



# UK Handbook 2020

Construction trends  
and insights

Updated September 2020



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The Generator Building,  
Bristol

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# Welcome to the **Linesight UK Handbook 2020.**

Each year, we gather the key indices and trends in UK construction, giving you the most comprehensive overview of the industry.

For the complete global view,  
visit the Linesight Knowledge Centre:  
[linesight.com/knowledge-center](https://linesight.com/knowledge-center)

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Review and Outlook

# UK Market Review

# UK Market Review and Outlook

As we near the final quarter of 2020 and begin to realise the 'new normal' of COVID-19, as well as approach the end of the Brexit transition period, Michael Riordan (Managing Director – UK), Stuart Taggart (Associate Director), Andy McLoughlin (Associate) and Dan Polgar (Associate) of the Linesight UK team, review the UK economic and construction industry performances to date, and what we can expect in the coming months.

The UK has seen the **steepest decline** on record, entering a **recession** for the first time since **2009**.

## Economic overview

Although the full extent of the impact of the global pandemic on the UK economy remains to be seen, it is already evident that its effects have been wide-reaching and abrupt. With GDP contracting by 2.2% in Q1 2020 and 20.4% in Q2, the UK has seen the steepest decline on record, and as announced on 12th August, has entered a recession for the first time since 2009. While the UK fared better than many of its European counterparts in Q1 (with France and Italy recording 5.3% declines), its decline in Q2 was deeper than all of its G7 counterparts, with France and Italy the closest comparable performers, with 13.8% and 12.4% declines respectively. However, it should be noted that there was an 8.7% expansion in June as Government lockdown measures eased.

Governments are preparing for a prolonged and drawn out recession due to the ongoing impact of the virus, meaning that economic hardship is likely to persist until at least late 2020. Whilst most economists agree that the next few months will bring economic pain, there is little consensus over the full extent and duration of the slump. While the Bank of England has gone against the grain with a prediction of a sharp rebound of 18% growth in Q3, most of the UK's big lending banks are taking a less positive outlook.

Employment estimates for April to June 2020 show 32.92 million people aged 16 years and over are in employment, which is 220,000 fewer than the previous quarter. However, the true figure of those unemployed or going to be unemployed will not be realised until the Government's job retention scheme comes to an end in October.

Looking forward, economic recovery will be heavily influenced

by any recurrence or additional waves of the virus, and the absence of post-Brexit trade deals within the EU and beyond present a sizeable obstacle to overcome.

## Construction

Following a decline of 1% in Q4 2019, construction output fell again by 1.7% in Q1 2020.

The most recent UK construction output data published by the ONS in July reveals an 8.2% increase in the month-on-month for 'all work' in May, compared to the record decline of 40.2% in April. Therefore, the overall construction output since February 2020, before the impact of COVID-19, has dropped 38.8%. According to the ONS, all sectors experienced an increase in output except public housing repair and

maintenance, which fell 9.5% and public other 'new work', which fell 2.7%. The strongest growth sectors seemed to be private new housing, which boasted a 21.4% rise and infrastructure, which saw a 12.7% increase. Although these increases suggest a positive outlook it must be caveated by the previous three months experiencing large declines in construction output, resulting in a combined decline of 44.5% between January 2020 and April 2020.

The Government furlough support programme, which will end in October 2020, poses a significant vulnerability for the industry. This is likely to have a tangible impact on various sectors, and may result in job losses and reduced investment in key sectors, such as

retail, hospitality and commercial offices.

Looking forward, the OBR (Office for Budget Responsibility) has projected that it will take construction a number of months to get back to pre-COVID levels. Assuming no second wave materialises, demand is expected to return relatively quickly compared to previous recessions, once restrictions begin to ease even further. An increase in planning approvals in recent months is a positive indicator in terms of the pipeline of future projects.

In the short term, the lack of projects starting on-site and postponed projects due to uncertainty will put pressure on the industry supply chain as a

## Challenges for the industry over the coming months



Reduced order pipelines



Supply chain issues



Cashflow problems



Reduced margins



Below cost tendering



Lower productivity levels



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**Rhodes Bay Hotel,  
Greece**

**Architect:**  
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whole. However, construction will have a major role to play in the UK's recovery. The Government has announced a number of measures to generate activity in the economy, with a marked shift towards green building and investment in infrastructure amongst these measures, including:

- £1 billion of grants to public sector bodies to improve energy efficiency
- £50 million towards a social housing decarbonisation fund, tasked with improving the energy efficiency of socially rented homes
- £5.6 billion package of infrastructure measures, previously announced by the Prime Minister on 30th June. This includes measures for hospitals, school buildings, transport, and housing.

### **Tender prices**

The Building Cost Information Service (BCIS) Tender Price Index has projected that there will be a fall in tender prices during 2020. However, this is expected to only be in the short term, rising again in 2021 and thereafter. This short-term fall in tender prices could be explained by greater competition between contractors to ensure they have a pipeline of work. Conversely, if material and labour costs increase as a result of COVID, as is forecast, this will put further strain on main contractors and the supply chain and result in low or non-existent margins in order to win work, which is an unsustainable position and could result in contractors

facing major financial issues.

### **Material costs**

The anticipation of this rise in material costs, namely cladding and M&E, is caused by constraints within the supply chain, due to workplaces and factories having to shut down and the resulting shortage of materials being imported from abroad. These concerns have led to stockpiling and advanced buying. Furthermore, once demand starts to increase again, the supply chain may become overwhelmed with demand and implement a price premium, compounding fears regarding future material costs.

### **Labour market and wages**

Since the start of COVID-19, concerns surrounding increased labour costs have arisen, which could be attributed to the fear of workers who have been made redundant moving into other sectors and potentially not returning. This, coupled with the loss of foreign labour expected after Brexit, could cause labour costs to rise. Additionally, labour costs could face further upward pressure due to the anticipated demand for acceleration works to meet project completion dates, complex site logistics and the productivity of the workforce on-site with COVID restrictions. Productivity in Q1 2020 had dropped off considerably, as contractors were adjusting to the new social distancing protocols and procedures enforced by the Government. Since Q1, productivity has been estimated

to have reached 80% of pre-COVID levels, which appears promising moving forward.

This could be because of new staggered working hours, as well as familiarity gained around the new working protocols and procedures.

## **Sector outlook**

### **Data centres**

The demand for technology services has increased exponentially with the global pandemic - the average home is using approx. 38% more bandwidth each day and Microsoft Teams has doubled its active users, increasing from 32 million users in March 2019 to 75 million in April 2020. This is positive for construction in the sector, where robust demand was already apparent pre-COVID, with a shift towards hyperscale in recent years and the emergence of 'edge' data centres, which are smaller facilities connected to the larger, more central data centre.

The UK is the leading colocation services market in Europe and comprises over 250 operational colocation data centres, so is well placed to see the benefits of the upturn of the sector, with the digital economy in the UK accounting for over 7% of the country's GDP. The UK market witnessed investments in over 30 data centre projects in 2019, where London continues to dominate the market investment with a share of around 85%.

### **Retail**

As retail output was declining

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**Strand Palace,  
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pre-COVID, it is expected that the sector will endure a tough recovery period. While retail activity has shown some signs of recovery since the beginning of June with the reopening of non-essential retail, sustained declines are forecast for the sector over the next few years, as many retailers are cancelling or reducing investments. This is due to the increased demand for online shopping, home deliveries and numerous high street retailers not reopening their doors, or doing so at a reduced capacity. Furthermore, COVID-19 restrictions may have a considerable impact on the design of new retail units, potentially resulting in a need for larger units.

**Life Sciences**

The life sciences industry is almost unanimously deemed essential, meaning that many construction projects have remained a priority during the pandemic, between pharmaceutical companies advancing therapies to treat infected patients, developing vaccines and continuing to provide other life-saving medicines. It seems likely that the sector will continue to grow, with over US\$5 billion of new capital being raised at the start of 2020 by venture capital firms to invest in the future. Additionally, the UK Government has committed to an ambitious R&D roadmap as of July, aiming to develop the UK as a leader in innovation in the sector, following on from an announcement with regards to

increasing investment in R&D to 2.4% of GDP by 2027 and increasing public funding in the area to £22 billion per annum.

### **Commercial**

The UK commercial office sector, which is traditionally propped by London, was already predicted to slow down during 2020 pre-COVID, as referenced during our earlier 2020 edition of the Linesight Knowledge Centre, and this will undoubtedly be compounded by the effects of the pandemic. The virus has seen most organisations in the UK implement work from home procedures, leaving many offices sitting empty. The unprecedented shift to homeworking has shown productivity can remain high for certain working groups, and as a result, the long-term impact on the commercial sector and working environment remains unclear. In a recent report, REIT advisory firm, Green Street, predicted that office demand in developed economies could drop by 10% to 15% as a result of the working from home experience during the pandemic.

In contrast, Bank of England's 'Agent's summary of business conditions' publication in Q1 2020 noted that "there was some evidence of strong activity in office construction." We expect conversion and retrofitting of existing stock to cater for the new working environment to present some opportunities for the market.

### **Residential**

As we noted in our March 2020 edition of this publication, the private housing market became stagnant during 2019 as a direct consequence of the uncertainty surrounding Brexit. It is now expected that we will see further stagnation and deflation in 2020 as a result of COVID.

The most recent construction output data published by the ONS revealed new housing to be the sector worst affected by the pandemic, recording a 60% drop in the value of output in April compared to the previous month.

The Government has planned to minimise the market stagnation by implementing the Green Homes Grant and directing £50 million towards a social housing decarbonisation fund, in the hopes that these measures along with the reduced stamp duty and streamlining the planning process will assist with maintaining activity in the sector.

Purpose-built student accommodation (PBSA) was expected to be a strong performer in 2020 following 30% growth from 2013-2019, but Unite, the UK's largest student accommodation company, said it expects rental income to be down 10% to 20% in 2020-2021 compared to what had been forecast in 2019-2020. A big part of the drop is attributed to a reduction in foreign students, who make up a significant proportion of UK student accommodation residents.

### **Summary**

While similar to the rest of the world, the UK is feeling the sharp impact of the COVID pandemic on its economy, there are some positive signs emerging that the recession will not be as prolonged as initially feared, with the Government introducing various stimulus packages to support recovery.

However, given that the Brexit transition period is coming to an end as of 31st December, it is fair to say that the UK is navigating a particularly tumultuous time and facing additional potential market volatility as a result. Construction, while certainly feeling the effects of the prevailing market conditions, shows promise of returning to pre-COVID levels for some sectors in a relatively short timeframe, albeit with significant pressure and uncertainty across the supply chain in the short term.



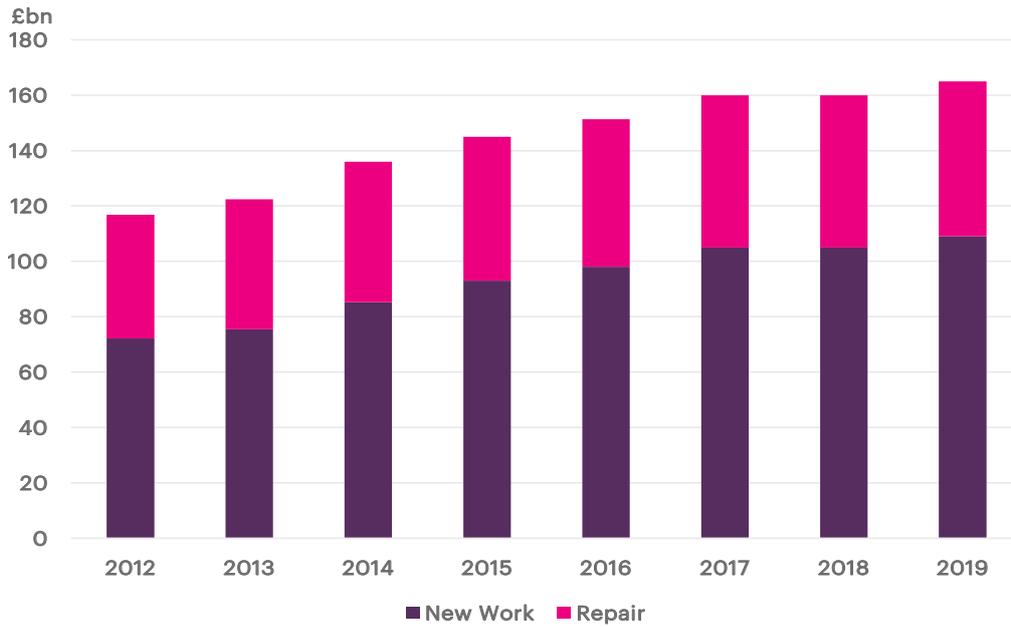
“The Graduate Programme provides a great structure for personal and professional development for someone new to the industry. I’m being encouraged to really challenge myself, with the support and guidance of senior team members, who are always on hand to answer questions and offer advice.”

Michael Waters,  
*Graduate Quantity Surveyor*

Throughout the following sections, the \* symbol denotes graphs/data last updated in March, and so the impact of COVID-19 is not accounted for in the marked items.

