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Knowledge Foundations

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- **Things you need to know this week** – Councils increase direct housing provision. Research chronicles how local authorities in England are increasingly prioritising delivery of homes to meet local needs.
- **Latest Research** from JRF, CABE, CBRE, CIOB, RICS, Savills, SI, and more.

Happy Reading!

Issue 10 – November 2021

Welcome to UCEM's monthly *Knowledge Foundations* newsletter (formally the library e-bulletin), a compendium of news and views, research and resources relating to the educational sector and Built Environment.

The UCEM Library aims to disseminate information, promote current awareness, and share good practice, to assist in the continual professional development of all those working and aspiring to work within the Built Environment/Property and Construction industries.

“The mission of librarians is to improve society through facilitating knowledge creation in their communities.”

(R. David Lankes)

The initial aim of this UCEM Library current awareness service was to help keep students and staff informed of the education sector and industry specific news, share current and best practice, highlight the latest research, and identify case studies that will support studying and supplement teaching and learning resources. However, over the years and upon request, the readership has now expanded.

We welcome news and information from readers to include in future editions - please [email us](#).

Supported Online Learning

The readership of *Knowledge Foundations* has expanded (to include Alumni) and is now promoted further afield, with the latest version appearing on the UCEM Website.

[Visit Supported Online Learning](#)

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UCEM News

Agents of change championed at the UCEM Property Awards 2021

Agents of change in built environment sustainability, ethics and equality, diversity and inclusion took home the three prizes at this year's University College of Estate Management (UCEM) Property Awards, an event celebrating an all-female cast who are driving change in the sector.

UK Green Building Council (UKGBC) chief executive, Julie Hirigoyen, became the 34th recipient of the prestigious Property Award, which recognises an organisations or individual's outstanding contribution to the property industry.

Julie was recognised for the leading role she is playing in improving built environment sustainability, particularly in tackling the environmental crisis. In her current role, Julie delivers lasting change within the industry by engaging with UKGBC members, regulators, and wider stakeholders in an effective and collaborative way.

Julie was previously UK head of sustainability and an international director at JLL where she oversaw the development of cutting-edge sustainability services to property investors and occupiers across the UK and EMEA region. Prior to this, Julie was co-founder and joint MD of Upstream, a leading sustainability consultancy. Julie is a commissioner on the London Sustainable Development Commission, chairs the Igloo Footprint Advisory Board and sits on both the Green Construction Board and Grimshaw's Stewardship Group. Most recently she was appointed as a trustee of the purpose-driven charity **Blueprint for Better Business**.

UCEM Principal, Ashley Wheaton, used his speech to praise the efforts of the institution's staff over the past couple of years during challenging circumstances.

UCEM Chair, Amanda Clack, used her first speech in the role at the awards to highlight three areas in which the institution is progressing well: apprenticeships, finance and taught degree awarding powers.

Amanda shared her pride in the fact that UCEM is the number one provider of surveying degree apprenticeships, that the 2019/20 financial year recorded a surplus, enabling the university to be run sustainably and reinvest its profits into resources to benefit students, and that UCEM is another step closer to gaining taught degree awarding powers after submitting its documentation to the Quality Assurance Agency (QAA) last week.

Amanda touched upon the recent National Student Survey (NSS) in which UCEM received 91.38% satisfaction in response to the

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specific question evaluating student satisfaction with delivery of learning and teaching of courses during the COVID-19 pandemic, contrasting it to the 47.57% sector average.

Earlier in the day, the seventh recipients of the Alumni Award and Academic Excellence Award were revealed by UCEM Principal, Ashley Wheaton.

Rachel Ricketts – a senior project manager at residential property developer, Vabel Ltd – won the Alumni Award. Rachel graduated with a postgraduate diploma in surveying from UCEM, having previously gained a BEng (Hons) Civil Engineering from the University of Birmingham.

Rachel is passionate about changing the image of construction to make it a more attractive option for young people, women and those who come from an ethnically diverse background.

UCEM MSc Quantity Surveying alumna, Sam Dawson, scooped the Academic Excellence Award for her dissertation entitled 'An investigation into avoiding non-compliant tenders in private UK construction'.

The study identified and analysed contractors' reasons for submitting non-compliant tenders. These were used to propose a guideline that was tested. The analysis showed that over 50% of the final guideline tested 'highly likely' to avoid tender qualifications and would be adopted by the cost consultants.

Sam is pleased the study will make a positive impact within the industry and is hoping this will further ensure tenderers are treated fairly – an attitude she takes to all aspects of life.

Access the article '[Agents of change championed at the UCEM Property Awards 2021](#)' in full.

Also:

UCEM's class of 2020 celebrated at Reading Town Hall

Graduates donned mortar boards and gowns at a UCEM graduation on Saturday 4th September – the first such event held by UCEM since 2019.

Access the article '[UCEM's class of 2020 celebrated at Reading Town Hall](#)' in full.

UCEM tutors inspire secondary school students with real estate workshop

Young minds were inspired by a taste of working within the real estate industry after two UCEM tutors led an interactive workshop.

UCEM real estate programme leader, David Hourihan, and UCEM real estate and management tutor, Dr Jan Wilcox, tasked students at Bulmershe School with designing a redevelopment scheme within a time limit. Last month's (July 2021) workshop, run over

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Zoom, saw four groups of students from years 10 and 12 present their scheme to David and Jan, who, as members of a fictional town council, judged the best scheme.

UCEM student outreach manager, Nikki Bulteel, facilitated the opportunity which was organised by the Urban Land Institute as part of its UrbanPlan UK initiative designed to generate interest in real estate for 15-18-year-old students.

David reflected: "It is a really nice example of UCEM promoting the real estate industry to the next generation and of UCEM connecting with secondary school students.

"I am not sure who felt more inspired afterwards, the students or Jan and I! We were both very impressed. They were a great group of students."

Jan added: "For me, despite it having to take place on Zoom, I really enjoyed seeing how fully engaged the students were in their tasks. The sheer energy created in the room as they worked together was inspiring.

"I was particularly impressed with the way they were able to produce such professional presentations in a very tight time period. They were also very quick to answer our questions in a reflective and persuasive way.

"I wish UrbanPlan has been around when I was at school as, if so, I would have gone straight into working in the built environment!"

For more information visit [UrbanPlan UK](#).

Access the article '[UCEM tutors inspire secondary school students with real estate workshop](#)' in full.

City 2040. The pressures on UK cities: An opportunity for change



© UCEM 2021

- The days of clogged sweaty commutes, ferrying workers into a single city centre could be numbered, according to a new study.

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City 2040, proposes how UK cities need to change post-pandemic enabling the real estate industry to flourish over the next 20 years, and use these changes to benefit both the environment and the wellbeing of people.

Key elements of this vision include adapting single city centres to broaden their appeal, and the addition of smaller hubs within a city's bounds. This will create more localised areas with unique identities and more widely accessible urban green space, all of which will benefit the environment.

The research, released by international law firm, Taylor Wessing, together with think tank, the Edge, and UCEM, harnesses ideas offered by 600 academics and experts drawing conclusions and new solutions for industry professionals to consider.

The trio of organisations created the research to deliver for the first time a holistic vision, informing best practice for cities across the UK to support government bodies and policy-shapers, property investors and developers, space creators and curators.

City 2040 aims to:

- assist policymakers by setting out a shared vision for UK cities looking ahead to 2040
- recommend a series of innovative approaches and solutions to support well-integrated city-making with lasting benefits for us all, and the industry.

Research included reviewed literature and also contributions from groups of expert industry leaders who came together to debate views and share ideas pre-launch.

UCEM Principal, Ashley Wheaton, commented: "Not only is UCEM the leading provider of supported online education in the built environment but the institution, under our current leadership group, is increasingly a driver of change in the sector. Where opportunities exist to create a better built environment, we will take them, and the publication of *City 2040*, created alongside Taylor Wessing and the Edge, is a powerful example of this.

"We can't afford to wait any longer when it comes to driving sustainable change, and this is one of the key features of the publication which we hope will lead to actions taken to ensure UK cities are dynamic places to live and work in."

Taylor Wessing partner Adam Marks, who led on the project, said: "COVID-19 has acted as a reset for how we think about the way we work and live. Our built environment must reflect this.

"The pandemic has accelerated this change, but it isn't the only factor influencing how we live and work. We also have a climate crisis, and as we rebuild and reassess our futures, we must use this opportunity to make changes which benefit all of us and our planet.

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“By focusing on four of the distinct themes prominent throughout the results of our research together, *City 2040* sets out a vision for how this can be done. Our aim is to provide more clarity to some of the white noise on city development, deliver new solutions and offer alternative options to support how our cities are shaped more effectively to serve our future.”

Simon Foxell, from the Edge, added: “*City 2040* offers a hopeful vision of how cities, including London, could look in 20 years’ time.

“A city built and adapted to this vision could be a welcoming and inclusive place for all. Great cities like London have been known to fail on the equity front, making life harder for our most disadvantaged communities.

“A growth plan, which takes into account the needs of all, is the best way forward.”

To read the research report in full, head to the UCEM [‘Latest publications’ webpage](#).

Access the article [‘New research sets out vision for UK cities in 2040’](#) in full.

UCEM signs up to CIC’s new ‘carbon zero’ climate action plan

UCEM is one of the institutions which has signed up to the Construction Industry Council’s (CIC) new climate action plan.

The document, entitled ‘Carbon Zero: the professional institutions’ climate action plan’, was released last week and coordinates the efforts of built environment institutions in meeting the UK government’s 2050 net zero emissions target.

CIC’s Climate Change Panel, chaired by its deputy chairman, Stephen Hodder MBE, led on the initiative, with signatories to the plan agreeing that:



CIC BUILT ENVIRONMENT
PROFESSIONS TOGETHER

Carbon Zero: the professional institutions’ climate action plan

The signatories to this Action Plan agree that:

- the actions listed are necessary for dealing with the challenge of climate change;
- they will implement those actions appropriate to them as an institution/organisation; and
- they will support the other signatory institutions and organisations in delivering the remaining actions

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To read the plan, head to the [CIC news story – ‘CIC launches a Carbon Zero climate action plan for Professional Institutions’](#).

[Access the article ‘UCEM signs up to CIC’s new ‘carbon zero’ climate action plan’ in full.](#)

UCEM joins campaign to drive better gender balance at board level

UCEM is now a member of the 30% Club – a global campaign with chairs and CEOs of the world’s biggest companies committing to better gender balance.

The 30% Club’s mission is to reach at least 30% representation of women on all boards and senior leadership teams globally – an objective that aligns with UCEM’s strategic objective to widen participation.

As an employer with a Board of Trustees with 50% female representation, UCEM is keen to advocate for greater gender balance, as well as increased diversity and inclusion at board level across organisations.

UCEM Principal, Ashley Wheaton, and UCEM Chair, Amanda Clack, are the institution’s representatives in the 30% Club.

Ashley commented: “Gender balance is just one of the areas covered in our Widening Participation Strategy. We are fully committed to bringing greater diversity to the built environment by increasing the numbers of diverse students we educate. This is not only part of our plan but is a yardstick by which the entire higher education sector is judged.

“Joining the 30% Club, therefore, allies’ actions to words and, whilst the campaign’s headline mission is related to gender balance, further down the line, there will be efforts to increase diversity and inclusion in other ways. I look forward to working with the organisation to drive change in boardrooms across the UK.”

Amanda added: “Diversity and inclusion is something I am very passionate about. I have worked in a male-dominated industry and worked at the highest level, but it isn’t commonplace for boardrooms to have even 30% female representation.

“Now, as Chair of a Board of Trustees where the male-to-female ratio is 50:50, we are keen to support initiatives which level the playing field, and the 30% Club is a great example of an organisation attempting to influence widespread change using a top-down approach.”

When the 30% Club launched in 2010, the percentage of women on FTSE 100 boards was 12% and this spawned the initial aim to increase this to 30%.

[Access further information about the 30% Club,](#)

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[Access more information on UCEM's diversity and inclusion objectives](#)

[Access the article 'UCEM joins campaign to drive better gender balance at board level' in full.](#)

Other UCEM News

COVID-19: UCEM Management response to COVID-19

Our sincere thoughts are with those affected by COVID-19 and its impact around the world.

Further information and the latest developments can be found via the [UCEM Website](#), & **don't forget** that the UCEM [e-Library](#) can be accessed 24/7 (via the VLE-Virtual Learning Environment) with a wealth of valuable resources to help 😊. If you have any further questions, please contact:

- Student enquiries – Student Central on our VLE
- Employer enquiries – businessdevelopment@ucem.ac.uk
- Other enquiries – reception@ucem.ac.uk, Tel: +44(0)118 467 2100

[UCEM's class of 2020 celebrated at Reading Town Hall,](#)

[UCEM adopts IHRA's definition of antisemitism,](#) and



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[UCEM reasserts its commitment to organisational excellence with Advance HE membership](#), ensuring continued access to vital resources and supporting valuable partnership across the Higher Education sector.

- [Access further information on Advance HE.](#)
- [For more on UCEM's ambitions, take a look at the Institution's Vision and Strategy brochure](#)

[Keep abreast of the latest UCEM News and events](#) – and read our blog to keep updated on Building Environment industry insights, student case studies, and thoughts from UCEM Principal: Ashley Wheaton

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Other News

Things you need to know this week: Councils increase direct housing provision.

- Research chronicles how local authorities in England are increasingly prioritising delivery of homes to meet local needs.

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England's local authorities are stepping up activity to deliver homes through routes such as directly owned housing companies, with 80 per cent now reporting they are directly engaged in provision of housing, up from 65 per cent in 2017, according to new research. Meeting housing requirements, tackling homelessness, and improving design are the top drivers for action, says the report by Professor Janice Morphet and Dr Ben Clifford of the Bartlett School of Planning at UCL. The report, Local authority based on desk research and a survey of England's 343 authorities. The researchers found that local authorities delivered more than 20,000 homes of all tenures in 2021, more than double the 8,992-home total from the survey published in 2019. Professor Janice Morphet said of the findings, "The third wave of research into how local authorities are directly engaging in housing provision shows that this has moved from a marginal to a mainstream issue. Our research in 2017, 2019 and now 2021 shows that councils are increasingly prioritising the delivery of housing – particularly affordable provision."

Other developments include –

- Swansea Council has appointed developer Urban Splash as its preferred partner to take forward development plans for key sites including the transformation of its civic centre site into a mixed-use district. Other sites identified for development include Swansea Central north at the former St David's shopping centre, which could be redeveloped with office space, apartments, and shared workspaces.
- The government has announced measures to develop its levelling up agenda, appointing former Bank of England Andy Haldane to head a new taskforce on the issue and renaming the Ministry of Housing, Communities and Local Government the Department for Levelling Up, Housing and Communities.
- A social impact investor backed by Lloyds Banking Group and government agency Homes England has launched a £300 million fund to support small and medium and regional housebuilders. The Housing Growth Partnership will support projects with a development value of up to £75 million, with development scope including build to rent, regeneration and retirement living.
- The creation of neighbourhood improvement districts improved public transport connectivity and a reboot of Homes England to drive regeneration are among the recommendations of a commission looking at how to improve quality of lives in under-valued neighbourhoods.
- City of Wolverhampton Council is marketing a city centre site with potential for around 1,000 homes.
- University of Cambridge has appointed developer Present Made to deliver almost 370 single family homes for rent as part of its masterplan for the new neighbourhood of Eddington in Cambridge.

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[Read the full 'Need to Know: Government allocates £8.6 billion for affordable homes' article.](#)

(Please note that you will need to register to access these stories in full, although you can 'Register free for limited access.' Visit the website, scroll to the base of the homepage, and note access route within 'Subscription and Registration').

Case Study: Redeveloping a civic centre site with homes

- Hounslow Council's civic centre has moved to the town centre, freeing up its former west London site for redevelopment with almost a thousand homes, the author of this article finds.

The imperative to release council owned land for housing, a drive for town centre regeneration, sharing of services across local authorities and financial constraints are all prompting many local authorities to look to redevelop or find new uses for traditional town halls and civic centres.

Among the candidates for redevelopment are the civic centres built in the twentieth century, with their often sprawling layouts, extensive surface car parks and significant sites. One example was Hounslow Council's civic centre in west London, a building dating from the 1970s and comprising four linked groundscraping pavilions. In a complex and long-running project, the old civic centre has been demolished and replaced by a smaller, more energy efficient new building in a more central location in Hounslow's town centre, making way for almost a thousand homes to be developed on its former site.

The council is working in partnership with housing association Notting Hill Genesis to realise this ambitious project, which is now at a key stage in its progress. Its first phase – to redevelop the civic centre and develop a small amount of housing – is now complete, having been delivered in collaboration with developer Linkcity and its contractor Bouygues. The second phase, which comprises the bulk of the housing, is being delivered once again in a joint venture, of Notting Hill Genesis and developer Hill Group, and is now getting under way.

Challenges

Hounslow Council's old civic centre occupied a site away from the town centre, in a predominantly residential area and flanking the 16-hectare green space of Lampton Park, all factors that made this an ideal location for residential redevelopment. But making such a large-scale transition is costly and complex, with construction of the new civic building needing to be funded before the new housing could provide cross-subsidy for its delivery – and council operations needing to continue throughout the redevelopment.

Funding challenges were overcome by action on numerous fronts. A funding arrangement – put in place by Linkcity working with

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banking group BNP Paribas - obviated the need for upfront public funding, the development partners secured early Housing Zone funding from the London mayor and an early start on an unoccupied part of the civic centre site enabled a small number of homes to be delivered.

“Every big site has its challenges, and what has been unique here has been the partnership arrangement with the council,” says John Hughes, group development director of Notting Hill Genesis. “While the council was operating from its existing site, we needed to build the new civic centre in the town centre for them to move into, so there were logistics challenges around the timing.”

The second phase has brought its own challenges, notably in demolishing the old civic centre. “There were a lot of things in the ground – including reinforcement and really thick concrete,” adds Hughes. Now that demolition is complete, the focus is shifting firmly to housebuilding and the new neighbourhood.

Solution

The new civic centre, designed by architect Sheppard Robson to have significantly reduced running costs and be ultra-sustainable, officially opened in April 2019. This houses not only offices and a flexible council chamber which can also be used as an event space, but also community and council services, including adult education classrooms.

The old civic centre site is being redeveloped with 919 homes in all, with 459 homes being for private sale, 370 for shared ownership and 90 for affordable rent. The masterplan by architect Allies and Morrison creates a street structure that reintegrates the site into its context, with brick faced buildings and landscaped spaces giving the development its own distinctive sense of place.

The second phase, which is called Lampton Parkside, comprises 780 homes in a diverse range of types. There are studios, one and two-bedroom apartments, three-bedroom duplexes and a single house, with 563 of the homes being earmarked for private sale and 217 for affordable rent.

The first homes are due for completion late next year, but the whole development is not expected to be built out until 2029. As a long-running project, construction offers scope to create jobs and training opportunities, and Hill deputy chief executive Greg Hill says the firm has a commitment in place. “Across all of our sites, we are committed to apprentices from local areas making up five per cent of our workforce. At Lampton Parkside, that equates to 20 apprenticeship roles, and we are also offering entry level job starts, work placements and funded training for local people,” he explains.

Notting Hill Genesis also has a long-term commitment to the project. “The scale and duration of the housebuilding here – at 10 years – create their own challenge, as this will take in a number of property market cycles,” explains Hughes. Already the

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development has gone through the market fluctuations of the pandemic, which prompted some planned shared ownership homes in the first phase to be transferred to the council for social rent. Its scale does, however, mean the site is significant in its potential to help meet housing need in the capital. “It is unusual to have such a large site in London and to have green space alongside it,” says Hughes.

Read the Case Study entitled, ‘Redeveloping a civic centre site with homes’ in full.

(Please note that you will need to register to access these stories in full, although you can ‘Register free for limited access.’ Visit the website, scroll to the base of the homepage, and note access route within ‘Subscription and Registration’).

Advice: Managing the impact of urban air pollution

- Layout and design of streets and developments can help manage the air quality for residents in new and existing housing, as the author of this article finds.

Poor air quality is an important public health issue, accounting for up to 36,000 attributable deaths each year in the UK and being linked to incidences of strokes, heart attacks, asthma, dementia, low birth weight and poor lung development in babies. “With high density development taking place in urban areas, design and planning strategies are needed to help improve air quality within the city, reducing exposure to air pollution for all those who work or live there,” says Luke Hillson, design director at consultancy Barton Willmore. “Individual developments, as well as streets, need to be planned and designed to ensure that pollution can disperse,” he says.

Here are six ways to manage the impact of air pollution in urban areas.

1. Tackle air pollution at source

Reducing the sources of pollution, which in urban areas are mainly vehicles, is the most effective way to improve air quality.

“Effective planning can reduce the need to travel by car to workplaces, schools, shopping and leisure facilities by ensuring new dwellings are in areas where facilities are readily available, or alternative transport modes are available,” says Jessica Virdo, senior consultant at environmental consultant Ricardo.

2. Offset the impact of development

When sites are being allocated for housing development in the local plan, air quality issues need to be considered. “It can affect the amount of housing on a site, or mitigation measures may be needed which can then later be negotiated with the developer,” says Virdo.

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“Some councils have drawn up supplementary planning guidance alongside their local plans which sets out their requirements for how developers assess the impact of their schemes on air quality and mitigation measures, which could require monitoring and/or modelling,” says Sarah Horrocks, practice manager for air quality and emissions at consultancy Atkins. “Some local authorities require developers to make a financial contribution to improve the air quality in the neighbourhood,” she says. “Contributions towards public transport or the charging network for electric cars may be required from developers to offset the development impacts.”

3. Take a neighbourhood approach

“Smaller housing developments and other changes in the local environment can affect air quality,” says Anthony Mysak, portfolio manager at Impact of Urban Health, a consultancy seeking to address health inequalities by focusing on complex health issues that disproportionately affect people living in cities.

“Regular monitoring is required to see how the environment is changing as new housing is built,” he says. “Children are particularly affected by poor air quality and working with local schools can help to look at strategies for reducing the impact.”

4. Avoid the canyon effect

New development should be designed in a way that allows for natural ventilation. That means creating wider streets, which have a sufficient airflow. “High rise development on either side of a high street can affect the air quality,” says Ricardo’s Virido. “Without airflow, a street canyon effect can be created because the pollution cannot disperse.”

The development needs to be orientated so that the airflow is maximised, but a wind tunnel effect should be avoided. This can be achieved by breaking up the flow with irregular building frontages. “Balconies should be designed so that they project out, rather than being within the building frontages,” says Zuza Jakubiak, now an architect at Luxemburg based Christian Bauer Architects. Whilst working at UK architect Hawkins\Brown, she developed a matrix to analyse site conditions and solutions to address impact on air quality from development. “If the balcony is set into the external façade, it can actually trap pollution,” she points out.

Rooms in flats that are heavily used should be orientated away from busy streets. “Opening windows should look out away from the busy street,” says Barton Willmore’s Hillson. “But it’s still important to get light into the homes and, where possible, to get through draughts,” he adds. “Mechanical ventilation systems can introduce fresh air into homes from behind or from the roof of the buildings but are not always effective and use quite a lot of energy.”

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5. Mix uses

Pollution tends to be localised and concentrated at lower levels. “It is desirable to put the commercial uses at ground level with the housing above,” says Jakubiak.

On Hawkins\Brown’s Tigers Way housing development in Hackney in north London, two podiums at first floor level were created for open space. One was used for the playground for the new school in the development and the other was for a garden for the residents in the flats in the towers.

6. Exercise care with landscaping

“Wide pavements with grassy verges planted with trees and other shrubs can help absorb and filter pollution,” says Hillson.

But he warns that, “if it is too dense, the planting can add to the canyon effect because pollution will be trapped in it and not be carried away by the airflow.”

