The New Real
Unlocking new gains through smart buildings
The partners of Charles Russell Speechlys have explored how the economics of commercial real estate are changing dramatically. There is a new reality upon us with opportunities and challenges ahead for those involved. We share here our initial findings of the qualitative research as an introduction to a full report and thank our collaborators on this project for their insights.

Long-established real estate business models are at an early stage of being disrupted. We have barely scratched the surface in realising the economic and environmental gains that will be possible in the smart era. But in time, digital advances will redefine the routes to securing profitable growth from commercial buildings, and to generating value from building usage.

Trends in digital technology – such as the mainstream adoption of cloud, the advancement of the internet of things (IoT), and an explosion in real-time data – are transforming the way that companies use office and retail space, and the value they can generate from the built environment. As new ways of working become more and more mainstream, investors and developers need to rethink traditional ways of delivering and managing space, and look to new revenue streams such as delivering technology requirements and hospitality services, to sit alongside conventional rental income streams.

For example, as the built environment becomes embedded with sensors – and more connected devices are used inside buildings – it creates opportunities for new data-driven revenue models. In large retail centres, for instance, it is increasingly possible to capture and integrate data about where, when and how consumers shop, enabling retailers to tailor advertising, opening hours and store location, among other things.

While in office buildings, gaining access to data from different smart systems such as heating, lighting and fire safety, along with data captured by other connected devices could be of huge value to an insurer seeking to more accurately calculate and price risk.

New revenue models are not the only source of value. By better understanding how and when they are using their workspace, companies can reduce energy costs and cut down on surplus floor space. In addition, mapping productivity data against environmental conditions – such as temperature, light intensity and air quality – can drive a more productive, healthier workforce.

The race to achieve these competitive advantages has profound implications for all industries involved in this sector – for developers, owners, occupiers, technology and service providers, and investors/funders – as they seek out future growth.

“There needs to be a change in mindset in the investor community and the tenant community as to how we evaluate a building’s investment potential – it needs to reflect the ‘digital value’ as well as the physical.”

Anupam Nanda, Academic Director, Centre for Intelligent Places, Henley Business School
Knocking down barriers

Leading players within these different stakeholder groups are developing innovative ways of tapping into the potential of smart digital technologies – though few have yet to optimise their approach.

As those involved in the sector are only too aware, the best ways to capitalise on smart trends to drive profitable growth are rarely clear-cut. There are significant hurdles to progress that will need to be surmounted, and an enormous amount of trial and error still to come.

The ability to combine vast amounts of data captured by a multitude of systems implies a level of interoperability and standardisation that simply does not yet exist. Further, it opens up a Pandora’s box of legal quandaries regarding who owns data, who can access it, and who has the right to use it for commercial gain. In addition, the free flow of data across smart systems creates cyber security risks that must be addressed – robust protections must be in place and responsibility for that protection will need to be clearly defined.

At the same time, since no single organisation has the capability to tap the full potential of a smarter built environment, we will see new collaborations, strategic partnerships and acquisitions across all industries involved in this sector. Siemens’ recent announcement that its Building Technologies Division will partner with Capgemini, in the hope that the consultancy’s IoT, data analytics, and cloud experts can help it provide better data insights for its real estate customers, is just one manifestation of this trend.1 With so much at stake for the end users however, they will demand individual legal accountability of firms that fail to deliver, even as the supply chain grows more complex.

These are difficult challenges, but they must be overcome – the forces of change are too strong, and the opportunities are too rich to be missed.

By undertaking a comprehensive programme of in-depth interviews with leading experts – drawn from real estate, tech, engineering, construction, finance, consulting and academia – we have identified ten trends that will change how value is created from commercial buildings. Further, we have considered some of the most important practical and legal implications for different stakeholder groups over the next five years and beyond.

We’ve created a ‘stakeholder group impact rating’ to flag the groups who will be most deeply affected by each trend – and those who must respond with greatest urgency.

1  Capgemini supports Siemens in the implementation of an IoT platform for next generation building energy management solutions, Capgemini, May 24 2016

While many firms are still striving to cut energy costs and optimise asset performance through smart building management, the most forward-thinking players are already imagining wholly new gains from the smart environment. As commercial buildings become omnipresent sensors of activity, sophisticated analytics will deliver new insights to improve the productivity and wellbeing of the workforce, for example, through understanding the preferred temperature, lighting levels or air conditions of employees. It will also be possible to optimise occupiers’ use of space across their property portfolio – for both office and retail environments – based on data insights about use patterns. Such gains may be valued over and above improvements to energy efficiency. Occupiers may come to prize them highly, increasing pressure on owners to ensure that their buildings enable these technologies to be applied.