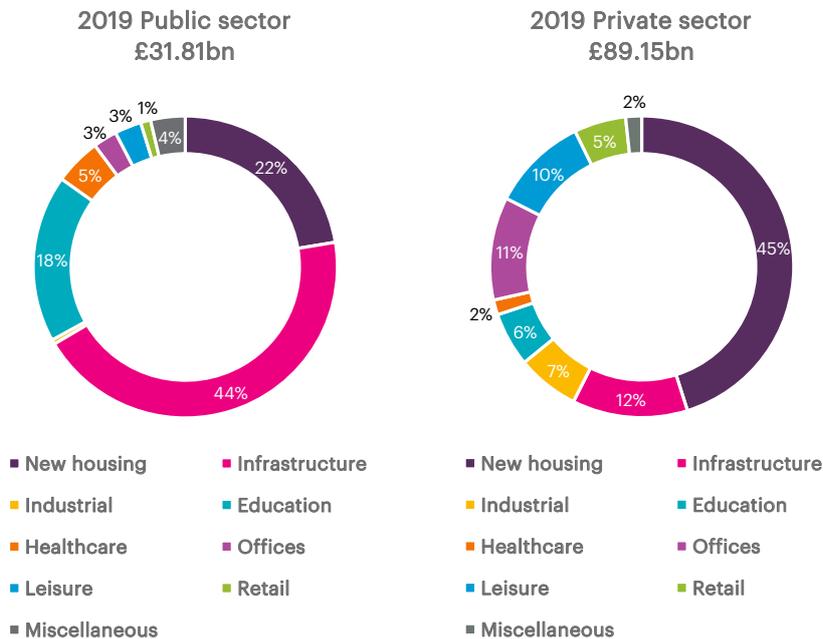
# 1. Macro indicators

## 1.1. Value of construction output 2012-2019 \*



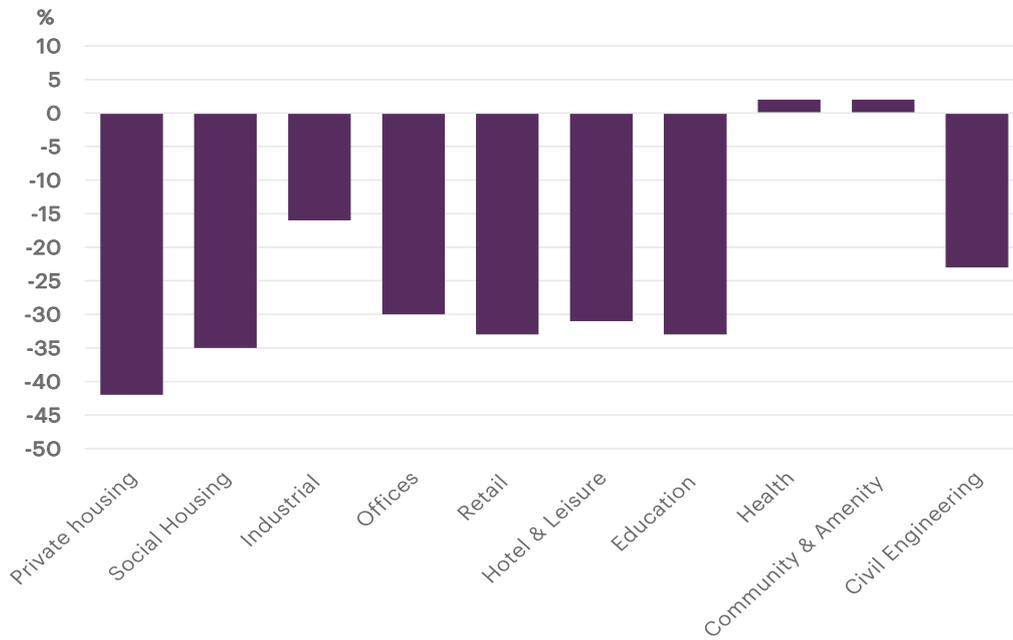
Source: Office for National Statistics

## 1.2. Public and private sector output 2019 \*



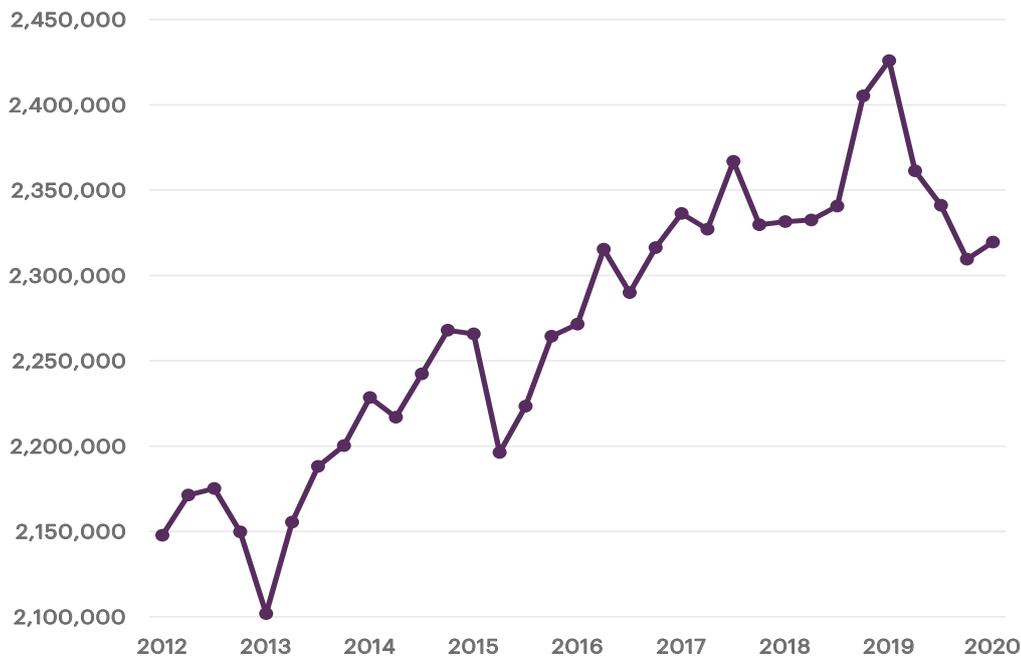
Source: Office for National Statistics

### 1.3. Growth in the value of project starts by sector 2020(f)



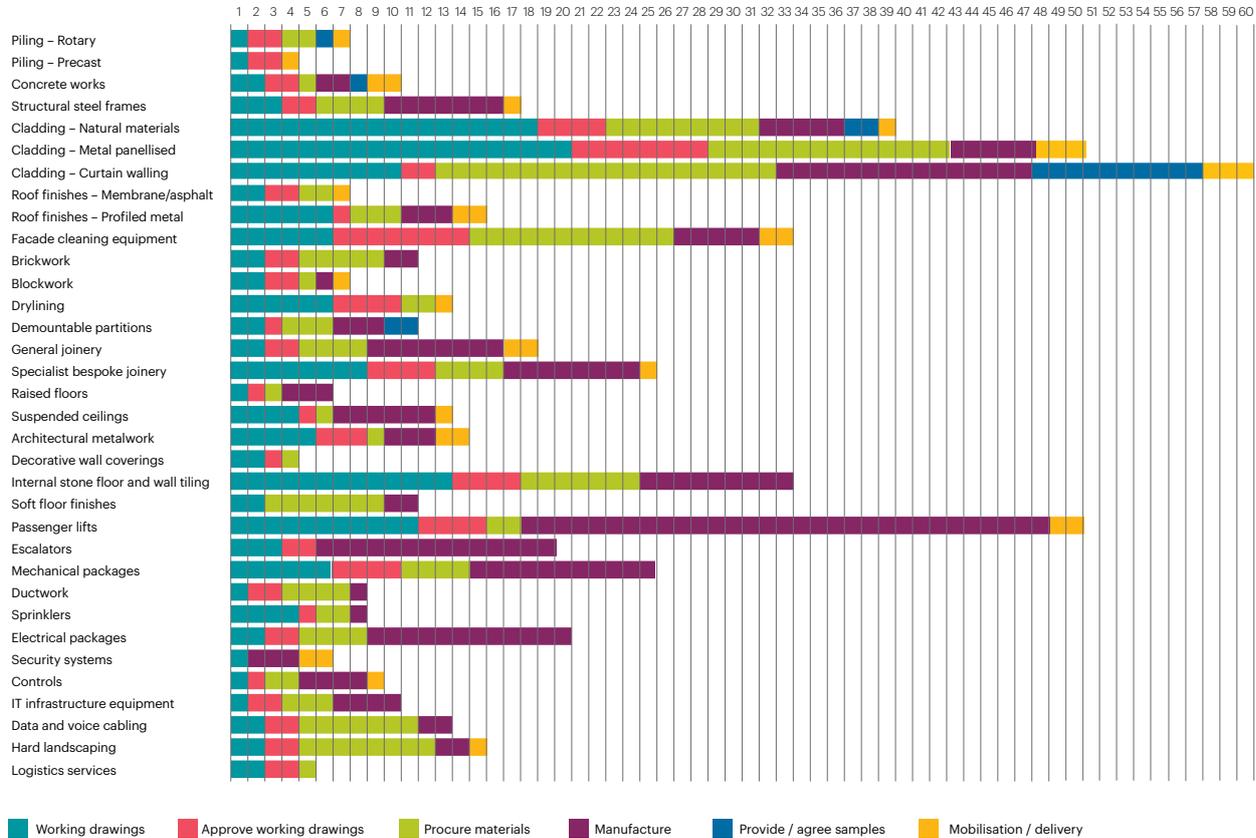
Source: Glenigan

### 1.4. Employment in construction 2012-2020



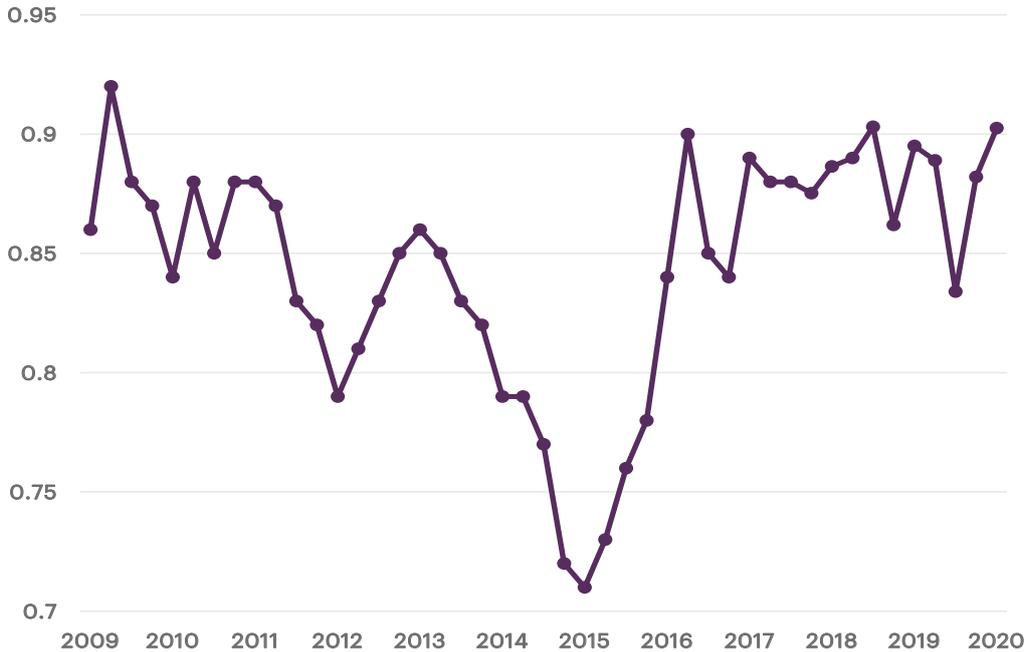
Source: Office for National Statistics

### 1.5. Average procurement lead-in times \*



Note: All times based on generic, 5-storey 100,000sq.ft. office block in city  
 Source: Building Magazine

### 1.6. Euro vs. sterling 2009-2020



Source: European Central Bank

## 2. Linesight average UK construction costs 2020 \*

<b>Commercial offices</b>	<b>Grade</b>	<b>Number of Storeys</b>	<b>Unit</b>	<b>Cost Range</b>	
	Premium	20 <	sq.m.	£2,700	£3,100
Shell and core new build office (excl. developer's CAT A fit-out - see below)	A	20 <	sq.m.	£2,400	£2,800
	Medium	20 >	sq.m.	£2,200	£2,600
Shell and core new build office (excl. developer's CAT A fit-out - see below)	Medium	8 >	sq.m.	£1,700	£2,000
Developer's CAT A fit-out	BCO Standard Specification	n/a	sq.m.	£450	£600
CAT B fit-out from institutional CAT A specification; standard corporate accommodation; open plan - 15% offices (excl. loose FF&E)	A	-	sq.m.	£700	£1,600
CAT B fit-out from institutional CAT A specification; standard corporate accommodation; banking/legal - 50% offices/cellular (excl. loose FF&E)	A	-	sq.m.	£1,200	£2,800
CAT A refurbishment costs (minor scope)	A	-	sq.m.	£600	£900
CAT A refurbishment costs (medium scope)	A	-	sq.m.	£900	£2,700
CAT A refurbishment costs (major scope)	A	-	sq.m.	£1,700	£2,600

<b>Retail</b>	<b>Level of finish</b>	<b>Number of storeys</b>	<b>Unit</b>	<b>Cost range</b>	
Regional shopping complex – high standard, including major stores, specialty shops and enclosed malls	Medium - high	Multi	sq.m.	£1,400	£1,700
Retail park; shell excl. fit-out	Medium - high	Single	sq.m.	£700	£1,100
Fit-out of small food store < 4,500sq.ft.	Medium - high	Single	sq.m.	£2,700	£2,900
Fit-out of large store with food and general merchandise < 50,000sq.ft.	Medium - high	Single	sq.m.	£2,000	£2,700
Fit-out of large full-range department store > 50,000 to < 100,000sq.ft.	Medium - high	Multi	sq.m.	£1,900	£3,000

<b>Residential</b> (Excl. site abnormal costs)	<b>Level of finish</b>	<b>Number of storeys</b>	<b>Unit</b>	<b>Cost range</b>	
Single private residence up to 150sq.m.	Medium	2	sq.m.	£1,000	£1,700
Single private residence up to 250sq.m.	High	2	sq.m.	£2,000	£4,800
Three-storey apartments	Medium	3	sq.m.	£1,800	£2,400
Three-storey apartments	High	3	sq.m.	£2,300	£2,600
Multistorey apartments	Medium	20 <	sq.m.	£2,400	£3,000
Multistorey apartments	High	20 <	sq.m.	£2,500	£4,200
BTR apartments	Medium	20 <	sq.m.	£2,400	£2,900
BTR apartments	High	20 <	sq.m.	£2,600	£3,100

<b>PBSA</b> (Excl. site abnormal costs)	<b>Standard</b>	<b>Number of storeys</b>	<b>Unit</b>	<b>Cost range</b>	
Studio/cluster mix (incl. amenity spaces)	Medium	<8	Beds	£65,000	£85,000

Industrial	Standard	Number of storeys	Unit	Cost range	
Up to 10m high warehouse (up to 5,000sq.m.)	Basic	2	sq.m.	£500	£700
Up to 10m high warehouse (over 5,000sq.m.)	Basic	2	sq.m.	£500	£600
Up to 10m high warehouse (up to 5,000sq.m.)	Medium	2	sq.m.	£500	£700
Up to 10m high warehouse (over 5,000sq.m.)	Medium	2	sq.m.	£500	£600
Up to 10m warehouse (up to 5,000sq.m.)	High	2	sq.m.	£700	£900
Up to 10m high warehouse (over 5,000sq.m.)	High	2	sq.m.	£500	£700
Truck hardstand, 175 RC slab, drainage, linemarking	-	-	sq.m.	£200	£300

**Data centre**

(Incl. shell construction, incoming power and fibre upgrades, comms equipment and cooling solution). Based on traditional construction and not prefabricated modular systems.

