry needs to *redefine its purpose*. It needs to be compelling and it needs to address the current pressing needs and shortfall of accountability in how we do things.
- The industry needs to *think about people and their experience, not just a place/asset*. It needs to consider both the people who occupy our product and those who create and operate it.

## Key trends

Building on the earlier point about how everything is connected, Figure 1 (see p. 22) depicts the key trends that the Business Pillar has identified for the BCO to

consider. The customers of our industry, the occupiers, face significant challenges and, as has been considered in greater detail in the other Pillar Reports, the unprecedented mix of macro-economic, societal, geopolitical, supply chain, climate change and sustainability challenges pose a major dilemma for organisations. In addition, they will need to include the risk of another health-related pandemic occurring. From a BCO point of view, we have distilled these moving parts into six interrelated factors which, by their nature, sees each factor act as both cause and effect for other factors. From a business perspective we see the office sector through the same economy, technology and ESG lenses, and identify four key contributory factors:

- Consumer power in all its guises will dominate for the foreseeable future.
- The pace of change has been accelerated by recent digital advances.
- ESG is now centre stage.
- Carbon reduction is now non-negotiable.

When taken in the round these four factors contribute to a fundamental change in how people relate to place. All of these factors have in the space of three years redefined the relationship between people and place, and there won't be any reversal. A summary of how the four factors interrelate is shown in Figure 3.

To provide more context of these interrelated trends the following sections consider each one in more detail.

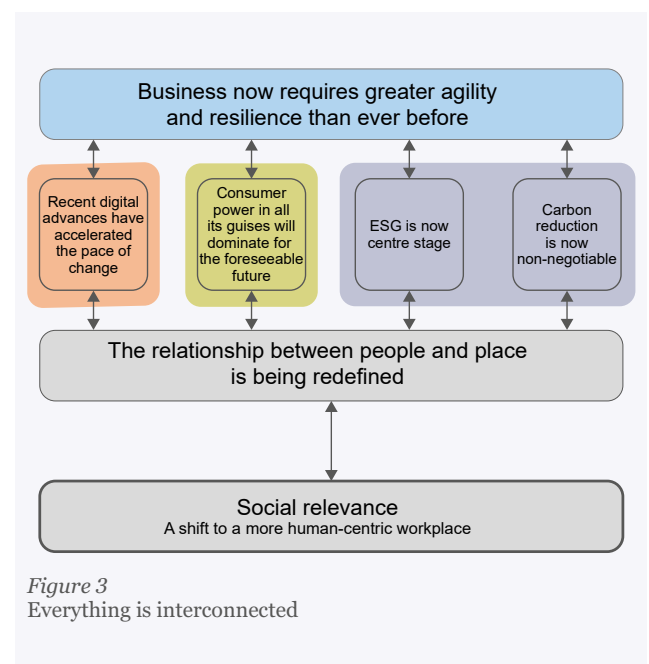


Figure 3  
 Everything is interconnected

## Business now requires greater agility and resilience than ever before

How different the world looks today as we head into the mid-2020s than it did, say, three years ago. Today's companies find themselves facing tougher trading conditions, reduced investment capacity and huge uncertainty generally. Yet they still must respond to multiple vectors of change, which themselves are still gaining in momentum, in technology, climate change and rapidly evolving expectations about values and purpose, especially among younger workers. It is not surprising that companies now require greater agility and resilience than ever before.

From an office-demand perspective, it is worth noting that, aside from the fallout from COVID-19, there was already a combination of disruptive elements upending the familiar characteristics that typified 20th-century values – stability, conformity, mass production – while the 21st-century's mantra is constant change and customisation.

Since our release from lockdown the debate has raged about returning to the office versus working from home, and this has brought hybrid working into the mainstream. The term 'hybrid working' itself is not new, but what was a minority activity has been catapulted onto centre stage. What many businesses have also realised is that the pandemic marked the end of the old era of office working. For example, seeing the positive outcomes from the global enforced experiment of working from home resulted in both leaders and workers realising that they *can* work differently! In recent months the debate about hybrid working and how many days workers go into the office has called into question our tendency to apply 'one size fits all' thinking. Are we now entering an era of customised working models?

It will be important to understand this evolution in office working as it is already driving a big change in the use of office space. It can be described as a massive shift from business activities being hierarchical, shareholder-value focused and driven by outputs and quarterly returns to something quite different. The evolution is taking place in front of our eyes and the emerging model of 21st-century working is still work in progress. So far it seems that the emerging model will have the following characteristics: adaptable, distributed and multi-dimensional with a greater focus on outcomes. For many readers these shifts have been evident for some time but possibly not seen in the round, and the pandemic is just helped to bring them all together into what is a massive paradigm shift. Figure 4 provides a high-level summary of these shifts.

Business leaders faced with all of these moving parts realise they need to focus on retaining the highest possible degree of agility. Also, given the volatile nature of the business

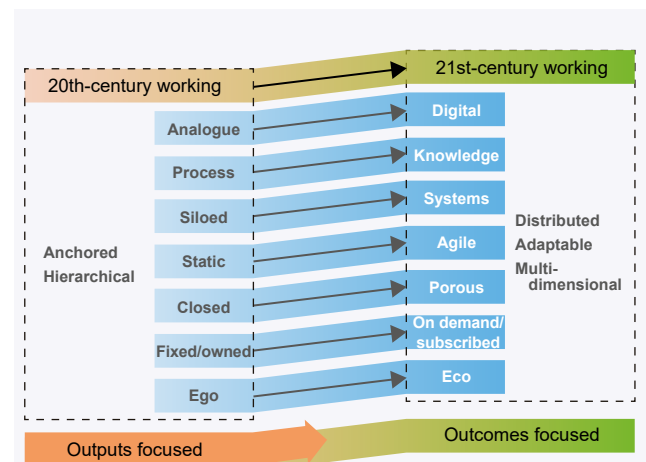


Figure 4  
Key shifts in business 2020–2023.

Source: Kane and Anastassiou, *Where is My Office?*<sup>1</sup>

environment, the growing concerns about climate change and the need to have adequate risk management strategies should another 'black swan' event occur, leaders have prioritised the resilience agenda. What this means for the future demand for offices needs very careful consideration. What is a high-risk strategy is to presume that the events of the last three years are cyclical and things will settle down over time.

Looking back on life since we were released from the COVID-19 lockdown, many businesses felt that the pandemic was just one of those things, a mainly transitory event. Now we can see it for what it was and remains, the trigger for fundamental and permanent change to our economies, societies and patterns of work and employment. One of the most striking developments is that many, but not all, business leaders now see the need for a fresh approach, as relying on tried and tested philosophies, models and playbooks no longer works. To enable them to successfully cope with the upheaval in the workplace, they are now calling for experimentation and innovation.

In order to respond to this emerging need for fresh thinking, the British office industry needs to consider a much wider set of permutations than may have featured in the past. Historically, offices were a relatively minor consideration on the list of corporate priorities. Internal corporate real estate or property teams were provided with headcount numbers and the industry supplied the product. In recent years there was a growing interest in workplace experience, sustainability and well-being. The pandemic and the ensuing paradigm shift to a new working model have changed not only the game but the entire stadium. While it has been obvious for years that the future is

digital, the pandemic removed the last optical obstacles to it becoming mainstream. What we are also seeing is the growing realisation that work could be distributed and that talent is footloose.

For the first time ever, smarter organisations are re-examining the role of place in their business, and they are starting to question the purpose of the office. They are doing this because they now realise that safely convening the workforce is now mission critical.

The BCO can choose to ignore these challenges or to take the lead in contributing ideas to the debate. Essentially, the challenges can be viewed as an opportunity or a threat. It is important to realise that the sheer speed at which the future is hurtling towards us may not provide a great deal of time to review the response required.

To better understand this massive paradigm shift we need to examine a number of its key components which have a direct bearing on the future demand for offices. Where better to start than to consider the nature of consumption of offices – *consumer power in all its guises will dominate for the foreseeable future.*

### **Consumer power in all its guises will dominate for the foreseeable future**

The pandemic led to a collective displacement – long-standing ways of doing things were upended. Everybody is doing different things at different times in different places, and there is no going back. Is not clear yet whether the world at large has got to grips with this huge reversal of the natural order – for most, one had to go out to work, to shop, to be entertained. Along with the accelerated digitisation of services enforced by COVID-19, we now accept that everything can come to us.

As consumer demand is dealt with in detail in the Economic Pillar, this section focuses on the psychological aspects associated with changed attitudes and behaviours brought about by the pandemic and now embedded in consumer mindsets. The following is a cross-section of such:

- consumer behaviour is now all about choice and convenience
- customers are demanding more accountability from brands in terms of sustainability, inclusion and diversity
- there is a growing desire for a meaningful relationship between consumers and providers, rather than a purely transactional one.

All of the above have implications for how consumers think about the office post-pandemic. It is completely different. When it comes to the demand for offices, not only will general

consumer sentiment be important but one needs also to think about the makeup of demand at a tactical or individual market level. Here there has been another important change to the historical dynamic – when it comes to understanding our customers, we now need to consider both the tenant and their workforce, otherwise known as ‘talent’.

The tenant is now thinking very differently from the way they did pre-COVID-19. They are now actively questioning long-held principles by asking searching questions around how and where we work. For example, almost no one now believes that we will ever go back to the five days a week office life of a few years ago – that has gone forever. Furthermore, the old arguments in favour of massive concentration of investment and operations in central business districts have been called into question.

When they look at their offices, leaders see the vast floor plates of row upon row of office benches which now seem oddly out of place and no longer fit for purpose. Many are asking how could these vast swathes of offices enable people to do their most creative work? This, along with all the other vectors for change, fuelled by COVID-19, is bringing about the transition of enterprises from the regimented office-factory production lines of the past and the archaic management philosophy that built them to something very different, flexible and more human-centric. That shift will have huge implications for the future demand for offices.

As if that were not enough, the office sector also has to consider the new kid on the block in terms of consumer. The talent that makes up the workforces of the tenants that lease space has found itself in the driving seat. This was an emerging consideration pre-COVID-19, when the war for talent was waging and features such as workplace experience and well-being came onto the agenda. Both tenants and talent have realised that work from home is viable and sustainable, and this has brought about an enormous change in how people think about office work. As a consequence of this, leaders now have to consider the needs of their workforce when thinking about their office portfolios. The existence of this causal link is now much higher up on the priority list as most companies actively seek to be regarded as an ‘employer of choice’. Hence the benefit of having a better understanding of talent as it directly impacts the demand for space.

Although the Technology Pillar considers the implications of a rapidly changing sector, it is important to reinforce the point that technology should no longer be considered as a stand-alone issue. It is now intrinsically linked with all aspects of working and the workplace itself. Furthermore, given recent developments in the last three to six months,



there is now even more important to be aware of the impact of ChatGPT and AI. For the business world these technologies will only accelerate the pace of change. Therefore, there is even more reason to understand the business implications as *the pace of change has been accelerated by recent digital advances*.

### **The pace of change has been accelerated by recent digital advances**

While the Technology Pillar looks at the implications of technology within the office sector, here we will examine the macro-level implications of technology for the office sector.