Highest impact group
Occupiers; Tech providers; Service providers

Smart buildings are driving gains stretching far beyond sustainability
Plugging into connected ecosystems opens new revenue streams

Although recognising it as an ambition, businesses are only just beginning to harness the potential of big data for revenue growth. As smart buildings form connected ecosystems, data owners will find new opportunities to profit – whether it’s advertisers buying footfall data captured by retail centres tracking smartphones, insurers seeking out more accurate building performance information to guide their underwriting practices, or large service providers joining up building data to help occupiers benchmark their efficiency and productivity against industry peers.

Impact rating:
Occupiers; Tech providers; Service providers

Future-proofing means in-built flexibility

Too much bespoke customisation in construction may leave buildings unattractive to future tenants who want to integrate their own technologies with ease. The key to “future-proofing” will be the design of flexible, loose-fit shells, and easy access to rewire and retrofit as new technologies come along. Developers, owners and consultants will need to give more thought to how future tenants’ needs may evolve. Making buildings easier to dismantle, and putting the foundations and infrastructure in place to enable future expansion will also be important.

Highest impact group
Owners; Developers/contractors

Occupiers will push owners to rethink commercial lease terms for the future of work

New ways of working and a need to stay agile mean occupiers will demand more flexible lease terms from owners. The trend of co-sharing space with third parties such as suppliers, or customers, who will need to plug into their systems, will continue to grow. While more agile working, combined with more efficient use of space, could cut their overall space requirements. In some sectors, such as Retail and Technology, Media & Telecommunications, occupiers will be more inclined to demand shorter leases 2,3, while flexibility for tenants to share space, to fit out spaces to their own criteria, and perhaps to scale up or down, will be universally desirable. This trend may also impact investors and funders, because shorter leases could mean that returns from commercial real estate are less predictable.

Highest impact group
Occupiers; Owners; Investors/funders

“We’ve had to move quickly to capture these new opportunities around smarter use of data – acquisition has helped us add digital capabilities to our traditional strengths as a professional services consultant.”

Nick Jones, Executive Director, CBRE

1 Property data report 2015, Property Industry Alliance, October 2015
2 Trendsetting TMT companies blaze a trail for workplace design, British Council for Offices, May 16 2014
3 Too much bespoke customisation in construction may leave buildings unattractive to future tenants who want to integrate their own technologies with ease. The key to “future-proofing” will be the design of flexible, loose-fit shells, and easy access to rewire and retrofit as new technologies come along.
**5 Winning the battle against obsolescence will be pivotal in securing returns**

Replacing vast amounts of existing building stock will be impractical because of the cost and high carbon footprint involved – as well as listed status in some cases. As occupiers demand digitally-enabled buildings with high energy efficiency, owners must upgrade properties to remain attractive. As of 2018, it will actually become unlawful to let commercial properties with an Energy Performance Certificate (EPC) rating of F or G. Investors and owners need to be savvy to “future-proof” their investments against obsolescence risk, to ensure returns in the future. They will increasingly demand conversations with asset managers relating to the Global Real Estate Sustainability Benchmark (GRESB) and other insights around obsolescence. In time, newer measures such as the WELL Building Standard, that assess how the built environment impacts human health, may be increasingly factored into investors’ decision-making too.

**Highest impact group**
Occupiers; Owners; Tech providers; Service providers; Developers/contractors; Investors/funders

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**6 Innovations in construction will deliver more than just hyper-efficiency – they’ll be crucial in driving future adaptability**

Advances in construction, such as off-site fabrication, will be increasingly important in enhancing efficiency and lowering the cost to build. A more modular approach will also make buildings easier to repurpose further down the line, allowing owners to adapt them to occupiers’ evolving needs. Meanwhile, building information modelling (BIM) and 3D printing will enable more innovative designs. UK developers must embrace this new wave of innovation to compete effectively on both cost and quality.

**Highest impact group**
Developers/contractors

“We might see ‘square footage-as-a-service’ as the natural next step in the serviced office sector. Occupiers would have an all-inclusive charge for temporarily borrowing tech-ready space from landlords – not unlike buying a licence for cloud software.”