	Tier rating	Number of storeys	Unit	Cost range	
Fit-out of existing shell, fully-built (day 1 and 2), technical load between 1,000-1,500kW/sq.m.	Tier 2	2	KW	£6,600	£8,900
Fit-out of existing shell, fully-built (day 1 and 2), technical load between 1,500-2,000 kW/sq.m.	Tier 3	2	KW	£9,000	£12,100
Tier Level 4 - Fit-out of existing shell, fully built (day 1 and 2), technical load between 1,500-2,000kW/sq.m.	Tier 4	2	KW	£13,200	£16,800

Hotels (New build, excl. FF&E)	Star rating	Number of storeys	Unit	Cost range		FF&E	
Economy	2 star	16 - 18	per key	£67,500	£85,000	£3,500	£6,000
Fit-out 3-star hotel, restaurant, public areas, comfort cooling, no conferencing	3 star	18 - 24	per key	£75,000	£110,000	£8,500	£12,000
4-star hotel, restaurant, public areas, air conditioning, conferencing	4 star	22 - 28	per key	£155,000	£165,000	£12,000	£15,000
Boutique	-	45 - 50	per key	£135,000	-	£15,000	£45,000
5-star hotel, multiple restaurants, public areas, air conditioning, banqueting, wellness	5 star	30 - 35	per key	£300,000	£450,000	£30,000	£60,000
Super luxury 6-star hotel, multiple, public areas, air conditioning, banqueting, wellness	6 star	38 +	per key	£500,000	-	£45,000	n/a

**Approximate regional variance**

Region	Factor	Region	Factor
East Anglia	0.95	Wales	0.93
North West	0.92	South East	0.97
Scotland	0.90	West Midlands	0.96
Northern Ireland	0.89	East Midlands	0.96
Yorks & Humber	0.93	South West	0.94
North East	0.88	Greater London	1.00

**Notes:**

- The above costs are correct as of the beginning of March 2020 and as such, do not account for the impact of COVID, which is yet to be fully realised as the situation continues to evolve.
- Costs are based on January 2020 prices, and based on gross floor area. Average costs as indicated should not be used for insurance valuation purposes.
- The costs are representative of typical valuations for each type of project. Unique designs or challenging sites may not be within the cost range shown.
- The rates shown are average construction build only and do not include VAT, professional fees, any other soft costs, or allow for future inflation.
- The building costs noted above for the various building types are exclusive of site development costs and external works, which can vary significantly based on the specific site.
- The costs associated with brownfield sites can vary significantly and the building costs above exclude abnormal contamination.
- The basic building costs above exclude basement construction costs. Should a basement be required, this should be costed separately.

Source: Linesight

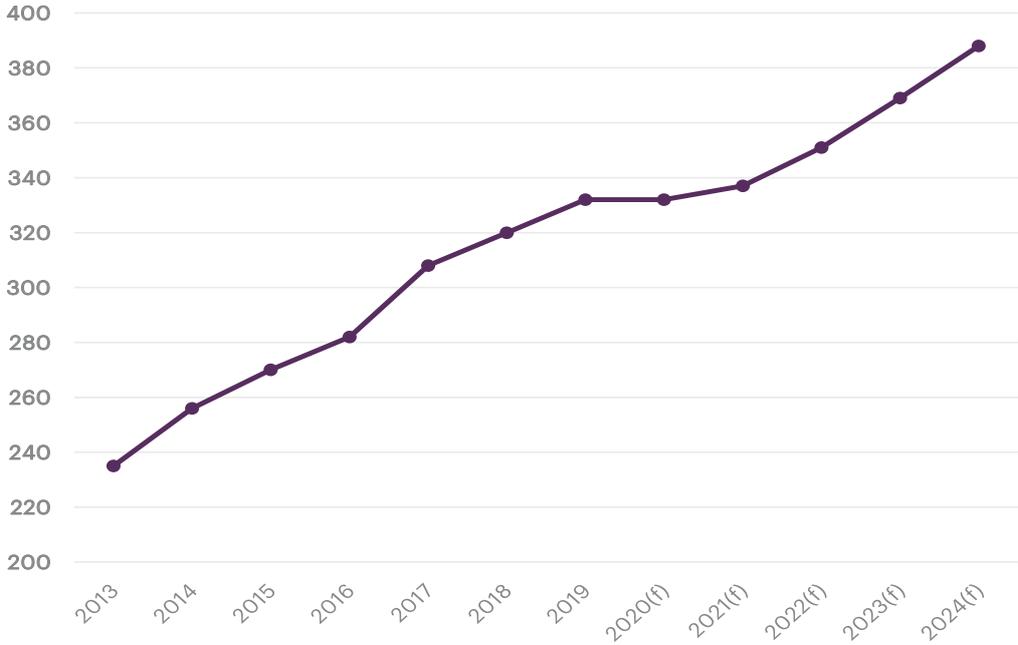


“There is complete meritocracy at Linesight – there are no barriers to progression as we continue to expand and grow. It's an ambitious business with a distinct culture that encourages and supports the building of meaningful relationships, both inside and outside the organisation.”

Giles Heather  
*Associate Director*

### 3. Indices

#### 3.1. Tender price index 2013-2024(f)



Source: BCIS

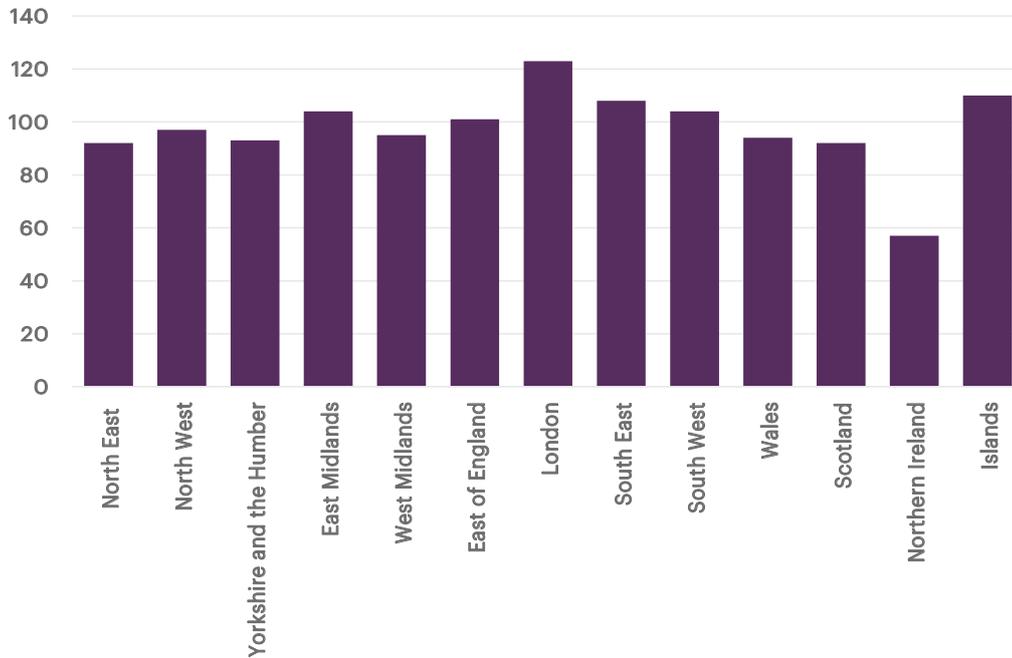
#### 3.2. % change in tender price index 2013-2024(f)



Note: Year-on-year change at Q4

Source: BCIS

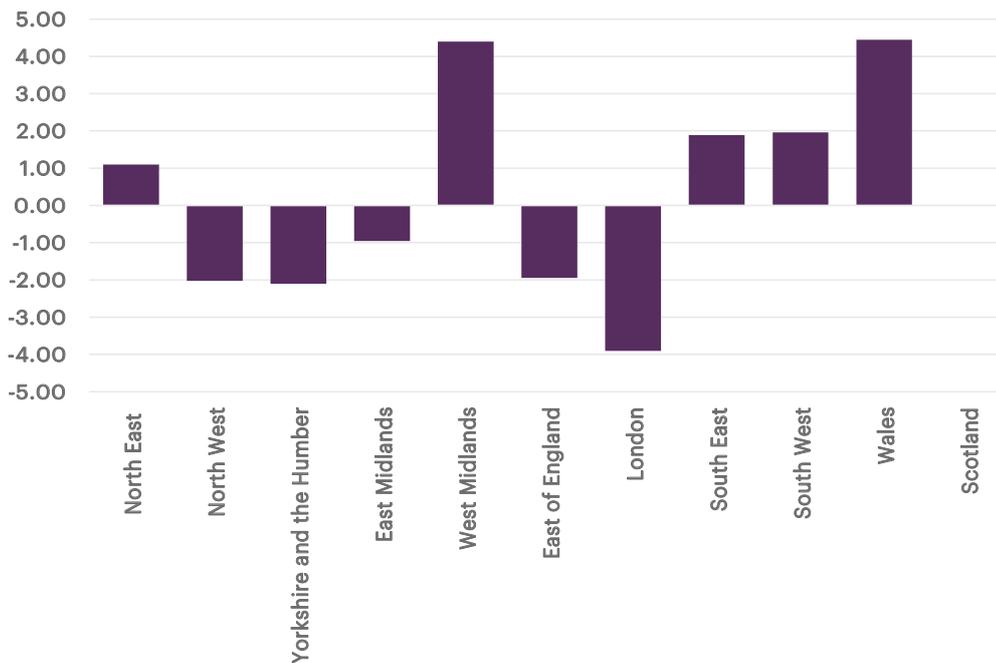
### 3.3. Regional tender price index



Note: UK mean = 100

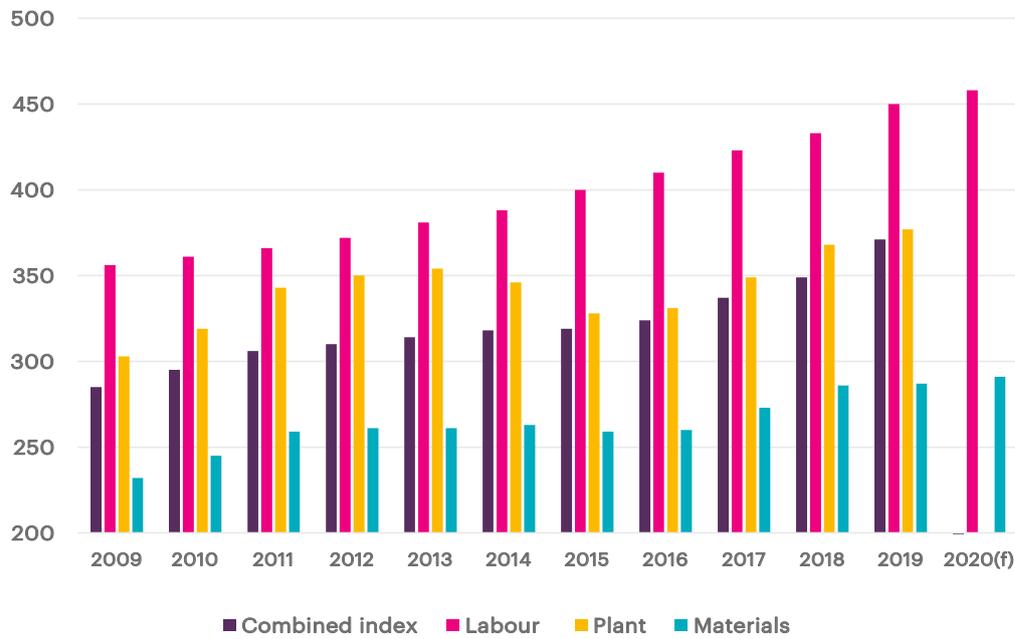
Source: BCIS

### 3.4. Regional annual % change in tender price index



Source: BCIS

### 3.5. Resource cost index 2010-2020(f)



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Combined index	295	306	310	314	318	319	324	337	349	371	n/a
Labour	361	366	372	381	388	400	410	423	433	450	458
Plant	319	343	350	354	346	328	331	349	368	377	n/a
Materials	245	259	261	261	263	259	260	273	286	287	291

Source: BCIS

## 4. Main contractors, architects and engineering firms \*

### 4.1. Top UK main contractors

2019 rank	2018 rank	Firm	Contracting turnover (£m)	Pre-tax profit (£m)
1	1	Balfour Beatty	7,802	181
2	2	Kier Group	4,513	106.2
3	3	Interserve	3,226	-111.3
4	4	Galliford Try	3,132	143.7
5	5	Morgan Sindall Group	2,972	80.6
6	6	Amey UK	2,668	-427.6
7	8	Mace	2,350	3.3
8	12	ISG	2,238	27.4
9	7	Keller Group	2,225	8.4
10	9	Laing O'Rourke	1,986	-25.2
11	10	Skanska UK	1,935	44.1
12	13	Wates Group	1,601	34.4
13	11	Costain Group	1,489	40.2
14	14	Willmott Dixon Holdings	1,323	35.5
15	15	Multiplex Construction Europe	1,065	18
16	39	M Group Services	1,028	-5
17	20	Homeserve	1,004	139.5
18	22	VolkerWessels UK	984	29
19	16	BAM Construct UK	950	19.4
20	18	Bowmer & Kirkland	938	54.5

**Note:** Latest accounts available at Companies House on July 30 2019

**Source:** The Construction Index

## 4.2. Top UK architects

2019 rank	2018 rank	Firm	Architects UK
1	1	Foster + Partners	362
2	2	BDP	330
3	3	Zaha Hadid Architects	273
4	4	Allford Hall Monaghan Morris	266
5	6	Allies and Morrison	182
6	5	Sheppard Robson	177
7	9	Grimshaw	142
8	7	Hawkins\Brown	140
9	8	Atkins	137
10	10	Scott Brownrigg	131
11	13	Stride Treglown	113
12	17	Feilden Clegg Bradley Studios	108
12	12	Squire & Partners	108
14	13	tp bennett	106
15	11	Purcell	104
16	18	AHR	102
17	16	EPR Architects	98
17	19	PRP	98
17	21	WilkinsonEyre	98
20	15	PLP Architecture	93

**Note:** Ranked by number of chartered architects

**Source:** The Architects' Journal

### 4.3. Top UK engineering firms

2019 rank	2018 rank	Firm	Engineers
1	1	Mott MacDonald Group	2,042
2	2	Arup	1,818
3	3	Aecom	1,656
4	new	Jacobs	1,362
5	9	WSP	1,097
6	6	Ramboll	725
7	4	Arcadis	707
8	7	Hoare Lea	370
9	8	BuroHappold	366
10	10	Mace	316
11	new	Hurley Palmer Flatt	222
12	14	Cundall	212
13	15	Pick Everard	185
14	16	Hilson Moran	145
15	17	Curtins Consulting	118
16	19	Royal HaskoningDHV	114
17	20	BDP	101
18	18	JNP Group Consulting Engineers	97
19	new	Hydrock	91
20	21	AKT II	75

**Note:** Ranked by number of Chartered Engineers

**Source:** Building.co.uk



“I really enjoy working with such a great team of people who have made me feel very welcome and valued from the outset. It’s a dynamic, ambitious and collaborative business with a great culture. I’m gaining valuable experience, with the opportunity to progress my career and further develop my skillset.”