The last obstacles to embracing digital were swept away by COVID-19. It is not that COVID-19 inspired an overnight giant leap in technological innovation; far from it, we simply adopted at massive scale the tools we were already familiar with. The real change was businesses switching on that functionality, for everyone. Displaced from their offices and their routines, businesses were forced to digitalise the way that they worked, if not the underlying processes.

Many find their work is now untethered from the physical infrastructure of the office. This was no less true even before the pandemic. However, company policy dictated that we must be in the office, and cultural inertia made it socially unacceptable for the majority to work remotely. Is the office now competing against a superpowered digital version of itself? Technology has allowed every spare bedroom, kitchen table and coffee shop to compete, however unfavourably, with an office desk. While we prefer face-to-face meetings, will individuals tolerate the opportunity cost?

The genie is most certainly out of the bottle – the workforce now knows not only what is possible but also how to deliver business results in this environment and the positive impact it can have on their own work–life balance. Will businesses dare rely on return-to-office mandates or arbitrary hybrid days per week in the office, or will they redefine the purpose of the office?

It is a romantic notion to think of offices filled to the rafters with creative people crafting new ideas on pristine whiteboards, collaborating with trendy colleagues over coffee and delivering compelling presentations to leaders in the boardroom. The reality, however, is more mundane. Much like a montage in a movie, we edit out the grind that got us there and the grind that follows. It is this grind that fills our offices, the repetitive tasks that consume the days of most office workers. These are the office workers who have until now filled row upon row of office benches within those vast floor plates. What happens if their work is disrupted?

### **Let's ask ChatGPT**

**Prompt.** How will artificial intelligence (AI) affect the jobs of office workers and, by extension, the need for office space to support them?

**Response.** AI is likely to have a significant effect on office workers' jobs and the need for office space to support them. As AI automates routine and repetitive tasks, there may be a reduced need for office workers to be physically present in the office, leading to a decrease in demand for office space. Additionally, some office jobs may become entirely remote, which could further reduce the need for office space. However, as AI creates new job opportunities that require more advanced skills, such as data analysis and decision-making, there may be a need for a different kind of office space to support these workers. For example, offices may need to be designed to support collaboration and knowledge sharing, with spaces for group meetings and brainstorming sessions. Overall, the impact of AI on the need for office space is likely to depend on the nature of the jobs created and the degree to which they can be performed remotely.

While eloquently stated, ChatGPT offers us a well-rounded but somewhat generic answer. And that is the point; the 20th century model of office work is mostly a collection of generic and repetitive tasks. Two decades of digitalisation simply replicated those processes in a digital format. AI has the potential to render obsolete many of those processes. These represent the most common of tasks within a business, the very tasks that the majority of employees are engaged in, the very employees who occupy the majority of office space. Even though AI advocates are at pains to point out that new roles will be created, the outcome is far from certain.

But what does this mean for the office sector today? The uncertainty created by introducing AI into office work may impact on the confidence of business leaders to invest in their office real estate.

- *Fear of obsolescence.* Businesses may be hesitant to invest in their office real estate if they believe that AI will make their current space obsolete in the near future. This fear could lead to a slowdown in investment and a reluctance to commit to long-term leases or building purchases.
- *Need for flexibility.* The use of AI in the workplace may require businesses to be more flexible in their approach to office space, as the needs of workers and the technology are likely to change rapidly. This could lead to a preference for short-term leases and flexible workspaces that can be easily reconfigured or adapted to changing needs.



- *Focus on innovation.* The introduction of AI into office work may also create a greater focus on innovation and the adoption of new technologies. This could lead to a preference for office spaces that are designed to facilitate collaboration, experimentation and creativity.
- *Impact on demand.* The introduction of AI into office work could have an impact on the overall demand for office space, as businesses may require less space if more work is done remotely or if AI can perform some tasks more efficiently than humans. This could lead to a decrease in demand for office space, which could affect real estate investment decisions.

All that being said, businesses that are able to adapt to the changing needs of workers and technology may be better positioned to succeed in the long term, and this is equally true of the office sector itself.

Rapid technologically driven change is not happening in isolation. We are as a society at a critical juncture – destabilised by internal and global politics, in the aftermath of a pandemic, in the midst of the climate crisis and fractured geopolitics, and grappling with a broken social contract. And that is why *ESG is now centre stage*.

### ESG is now centre stage

**53%**

of respondents said  
their organisation is

**prioritising  
ESG**

in workforce-  
convening decisions

The ESG Pillar focuses on the direct implications of ESG policies and practice within the office sector itself. Here we explore the emerging and potential indirect consequences of occupiers' ESG considerations.

ESG is driving a subtle shift from shareholder value to stakeholder value. Leaders are responding to the

growing pressure from stakeholders, including investors, customers, employees and communities, to prioritise ESG considerations. These stakeholders are increasingly concerned about the impact of business activities on the environment and society, and they expect companies to address these issues.

Companies that are seen as responsible and sustainable are more likely to attract customers, employees and investors who share those values.

- Attracting customers drives profits.
- Attracting employees improves the products and services for those customers.
- Attracting investors accelerates business development and increases shareholder value.

Each of these aspects also creates positive feedback loops

which generate even more value both for the company and its stakeholders. In this light it is easy to see why ESG is of such high importance to the business community. For those that embrace ESG there is a significant upside, but it is not all plain sailing. Reputational risk is now not confined to the mis-steps an organisation might make but extended to the actions that they fail to take. There is an outsized risk in a failure to act even in seemingly inconsequential ways. Consider the backlash against single-use straws – a trivial concern in the scale of global operations at a company but meaningful for society. Furthermore, it is no longer possible to control the narrative through public relations or internal communications. The consumers hold the power, and all the good intentions in the world can be undone by a single tweet.

The office sector today is insulated from consumer sentiment, but it remains part of a much larger supply chain. Consumers ultimately drive all economic activity, however many times removed they are through the supply chain, and their values impact the way we must do business. Being disconnected from consumers we rely on rating systems and certifications to highlight our exemplary performance, although this can seem hollow. Wary of greenwashing and carefully curated corporate messages, consumers are sceptical of words and badges. People want to see real tangible action; as was pointed out in our innovation incubator, why don't we 'just switch off the lights' at night?

Even within ESG, environmental considerations receive more attention than social considerations. While this is understandable in the context of the climate crisis, we must not underestimate the role of place in creating sustainable thriving communities. As we make the significant capital investments required to decarbonise the office sector, we must remember who it is for and prioritise investments that can support the social needs of society.

At a macro level the much talked about '15-minute city' demonstrates the need for balance in the mix of uses within our towns and cities, adding much-needed life to our streets, and bringing both talent and consumers closer to tenants. The familiar sight in business districts is streets that only come alive during rush hours and lunchtimes, where corporate offices turn their backs to the street showing only their highly polished lobby. As the adoption of hybrid working erodes the demand for conventional workspace there is an opportunity to re-engage with the street and reactivate our ground floors. The urgency to act is further underlined by the Tuesday, Wednesday, Thursday occupancy pattern that has emerged.

Within offices we must recognise the bias that literally comes 'built-in', particularly in relation to diversity, equality and inclusion. Universal design must be considered throughout the building life cycle not just for accessibility, which is

still a problem, but also for wellness, hidden disabilities, neurodiversity, gender identities – the list goes on. Value engineering of spaces to meet the very minimum of standards creates a commoditised generic product with little differentiation. Creating places that cater for a wide continuum of needs leads to higher-quality spaces for everyone, while shifting the value proposition from supporting people ‘to do their jobs’ to supporting people ‘to optimise their collective outcomes’.

Given the scale of the environmental challenge we face and the role property plays within it, there is one aspect of the ESG agenda that requires special focus – *carbon reduction is now non-negotiable*.

### Carbon reduction is now non-negotiable

**51%**

of respondents said their organisation is actively considering its office footprint in the future

We need to get serious about carbon, and fast. Climate change is no longer a distant threat that we can push to the back of our minds. With successive warnings from scientists and world leaders, it is clear that we need to take immediate and decisive action to mitigate the worst impacts of climate change. The office sector is one area where significant progress can be made towards reducing carbon

emissions and transitioning to a low-carbon economy.

While it shouldn’t be necessary to state any of this, it is worth noting the regulatory cliff edge that is upon us. The UK’s Minimum Energy Efficiency Standards (MEES) will incrementally raise the bar on energy performance. In 2030 the minimum energy-performance rating required in order to enter or renew a lease will be B; the current threshold is an E rating. With just seven years to make this transition, occupiers will be conscious of the risks the deadline poses to their operations and their reputation. Occupiers will be reluctant to invest directly in an office location or in the related business infrastructure to operationalise an office if there is a risk to their tenure.

Well ahead of the 2030 deadline, if a building does not already meet the standard it will be necessary for the landlord to show a path towards compliance. This applies not only to attracting new tenants but also to retaining the existing tenants. Assets that do not keep pace will become stranded.

Setting the standard at compliance is a dangerous game as occupiers continue to seek spaces that match the expectations of their stakeholders. Low- and mid-market office space is now competing with remote and hybrid working models, and so, if occupiers are not seeing their expectations met, they can, for the first time, simply opt out entirely.

**18%**

of respondents said their organisation has already reduced its office footprint

With the consumer in the driving seat we must ask: Is net zero enough? Net-zero targets are important for reducing the amount of greenhouse gases that we emit into the atmosphere, but they do not necessarily address other issues, such as the impacts of climate change that have already occurred, or the social and economic impacts of the transition to a low-carbon economy.

When one considers this factor and the preceding ones a clear picture emerges, which is best described as *‘the relationship between people and place is being redefined’*.

### The relationship between people and place is being redefined

**43%**

of respondents said their organisation is considering shared office/ coworking space

The context for work has been called into question, and many, although not all, companies are thinking about distributed working and dispersed workforces.

Society is redefining its relationship with places, and companies are being forced to consider the implications of alternatives to the conventional office model. It may not be a strategy they wish to pursue for themselves but they must nonetheless understand the consequences of the decision. Will their competitors offer a more attractive way of working and attract key talent, or perhaps have access to a wider talent pool in the first instance? In this context the office sector needs to consider the demands of this new consumer.

Remote work isn’t always remote, and working anywhere must still be somewhere. People frequently need to come together, even in ‘all-remote’ companies. This has created a spectrum of needs for organisations and, by extension, the office sector to cater for. At one end of the spectrum is the traditional nine-to-five organisation occupying an office five days a week; on the other end is the all-remote organisation which infrequently meets in-person but equally needs a venue to do so. One is fixed and predictable, the other is fluid and dynamic. There are few organisations that operate at either of these extremes, with most operating somewhere in between. However, it should be noted that there has been a distinct drift away from the fixed and predictable end of the spectrum.

It is not just offices that are being disrupted. The way we conduct business and the way we live our lives have already been disrupted and continue to be disrupted. The conventional work construct, undertaking a specific task in a specified location for a number of hours, has been eroded.

On one hand, work entered our homes through technology and soaked up more of our time, and yet productivity faltered. But the pandemic brought work into the home full-time and, most ironically, productivity improved. Unsurprisingly then, our relationship with spaces and places has been upended.