[Further information and read the article, ‘Advice: Managing the impact of urban air pollution’ in full.](#)

(Please note that you will need to register to access these stories in full, although you can ‘Register free for limited access.’ Visit the website, scroll to the base of the homepage, and note access route within ‘Subscription and Registration’).

UK sets ‘most ambitious’ climate target to cut emissions by 78% by 2035



[Image: courtesy Ed Hawkins]

(Climate stripes as shown in this image are sometimes referred to as warming stripes, or climate timelines and are data visualization graphics that use a series of coloured stripes chronologically ordered to visually portray long-term temperature trends.)

- The UK government has set the ‘world’s most ambitious’ climate change target into law to slash emissions by 78% by 2035 compared to 1990 levels.

[Access further information and the PBC Today article, ‘UK sets ‘most ambitious’ climate target to cut emissions by 78% by 2035’, in full.](#)

BBC Latest – Climate

[Is the UK on track to meet its climate targets?](#)

- With a month to go (see publication date) until the UK hosts a global climate summit, is the government on track to meet its own commitments?

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[Access the BBC News, Latest Climate reality check](#)

COP26: What is the Glasgow climate conference and why is it important?

COP26: COP stands for Conference of the Parties. Established by the UN, COP1 took place in 1995 – this will be the 26th.

This article covers:

- What is COP26 & why it is happening?
- What will be decided at COP26?
- How will COP26 affect me and how will we know COP26 is a success?

More on climate change

- [Simple guide to climate change](#)
- [What will climate change look like for you?](#)
- [How extreme weather is linked to climate change?](#)

[Access the BBC article, 'COP 12: What is the Glasgow climate conference and why is it important?' in full](#)

Please also visit the '[Sustainability Hub](#)' within *Knowledge Foundations* for further information and related articles that include '[Countdown to COP26](#)' - the UN Climate Change Conference UK 2021.

BBC Latest - Coronavirus – latest developments [October 2021]

Coronavirus pandemic – Your Coronavirus Stories incl.

- Plan A or Plan B – what could happen this winter?
- Freshers' Week, lectures, and the return to university,
- Tracking Covid incl. Postcode check: what can you do where you live?

[Access the BBC News, Latest Coronavirus pandemic news](#)

Related Link: Coronavirus: Why some people want to keep working from home –

[Access the BBC News article entitled, 'Coronavirus: Why some people want to keep working from home', in full.](#)

The evolution of building surveying education during COVID-19

- In January and February 2020, as the pandemic was starting to gain momentum and spreading around the globe, universities in the UK were beginning to consider how to react. As a sector, UK higher education is relatively familiar with web-based methods of communication, teaching, and learning.

In fact, the University College of Estate Management (formerly the College of Estate Management) and the traditional home of RICS correspondence courses, operates their business totally online.

A lot of universities operate a Virtual Learning Environment (VLE) which allows them to communicate with their students and

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provides the opportunity to interact with them in terms of online courses and assessments, and as a depository for learning materials.

This is allowing the students to revisit the materials to embed or reinforce their learning or to catch up if a session was missed. Common VLE's include Blackboard, WebCT, and Moodle. Their functionality and features are all relatively similar.

Although the physical libraries were closed, universities operate electronic libraries which offer access to a large number of electronic databases, and a growing number of books and journals, ensuring that the students and staff, can continue to access the majority of relevant information for their studies and research.

[Further information and access to the article 'The evolution of building surveying education during COVID-19', in full.](#)

[Access further information about UCEM's Supported Online Learning > e-Library.](#)

Will COVID-19 accelerate construction's digital transformation?

- With many industry professionals forced to work remotely, is now the perfect time for construction to get up to speed with all things BIM and digital? *Construction Manager* magazine finds out if the coronavirus will change the way we work forever.

David Philp – Global BIM/MIC consultancy director, AECOM says, **“It's an opportunity to rethink how we can use technology and innovate.” (Philp 2020)**

Mark Boyle – Global design direct, Robert Bird says, **‘Our digital processes lend themselves to remote working.’ (Boyle 2020)**, and Gary Fannon – Technology director, Turner and Townsend says, **‘Early digital adopters will be reaping the rewards.’ (Fannon 2020)**

Andrew Gamblen – Digital manager, Willmott Dixon says, **‘People will become more comfortable collaborating remotely.’ (Gamblen 2020)**

Richard Saxon – CBE Chairman of JCT, client adviser at Deploi BIM Strategies says, **“Wartime scenarios” will push the digital agenda.’ (Saxon 2020)**

[Read the *Construction Manager* article 'Will Covid-19 accelerate construction's digital transformation', in full.](#)

Related links:

What will the post-pandemic office look like? - With remote working seemingly here to stay, anecdotal evidence suggests that firms are looking to cut office space by up to 40%. How is the workplace having to evolve to remain relevant?

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[Read the *Construction Manager* article, 'What will the post-pandemic office look like?' in full.](#)

'Generation Work from Home' – the impact of default flexible working - The UK government has announced proposals to make flexible working a 'day one' right for employees, as part of reforms to the Flexible Working Regulation 2014.

[Read the Shoosmiths article, 'Generation Work from Home' – the impact of default flexible working' in full.](#)

Free content related to Coronavirus, the management of epidemics and the wider impact on society



© Emerald Publishing 2021

Emerald Publishing, one of the UCEM e-Library subscription services, have brought together a number of research resources related to the Coronavirus group of viruses, and epidemics more broadly.

Emerald collated research and the management of epidemics and made it freely available to assist practitioners and researchers who are working to tackle the current situation and likely consequences. Whilst these materials do not only relate to the current clinical challenges of Novel Coronavirus, but they may also provide relevant context to how the world reacted to other previous Coronavirus outbreaks (notably SARS) and epidemics.

[Access Emerald Publishing's 'Coronavirus, the management of epidemics and the wider impact on society'](#)

Covid-19 and the impact on business

HSTalks

© Henry Stewart Talks Ltd 2021

HS Talks - Interviews with academics and experts from the business community, on the impact of the Covid-19 pandemic, are now available in the HS Talks 'Business & Management' collection that UCEM subscribes to.

1. [The impact of Covid-19 on organisations](#)
2. [The impact of Covid-19 on psychological safety in the workplace](#)
3. [The impact of Covid-19 on cybersecurity and data privacy](#)
4. [The impact of Covid-19 on tourism](#)

Latest News: *Construction Manager* (CM)
[October 2021]

Building services: How ready are we for heat pumps?

- As Glasgow gears up to host the UN Conference on Climate Change, the author of this article examines how well-prepared

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construction is to deliver the heat pumps the government hopes will form a key plank of its net zero emissions strategy.

The government's much-heralded 'green revolution' is coming. As the UK prepares to host the UK's Climate Change Conference (also known as COP26) in Glasgow shortly (see publication date), it has already set out targets to achieve net zero carbon emissions by 2050.

The built environment – and in particular low-carbon technologies such as heat pumps within building both new and existing – is key to the government's ambition.

Access and read the article in full,

Gerrard, N (2021) '[Building services: How ready are we for heat pumps?](https://constructionmanagemagazine.com/building-services-how-ready-are-we-for-heat-pumps/)', *Construction Manager* [online], 5 October. Available at: <https://constructionmanagemagazine.com/building-services-how-ready-are-we-for-heat-pumps/> [accessed 8 October 2021]

Latest News: Global Construction Review (GCR) **[October 2021]**

The Philippines' Bicol Airport opens after 11 years of arson, crash-landings and delays

- Bicol International Airport in the south of the Philippine Island of Luzon has opened to the public after 11 years of delays.

Located in Barangay Alobo, 15km from the active Mayon Volcano, Bicol Airport's construction has been dogged by arson and gun attacks. When fully operational, Bicol will accommodate 2 million passengers a year, and will replace the Legazpi Domestic Airport.

Access and read the article in full,

Quirke, J (2021) '[The Philippines' Bicol Airport opens after 11 years of arson, crash-landings and delays](https://www.globalconstructionreview.com/the-philippines-bicol-airport-opens-after-11-years-of-arson-crash-landings-and-delays/)', *Global Construction Review* [online], 7 October. Available at: www.globalconstructionreview.com/the-philippines-bicol-airport-opens-after-11-years-of-arson-crash-landings-and-delays/ [accessed 7 October 2021]

Shoosmiths UK law firm Insights and Articles

- Read the latest insights, articles, and commentary from Shoosmiths UK law firm or explore their content library, or listen to the latest podcasts **[October 2021]** surrounding sectors such as **Real Estate** that include:

UK Cities Investor Guide

- With the UK climate change conference taking place in Glasgow this year (2021), "collaboration" seems to be the watchword when to talk to anyone in the thick of the work going in to cut carbon emissions. And it's a recurring theme across many of the pages in EG's special climate action edition of *UK Cities* to mark COP26, of which Shoosmiths is a sponsor. Keywords – **Real estate, Doing business in the UK, COP26**

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Hydrogen – producing the future?

- On 17 August 2021, the UK Government presented its Hydrogen Strategy (the “Strategy”) to Parliament. The 120-page document sets out the Government’s ambition to develop a thriving hydrogen sector in the UK.

Nottingham – creating a sustainable city

- Nottingham is set to become an international beacon for green development as it undergoes a multi-billion-pound transformation. But how will this benefit business?

How real estate can make smart use of smart tech

- As a smart city pioneer, Leeds has led the charge in developing new technologies in recent years to improve and enhance the experience of people visiting, living, and working in the city, giving it a fantastic platform from which to grow.

The city centre and the road to net zero

- The unexpected happened in 2020. The world shut down. Physical human interaction stopped and we had to go digital.

The future of build-to-rent market Real Estate Podcast series Podcast – Government policy BTR (Build to Rent)

The future of the BTR market from Shoosmiths’ Living team:

Podcast series #1 – The future of BTR (Build to Rent)

Issues discussed in this podcast include:
Performance of the sector; Rent collection rates; Challenges of lockdown restrictions; How buildings and amenity space will change as a result of the pandemic; and where the market is going.

Podcast series #2 – The future of BTR (Build to Rent)

Issues discussed in this podcast include:
Ongoing attractiveness of the sector; Top three things to look for in a BTR scheme; Future challenges for BTR; The role of technology, and BTR housing.

Podcast series #3 – The future of BTR (Build-to-Rent)

In this podcast, the last in this series, issues discussed include:
Planning reforms; Permitted development rights; Rise of residential in the high street; Fire Safety; and Rent controls / regulations.

The Pathway to Lifelong Education: Reforming the UK’s Skills System

- The UK has a longstanding skills problems which is impacting on economic growth. Adult participation in learning has declined, particularly among part-time students, while fewer people in work are taking up training to reskill or upskill. More generally, there is a shortfall in vocation and higher technical qualifications.

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In this first report, with Ashley Wheaton, Principal, University College of Estate Management acknowledged as one of the contributing experts, the Lifelong Education Commission seeks to recommend how the barriers to adult learning can be removed; what future investment is needed to support this; and what change is needed to ensure the maximum flexibility that will benefit learners and deliver on the promise of a whole system change for lifelong education.

The Report makes a series of recommendations for reform, including:

- A single source of careers advice, to 'professionalise' and regulate careers information, advice and guidance
- Means-tested Maintenance Grants for learners over and above the Lifelong Loan Entitlement, in order to subsidise costs and encourage uptake, particularly among those for whom debt is a barrier
- The abolition of the Equivalent or Lower Qualification (ELQ) rules, to support retraining at higher levels
- Extending the Apprenticeship Levy to cover a wide range of high- quality training, including short modular courses, in order to provide additional flexibility and incentivise employer investment in skills training
- Stronger HE-FE partnerships to provide integrated pathways to higher-level skills; and alignment with industry and online providers to enable better coordination between schools, colleges, universities, and employers.
- Reform of the regulatory framework to simplify the jurisdiction between multiple qualification bodies;
- Learning lessons from Scotland, where 'articulation agreements' offer clear routes between FE and HE allowing students with Higher National Certificates and Diplomas to access the second or third years of degree programmes.

Access the summary and report, 'The Pathway to Lifelong Education: Reforming the UK's Skills System' in full.

Related Links:

FE news.co.uk (2021) '[Reforming the UK's Skills System – First Report from the Lifelong Education Commission](#)'[online]. Available at: www.fenews.co.uk [accessed 8 October 2021]

Learning and teaching reimagined - Exploring the 2020 experience as well as the changing aspirations of the nature and shape of learning and teaching for the future.

Maguire D, Dale L, and Pauli M (2020) [Learning and teaching reimagined: a new dawn for higher education?](#) Bristol: JISC

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New guidance from CIRIA - Construction Industry Research and Information Association

CIRIA is pleased to announce [[October 2021](#)] new [free CIRIA practice guidance](#) that include:

Code of practice for property flood resilience (C790) –

This guidance provides confidence on the use of the standards within the code of practice that provides a benchmark for those procuring and delivering property flood resilience (PFR).

The Management of advanced numerical modelling in geotechnical modelling (C791) -

This guide provides a framework for those who oversee the process, provide the information needed for this task and use the results of the numerical modelling.

Methodology for quantifying the benefits of offsite construction (C792) -

This guidance proposes a framework for comparing construction approaches, making it possible to keep consistent records across projects and identify all the possible benefits available.

Other guides include:

Retrofitting ground gas protection measure (C795)

Grouted anchors and soil nails (C794)

Grenfell Tower Inquiry – latest developments

- The Grenfell Tower Inquiry was created to examine the circumstances leading up to and surrounding the fire at Grenfell Tower on the night of 14 June 2017.

Latest update [[October 2021](#)]

Phase 2 hearings – Hearings are streaming live. A timetable of the week is available via the [Grenfell Tower Inquiry website](#).

Remote Hearings / COVID-19 information – The Inquiry takes health and safety guidance extremely seriously. Following a full risk assessment, it has put in place arrangements to ensure social distancing is maintained in all parts of its venue.

Drop-in sessions – The next monthly drop-in sessions for BSRs and members of the public will be on **Thursday 28 October** from 16:30-18:00 at the Notting Hill Methodist Church, 240 Lancaster Road, London W11 4AH.

Phase 1 Report – The Inquiry has published its report on Phase 1 of its investigations.

Latest update from the Inquiry [[October 2021](#)] - The Inquiry has published an update on the resumption of hearings. This update provides a digest of:

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• **Hearings update** - The Inquiry has published an update on its plans to return to limited attendance hearings, • **September 2021 Newsletter** – The Inquiry has published an update on its work.

[Read further information from the 'Grenfell Tower Inquiry' website.](#)

Related Links:

Cladding: Panels failed fire tests 13 years before Grenfell -

Leaked test results suggest the government and construction industry had early evidence of the dangers posed by cladding, 13 years before the Grenfell Tower fire.

Panels, commonly used on buildings in the UK, failed fire tests carried out in 2004. The Inquiry venue at 13 Bishop's Bridge Road, London, W2 6BU. The results, marked "Commercial in confidence", were circulated within an industry advisory group.

They were recently passed to the BBC (see publication date) and, until now, never made public.





Hundreds of thousands of flat owners are now threatened with large bills because of construction materials which pose a risk in fires.

The 2004 results were among the first from a British test of full-scale building systems, developed in the late 1990s when there were growing concerns in Parliament about the risks of cladding.

The tests were part of research commissioned the then Labour government to determine what standards building systems should have to meet.

Symonds T (2021) '[Cladding: Panels failed fire tests 13 years before Grenfell](#)', *BBC News* [online], 16 September. Available at: www.bbc.co.uk/news/uk-58584348 [accessed 17 September 2021]

Related Topics

-  [Construction industry](#)
-  [UK fire safety](#)
-  [Grenfell Tower fire](#)
-  [Grenfell Tower Inquiry](#)

Government details fire safety-related changes to planning system

- The government has released details of new requirements in the planning system to bolster fire safety in high-rise residential buildings, in response to the Grenfell Tower Fire.

The changes come in the Ministry for Housing, Communities and Local Government's (MHCLG) plans to introduce '[planning gateway one](#)', which it said would deliver on one of Dame Judith

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Hackitt's recommendations following her independent review of Building Regulations and fire safety.

The new requirements aim to ensure fire safety matters as they relate to land use planning are incorporated at the planning stage for schemes that involve high-rise residential buildings.

The changes, which come into effect from **1 August 2021** will:

- involve the Health and Safety Executive (HSE) becoming a statutory consultee before permission is granted for development which involves or is likely to involve a high-rise residential building.
- require relevant applications for planning permission to include a fire statement to ensure applicants have considered fire safety issues as they relate to land use planning matters such as layout and access.
- help inform effective decision-making by local planning authorities or the secretary of state so that those decisions reflect and respond to the needs of the local community.

The new requirements will be introduced by making amendments to the Town and Country Planning (Development Management Procedure) (England) Order 2015.

As announced in the Queen's Speech (11 May), the Building Safety Bill is also expected to be introduced this year, which will establish a new building safety regime in England.

[Further information and access to the *Construction Manager* article, 'Government details fire safety-related changes to planning system', in full.](#)

RIBA Stirling Prize 2021

The RIBA Stirling Prize is the UK's most prestigious architecture award. The award is given to the architect of the building thought to be the most significant of the year for the evolution of architecture and the built environment.

RIBA Stirling Prize shortlist 2021 included: (i) [15 Clerkenwell Close](#), (ii) [Cambridge Central Mosque](#), (iii) [Key Work Housing, Eddington, Cambridge](#), (iv) [Tintagel Castle Footbridge](#), and (v) [Windermere Jetty](#), and the **WINNER**, announced on 14th October 2021 was (vi) [Kingston University London – Town House](#), - essentially a library, but designed as a building for the whole community with cafés, an outdoor reading room roof terrace and a performance space. [@KingstonUniLib](#) by [@graftonarchs](#)

Skills Agenda: Concerns for Skills Shortages in the 21st Century: A Review into the Construction Industry, Australia

This research paper addresses the underlying, influential factors concerning skills shortages in the Australian construction industry. The influential factors addressed include funding, training

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statistics, employer expectations, financial limitations, Industrial Relations and immigration.



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[Read the full research report 'Concerns for Skills Shortages in the 21st Century](#).

Tomorrow's Engineers



© EngineeringUK 2021

Tomorrow's Engineers brings together resources and evidence to support the engineering community in getting the most out of their engagement activity. It includes information and guidance on a range of topics curated from across the STEM community. Developed by EngineeringUK, the website is for anyone who funds or delivers engineering engagement activities and is designed to help improve the engineering community's collective impact.

[Access the Tomorrow's Engineers website](#)

Women in construction: building a career in a challenging environment

12 case studies of women working in the construction industry and their experiences.

[Access Women in construction: building a career in a challenging environment](#)

RICS Market surveys – leading indicators in the real estate industry

Market surveys from the Royal Institution of Chartered Surveyors (RICS) include:

- [UK Residential Market Survey](#) – used by government and key institutions, the Resi. Market Survey is a key indicator of conditions in UK residential sales and lettings.
- [RICS/RAU Rural Land Market Survey & Land Prices](#) – The RICS/RAU Rural Land Market Survey is the leading survey on demand, supply and prices in the farmland market.
- [UK Construction and Infrastructure Survey](#) – The leading sentiment indicator of the UK construction and infrastructure markets.
- [Hong Kong Residential Market Survey](#) – The Hong Kong Residential Market Survey is a leading sentiment indicator of conditions in the Hong Kong residential sales and lettings markets.

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- **Global Commercial Property Monitor** – RICS global commercial property monitors are leading indicators of conditions in commercial property occupier and investor markets around the world.

- **UK Commercial Market Survey** – A leading indicator of developments in the UK commercial property occupier and investor markets.

RICS – The Future of Surveying

- We know the challenges facing the built environment and the surveying profession – now it's time to act. We know the challenges facing the built environment and the surveying profession – now it's time to tackle them.

For over 150 years, RICS has led our profession through change, enabling our members to take advantage of the opportunities and manage the risks it presents. This change is now happening faster than ever, requiring us to think strategically about how we deploy our expertise and resource. To continue to provide leadership, we are constantly assessing our role as a standard setter, regulator, educator, and global professional body – to deliver confidence to governments, markets, and the public.

RICS Futures Report 2020 is our action agenda to keep up in a changing world.

Access and download the Futures report to read RICS' full agenda for effecting change and responding to the biggest issues facing the natural and built environment, in full.

Read the article, 'Future of Surveying' and gain access to the Futures report in full.

GOV.UK, National Statistics - UK House Price Index [Last updated August 2021]

- The UK House Price Index is a National Statistic that shows changes in the value of residential properties in England, Scotland, Wales, and Northern Ireland.

The UK House Price Index (UK HPI) captures changes in the value of residential properties.

The UK HPI uses sales data collected on residential housing transactions, whether for cash or with a mortgage.

Properties have been included:

- In England and Wales since January 1995
- In Scotland since January 2004
- In Northern Ireland since January 2005

Data is available at a national and regional level, as well as counties, local authorities, and London boroughs.

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The summary report contains:

- Headline statistics
- The economic statement
- Price changes
- Sales volumes
- The property status
- The buyer status for Great Britain (excludes Northern Ireland)
- The funding status for Great Britain (excludes Northern Ireland)
- Housing transactions distributions

[Read the GOV.UK, National Statistics: 'House Price Index summary: June 2021', Published 18 August 2021' in full.](#)

Tackling mental health and wellbeing within the construction industry



© MHFA England

The construction industry reports some of the highest levels of workplace mental ill health.

Over the last three years (see publication date) Mental Health First Aid (MHFA) England has been working with Building Mental Health, the Construction Industry Training Board (CITB) and the Lighthouse Club Construction Industry Charity to create a freely available, industry-wide framework and charter to tackle the mental health crisis in the construction industry.

[Find out more about the social value of the programme](#)

Related Links:

UCEM launches mental health strategy

UCEM published its first mental health strategy on 10 May 2021.

The strategy is designed to benefit both UCEM students and staff, having been written with input from both stakeholder groups.

At the core of the document is the vision which states: 'UCEM will take a whole institution approach to develop one community that enables students of all levels along with staff to prioritise mental health and wellbeing.'

'The UCEM community will be an open, supportive, healthy, and well-informed environment. It will work to tackle stigma, promote positive mental health, and provide appropriate, timely and easily accessible support to those who need it.'

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There are five strategic aims supporting this vision which are:

1. to create a supportive whole university community that promotes positive mental health, and ensures mental health is a key strategic priority.
2. to ensure the UCEM community is informed and aware of the importance of good mental health and works to tackle the stigma surrounding mental health.
3. to ensure appropriate and timely support is provided to those who need it.
4. to develop links with external support services and stakeholders
5. to use data to evaluate and monitor the effectiveness of mental health interventions and inform future strategic development.

For more details, take a look at [UCEM's mental health strategy document](#).

Access the article '[UCEM launches mental health strategy](#)' in full.

Understanding Mental Health in the Built Environment

Access the CIOB's latest report *Understanding [Mental Health in the Built Environment](#)*, including the results from the CIOB survey of over 2,000 professionals. [Access CIOB online Policy Portal, & 'CIOB surveys the sector to gather data on mental health & stress'](#)

How can buildings have positive impact on wellbeing?

BSRIA's Henry Lawson discusses the importance of designing buildings that promote 'Wellbeing'. The theory sounds compelling but in practice, creating such building is complex.

[Access and read 'How can buildings have positive impact on wellbeing' in full.](#)

[Read the *Construction Manager* article entitled, 'Samaritans to work with roofers on mental health' in full.](#)

Coronavirus and your wellbeing

You might be worried about coronavirus (also known as COVID-19) and how it could affect your life. This information is here to help. **Where to access further information support: BBC Action Line** [online]. Available at: bbc.co.uk/actionline. Telephone: 0800 066 066

[Access MIND's article, entitled 'Coronavirus and your wellbeing'.](#)

Sustainable outcomes for buildings

The Royal Institute of British Architects (RIBA) has published guidance on targeting, designing, and evaluating sustainable outcomes for buildings, defining concise measurable set of eight sustainable outcomes that correspond to key UN Sustainable

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Development Goals and can be delivered on building projects of all scales.