**Holly Clinton,**  
*Executive Assistant*

## 5. Wage rates and charges

### 5.1. UK standard hourly base rates for labour

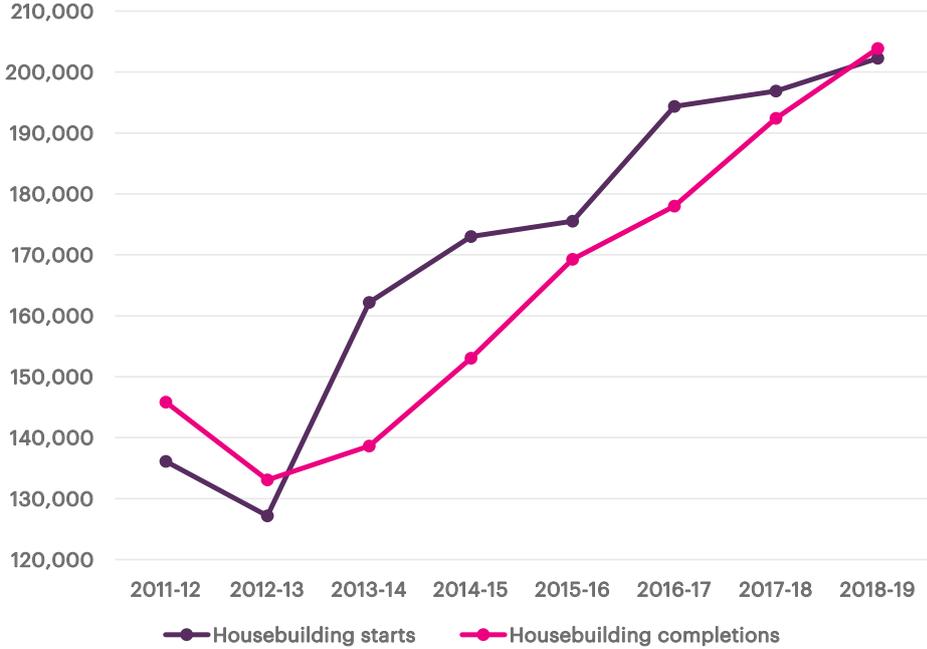
<b>Wage Rates On Category 1-3 Projects</b>	<b>2019</b>
	£
Skilled Working Chargehand - Grade 6	18.58
Advanced Craftsman - Grade 5	17.83
Craftsman - Grade 4	17.11
Adult Trainee - Grade 3	14.46
Adult Trainee - Grade 2	12.74
Adult Trainee - Grade 1	11.10

<b>Wage Rates On Category 4 Projects</b>	<b>2019</b>
	£
Skilled Working Chargehand - Grade 6	16.63
Advanced Craftsman - Grade 5	15.89
Craftsman - Grade 4	15.13
Adult Trainee - Grade 3	12.92
Adult Trainee - Grade 2	11.40
Adult Trainee - Grade 1	9.95

Source: BCIS

# 6. Housing

## 6.1. Housebuilding starts and completions 2011-2019



Source: Office for National Statistics



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Clockwise,  
Liverpool

Architect:  
Aedas

Linesight services:  
Cost Management

Review and Outlook

# Global Insights



# Global Market Review

**In just a matter of months, the global landscape has changed dramatically, with COVID-19 having a profound impact on economies around the world.**

In our early March Knowledge Centre update, we referred to COVID-19 as a new threat to the global economy, following eighteen months of uncertainty arising from the US-China trade war, which appeared to be coming to an end with the signing of the Phase 1 deal in early 2020. In a matter of mere weeks, the novel coronavirus moved from an impending threat to a confronting reality, and has had an unprecedented impact on both public health and the economy.

## **Recovery and resurgence in APAC**

As the region in which the COVID-19 outbreak originated, many parts of Asia are a number of weeks ahead of the rest of the world in terms of recovery. Indeed, as other parts of the world seek to curb the spread of the novel virus, they can look to countries such as China, to review the efficacy of various policy responses in efforts to soften the economic shock.

The pandemic initially caused shutdowns in Asia earlier than elsewhere in the world, with industry grinding to a halt in

February and having a significant impact on global supply chains. COVID-19 then brought much of the world's economic activity to an abrupt standstill, serving a secondary blow to the export-reliant Asian economy.

Asia's purchasing managers' indices (PMI) in August show up some mixed results – with Indonesia and Taiwan above the 50 mark, and the latter recording its highest figure in two years at 52.2, and Japan, South Korea, Malaysia, the Philippines and Vietnam all sub-50, indicating contraction. However, some of these sub-50 figures are still indicating gradual improvement and recovery, particularly in the big manufacturing nations. Bloomberg Economics also reported that a private gauge of China's factory activity grew at the fastest pace in August since January 2011, helped by improving exports and continued domestic recovery.

Having seen economic growth of 6.1% in 2019, despite the trade war, the Chinese economy was heavily impacted in Q1 with a 6.8% decline before a return to

positive growth of 3.2% in Q2. Although the Phase 1 agreement seemed hopeful with regards to the US-China trade war, tensions have once again intensified, which is having an impact on the Chinese economy and remains a risk factor.

In India, pre-COVID, some important reforms, while expected to benefit the economy in the longer term, such as a unified tax system and demonetisation, have been disruptive in the short term, and India has since been faced with considerable economic challenges due to the pandemic. Q2 was India's worst quarter ever recorded, with a 23.9% contraction and the IMF is projecting a 'historic low' for 2020, with a 4.5% contraction, before a return to growth is expected in 2021.

Although Australia appeared to have a good handle on containing the virus by June, and was beginning to focus on awakening its economy, there has been a recent resurgence in the virus and a recession has hit the nation for the first time in 28

years. A contraction of 6% is expected for 2020 before a prolonged recovery period kicks in over the coming couple of years. The Government introduced a considerable stimulus package, including the AU\$130 billion JobKeeper payment, which aimed to keep Australians in work and support businesses that had been significantly affected by the economic impact of the virus.

Singapore had an austere reaction to the pandemic, implementing an eight-week circuit breaker to suppress the virus. It entered a recession in Q2 with a 41.2% contraction quarter-on-quarter. To date, the government has announced four support packages worth close to S\$100 billion (nearly 20% of GDP), and has not ruled out announcing another package.

### Plummeting activity in Europe

Europe has been particularly hard-hit by the pandemic, between the public health impacts and the strict lockdowns seeing economic activity plummet, and the eurozone recorded an economic contraction of 11.9% in Q2.

Although the European Central Bank acted quickly upon the onset of the virus, with significant stimuli put in place to prop up the regional economy, it now appears that even more stimuli will be required from the ECB to tackle the disinflationary impact. Inflation in the eurozone was negative in August for the first

time in over four years, with a figure of -0.2% recorded across the 19 countries, well below the ECB's target of 2%. While it is hoped that this is relatively temporary and that a rebound is in the near future, Brexit remains a significant risk, in addition to the pandemic.

Although many European countries looked to be making a recovery in July, as lockdown and restrictions were lifted, a marked slowdown was seen in August as COVID cases rose again in some countries, with the eurozone PMI dropping from 54.9 to 51.6. Unemployment hit 7.9% in July, up from 7.7% in June, although a Reuters survey of economists had projected a slightly higher figure of 8%.

As Europe's largest economy, Germany, which was already enduring a period of political instability and ongoing economic uncertainty, has reported Q2 as its worst quarterly performance on record, with total output falling by 10.1%. Despite Germany not being as reliant on tourism as other European countries and the public health effects not being as stark, consumer spending has nosedived, and this has been coupled with the steep decline of exports and global trade, which are significant contributors to its economy. While its economy is doing better than initially expected, the aforementioned sluggish demand may prolong the recovery period. Germany's political landscape is in a state of flux, as far-right and the green parties gain popularity, and the

once-powerful democratic left has become alienated from the industrial, working-class base.

Meanwhile the French economy, Europe's second largest, saw GDP decline by 13.8% in Q2, although there was moderate improvement in May and June as lockdown measures eased. It was reported that economic activity was down 7% year-on-year in July, albeit an improvement on previous months, as construction activity ramped back up. Spain, however, has recorded its worst recession of modern times, with the economic shock leading to declines of 5.2% in Q1 worsening to 18.5% in Q2, coming out as the eurozone's worst performer.

The Irish economy is expected to shrink by 8.5% this year, and the Government's budget deficit increased to €9.5 billion in August, as VAT receipts reduced and spending on the likes of income supports related to the pandemic soared, compared to a deficit of €625 million this time last year, marking a year-on-year

**The UK has entered a recession for the first time since 2009, with a decline of 2.2% in Q1 followed by 20.4% in Q2 – the steepest decline on record.**

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deterioration of €8.8 billion. In addition to contending with COVID-19, Ireland stands to be one of the most impacted countries in the eurozone at the hands of Brexit, with the lack of direction adding to the uncertainty. Furthermore, as a country that is heavily reliant on FDI, the performance of the US economy is particularly impactful.

As the end of the Brexit transition period fast approaches, and the economic shock of COVID continues to be felt, the UK has entered a recession for the first time since 2009, with a decline of 2.2% in Q1 followed by a negative figure of 20.4% in Q2 – the steepest decline on record. The Government has put in place various packages and supports to mitigate the negative impacts and start on the road to recovery, but it is fair to say that economic recovery will be heavily dependent on any recurrence of the virus and whether post-Brexit trade deals are secured.

Israel has posted its worst performance in more than 40 years in Q2, coupled with the CBS (Central Bureau of Statistics) reporting a 28.7% decline. This follows a 10.1% contraction in Q1, after 3.4% growth in the second half of 2019. The country's high-tech landscape has been largely unscathed in comparison to other sectors of the economy. The ripple effect from the pandemic has not been felt so far in the sector, but a slowdown is expected as the pandemic continues.

## Record contraction for the US

The US started the year with strong optimism, but reported its sharpest contraction on record (since 1947) in Q2, at a rate of 32.9%. While it was hoped that recovery would ensue quickly, the second wave of the virus in some locations and resulting measures to suppress it infer that it may take longer than initially anticipated.

As the main driver of the US economy, consumer spending is a particularly important indicator, and declined by 10.7% year-on-year in Q2. Unemployment stood at 10.2% in July, down from 11.1% in June. In addition to the pandemic, rising tensions again between the US and China also pose a significant risk to its recovery.

Looking forward, unsurprisingly, projections for 2020 have been curtailed significantly, with GDP now expected to contract by 6.5%. Key commodities and materials have already seen a drop in prices, with oil and steel products bearing the brunt of this decline. Production facilities are slowing down, and in some cases, closing completely, which raises concerns over the ability to increase supply once demand returns.

## Continued volatility in the GCC

In addition to COVID, oil prices, geopolitical tensions, global trade wars and macroeconomic performance continue to have a significant impact on growth and

make the GCC less predictable than most major global markets. A contraction of 7.3% is expected in the Middle East oil-exporting countries as of July 2020. In addition to the effects of COVID, the GCC remains highly dependent on the oil economy, and the market volatility will undoubtedly have a role to play in terms of the pace of recovery post-pandemic.

The UAE Central Bank has forecast economic contraction of 3.6% for 2020, having put together a comprehensive stimulus package to support the economy, with increased loan-to-value ratios for first-time home buyers, as well as the range of regulatory changes announced in 2019.

The pandemic is dealing a double blow to Saudi Arabia, with a high volume of COVID cases, as well as energy market turmoil, including cuts in production and an oil price decline to below US\$20 per barrel, saddling the Government with a budget deficit that could rise to around 15% of GDP this year. Officials have been reported to have doubled their borrowing plans and implemented a series of austerity measures, including raising the VAT rate from 5% to 15%.



**Kim Hegarty**  
Director



# The rise of institutional investment in purpose-built build-to-rent

Institutional capital has become a significant component of both global and local markets. But how is it specifically impacting the UK market, as structural change towards renting-only further reinforces demand for purpose-built BTR?



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Giles Heather,  
Associate Director

In the space of just a few years, the UK build-to-rent (BTR) sector has come into its own. While not a new phenomenon globally, it has cemented its position in the UK as a distinct asset class, evolving away from the pre-existing private-rented sector.

Triggered by the introduction of buy-to-let mortgages in the 1990s, owning rental property has been a popular investment for small businesses and individuals for decades. However, a lack of investable assets at scale, the absence of investment vehicles with a robust track record, and the intensity of day-to-day management tasks have historically held back institutional investment.

### Why the institutional approach?

Today's landscape for rental investment has significantly changed. Demand has continued to increase, with 1.7 million more rental households in 2017 compared to 2007, according to the ONS. This means that rental homes need to be built at scale, something that smaller landlords cannot do meaningfully. Tax and regulatory changes have also started to bear down on amateur landlords, leaving a gap in the market that has been seized upon by long-term institutional investors.

This has come in the form of purpose-built BTR: a distinct investment type, with different physical and operational characteristics compared to converted stock. Large,

multi-unit blocks offer the scale to attract large investments, which ensures schemes are built to meet tenant needs and designed to the most operationally efficient specification possible.