**33%**

of respondents said their organisation has already moved to a shared office/coworking space

In everyday language ‘work’ is no longer a place, saying that you are ‘going to work’ can equally mean the office or the kitchen table. The question is then, how does the office reclaim its status as the ideal venue for knowledge work? And, what is the role of the office in this new world?

Consumer choice fuelled by technology, accelerated by COVID-19, and

underlined by ESG and carbon reduction leads us inevitably back to the need for greater agility and resilience than ever before, all because the relationship between people and place is being redefined.

## Implications

We ignore these seismic shifts at our peril, and any hope of a return to normal at some point in the future is futile.

As a simple overview from an occupier-business perspective, the implications for the BCO can be summarised on two levels:

- *Macro level.* There is a growing sense of urgency surrounding the debate on climate change and carbon. It is not just about survival of the planet but of humankind itself. When one links this with the role of real estate in generating 40% of all emissions globally, the industry is highly likely to be held to task to alleviate this burden.

- *Industry level.* The BCO needs to get its head around the new reality that is shaping the demand not only for new space but also for retaining existing leased portfolios – customer demand has fundamentally changed.

To provide some more detail on the implications of these changes, some outline implications for four major areas of interest are posited in Table 1.

## Conclusions/points to ponder

As for a potential research agenda for the coming three years one cannot ignore the reality that the sheer speed at which the future is hurtling towards us is without precedent. It was striking that in one of our workshops a delegate mused on whether we have run out of time already. Could, as Nick Axon states in the Economy Pillar paper, all these changes bring about ‘a genuine existential threat to the UK office sector – at least as we know it today’?

The main question we must ask ourselves is: How do we make sense of the uncertainty we’re facing today in this new world order, and how will things fit together? It is not just about real estate; rather, it is more about the interdependencies between people, place and planet, together with technology and leadership. All these factors need to be linked to demonstrating social relevance. The interesting thing here is that all these aspects are interconnected. Hopefully this contribution, along with the other three Research Pillars, will provide sufficient food for thought for BCO members.

The output from this exercise showed that there is a clear appetite for change, but this was countered by some who queried if the industry is willing to change. Other key conclusions emerging from the discussion can be summarised as follows:

- There are too many silos, we all need to work together.

Policy and planning	Investment and leasing	Design and specification	Operations and management
Understand revised commuter patterns	Review customer journey for acquiring space	Carbon reduction will be key	Too many cooks in the broth
Rethink place-making	Review capital and rent valuation model	Get serious about life-cycle thinking	Not customer focused
Review car-parking standards	Explosion in demand for flexible space	Get to grips with MEES	Landlord and tenant practices not sustainable
Revisit zoning rules	Workplace experience will be key part of offer	Coping with the net-zero agenda	Need to move to service mindset
Mixed use rules the day	Streamline leasing process	Broaden design team input to ESG	Focus on customer service is key
	Risk – offices might be seen as toxic investments	Involve the FM team upfront in design process	

FM, facilities management; MEES, Minimum Energy Efficiency Standards.

Table 1  
Outline implications for four major areas of interest

- When it comes to climate, carbon, ESG, sustainability etc. the key theme was not building specification but survival. One of the boldest statements was: ‘We are discussing the survival of the planet, but actually, *we are meaning the survival of humans!*’
- Do we need to redefine/reinvent the office product for a post-pandemic, infotech-enabled, climate-changing world?
- The industry as a whole could benefit from a better understanding of the changing nature of enterprises, and how they are responding to the conflation of change drivers (economic, societal and digital).

An interesting next step arising from the workshops was that, while everyone recognised the need to address these challenges and make the necessary adjustments, there is nobody to guide this exercise. There is a growing appetite for somebody to act as a ‘shepherd’ to guide this process. Could this be an opportunity for the BCO?

Based on the exercise carried out with over 250 contributors between March and May 2023, the following suggestions could be considered for the BCO research programme over the next three years.

- Should the industry look beyond the building itself, consider its wider purpose than just as an asset, and re-examine the design process to include a wider range of stakeholders?
- Is there merit in examining how the industry could adapt its approach to the emerging new reality of ubiquitous choice in the context of the development, consumption and management of British offices in the post-pandemic world?
- Has the time arrived for a fundamental rethink about how we do things? Should we take a leaf out of the book of car manufacturers regarding their approach to switching from combustion engine to electric cars? Can we bring ourselves to reimagine offices in terms of how they can be funded, designed, built and operated in a smarter more sustainable manner?

Looking to this agenda it is useful to quote the words of Charles Handy when he reviewed the future of offices:

“We need to address the challenge of how to design the modern workplace for creativity and human engagement.”

*Charles Handy*

Therefore, success will come to those that are prepared to boldly go where few others have ventured before. It means

going beyond traditional thinking and conventions in order to provide fresh perspectives on dealing with challenges. Having stood back and seen the wood for the trees, it will be possible to map out the actions required to move to a better future – one that makes smarter use of the built environment. ■

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Chris Kane is an author, advisor, and a Non-Executive Director and co-founder of the thinktank EverythingOmni. He has worked in the corporate real estate sector for over 30 years – as a Partner at JLL, Vice President at The Walt Disney Company and Head of Workplace at the BBC. At the BBC he was responsible for the creation of MediaCityUK in Salford, the redevelopment of Television Centre and overseeing the £1 billion development of Broadcasting House.

Chris has extensive experience as a Non-Executive Director and currently serves on the Board of Elstree Film & TV Studios and Ashford St Peters NHS Trust. He also sits on the editorial board of the *Corporate Real Estate Journal*. Chris's latest publication, *Where Is My Office?*, draws on his knowledge and experiences in commercial property to investigate what the post-pandemic workplace needs to look like.

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## TECHNOLOGY PILLAR RESEARCH

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### Executive summary

The last few years, exacerbated by the global COVID-19 pandemic, have seen a sea change in the expectations from the workplace and how this is used. As a consequence, the BCO needs to reconsider what it provides in terms of best practice and values to members in order to stay current and provide meaningful guidance to the industry – across both developer/landlords and the building users at both a corporate and individual level.

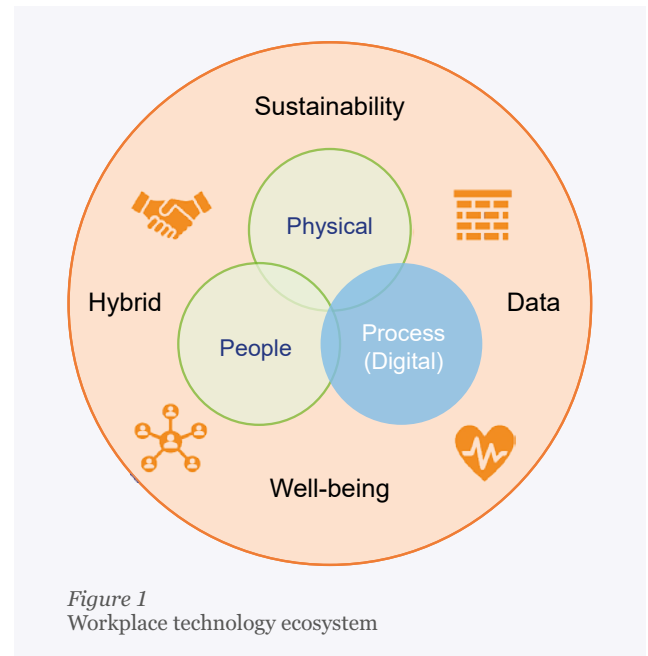
As part of this reassessment, the BCO Research Committee is proposing a new structure to examine where the BCO and these developments should be focused and to identify the forces for change and their impact on real estate and the workplace.

Four main Pillars have been identified – Environmental, Social, Governance (ESG), Business, Economy and Technology – and this briefing note addresses the latter. Within this context we shall also consider how these Pillars impact:

- policy and planning
- investment and leasing
- design and specification
- operations and management.

### Context

For more than 20 years, technology has underpinned the use of the workplace but, strangely, little proactive attention has been paid to this by the core fit-out or property industry, including the BCO. Often considered a 'bolt-on' (historically, some wires and screens), the design and installation of such technology was relegated to second level, even post practical completion. As systems have developed into a wide range of useful tools supporting the



workplace, this approach has more recently resulted in difficult integration between advanced, but often siloed, systems. In terms of the four areas listed above (Figure 1), little consideration has generally been given to the workplace technology.

There has now been a step change in the market – a change that was already happening but was accelerated by the COVID-19 pandemic – and the focus has moved to the end user. The employee is now the customer, as opposed to the C suite or other stakeholders, and organisations wishing to attract rather than mandate employees back into the workplace to re-establish lost energy, creativity, socialising and learning by osmosis will use these innovative technology systems to be more successful in the medium to long term.

To create the right attraction, the facilities of the workplace need to be slick and seamless, and a new approach needs to be taken by the property industry to the services, experience and products they offer, with technology being a key component.

To lead the market, the BCO is now in the process of identifying and developing how technology, both information technology and wider technology use, can be adopted into the build and fit-out process, and how this may impact some of the traditional processes and design team engagement.

## Introduction

Since the development of the original ‘office’, based on the Taylorism model of presenteeism, with workers laid out uniformly in front of a supervisor or manager, the office has developed into the open workplace, and now is morphing again into what is commonly referred to as the ‘hybrid workplace’. This is a space designed to accommodate workers operating partly from home and using a commercial workplace location on an occasional basis, potentially for slightly different, more collaborative- and creative-based work tasks.

The original office was based on being present, largely as the technology and communications infrastructure did not exist to capture input/output or to enable the transmission of information beyond a company’s office location.

In the 1970s, more localised computer facilities enabled the capture and output of information within the office locations, with workers needing to be present to use fixed equipment on desks, and over time this moved to enable data to be transmitted to other locations and, ultimately, data centres. Through the late 1990s, the introduction of cordless or wireless technology increasingly enabled the worker–data connection to be made without being tied to the desk, and information was at last available to a range of devices on a personal rather than desk level.

With broadband services and wireless technology becoming prevalent in the home, flexible or home working was already developing steadily where organisations had the trust and/or ability to manage by objectives, as opposed to staff presence. The pandemic, however, forced companies and staff that had never considered home working, initially during lockdown, into full-time and then, for many, partial home working.

Many organisations and employees have embraced this ‘hybrid’ style of working and, although the jury is still out for many, it is clear that hybrid working is here to stay for the majority of businesses of all sizes. As a result, the workplace has changed forever and needs to service a new approach, a new set of rules and, depending on an organisation’s aspirations, new requirements that enable the corporate workplace to be commute-worthy and attract staff by being Safe, Productive, Attractive, Sustainable and Efficient (SPASE), providing the facilities and convenience for today’s workstyles.

In the future, the workplace will continue to evolve – potentially with reduced physical space but highly attractive and technologically enriched – to provide staff with both comfort and efficient services and to help the organisation attract and retain talent in the most productive environment.

At this time of significant change, the BCO needs to stay ahead of the requirements and provide its members with appropriate and best-in-class advice.

The remainder of this document explores the changes that are happening now, and how technology will support the modern workplace, from a base-build (primarily safety, efficiency and sustainability) and fit-out (primarily convenience, attraction and productivity) perspective.