[Access the RIBA Sustainable Outcomes Guide](#)

National Trust planning principles

National Trust (NT), a charity that works to preserve and protect historic places and spaces – for ever for everyone.

The National Trust protect historic houses, gardens, mills, coastline, forests, woods, fens, beaches, farmland, moorland, islands, archaeological remains, nature reserves, villages, and pubs. While they are very passionate about open spaces and historic places, they also work hard in other areas too, including the environment, food, farming, transport, and heritage – to name but a few.

Most of the work they do though is affected by much wider global issues, which is why their interests extend far beyond just bricks and mortar.

[Access the National Trust website](#)

National Trust (NT) – “Our planning principles”

The National Trust principles are used to guide them in their decision-making on the way land is developed and managed and include:

Seeking to influence – The NT seek to influence the Planning system at local, regional, and national levels,

Supporting spatial planning – The NT support spatial planning which takes a holistic approach to its environment and its resources,

Sensible management – The NT promotes the wise management of the natural environment and built and cultural heritage,

Protecting our environment – The NT will seek to protect wild and remote landscapes from built development or urbanisation.

Using property management plans – In managing its land through management plans, the NT will support and help to achieve objectives,

Objecting to proposals, where appropriate – When proposing development on their land to meet justified needs, the NT will use a sustainable construction approach. This will include:

- Minimising resource use and generation of waste,
- Being energy efficient,
- Minimising or preventing all types of pollution and risk of flooding,
- Safeguarding important wildlife, landscape, and historic interests,

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- Respecting local/regional distinctiveness, supporting local sources for goods and services where practical, and
- Encouraging community involvement and access.

[Read the National Trust Planning Principles](#)

The National Trusts' planning procedure

The National Trust have developed the following criteria to ensure online suitable projects proceed:

- Adhere to the policies in the relevant local plan,
- Deliver energy efficiency and reduce carbon dioxide emissions,
- Build in harmony with the local environment, built and natural,
- Involve the local community throughout the process.

Case studies are provided.

[Read how the National Trust engage in planning: The NTs' role as a developer.](#)

Foster + Partners Projects

Foster + Partners Projects – one of the most innovative architecture and integrated design practices in the world. Over the past four decades the practice has pioneered a sustainable approach to architecture through a strikingly wide range of work, from urban masterplans, public infrastructure, airports, civil and cultural buildings, offices and workplaces to private houses and product design. By visiting their website, you can gain further information about their current and past work, upcoming projects, and gain access to their-

- Image gallery, - Sketches and drawings, - Construction,
- Facts and Figures, and - Project downloads.

[Access Foster + Partners Projects](#)

New RIBA Plan of work 2020

RIBA Plan of Work 2020. This blog takes a look at the new RIBA Plan of Work 2020.

What is the RIBA Plan of Work? The RIBA Plan of Work was first published by the Royal Institute of British Architects (RIBA) in 1963. It originally provided a matrix to show the roles of participants in the design and construction processes.

It has since been updated in several editions, most recently in 2020. This has allowed it to adapt to the complexity of modern projects, industry demands and legislative and regulatory requirements.

It now provides a shared framework for design and construction, including both a process map and management tool.

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What changed in 2020? In 2020, key changes were made to reflect the importance of sustainability and Building Information Modelling (BIM) in construction. The Plan of Work now also incorporates issues such as digitisation of the industry, Modern Methods of Construction, ethical issues, the value of aftercare and timing relating to planning applications and procurement.

This has included restructuring and renaming of the work stages from the 2013 Plan of Work:

0 – Strategic definition – no change

1 – Preparation and briefing – brief amended to briefing

2 – Concept design – no change

3 – Spatial coordination – formerly Developed design

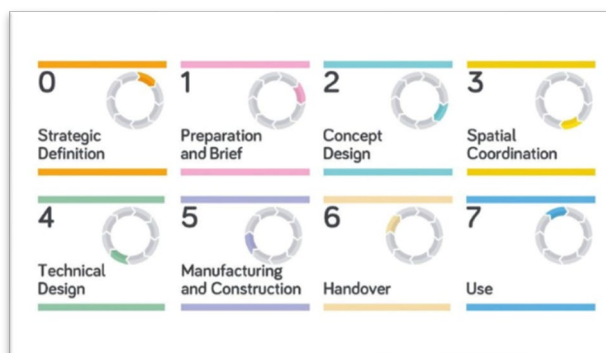
4 – Technical design – no change

5 – Manufacturing and construction – formerly Construction

6 – Handover – formerly Handover and close out

7 – Use – formerly in use

RIBA Plan of Work 2020:



© RIBA 2020

Source: Royal Institute of British Architects (2020) 'RIBA Plan of Work'

Note: The author of this blog, Jen Lemen-Hogarth is an Associate Tutor – UCEM and Partner – Property Elite.

[Access Property Elite's, Building Better Property Professionals, 'New RIBA Plan of Work 2020' \[Blog\], in full](#)

Autodesk and CIOB map the digital construction journey

Autodesk and the Chartered Institute of Building (CIOB) have prepared an infographic to help construction businesses visualise their position on the digital journey.

[Access more information, view the infographic and read the article, entitled 'Autodesk and CIOB map the digital construction journey' in full.](#)

[Access further information from CIOB 'Digital Construction'](#)

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- Digital technologies are now an integral part of our built environment. The choice is not when or if built assets will use technology, but rather how much will be used.

Building Information Modelling (BIM)

UK BIM Framework – BIM Standards, Guides and Resources -

the overarching approach to implementing BIM in the UK, brought together by UK BIM Alliance, BSI and CDBB. The guidance is structured as indicated below:

Guidance Part 1 and **Guidance Parts A-F** support the implementation of the overall published ISO 19650 series.

Guidance Part 2 and 3 pick up on content specific to ISO 19650-2 and ISO 19650-3 respectively. Additional **guidance** is also available as part of the **UK BIM Framework** to support the transition to ISO 19650 and Government Soft Landings

Access UK BIM Framework - Resources

Latest BIM+ News and Projects [October 2021] –

- **Project: How Maber Associates brought a new BIM approach to hospital handover, 1st October 2021.**

- Maber Associates was brought on board as BIM manager when Balfour Beatty was appointed to finish the construction of the Midland Metropolitan University Hospital near Birmingham after the demise of PFI contractor Carillion. Denise Chevin, the author of this article, spoke to Maber's head of BIM, Josh Chrystal, to hear how the practice refreshed the BIM strategy.

Client: Sandwell & West Birmingham NHS Trust; **Contractor:** Balfour Beatty; **BIM manager:** Maber Associates; **BIM tools:** Solibri, BIMcollab, OpenSpace, Glider BIM

Midland Metropolitan Hospital is a new acute general hospital being built on a 6.5 ha site in Grove Lane at Smethwick near Birmingham. The new teaching hospital has 10 storeys and 80,000 sq. m of floor space.

It was being built by Carillion, but when the company went into liquidation in January 2018, the PFI contract was terminated, delaying the hospital's completion until summer 2022. In autumn 2019 Balfour Beatty was awarded the contract to complete the construction and it was then that the contractor appointed Maber Associates as BIM manager.

When Maber came on board the external envelope and the structure were pretty much complete, but there was a great deal of service coordination still to do, "which is a large part of they brought us on board, to run the clash detection, and make sure that they were happy they could work with the shell that they'd been give", explains Josh Chrystal, Maber's head of BIM.

[Back to top](#)**Also covered within this article are the following subject areas:**

- **Picking up the reins on BIM** – The project was being built to what was then BIM Level 2. The first task Maber faced was to assess all the documentation – and found it to be lacking in detail in parts. Although the BIM strategy was adequate for when it was originally authored in 2014, BIM has matured considerably since then. One of our first roles was to create a new BIM execution plan, with a fresh take on what a pragmatic BIM strategy looks like today,” (see publication date) explains Chrystal.
- **What were the main challenges for Maber?** – Chrystal explains: “When we assessed the myriad of Carillion BIM documentation, there was a lot of ticking boxes, and doing BIM just for the sake of meeting requirements without clear outcomes. Our mantra as a BIM consultancy is having clear BIM outcomes that benefit the client and that the digital processes, we’re using to get there are connected to what’s actually happening on site.”
- **Maber and innovation** – An aspect of innovation Maber brought to the project was the use of the BIMcollab cloud-based system to digitise the clash resolution process. “Using BIMcollab as a simple online platform allows us to engage more of the project team with the clash resolution process, ultimately resulting in a better outcome. Traditionally you would just get an Excel report. And if you’ve got 1,000 clashes, like we did, that’s a very long Excel report, that no one really engages with or looks at,” says Chrystal.
- **Delivering on COBie** – The Trust’s requirement was for COBie (maintainable asset) data to be made available directly within the BIM models for the facilities management of the hospital on handover. Engie has since been appointed as the hospital’s FM provider.
- **Project learnings** – Chrystal says that the digital success of the project so far has been down to the collaborative approach between all involved parties: “As much as we can guide the project by providing pragmatic BIM advice and documentation, the whole process is underpinned by working as a team. Whether that’s Balfour Beatty’s innovative approaches to engaging site operatives through digital models, or the project team holding regular BIM catch-up sessions to talk openly through issues.

Other BIM+ Projects include:

- **Project: BIM software drives net zero social housing retrofit, 23rd August 2021.**

- Wide and varied use of BIM software from Graphisoft has played a key role in architecture practice Constructive Thinking’s part in the net zero retrofitting of social housing stock for Nottingham City Council.

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Client: Nottingham City Council; **Main contractor:** Constructive Thinking; **Consultant:** EnergieSprong

- **Project:** [BIM approach helps Stoke Council get utility project back on track](#), 25th June 2021.

- A local authority, and in line with public sector requirements to be carbon net-zero by 2050, Stoke-on-Trent City Council embarked on the construction of a city-wide low carbon heat network in 2017, which includes 18km of underground pipes.

Client: Stoke-on-Trent City Council; **Main contractor:** Vital Energi Utilities; **Consultant:** 3D Technical Design

- **Project:** [How 4D helped Mott MacDonald Bentley save 20 days on major pipeline project](#), 16th June 2021.

- 4D modelling was crucial on a major civils project for United Utilities in Cumbria, proving and improving upon a challenging construction programme that was 20 days quicker than the original plan.

Client: United Utilities; **Main contractor:** Mott MacDonald Bentley; **4D consultant:** 4D Freeform

- **Project:** [8 Bishopsgate: BIM and Holograms aid riser safety](#), 3rd June 2021.

- Digital technology and an innovative riser zone product helped make M&E installation safer on the City of London's latest skyscraper. BIMplus reports.

Client: Mitsubishi Estate London; **Main contractor:** Lendlease; **Specialist contractors:** AT. Clarke, MJL, Hall & Kay, Gardener & Co. Keltbray Structure, William Hare; **Architect:** Wilkindon Eyre

BIM in action: 2020's top five projects

22 December 2020

- Hospitals, housing, hotels: BIM+ covered case studies of BIM in action in all sorts of construction projects across the world. Given what happened in 2020, it's not surprising that three of the most read case studies focus on hospitals.

2020's top five projects (and all covered within this and previous issues of *Knowledge Foundations*) incl.

1. [Sisk reap rewards of high-tech approach at Wembley](#)
2. [Finland's Hospital Nova uses VR to involve staff in building](#)
3. [NHS Nightingale Hospital, East London – how BIM played its part](#)
4. [Mace uses AI tech on Mayfair project to meet covid-19 safety challenges.](#)
5. [AI tracks work quality at Norway's Stavanger Hospital.](#)

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Access BIM+ that include project entitled, 'BIM in action: 2020's top five projects' available in full.

Related BIM+ Projects

- **(1) Project: John Sisk relies on BIM best practice to deliver Malmo data centre, 2nd November 2020.**

- John Sisk & Son is nearing completion on a data centre project in Malmo, Sweden. Adopting BIM best practice has been crucial to keep construction on programme given a fast-tracked programme amid the Covid-19 pandemic.

The John Sisk & Son team has nearly 40 years of experience in data centre construction and has brought a digital project delivery approach to the Malmo project.

Sisk highlights some significant outcomes:

- The Sisk team-built dashboards that stored live clash trend reports to track progress weekly, resulting in a 50% efficiency increase in the BIM management process compared to traditional, manual methods of construction coordination without the automating power of the cloud.
- The tight integration between BIM 360 Docs, Microsoft Power BI, and Sisk's own "Design Changes Control" dashboards provided the commercial teams with a faster way to visualise the cost and/or schedule impacts, reducing the overall take-off by a potential 40%
- By using BIM 360, the project continued uninterrupted as construction continued in Sweden during the Covid-19 pandemic.

- **(2) Project: Finland's Hospital Nova uses VR to involve staff in building, 28th April 2020.**

Lead Contractor: The Central Finland Health Care District

BIM Tools: Tridify

- Innovative processes have been used in the co-design of Finland's new Hospital Nova using BIM models and involving more than 350 staff.

- **(3) Project: NHS Nightingale Hospital, East London – how BIM played its part, 5th May 2020.**

Client: Barts Health NHS Trust, Royal Free London NHS Foundation Trust

Lead Contractor: Lead Designer: BDF

BIM Tools: Autodesk Revit

- The UK's newest (see publication date) and largest hospital, based at the ExCel conference centre in London's Docklands, is designed to care for up to 4,000 people affected by Covid-

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19. The hospital is now in standby mode and will be used should cases in the London area rise again.

- **(4) Project: [Mace use AI tech on Mayfair project to meet Covid-19 safety challenges](#), 1st October 2020**

- Work was already underway on Lodha's No 1 Grosvenor Square flagship project when the lockdown and then social distancing added to the normal construction challenges.

Client: Lodha; Main contractor: Mace

Balancing the many requirements of a building project – cash flow, cost, quality, and timelines – is always a significant challenge for project leadership. The Covid-19 pandemic made the balancing act even more intense, costing projects valuable time at the start of lockdown and requiring adjustments to ensure the health and safety of all personnel on site as production restarted.

- **(5) Project: [AI tracks work quality at Norway's Stavanger Hospital](#), 21st June 2020.**

Client: Stavanger University Hospital

BIM Tools: 100% International open standards, compatible with Revit, ArchiCAD, Solibri and others

- Oslo-based BIM developer Imerso has been given responsibility to monitor work progress in one of the biggest public construction projects in Scandinavia.

[Access the Chartered Institute of Building's \(CIOB\), BIM+ articles, projects, case studies and more, in full.](#)

[Latest BIM news – 10th annual BIM report 2020 available](#)

[NBS 10th National BIM Report 2020](#) - The 2020 annual BIM report marks the 10th year of recording over 1,000 industry professional's view about BIM. It illustrates how usage and perceptions of BIM have changed since 2011, progress made as an industry, and anticipated changes in the next decade.

[Construction Information Service \(CIS\) Insights](#)

The latest edition [**October 2021**] of NBS CIS *Insights* focuses on – **Social equity and human-centred design**, and covers:

- Social inequality and disproportionate suffering amongst poorer communities,
- Urban green infrastructure and poverty reduction, and
- Social equity, sustainability, and human-centred design.

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Built Environment Research

Latest Policy and Research from:

[1\) Savills *Impacts – The Future of Global Real Estate*](#)

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- Market Trends: Savills.com

In-depth research and analysis into property market trends, forecasts from specialist research teams, and market leading commentary to help you make the right property decisions.

More than 10 years on from the global financial crisis (see publication date), Savills explore debt, interest rates and credit cycles. Which real-estate markets were resilient or have since recovered (but may now be vulnerable to a downturn), and which still have prospects for growth? How are tax policies affecting investment? Savills take a look at the prospects for real estate and how changes in the world economy impact it's future.

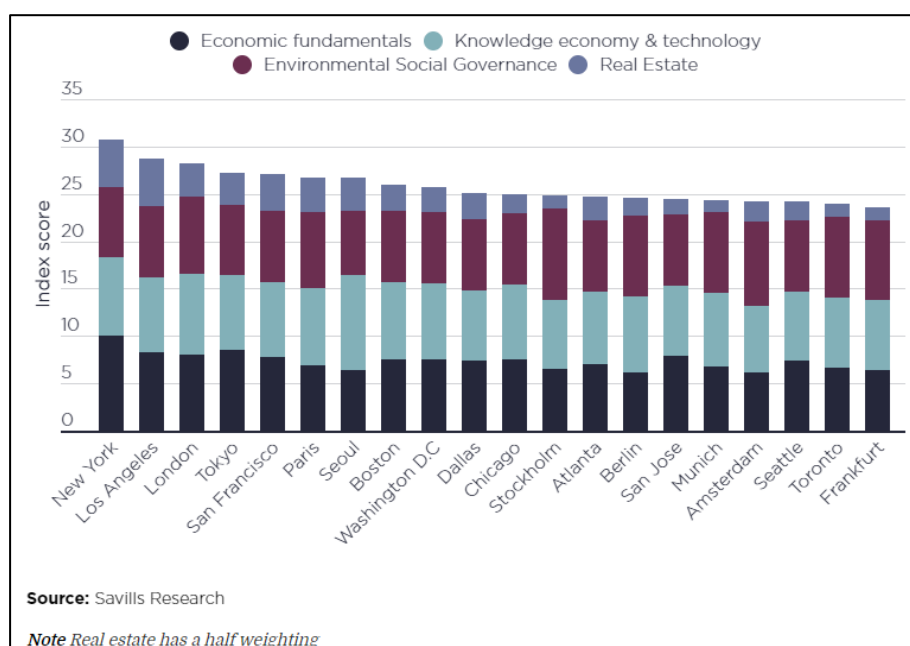
[Latest: June 2021] - Impacts: Savills Resilient Cities 2021

- The Savills Resilient Cities Index identifies the cities best placed to adapt to change

A city's ability to evolve is crucial. But which ones are best positioned to succeed? Savills Resilient Cities Index assesses 500 cities based on their economic strength, their knowledge economy and technology, environmental resilience, and real estate. We explain how gateway cities such as New York, Tokyo and London maintain their status, and why ESG, investment and education are helping cities such as Stockholm, Seoul and Amsterdam climb our top 20 ranking.

Global megacities dominate the top of the index thanks to strong economies and real estate markets. Cities that score highly on education and ESG are climbing the ranking.

Savills Resilient Cities Index, top 20



Source: Savills (2021) Savills Resilient Cities 2021 [online].

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Our (Savills) Metrics for What Makes a Resilient City

1. **Economic fundamentals:**
An economy of scale, with high personal wealth and strong demographics.
2. **The knowledge economy and technology:**
High value-add employment, quality education and innovation in business.
3. **Environment, Social and Governance (ESG):**
A society which values sustainable environmental practices, has access to good healthcare, and is inclusive and fair.
4. **Real estate:**
A liquid and readily invested real estate market.

SAVILLS *Impacts: Real estate investment in 2021: global outlook*

- Savills examine the global trends and in-demand assets for 2021

Other areas covered in this research include **The Green Agenda** (covered later within the UCEM Sustainability Hub), and

SAVILLS Sector investment outlook for 2021

- The Pandemic accelerated a shift to online retail and flexible working patterns. In 2021, logistics is expected to be the major beneficiary, but the challenge for investors will be funding stock.
- Office is forecast to remain the largest sector and the core investment of choice. Emphasis will be placed on lower-risk assets with stable income characteristics in the best locations.
- Residential may attract a growing share of global investment, supported by strong underlying fundamentals and cross-border investors growing and consolidated portfolios.
- Senior housing and healthcare are operational asset classes with long-term income potential. Ageing populations and emphasis on health and wellbeing is expected to support expansion.
- Data centres are a rising alternative sector and offer opportunity for portfolio diversification. Yields are attractive and pent-up demand is likely to fuel growth in 2021, but barriers to entry are high.
- 2020 brought life sciences to the fore. A big increase in capital raising is forecast to spur real estate investment opportunities in a sector resilient to changes in working habits.

[Read the Market Trends – ‘Real estate investment in 2021: global outlook’, in full.](#)

Read Savills Investment tips and trends by region -

- [Read more EMEA tips](#)
- [Read more Asia-Pacific tips](#)
- [Read more North America tips](#)

Also: [Read Savills World cities prime residential forecasts](#)

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[Read the latest Issue – 3, 2020 of *Impacts: The Future of Global Real Estate*, in full.](#)

In earlier issues (05/20) Savills discuss the potential changes that may be seen across the different sectors. If you prefer to read a specific sector, then select the relevant sections title to go straight there and include: **Office sector**, **Logistics sector**, **Retail sector**, **Hotels sector**, **Institutional residential sector**, **Senior housing and healthcare sectors**, **End-use residential sector**, and **Conclusion**.

[Read the full Savills Impact Publication 'The Impact of Covid-19 on real estate', 2020'](#)

[Savills \(2020\) 'Welcome to Impacts 2020' *Impacts*, May, Savills \[online\]. Available at Savills.com](#)

[Savills \(2020\) 'The impacts of the US-China trade war', *Impacts*, May, Savills \[online\]. Available at Savills.com](#)

Savills Covid-19 Resource Hub

2) Joseph Rowntree Foundation (JRF) -

- Inspiring Social Change: The Joseph Rowntree Foundation is an independent social change organisation working to solve UK poverty.

UK Poverty 2020/21

Related topics – Housing; Work; Income and benefits

- This is the 2020/21 edition of the JRF's annual report on the nature and scale of poverty across the UK, and how it affects people struggling to stay afloat.

We are in the midst of the coronavirus storm – a turbulent time when all of us have felt insecurity and instability. But our analysis shows too many of us entered the pandemic already at risk of being cast adrift into poverty, while often lacking secure housing, a reliable income or adequate support. It also shows that those of us already struggling to keep our heads above water have often been hit the hardest. Our response to the pandemic should be measured by how just and compassionate it is to people in poverty, whether they were already experiencing hardship or have been swept into it.

This report highlights early indications of how poverty has changed in our society since the start of the coronavirus outbreak, as well as the situation revealed by the latest poverty data, collected before the outbreak. It examines overall changes to poverty, with sections looking at the impact of work, the social security system and housing. It also benefits from powerful insights from members of our Grassroots Poverty Action Group, who have direct experience of living on a low income.

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Recommendations:

- We need as many people to be in good jobs. Unemployment is expected to rise in the coming months, and we need to see further bold action to retrain workers and create good quality new jobs
- We need to improve earnings for low-income working families and ensure more people are in secure, good quality work. Government must support people in the lowest-paid jobs, or people working part-time, to move into higher pay and access sufficient and secure working hours, including bringing forward the Employment Bill.
- We need to strengthen the benefits system. At a minimum, we need the temporary £20 per week increase to Universal Credit and Working Tax Credit to be made permanent, extending this same lifeline to people on legacy benefits such as Jobseeker's Allowance and Employment and Support Allowance.
- We need to increase the amount of low-cost housing available for families on low incomes and increase support for households who have high housing costs.

[Read the JSR report entitled, 'UK Poverty 2020/21' in full](#)

Related Links:

[Read the article 'UK Poverty 2019/20 Housing' in full](#)

[UK Poverty Statistics from the Joseph Rowntree Foundation -](#)

The latest UK poverty data, statistics and analysis from JRF's Analysis Unit. This **online toolkit** can be used to find information about poverty rates and related issues in the United Kingdom.

[JRF Spring Budget 2021 analysis](#)

[JRF Analysis of the 2020 Spending Review](#)

3) The Smith Institute

- The Smith Institute is a leading independent 'think tank' which promotes progressive policies for a fairer society. They provide a high-level forum for new thinking and debate on public policy and politics. Through research, reports, briefings, monographs, events, lectures, education, and their website, the Institute offers a platform for thought leadership on a wide range of topics.

The Living Wage Dividend: maximising the local economic benefits of paying a living wage.