Economies of scale reduce overall running costs while increasing net income flows. This allows operators to provide a variety of facilities and amenities, such as free WiFi, private cinema, gyms, a 24-7 handyman service and resident lounges, giving residents access to lifestyle services that home ownership and rental of converted stock cannot. Operators also retain tenants by offering a customer-focused service and running developments in a way that encourages tenants to build networks and establish roots, for example offering social clubs or having a communal roof terrace. This institutional approach means that the UK's rental sector is being professionalised, setting new industry standards in management.

As the sector has matured, it has attracted alternative sources of capital into the residential market. Unlike traditional house building, typically adopting a short-term investment approach, BTR focuses on long-term income streams. This has made it attractive to pension funds, helping to meet long-term liabilities, while providing a hedge against inflation. Greystar, for example, is planning to raise capital from major pension funds and insurers for its BTR fund, and will leverage Greystar's vertically

integrated platform to establish a best-in-class portfolio focused on London.

### Why BTR Schemes?

The investment rationale for purpose-built BTR is a strong one: investments are underpinned by stable occupancy rates, producing consistent cash flows; rental growth continues to outstrip inflation; and needs-based demand is decoupled from economic volatility.

Building large schemes has a number of advantages. Sites can be cherry-picked in areas of potential high growth and demand, maximising returns, while providing homes in areas that need it. Legal & General, for example, has focused on key regeneration areas, such as Salford, that have been transformed with improved services and infrastructure, attracting new residents.

Purpose-built BTR can also be delivered much faster than other forms of housing. Compared with 'For Sale' developments, investor capital can be deployed and start generating returns much more rapidly.

### Investment models

BTR caters for a wide variety of investment models. Investors can opt for an equity or debt holding, and can take an exposure to the construction and/or operational phase:

#### Equity

Investors can gain an equity exposure directly, via funds or by

purchasing shares of a listed Real Estate Investment Trust (REIT), such as the PRS REIT.

### Development phase finance

Investors can choose to invest through the development and operational cycle. Under this model they provide upfront funding to cover the costs of the site, the construction and initial operational costs. In return, they receive an income stream that typically starts once the development is operational and return of capital (at eventual sale).

### Forward funding

Investors can take a capped exposure to the construction phase through a forward-funding arrangement. Typically, the investor pays for the build up to a set amount and commits to buying the development at an agreed price, once it has reached a critical stage.

### Take-out funding

Those investors less familiar with construction phase risks can opt to provide take-out funding whereby, they only provide funding once the build is passed a critical phase (allowing the developer to 'take out' its initial capital).

In general, the earlier in the development cycle one invests, the higher the potential for returns, but the larger the risk.

### Investor rewards

BTR has the potential to provide an asset with a favourable yield, a long-term income stream, significant collateral backing and

well-diversified credit risk.

Net initial yields on BTR deals averaged 4.3% from 2015 to 2017, according to Savills Operational Capital Markets. Over this period, 18,500 units with an aggregate value of £4.1 billion (US\$4.9 billion) changed hands. Two-thirds were forward funding deals and the remaining were standing stock. Whilst the initial yield may give investors a sense of the income return available, that is only part of the picture. Savills' research found that over the last 15 years, capital growth has contributed a further 5.2% per annum to total returns on UK BTR assets (however, this is based on relatively small portfolio of existing assets).

### What are the risks?

Risk exposures can be separated into four main buckets:

- **Construction risk** - the construction phase considers the design and the physical build. It is capital intensive, subject to regulatory risk, and can suffer from time and cost overruns. Whilst planning permission is also a major factor, the majority of funding agreements are implemented once planning permission has been granted.
- **Tenant demand** - macroeconomic and demographic risks impact the rental market as a whole. For example, the impact of changes in house prices, population growth, wages, and government initiatives for first time buyers etc.
- **Property and location risks** - risks specific to the property,

both in terms of its value and desirability for tenants. For example, what if the location of the property becomes less desirable or the facilities outdated?

- **Operational management** - risks relating to the ability of the operator, including reputational risk and the ability to maintain a high utilisation rate whilst minimising costs.

### Addressing the supply-demand imbalance

The speed of delivery for purpose-built BTR means that the sector has received wide Government support as a means of tackling the UK's housing crisis. In terms of new and upcoming construction starts, purpose-built BTR has 110,000 homes currently in the pipeline, according to the British Property Federation and Savills. The sector will inevitably make a powerful contribution towards delivering the 300,000 new homes needed each year in the UK. This should have knock-on effects on both rental and 'For Sale' home affordability, beginning to address the current supply-demand imbalance.

### The COVID impact

With BTR, the reality for investors is that you need residents who want to stay and pay premium rents - that's how the model will drive the return on investment. The main impact on the operation of BTR during the pandemic has been on amenity spaces, which have been closed during the lockdown period and are a

key part of the value proposition associated with this sub-asset class.

Therefore, investors really care about who the operator is and making sure that they have the relevant experience, the platforms and technology are in place to respond to the needs of the residents, and that flexibility is built in. It is the collective responsibility of the developer and operator to know their customer base and try to interpret their needs, their desired amenities they want and what services are important to them.

On-site BTR teams have built strong relationships with the residents to create a community during the pandemic and introduced a strong virtual suite of options on demand, whether that be fitness, health and well-being, cooking challenges or book clubs. This has proven successful, and it is reported that the same percentage of people that showed up to in-person events are participating in virtual events, which is a strong statistic given the current climate.

At the current level of relative market maturity, BTR operators can adapt quickly and if an amenity space is not being used for its current function, they can quickly change it to something else. Ultimately, the goal is to provide facilities and amenities that are tailored to the preferences of the customer base, which in turn leads to them staying. Therefore, the turnover of the rental product is low, because BTR provides amenities that appeal to the resident and overall, lead to a better quality of environment for them. As a result, BTR gets fewer void periods, and therefore, higher returns. Through being flexible around consumer needs during the pandemic and the realisation of the 'new normal', the product can very quickly embrace innovation, which continues to create reliable investor returns.

### In summary

As the BTR market matures and more operational data becomes available, long-term investors are likely be enticed by the opportunity to receive a

long-term stable income stream, collateralised on a significant tangible asset.

BTR provides an interesting opportunity, both in terms of meeting investment objectives and its social contribution. Whilst a number of institutional investors have contributed to BTR to date, the investor profile is likely to significantly evolve over the next few years, as the sector builds up a tangible track record and the BTR debt market matures.

The continued structural shift towards renting-only further reinforces demand for purpose-built BTR. Long-term, transparent leases will continue to attract residents looking for flexibility and security, as well as those looking for a more lifestyle-led proposition. In a time of economic uncertainty, diversification benefits from more cyclical investments also continue to attract capital from an increasing number of alternative sources, meaning the future looks bright for purpose-built BTR.



# The evolution of data centres

By 2025, the International Data Corporation (IDC) projects that the global need for data will skyrocket to 163 zettabytes, and COVID-19 has further increased our reliance in the interim. But how is this dependency on data in our day-to-day lives affecting the data centre sector?



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Gavin Flynn,  
Program Director



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Eoin Byrne,  
Associate Director

Today's world is dependent on data, and that dependency has been exacerbated by the COVID-19 pandemic. By 2025, the International Data Corporation (IDC) projects that the global need for data will skyrocket to 163 zettabytes. From our banking infrastructure to our smart homes, technology and information play an increasingly crucial role in every aspect of our daily lives. This demand will continue to propel the data centre market, which has changed dramatically since the 1940s, when large computer rooms like the Electronic Numerical Integrator and Computer (ENIAC) became the predecessors of modern data centres. From 2019 to 2023, the global data centre market size is expected to grow by US\$284 billion, at a compound annual growth rate (CAGR) of more than 17%. But with the accelerated pace of innovation calling for facilities that are built faster, on tighter budgets and to evolving specifications, the construction industry must first understand the new challenges impacting the market. By bringing improved construction management methods like cost management, procurement and supply chain management, the industry can address the new challenges related to cost and time to market.

### The impact of cloud and edge computing

The adoption of cloud infrastructure has heavily influenced the requirements of modern data centres. With the

advent of cloud-based software platforms, the organisation of resources has shifted to hybrid cloud systems, which pools off-premises and on-premises resources to optimise digital processes.

Another shift in workflows that affects the market is the rise of edge computing. More Internet of Things (IoT) devices, and the increased need for real-time data analytics and interactions, have pushed the demand for applications to have their computing processes closer to end users, which is usually at the edge of a network. By 2025, it is projected that 75% of enterprise-generated data will originate and be processed outside of traditional data centres or clouds.

This restructuring of digital resources has caused many enterprises to begin shifting from owning or operating their own data centres to incorporating colocation and managed hosting services. Businesses are now spending more on cloud infrastructure services than on data centre hardware and software: from 2009 to 2019, spending on cloud infrastructure services has grown by 56% annually to nearly US\$100 billion, while annual enterprise spending on data centre hardware and software grew by only 4% on average.

### Hyperscale and colocation

This substantial change in how digital resources and

infrastructures are managed has boosted the hyperscale market, but also shortened project timelines. More than half of data centre hardware and software spending now comes from cloud providers' hyperscale facilities. This massive demand for more capacity means that previously acceptable project durations are no longer sustainable. Providers must explore other options to reduce their construction schedules, which can include changing designs, land banking, developing cold shells and applying pressure to the construction market to match the speed of data centre growth. The added demand has a domino effect. If hyperscale facilities and their supply chains cannot meet the need for more capacity, enterprises can lease more space from colocation providers to handle changing workload requirements.

### Modular construction

Another way in which data centre demands can be met is by adopting a modular construction approach. By applying modular techniques, speed to market can be addressed with an efficient supply chain. Modules can be manufactured offsite and tested for compliance, while the shell and core are built on location. Once the modules are ready, they can be shipped to the site and installed quickly. The simultaneous progress of all elements of the build shortens schedules significantly, with a 25-30% reduction in the time needed to build and commission a modular project.

There is also the added benefit of cost efficiency when adopting a modular approach. This is achieved by standardising certain building materials and designs. The modular method also employs economies of scale, where building materials that are mass-produced can be made at a lower cost.

### Supply chain and procurement management

While modular construction methods may help in preventing delays and cost overruns, supply chain and procurement management processes are also extremely important tools that can be used to drive down costs and control project schedules. With market growth comes stress on the pool of available equipment manufacturers and suppliers, and if there are delays to equipment deliveries, then there will be interruptions in the overall project schedule. Equipment is a critical part of the project and can have a direct impact on a provider's ability to complete builds on time. By having an established supply chain with robust contracts, providers can take proactive steps to protect themselves.

Vendor Managed Inventory (VMI) is another key element. With the market moving towards more cost effective and consistent oversight of large equipment, VMI provides suppliers or the supply chain with more certainty around the construction project pipeline. This in turn helps them to be more economical

and flexible to align with their customers' demands. VMI also enables owners and data centre providers to reduce their overall lead time. Collaboration and information sharing between clients and suppliers are essential to drive these results. By implementing supply chain and procurement management processes, and working closely with suppliers, project costs can be reduced and delays can be minimised.

### The next step in data centre construction

The changing requirements of data centre builds and the growing demand for capacity highlights the need for a solution that can bring projects to market quickly and within a reasonable budget. Providers must now look beyond traditional construction techniques to meet market demands by employing a developed approach to procurement and supply chain management in navigating the new age of data centre construction.





# The impact of COVID on the supply chain

The supply chain has been one of the key casualties of the pandemic, with significant disruptions to delivery schedules and material supply remaining a core challenge.



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Neil L Doyle,  
Director

From the very early stages of the COVID-19 pandemic, with its outbreak in China and its proliferation around the world, and the subsequent and ongoing lockdown periods, the impact on the supply chain has been one of the key considerations and vulnerabilities for the construction industry. Significant disruptions to delivery schedules and material supply remain a key challenge, with diversification and strength within the supply chain now a fundamental objective. With the risk of financial instability, the strain on resources, and reduced efficiencies, lower working capacities and increased sanitation checks leading to longer lead times to contend with, there are three core pillars to focus on with regards to securing the supply chain, as discussed below; investment, diversity and resilience.

## Investment

Construction is an essential component in the recovery of the global economy, constituting a key contributor to GDP for most countries and a vital source of demand for raw materials. As the industry continues to recover and restart, investment in the supply chain is a fundamental requirement across all levels.

Private investment and financial support from clients and Tier 1 suppliers should be provided to the lower levels of the supply chain to protect and secure it, and avoid further casualties of COVID-19. These lower levels are key to a successful recovery of

the construction industry, and with numerous suppliers affected by the pandemic, the focus should be to return to pre-COVID levels. Equity investments and acquisitions are crucial to the re-emergence of the supply chain.

It is also imperative that government stimulus packages are used to restart the economy and provide a boost to the lower levels of the supply chain to return to operations. The current shortage of materials will continue in effect if government support is not provided.

Lastly, with the delays caused by COVID-19, the sharing of business forecasting and planning is imperative to securing a supply chain. Many businesses are now employing the use of advanced purchasing and increasing inventory levels to provide short-term security in the supply chain. While this will provide encouragement to the suppliers, the onus must be on the supplier to maintain pricing levels and not pass the costs of inventory storage to the consumer.

## Diversity

With the considerable disruptions to the supply chain, which are well documented at this stage, there has been an increased focus on sourcing more local suppliers, who have manufacturing capacity and materials available to circumvent the overseas shipping delays. This includes Tier 1 suppliers looking into local suppliers, with an overall shift away from dependency on cheaper produce available

from other regions. If COVID has highlighted anything to the wider industry, it has been the overreliance on China as the factory of the world, and there is now a marked effort to look at other low labour cost locations as alternatives.

The pandemic has undoubtedly spurred on key improvements across the industry and the supply chain, including innovation to maintain agility in the sources of supply and to mitigate the risk of issues in the supply chain. The ability to move quickly to activate secondary supplier relationships, and secure additional critical inventory and capacity is key. It may also be prudent to identify suppliers with shared resource pools for raw materials inventory, where it applies. Overall, the adaptability of suppliers is coming to the fore.

Furthermore, COVID-19 has impelled the digitalisation of supply chain management, innovation and the advancement of technology. This extends across resource planning, supporting increased communication without the need for complex travel arrangements and enhanced supplier relations.