## The process

We have also used information researched by Cordless Consultants as a leading technology consultancy and our sister organisation The Worktech Academy, which curates information from workshops and conferences held on a global basis, engaging workplace requirements for commerce and other organisations.

To gain a broader consensus on what is happening in the workplace, we have used data from a variety of sources and also held a roundtable comprising a number of end-user workplace representatives from six leading FT100 organisations.

## Key findings

All the organisations represented at our workshop are large corporates and classed as knowledge worker organisations, and therefore have the luxury of workers being able to operate effectively without being physically present full time at the company workplace.

All these organisations offered a degree of home working, with most offering home working for 2–3 days a week and thus attendance at the workplace 2–3 days/week, although one gave complete freedom to the individual to attend the workplace as they considered appropriate.

## Online survey – staff drivers

Asked what the main driver for a workplace should be, the clear lead answer was a ‘magnet’ (in attracting employees to use the facility). The term ‘average is the enemy’ was suggested, indicating that where workers are left isolated and without a compelling workplace, the generation of ideas and creativity suffer, especially for those in a more creative function.

Asked what the main drivers are for requesting staff to attend the workplace, 60% cited the building and maintaining their business culture as the top key requirement, to foster community spirit and ‘forgotten energy’. In other words, the future workplace is a place to connect people physically and nurture creativity and social connection – something missed by most in a home working environment.

There was also agreement that most organisations want to incentivise rather than force staff back to the workplace. To achieve this the workplace must be deemed safe, comfortable and provide facilities that make it ‘commute-worthy’. However, it is all very well travelling into the office but, if most of the colleagues you need to collaborate with are at home on that day, it becomes a pointless journey. Others cited the irony of great home technology, as opposed to workplace technology which is viewed as clunky, with video calls that are impossible due to noise, light and privacy, or general ease of use of technology as influential factors dissuading employees from travelling in.

It is becoming recognised that the employee is now the customer as the war for talent pressures businesses to reach new heights regarding occupier expectations, but many are currently suffering some or all of the following attributes:

- disconnected hybrid workers
- uncomfortable or insufferable typical office spaces
- nothing works and the coffee is terrible
- no sense of privacy
- no sense of community
- disassociated with the brand
- no projection of vision or values.

This is particularly ironic in a world where we are largely used to convenience driven by technology:

- tap to access
- click to ride
- face to pay.

Feedback from our workplace projects is captured in this typical comment: ‘If I want to buy a paddling pool, I can have one delivered tonight, but if I want to get a meeting room with a flip chart, I need to provide 3 weeks’ notice’.

So, tools to manage team attendance, intuitive technology to connect, useful innovation, a comfortable and sustainable environment, and a building that keeps you safe (security, purified air, correct temperature, lighting, noise, ergonomics) are all highly important factors that organisations wish to achieve.

### Other drivers

- There is huge demand for real sustainable buildings in use – who is going to make their 2030 or 2035 targets?
- Landlords need tenants, tenants need talent, and talent needs a reason to leave the house!

- People are getting sicker, causing a labour shortage.<sup>1</sup>
- Energy prices are soaring and yet we’re still part-filling and servicing whole buildings and running systems on time-based schedules!

With the above demands in mind, organisations will have to consider new offers and have a new focus on sustainability, such as:

- delivering primary convenience that is seamless and without barriers (find, access, schedule, comfort, meet, enjoy)
- creating the adoption of systems that provide meaningful insights into the hierarchy of needs of the building occupiers
- sharing messages, information, celebrations and experiences with the people around us
- curating experiences and events alongside the nine-to-five through community, amenities and a social web.

Many companies are in the throes of redesigning, refurbishing, resizing or relocating their offices (in some cases, all of these). A holistic approach is imperative if the best outcomes are to be achieved or even be possible.

### Technology approach

Fundamentally, consideration needs to be given to what is to be achieved, with a real focus on the problems that technology might solve, the behaviours it might support and the value it might provide. Technology should not be employed just for the sake of it.

Without considering why we are providing new services and capabilities there is massive risk of large capital spend with low return. Overengineering to enable services that may never be used will dilute any return on investment.

Early feedback on ‘smart buildings’ indicates some have suffered from this approach, and the response we get from post-occupancy surveys is often that smart buildings are problematic, unreliable, poorly commissioned and unsupportable – and they don’t tell you anything you can’t already observe or what to do with it. So, a good starting point would be to isolate and test what is to be achieved and why, and then to keep the solutions as simple as possible.

There are two key components to the workplace technology considered in this document:

- *The frictionless workplace.* This addresses the technology required for the communications and connectivity of staff to share meetings, data and information easily and efficiently with ease of connectivity, so that data, telephony, unified



communications systems, traditional video conferencing, device-based conferencing (Teams, Zoom, etc.) and interaction with workplace facilities such as asset booking systems, is provided within the workplace to address safety, productivity, attraction and efficiency.

- *The safe and sustainable workplace.* This addresses the technology required to provide an automated workplace or building, and reaches back into the base-build/ landlord demise and facilities of a building to enable the automation, monitoring and management of building functions such as security, safety, mechanical and electrical services, guest management, activity and utilisation monitoring.

Both of the above would address safety, productivity, attraction, sustainability and efficiency to different degrees and in ways that should address the employees' and the organisation's required outcomes. The integration or overlap of these two technology areas is where the modern workplace can really provide benefit to both employees and companies.

## The digital building (smart building)

The truly digital building can both monitor and adapt to occupant requirements, meaning that events diarised within the building, external conditions, the population within the building at a particular time and other factors can all be proactively addressed by the building and its systems. As an example, the building intelligence knows from diary information and guest management systems that a large meeting event is programmed for 6 p.m., so it will proactively

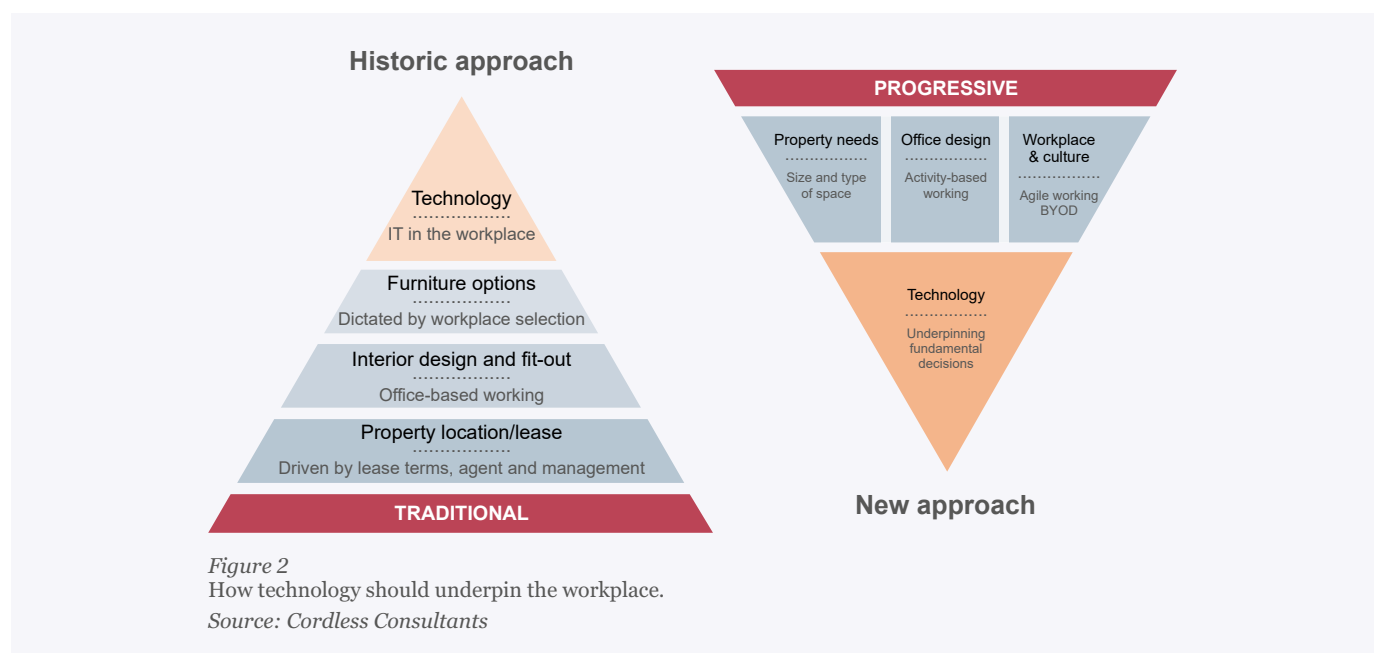
direct higher airflow and cooling to the space, removing the potential build-up of heat and CO<sub>2</sub> that is possible with more common reactive systems. Currently, in some buildings the services will switch off entirely at a predetermined time!

Future development will increasingly involve artificial intelligence (AI) or 'digital twins', where the systems within the building self-learn and adapt the building operation based on a wide range of parameters and inputs. Technology can no longer be an afterthought (Figure 2).

In the context of our main subgroups, what is the outline impact of this technology?

## Policy and planning

- *Design.* Design includes: pre-planning of incoming communications and related wayleaves; pre-installed network utility connections at floor level in multi-let buildings; and pre-considered and best practice risers and routes for communications to provide for resilience, growth and performance. Best practice should be adopted, and assessment and certification from bodies such as WiredScore, SmartScore and NABERS UK should be considered.
- *Planning.* The use of virtual tools, such as virtual reality and 3D modelling, can enable developers, architects and planners to create and visualise projects in a more efficient and cost-effective way.
- *Sustainability.* Technology has enabled the development of sustainable buildings and infrastructure, from green roofs



and walls to solar panels and smart energy systems, and this has led to the adoption of new policies and regulations promoting environmental sustainability. The potential savings and aim for net-zero buildings will be highly reliant on advanced monitoring and control systems.

- *Transport.* The emergence of new transportation technologies, such as ride-sharing, electric cars and self-driving vehicles, has the potential to transform the way we move around cities, impacting land use, parking requirements and transportation infrastructure.

### Investment and leasing

Future buildings will be selected for their digital attributes at least as much as for their other factors. A building that provides for ease of use, is inherently efficient and sustainable in its operations (through the use of intelligent building management) and can offer app-driven facilities, shared resources and ease of integration with occupier systems will win out against beautiful but dumb buildings. Investors need to be prepared to fund digital facilities to bring buildings to a Grade A\* level. Grade B stock will have to be considered for digital retrofit where feasible.

- *Data analytics.* The use of data analytics tools such as predictive modelling and machine learning will enable investors and landlords to make more informed decisions based on data insights, such as market trends, tenant behaviour and property performance.
- *Remote management.* Technology has enabled remote management of properties, from virtual tours and online leasing to remote monitoring of property performance, reducing the need for in-person visits and thus saving time and resources.