Hunter P (2021)

The economic fall-out from Covid has been substantial. However, it has not been evenly felt. This is especially true for the labour market with low paid workers more likely to see their hours and pay fall and more likely to be made unemployed or furloughed. Indeed, the pandemic has placed the spotlight on low pay and in-work poverty. Recent polling for the TUC, for example, showed how low-income workers have borne the brunt of the pandemic

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with little or no option to work from home and reduced living standards.

Low paid workers remain at the highest risk of contracting the virus at work and many do not have decent sick pay. Yet, it has been the low paid – particularly in healthcare and other essential services – that have kept the economy moving. This unfairness has not gone unnoticed. As the furlough scheme and other Covid protection measures are relaxed, local and national politicians from all parties are calling for a recovery that is both fair and sustainable. That agenda for ‘levelling up’ and ‘building back better’ must have the real Living Wage and tackling insecure work at its heart.

Living Wages have been backed by local and national politicians as a central part of such efforts to build a stronger, fairer economy – including in the recent mayoral elections. The Living Wage is a voluntary pay rate independently calculated and based on meeting people’s everyday needs (and is currently £9.50 across the UK and £10.85 in London). Over 20% of the workforce are currently paid below the real Living Wage. Those paid below the Living Wage are also more likely to be women, work part time, and be employed in the leisure and retail sectors. As such The Living Wage makes a significant and lasting difference to low paid workers, helps combat poverty and narrow the gender pay gap. It also creates benefits for employers. According to the Living Wage Foundation, “all of our Living Wage Employers have recognised that paying the real Living Wage has improved their resilience to the crisis and bolstered their ability to emerge from it in a position of strength.”

Despite the pandemic the Living Wage has continued to expand. The number of accredited employers has increased from 2,000 in 2016 to over 8,200 today, including over 3,000 since the start of the pandemic last year. Together this put over £1.5bn back into the pockets of over 275,000 low-paid workers. And offering tangible productivity and other benefits. In the past few years, the movement has also diversified into new areas, including ‘Living Wage Places’ – launched in 2019 to create cross-sectoral action groups of local Living Wage employers working together to expand take-up of the Living Wage in targeted locations.

Increasing coverage of the Living Wage can open up wider benefits for local economies. Before the pandemic, the Living Wage Foundation, for example, have been working closely with councils and local employers on ways of increasing the take up of the Living Wage. As a result of these consultations, the Living Wage is now present in many local authority economic development strategies.

This report seeks to take forward the work of the Foundation’s ‘Living Wage Places’ initiative, focusing on how to maximise the benefits of the Living Wage in towns, cities and city-regions across the UK. Using evidence-based assumptions, the report examines

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and quantifies how much individuals gain, how that wage uplift is paid for and what the local economic impact is likely to be based on moving 25% of low paid workers up to the Living Wage.

[Read the full piece of research, 'The Living Wage Dividend: maximising the local economic benefits of paying a living wage'.](#)

Planning for the recovery and the shift towards homeworking: implications for poverty in outer London

Hunter P (2021)

This report, supported by Trust for London, examines the short and long-term implications of Covid on poverty and inequality in outer London, with a particular focus on employment, low pay, housing, and the shift towards homeworking.

The report acknowledges the devastating impact that the pandemic has had on the lives of outer London's five million residents – not least on people's health and well-being – but seeks mainly to understand the after-effects and explore the options for change.

[Read the full piece of research, 'Planning for the recovery and the shift towards homeworking: implications for poverty in outer London'.](#)

A National Housing Conversion Fund: buying properties to boost affordable housing supply

September 2020

The Smith Institute's Affordable Housing Commission published a report into the national housing conversion fund. The report examines two main ways a ring-fenced National Housing Conversion Fund could be achieved. The first is targeting funds to purchase homes on the secondary (existing) market. It examines which housing markets – in broad terms – the investment might be best aimed at, factoring in how it could help improve housing condition and support jobs and growth.

[Read the full piece of research, 'A National Housing Conversion Fund: buying properties to boost affordable housing supply'.](#)

Falling behind: The impact of Universal Credit (UC) on rent arrears for council tenants in London

July 2020

This report was commissioned by Southwark Council, with the support of eleven other London local authority landlords and coordinated by London Councils. The research and report focus on two main questions:

- How has the roll-out of Universal Credit (UC) affected rent payment behaviours among residents in local authority-owned housing across London?

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- How are identified changes in behaviour – or the absence of behaviour change – affecting the tenancies of those tenants who are receiving housing cost support under the new arrangements?

The report tells this story of financial stress through analysis of tenant rent accounts. The scale of the costs to social landlords is also apparent in escalating arrears after tenants make an effective UC claim.

[Read the full piece of research, 'Falling behind: The impact of Universal Credit on rent arrears for council tenants in London'.](#)

Consumer Rights in the Private Rented Sector

July 2020

This report sets out a new perspective on how we can improve the private rented market: by recognising the consumer gifts we're used to having in other markets, from utilities to financial services, and looking at how we might apply those lessons to the private rented sector.

[Read the full piece of research, 'Consumer Rights in the Private Rented Sector'.](#)

Making Housing Affordable after Covid-19: A follow up report from the Affordable Housing Commission

Affordable Housing Commission (2020)

- The Smith Institute's Affordable Housing Commission published a report into making affordable housing after Covid-19.

[Read the full piece of research, 'Making Housing Affordable after Covid-19: A follow up report from the Affordable Housing Commission'.](#)

Making Housing Affordable Again: Rebalancing the Nation's Housing System: The final report of the Affordable Housing Commission

March 2020

- The Smith Institute's Affordable Housing Commission published its final report and recommendations: making housing affordable again.

[Read the full piece of research, 'Making Housing Affordable Again: Rebalancing the Nation's Housing System: The final report of the Affordable Housing Commission'.](#)

4) CBRE Research Blog: About Real Estate

The CBRE Research blog showcases a variety of informed viewpoints, spanning all major property sectors that include –

- **Offices** – Discover up to the minute and future looking trends in the Office sector for occupiers, landlords, investors and developers

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- **Retail** in detail,
- **Industrial** – CBRE ‘shed’ light on all things industrial,
- **Residential** – CBRE’s ‘house’ vide on all things residential, and
- **Investment** – addressing the challenges and opportunities facing commercial real estate property investors

[Access the CBRE website and About Real Estate Research Blog](#)

[5\) CABE – Chartered Institute of Building Engineers](#)

Two new publications have been launched from the Competence Steering Group (CSG) in 2020 with the view to improving competence and driving culture change throughout the industry.

Setting the Bar – a blueprint to improve competence for those working on higher risk buildings and drive culture change has been set out by a cross-industry group representing more than 150 organisations, including CABE, in the fire and built environment industries.

Setting the Bar is the second and final report of the CSG and is an update of its Interim Report, *Raising the Bar* published in August 2019. The work was initiated by the recommendations in Dame Judith Hackitt’s review *Building a Safe Future*.

[Access *Setting the Bar* – Final Report](#)

Competence Requirements for new role of Building Safety Managers

The competence requirements for the proposed new role of the Building Safety manager have been set out in a new 2020 report ***Safer people, safer homes: Building Safety Management***.

Under new legislation being introduced in the *Draft Building Safety Bill* published in July 2020, those deemed responsible in law for the safety of higher-risk building, such as the landlord, will be required to appoint a Building Safety Manager.

The role of the Building Safety Manager will be to look after the day-to-day management of fire and structural safety in higher-risk buildings and establish a clear point of contact for residents for fire and safety related issues.

[Access *Safer people, safer homes: Building Safety Management*](#)

[Access the Chartered Association of Building Engineers for further information.](#)

[Access *Building Engineer* website](#)

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6) RICS – Royal Institution of Chartered Surveyors

- RICS recognise the huge importance of property, land, construction and the built environment. Through their market surveys and research, they aim to advance the thinking of the profession and raise the profile of the industry.

Note: Latest research published by RICS is covered earlier within *Knowledge Foundations* and under **Other News > RICS Market Surveys**.

As of **October 2021**, the **latest news & insights** include:

- Appetite and opportunities: The digitalisation of the built environment,
- Why tech will not replace valuation professionals,
- How one company is applying tech to measurement,
- How local councils are benefiting from digital transformation,
- **BCIS five-year forecast**,
- **UK guidance note on residential properties with cladding**
- **Celebrating the contribution of female surveyors to construction**

7) CIOB – Chartered Institute of Building

The quality of the built environment effects every member of society. As a professional body that represents the leaders and managers who work at every stage of the lifecycle of a construction project, The CIOB seek to influence government, industry and other stakeholders around the world with the aim of promoting the construction management discipline and addressing the challenges that the sector faces.

As of **October 2021**, the latest CIOB Policy and Research include:

- **Future of Construction research** – *Aiming the Construction Industry for the Future: Recruiting from the military into construction*. Also access the latest Future of Construction - **CIOB Policy Team Newsletter – August 2021** (10th Sept. 2021)
- **Ethics research** – *Understanding Mental Health in the Built Environment*,
- *Construction and the Modern Slavery Act: Tackling Exploitation in the UK*,
- *The State of Well-being in the Construction Industry*,
- *Building a Fairer System: Tackling modern slavery in construction supply chains*,
- **Economics and social impact research** – *The Real Face of Construction 2020: Socio-Economic Analysis of The True Value of The Built Environment*
- *Job Quality in the Irish Construction Sector* (22nd April 2021)
- **Education and skills research** – *Exploring the impact of the ageing population on the workforce and built environment*

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- **The Wider Built Environment** – *Understanding the Value of Professionals and Professional Bodies.*

[Access the Chartered Institute of Building's Policy and Research website](#)

8) [House of Commons Library](#), 9) the House of Lords Library and 10) the Parliamentary Office of Science and Technology (POST)

About the House of Commons Library - The House of Commons Library is a research and information service based in the UK Parliament. Their impartial analysis, statistical research and resources help MPs and their staff scrutinise legislation, develop policy, and support constituents.

[Watch this quick video to find out how the House of Commons Library works](#)

Source: UK Parliament (2020) 'How the House of Commons Library works', YouTube [video]. Available at: youtube.com.

As of **October 2021**, the House of Commons Library has recently updated their website that is now broken down into the following sections or subject areas:

Services that include Research, Resources, Training & Events,

Brexit that covers Legislation, Negotiations, Policy, The EU, and Brexit explainer videos,

Coronavirus – read the latest Coronavirus (COVID-19) research and analysis from UK Parliament.

Economy, Business and Transport that include Business, Economy, Economic Updates, Transport, and Work & Incomes,

Home Affairs incl. Communities, Crime, Family & Civil Law, Justice, Immigration, Security, and Culture, Media & Sport,

Parliament & Elections that include Devolution, Elections, Government, Parliament, and Local Government,

Science, Environment and Technology that include **Energy, Environment, Climate Change**, Sciences, **Local Data**

Social Policy that include **Education**, Families & Social Services, Health, **Housing & Planning**, and Welfare & Pensions,

World Affairs that is broken down into Africa, Americas, Asia Pacific, Defence, Europe, Institutions, and Middle East, and more.

As of **October 2021**, the latest House of Commons Library, [Research publications](#) incl.

1. TV licences for the over-75s,
2. New business support measures: Corporate Insolvency and Governance Act 2020, and
3. Reducing the UK's aid spending in 2021.

[Back to top](#)**Review House of Commons Library, Research for this week**
As of **October 2021** the latest **House of Commons Research:**

Under '**Education**' and within 'Social policy', the top research briefings incl.

1. School inspections in England: Ofsted,
2. University admissions 2021,
3. Student finance in England:
 - a) How much would it cost to bring back grants?
 - b) Extending the loan term and increasing the repayment rates,
 - c) Impact of (i) Reducing the fee cap, (ii) Lowering the repayment threshold, and (iii) Increasing the loan interest rate. Also provided, 'An introduction to student finance in England'.
4. Careers guidance in schools, colleges, and universities (England).

Under '**Housing and Planning**' and within 'Social policy', the top research briefings incl.

1. Housing Market: Key Economic Indicators
2. Leasehold reform in England and Wales: What's happening and when? and Leasehold Reform (Ground Rent) Bill 2021-22,
3. Coronavirus: Support for landlords and tenants,
4. Stamp Duty Land tax (Temporary Relief) Bill 2019-21,
5. Reducing fire risk in High Rise Social Housing, and
6. Rural housing: A reading list.

Under '**Energy**', '**Environment**' and '**Climate change**', and within 'Science, Environment and Technology' include:

1. Energy bills and tariff caps, Oil prices, Petrol and diesel prices, and fuel poverty,
2. COP26: the international climate change conference, Glasgow, UK; Climate change: an overview, and
3. Reading list of UK and devolved Parliament and Assembly publications on the UK's withdrawal from the European Union and UK-EU future relations.

House of Commons Library search on '**construction industry**' identifies 18 key documents, that incl. 'Taxation in the construction industry', 'CITB – Construction Industry Training Board Levy', and '**The construction industry: statistics and policy, December 2019**' -

Abstract: Construction industry – employment, new orders, output. **Construction 2025**, **The Farmer Review** and the **Construction Sector Deal** (part of the government's **Industrial Strategy**).

Key statistics – In 2018, the construction industry contributed £117 billion to the UK economy, 6% of the total.

Economic output in 2018 was slightly down on 2017, the first fall since 2013.

There are 2.4 million construction industry jobs in the UK in Q2 2019, 6.6% of all jobs. There are more construction jobs now than at any time since 2007, although throughout this period, roughly the same proportion of jobs have been in construction.

The construction industry is unusual because of the high proportion of self-employment in the sector – 36% in Q2 2019, compared to the average for the whole economy of 13%.

New orders to the construction industry were worth £61.7 billion in 2017. This is 13% down in 2017, the first fall since 2011. New housing orders accounted for 35% of all construction orders, commercial orders accounted for 25% and infrastructure orders accounted for 19%.

[Access and download the full report, 'Construction industry: statistics and policy'](#)

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Property and Construction Statistics

Latest Property and Construction Statistics from RICS:

UK Economy and Property Market Update, August 2021

- Stronger economy underpinning better tone to both construction and real estate (see publication date).

Summary:

The economy is expected to continue to grow strongly through the course of this year and next. Higher inflation becoming embedded in expectations is the key risk, but for now, markets and the Bank of England remain relatively sanguine. Construction activity is benefiting from a number of big infrastructure projects and the strength in the housing market. Meanwhile, sentiment towards commercial real estate is improving but there remains a significant divergence in performance between highly prized industrial units and out of favour retail.

Construction Sector –

The latest ONS construction data shows that output is now pretty much back to where it was prior to the onset of the pandemic. However, sector level numbers demonstrate a clear divergence between infrastructure and private housing including R&M (which are well above pre-COVID levels) and commercial and industrial (which remain somewhat lower). The key projects during infrastructure work at present are Thames Tideway, Hinkley Point C and HS2.

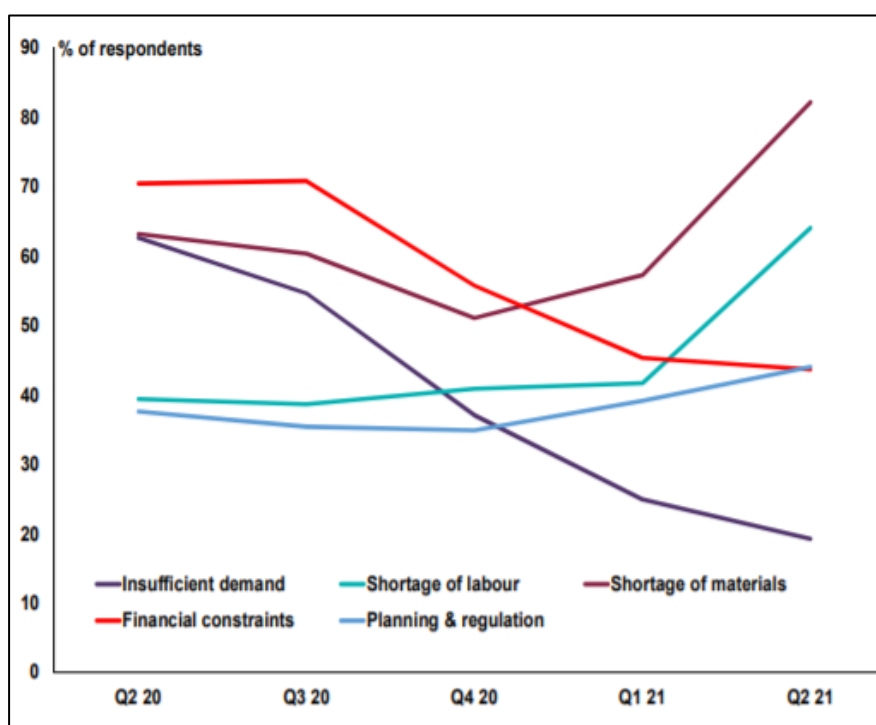
A key obstacle for the construction industry is addressing ongoing challenges in securing building materials. Chart 10 shows that

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shortages in this area are the main concern at the present time (cited by over 80% of respondents to the *Q2 RICS and Infrastructure Monitor*). However, issues around the labour are also on the rise (64% report shortages) with skilled trades like bricklayers and carpenters topping the list. Although a little lower than this in terms of responses, finding qualified professionals such as quantity surveyors is also becoming more problematic.

The rise in new business enquiries highlighted in the latest RICS Monitor (with the net balance indicator climbing from +29% to +50%) suggests that the growth in workloads will remain firm running into 2022.

Chart 10: Shortage of materials and labour are the two key challenges for the industry according to the RICS C&I Monitor



© RICS 2021

Source: RICS Economics Research: *RICS UK Economy and Property Market Update* (August 2021), London: RICS, p5 - Chart 10.

[Read the full piece of research 'RICS UK Economy and Property Market Update, August 2021](#)

Also: [UK Economy and Property Market Chart Book, Q4 2020](#)
- Output is likely to drop again in the last quarter of the year.

UK Residential Market Survey: [August 2021](#)

- Demand again softens slightly over the month as new instructions continue to fall

- Flow of fresh listings coming onto the sales market continues to deteriorate,

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- Sales slip for a second month running but are expected to stabilise going forward, and
- House prices continue to rise albeit the pace of growth now appears to be easing somewhat.

The August 2021 RICS UK Residential Survey results again point to a slight softening in activity over the month, with the market seemingly taking a breather following the surge in sales recorded prior to the phasing out of the Stamp Duty holiday. Nevertheless, respondents expect activity to stabilise in the near term and foresee a modestly positive trend returning over the twelve-month time horizon.

At the national level, new buyer enquiries fell for a second month in succession, with the latest net balance slipping a little deeper into negative territory at -14% (down from a reading of -9% in July). When disaggregated, demand trends were either flat or negative across virtually all parts of the UK over the month. At the same time, agreed sales also declined for a second consecutive report, evidenced by a net balance of -18% of respondents citing a fall (which compares to a reading of -22% previously).

Looking ahead, survey participants still foresee a generally steady sales picture emerging over the near term, as the three-month expectations net balance remained unchanged at +4%. Further out, respondents now envisage transaction levels edging up slightly over the twelve-month horizon, with the longer-term expectations net balance posting a reading of 7% (improving from a flat return of =2% beforehand). Drilling beneath the national figures show sales expectations for the year ahead are most positive across London, Northern Ireland and the South East of England.

[Read the latest RICS UK Residential Market Survey: August 2021 in full.](#)

RICS - SPACIOUS 千居 Hong Kong Residential Monitor / Market Survey: July 2021

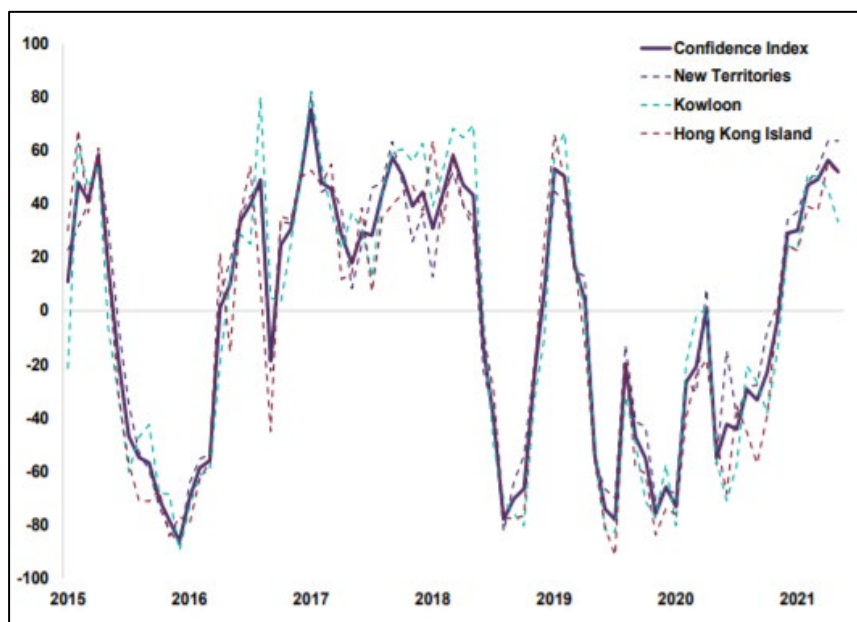
- Activity metrics remain in firmly positive territory

- Demand, sales, and new instructions all reported to have picked-up again over the month,
- House prices continue to rise across each region, and
- Rental growth expectations raised on the back of stronger tenant demand.

The results of the July 2021 RICS-Spacious Hong Kong Residential Monitor remain consistent with a solid sales market backdrop at present. The Confidence Index* (CI), shown in Chart 1, registered a figure of +52, which is little changed from the reading of +56 in June. Consequently, this measure continues to point to sales market activity expanding at a robust pace across Hong Kong.

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Chart 1: Confidence Index*:



© RICS 2021

Source: RICS Economics Research: *RICS Hong Kong Residential Monitor – July 2021*, London: RICS, p1 - Chart 1.

* The Confidence Index is a composite measure capturing overall market momentum, encompassing variables on short-term price and sales expectations. The Home Price Perceptions Index measures the perceived monthly change in home prices as reported by survey participants, where March 2015=100. The Rent Perceptions Index measures the perceived monthly change in rents as reported by survey respondents, where March 2019=100.

[Read the latest RICS HK Residential Monitor: July 2021 in full.](#)

Global Commercial Property Monitors, Q2 2021

- More positive trend beginning to emerge in both investor and occupier markets.

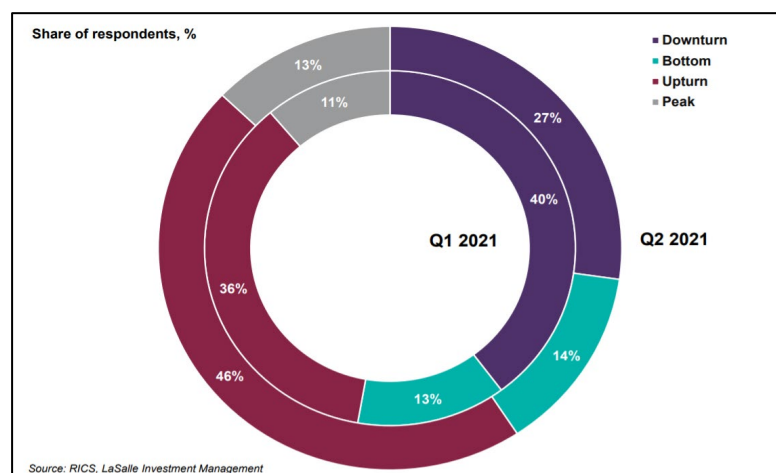
- Real estate sentiment edged up again in Q2, led by the Americas and Europe,
- Industrials remains the strongest sector followed by data centres and multifamily,
- Concerns over valuation persist with around 50% of respondents viewing real estate as expensive.

The results of the Q2 RICS Commercial Property Monitor (GCPM) are consistent with a further improvement in sentiment among professionals working the real estate market. The headline Commercial Property Sentiment Index (CPSI) rose for the fourth consecutive quarter and, while still negative, it now stands at its best level (-4%) since Q4 2019 (+3%). Significantly, the firmer tone in the responses to the survey is visible both on the occupier and

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Investor sides of the market. The global reading of the former rose from -26% to -10% while for the latter, it climbed from -10% to +1%.