The severe impact we have all witnessed within supply chains around the world has led to a rethink around different supplier resources, and mapping those out to reduce the impact in the supply chain when 2nd and 3rd tier suppliers can't meet demand. While it can be expensive as it requires time to build up a good





risk-mitigation strategy and an updated list of companies in the market, it is ultimately worth it to avoid disruption at times like this. Lastly, the importance of better due diligence checks and increased awareness across the supply chain cannot be underestimated. It is imperative to know all of the supplier base below level 1, and where the supply comes from to secure business continuity. There is also, of course, a need to now tighten up supplier selection protocols.

## Resilience

Needless to say, resilience within the supply chain has become all the more important in light of the current pandemic. The impact of COVID is reverberating down the chain, through Tier 2, 3 and 4, given the unavailability of raw materials and components to feed up through. With the reduced efficiencies and loss of revenue as a result of less purchasing during the pandemic,

financial instability within the supply chain is a risk, and the increased strain on resources may drive some suppliers out of business.

Conversely, some businesses and supply chains have demonstrated their adaptability and changed their approach, and may have excelled during the pandemic due to demand, e.g. PPE, delivery services. We have seen collaboration across the supply chain in some instances, with suppliers working together with a common end goal in sight. Some have even seized opportunities presented by the crisis for growth, with new businesses emerging, although the long-term stability and viability of these companies could be considered somewhat precarious.

Ultimately, companies are quite susceptible to experience disruption in the challenging times we find ourselves in, with

potential factory closures at play, whereby manufacturing can grind to a halt very quickly. Supply lead times are being prolonged by the extra security and sanitation checks required, with packaging, loading and shipping taking longer than previously, and scheduling becoming more difficult.

## Summary

Undoubtedly, the impact of COVID-19 on the supply chain has been a huge issue since the early stages of the outbreak and has been felt around the world. It has proved to be a significant challenge and vulnerability for the construction industry, and the need to protect and secure the supply chain has never been more apparent. There are three core pillars that we view to be fundamental in this regard, as discussed above – investment, diversity and resilience.

GLOBAL INSIGHT

# Reimagining the post-pandemic workplace

COVID-19 is redefining how we live and work, as well as altering our perceptions of place, and challenging us to rethink the design and functionality of our spaces.



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Adrian Farren,  
Associate Director



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Des O'Broin,  
Director

The built environment will face new demands post-pandemic, and how we use spaces will change, from repositioning and adapting existing assets to building new ones.

Real estate has undergone quite a bit of change in recent years as is, with the proliferation of concepts such as coworking, flexible working and hot desking, providing new solutions that account for the evolving ways in which we work. However, COVID has certainly served as a catalyst for transformation with the commercial and corporate interiors space. In this piece, we put forward some of the key considerations in this sector for the near future, as we look towards a return to offices.

### The role of remote working

Prior to the pandemic, the proportion of individuals working remotely was low, with figures from various labour force surveys indicating that just 5% of the workforce in the EU27 worked from home in 2019 – a proportion that had remained relatively constant since 2009. In the US, this figure was 7% according to the 2019 National Compensation Survey from the Bureau of Labor Statistics. Despite years of predictions about remote working being the upcoming trend and advocacy for its merits, a marked shift never really happened. And yet, suddenly in March 2020, working from home was thrust upon us as the new norm.

While productivity has been relatively unscathed – a recent Stanford report notes a 13% gain in employee performance related to remote working – it is clear that social and collaborative workplace engagement have been casualties of full-time working from home, and that employees may not feel as connected to the company culture as they do when immersed in it physically in an office. It is more challenging to maintain the more personable, human aspect of an organisation remotely.

Going forward, it is likely that there will be a happy medium in terms of remote working, and that corporate workspaces will serve as environments for collaborative working and connectivity, rather than a place where employees come to work on individual projects or tasks.

### Density and space utilisation

Pre-COVID, soaring real estate costs were driving higher density and greater utilisation of space. Many large companies were forming global standards of office spaces, that were essentially a kit of parts to be adapted to different locations, such as tech hubs, easily configured offices, open-bench workstation neighbourhoods, and open network team areas. In terms of average square feet per employee, the norm in the 1980s was 200 to 300, according to Moody's Analytics, but by 2019, that average had fallen to 126.5.

However, with the social distancing measures in place for the foreseeable future, and the abovementioned role of remote working going forward, space capacity and functionality will change, meaning that traditional high-density configurations of rows of desks will have to be reconsidered. With offices expected to cater more towards collaborative and social functions, there will need to be a shift towards smarter spaces that are conducive to interaction and conversation.

### HVAC

The role of adequate ventilation and indoor air quality in office spaces is obviously important, but it should be noted that not all heating, ventilation and air conditioning (HVAC) systems are up to the task for current requirements. Now more than ever, it is vital that systems are reviewed with fresh air intake in mind and relative humidity, and potential improvements, such as filter upgrades, pre-filtration options and purification solutions, considered. The opportunity for smart technology to optimise the systems should also be explored, in terms of monitoring CO2 levels as a fundamental air quality indicator (and of the performance of the ventilation system), and controlling the operation of the system.

### A strong focus on well-being

In recent years, there has been increased focus on the role

of health and well-being in the workplace. Given that the average American spends 93% of their life indoors, according to the Environmental Protection Agency (EPA), it makes sense that now more than ever, organisations want to explore how they can optimise their workplace from a health and wellness perspective.

While certifications such as the Well Building Standard and Fitwel have been more and more popular in recent years, both have developed new standards in response to COVID. WELL has introduced the Health-Safety rating, which builds upon the existing pillars within the Standard, focusing on five key themes: cleaning and sanitisation;

emergency preparedness, which incorporates business continuity planning, building re-entry, and supporting resilience during emergencies; health-related services for occupiers; air and water quality management; and stakeholder engagement and communications. It is not confined to a particular type of facility and is customisable across 38 different criteria.



Meanwhile, Fitwel has launched a Viral Response Module as of the end of August, as an addition to its standard building certification. It provides annual, third-party certification of policies and practices, informed by the latest public health research on mitigating the spread of contagious diseases and incorporates turnkey policies that can be adapted to

specific requirements. There are five chapters involved: leveraging buildings to migrate viral transmission; building trust in the workplace; addressing mental health within residential settings; optimising density for people; and addressing health disparities in the built environment. While developers and tenants are reviewing their space requirements and looking

to adapt their office space for flexible and remote working, the reality is that the need for connectivity and collaboration will ensure that the office market remains somewhat resilient during these uncertain times.



# Managing bioreactor lead times for success in biologics

Because of their long lead times, bioreactors can greatly influence a biotech project's critical path and affect the overall project timeline. Pre-COVID, Linesight has conducted in-depth market research to better understand the current conditions, drivers and future trends of the bioreactor industry.



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Jeff Peragallo,  
Director and Vice President  
of Operations



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Nigel Barnes,  
Director of Life Sciences



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Ronak Shah,  
Scheduling and Project Controls  
Graduate

With the global healthcare spend continuing to increase dramatically and projected to reach in excess of US\$10 trillion by 2022, pharmaceutical companies are making significant investments in the research, development, and manufacturing of biologics, which are drugs that are derived in living organisms. Biologics projects consist of many elements, including the overall design, construction, and start-up of the entire facility, but one of the most important pieces of equipment involved in the manufacturing process is the bioreactor. Because of their long lead times, these reactors can greatly influence a biotech project's critical path and affect the overall project timeline. By focusing early on a bioreactor's design and development, clients can control one key aspect in ensuring the successful and timely delivery of biologics projects.

**Key considerations**

- Preparing for a project's success begins with understanding critical equipment lead times
- Bioreactors are major components in biologics facilities
- Developed by rigorously distilling project and market data, Linesight's diagnostic reveals vital insight into the impact of bioreactor lead times on the overall project timeline.

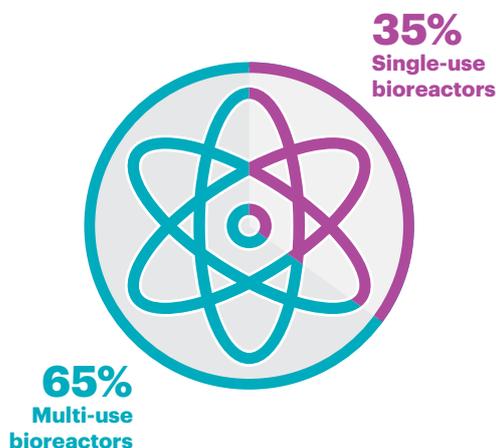
Investments in biologics are driven in large part by the global increase in life expectancy, improved access to medicines and the growth of non-communicable diseases, most prominently cancer, heart disease and diabetes. Spending on new cancer drugs alone is expected to grow by more than 50% over the next few years, with particular focus on the production of biologics. These biologics have revolutionised the treatment

of many cancers and chronic conditions, such as multiple sclerosis, arthritis and rheumatoid arthritis, Crohn's disease and other autoimmune diseases.

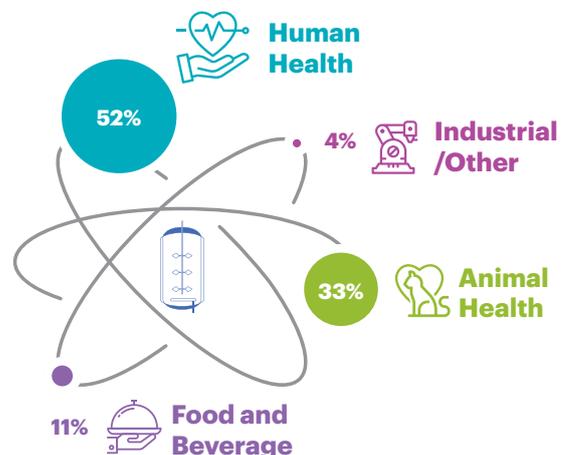
Additionally, established life science companies are upgrading their existing facilities to keep track with the latest regulations and technology. Start-ups are also joining the fray, as funding has become available based on the anticipated high return-on-investments. Thus, biologics manufacturing is expected to skyrocket over the coming years.

The manufacturing of biologics relies heavily on the use of bioreactors. A bioreactor is simply a vessel in which a chemical process, usually involving organisms or biochemically active substances derived from such organisms, is carried out. There are two types of reactors: multi-use and single-use.

**TYPES OF BIOREACTORS BEING BOUGHT**



**WHO IS BUYING?**





A single-use bioreactor, or disposable bioreactor, is a bioreactor that is lined with a disposable bag. A multi-use reactor is a vessel made typically of stainless steel or glass. With the full-on press of the pharma industry into biotech, the bioreactor market is red hot.

As such, with any significant investment, understanding the critical equipment and the lead times help our clients to better plan and prepare their projects for success. Our clients depend on us, as the market intelligence leader, to bring this insight to their projects.

To this end, Linesight created a diagnostic that was based on real-time data that was gathered through a survey administered

to a cross-section of bioreactor manufacturers located across the globe. The respondents were business owners, operations managers, and sales managers with current project experience. The objective of the survey was to understand the current conditions, drivers, and future trends of the bioreactor industry.

### Insights and market forecast

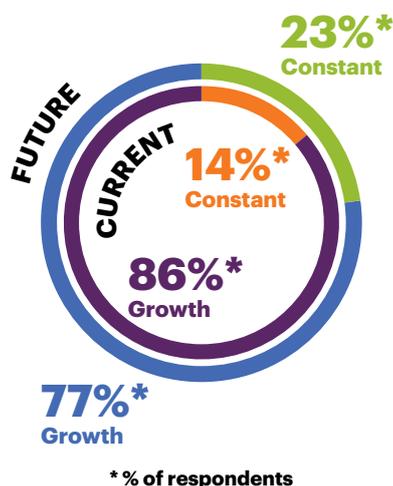
Historically, the US and Europe have been the major consumers of bioreactors and continue to be in a strong position with robust demand. The US biologics market could, however, face possible threats to its vitality, depending on the US Presidential election and any incoming changes to policies regarding healthcare

and drug pricing. The market in Asia, on the other hand, is having a major effect on the purchasing of bioreactors and is expected to see growth, with many of the bioreactor suppliers moving to the region to meet the demand. 80% of the reactor suppliers see the market increasing in activity, thus adding more pressure to lead times. The factors that are driving biologics are not expected to change if a global recession were to occur.

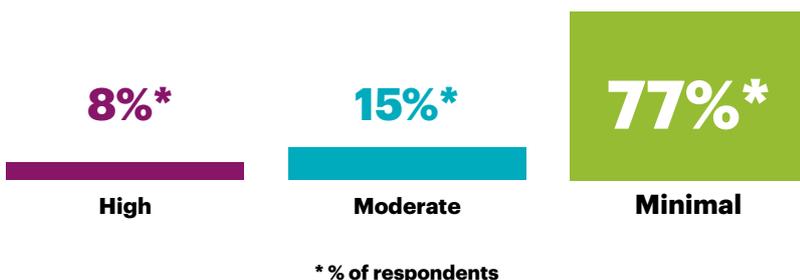
### Conclusion

With their long lead times, bioreactors are driving the critical path of biotech projects. Though lead times are primarily influenced by reactor size and the manufacturers' supply chain, there are specific actions that clients can take to help minimise

#### MARKET CONDITIONS



#### IMPACT TO MARKETPLACE IF GLOBAL RECESSION OCCURS





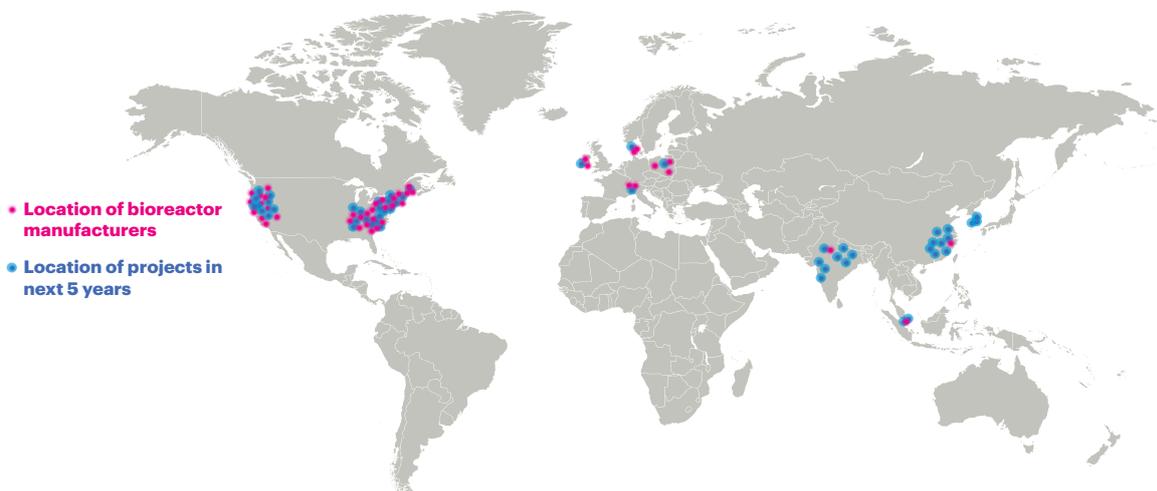
delays by **locking in their process design early**, providing **focused show drawing reviews** and **streamlining approvals**. Linesight has seen success with clients that have a strategic focus on sourcing. These sophisticated clients have engaged Linesight to bring industry and marketplace expertise to help implement and execute sourcing strategies that are aimed to deliver value across their programme of work. These clients have successfully

leveraged their buying power and have strategically aligned with some of these reactor manufacturers to improve costs and lead times. The work does not stop at the sourcing stage; order management is equally important, where focus must be on maintaining regular contact with the manufacturer and visiting the fabrication facilities to ensure processes are on track. Understanding bioreactor lead times and working with

construction consultancies that have experience in reducing delays on this critical equipment are proactive steps to ensuring overall success on biotech projects.