### Design and specification

The whole process of design and specification will have to consider not only technology as part of the RIBA Stage 0 briefing process, side by side with the workplace consultant/designer or architect, but also, importantly, at RIBA Stage 7, the ongoing operation, making refinements via analytics to provide meaningful output and thus effective modification and fine adjustment of the workplace and its systems. The following main considerations are all part of the impact of technology on design:

- *Sustainability.* Advanced materials, renewable energy sources and smart/intelligent energy systems and building controls will enable the development of more sustainable buildings that generate and conserve energy more efficiently and reduce their carbon footprint.
- *Wellness.* Technology will enable the development of buildings that prioritise the well-being of occupants,

with features such as air-quality sensors, circadian/intelligent lighting and biophilic design, promoting mental and physical health.

- *Flexibility.* Future buildings will be designed to be more adaptable and flexible, with modular and reconfigurable components that can be easily modified and repurposed to meet changing needs and floorplate adjustments.
- *Automation.* The use of automation technologies, such as robotics and AI, will streamline building operations and maintenance, reducing costs and improving efficiency.
- *Connectivity.* Buildings will be designed to be more connected, with features such as smart building systems, 5G networks and the Internet of Things (IoT) enabling seamless communication and integration of various systems and devices.
- *Security.* The use of advanced security technologies, such as facial recognition, biometric identification and AI-powered surveillance, will enhance building security and safety.
- *Virtual and augmented reality.* These technologies will enable architects, engineers and contractors to visualise and simulate buildings in new and immersive ways, allowing for more accurate and efficient design and construction and enhanced maintenance support.

Correctly approached and designed with end-use goals in sight, technology will enable the development of buildings that are more sustainable, flexible, connected and safe, enhancing the quality of life for occupants and promoting environmental sustainability. This technology will, however, require ongoing innovation, investment and collaboration between different stakeholders to maintain and realise its full potential.

### Operations and management

A building providing meaningful information can be better managed on a long-term basis and, potentially, in the future AI or digital twin technology will provide much of the foresight to adapt the systems, based on self-learning. For example, a building that could stack the occupiers in one wing on quiet days and switch the systems in the vacant wing to 'standby' will offer utility operational cost savings and potentially extend the life of mechanical services, providing additional cost and sustainability benefits.

- *Facilities management savings.* Savings could be gained through self-reporting faults, with the system automatically issuing a ticket and all related information, including drawings and part numbers, to

the facilities management team, potentially before the end user even knows there is a fault.

- *Predictive maintenance.* The use of sensors, data analytics and machine learning will enable the early detection of equipment failures and allow for predictive maintenance, reducing downtime and emergency maintenance costs.
- *Servicing costs.* Similar savings in service costs, such as washroom and other area servicing, can be gained where systems operate a 'usage' rather than a time-based servicing model.
- *Smart building systems.* The integration of building systems, such as lighting, HVAC and security will enable more efficient and coordinated operation, with features such as automated lighting and temperature controls interacting with occupancy sensors and security systems.
- *Robotics and automation.* The use of robots and automation technologies, such as drones, autonomous cleaning devices and robotic assistants, will increase efficiency and reduce the need for human intervention in certain tasks.
- *Virtual and augmented reality.* These technologies will enable remote monitoring and maintenance of buildings, as well as virtual training and simulations for building management staff.
- *Sustainability in design.* The integration of renewable energy sources, such as solar and wind, and intelligent energy systems will reduce energy usage and costs, promoting sustainability and further reducing the carbon footprint of buildings. Rethinking power distribution, potentially to extra low voltage distribution, removing unnecessary and heat-generating (and user and distribution) transformers, heavy copper cables, relays and other equipment across both lighting and general power distribution.
- *Data analytics and AI.* The use of data analytics and AI will enable more informed decision-making, with features such as energy-usage analysis, predictive maintenance and automated response to building events. Digital data should be used to take a structured and methodical approach to RIBA 7, which is an extremely valuable workstream if done properly. This should be focused on over a period of time, not immediately on occupation but over several years, to tweak and drive down energy costs and unnecessary plant operation and wear.

## The tools

There is an ever expanding and extensive range of technology 'tools' available to provide the levels of automation any building or building occupant could require. However, many of these apps and services operate within a silo, limiting the impact they have.

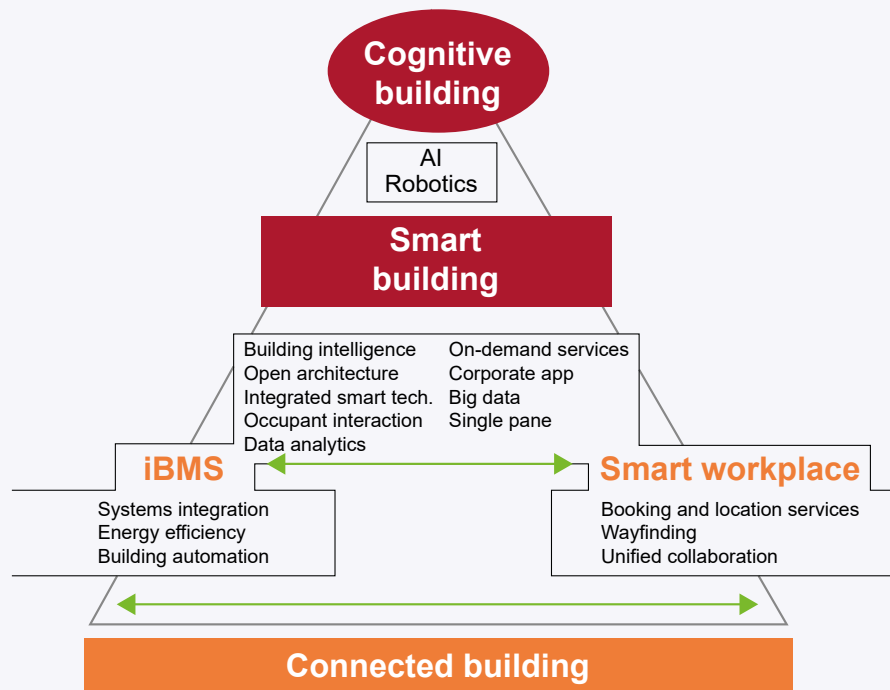
The real benefits are gained when the systems are meaningfully integrated, that is where there is a holistic view of the building that can lead to effective responses. Figure 3 shows the smart triangle within which the separate technologies of the building management system and smart workplace are integrated to provide more advanced services. Below is a brief, non-exhaustive list of some of the technologies to be considered within a building, all of which can operate as stand alone, but will provide greater benefit when communicating across platforms.

- In-building comms – in-building cellular, high-performance Wi-Fi.
- Li-Fi – transmission of data via pulsed lighting systems (high speed, close proximity).
- Collaboration – advanced audio-visual systems, unified communications systems (Teams, Webex, etc.), meta systems and immersive systems.
- Virtual and augmented reality.
- Content sharing – both wired and wireless, such as ClickShare and Solstice.
- Branding – screens, kiosks, personal devices.
- Biophilia and wellness – lighting, sensors (temperature, humidity, air, noise, light).
- Facial recognition/biometrics.
- Location-based services, driven by sensors.
- Data-harvesting systems and analytics.
- Robotics and drones.
- App/gateways installed on personal devices.

## Recommendations

In light of the future requirements of most organisations, consideration of technology early in the refurbishment or new-build fit-out design process, is imperative.

The BCO should further acknowledge that technology has a vital and immediate role to play in the development of the workplace and the built environment. It should consider the further integration of technology, and which stages of the RIBA design process workplace technology should be referenced.



*Figure 3*  
 The smart triangle – integration of the separate technologies of the building management system and the smart workplace to provide more advanced services.  
 Source: Cordless Consultants

Our experience points to the need to integrate technology in the design process from the very earliest stages of any fit-out project, and to consider the new building's native technology (where this exists) so that it can be leveraged, and the sum of the parts used to provide the best services outcomes.

The base-build technology is the bedrock of making a building work for its occupants, and should therefore be considered at the earliest opportunity, whether by the landlord or organisations leasing space – they should be looking to the employees as the customer.

The BCO could further develop guides and support projects to enhance and support future real estate projects, containing some of the following:

- *Establish a clear vision of what is to be achieved and why.* Develop a comprehensive plan that outlines the goals, objectives and strategies (RIBA 0 brief development/capture).
- *Use an integrated approach.* Design an integrated system that incorporates different technologies and systems to create a cohesive and efficient environment.
- This may include systems for lighting, HVAC, security, location-based services and real-time occupancy.
- *Focus on sustainability.* Incorporate sustainable features and technologies to reduce energy consumption, lower the carbon footprint, and promote environmental sustainability. This may include solar panels, efficient lighting and water-saving fixtures.
- *Focus on user experience.* Design the workplace with the end-user in mind, ensuring that the environment is safe (well-being), promotes productivity, and is attractive, sustainable and efficient (provides convenience).
- *Ensure security and privacy.* Implement robust security measures to protect the building and workplace from cyber threats and ensure data privacy.
- *Leverage data analytics.* Use data analytics to collect and analyse data on building performance, occupant behaviour and energy usage to identify opportunities for improvement and optimise efficiency (RIBA 7).
- *Adopt an open architecture.* Implement an open architecture that allows for easy integration and scalability of new technologies and systems as needed.

- *Involve all stakeholders.* Involve all stakeholders, including building owners, facility managers and, importantly, occupants, in the design process to ensure that the workplace meets their needs and expectations.

By advising these best BCO practices, a building and workplace that is *sustainable, efficient and user-friendly*, and provides a positive and productive environment for occupants can be produced and will start to address the ‘commute-worthy’ building.

## Conclusion

In a world that has moved rapidly over the last few years and is accelerating ever more in adopting digital tools, the workplace risks being left behind. Many digital facilities that are used daily by an increasing population are often far less available and certainly less intuitive in the workplace.

ESG and sustainability are in everyone’s interest, and are very much on the agenda of all companies. Using technology to monitor, measure, adjust and manage our buildings and cities should not be in question, but a careful and measured approach to deploying this technology as part of the build or fit-out process is essential. That means we need to break down silos between the aspects of design relating to the form and function of the building. Yes, we’re still talking about this in 2023, just as we were in 2014. However, today it is different, in that we now have everyone at the table, but at different times, with different goals and different levels of authority over their dependencies, and that is where the BCO can provide support.

We can influence all those designs through the value proposition of digitally driven, centralised deployment of smart systems, based on defining a typical architecture that strips out redundant wastage. However, to achieve this requires real coordination between environment, controls, architects and technology. If we all have the same outcomes in mind, we need to lean in and deliver them together.

The BCO needs to consider the importance and role that workplace technology and prop-tech have in the fit-out/building design process and the new order and strategic manner in which this is incorporated – from early brief, throughout fit-out and then into life cycle, such that the full potential of IT in the workplace can be leveraged in a collaborative team delivery for the best outcomes to be achieved.

Supporting with the correct approach as an integral part of the design and management, and not as an add-on or ‘technology for technology’s sake’, will also lead to optimised property outcomes, reduce overengineering, improve capital and operational spend, and improve sustainability. ■

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## ABOUT THE AUTHOR

Since 2005, Nigel Miller has led Cordless Consultants as Managing Director to deliver independent IT, audio-visual and smart innovation consultancy and design, related to property construction, workplace relocation and technology refresh. His career spans 40 years in IT, having held technical, sales and managerial positions in several major US technology companies, leading over the last 20 years to technology consulting in which he has a depth of knowledge of current and emerging technologies such as smart buildings.