Chart 6: Perceptions on Phase of the Cycle:



© RICS 2021

Source: RICS Economics Research: *RICS Global Property Monitors, Q2 2021*, London: RICS, p3 - Chart 6

Perceptions shift towards recovery phase of cycle –

Reinforcing the more positive mood is the sense from contributors to the survey that they now view global real estate as edging away from the downturn phase of the cycle (Chart 6). In Q1, just over 50% of responses suggested the market was in a downturn phase or at the bottom of the cycle. This has dropped to just over 40% this time around with 46% viewing the market in an upturn phase compared to 36% in the last report. Consistent with other feedback, this trend is more evident in the Americas and Europe and a little less so in APAC and MEA. Unsurprisingly within the Americas, this pattern is particularly pronounced in the US with the share of respondents suggesting the real estate market is in the early or mid-upturn phase of the cycle jumping from 39% to 55%.

[Read the latest RICS Global Commercial Property Monitor, Q2 2021 in full.](#)

Latest Statistics from the Office for National Statistics (ONS)

UK economy latest – A roundup of the latest data and analysis on the UK economy, business and jobs following Brexit and during the coronavirus (COVID-19) pandemic.

Construction Industry highlights include – Construction output in Great Britain: July 2021

- Short-term measures of output by the construction industry, contracts awarded for new construction work in Great Britain.

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What's covered in the latest bulletin?

- Construction output fell by 1.6% in July 2021, with the level of output now below its pre-coronavirus (COVID-19) pandemic February 2020 level; new work, and repair and maintenance both contributed to the monthly decline in July 2021, with anecdotal evidence from businesses suggesting that price increases and product shortages caused by supply chain issues were the main reasons for the decline.

- The level of construction output in July 2021 was 1.8% (£257 million) below the February 2020 pre-pandemic level, while new work was 3.2% (£285 million) below the February 2020 level, repair and maintenance work was 0.6% (£27 million) above the February 2020 level.

- The recovery to date is mixed at a sector level, with infrastructure the best performing sector over the pandemic at 35.7% (£649 million) above its February 2020 level and private commercial the worst performing sector over the pandemic at 20.3% (£481 million) below their respective February 2020 levels in July 2021.

[Read the full statistical bulletin, 'Construction output in Great Britain: July 2021.'](#)

Latest Statistics from HSE – Health and Safety Executive

Latest Key figures for Great Britain (2019/20)

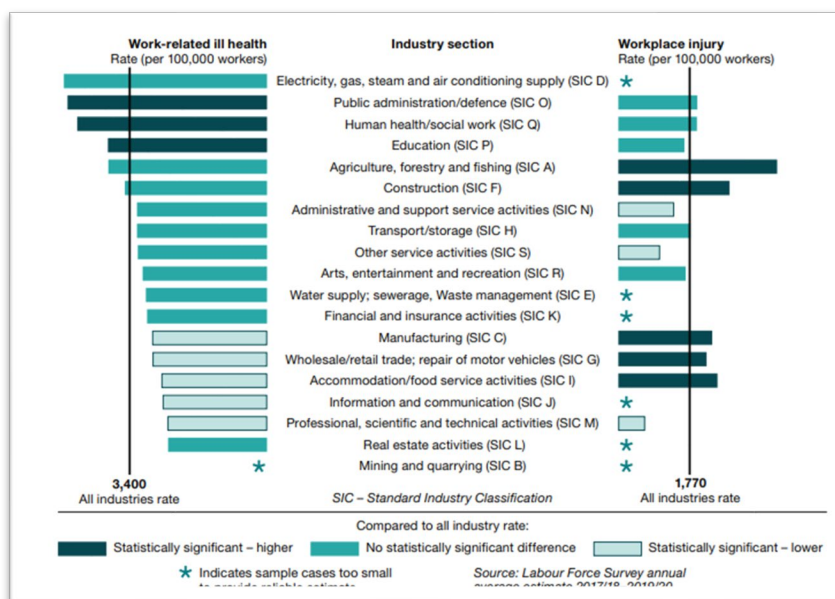
- **1.6 million** working people suffering from a work-related illness.
- **2,446** mesothelioma deaths due to past asbestos exposures (2018)
- **111** workers killed at work.
- **693,000** working people sustain an injury at work according to the Labour Force Survey
- **65,427** injuries to employees reported under RIDDOR.
- **38.8 million** working days lost due to work-related illness and workplace injury.
- **£16.2 billion** estimated cost of injuries and ill health from current working conditions (2018/19)

More detailed statistics on selected industry groups (that include 'construction' can be found from [the suite of health and safety statistics tables](#) and ['Summary Statistics 2020'](#).

[From the Health and Safety Executive \(HES\), 'Rate of self-reported work-related health and non-fatal injury by industry'](#)

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For ‘Rate of self-reported work-related health and non-fatal injury by industry’



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Source: HSE (2020) ‘Health and safety at work: Summary statistics for Great Britain 2020’, Bootle: HSE, p9.

[Access further information on health and safety statistics from HSE – Health and Safety Executive.](#)

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e-Journal Review

Built Environment Industry Journal titles reviewed by UCEM e-Library

MODUS

MODUS - the RICS magazine that brings you the latest news and views, expert advice and in-depth features spanning the breadth of the surveying profession around the world.

In the latest digital **MODUS** (October 2021), RICS takes a look at ‘Is the whole world dealing with a logistics nightmare’ – As the construction industry attempts to return to pre-pandemic productivity, four experts offer their opinion on why transporting materials is providing difficult.

Subject Terms/Keywords: Economics; Infrastructure and Services; Procurement and contracts.

Latest articles within **Modus**:

- ‘Our priority must be to respond to the Levitt Review’ – In his first column as RICS President, Clement Lau explains what action is being taken after the independent review by Alison Levitt QC.

Subject Terms/Keywords: RICS standards and guidance;

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Technology; Sustainability.

- Champlain Towers: valuation in the aftermath of tragedy -

Methods for valuing multi-owner properties are already very complex and degradation caused by climate change is adding the challenge.

Subject Terms/Keywords: Building pathology; Maintenance and repair; Health and safety.

- Does high-tech mean high returns for property investors? –

Life sciences, data centres and automated warehouses are all in demand post-pandemic with property investors around the world expanding their portfolios.

Subject Terms/Keywords: Commercial valuation; Energy; Technology.

- The Airbnb effect: is a housing shortage inevitable – As tourism returns, how effectively have local governments regulated

Subject Terms/Keywords: Economics; Cities and placemaking; Housing.

- Build to rent: why it's here to stay – Huge investors are pouring billions into build to rent properties, but are they a genuine alternative to home ownership and could rent controls dampen their enthusiasm?

Subject Terms/Keywords: Economics; Running your business; Housing.

- How data centres can 'level up' the economy – In the post-pandemic economic recovery, data centres can create jobs in places beyond traditional hubs and big cities. But they need the right kind of infrastructure.

Subject Terms/Keywords: Technology; Infrastructure and services.

- How the housing rental market is evolving post-COVID-19 –

Rental landlords are offering lots of extra amenities to sweeten the deal but tenants have more basic needs – a safe home in the right location at a reasonable price.

Subject Terms/Keywords: Economics; Maintenance and repair; Housing.

- The 75 per cent problem: making greener glass – In the final part of a series about decarbonising building materials, *Modus* focuses on flat glass, which involves one of the highest temperature industrial processes.

Subject Terms/Keywords: Materials and resources; Technology; Sustainability.

- Can our homes generate more energy than they consumer?

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Modus meets Melanie Ross, who leads the Green Building Technologies (GBT) research group and advocates for a green future, one building at a time.

Subject Terms/Keywords: Energy; Technology; Sustainability.

- **Work reboot: welcome to the hybrid office** – Are we at our best when working from home or office? The answer lies somewhere in the middle.

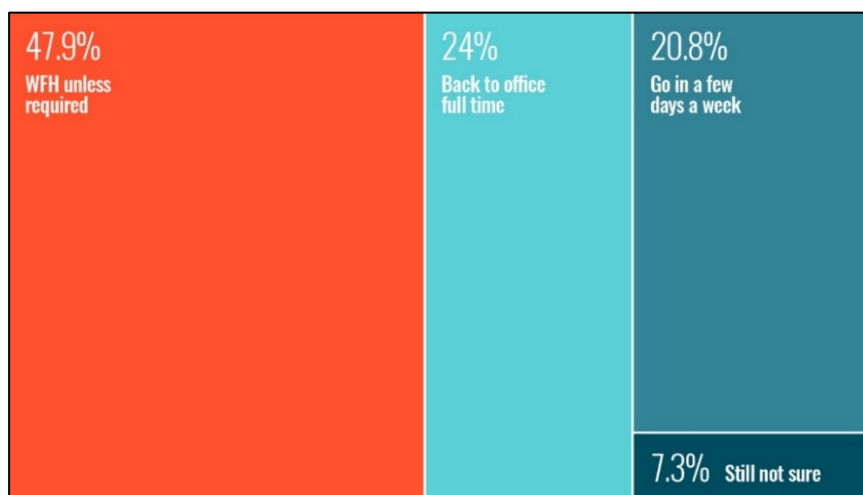
Subject Terms/Keywords: Wellbeing; Health and Safety; Running your business.

Related Links:

BBC Worklife (2020) '[Coronavirus: How the world of work may change forever](#)', *BBC Worklife* [online].

- **Working from home: how was it for you?** Companies are calling for staff to get back to the office but the data (as shown overleaf) suggests that employees aren't all ready to return to the commute just yet.

Subject Terms/Keywords: Running your business.

Working from home, how was it for you?

Source: RICS (2020) 'The results of the RICS Modus Twitter poll on home working', *Modus*, 1 October, London: RICS.

Please note: In addition to *MODUS*, RICS publishes other journals that are free to view online incl.

1. **Construction Journal** - The journal helps **quantity surveyors** and project managers with the technical and professional aspects of their day jobs and keep up to date with developments and practical matters in the profession. It covers topics including contracts, cost management, procurement, construction law and regulations, communications, and project management skills.
2. **Built Environment Journal** (Incl. Building Surveying, Building Conservation, and Building Control) - Coverage keeps

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practitioners in the disciplines of building surveying, building control, and building conservation up to date on the latest developments, products, standards, and guidance.

3. **Land Journal** - The journal emphasises the crossovers in these practice areas and their global nature, with articles contributed by experts from all over the ..
4. **Property Journal** - The journal contains high-quality technical material in clearly defined sections, as well as some material that crosses professional groups to reach a wider audience.

Further information can be accessed via the RICS Website, Home > News & Insights > **RICS Publications** [online].

The Heritage Alliance's (HA) **Heritage Update**, the latest edition, **October 2021 - Issue 453** focusing on – Updated Planning Practice Guidance; New Guidance for Businesses; and Do You Understand Your Digital Skills Needs? Also: **Engaging Digital Audiences**, available on the **HA project portal** - access webinars on diversifying digital audiences, how to plan great webinars, how to use exceptions to copyright in your digital activities & how to encourage your audience to create user-generated content.

Institute of Workplace and Facilities Management (IWFM) **Facilitate**, the latest **September/October '21** edition focusing on 'Code red' – As we emerge from Covid-19, the way we manage and maintain our buildings can make a lasting contribution to carbon reduction. Workplace and facilities managers are the lynchpin in organisations to drive this transition. This month *Facilitate* publishes the findings of their 14th sustainability survey.

Contractors World International,

Construction Manager is the magazine of the Chartered Institute of Building (CIOB) who also publish the **Global Construction Review** (GCR). Note: Latest articles from both journals are covered earlier within this issue of *Knowledge Foundations*.

Subscriptions available via the VLE e-Library include:

Construction Information Service (CIS) Insight 2021. The Latest Edition [**October 2021**] focuses on – **Social equity and human-centred design**, and covers -

- **Social inequality and disproportionate suffering amongst poorer communities,**
- **Urban green infrastructure and poverty reduction, and**
- **Social equity, sustainability, and human-centred design.**

Taylor and Francis Online and include the following e-Journals:

- *Construction Management and Economics,*
- *Building Research and Information,* and
- *Journal of Property Research*

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Henry Stewart Publications and include the following e-Journals:

- *Building Survey, Appraisal and Valuation*,
- *Journal of Urban Regeneration & Renewal*, and
- ***Corporate Real Estate***.

Corporate Real Estate Journal is the essential peer-reviewed, professional journal for corporate real estate executives.

Each quarterly 100-page issue publishes high quality articles and real case studies on new thinking, strategies, and techniques in corporate real estate. It cuts through the deluge of information facing corporate real estate professionals to deliver content, which is authoritative, practical, and relevant by providing a blend of genuine thought-leadership – which expands what can be achieved with corporate real estate – with detailed, actionable advice and ‘lessons learned’ from industry peers.

In-depth articles and case studies scheduled for the new volume, **Vol 11 (2021)** of **Corporate Real Estate Journal** incl.

1. **Redefining the workplace post COVID and how corporate real estate professionals can meet the resulting challenges,**
2. **Anticipating the next recession: What should corporate real estate do to prepare?**
3. **Resurrecting real estate acquisition and leasing and what this means for corporate real estate professionals,**
4. **The future of work and horizontal integration of HR/technology/risk: The critical role of corporate real estate and how the management of supply and demand is evolving,**
5. **The challenges and opportunities presented by hybrid workplaces and how to balance business requirements and employee expectations,**
6. **Building and leading the right (internal and external) site selection team for your project,**
7. **The need for more flexibility and adaptability in corporate real estate portfolios while enhancing the employee experience through the workplace,**
8. **Taking a capital market – investment banking approach to corporate real estate portfolios to maximise value to the company,**
9. **How the ‘new normal’ is changing the office environment,**
10. **Why and how corporate real estate professionals should adopt PropTech,**
11. **Information strategy in view of FM-futures: The evolving role of information systems in FM,**
12. **Why and how Skanska applied for a WELL Health Safety Rating,**

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13. Future proofing legal workplace strategies and real estate footprint,
14. Strategy and portfolio planning and whether a hub and spoke model is realistic,
15. A real estate investment perspective on value-added tools for corporate real executives,
16. Hybrid space making: Rethinking the bank branch experience for the digital age,
17. Corporate headquarters leasing: Key considerations for a post-pandemic workplace,
18. Ways to turn uncertainty into opportunity in corporate real estate,
19. Experiences of work from home: The future of distributed work locations – A comparative empirical analysis between the U.S. and Germany,
20. How data analytics and change management are transforming the future of workplace,
21. A practical approach to transforming the workplace,
22. Formal relational contracts: Why you should consider using them for your next outsourcing deal
23. Strategies for employee happiness and real estate optimisation in the post COVID office,
24. Best practices of commercial management of parking assets for corporate real estate investors, and
The innovation deficit: The importance of the physical office post COVID-19.

[Vol 10 \(4\) \(2020-21\)](#) of [*Corporate Real Estate Journal*](#)
[Vol 10 \(3\) \(2020-21\)](#) of [*Corporate Real Estate Journal*](#).
[Vol 10 \(2\) \(2020-21\)](#) of [*Corporate Real Estate Journal*](#), and
[Vol 10 \(1\) \(2020-21\)](#) Special issue: COVID-19, CRE and workplace response

HSTalks

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HSTalks is a member of the Henry Stewart Group which has been a leader in providing graduate and continuing professional education in science, business, and management for over 40 years through peer reviewed vocational journals (such as the *Corporate Real Estate Journal*), conferences and online education for medical schools, business schools, universities, government, and commercial enterprises in over 60 countries around the world.

Henry Stewart Talks Ltd (HSTalks) provides specially prepared, animated, online, audio-visual lectures, seminar-style talks and case studies that accompany the 'Business & Management Collection' of e-Journals that the UCEM e-Library subscribes to.

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Educational Journal titles and Open Educational Resources (OERs) reviewed by UCEM e-Library

Open Praxis – peer-reviewed open access scholarly journal focusing on research and innovation in open, distance and flexible education.



This work is licensed under a [Creative Commons Attribution 3.0 Unported License \(CC BY 3.0\)](#).

This first Open Praxis issue in 2021 (January – March) presents a brief report on the Open Praxis progress since 2013, with a special focus on volume 12, published in 2020. It also introduces -

Vol 13(1), that includes 7 research papers and 2 innovative practice papers.

Research articles include:

1. Exploration of China Africa Cooperation in Higher Education: Opportunities and Challenges in Open Distance Learning’,
2. ‘Evaluating student support provision in a hybrid teacher education programme using Tait’s framework of practice’,
3. ‘Student support service excellence evaluation: Balancing the Iron Triangle of accessibility, cost-effectiveness and quality?’
4. ‘Exploring Student Perceptions as Co-authors of Course Material’,
5. ‘Inequitable Impacts of Textbooks Costs at a Small, Private College: Results from a Textbook Survey at Gettysburg College’,
6. ‘A global crash-course in teaching and learning online: A thematic review of empirical Emergency Remote Teaching (ERT) studies in higher education during Year 1 of COVID-19’,
7. ‘Exploring Learners’ Attitude toward Facebook as a Medium of Learners’ Engagement’.

Innovative practice articles:

1. ‘Does Virtual Field Experience Deliver? An Examination into Virtual Field Experience during the Pandemic and its Implications for Teacher Education Programs,
2. Lessons learned developing a massive open online come in implementation research in infectious diseases of poverty in-and middle-income countries.

[Back to top](#)***European Journal of Open, Distance and E-Learning***

(EURODL), an electronic, multi-media, open access journal. It publishes the accounts of research and presents scholarly work and solid information about open, distance, online and e-learning in technology-enhanced education and training in its most inclusive definition.

Published in the **Latest Issue of EURODL**, **Vol. 23 (2021): Issue 2 (Jan 2021)**, article titles include:

- 'Building Digital Capacity for Higher Education Teachers: Recognising Professional Development Through a National Peer Triad Digital Badge Ecosystem',
- 'Cultivating Self-Regulated Learning in Flipped EFL Courses: A Model for Course Design',
- **'Transcript and Accessibility: Student Views from Using Webinars in Built Environment Education'**, by **UCEM's Tharindu R. Liyanagunawardena**
- 'Vector AR3-APP – A Good-Practice Example of Learning with Augmented Reality',
- 'Educators' Digital Competence in Swedish Rural Schools',
- 'Proposition for the Introduction of the Concept Telemathesis in Videoconferencing in Distance Education',
- 'Developing E-Authentication for E-Assessment'
- 'Diversity of Students Testing the System in Higher Education'.

Online Learning Journal (OLJ), the official journal of the **Online Learning Consortium (OLC)**

The **Online Learning Consortium's** premier journal dedicated to the development and dissemination of new knowledge at the intersection of pedagogy, emerging technology, policy, and practice in online environments.

The OLC **Online Learning Journal**, latest edition, **OLJ September 2021 Vol 25(3)**.

2021 OLC Conference Special Issue**Table of Contents –****Introduction to Volume 25, Issue 3**

- 'Introduction to the Special Issue: Select Papers Presented at the 2020 OLC Accelerate Conference and the 2021 OLC Innovate Conference',
- 'Does Mode of Access Make a Difference? Mobile Learning and online student engagement',
- 'Student Performance in Online Classes at a Hispanic-Servig Institution: A Study of the Impact of Student Characteristics in Online Learning',
- 'Connections Before Curriculum: The Role of Social Presence During COVID-19 Emergency Remote Learning for Students',
- 'The Story is in the Structure: A Multi-Case Study of Instructional Design Teams',

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- 'Troublesome Knowledge: Identifying Barriers to Innovate for Breakthroughs in Learning to Teach Online'.

Section II

- 'Introduction to Section II'
- 'Development and Testing of a Roleplaying Gamification Module to Enhance Deeper Learning of Case Studies in an Accelerated Online Management Theory Course',
- 'The Effects of E-Learning on Students' Motivation to Learn in Higher Education',
- 'Student Self-Disclosure and Faculty Compassion in Online Classrooms',
- 'How Can We Improve Online Learning at Community Colleges? Voices from Online Instructors and Students',
- 'A content analysis of change management strategies used in technological transitions in higher education institutions from the lens of a strategic alignment framework',
- 'Parents' Use of Digital Literacies to Support their Children with Disabilities in Online Learning Environments',
- 'Student Initiative Empowers Engagement for Learning Online',
- 'Catching lightning in a bottle: Surveying plagiarism futures',
- 'Supporting Student-Initiated Mobile Device Use in Online Learning',
- 'Hybrid Flexible Instruction: Exploring Faculty Preparedness',
- 'Developing Peer Review of Instruction in an Online Master Course Model'.

[ISSN: 2472 – 5730]

[Higher Education Pedagogies](#), an Open Access Journal.

[Henry Stewart Publications](#), Management e-Journal collection incl. *Journal of Education Advancement & Marketing*.

[The Open Education Research Hub](#) (OER Hub), and

[The Directory of Open Access Journals](#) (DOAJ)

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e-Book Review

Managing Diversity and Inclusion in the Real Estate Sector

Clack A and Gabler J (2019) *Managing diversity and inclusion in the real estate sector* [e-book], Oxon: Routledge. e-ISBN-13: 9780429428975

Research shows that high-performing organisations focus on diversity and inclusion (D&I). In any workplace, it is important to both understand and recognise the benefits that having a D&I workforce provides. It is integral to developing people within an

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organisation, serving clients as best we can, and playing an important leadership role in communities.

Managing diversity and inclusion in the real estate sector is the first to place D&I at the centre of successful real estate and construction organisations. It provides guidance to, and most importantly, actions for professionals in the sector who want to make D&I an inherent part of the culture of their organisation. This book has been written to bring the sector up to speed with what D&I is all about and how a D&I strategy can be implemented to secure future success. It presents a practical and easy-to-read guide that can help organisations and their leaders engage with and apply this agenda to win the war for talent in real estate and construction.

This book is essential reading for all property leaders and professionals working in the real estate and construction sectors. Readers will gain especially from personal reflections on all aspects of diversity by a broad range of people working in the property industry.

Adding some Tec-Variety: 100+ Activities for Motivating and Retaining Learners Online

Bonk C J, and Khoo E R (2014) *Adding some Tec-Variety: 100+ Activities for Motivating and Retaining Learners Online* [e-book]. CreateSpace Independent Publishing Platform, e-ISBN-13: 9781496162724

As this book states, “Motivation is central to all things human” and Online teaching and learning are no different. The authors of this free online book propose the TEC-VARIETY framework as a solution to the lack of meaningful engagement.

It can shift learners from nearly comatose states to actively engaged ones. *Adding Some TEC-VARIETY* helps instructors focus on how to motivate online learners and renew their own passion for teaching. Using 10 theoretically driven and proven motivational principles, TEC-VARIETY offers over 100 practical yet innovative ideas based on decades of author experience teaching in a variety of educational settings.

[Access the free online book Adding Some TEC-VARIETY](#)

Please note: The authors have made an online version of this work available under a **[Creative Commons Attribution-Non-Commercial-Share-Alike 3.0 Licence](#)**.

Studying at a Distance

Talbot C (2010) *Studying at a Distance* [e-book]. Maidenhead: Open University Press, e-ISBN-13: 9780335238057

This essential guide provides practical help and support for those who have not previously studied at a distance and is ideal for students returning to study after a break. It covers fundamental issues such as motivation, goal setting, time management and

coping strategies. Additional coverage in this third edition includes: specific information on the use of new technologies in distance learning; detailed coverage of referencing, citation, and plagiarism; description of using mind maps and other techniques for planning and writing essays or reports; support for disabled students, particularly those with dyslexia; and an expanded further resources section.

Directory of Open Access Books (DOAB)

The primary aim of DOAB is to increase discoverability of Open Access books.