*Please note that this study was conducted pre-COVID, so bear in mind that supply chains are disrupted and as a result, lead times may vary at this juncture.*

## WHERE THEY ARE VS WHERE THEY ARE NEEDED



# The true adoption of BIM - adding tangible project value?

Despite improved quality of information, as well as more accurate and speedier cashflow analyses being obvious advantages in the built environment, these benefits of BIM are often not realised to their full potential, due to implementation or adoption issues.



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Diarmaid Connolly,  
Associate Director

It is fair to say that BIM has been a topic of great interest within the construction industry over the last number of years, hailed as one of the core ways that we as an industry are embracing technological evolution, tackling inefficiencies, improving information quality and increasing design team collaboration. It is true that it offers a number of distinct advantages, and yet, as noted by John Hainsworth of Aurecon in his article, 'The promise of 'digital' won't be achieved by doing things the way we've always done things', with an array of definitions and a lack of clarity surrounding BIM, its full benefits are yet to be realised. John points to the fact that its implementation is often carried out in a file-based, transactional manner, with a truly collaborative approach absent and ways of working essentially the same as they have been traditionally – just using the technology to do the same things and missing out on the potential benefits.

At Linesight, the lack of willingness to fully adopt is something that we see on a global basis, although the extent does vary somewhat from region to region. We have adopted BIM on a global basis and invested heavily in its implementation, both in hardware and software, and in continuous staff training, to ensure that we are up to date with the latest developments and at the forefront in terms of its effective utilisation. Below is a summary of the key benefits

that we see in the effectual use of BIM.

### Speed and agility

The pace at which estimations can be produced increases considerably with the use of BIM, and this is one of the key advantages of its effective implementation. It enables the creation of option costs with greater speed, as well as the potential for live cost planning and modelling – introducing a level of agility with cost planning and estimating that has not traditionally been possible. Ultimately, this leads to faster decision-making and thus, a faster speed to market.

### Accuracy and quality

Information accuracy and quality has been a particular challenge for the industry in recent years, with the UK's 'Get It Right' initiative finding that information errors cost the industry an estimated 5% of project value globally. In addition to the abovementioned speed and agility benefits, effective BIM implementation increases the accuracy with which cost estimating, planning and modelling can be carried out, by minimising the risk of human error, as well as supporting a higher quality of information. This in turn leads to a more cooperative project, as tenderers are much less likely to recover costs incurred due to poor or inconsistent information.

### Increased productivity

While increased collaboration is often touted as a key benefit

associated with BIM, this is not something that comes to fruition as often as one may think. The technology facilitates clarity, transparency and real-time sharing of information across the project team, coordinating information from various disciplines and eliminating version control issues, as well as keeping the lines of communication open. However, a proactive approach is needed across the team to actually realise these benefits, which is quite often lacking.

### Cashflow

Managing and forecasting cashflow throughout a project is fundamental to its success, and traditionally, cashflow analysis is a lengthy and tedious process. From Linesight's perspective, this is one of the biggest advantages associated with BIM – its effective adoption facilitates more accurate speed forecasting by linking cost-loaded models and programmes, with more detailed models producing more accurate cashflow analyses. Ultimately, our early involvement in a project means that cashflow investment can often be deferred, which is particularly beneficial for projects with a large capital spend.

### Cost intelligence

While benchmarking is not a new methodology, BIM facilitates it at a more accurate level as costs are broken down in more detail in the models, so by splitting the model, it allows us to benchmark specifics. However, by using BIM to its full potential, it pushes this further, to what we refer to as

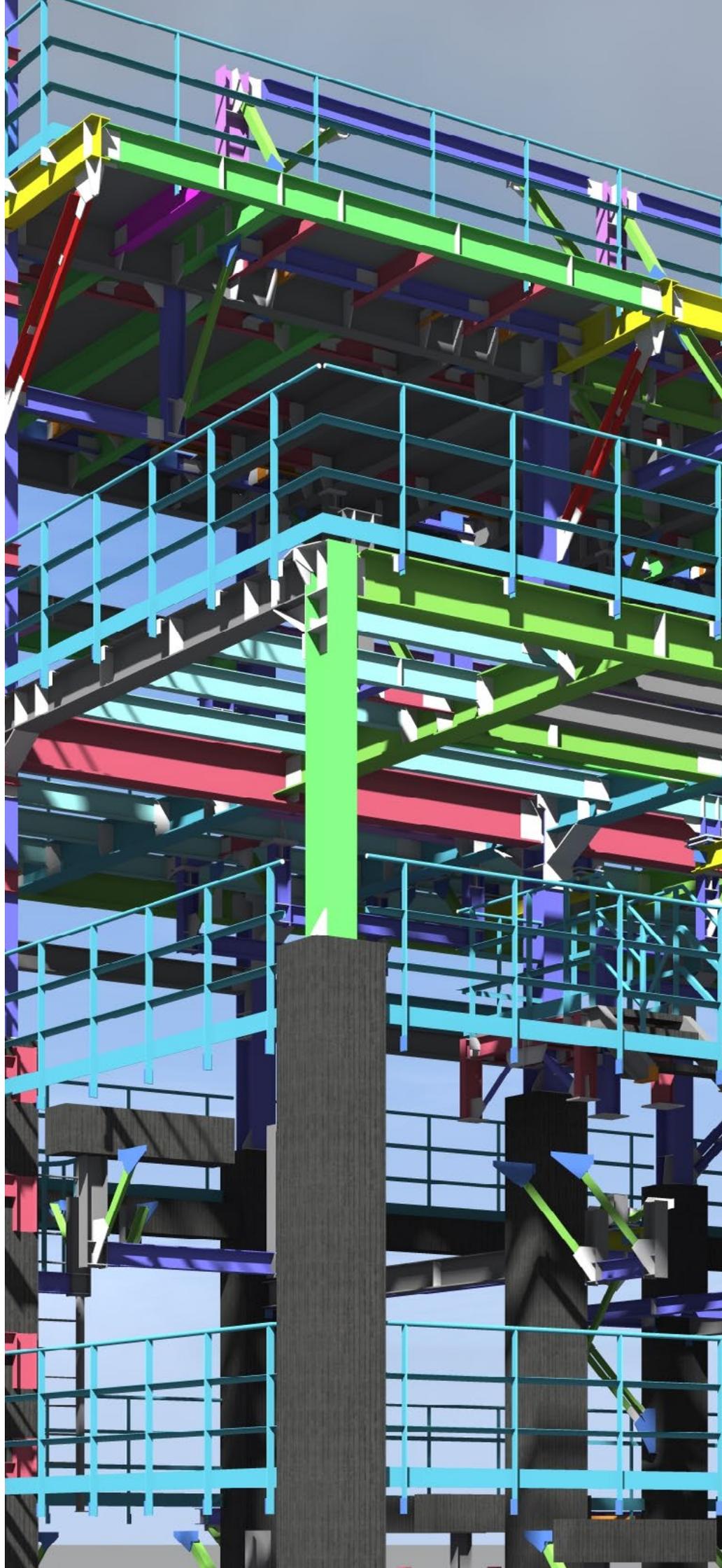
cost intelligence. With a deluge of complex data associated with projects nowadays, utilising the latest data visualisation tools brings this data to life in a meaningful way – illustrating trends and concepts in a quick and easy-to-digest format, allowing project teams and clients to draw conclusions from large volumes of data and inform effective decision-making.

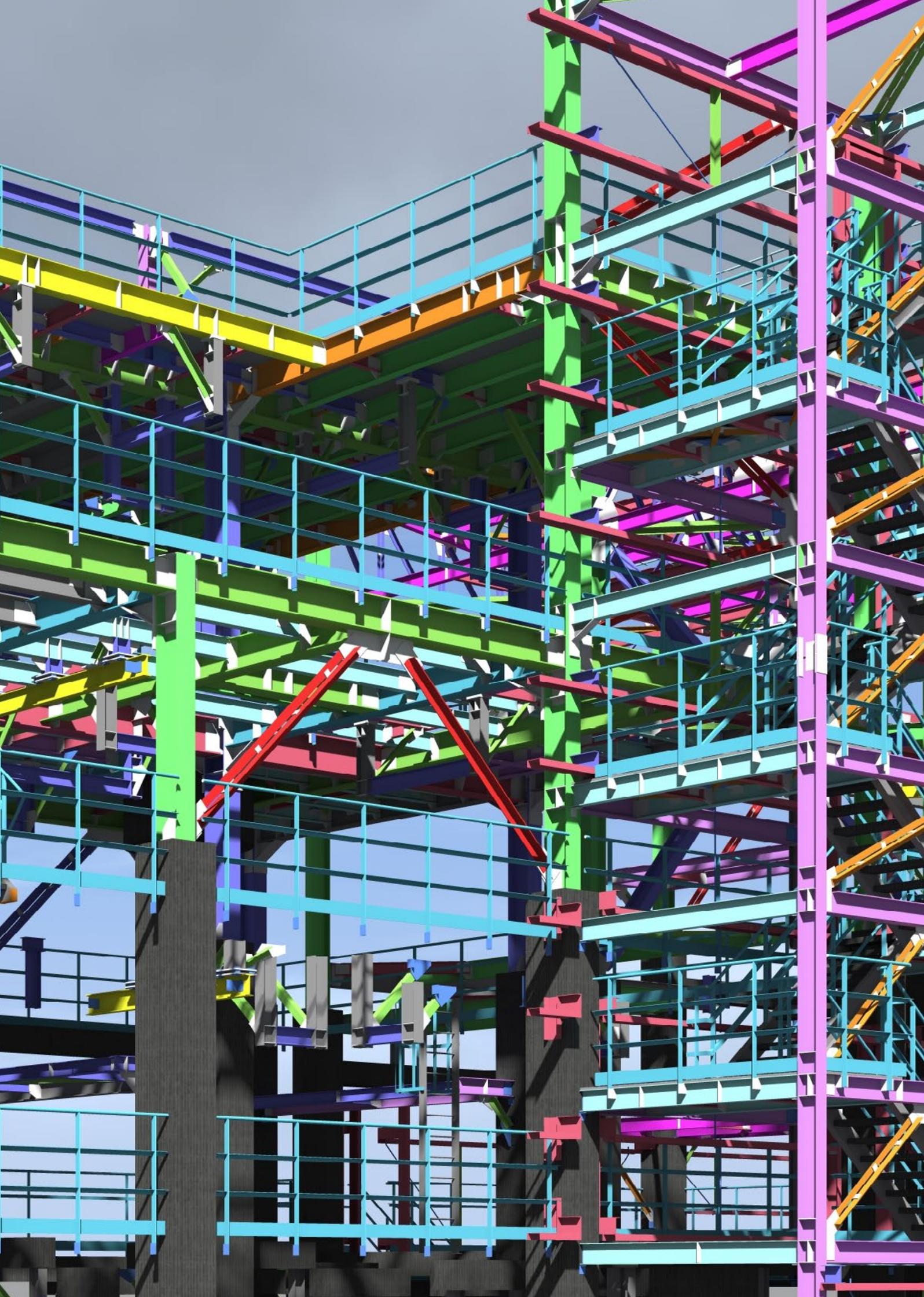
### In summary

While the benefits of BIM are often well-covered, these are not often realised to their full potential due to implementation or adoption issues. Ultimately, the technology is there, but not the willingness to take the leap of faith to truly adopt and trust the use of BIM. At Linesight, we believe that clients and design teams should consider this sooner rather than later, as the rewards are rich. We've made the jump and seen significant benefits in the built environment for our clients – are you ready for the leap?

**Information errors cost the industry an estimated 5% of project value globally.**

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# Keeping it Lean and bringing contractors along for the journey

Lean concepts have been applied with much success in many industries and service provider organisations around the world. But how can it positively impact the built environment, particularly in the current landscape that we face, and why has its adoption amongst contractors been relatively slow to date?



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Jeff Peragallo,  
Director and Vice President  
of Operations



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Pat Unger,  
Associate Director

The landscape for the construction industry has changed immeasurably in the face of the current global pandemic, similar to almost all other industries. It would seem now more than ever, that Lean principles would be beneficial to help the industry navigate into the post-COVID world. Furthermore, with the ever-growing demands and complexities associated with the built environment, and the well-publicised productivity challenge within construction (more than 70% of all construction projects are completed late and over budget), it is evident that the industry requires some level of disruption to enable it to keep pace of the progress other industries are making in terms of efficiency. So, why is Lean Construction still not fully embraced by contractors, and what do you as an end-user need to be aware of that can lead to this reticence to adopt?

### What is value, and how is it driven by Lean?

Value is defined as what the customer perceives as important and is willing to pay for. It comprises anything that moves the project closer to completion and that cannot be reworked. True value is the 'why' behind a project being undertaken and the desired outcome or objectives, and this typically extends beyond budgets and schedules. Lean focuses on the prioritisation of the operational needs and values of the users, while delivering on budget and schedule, promoting innovation that optimises value

and eliminates waste.