Nigel is recognised within the industry for his experience working with workplace technology innovation, and is a regular commentator, writer and presenter on technology developments, with articles and papers published across a range of journals.

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Roger Myers, Charles Russell Speechly

## ESG PILLAR RESEARCH

**Hannah Davis**  
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### The brief

It is recognised that meeting ESG targets is a significant challenge. Climate change is no longer a distant threat and we need to take decisive action. The office sector requires support and direction in meeting these demands. The ESG space is rapidly changing, and the BCO needs to react at the same pace.

The BCO is the UK's leading forum for the discussion and debate of issues affecting the office sector. This report will help the readers to understand the focus, scale and pace of the task ahead, as well as provide commentary on how the BCO and the industry as a whole could tackle the drive for improved ESG outcomes.

To produce this report, we have carried out a high-level desktop review of previous BCO publications, undertaken a survey of the BCO community, and held roundtable discussion workshops in London and Birmingham. The findings from these have been used to write this report and recommendations. This includes implications for:

- policy and planning
- investment and leasing
- design and specification
- operations and management.

### What is ESG?

The transparency and outcomes of businesses' ESG (Figure 1) is receiving more attention than ever before in the built environment and office sector. There is now greater pressure to demonstrate, measure and report environmental and social impact, with shareholders and stakeholders demanding real action, accountability and governance from all levels of an organisation. Asset management, client partnerships, programmes of work, recruitment and investing decisions are therefore increasingly focused on ESG risk.

### Primary BCO research findings

- A fundamental social and cultural change in the perception of the environmental and social quality of the workplace is required.
- Significant changes in the way we design and operate buildings are required to make ESG outcomes a reality.
- There is a lack of common definition of ESG principles, which is driving the lack of accountability by individuals and organisations.
- There is a lack of balance in defining and actioning the ESG principles.
- There is most focus on the 'environmental' of ESG, less focus on 'social', and 'governance' receiving limited attention.
- Reconsideration of what the purpose of an office is will help us to link office buildings with environmental and societal ecosystems through stronger governance.
- Asset management principles (Institute of Asset Management (IAM)) need to be embedded to deliver a solution to achieving ESG outcomes.
- Shift from shareholder value to stakeholder value. ■

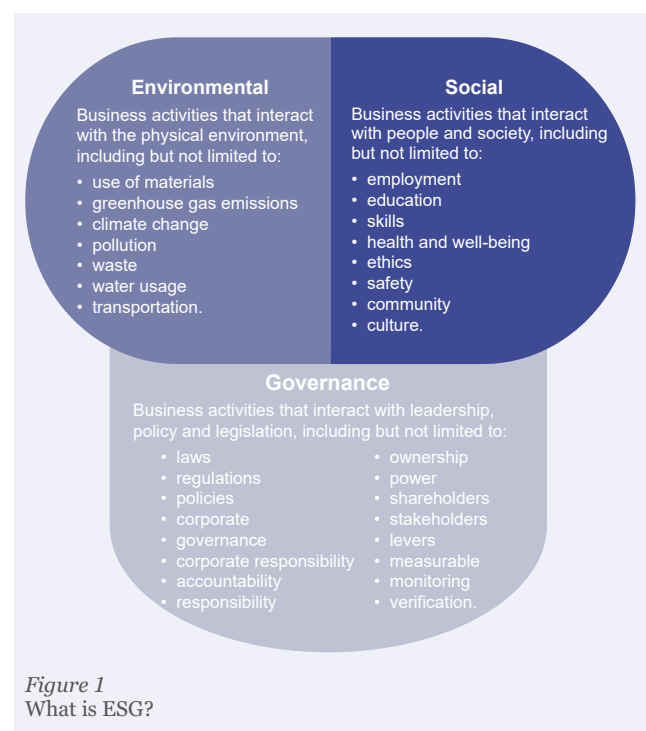


Figure 1  
What is ESG?

## Headline findings

It was identified from the roundtables that a clearer definition of ESG is required to ensure everyone is working towards a shared position and common goal of a sustainable future. Despite the rapid and widespread changes we are causing to our climate and society, the way in which buildings are designed, built, owned and operated has failed to keep pace. The key ESG factors currently driving change in our industry were identified to be:

- decarbonisation
- diversity and inclusion
- long-term value
- well-being
- social value.

It was recognised that this is a rapidly developing area, and regular research needs to be undertaken to understand the key drivers and barriers.

**“Sustainability: We are discussing the survival of ecosystems and the planet, but we are meaning survival of humans!”**

*Contribution to roundtable discussion*

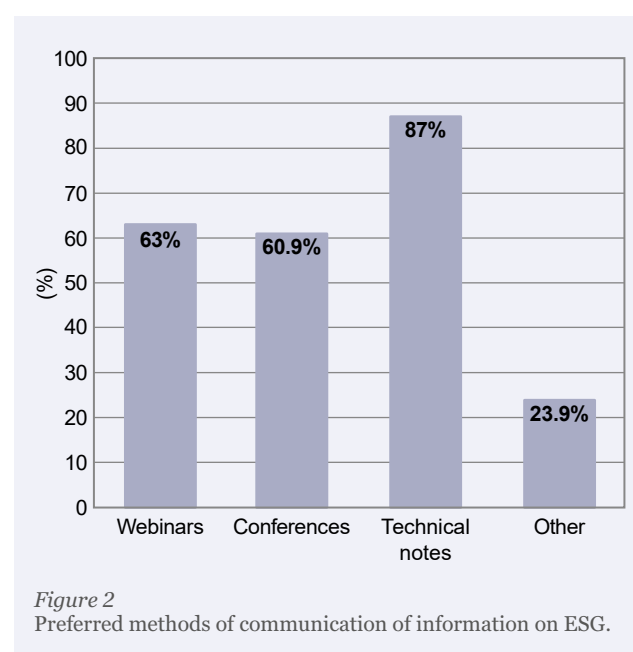
It was identified during discussions that most of the industry’s focus is currently on the ‘environmental’ of ESG, with less focus on ‘social’, and ‘governance’ receiving limited attention. There was a recognition that, while there is a lot of focus on theoretical solutions, there is limited action being taken to address these challenges at the pace required. The BCO could assist here by communicating simple priorities, setting out easily accessible design and operation guides, and providing exemplar documentation that is centred on ESG outcomes. Simple policies such as ‘turning the lights off overnight’ or ‘recycling correctly’ would have huge impacts.

It was also noted that the transition to embedding ESG principles needs to be both bottom-up and top-down. Environmental governance can be both external, through legislation and regulation, or internal, through organisational policy and cultural behaviours.

A significant point made during the roundtables was that, when we discuss environmental and social, people and planet, or ESG factors, we are ultimately focusing on the survival of humans. There needs to be a readjustment to balance the environmental, social and governance factors. We must not lose sight of the social relevance of offices and the social impacts of decarbonisation.

A survey entitled ‘ESG: Vision to Reality’ was issued to the BCO community, and 92 responses were received. It was identified that a variety of means of communication is required to share ESG information (Figure 2). Technical notes were the preferred communication method, with webinars and conferences also identified as important. In the ‘other’ section, suggestions were made for an increased facilitation of roundtables by the BCO.

Identified sustainability issues were ranked in order of importance, as shown in Table 1.



1	Pathway to net-zero buildings, including whole-life and embodied carbon
2	Tackling climate change
3	Social value and its impact on planning, design and occupation
4	Well-being and neurodiversity
5	Circular economy
6	Accreditation systems, including NABERS, BREEAM and WELL
7	ESG strategy and governance, including green and social leases
8	Biodiversity and ecological design
9	Sustainable masterplanning
10	The BCO <i>Guide to Fit-out</i> (sustainability sections)

*Table 1*  
Order of importance of identified sustainability issues



Figure 3  
 The UN Sustainable Development Goals.  
 Source: United Nations.

## Industry alignment

From our roundtable discussions, the most commonly prioritised UN Sustainable Development Goal (SDG) is No. 13 – Climate Action (Figure 3). The UN SDGs are the primary framework tool used by the BCO community. Of the ESG principles, ‘environmental’ was the most understood and the one on which most progress is being made. However, it was acknowledged that more action needs to be taken to have the required effect on reducing the impacts of climate change.

## ESG recommendations

ESG is a framework that helps stakeholders at all scales, including international, national and local levels, to understand how an organisation should manage reporting, risks and opportunities around sustainability. This is becoming increasingly important as more investors are incorporating ESG into their decision-making process. Our research identified that BCO members require more proactive leadership and increased practical guidance on achieving ESG outcomes.

This report can serve to prompt further action from the industry on what has become a prevalent issue, not only in the construction and property industry, but also in the spheres of government, media and the general public. Throughout the roundtables, there was valuable discussion on ESG recommendations. Some of the measures that can be taken by the property industry are summarised into key themes and recommendations in Table 2.

Some of the measures that can be taken by the property industry:			
Policy and planning	Investment and leasing	Design and specification	Asset management
<p><b>The BCO should make available more case studies for practitioners. This may include benchmarking to help understand what ‘good’ looks like and a standard or baseline ESG policy that provides a foundation for organisations to tailor to their specific circumstances.</b></p> <p>We need to think in terms of scale – people, place and planet.</p> <p>The purpose of an office needs to be redefined to meet current societal needs. There needs to be a shift to human-centric rather than building-centric decisions. Office buildings can be community spaces as well as workspaces.</p> <p>Buildings are an ecosystem; they are part of a much wider network and community grid.</p> <p>We must ensure we are balancing the ‘ES’ and the ‘G’ – not just focusing on net-zero carbon.</p> <p>Data should be collected to link up organisations so that change can be made at scale.</p> <p>Horizon scanning should be undertaken to identify future megatrends.</p> <p>There should be stakeholder engagement to highlight the ESG risks and opportunities in legislation, funding criteria and societal expectations.</p>	<p><b>A database should be provided for the collection of robust data on buildings in use that can be shared. It should contain transparent and robust information on the cost impact, return on investment and long-term benefits of ESG.</b></p> <p>Exemplar templates, including green leases and an ESG criteria checklist for decision-making, should be made available.</p> <p>Benchmark data on commercial offices (e.g. energy, carbon, occupants) should be collected and shared.</p> <p>Information on investment decisions, return on investment, and payback outcomes and time lengths should be shared.</p> <p>Best practice procurement models for buildings should be rethought to allow one decision-maker rather than base-build, Category A and Category B silos.</p> <p>Recommendations should be formulated for future accountancy (e.g. whole-life carbon, whole-life cost, offsetting).</p> <p>Cross-sector mentoring and reverse-mentoring programmes should be set up to focus on upskilling in ESG.</p>	<p><b>The BCO should ensure that there is equal emphasis on the ‘social’ and ‘governance’ aspects of ESG alongside the ‘environmental’ aspect.</b></p> <p>Exemplar template documents, including specifications and designs, should be made available.</p> <p>There should be more roundtable events for designers.</p> <p>Information gathering should be undertaken on material specification details and transparency of supply chains.</p> <p>Example case studies should be developed of whole-life carbon design considerations within a circular economy.</p> <p>Appointment document and tender questions need to be refined to specify design and specification standards that support an ESG agenda.</p> <p>Human-centric design principles need to be highlighted in all documentation.</p>	<p><b>An asset management guide that is focused on the UN SDGs and identifies clear ESG outcomes should be produced.</b></p> <p>There should be training and specific knowledge sharing for board members, building occupants and owners, including commissioning and facilities management.</p> <p>Exemplar template documents, including specifications and asset management plans, should be made available.</p> <p>Roundtable events should be held for asset operators and occupiers to align their understanding on supply and demand.</p> <p>Research should be undertaken into the use of future technologies and how these align with office buildings and operator skill sets, including risks and benefits.</p> <p>A database should be provided of nearby asset development and retrofitting to enable sharing of material to deliver a circular economy.</p>

*Table 2*  
Key themes and recommendations arising from the roundtable discussions



## Governance is vital to achieving ESG outcomes

One of the key themes from our research was recognition by industry of how important the governance aspect of ESG is. The office industry has progressed, with environmental and social factors being increasingly considered as both key opportunities and key challenges for us to respond to in office environments. The challenge that many organisations are now facing is how they can effectively unify, and mobilise, these changes through our built environment. There has definitely been progress in establishing the ‘where we are’ and ‘where we want to be’, but effecting change across organisations is complex, and for many remains opaque. There was strong recognition that the BCO, and indeed other industry bodies in the office sector, could play an important role in collaborating to enable this change.