[Access the Directory of Open Access Books \(DOAB\)](#)

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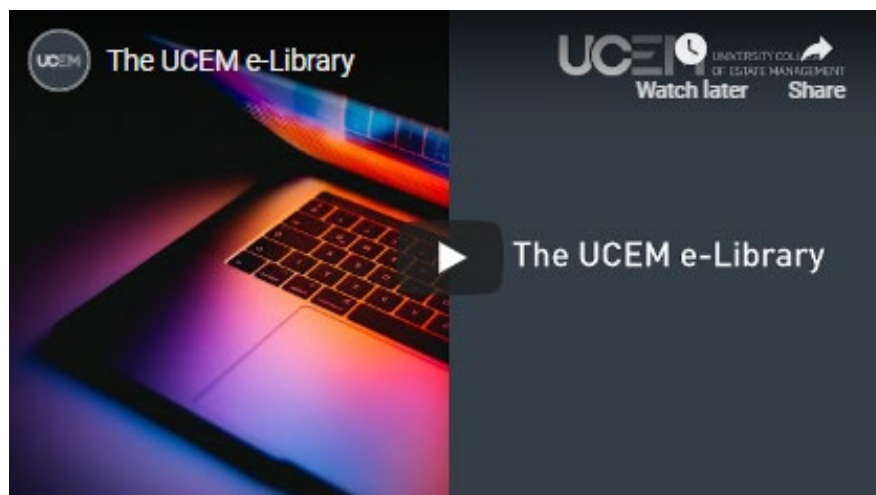


UCEM e-Library Portrait

The aim of the e-Library

The aim of the e-Library is to:

- disseminate information, share good practice, and promote current awareness to assist in underpinning written work,
- add value and depth to our students' study experience, and
- support the continuing professional development of all those working and aspiring to work in the built environment.



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At UCEM, we recognise that in an information-rich age and when everyone is pressed for time, it can be a challenge to find good-quality information when you need it.

Whether you are obtaining a qualification, undertaking CPD or researching a particular field, having access to a well-equipped library is essential.

The UCEM e-Library (accessed through the Virtual Learning Environment - VLE) is a comprehensive and valuable online resource, enabling students to access a wealth of subject-specific and credible information to support them throughout their studies and career development.

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What resources are available in the UCEM e-Library?

The e-Library is made up of 11 sections and provides students with around the clock access to online searchable databases from key industry and educational sources, thousands of journals, books, and resources, UCEM's entire collection of study materials and published work and UCEM's dissertation library.

The sections that make up the UCEM e-Library:



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Resources available within the UCEM e-Library include: Up-to-date information and online searchable databases from –

Key educational sources that include- Taylor and Francis Online, Ingenta Connect, Henry Stewart Publications and HS Talks, JustisOne, Westlaw EDGE UK, EBSCO Business Source Premier, Emerald Insight - access to around 2600 eBook titles and their entire 'Property Management and the Built Environment' collection of journals, and

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Industry-specific sources that include- IHS's Construction Information Service, *Estates Gazette* digital journal and Estates Gazette Interactive (EGi), RICS's BCIS – Building Cost Information Service and ISURV online information service, NEC - New Engineering Contract Academia, BSRIA – Building Services Research and Information Association, and more.

Where to find help - Overwhelmed by the sheer amount of information out there?

Not only do libraries provide us with books to read, but they are valuable tools and resources. The UCEM e-Library is continually striving for improvement and changing to meet the demands of today's technology and ever-expanding volumes of knowledge creation.

The e-Library is here to help make finding up-to-date, credible, and relevant information easier.

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Emerald champions new ideas in advancing the research and practice of business and management, and manages a portfolio of nearly 300 journals, including a 'Property Management and the Built Environment' collection that UCEM subscribes to.



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Emerald works in close collaboration with numerous academic (including UCEM) and corporate organisations worldwide. Emerald Publishing endorses the e-Library's tailor-made research reports – a service provided to UCEM tutors to help supplement teaching and learning materials on subject-specific areas.

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[October 2021] - Here are some Open Access Journal articles available via Emerald, all around the theme of '**Online Learning**'.

Note: The following article examples are freely available via **Emerald Publishing Open Access**:

1. Perera A, Rainsbury L, and Bandara S (2021), 'Face-to-face delivery this week, online the next: a reflection', [Accounting Research Journal](#), Vol. 34(3), pp. 270-278, Emerald Publishing Ltd, and.
2. Chen C, Landa S, Padilla A, and Your-Austin J (2021), 'Learners' experience and needs in online environments: adopting agility in teaching', [Journal of Research in Innovative Teaching & Learning](#), Vol. 14(1), pp. 18-31, Emerald Publishing Ltd.
3. Karunanayaka S (2008), 'Designing an online learning community among teacher educators', [Asia Association of Open Universities Journal](#), Vol. 3(2), pp. 71-82, Emerald Publishing Ltd.

Remember:

"A Librarian is a powerful search engine with a heart, that listens and understands the library and information requirements of others and provides a response in a format that suits their needs" says Lucy Roper, UCEM Information Governance Manager and who can be contacted on the library@ucem.ac.uk email address.

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Student Career Services

UCEM Career Services

UCEM Career Services is part of the Student Outreach Team and Student Services. They offer careers Information, Advice and Guidance (IAG) to potential, current and past students. The service is confidential, non-judgmental, and impartial.

Access UCEM Career Services

Building Better Property Professionals



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Property Elite's sole aim is to build better property professionals – supporting your career every step of the way, whether you are completing a RICS accredited degree course, your RICS Assessment of Professional Competence (APC) or simply seeking engaging Continuing Professional Development (CPD).

[Property Elite](#) provides training and CPD services for property professionals, including students, APC candidates and corporate clients.

Their Hot Topic Highlight blog posts will arm you with the information on the hottest topics – ready to tackle an important client meeting or begin revising for your RICS APC final assessment.

This month [**October 2021**] the **Hot Top Highlight – Fire Safety Act 2021**

In this latest blog article, Property Elite focus on the Fire Safety Act 2021. This sits within the wider context of Government reform relation to fire and building safety, e.g., Building Safety Bill, which future blog articles will focus on.

All APC and AssocRICS candidates will need to have an understanding and awareness of fire safety.

What is the Fire Safety Act 2021?

The Fire Safety Act 2021 was a product of the Fire Safety Bill, following the Grenfell Tower fire in 2017. It amends the Regulatory Reform (Fire Safety) Order 2005 (Fire Safety Order).

[Access the full text of the Fire Safety Act 2021.](#)

When did it take effect?

The Fire Safety Act 2021 received Royal Assent on 29 April 2021. However, it has not yet taken legal effect as the Government have not published their supporting risk-based guidance.

This will be in the form of PAS 9980: Fire risk appraisal and assessment of external wall construction and cladding of existing blocks of flats – Code of practice, which has recently undergone public consultation (see publication date).

Areas covered within this blog incl.

- 1) **What is the aim of the Fire Safety Act 2021?** To help residents to feel safe in their homes and to prevent similar tragedies to the Grenfell Tower fire occurring.
- 2) **What does the Fire Safety Act 2021 apply to?**
- 3) **What amendments does the Fire Safety Act 2021 make to the Fire Safety Order?** and
- 4) **Who is a Responsible Person?**

[Further details and access to the Property Elite Hot Topic Highlight blog, and Fire Safety Act 2021.](#)

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Lucy's Top Tip – If you are planning to sit your RICS APC/AssocRICS, make sure you are aware of Property Elite's APC Support services, including submission reviews, question packs, revision quizzes and e-mock interviews.

Note: The author of most of these blogs, Jen Lemen-Hogarth is an Associate Tutor – UCEM and Partner – Property Elite.

You can also download this blog [in audio format](#) and listen whilst on the move. When you're done, you can request further information and a free CPD certificate.

[Access Property Elite's 'Building Better Property Professionals', Latest Blogs](#)

Other related web-links

[GoConstruct.org](#) website showcases the many career opportunities available in construction and the built environment. The website helps to meet the future skills needs of the industry and to recruit a workforce that is diverse and ready for the challenge of the future.

[TARGETjobs](#) – All TARGETjobs graduate career guides and directories are available for you to view online and download for future reference and include [Property 2020](#), [Engineering 2021](#), and [Careers Survival Pack](#).

[House Building Careers](#) – Part of Home Builders Federation (HBF), here you will be able to learn about the home building industry and how it benefits you, your community, and the country as a whole.

[Access to: RICS Careers](#) – What is surveying? See how surveyors shape our communities and tackle global issues like climate change – and discover how you can improve the world around you.

Building People



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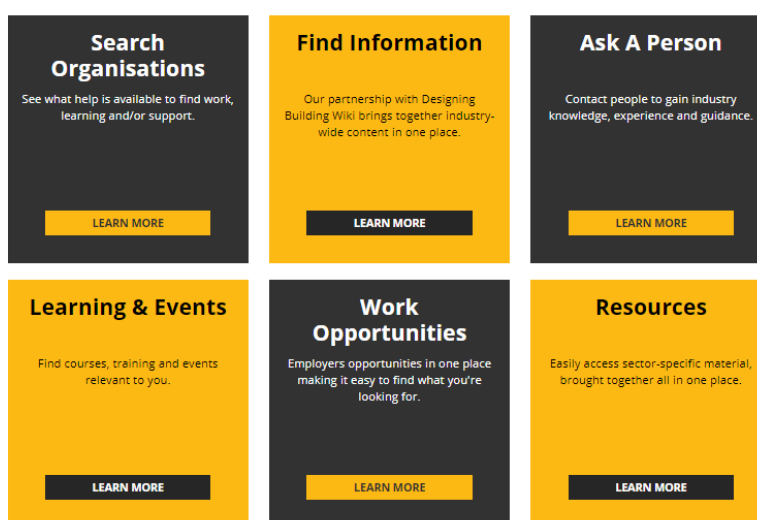
Enabling connections for a competent, diverse, and valued built environment workforce

The aim of 'Building People' was to create a technology platform and collaborative network, that enables connections and seeks to reduce the skills shortages across the Built Environment.

'Building People', a social enterprise that aims to connect people traditionally not involved in the Built Environment sector with employers seeking to plug the skills gap via an online platform.

People Wiki:

What are you looking for?



© Building People 2021

'Building People' and 'Designing Buildings Wiki' have launched 'People Wiki', a free, open access knowledge sharing platform for diversity and inclusion, skills and careers, and social value.

The UK needs to build, but there is a shortage of competent and experienced workers, and the workforce we have lacks diversity. Building People joins the dots to help people find employers, opportunities, and resources, and to help employers engage with a more diverse range of talent.

The launch of People Wiki is a crucial part of Building People's ambition to create a single platform that brings together a multitude of previously fragmented information, knowledge, resources, opportunities, and needs focused on diversity and inclusion, skills and careers, and social value. This platform is now live and provides users with options to find organisations that can support them with built environment careers, as well as access to information and resources. In September, the platform will expand to include directories that bring together events, courses, and work

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vacancies (with an initial prototype focus on the surveying profession).

People Wiki has been created as part of Designing Buildings Wiki and is fully linked to its 10,000 existing articles and easily accessible by its 7.5 million annual users. This collaboration with an established and respected industry knowledge base will help Building People achieve its vision of a built environment that improves social and economic value by being better connected, more diverse and more inclusive.

Related Link:**UCEM incubate social enterprise, Building People, becomes a fully-fledged success story**

Building People, whose mission is to improve equality, diversity, and inclusion in the built environment, is now an independent entity.

Since its inception in 2018, UCEM has provided the enterprise with office space, founder job security and donations totalling £150,000. This gave Building People the perfect platform to deliver its collaborative 'dot-joining' activity, connecting people to opportunities across the built environment and enabling employers to engage with a more diverse range of talent.

With strong levels of support coming in from across the sector, both parties are in agreement that now is the time for Building People to fledge the nest and become a separate entity.

It is an exciting time for the social enterprise as it announces its three-year plan, which focuses on five key areas:

1. **Profile:** Positioning Building People as the go-to source for equality, diversity and inclusion best practice and activities, and thought leadership in the built environment,
2. **Partnerships:** Delivering maximum joined-up impact through the growth and development of Building People's supply and demand networks,
3. **People:** Enabling equality of opportunity through the provision of a simpler and more supported user experience in a fragmented careers landscape,
4. **Policy:** Aligning with and supporting the achievement and enhancement of relevant national sector policy and activity, and
5. **Planning:** Establishing a secure future of Building People as a sector-backed movement for collaborative change across the built environment.

Access the article '[**UCEM incubated social enterprise, Building People, becomes a fully-fledged success story**](#)' in full.

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UCEM Sustainability Hub

UCEM has a Sustainability Hub within the VLE e-Library where you will find interesting resources, news, articles, projects and publications which support and information 'future skills' for sustainability within the construction, surveying, and property industries.

Sustainability supports UCEM vision and core purpose to provide truly accessible, relevant, and cost-effective education, enabling students to enhance careers, increase professionalism and contribute to a better built environment.

Building Research Establishment (BRE) Sustainability

- Practical guidance and support for delivering genuine sustainability benefits.

Greater sustainability and its many benefits can be achieved for all buildings, homes, organisations, and communities. The BRE provides leading edge information and advice on all aspects of sustainable that include – Sustainable construction of buildings, Communities, Infrastructure, Sustainable organisations, Materials, products and services, Waste management, Energy management services, and Training and publications.

[Access BRE Sustainability](#)

The Routledge Sustainability Hub

The Routledge Sustainability Hub is an innovative Knowledge Centre for the global sustainability community, this Hub offers a wide range of resources for everyone – whether you are a teacher, a student, a professional or a citizen of the earth curious to discover more about the many facets of sustainability.

[Access the Routledge Sustainability Hub](#)

The Green Agenda

Within the Savills Market Trends – 'Real estate investment in 2021: global outlook' (mentioned earlier within this issue of *Knowledge Foundations*) they covered 'The Green Agenda' Despite the challenges of 2020, the rising importance of environmental, social and governance (ESG) credentials for investors has continued to grow.

Across the globe, governments are making 'climate emergency' declaration and commitments to meeting net zero carbon in certain timeframes. To honour these commitments, new investment into green technology, energy and much more has been announced but also an increasing amount of regulation.

Real estate is under the spotlight as the built environment accounts for 40% of carbon emissions across the world. This will

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present challenges but it's also an opportunity for real estate investors to make a significant difference.

[Read the Market Trends – 'Real estate investment in 2021: global outlook', in full.](#)

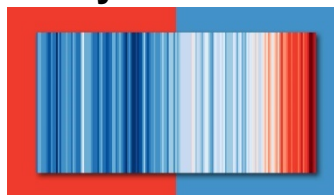
Countdown to COP26 – What can the Construction Industry do?

- The next UN Climate Change Conference, COP26, is being held in Glasgow at the beginning of November. This is an opportunity for action. Not just for the countries and delegates attending. But for all of us to challenge what we do, and what the construction industry, can do.

Stride Treglown in England and Wales, TODD Architects in Northern Ireland and Ireland, and Keppie in Scotland have joined forces to host an eight-week programme of free events counting down to COP26.

[Access further information on 'Climate Action Relay – Countdown to COP26'.](#)

UK sets 'most ambitious' climate target to cut emissions by 78% by 2035



[Image: courtesy Ed Hawkins]

(Climate stripes as shown in this image are sometimes referred to as warming stripes, or climate timelines and are data visualization graphics that use a series of coloured stripes chronologically ordered to visually portray long-term temperature trends.)

The UK government has set the 'world's most ambitious' climate change target into law to slash emissions by 78% by 2035 compared to 1990 levels. In line with the recommendation from the independent [Climate Change Committee](#), this sixth Carbon Budget limits the volume of greenhouse gases emitted over a 5-year period from 2033 to 2037, taking the UK more than three-quarters of the way to reaching [net zero by 2050](#). For the first time, this Carbon Budget will incorporate the UK's share of international aviation and shipping emissions.

On **Earth Day (22 April 2021)** Prime minister Boris Johnson urged countries to raise ambition on [tackling climate change](#) and join the UK in setting stretching targets for reducing emissions by 2030 to align with net zero.

The government is already working towards its commitment to reduce emissions in 2030 by at least 68% through the UK's latest Nationally Determined Contribution. The latest announcement

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builds on this goal to achieve a 78% reduction by 2035. The new target will become enshrined in law by the end of June 2021.

'Raising the bar on tackling climate change'

Prime minister Boris Johnson said: "We want to continue to raise the bar on tackling climate change, and that's why we're setting the most ambitious target to cut emissions in the world.

"The UK will be home to pioneering businesses, new technologies and green innovation as we make progress to **net zero emissions**, laying the foundations for decades of economic growth in a way that creates thousands of jobs.

"We want to see world leaders follow our lead and match our ambition in the run up to the crucial **climate summit COP26**, as we will only build back greener and protect our planet if we come together to take action."

'Government must clearly map out how it plans to tackle the carbon emissions'

Ben Harris, UK climate change & sustainability director at Arcadis, and Catherine Greaves, managing director of environment, safety & industry, said: "We welcome the news from the UK Government this morning on the adoption of the 78% reduction in carbon emissions by 2035 on the advice of the Committee on Climate Change.

"If we are to take this new target seriously, Government must clearly map out how it plans to tackle the carbon emissions attributable to the built environment, which account for approximately 40% of UK emissions."

[Access further information and the PBC Today article, 'UK sets 'most ambitious' climate target to cut emissions by 78% by 2035', in full.](#)

China Dialogue – Policy briefing: EU-China climate engagement

- This briefing examines the policies driving decarbonisation in the EU and China, and the synergies and gaps that are shaping their cooperation.

[Access China Dialogue reports online.](#)

QSAND and the Sustainability Goals

The UN Sustainable Development Agenda, adopted by world leaders in 2015, maps out a 15-year plan to fight inequality, end poverty and tackle climate change challenges. Quantifying Sustainability in the Aftermath of Natural Disasters (QSAND) is a self-assessment tool to promote sustainable approaches and contributing to aid the achievement of several of these 17 goals in disaster affected global communities:

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Source: Designing Buildings .co.uk Wiki (2019) 'Forgetting the big picture when considering sustainability' [online], last edited 31 March. Note: "The Sustainable Development Goals icons and colour wheel are free to use" ([UN.org](#) 2021)

Note: Use of Wikis as a reference site

Wikipedia and use of other Wikis are increasingly being used by people in the academic community, as an easy source of information about anything and everything. However, citation of Wikipedia may not be considered acceptable, because Wikipedia is not a credible source. It is important to note that whilst Wikipedia may be one of the Web's most popular reference sites, it is not classed as a credible resource because anyone can be a contributor to the website.

This can be avoided by following two simple rules:

- Remember that an encyclopaedia (which include Wikipedia and any other Wiki) can be a good starting point for research, and not an ending point.
- An encyclopaedia can be good for getting a general understanding of subject before you extend your study of the subject further. But you then must consider the subject in more depth using books, journals articles and other appropriate and credible resources. What you find in these other sources of information will be more detailed, more precise, and more carefully reasoned than the summary you found in an encyclopaedia. The sources you reference/cite in your work will therefore be these more detailed sources you have used.

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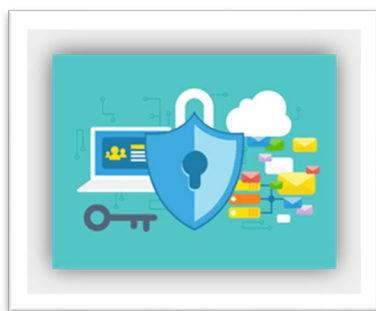


Information Governance

UCEM is committed to advancing information governance and compliance, ensuring that the services provided comply with the General Data Protection Regulation (GDPR), Data Protection, Freedom of Information, Records management, Copyright, and Information Security.

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Information Governance:



© 2020 iStockphoto LP, Royalty free image

To make sure that information is available in the right place and at the right time to support others, the e-Library ensures that the information services comply with data protection and copyright.

Data Protection

With new technologies constantly emerging and us finding ourselves moving further into an ever more digital direction, our personal data, how it is used and who has access to it becomes a growing and global concern for all.

The General Data Protection Regulation (GDPR) was the first legislative change in recent years to address these concerns, with a broad aim to invoke a cultural shift in the way organisations manage personal data.

Further information, advice, and guidance on Data protection, GDPR and more can be found at the Information Commissioner's Office (ICO), the UK's independent authority set up to uphold information rights in the public interest, promoting openness by public bodies and data privacy for individuals.

[Access the Information Commissioner's Office website](#)

Latest Data Protection News [October 2021]

BBC News: Second email data breach by MoD uncovered

- A second data breach (see publication date) by the Ministry of Defence, potentially compromising the safety of Afghans who may be eligible to relocate to the UK, has been uncovered by the BBC.

[Access the BBC News article, 'Afghanistan: Second email data breach by MoD uncovered', in full.](#)

ICO Latest News [October 2021] -

7 October 2021 – [ICO Response to DCMS consultation "Data: a new direction"](#)

14 September 2021 - ICO Blog: [Sharing personal data in an emergency – a guide for universities and colleges.](#)

[G7 data protection and privacy authorities' meeting: communiqué](#) and [ICO to call on G7 countries to tackle cookie pop-ups challenge](#) (ICO, September 2021)

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11 August 2021 – [ICO consults on how organisations can continue to protect people’s personal data when it’s transferred outside of the UK](#)

6 May 2021 – [Five things we learned from DPPC 2021](#) – The ICO’s Data Protection Practitioners’ Conference 2021 brought together more than 3,000 data protection professionals from across the country. Here are the five headlines from the day:

1. UK SCCs (standard contract clauses) to go out for consultation in the summer,
2. A challenging year has brought positives,
3. Data protection can be a balancing act,
4. Data protection made easy for SMRs, and
5. Unlocking the benefits of data sharing.

[Access the Information Commissioner’s Office, ‘News, blogs, and speeches’ section of their website](#)

Further information, advice, and guidance (IAG) provided by the ICO

The ICO publish detailed IAG on:

- [Guidance on direct marketing and the public sector](#) (ICO, August 2021)
- [Sharing personal data with law enforcement authorities](#),
- [Data sharing and reuse of data by competent authorities for non-law enforcement purposes](#),
- The [Accountability Framework](#). (ICO, September 2020),
- [Codes of conduct and certification schemes](#).(ICO, February 2020)
- When using data analytics on personal data, the ICO is urging all organisations to look at its toolkit. It can be found at **ICO > For Organisations > Toolkit for organisations considering using data analytics** (ICO, February 2021)
- [Freedom of Information Self-assessment toolkit](#) launched in 2020 helps identify gaps in compliance.
- Further updates have been made to [guidance for handling Subject Access Requests](#) including a [step-by-step guide for small businesses](#)
- [Building a controller-to-controller contract](#) + template contract with guidance

ICO What’s new? [October 2021]

The Information Commissioner’s Office (ICO) website has a ‘What’s new’ section that is updated on a regular basis to highlight and link to any changes in their [ICO Guide to Data Protection](#) as they occur, for example:

April 2021 – The ICO have published guidance on the [National Security Provisions](#) in Part 3 of the DPA18 and updated the [Guide to Intelligence Services Processing](#).

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March 2021 – The ICO have published new guidance on the [national security exemption](#) in Part 2 of the DPA18.

January 2021 - The ICO have published an Updated BCR communication following the EU-UK Trade and Co-operation Agreement to the [International transfers after the UK exit from the EU Implementation Period](#).

December 2020 - The ICO published the new [Data Sharing Code of Practice](#), alongside a [data sharing information hub](#) with further resources and support.

Further guidance provided by the ICO.

[Read the Blog: ‘Access to information: driving change through education, engagement and enforcement’, in full](#)

Copyright

“It is important to remember that Copyright material in digital form is protected in exactly the same way as Copyright material in any other format. For example, text and images on a website are protected by copyright in the same way as printed material.

Please note: if there is something you really want to use for learning materials and someone else owns the copyright ... [permission must be sought!](#)

The copyright owner may wish to charge you, but often they just appreciate you asking them if they are happy for you to acknowledge their work and inform them of how the information will be used and who it will be circulated to”.