Julian Lyon, Director, Worldwide Occupier Services, Savills

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**7 The largest occupiers will rebalance the mix of core and flexible space**

As businesses enable more dynamic, mobile workforces, they may maintain core space through longer lease terms or ownership, but firms will also need a mix of other options. For instance, as project teams of internal and external collaborators are brought together, they will need a temporary work environment with technology systems that are interoperable with the central organisation. Serviced office space in the City of London has quadrupled in the last two decades, reflecting this growing demand for more flexible space. And as occupiers seek more social sharing of space, traditional desk space will become less important too. Owners, empowered by big data to obtain a highly detailed view of operating costs and building lifecycle costs, may respond by creating a “space-as-a-service” model to offer occupiers ultimate flexibility – an all-in fee for rent, utilities, business and technology services that enables simple scaling up or down of space as needed.

**Highest impact group**
Occupiers; Owners; Tech providers; Service providers

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**8 Forward-thinking investors, owners and occupiers will change how they value commercial property to seize smart gains**

As the use of commercial real estate is transformed, the “digital potential” of buildings will need to be factored into the valuation, as well as its location and size. The big data captured by the built environment can enable owners to deliver extra value to tenants, such as energy savings, more efficient use of space, and commercially valuable insights that will justify higher rental income from the “smartest” buildings. This also impacts the potential returns that investors can realise from commercial real estate. In cases such as Deloitte’s Netherlands headquarters, The Edge, the building may even become a draw for recruiting the best talent. A shift in mindset among investors, owners and tenants will be required to realign building pricing in accordance with the added value that digital can deliver.

**Highest impact group**
Occupiers; Owners; Investors/funders
9 Smart gains will need to be realised through new partnerships and new networks

No single organisation can tap into the full potential of a truly smart built environment. Developers may need to work with workplace strategists and innovative technology experts; firms providing smart building infrastructure may need to tap into the data analytics knowledge of consultants – such as in Siemens’ partnership with Capgemini. Exploiting the full value of data may involve a whole chain of providers, including network providers, cloud firms, data centre owners, the managers of public realm and transport systems, and many others. Cross-industry collaboration will also be critical in enabling development of common standards that will ensure interoperability of technology systems and devices. Emerging collaborative models will have important legal implications too, as end users will demand clear individual accountability in cases where providers fail to deliver on their promises. On the flipside, new power struggles will emerge in some areas – multinational technology firms may seek to disintermediate other players in the sector by providing the high-tech environments occupiers are seeking on their own.

Highest impact group
- Occupiers
- Owners
- Tech providers
- Service providers
- Developers/contractors
- Investors/funders

10 The move towards smart buildings and IoT is opening a Pandora’s box of legal risks around cyber security and data protection that must be addressed

As occupiers seek to take advantage of multiple smart systems, install technology from different providers, and use IoT devices in the workplace, it opens up new access points for cyber criminals, particularly where those manufacturing smart systems lack cyber security expertise. There must be clear accountability around who is responsible for managing cyber risks, with owners and occupiers both needing clarity around this important issue. Some sectors are more alert to these risks than others. Industry standards are needed to help companies assess whether their security needs are being met. The capture of increasing volumes of data, and desire to extract deeper insights from data also gives rise to data protection and privacy issues. The encryption of data, the anonymisation of personal data, and clear lines of accountability will all be critical in shaping the future environment.

Highest impact group
- Occupiers
- Owners
- Tech providers
- Service providers

“Estates with great swathes of listed buildings are falling behind and ceasing to be competitive. But the question is: ‘how do you carry out a rolling renovation without impacting listed status?’ Smarter approaches to retrofitting new technologies will be crucial.”

Philip Virgo, advisory board, Digital Policy Alliance
Digital drivers are changing expectations of the built environment.

1. Mobile/tech-enabled workforce
2. The smart-built environment will add value through:
   - More intelligent and connected working
   - Optimising workplace productivity
   - New revenue streams from big data insights
   - Lower energy costs from smart monitoring
   - Service expansion into smart environment maintenance
   - Workspace efficiency through analysis of use
   - Being creative in the obsolescence battle
   - Rethinking design and construction
   - Making progress in data protection
   - Flexible use of buildings
   - Sharing data and insights

3. Plugging into these benefits will require fresh thinking.

The New Real: Unlocking new gains through smart buildings

The future is ready for The New Real?
1. Risks arise from collaborating with suppliers and partners to process and analyse data. Service level agreements (SLAs) will be needed to ensure appropriate performance and delivery standards are in place.

2. As the “data owners” in many instances, occupiers need to establish clear organisational accountability of those in their supply chain to ensure that privacy and protection measures are in place.

3. In realising gains from monitoring employee workspace use patterns, or consumer footfall in retail environments, anonymisation of data, along with concepts such as “privacy by design”, will be crucial.