There are many tools that are now in place which provide models for the change that will improve our ability to make informed decisions about our office assets, whether that be around environmental or social outcomes, or about decreasing asset downtime or improving operability. Many

of these could be adopted in our office spaces to provide the governance to enable social and environmental change.

A great example of this is adoption of the globally recognised standard ISO 55000:2014 (Asset Management — Overview, Principles and Terminology), outlined in Figure 4. Asset management is ‘the coordinated activity of an organisation to realise value from assets’. What we are looking at with ESG is the adding of environmental and social elements to how companies define ‘value’. Once this definition is clear, organisations can collaborate to enable the required change through their organisation. This process of change can be further supported by the application of the ISO 55000:2014 systems, but there are also many other standard tools that can be mobilised to help in effecting the required transformation.

- *RICS New Rules of Measurement (NRM)* – these provide standardised guidance on the management of costs across the construction, maintenance, repair and renewal stages of assets. The NRM aim to support alignment between all stages across the whole life cycle, supporting decision-making around asset management.



Figure 4  
Asset management overview.  
Source: Institute of Asset Management 2014

- *ISO 41001:2018 (Facility management — Management systems — Requirements with guidance for use)* – this is the international standard for facility management. It provides a common framework to develop, implement and maintain effective facilities management. This is important in embedding social and environmental standards, as many of these will be adopted in ‘live environments’.
- *ISO 19650 (Building Information Modelling (BIM))* – this is the international standard for managing information of the whole life cycle of a built asset. It provides invaluable information about how to manage the information associated with offices. Information is key in supporting the robust decisions that are needed to embed change.

The industry faces a great challenge in embedding ESG across our offices, but we have never been armed with as much best practice and as many global standards to enable this change. Through greater collaboration between clients, consultants and our professional bodies we can make meaningful progress towards achieving these outcomes.

**“Asset management will drive an acceleration towards broader and more balanced decision-making criteria.”**

*Contribution to roundtable discussion*

## Social-value movement: The relationship between people and place is being redefined

Improving social-value credentials and creating a cultural focus has significant benefits on a huge range of areas including, but not limited to, improving employment prospects, growth, community and social benefits, health and innovation. These social impacts are traditionally ignored due to the lack of visibility of the value investing in this brings. Social value frameworks such as the National TOMs Framework<sup>1</sup> and Loop<sup>2</sup> offer helpful guidance and governance on how to measure and verify the long-term impact of social value (Table 3). Increasing the prevalence of social value across the procurement and wider policies of office-based organisations would help to progress this agenda and produce positive impacts for both businesses and society.

**“The social value movement needs to be integrated in all decision-making, governance and culture to make a difference.”**

*Contribution to roundtable discussion*

Theme	Outcomes
<i>Jobs – Promoting local skills and employment</i>	More local people in employment More opportunities for disadvantaged people Improved skills for local people Improved employability of young people
<i>Growth – Supporting growth of responsible regional business</i>	More opportunities for local SMEs and voluntary, community and social enterprises (VCSEs) Improving staff well-being and mental health Reducing inequalities Ethical procurement is promoted Social value is embedded in the supply chain
<i>Social – Healthier, safer and more resilient communities</i>	Creating a healthier community Vulnerable people are helped to live independently More working with the community
<i>Environment – Decarbonising and safeguarding our world</i>	Carbon emissions are reduced Air pollution is reduced Safeguarding the natural environment Sustainable procurement is promoted
<i>Innovation – Promoting social innovation</i>	Other measures (more innovation to promote jobs, skills, resilient communities and environmental regeneration)

Table 3

The themes and outcomes of the National TOMs Framework

## Elevating health and well-being

Office buildings have a responsibility to lead a global movement to transform health and well-being with a ‘people first’ approach to buildings, organisations and communities.

The health of planet and people is interrelated. The aim is to create and recognise spaces that advance human health and well-being by rebalancing corporate reporting frameworks and policy environment to take key factors such as human capital management out of the ‘social’ silo and instead examine it across all three aspects— the environmental, social and governance. Several scientific studies have also highlighted the economic value of investing in employee health and well-being.

Addressing well-being can, therefore, create economic as well as social value in a business.

Offices are well placed to deliver social value. The variety of stakeholders, including landlords, suppliers and tenants, provides a mix of organisations that are likely already delivering social value. Property managers that are reducing carbon emissions for the base build, suppliers that employ locally, tenants that employ apprentices, inspire school visits or offer mental health and well-being services, are all generating social value. Partnering all ESG policies with a social-value approach can provide tenants, fund managers and investors with a wealth of resource and strengthen business cases by adding value beyond the purely economic. Understanding what initiatives deliver social value, how to maximise social value delivery at a particular location, and creating reports, benchmarks and targets at a tenant or building level provides a complete approach to delivering value to society.

ESG objectives will require an evolution of training requirements in order to reskill and upskill new and existing industry professionals so that they can meet the changing working demands associated with ESG in the office sector.

“Human-centered design is an approach to interactive systems development that aims to make systems usable and useful by focusing on the users, their needs and requirements, and by applying human factors/ergonomics, and usability knowledge and techniques. This approach enhances effectiveness and efficiency, improves human well-being, user satisfaction, accessibility and sustainability; and counteracts possible adverse effects of use on human health, safety and performance.”

*ISO 9241-210:2019(en)<sup>3</sup>*

Office design needs to ensure that the human perspective is considered in all decision-making processes. Community thoughts and contextual framing will be important for the BCO to ensure relevance, and offices are supporting the drive towards Social Value 2032,<sup>4</sup> aiming to build social value economies. Reimagining the flexibility of office space to be used during and outside of office hours for childcare, elderly care, youth centre education and charity collaboration can make offices the centre of a thriving community.

“How a corporation’s workplace is delivering for society will be a key duty of an office of the future! By arming organisations with the ability to measure the social value they are making, they can maximise impact through how they deliver office solutions.”

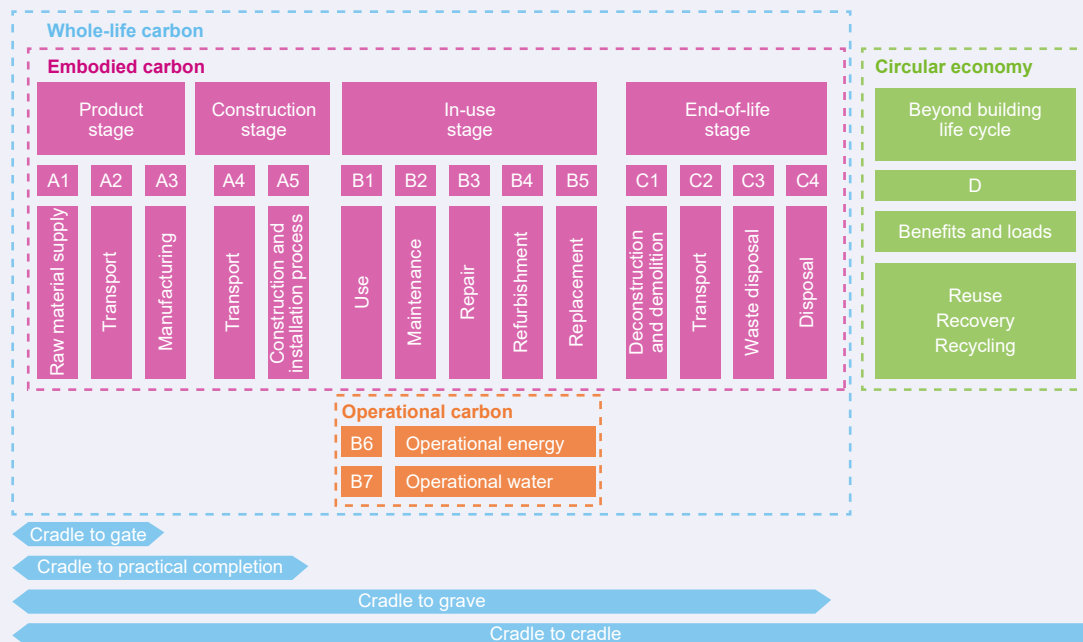
*Contribution to roundtable discussion*

## Environmental – towards zero carbon

Environmental initiatives in the office sector are being led by our climate and biodiversity emergencies. It is clear that we need to make immediate and decisive actions to mitigate the worst impacts of climate change.

- *Net zero carbon* is required to limit the impacts of climate change. This is an increasing priority for many businesses, especially since the UK government’s legally binding target of achieving net zero by 2050 was announced. The findings from the BCO panels indicated that the best opportunity for the office estate to contribute successfully towards net zero carbon is through policy and planning legislation, specifically aiming to progress the ‘environmental’ and ‘governance’ of ESG. Further research from the BCO<sup>5</sup> highlights this as highest average priority factor driving net zero for the industry respondents surveyed, supporting the findings from the panels. Therefore, increasing the sustainability requirements included by authorities would help increase the uptake of greener energy and building practices.
- *Biodiversity net gain* is a way to contribute to the recovery of nature and ecosystems while developing offices. The findings from the research indicated that providing easily actionable examples and case studies of how this has been achieved in new-build and retrofitted offices would be beneficial.

A clear and consistent zero whole-life carbon methodology and net-zero carbon building standard is required by the industry to enable a committed response (Figure 5). Identifying and enforcing standardised certifications such as BREEAM, LEED and/or NZCBS would help businesses, consultants, contractors and end users work towards a common objective, and would reduce the risk of sustainability measures being downscaled or removed due to value engineering. This is important because, according to the UK Green Building Council’s (UKGBC) *Net Zero Whole Life Carbon Roadmap* (2021),<sup>6</sup> offices make up



*Figure 5*  
System Boundary Model: EN 15978:2011 display of modular information for the different stages of the building assessment.<sup>7</sup>

15% of the waste from total commercial property sectors and 44% of the total waste from the construction sector. Cooperating and investing more in sustainable management of offices would begin to address offices embodied and operational waste challenges. Improving the governance of environmental factors is at its most effective when these are consistently applied, allowing for more accurate and reliable monitoring and verification of the progress that organisations are making towards their carbon-reduction targets and meeting the climate critical objective of limiting global warming to the Paris target of 1.5°C.