Source: Salmon, Prof. G., (2013), *E-tivities*, London: Routledge

Introducing Copyright: A plain language guide to Copyright in the 21st Century

Computers and the Internet have transformed the way we produce and distribute information and entertainment. And copyright is struggling to keep pace with these changes. This book was written for those who want to learn about copyright in the 21st century. It explains copyright protection and what it means for copyright holders and copyright users. It also introduces readers to contemporary topics: (i) digital rights management, (ii) open licences, (iii) software patents and (iv) copyright protection for works of traditional knowledge.

Hofman J (2009) *Introducing Copyright: A plain language guide to Copyright in the 21st Century* [e-book], Vancouver: The Commonwealth of Learning.



[Access free copies of this book \(in PDF and EPUB formats\)](#)

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The Copyright Licensing Agency Ltd (CLA)

The CLA are a licensing body as defined by the Copyright, Designs and Patents Act 1988 c.48 (as amended) ["CDPA"]

The CLA licence organisations to copy and re-use extracts from print and digital publications on behalf of copyright owners – authors, publishers, and visual artists. By 'copying' the CLA means photocopying, scanning and re-use of content from magazines, books, journals, electronic and online publications, as well as press cuttings or documents supplied by a licensed third party.

Having a CLA licence helps to reduce the risk and potential cost of copyright infringement. This requirement applies to any organisation in the business, education, public or charitable sectors. **Note:** UCEM holds a **CLA 'Higher Education Photocopying and Scanning Licence'**

[Access the Copyright Licensing Agency website for further information](#)

CLA Title Search tool

The [CLA Title Search tool](#) is an online search tool that lets you quickly find out what you can copy under your organisation's CLA licence. Whether you'd like to photocopy and distribute an article to colleagues or upload a report to an intranet or VLE, the CLA Title Search simplifies the steps required to ensure compliance.

[Check permission at CLA Higher Education Licence.](#)

[Introducing the CLA Step-by-Step Guide and Interactive Toolkit for those checking permissions within their licence.](#)

Latest Copyright News

Article 13: UK will not implement EU copyright law.

- Universities and Science Minister Chris Skidmore has said that the UK will not implement the EU Copyright Directive after the country leaves the EU.

Several companies have criticised the law, which would hold them accountable for not removing copyrighted content uploaded by users if it is passed.

EU member states had until 7 June 2021 to implement the new reforms, with UK having left the EU by then.

[Read the full BBC Technology news item 'Article 13: UK will not implement EU copyright law'](#)

[Read the latest 'BBC Copyright News'](#)

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Government Guidance – Changes to copyright law from 1 January 2021

- This guidance covers the impacts on UK right holders, businesses, cultural heritage institutions and consumers.

Note: It is not legal advice.

[Access the GOV.UK ‘Changes to copyright law from 1st January 2021’, in full.](#)

Keeping abreast of the latest developments in Information Governance:

[Copyright Resources](#) – Naomi Korn Associates has developed free and openly licensed copyright, licensing and data protection help resources.

Copyright & Information Technologies in Education (CITE)



© CLA 2020

The CITE Forum is a place to discuss the CLA's technology and licence offerings (such as the Digital Content Store) but also an opportunity for Higher Education Institute's to network, share and disseminate relevant copyright information.

As UCEM Information Governance Manager I regularly attend the Copyright Licensing Agency (CLA) CITE Forum, and will be presenting, '**UCEM's e-Library: Our Story So Far**', at the next CITE Forum meeting in November 2021.

Copyright Licensing Agency (2019) '**[CITE – 2020 Vision](#)**', **[CITE Magazine, Winter 2019, No. 3](#)** [online].

Copyright Licensing Agency (2019) '**[A CITE to behold](#)**', **[CITE Magazine, Summer 2019, No. 2](#)** [online].

Copyright Licensing Agency (2018) '**[CITE Magazine - A biannual magazine for the CITE Community, Winter 2018, No. 1](#)**' [online].

UCEM is committed to advancing information governance and compliance, ensuring that the services we provide comply with **GDPR, Data Protection, Records Management, Copyright, and Information Security**.

Part of my role as involves keeping abreast of the latest developments and benchmarking the work I do against that of others. I also undertake regular Continuing Professional Development (CPD), and an element of this is attending the CITE Forum attending events and conferences provided through my professional body, CILIP – The Library and Information Association, and others.

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CILIP's National Copyright Conference 2021

This national conference was held on 10th May and in association with Naomi Korn Associates, as well as great speakers and further experts in the field in attendance. This conference provided an opportunity to delve deeper into copyright issues and gain a better understanding of how policy impacts on libraries and the information sector and covered the following:

- The impact of Brexit on the copyright law in the UK.
- Responses to Covid in the provision of access and use of copyright resources.
- The crucial role of the copyright exceptions.
- Familiarised with key issues on the horizon such as Plan S.
- Current legislative, licensing and publishing related landscape and the latest copyright research and how these might impact your day-to-day work.

Sessions covered broad copyright impact for the profession incl.

- **Keynote: Who's afraid of the copyright wolf: research, access, and respect**

Much of the digitisation landscape is dictated by copyright, particularly for 20th century content. For researchers, this can create complex barriers to access to either individual collections item, or aggregated collections data, that are often confusing to navigate. For researchers working in the Digital Humanities, access to materials can dictate project direction, or the questions that can be asked via digital methods. In this talk, *Professor Melissa Terras*: Professor of Digital Cultural Heritage, University of Edinburgh reflected on how copyright has shaped her research projects - and also, how the perceived boundaries of copyright affect the research environment. The fear of copyright affects both researchers and institutions: Terras asks if the framing of forceful copyright restrictions can also be replaced with stressing the contribution institutions make to safeguarding and stewarding collections for ongoing research access.

- **Brexit, orphan works, and your next steps**

Naomi Korn: Naomi Korn Associates analyses the UK Government response to leaving the EU and its position on orphan works. Based on key questions Naomi is answering as part of her part-time Phd research at the University of Edinburgh, Naomi will outline next steps and suggest what you might want to think about doing next.

- **Exceptions to Copyright**

In this talk, *Dr Jane Secker*: Senior Lecturer in Educational Development, City, University of London, and *Chris Morrison*: Copyright and Licensing Manager, University of Kent spoke about the ways in which educational establishments have addressed

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copyright issues associated with the shift to online learning. They discussed the importance of educational exceptions as a vital supplement to the use of licensed resources to enable the use of images, printed materials, and audio-visual content to teach online.

- **Open Access and Plan S**

The open access debate of the past two decades has raised issues around long-standing assumptions regarding copyright in scholarly journal articles. This has intensified as funders have looked to using rights as a way to promote greater open access. This talk by **David Prosser**: *Executive Director, RLUK* looked at the current state of the debate through the lens of recent policy from cOAlition S.

- **Bumps in the road: copyright responses to COVID in Higher Education**

Many aspects of our daily lives have been disrupted in some way over the course of the pandemic and copyright services are no exception. For those of us working in higher education institutions the sudden shift to online resource provision has meant that we need to work to adapt and enhance our provision in response to the lack of access to physical materials. At the same time, we need to manage expectations in terms of the availability of online materials and educate both users and staff in a constantly changing environment.

This talk by **Claire Sewell**: *Research Support Librarian for Physical Sciences, Cambridge University*, and **Kate Faulkner**: *Law Faculty Librarian, Cambridge University*, looked at the copyright journey taken by Cambridge University Libraries over the course of the last year. It will highlight how the initial response to the emergency was developed into a successful service, the challenges we faced as a university library with legal deposit responsibilities and the potential legacy of these changes for our copyright service. It will conclude with some of the lessons learnt and planned next steps to ensure that we build a copyright service useful to all.

- **Share Copies Not COVID: Update on CLA Developments**

James Bennett: *Head of Rights and Licensing, Copyright Licensing Agency* provided an overview of CLA's latest initiatives in response to the pandemic, looking at developments since the 2020 CILIP Copyright Conference, including licence enhancements to help with online teaching in schools and universities, and CLA and PLS's support for the process of REF submission by HEIs.

- **Europeana's licensing framework: a standardised approach to deal with unharmonised copyright frameworks**

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Europeana aggregates and displays digital cultural heritage from across Europe and beyond, and as such, is in touch with the diverse copyright challenges faced at the national level by cultural heritage institutions. During this session, **Ariadna Matas: Policy Advisor, Europeana Foundation**, will briefly introduce how Europeana showcases and uses digital cultural heritage, its central licensing system, the standardised tools that Europeana relies on, what the coming changes such as the CDSM Directive might bring to challenges that are left to be solved.

- **Brexit and Copyright - what does the future hold?**

In 2020, the UK was in a holding pattern with respect to Brexit. Although it had left the EU, the transition period meant that EU law continued to apply. With the expiry of the transition period on 31 December 2020, copyright stakeholders and policymakers are now experiencing the full implications of Brexit, both in terms of day-to-day practices and the longer-term vision for copyright law in this country. This presentation by *Dr Emily Hudson: Reader in Law, King's College London* does not seek to reventilate questions about whether Brexit was desirable. Rather, it asks what the future of copyright might look like. To answer this, it starts by explaining the current legal position in relation to the status of EU instruments and case law in the UK. It then identifies areas where EU harmonisation has been particularly significant and makes some predictions about the likely direction of UK copyright law over the coming years. Finally, it offers some views about the sort of copyright reforms that the UK should consider.

- **The Open University - challenges and opportunities with copyright and licensing**

In this talk *Priya Haria: Content, Licencing, and Intellectual Property Assistant, The Open University* will talk about the opportunities and challenges to The Open University in relation copyright and licencing. The effect of Covid19 has led other organisations to consider delivering courses online. Priya will be able to provide a unique perspective in this area because, The Open University is a worldwide leader in teaching and delivering courses online for a number of years. Priya will also discuss how copyright and licencing opportunities allow an organisation like The Open University to expand their reach in delivering courses.

[#CILIPCopy21](#) / [#copyright](#)

The Challenges of Remote Working at Present

For those who work remotely all or part of the time already, you or your employer [depending on whether you are self-employed / freelancer or an employee] will have safeguards in place that enable you to operate securely when handling commercially sensitive or others' third-party data. The difference, in March 2020, is that at very short notice, organisations are having to move

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staff to homeworking often with literally hours' notice as the Government COVID-19 instructions are issued.

There are growing numbers of tips and survival guides online that include: Information Commissioner's Office (ICO) [Data protection and coronavirus: what you need to know](#).

The challenges of remote working at present and point to consider from a data privacy perspective.

Provided within this article are points to consider from a data privacy perspective that include:

1. **Have a clear statement to all staff** stressing that "The protection of personal data that we hold, and use is important to us and must be handled at all times in a way that is compliant with data protection law and our Data Protection and Privacy policies. While we have to adapt to comply with the official guidance, we will adjust our working processes to allow us to deliver our services. These are time limited instructions that will be kept under review. At the end of the period then all data that is held temporarily on personal devices as a direct result of this exceptional times, will be deleted." (Tullo 2020)
2. **Set out what use of data**, contact lists, customer documents are being allowed.
3. As part of this exceptional response to homeworking **keep a full record of where staff are working from and what equipment they are using**.
4. **State that you have assessed the best way of ensuring homeworking efficiency** and are proposing that personal devices and mobile phones can be used. That you will review this [weekly seem sensible at present] in line with experience and how staff report it is working.
5. **Reissue and emphasis your usual security arrangements –** Virus and password protection, not leaving data visible to others, having a PIN code, or not sharing their device with others in their family or household.
6. **Take care to be aware where data is being stored**, even if temporary so that the security risk is managed and assessed.
7. For the **weekly reviews –** have your Senior Leadership Team note the number of staff using personal devices, any queries, or issues they are finding and demonstrate that you are monitoring the situation and are flexible in closing it down if any specific concerns arise.
8. Choose your collaboration tool of choice and consider recording online meetings and note actions especially where team members are geographically spread out and where broadband speeds and kit may vary in quality.
9. You might also consider having a standard introduction for homeworking staff to explain that they are homeworking and not in the office, so callers understand the position.

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10. This is where a nominated Data Protection Officer [DPO] or Data Officer can support the senior team in the messaging to colleagues.

Source: Tullo C, OBE (2020) '[The Challenges of Remote Working at Present](#)'. © [Naomi Korn Associates](#), 2020. Some Rights Reserved. The text is licensed for use under the Creative Commons Attribution Share Alike Licence (CC BY SA).

Regarding UCEM we have followed these pointers:

(i) A clear statement went to staff, and UCEM has a designated area within their central SharePoint site for Business Continuity Planning (BCP) that has the following folders containing

- Official Communications [Internal and External]
- Human Resources (HR) guidance and support
- Information Technology (IT) technical support, guidance, and documents

Data Protection guidance (incl. a new guidance note entitled, 'Processing Personal data when remote working'.

- The [UCEM Data Protection and Privacy Policies](#) have been updated and should be read in conjunction with IT Policies).
- & Hints and tips for working from home.

(ii) A retention and destruction schedule is in place that collates lists of data used within respective teams and departments; (iii) A register is kept of where staff are working from and equipment used; (iv) Regular online meetings and weekly All-staff keep everyone updated and ensuring regular communication; (v) IT provide regular updates and guidance; (vi) GDPR 2020 training has been launched to re-enforce the importance of knowing how data is used and where it is being stored, even if temporary so that risk is managed and assessed; (vii and viii) online equipment and collaboration tools are well established at UCEM as an online education provider, but are regularly monitored; (ix) As mentioned above, hints and tips for working from home are provided, & (x) UCEM has a designated Data Protection Officer (DPO).

Please note: There are regular updates -

(i) On the [UCEM Website](#), (ii) **VLE Help Page** (for students), and (iii) for all within the **[UCEM Website Home > Supported Online Learning > e-Library](#)** current awareness services, incl. Information blog and ***Knowledge Foundations***.

#BE Informed

(iv) A short **[UCEM e-Library video](#)** (used within UCEM Marketing, **[Social Media business channels i.e. LinkedIn](#)** to promote the e-Library, *Knowledge Foundations*, regular information blogs, and more)

“Perseverance will get you anywhere.”

@NASAPersevere / #NASAPerserver

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A to Z of useful references and web-links:

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A

Advance HE (Previously HEA – Higher Education Academy) is dedicated to helping higher education shape its future. Providing insight, enhancing organisational performance, developing, and connecting people, and accrediting achievements. Advance HE [online]. Further information is available at: www.advance-he.ac.uk [accessed 23 October 2021]

American Society of Civil Engineers (ASCE) Civil Engineering database provides free access to over 80 thousand abstracts taken from ASCE publications since 1973. ASCE [online]. Further information is available at: www.asce.org [accessed 23 October 2021]

Association of Researchers in Construction Management (ARCOM) brings together all those interested in construction management research. It aims to further the advancement of knowledge in all aspects of management in construction by support education, dissemination, and research. ARCOM [online]. Further information available at: www.arcom.ac.uk [accessed 23 October 2021]

AJ Buildings Library (AJBL) – The AJ Buildings Library showcases thousands of exemplar projects, most from the last 20 years but including major projects back to 1900. Available at: www.ajbuildingslibrary.co.uk [accessed 23 October 2021] (This valuable resource is just one part of the *Architects' Journal* subscription, available via the VLE e-Library > OpenAthens Library login > Construction Information Service (CIS) and/or EBSCO Business Source Premier).

ARCOM Abstracts database – contains open access of every ARCOM conference paper since 1997 and is now a major resource for all active researchers.

ARCOM Newsletters - contains the latest news from the industry.

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B

BBC Education [online]. Further information available at: www.bbc.co.uk/news/education [accessed 23 October 2021]

BBC Search [online]. Further information available at: www.bbc.co.uk/search [accessed 23 October 2021]

BIDSTATS [online] – Free UK tenders' portal. Find UK public sector contracts and further information available at: <https://bidstats.uk/> [accessed 23 October 2021]

BIM Task Group – The Building Information Modelling (BIM) Task Group support and develop the objectives of the Government Construction Strategy and the requirement to strengthen the public sector's capability in BIM implementation [online]. **N.B.** This group and programme are now part of the University of Cambridge, **Centre for Digital Built Britain (CDBB)** [online]. Further

information is available at: www.cddb.cam.ac.uk/AboutDBB/FAQs [accessed 23 October 2021]. Please refer to question 9 – What is the Digital Built Britain Programme? specifically.

BIMForum – The BIMForum’s mission is to facilitate and accelerate the adoption of building information modelling (BIM) in the AEC (Architecture, Engineering and Construction) industry. Further information is available via the BIMForum Website [online] and at: <http://bimforum.org> [accessed 23 October 2021]

BOMA International (Building Owners and Managers Association International) – a federation of 91 BOMA U.S. associations and 17 international affiliates. Founded in 1907, BOMA’s mission is to advance a vibrant commercial real estate industry through advocacy, influence, and knowledge. **BOMA Research and Resources** [online] and available at: www.boma.org/BOMA/Research-Resources [accessed 23 October 2021]

British and Irish Legal Information Institute (BAILLI) Case Law Search [online]. Further information available at: www.bailii.org/form/search_cases.html [accessed 23 October 2021]

British Council of Shopping Centres (BCSC) was the professional body and authoritative voice for retail-led regeneration and for the management of and investment in shopping places [online]. Note: BCSC has changed and is now **REVO – Retail. Property. Community.**

British Institute of Facilities Management (BIFM) – The BIFM is now the Institute of Workplace and Facilities Management (IWFM).

British Property Federation (BPF) – The British Property Federation is a membership organisation devoted to representing the interests of all those involved in real estate ownership and investment. BPF [online]. Further information available at: <https://bpf.org.uk> [accessed 23 October 2021]

Building Conservation.com [online] – Information resources for conservation, restoration, and repairs. Further information is available at: www.buildingconservation.com [accessed 23 October 2021]

Building Conservation.com Articles directory by subject [online]. Available at: www.buildingconservation.com/articles/articles.htm [accessed 23 October 2021]

Building Design Directory [online] – provides construction and environmental products / services / information for Architects, Engineers and Facility Managers. Further information is available at: www.buildingdesign.co.uk [accessed 23 October 2021]

Building Engineer [online] – Building Engineer website covers news and insights from the following topics: Building & Fire Safety; Business & Management; Construction & Building Materials; Energy & Sustainability; Health, Safety & Wellbeing; Policy & Regulations; Refurbishment; Technology & Digital Construction. Further information is available at: www.buildingengineer.org.uk/ [accessed 23 October 2021]

Building People - a technology platform and collaborative network, that enables connections and seeks to reduce the skills shortages across the Built Environment. Building People [online]. Further information is available at: www.buildingpeople.org.uk [accessed 23 October 2021]

Building Research Establishment (BRE) [online] is an independent and impartial, research-based consultancy, testing and training organisation, offering expertise in every aspect of the built environment and associated industries. Further information available at: <https://bregroup.com/about-us> [accessed 23 October 2021]

BRE A-Z of BRE Services (from Accreditation to Zero Carbon) [online]. Further information is available at: www.bregroup.com/a-z [accessed 23 October 2021]

BRE Case Studies [online]. Further information is available at: www.bre.co.uk/podpage.jsp?id=1744 [accessed 23 October 2021]

Building Services Research and Information Association (BSRIA) [online]. BSRIA is a test, instrumentation, research, and consultancy organisation, providing specialist services in construction and building services. Available at: www.bsria.co.uk [accessed 23 October 2021]

Building talk [online]. Available at: www.buildingtalk.com [accessed 23 October 2021] *Building Talk* is an email newsletter for Architects, Civil Engineers and Building Services Contractors.

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C

Campaign to Protect Rural England (CPRE) campaign for a beautiful and living countryside. They work to protect, promote, and enhance our towns and countryside to make them better places to live, work and enjoy, and to ensure the countryside is protected for now and future generations. CPRE [online]. Available at: www.cpre.org.uk [accessed 23 October 2021]

CBRE Research and Resources - CBRE sets the standard for global real estate research by providing clients with accurate and insightful market knowledge. CBRE [online]. Available at: www.cbre.com/research-and-reports [accessed 23 October 2021]

CPRE Resources provides the latest news articles, policy guidance notes, published reports and research surrounding the following - Countryside, Farming and food, Housing and planning, Energy and Waste, and Transport. CPRE Resources [online]. Available at: www.cpre.org.uk/resources [accessed 23 October 2021]

Centre for Architecture and Built Environment Research (CABER) seeks to develop innovative approaches, procedures, technologies, and techniques that support the design, management, reconfiguration, maintenance and operation of buildings, their fabric, and the environments they create. Note: CABER incorporates the previous Centre for Construction and Property Research (CPRC). CABER [online] and available at: www1.uwe.ac.uk/et/research/caber.aspx [accessed 23 October 2021]

The Center for Construction Research and Training (CPWR) is dedicated to reducing occupational injuries, illnesses, and fatalities in the construction industry through research, training, and service programs. CPWR [online] and available at: www.cpwr.com [accessed 23 October 2021]

Centre for Digital Built Britain (CDBB) is a partnership between the Department of Business, Energy & Industrial Strategy, and the University of Cambridge to deliver a smart digital economy for infrastructure and construction for the future and transform the UK construction industry's approach to the way we plan, build, maintain, and use our social and economic infrastructure. CDBB [online]. Available at: www.cdbb.cam.ac.uk/AboutDBB [accessed 23 October 2021]

Centre for Sustainable Energy (CSE) is an independent national charity that shares our knowledge and experience to help people change the way they think and act on energy.

CSE Resources [online] include - Reports & publications, Toolkits, Advice leaflets, Websites, *Energise* newsletter, Videos on The fundamentals, Improving your community building, Community-wide energy saving projects, Neighbourhood and low carbon planning, Renewable energy projects, and further Resources for schools and educators. Available at: www.cse.org.uk/local-energy/resources [accessed 23 October 2021]

Chartered Association of Building Engineers (CABE) is a member-focused non-profit organisation. CABE shares knowledge, raises standards, and develops professionals, enabling a professional construction sector that works to create better, safer, and more sustainable buildings that enhance people's lives. CABE [online]. Available at: <https://cbuild.com/> [accessed 23 October 2021]

Chartered Institute of Building (CIOB) [online]. The Chartered Institute of Building is the international voice of the building professional, representing an unequalled body of knowledge concerning the management of the total building process. Available at: www.ciob.org [accessed 23 October 2021]

Chartered Institution of Building Services Engineers (CIBSE) – the prime source of expertise in the Building Services Industry. CIBSE [online]. Available at: www.cibse.org [accessed 23 October 2021]. N.B. Within the CIBSE website you can '**CIBSE - Search the Knowledge Portal**' covering themes such as BIM, Building Regulations, FM, Facades, Fire Safety, Lighting and Heating, Management, and project management, Residential, Sustainability, and more.

China Dialogue [online] – China and the world discuss the environment. Available at: www.chinadialogue.net [accessed 23 October 2021]

CIBSE Journal [online]. Available at: www.cibsejournal.com [accessed 23 September 2021].

CIOB Library Incl. Library and Information Services [online]. Available at: www.ciob.org/library [accessed 23 October 2021]

CIOB BIM+ online newsletter [online]. Available at: www.bimplus.co.uk [accessed 23 October 2021]

CIOB's Construction Manager journal [online]. Available at: www.constructionmanagermagazine.com [accessed 23 October 2021]

CIOB's Global Construction Review journal [online]. Available at: www.globalconstructionreview.com/ [accessed 23 October 2021]

CIOB's Policy and Public Affairs portal [online]. Available at: www.ciob.org/industry/policy-research [accessed 23 October 2021]

The CIT-eA Project Creating Innovative Technology – Enhanced Assessments – a research project that explored ways to increase the number of assessments in Further and Higher Education using technology. The CIT-eA Project [online]. Available at: <http://citea.digitalinsite.co.uk> [accessed 23 October 2021]

Cities / buildings images database [online]. Available at: www.washington.edu/ark2 [accessed 23 October 2021] is a collection of images of buildings and cities from around the world aimed at students, researchers, and educators.