4. Occupiers must align the inflexible real estate owner market with the need for more flexible space to enable a more agile workforce.

The view from Charles Russell Speechlys
Preparing for the legal pressure points ahead

“Five years ago there was more emphasis on ownership, longer-term leases and surety of cost. Today, there’s total emphasis on flexibility – being able to react quickly to changing business demands.”

Robert Holmes,
Director of Corporate Property, IFDS

The New Real brings new challenges for a range of stakeholder groups. Expert legal advice and preparation will be vital if each group is to thrive in this new environment.
Owners

1. Lease models may need to adapt as occupier demand for flexible space rises. How should alteration restrictions and reinstatement obligations differ for core vs flexible space?

2. Occupiers want to move fast in adapting their environment. Will owners use industry standard agreements to speed up wayleave agreements and licences to alter?

3. Responding to occupier demands to co-share space could create risks of unknown occupiers acquiring security of tenure, risks of property damage, and difficulties with future redevelopment plans.

4. Asset and rental valuations may need to address the likelihood that owners will create new revenue streams outside of traditional rent income.

5. Owners must move quickly to secure market leading energy supplier and telecoms provisions, given potentially painful procurement processes.

6. The security of tenure for commercial leases looks increasingly obsolete, and the 1954 Act statutory regime needs revisiting, perhaps with an ability to take whole buildings out of that regime.

Tech providers / service providers

1. Tech firms and business service providers will need to develop new service level proposals around, for example, data protection and cyber-security.

2. Those pursuing acquisitions to expand their service offerings face risks, particularly when acquiring unfamiliar capabilities. They can help ensure value through clear and robust approaches to due diligence and transaction structuring.

3. The use of joint ventures and other collaborations to, for example, add capabilities in areas such as IoT or data analytics will require new risk and reward models and contractual frameworks.

4. Where new intellectual property (IP) is developed through partnering with occupiers or other groups, clear rules around IP ownership will be needed.

“Gains from smart systems will stretch far beyond energy efficiency. Consider overlaying metrics for workforce productivity and building use patterns with data on air quality and temperature – the potential insights could have a massive impact on productivity and staff retention.”

Benjamin Kott, Founder, EnergyDeck

“As we collaborate more deeply with retailers on digital, we’ll need some shared responsibility, and SLAs to agree how data is used – protection of consumers’ personal data is the single most important element of our future digital communication.”

Myf Ryan, CMO, UK and Europe, Westfield
Preparing for the legal pressure points ahead

Developers/contractors

1. Future adoption of BIM level 3 will raise questions around the ownership of BIM process, risk management and model ownership.

2. More collaborative working will impact construction insurances. The insurance market must innovate, with new insurance provisions in standard form contracts.

3. Attention to the transfer of title provisions will be of particular importance as off-site fabrication grows.

4. As the supply chain becomes more complex, there may be heightened risk of disputes in cases where there is under-delivery to the end-customer.

5. Developers are likely to face challenges from tech companies disrupting their industry. They will target occupiers with a model that prioritises technology requirements over bricks and mortar.

Investors/funders

1. The concept of an "institutionally acceptable lease", which aims to provide owners and investors with security of income over the long term, is under threat by the increasing need of occupiers for flexibility.

2. The traditional real estate model of illiquid assets balanced by bond-type income streams may be changing, with the characteristics of the asset changing, how will this fit into investors' asset allocation strategies?

3. Investors will seek access to increasingly granular data about buildings’ technology and sustainability credentials, to better assess risk exposures.

4. If occupiers are looking for hospitality services, and co-sharing space, investors may need to partner with other service providers (such as hotel operators) to retain a competitive offering.

5. Government may need lobbying to revisit the planning use class model and recognise the new flexible and blended ways of using commercial space.

"On large scale developments we see more collaboration at the planning stage, with BIM used to reduce the number of people involved in every step from the client to the end product. If we can make that scalable we’ll see it have an impact across the commercial real estate sector.”

Helen Gough, Head of Buildings & Construction, JLL

"Investors are increasingly interested in what funds are doing to improve the GRESB rating of their portfolio, with some seeking annual meetings to discuss what’s being done to improve it. They want a far more detailed understanding of its performance in areas such as energy efficiency, and health and wellbeing.”

Dan Grandage, Head of Responsible Property Investment, Aberdeen Asset Management
Explored inside:
- What is The New Real?
- What does it mean for commercial real estate?
- What are the new trends for growth in the smart era?
- What are the emerging legal pressure points?

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