“Zero carbon is providing a focus and ambition to achieve a sustainable future. The clear targets and metrics make this the top priority for most organisations.”

*Contribution to roundtable discussion*

## Key recommendations

The BCO has a key role to play in ensuring a sustainable future for offices in our society. The time for ESG action is now. The industry needs to work together to benefit from a better understanding of sustainability requirements and simplified ESG outcomes. All office-sector stakeholders need to be supported in making the ESG visions a reality through deliverable action plans. ■

“ESG provides an umbrella and links strongly to the other megatrends Pillars of Economy, Business and Technology that are rapidly changing the office sector.”

*Contribution to roundtable discussion*

## Case study

# GSK headquarters, London

**Context:** The new GSK headquarters in central London

**Location:** The Earnshaw – St Giles, near Tottenham Court Road Underground Station (currently under construction to Category A)

**Size:** c. 150,000 ft<sup>2</sup>, 10 storeys (GSK will be the single tenant of the building)

**Current RIBA stage:** Stage 3

**Accreditation targets:** BREEAM ‘Outstanding’ and WELL ‘Platinum’

**Project team:** Project management, programme management, cost management, accessibility and inclusion consultant, architect and interior designer, ecologist, structural engineer, main contractor and subcontractor supply chain, fire engineer, building control, principal designer, specialist lighting, MEPH (mechanical, electrical, plumbing and heating) designer, health and well-being consultant, acoustic consultant, AV designer, security designer, life-cycle costing consultant, network designer, SMART designer, planning consultant, operational management consultant, innovation and change management consultant, base-build team

## How can project delivery teams create these spaces?

The approaches below are helping GSK to mitigate restrictions and are benefiting overall delivery.

- *Setting the ambition.* GSK has set a clear and exciting challenge for the project team: the design of the new headquarters must be centred around collaboration, wellness and accessibility, with the highest standards of sustainability.
- *Clear change-management strategy.* The strategy engages employees to embrace and embed ways of working that drive team and individual performance, support personal well-being, and help create an environment where everyone can thrive and get ahead together.

- *Early engagement of full supply chain.* Integrating the right specialists at the right time in the design phases, including the main contractor and subcontractors.
- *Early engagement with the base-build team.* As GSK will be the sole tenant of the building, there was a great opportunity to collaborate with the base-build team on any Category B landlord areas. GSK was able to identify areas that were not in manufacture, so they could be stopped under the base-build teams’ programme in order to limit any waste in the fit-out works.
- *Early engagement with the planning team.* GSK explored with planning consultants how spaces within the new headquarters can benefit the wider community outside of working hours (i.e. by schools, community groups, local artists, etc.) to create a 24-hour use of the building facilities.
- *Flexibility of working.* Engagement is done via a hybrid of face-to-face and virtual meetings in order to maximise engagement across all parties and to minimise unnecessary travel.
- *Reward and gamification.* The team is energised/ motivated through team bonding exercises to build collaboration and trust.

## New build office design – ‘best-in-class’

The aim was to include the key principles of collaboration, inclusivity, technology, sustainability and inspiration. The ESG goals and decarbonisation targets were viewed through the requirements of an office space. To understand how spaces can achieve the above parameters, GSK collaborated with health and well-being and accessibility specialists, in partnership with its technology teams, to capture and measure feedback and data to inform the design. Data was collected around the categories listed in the following table. ■



## Case study – *continued*

Data category	Data-capture tools
<p><b>Noise</b></p> <ul style="list-style-type: none"> <li>• <i>Sound masking</i>. Reviewed different levels to analyse the right ambience that needs to be created to support different activities. For example, a focus booth should have a higher acoustic performance than an open-plan office environment. Reviewed different types of sound-masking machines and their impact on people's concentration levels (testing responses to pink noise/white noise/brown noise, etc.).</li> <li>• <i>Sound scaping</i>. Analysed the effects that different sounds have on cognitive performance and stress levels (i.e. checking responses to waterfall versus thunderstorm background noises).</li> </ul>	<p>The data-capture tools listed below were used to effectively measure and obtain feedback on the data categories. The results were then collected and fed into the user requirement brief for the project.</p> <ul style="list-style-type: none"> <li>• <i>Consultation</i>. Leads for each stakeholder management group attended consultation sessions to express their preferences and key requirements for their teams.</li> <li>• <i>Creating a 'day in the life'</i>. Different user groups will experience alternative pain points within the space – mapping these provided better spaces suited to a wider range of needs.</li> <li>• <i>'Showcase'</i>. GSK created a 'Showcase' space within its current headquarters to enable staff to experience first-hand different environments and equipment and provide feedback (either anonymously via on-site counters or by reporting to GSK's change-management lead) on what works well, what doesn't and why.</li> <li>• <i>Workplace performance hubs</i>. GSK creates ongoing pilot spaces across different sites to continuously capture its staff's requirements; following feedback, the pilot sites are then changed in an agile manner. The pilot sites have a 'control' group and a 'changing' group to monitor how variations in aspects of the design affect cognitive performance.</li> <li>• <i>Polls and pulse surveys</i>. These are issued to all employees to respond to different aspects of the design.</li> <li>• <i>Wearable devices</i>. These were worn by staff who opted into this approach to collection of data, and data collection and storage was in line with the GDPR requirements. Wearable devices that measure heart-rate changes, step counts and sleeping patterns were used to determine wearers' cognitive performance and stress levels.</li> <li>• <i>Smartphone apps</i>. These were used by staff who opted into this approach to collection of data. Staff were asked to carry out 'performance tasks' in different settings and their cognitive performance was measured. The test results were reviewed to determine which environments elicited the best cognitive performance.</li> </ul>
<p><b>Light levels</b></p> <ul style="list-style-type: none"> <li>• <i>Circadian lighting</i>. Assessed the impact of high-level circadian lighting (which will adjust to the environmental conditions) versus the ability for individual light-control measures to be able to override lighting levels if required.</li> <li>• <i>Light levels between spaces</i>. Reviewed different light-level requirements to match different types of space (i.e. meeting rooms versus transient spaces versus sit–stand desk areas).</li> </ul>	
<p><b>Air</b></p> <ul style="list-style-type: none"> <li>• <i>Temperature</i>. Analysed preference for occupiers to have their own temperature-control capabilities (at desk level) to help optimise their working environment.</li> <li>• <i>Aromas</i>. Engaged experts to identify how different aromas can stimulate cognitive performance (while being mindful that everyone may react differently to different smells).</li> <li>• <i>Quality</i>. Installed sensors to check CO<sub>2</sub> and any particulate levels that may be unfavourable to the environment. Monitored how CO<sub>2</sub> levels change in different working environments (i.e. in a closed office occupied at full capacity for a full hour, in a focus booth used all day, etc.) and how this can affect cognitive performance.</li> </ul>	
<p><b>Water</b></p> <ul style="list-style-type: none"> <li>• <i>Filtration</i>. Monitored different types of filtration system and optimal temperature. Tested whether flavoured water was preferred.</li> <li>• <i>Proximity</i>. Reviewed optimal proximity to water sources from different workstations.</li> </ul>	
<p><b>Biophilia</b></p> <ul style="list-style-type: none"> <li>• <i>Plants – people's response</i>. Monitored how people respond to different types of plants and what benefits different plants can provide.</li> <li>• <i>Plant requirements</i>. Reviewed what light levels, air and water qualities are optimal for plants to thrive within the spaces provided.</li> </ul>	
<p><b>Flexibility of space</b></p> <ul style="list-style-type: none"> <li>• <i>Alternative working environments</i>. Created different types of work environments to observe responses to different spaces and to gain an understanding of why people are coming to the office and what types of space they are using. Different environments were considered: <ul style="list-style-type: none"> <li>– <i>Collaboration settings</i>: meeting rooms with a choice of desking arrangements (with a hybrid model of communication taken into consideration), sofa settings, tea-point breakout areas, swings, etc.</li> <li>– <i>Focused settings</i>: sit–stand desks, ergonomic table in a 'home aesthetic' setting, open and closed focus booths, etc.</li> <li>– <i>Alternative/active settings</i>: desks with a bicycle as a chair, a treadmill workstation, etc.</li> </ul> </li> <li>• <i>Accessibility and inclusion</i>. Analysed how people with different needs responded to the spaces and reviewed what their requirements are (providing a range of spaces will help cater to more people and greater demands).</li> <li>• <i>Type of meetings</i>. Assessed whether people prefer static, non-static or a variety of meeting arrangements (i.e. a walking meeting versus a sit-down meeting room).</li> </ul>	

(Continued)

(Continued)

## Case study – *continued*

Data category	Data-capture tools
<p><b>Flexibility of space – <i>continued</i></b></p> <ul style="list-style-type: none"> <li>• <i>Multi-functional spaces.</i> Explored ways in which spaces can adapt to accommodate alternative functions (i.e. moveable walls/curtains and power/data across the floor plan can help the spaces adapt to different requirements). This can also help ensure that large spaces are used for functions other than large events (i.e. a 100-person auditorium requirement).</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Sensors.</i> Sensors were used to test air and water quality in different environments. Occupancy sensors were also tested as a tool to review which spaces are most heavily used, at what time, on what days and for what function.</li> </ul>
<p><b>Technology</b></p> <ul style="list-style-type: none"> <li>• <i>Equipment/tools.</i> Analysed different equipment (i.e. flat versus curved monitors, noise-cancelling headsets, wireless versus non-wireless, desk chargers versus USB/USB-c sockets).</li> <li>• <i>Nudging/apps.</i> Reviewed capabilities of software solutions to be able to provide ‘nudges’ that optimise the working environment for the individual. Balanced the volume of nudges that a user would have to action (i.e. an alert to tell you to take more steps) versus an automated nudge (i.e. if the air quality in a room is unfavourable, a new meeting room with IT-ready capabilities can be proposed to relocate to).</li> <li>• <i>SMART.</i> Examined how SMART infrastructure can be implemented to respond to the environmental conditions and help minimise wasted energy (i.e. automated blinds can respond to solar changes). How people can override these systems to optimise their individual requirements was also reviewed to balance potentially conflicting demands.</li> </ul>	

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## **APPENDIX**

### **MEMBERS OF THE RESEARCH COMMITTEE**

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The Pillar initiative was initiated and managed by the BCO Research Committee. We would like to acknowledge the contributions of Committee members and thank them for their tireless work, both on the Pillar initiative and more widely.

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## ABOUT THE BCO

The BCO is the UK's leading forum for the discussion and debate of issues affecting the office sector.

Established in 1990, its membership base comprises organisations involved in creating, acquiring or occupying office space, including architects, lawyers, surveyors, financial institutions and public agencies.

The BCO recognises that offices don't just house companies, they hold people and so what goes on inside them is paramount to workplace wellbeing.

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