C-Link is a procurement software company who also provide resources (incl. guides, eBooks, and other materials) created to help you make more money on your construction project. C-Link [online]. Available at: www.C-Link.com [accessed 23 October 2021]

Commercial Real Estate Services (CBRE) is the world's largest real estate services provider, with a preeminent leadership position in virtually all key business centers globally. CBRE [online]. Available at: www.cbre.co.uk [accessed 23 October 2021]

Community-Led Housing (CLH) Toolkit: a resource for local authority and housing professionals [online]. Available at: <https://clhtoolkit.org/> [accessed 23 October 2021]. This Toolkit provides a wealth of technical and non-technical information on a broad range of issues relevant to CLH.

There are five Toolboxes, covering (i) Housing (ii) Communities (iii) Legal (iv) Planning and (v) Finance.

Confederation of British Industry (CBI) is the UK's premier business lobbying organisation, providing a voice for employers at a national and international level. CBI [online]. Available at: www.cbi.org.uk [accessed 23 October 2021]

Conference on Training in Architectural Conservation (COTAC) was formed in 1959 to improve the standard of education of everyone involved in building conservation, including craftsmen, professionals, and homeowners. COTAC [online]. Available at: <http://ihbconline.co.uk/cotac2> [accessed 23 October 2021]

COTAC Digital Bibliography [online]. Available at: http://cotac.global/digital_bib/ [accessed 23 October 2021]

Constructing Excellence (delivered with **bre**) is a platform for industry improvement to deliver excellence through clients, industry, and users through collaborative working. Resources include publications, tools, and newsletter. Constructing Excellence [online]. Available at: <http://constructingexcellence.org.uk/> [accessed 23 October 2021]

Construction Enquirer is a news website in construction. Construction Enquirer [online]. Available at: www.constructionenquirer.com [accessed 23 October 2021]

The **Construction Index** [online] provides a wide range of information services for the UK construction industry, that include a search engine of construction companies, daily construction news, market data, email newspaper letter, and Case Law analysis and legal commentary. Further information is available at: www.theconstructionindex.co.uk [accessed 23 October 2021].

Construction Industry Council (CIC) – The representative forum for the professional bodies, research organisations and specialist business association in the construction industry. CIC [online] and available at: <http://cic.org.uk> [accessed 23 October 2021]

The **Construction Industry Research and Information Association** (CIRIA) [online]. Further information and resources are available at: www.ciria.org/default.aspx [accessed 23 October 2021]

Construction Industry Training Board (CITB) is the training board for the construction industry and partner in Construction Skills, the Sector Skills Council. CITB [online]. Available at: www.citb.co.uk [accessed 23 October 2021]

Construction Manager is the magazine of the Chartered Institute of Building (CIOB) [online] and available at: www.constructionmanagermagazine.com/ [accessed 23 October 2021]

Construction News [online]. Available at: www.constructionnews.co.uk [accessed 23 October 2021]

Construction Products Association (CPA) represents the UK's manufacturers and distributors of construction products and materials. Construction Products Association [online]. Further information is available at: www.constructionproducts.org.uk [accessed 23 October 2021]

Construction Project Information Committee (CPIC), responsible for providing best practice guidance on the content, form, and preparation of construction production information, and making sure this best practice is disseminated throughout the UK construction industry. CPIC [online]. Available at: www.cpic.org.uk [accessed 23 October 2021]

Construction and Property Research Centre (CPRC), University of the West of England (UWE) – the CPRC's research activity is focused around the three inter-related stages of the built

environment lifecycle, namely design, construction, and maintenance. Note: The UWE **Centre for Architecture and Built Environment Research** (CABER) now incorporates the CPRC.

Contractors World magazines (incl. *Contractors World International* and *Contractors World UK & Ireland*) are the leading international digital publications. Delivering site reports, equipment reviews and comments of interest on the construction, mining, quarrying and related industries. Contractors World [online]. Available at: <http://cwmags.com/> [accessed 23 October 2021].

COPAC* exposes rare and unique research material by bringing together the catalogues of c.90 major UK and Irish Libraries. In a single search you can discover the holdings of the UK's national libraries (including the British Library), many University libraries, and specialist libraries. Note: From August 2019 Copac was replaced by **Jisc's Library Hub Discover**.

Council for British Archaeology (CBA) is an independent charity bringing together members, supporters, and partners to give archaeology a voice and safeguard it for future generations. Archaeology for all [online]. Available at: <http://new.archaeologyuk.org> [accessed 23 October 2021]

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D

Delta T [online] is the Building Services Research and Information Association's quarterly journal.

Designing Buildings Wiki [online] and available at: www.designingbuildings.co.uk/wiki/Home [accessed 23 October 2021] is an industry-wide, cross-discipline forum for finding and sharing information.

Designing Buildings Wiki – Student resources [online] and available at: www.designingbuildings.co.uk/wiki/Student_resources [accessed 23 October 2021] has a wide range of resources aimed at students of the built environment, as shown here.

Designing Buildings Wiki – Construction industry acronyms [online] and available at: www.designingbuildings.co.uk/wiki/Construction_industry_acronyms [accessed 23 October 2021] providing a list of commonly used construction industry acronyms.

The **Design Council** [online] champions great design that improves lives and makes things better and available: www.designcouncil.org.uk [accessed 23 October 2021]. See also **Inclusive Design Hub for the Built Environment** (a project of The Design Council).

Directory of Open Access Books (DOAB) is a service which harvests details of academic and mainly peer-reviewed books published on open access. DOAB [online]. Available at: www.doabooks.org/doab [accessed 23 October 2021]

Directory of Open Access Journals (DOAJ) covers all open access scientific and scholarly journals, using a quality control system to guarantee the content. DOAJ [online]. Available at: <https://doaj.org> [accessed 23 October 2021]

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E

Education and Employers Research - Online research library marks its tenth anniversary. This online library provides a comprehensive repository of different and effective approaches to employer engagement and careers education. It brings together the latest thinking with selected research published over the past 40 years. Education and Employers [online]. Available at: www.educationandemployers.org/research-type/research-library [accessed 23 October 2021]

The Economics Network [online] provides publications, events, and other resources to support university teachers of economics throughout the UK and worldwide. Available at: www.economicsnetwork.ac.uk [accessed 23 October 2021]

EngineeringUK is a not-for-profit organisation, which works in partnership with the engineering community to inspire tomorrow's engineers and increase the number and diversity of young people choosing academic and vocational pathways into engineering. EngineeringUK [online]. Available at: www.engineeringuk.com [accessed 23 October 2021]

Engineering and Physical Sciences Research Council (EPSRC) is the main UK government agency for funding research and training in engineering and the physical sciences, investing more than £800 million a year in a broad range of subjects – from mathematics to materials science, and from information technology to structural engineering. EPSRC [online]. Available at: www.epsrc.ac.uk [accessed 23 October 2021]

English Heritage cares for over 400 historic buildings, monuments, and sites – from world-famous prehistoric sites to grand medieval castles, from Roman forts on the edges of the empire to a Cold War bunker. English Heritage [online]. Further information is available at: www.english-heritage.org.uk [accessed 23 October 2021]. Note: English Heritage has now separated into two organisations. If you are looking for information on listing, planning, grants or heritage research and advice, please visit **Historic England**.

Estates Gazette The UK's largest commercial property news team. *Estates Gazette Interactive* [online]. Available at: www.egi.co.uk [accessed 23 October 2021] incl. ***Estate Gazette, News from the nationals*** – Round-up of the top property stories with quick links.

European Real Estate Society (ERES) was established in 1994 to create an international real estate network between academics and professionals across Europe. ERES [online]. Further information is available at: www.eres.org [accessed 23 October 2021].

ERES Digital Library [online] and available at: www.eres.org/index.php/activities/libraryeres [accessed 23 October 2021]

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G

Great Buildings [online]. Available at: www.greatbuildings.com [accessed 23 October 2021] provides a database of buildings around the world and across all historic periods. You can search the database by building names, place, or architect name. It provides access to 3D models, photographic images, and architectural drawings.

Glenigan [online]. Available at: www.glenigan.com [accessed 23 October 2021] provides UK construction project sales leads, market analysis, forecasting, and company intelligence.

Global Research Gateway: CBRE's online resource for real estate research and reports. CBRE Global Research Gateway [online]. Available at: www.cbre.com/research-and-reports [accessed 23 October 2021]

Global Construction Review – An online journal from the Chartered Institute of Building (CIOB) [online]. Available at www.globalconstructionreview.com [accessed 23 October 2021]

The Green Construction Board (GCB) is a consultative forum consisting of key members of UK construction and property industry. GCB [online]. Further information is available at: <https://cic.org.uk/projects/project.php?s=green-construction-board> [accessed 23 October 2021]

The Guardian, Housing network – providing insight, advice, and best practice from your community. The Guardian, Housing network [online]. Further information is available at: www.guardian.co.uk/housing-network [accessed 23 October 2021]

The Guardian, Higher Education / Universities [online]. Further information is available at: www.guardian.co.uk/higher-education-network [accessed 23 October 2021]

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H

Health and Safety Executive (HSE) is the national independent watchdog for work-related health, safety, and illness. HSE are an independent regulator and act in the public interest to reduce work-related death and serious injury across Great Britain's workplaces. HSE [online]. Available at: www.hse.gov.uk/index.htm [accessed 23 October 2021]

HSE, Health & Safety in the construction industry [online]. Further information is available at: www.hse.gov.uk/construction [accessed 23 October 2021]

HSE Publications [online]. Available at: www.hse.gov.uk/pubns/index.htm [accessed 23 October 2021]

Heritage Alliance - The largest coalition of heritage interests in England, the Heritage Alliance is the umbrella body for national and major regional Heritage NGOs. Heritage Alliance [online]. Available at: www.theheritagealliance.org.uk [accessed 23 October 2021]

Heritage Update: the online edition of the fortnightly Heritage Alliance's **Heritage Update** e-bulletin [online] and available at: www.theheritagealliance.org.uk/update [accessed 23 October 2021]

Heritage Help - Created by the Joint Committee of the National Amenity Societies, Heritage Help offers information and advice on matters related to the management and protection of local historic environments. Heritage Help [online]. Available at: <http://heritagehelp.org.uk> [accessed 23 October 2021]

Higher Education Academy (HEA) – The Higher Education Academy champions excellent learning and teaching in higher education. The HEA are a national and independent organisation, funded by the four UK Higher Education funding bodies and by subscriptions and grants. Note: HEA is now **Advance HE**.

Higher Education Empirical Research (HEER) Database comprises summaries of the latest published research on a range of topics related to higher education. HEER [online]. Available at: www.srhe.ac.uk/links/higher_education_statistics_and_research.asp [accessed 23 October 2021]

Historic England is the public body that looks after England's historic environment. Historic England champion historic places, helping people understand, value and care for them. Further information is available at: www.historicengland.org.uk [accessed 23 October 2021]

Historic Environment Local Management (HELM) - provides accessible information, training, and guidance to decision makers in local authorities, regional agencies, and national organisations whose actions affect the historic environment. Note: All HELM web content on the Historic England website [online] and available at: <https://historicengland.org.uk/services-skills/training-skills/helmtraining> [accessed 23 October 2021].

Home Builders Federation (HBF) represents and serves its members in a range of ways including: Ensuring senior politicians and government officials are aware of housing issues and the challenges faced by our members; and working with Government officials to ensure housing

policies are introduced that facilitate housing supply, in a way that is workable for the industry [online]. Available at: www.hbf.co.uk [accessed 23 October 2021]

House Building Careers (part of HBF). Here you will be able to learn about the home building industry and how it benefits you, your community, and the country as a whole [online]. Further information available at: <http://housebuildingcareers.org.uk> [accessed 23 October 2021]

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Inclusive Design Hub for the Built Environment is a collection of the latest guidance and best practice on inclusive design in the built environment and a project of **The Design Council** [online]. Available at: www.designcouncil.org.uk/projects/inclusive-design-hub-built-environment [accessed 23 October 2021]

INFABODE connects its community of users with industry information from the Real Estate sector on one customisable online platform. Infabode reduces the amount of time people spend trying to access key information from the Real Estate industry. **INFABODE** [online]. Available at: www.infabode.com [accessed 23 October 2021]

Institution of Civil Engineers (ICE) is a registered charity that strives to promote and progress civil engineering. ICE [online]. Available at: www.ice.org.uk [accessed 23 October 2021]

ICE Virtual Library [online]. Available at: www.icevirtuallibrary.com [accessed 23 October 2021] is a free database that indexes all ICE journals.

International Council for Open and Distance Education (ICDE) is the leading global membership organisation for enhancing the quality of open, distance, flexible and online education, including e-Learning. ICDE [online]. Available at: www.icde.org [accessed 23 October 2021]

Institute of Historic Building Conservation (IHBC) is the principal professional body for building conservation practitioners and historic environment specialists working in England, Northern Ireland, Scotland, and Wales, with connections to the Republic of Ireland. IHBC [online]. Available at: www.ihbc.org.uk [accessed 23 October 2021]

Institute of Workplace and Facilities Management (IWFM) – Formerly the British Institute of Facilities Management, BIFM is now the IWFM. The workplace has been incorporated into their new brand so that the status of the professional can help take careers further, regardless of specialism. IWFM [online]. Further information is available at: www.iwfm.org.uk [accessed 23 October 2021]

IWFM Insight – discover leading research and resources for the workplace and facilities management profession. IWFM Insight [online]. Available at: www.iwfm.org.uk/insight [accessed 23 October 2021]

IWFM News – discover the latest news affecting the profession and gain expert insight and advice. IWFM News [online] Available at: www.iwfm.org.uk/news [accessed 23 October 2021]

IWFM Digital Magazine, facilitate - Informing workplace and facilities management professionals. IWFM *facilitate* [online]. Available at: www.facilitatemagazine.com/ [accessed 23 October 2021]

ITcon – The **Journal of Information Technology in Construction** is a peer-reviewed scholarly journal on the use of IT in architecture, civil engineering, and facility management. *ITcon* [online]. Available at: www.itcon.org [accessed 23 October 2021]

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J

JISC Library Hub Discover – Library Hub Discover replaces COPAC* and SUNCAT, offering increased coverage of university libraries along with new facilities and improved response times. Library Hub Discover currently contains 42,397,777 records created from 106,833,532 records contributed by 144 institutions. Jisc Library Hub Discover [online]. Available at: <https://discover.libraryhub.jisc.ac.uk> [accessed 23 October 2021].

JORUM Archive – After 13 years delivering and sharing content across the higher education, further education and skills sectors the Jorum service and website was retired on 30 September 2016. However, many of the open education resources (OER) that were available in Jorum, access to their Jorum Archive can be accessed via the JISC website [online]. Available at: www.jisc.ac.uk/website/legacy/jorum [accessed 23 October 2021] where you can also gain access to JISC's full digital resources offer.

Journal of Online Learning and Teaching (JOLT) - The **MERLOT Journal of Online Learning and Teaching** is a peer-reviewed, open-access, online publication that aims to promote scholarship in the use of the Internet and web-based multimedia resource in higher education.

JournalTOCs is the largest, free collection of scholarly Journal Title of Contents (TOCs) [online]. Available at: www.journaltoocs.ac.uk/index.php [accessed 23 October 2021]

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L

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Lexology is a comprehensive source of international legal updates, analysis, and insights. Lexology publish in excess of 450 articles every day from over 1,100 law firms and service providers worldwide across 50 work areas in 25 languages. Lexology [online]. Available at: www.lexology.com [accessed 23 October 2021]

Local Government Association (LGA) is the national voice of local government. They work with councils to support, promote, and improve local government. LGA [online]. Available at: www.local.gov.uk [accessed 23 October 2021]

LGA Knowledge Hub - Knowledge Hub is the public sector's professional social network which helps people in local government connect and share online in a secure environment [online]. Available at: <https://khub.net> [accessed 23 October 2021]

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M

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NBS Knowledge [online] is available at: www.thenbs.com/knowledge [accessed 23 October 2021]

NBS Publication Index [online] - this index provides information about key industry documents which are or have been available in The Construction Information Service (CIS), or cited in NBS Guidance. Further information is available at: www.thenbs.com/Publicationindex [accessed 23 October 2021]

NBS Digital Construction Conversations podcasts – New to 2021, NBS are talking to inspirational industry leaders about the trends and technologies impacting the construction industry – from sustainability to regulations to change management. NBS Digital Construction Conversations [online]. Available at: www.thenbs.com/podcast [accessed 23 October 2021]

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New Civil Engineer (NCE) a weekly magazine published for the Institution of Civil Engineers (ICE). NCE [online]. Available at: www.nce.co.uk [accessed 23 October 2021]

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Organisation for Economic Cooperation and Development (OECD) iLibrary is the online library of the OECD, featuring its books, papers and statistics and is the gateway to OECD's analysis and data. Note: It replaced SourceOECD. OECD iLibrary [online]. Available at: www.oecd-ilibrary.org [accessed 23 October 2021]

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Trust and The Prince's School of Traditional Arts in 2018. This combined force enables the charity to achieve HRH's goal of creating harmonious communities, through three core tiers. The Prince's Foundation [online]. Available at: <https://princes-foundation.org> [accessed 23 October 2021]

Property People's Network (PPN) is open to all interested in land and property and provides a forum to network through a range of social activities and visits [online]. Available at: www.ucem.ac.uk/student-community/property-peoples-network [accessed 23 October 2021]

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Residential Landlord – an online resource providing Landlord Resources, a Document Download Centre (containing templates and free tenancy agreements to amend and use as required), news and views, advice, and guidance [online]. Further information is available at: residentiallandlord.com [accessed 23 October 2021]

Revo – Retail. Property. Community (formerly BCSC (British Council of Shopping Centres) is the professional body and authoritative voice for retail property and placemaking-led regeneration and for the management of and investment in shopping places [online]. Further information is available at: www.revocommunity.org [accessed 23 October 2021]

The Royal Institute of British Architects (RIBA) is a global professional membership body driving excellence in architecture [online]. Further information is available at: www.architecture.com [accessed 23 October 2021]

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RICS Publications - RICS publishes a range of journals that are **free** to view online. Available at: www.rics.org/uk/news-insight/publications/ [accessed 23 October 2021]

RICS Library Services and Online catalogue - 2500 electronic documents selected and catalogued, plus books, magazine articles, law reports and transcripts [online]. Available at: <https://library.rics.org/> [accessed 23 October 2021]

Royal Town and Planning Institute (RTPI) is the UK's leading planning body for spatial, sustainable, and inclusive planning and is the largest planning institute in Europe with over 23,000

members. In 2014 they celebrate their Centenary. RTPI [online]. Available at: www.rtpi.org.uk [accessed 23 October 2021]

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S

Savills Research – Savills Research, Insight & Opinion provides advice and analysis to clients across the UK, with specialists in commercial, residential, and rural property research [online] and available at: www.savills.co.uk/insight-and-opinion/research.aspx [accessed 23 October 2021]

Shoosmiths Insights & articles – Shoosmiths is a major UK law firm with a network of offices working together as one team. Read the latest insights, articles, and commentary from Shoosmiths or explore their content library that include – Placemaking; Real estate; Diversity & Inclusion; Litigation & disputes; Governance; Employment, and more. Shoosmiths [online]. Available at: www.shoosmiths.co.uk/insights [accessed 23 October 2021]

Specification Online – the free to use news and online products resource for specifiers working across the architectural and building sector [online] and available at: <http://specificationonline.co.uk> [accessed 23 October 2021]

Supply Chain Sustainability School represents a common approach to developing sustainability competence in the supply chain. It is a free resource available to any supplier and is part of their continued commitment to lead the industry into a brighter, more sustainable future. Supply Chain Sustainability School [online]. Further information is available at: www.supplychainschool.co.uk/uk/default-home-main.aspx [accessed 23 October 2021]

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Tomorrow's Engineers brings together resources and evidence to support the engineering community in getting the most out of their engagement activity. Tomorrow's Engineer [online]. Available at: www.tomorrowsengineers.org.uk [accessed 23 October 2021]

Trust in Digital Repositories (TrustDR) – a research project that examined how to effectively manage the legal aspects of digital collections of learning resources and produced a policy development toolkit. TrustDR [online]. Available at: <https://trustdr.digitalinsite.co.uk> [accessed 23 October 2021]

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U

UK BIM Framework – The overarching approach to implementing BIM in the UK. Further information on BIM Standards, Guides and Resources. UK BIM Framework [online]. Available at: www.ukbimframework.org [accessed 23 October 2021]

University College of Estate Management (UCEM) is the leading provider of supported distance learning for real estate and construction professionals. UCEM [online]. Available at: www.ucem.ac.uk [accessed 23 October 2021]

UCEM e-Library is a comprehensive and valuable online resource, supplementing teaching and learning materials and enabling students to access a wealth of subject-specific and credible information to support them throughout their studies. UCEM e-Library [online]. Available at: www.ucem.ac.uk/e-library [accessed 23 October 2021]

University of the West of England (UWE), Centre for Architecture and Built Environment Research (CABER) seeks to develop innovative approaches, procedures, technologies, and techniques that support the design, management, reconfiguration, maintenance and operation of buildings, their fabric, and the environments they create. Note: CABER incorporates the previous Centre for Construction and Property Research (CPRC). CABER [online]. Available at: www1.uwe.ac.uk/et/research/caber.aspx [accessed 23 October 2021]

UWE Educational Resources for the Built Environment (ERBE) produces unique and highly respected educational resources for academic and professional use and incorporates the **Video Project** and the **Construction Website**. Further information can be found on the ERBE website [online] and available at: www1.uwe.ac.uk/et/cp/erbe.aspx [accessed 23 October 2021]

UWE, ERBE, Construction Films concentrate on domestic building construction. The films explain the principles of modern construction and, where appropriate, trace its evolution over the last 100 years. ERBE Construction Films [online]. Further information is available at: www1.uwe.ac.uk/et/cp/erbe/constructionfilms.aspx [accessed 23 October 2021]

UWE, ERBE, The Construction Website is an interactive encyclopaedia covering construction, conservation and building history. It is expanded and revised on an annual basis [online]. Further information is available at: www1.uwe.ac.uk/et/cp/erbe/constructionweb.aspx [accessed 23 October 2021]

UWE, Library, Search for things: A-Z [online]. Available at: www1.uwe.ac.uk/library/searchforthingsa-z.aspx [accessed 23 October 2021]

UWE, Research publications and reports – Providing immediate world-wide open access to all UWE's research output. Research at UWE Bristol [online]. Available at: www1.uwe.ac.uk/research.aspx [accessed 23 October 2021]

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V

Virtual Training Suite - The Virtual Training Suite is a national eLearning service for Higher and Further Education in the UK, offering FREE "teach yourself" tutorials delivered over the Web, for students, lecturers and researchers who want to learn what the Internet can offer in their subject. This is a public service from **JISC**.

Y

Yale Environment 360 - an online magazine offering opinion, analysis, reporting, and debate on global environmental issues. We feature original articles by scientists, journalists, environmentalists, academics, policy makers, and business people, as well as multimedia content and a daily digest of major environmental news. *Yale Environment 360* [online]. Available at: <https://e360.yale.edu/> [accessed 23 October 2021]

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Z

Zetoc: Informing Research - The monitoring and search service for global research publications, providing access to over 36,000 journals and more than 59 million article citations and conference papers through the British Library's electronic table of contents and over 875,000 Open Access (OA) article citations and conference papers from PubMed. Zetoc [online]. Available at: <http://zetoc.jisc.ac.uk/> [accessed 23 October 2021]

(Note: The web links provided were correct at the time of compilation.)

UCEM e-Library - The UCEM e-Library has a searchable database ([e-Library > section 9](#)) containing circa 1,000 [Useful web-links to e-Resources](#) for all subject areas covered within our programme of studies, pertaining to the built environment profession and the education sector.

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