#### *Eliminating waste and inefficiency*

Construction industry studies have shown that in excess of 50% of the effort required to deliver a project is typically non-value-added effort, or waste from the perspective of the client. By focusing on non-value-added activities, processes are constantly reviewed for any waste or inefficiency, and what the client-led value objectives are, to achieve true alignment. Ultimately, it leads to productivity gains, optimal ways of working and the optimisation of project outcomes.

#### *Nurturing a collaborative culture*

Traditionally, construction is a combative industry – teams work in silos, the built environment is increasingly challenging, and as referenced above, productivity is stagnant. A combative culture will derail Lean, and will often have tangible impacts on a project, both in terms of cost and schedule. The Lean concept turns this on its head, championing collaboration, trust and open communication between all members of the project team, streamlining the efficiency of the project team and giving the highest chance of collective project success.

#### *Streamlining the workflow and project delivery*

Not only does Lean remove waste and inefficiency, while facilitating early engagement, consistent collaboration and constant communication, but these

factors intuitively streamline the workflow. Furthermore, the use of methodologies, such as modular and prefabrication, support fast-tracked delivery, as well as optimising the capital spend.

### Why are contractors slow to adopt Lean?

Contractors play a key role in the adoption of Lean, as they are responsible for the key facets of a project, including cost, schedule, safety and quality. And yet for the most part, general contractors have been somewhat slow to embrace it. Why is this the case?

#### *A fundamental, organisational change*

Lean is a significant change for any business, and can be perceived as a somewhat abstract methodology for those from a traditional construction background. It essentially changes the contractor's organisational approach at its core, and so it must be fully bought into and believed to be achievable to facilitate such a fundamental change.

#### *Tight profit margins versus perceived cost*

Construction contractors typically operate on a relatively tight net profit margin before tax, sitting around the 3% of revenue mark. Inevitably, the perceived costs associated with the necessary training and implementation of Lean will be a particularly important factor in this case, and may play a hand in its slow adoption as a result. Any potential adopter will need a good understanding of what level



of productivity loss they should expect during the learning and implementation phase.

#### *An elemental approach*

Lean's main allure for the construction industry comes in the use of elemental and relatively inexpensive tools, which again taps into its inherent value. Breaking activities and tools down will be cost-efficient but effective. A platform like Last Planner is an example of one of these tools.

#### *What is the value to the contractor?*

Similar to the client, Lean offers a distinct value proposition to

the contractor, and again, the value relates to productivity. In an industry in which productivity is poor and wages account for a substantial proportion of total revenue, a marginal increase in productivity arising from a methodology such as Lean will have a significant impact on profit. For example, a 10% uplift in productivity in a business, with 3% average profit where wages amount to 35% of total revenue, will double the profit.

Furthermore, achieving improved productivity helps to mitigate against risk in a business that is inherently risky and competitive, and so it is hard to understand

why the adoption rate is still remarkably low. However, the general consensus is that these distinct benefits have been lost in translation along the way, and that hard facts and statistics are needed to address this in terms of which contractors will be receptive.

#### **What Lean techniques and practices are particularly relevant in a post-COVID world?**

While the benefits that off-site methodologies can offer is relatively well-known, the potential for OSM to counteract some of the productivity challenges arising from COVID



measures (for example, reduced capacity on-site due to social distancing) is significant. Another system worth referencing in this regard is Last Planner, with its capabilities to produce a predictable and efficient work flow all the more pertinent with the current challenges being faced in the industry.

## Conclusion

While we see Lean being readily adopted in some sectors, it is typically more widely accepted in manufacturing and industrial-type verticals. This is because the Lean concept is ingrained in their background, and as a result, it is second

nature. For contractors, Lean can represent a daunting and costly investment, but it is evident that the derived benefits of adoption are worthwhile. There are many examples of contractors embracing the methodology to its full effect, and perhaps part of the solution lies in learning from peers and allies, exploring case studies of what has worked well in the adoption approach.

While overall, challenges to its widespread adoption remain, the benefits of Lean to projects and the construction industry as a whole are clear. It promotes the elimination of waste and inefficiency, nurtures

a collaborative culture and streamlines the workflow and project delivery. In bringing the concept to the forefront, Lean becomes a client-led objective, with a clear statement of the intention to embrace the Lean approach to all members of the project team at an early stage. It must be implemented through a systematic, process-driven and program-based approach. Ultimately, there's a great deal to gain by innovating project delivery. The Lean methodology has a lot to offer, which begs the all-important question: where are you and your organisation on the Lean journey?

# The rise of the smart hotel

Intelligent buildings are not a new concept, but the level of advancement is gathering pace, and the way in which smart technology is being adopted in the hospitality sector is evolving.



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Andrew Callaghan,  
Director



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Des O'Broin,  
Director



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Hugh McElvaney,  
Senior Quantity Surveyor

Intelligent buildings are not a new concept, but the level of advancement is gathering pace and the increasing adoption of smart technology is spreading across multiple sectors. While these core drivers impact every sector, the influence of technology and shifting demands is particularly significant within the hospitality sector, as it shows a marked shift towards integrating these technologies into the latest developments. This boils down to a few key factors, as discussed below. It is important to bear in mind that while the sector is currently struggling with the impact of COVID, it will recover in the coming years as the world adjusts to the 'new normal', and smart technology will play an even more important role in its recovery and success.

### The hyperconnected guest

One of the most fundamental drivers behind the trend for smarter hotels comes in the form of the rise of experience consumption, which is a key catalyst in a sector wherein consumer needs are front and centre. As noted by Alex Witkoff, Executive Vice President of Witkoff Development, at Bisnow's Hospitality Investment, Development and Management Summit in New York earlier this year, "Spending on the experience economy is expected to reach \$8 trillion by 2028". The experience is becoming even more important to the guest and optimising this can make all the difference against an increasingly

competitive landscape. Recent reports actually suggest that 2020 will be the year that customer experience overtakes price and product as the key brand differentiator.

There is a plethora of ways in which intelligent technologies can be leveraged in order to optimise the guest experience, but the crucial aspect is its ability to tailor and personalise their stay. Indeed, 86% of consumers say personalisation plays a role in their purchase decisions, according to recent Kahuna survey, and brands that incorporate personalisation by integrating data and advanced technologies report revenue increases of 6-10% (Qubit). Ultimately, Millennials or Generation Y form a very significant proportion of the target market, influencing the design of new hotels, from incorporating new technologies to the inclusion of co-working areas.

Customer expectations are evolving in line with their adoption of technology in their day-to-day lives. Guests are using technologies, from streaming services and smart assistants to remote climate control in their homes, so the expectation that hotels will have the infrastructure to support and match these technologies is taking hold. They expect the ability to tailor their experience to some extent, and to have the autonomy to control their space and hotel experience, including:

- Climate and temperature

control

- Temperature for showers
- Curtain/drapes/blinds
- Entertainment systems
- Hands-free, voice-control
- smart assistants
- SmartBed™ technology
- Smart self-check-in/check-out kiosks

Needless to say, it is now the norm to interact with multiple devices at any given time.

Furthermore, hotels are now in a position to collect and analyse insightful data, and to anticipate, manage and understand guest preferences, in order to enhance the guest experience.

Data-driven insights will help to personalise the experience and guide service provision.

### Guiding operational efficiency

The second key driver lies in operational efficiency. Integrating smart technologies, from the simple occupancy detection systems to the more complex smart phones operating the lights and electricity within a room, keyless access and mobile check-in — these measures are proving to offer tangible benefits to the running costs of a hotel. We are moving towards the concept of a truly connected hotel, by leveraging Internet of Things (IoT) technology to ensure systems work together and communicate to deliver efficiencies in all areas. This extends from robot butlers delivering your room service to digital door signage functionality, to allow housekeeping staff to remotely see the rooms to be





cleaned and devise an efficient workplan around that live data.

### Smarter hotels in practice

Yotel, Citizen M, Best Western and Wynn Resorts are just some of the names adopting and promoting these new technologies. Marriott International is often perceived to be leading the charge in this regard across its 30 brands in 126 countries, from integrating keyless access on a widespread basis, to continuing to work on its connectivity and adoption of smart technologies via its IoT Guestroom Lab within its Innovation Lab. An example of how it is implementing this technology in practical terms lies in the Aloft Hotel chain, which sits under the Marriott umbrella. Linesight was a part of the team that delivered its Dublin City branch last year, with some interesting and forward-thinking technologies delivered as part of the project:

- Mobile check-in
- Keyless access via an app
- Wireless printing facility in reception
- Large video walls to reception and bar area
- USB charging sockets
- Integrated international adaptors in guestrooms
- A fully-integrated VRF AC system, controlling the room

temperature and power supply to the room

- An integrated door sensor for room access. Once the room is activated by the guest's smartphone, the power is automatically supplied to the guestroom and the VRF system comes online and goes offline automatically when the room is unoccupied for any length of time
- An automated minibar system - once an item is removed, if it is not returned within a certain time period (can be set by the operator), a charge will be applied to the room for that item
- 43" smart TVs in all bedrooms with a casting system for the whole hotel, to allow guests to watch content from their own devices
- A room service robot named 'Lofty' or 'Botlr'. Once an order is made and placed, the robot travels to the lift, which it calls wirelessly on its way to the room. Once it arrives, the room phone will ring and inform the guest that the order has arrived

### Costs

There are reasonably significant costs associated with upfront investment in these technologies

and systems, including high-speed WiFi everywhere and boosters for the latest 5G mobile coverage, but the pace of demand for smart hotels and the latest technology is on the increase.

In summary, the hyperconnected guest, and their needs, evolving habits and expectations are driving the shift towards smart hotels. In their 'home away from home', they expect an integrated experience that aligns with the technology that they have become accustomed to in their day-to-day lives. Hotels should leverage the data that they can now readily collect to glean meaningful guest insights, and to anticipate and better manage guest preferences. Room presets based on loyalty scheme guest accounts can have the room set-up for guest preferences, including temperature, lighting and even minibar contents.

From an operational perspective, there are a multitude of benefits that arise from integrating smart technologies, from streamlining running costs and optimising operational efficiency, to reducing power consumption, and playing its part in making the hotel a more sustainable facility.



**“It’s exciting to be a part of an expanding, global organisation, and playing a key role in growing our UK presence. I have the opportunity to build my own team – I particularly enjoy supporting the development of junior staff, and helping them to mould and progress their careers.”**

**Stuart Taggart**  
*Associate Director*

# What we do

Our services are tailored for your project, delivering maximum efficiency from inception to completion. We specialise in key areas, to provide faster project delivery, greater cost efficiency and maximum value.



## Project Management

Delivering project success through strategic planning and stringent controls.



## Supply Chain Management

Providing efficient logistic strategies to streamline the delivery of equipment and services.



## Cost Management

Driving better value for money at every stage of the construction process.



## Health and Safety

Securing compliance, and providing design teams and clients with expert advice and independent review.



## Program Management

Managing a network of projects simultaneously in order to deliver program success.



## Consultancy

Providing professional, hands-on advice and guidance throughout every stage of your project.



## Project Controls

Controlling every aspect of a project to deliver maximum performance and long-term success.



## Planning and Scheduling

Providing an initial project overview, developing a detailed structure and identifying schedule controls.



## Procurement

Adopting the most appropriate strategy to suit both public and private sectors.



## Monitoring and Due Diligence

Examining project information independently, identifying issues, and ongoing project monitoring.

# Our values

Over the years, we have developed a way of working that delivers quality and consistency in how we operate. Our five core values inform what we do and how we do it:



## Partnership

We are focused on our clients' goals and work closely with them to achieve the best possible results. We believe in collaboration. When we share our experiences and combine our expertise, we can achieve great things.



## Progress

We believe in always moving things forward and finding better ways of working. We're not just focused on what we do, but also on what we can achieve. We are driven by success – for our clients, our partners and each other.



### **Integrity**

We are fair, open and ethical in everything we do. We challenge things we believe to be wrong and are open to being challenged by others. We take pride in the quality, accuracy and independence of our work.



### **Resourcefulness**

We work around the world, in diverse sectors and for clients with distinct ambitions. This requires us to act effectively and creatively in new and complicated situations. We rely on our individual and collective abilities to resolve any challenges we may face.



### **Long-term view**

We believe in working sustainably, and so we build enduring relationships with our clients and partners. We work together in a way that is respectful and considerate of each other and the wider society in which we live.

A portrait of Greg O'Sullivan, a man with grey hair and a beard, wearing a dark suit, white shirt, and dark tie. He is smiling slightly and looking towards the camera. The background is a blurred office hallway with lights.

“Linesight’s commitment to professional development and close ties with professional bodies was one of the key aspects that attracted me, as I continue to work towards my chartership – I have been afforded the opportunity to develop rapidly since joining the business.”

Greg O'Sullivan  
*M&E Cost Manager*

# Our culture

Our **bold ambition, honesty and confidence to deliver**, together with our commitment to cultivating **meaningful relationships** is what sets us apart.

Our distinctive culture has always played a key role in our success. As a business we want to be intentional in maintaining and working within the principles of our distinctive culture.



## Embrace clarity

Our emphasis is on direct communication - our preference is always face-to-face, or to pick up the phone. We express ourselves clearly, honestly and effectively in our communication. We are pro-active in inviting and providing actionable feedback.



## Own and empower

We have a highly developed sense of responsibility for identifying problems, finding solutions and executing with excellence. As individuals and teams, we are free (and encouraged) to exercise our judgement to reach our goals.



## Lead by example

We believe in mentoring as a way to strengthen and develop ourselves and provide the resources, environment and flexibility required. We practice 'reverse mentoring' between junior and senior employees - every single person in Linesight has something to teach.



## Connect for good

We are team players, collaborating globally and locally to deliver exceptional results. We encourage and nurture relational rather than transactional business relationships, continuously building a totally inclusive working environment.



## Bold ambition

We continuously develop our global team, with a shared drive and ambition to deliver exceptional results. We believe success is winning unreserved recommendations for exceptional work and impact. We always work with an eye on the future, whilst delivering on our commitments and objectives.

# Working with you, wherever you are

With staff located across Europe, MENA, Asia Pacific and the USA, our reach is truly global. We are delivering projects in over 40 countries and are always exploring new areas of opportunity. We offer first-class consultancy on major projects across 13 specialist sectors, and we have developed a broad portfolio of innovative projects in every region.

Commercial Development

Commercial Fit-Out

Data Centres

Education

Food and Beverage

Healthcare

High-Tech Industrial

Hospitality

Life Sciences

Residential

Retail

Student Accommodation

Transportation and Infrastructure

## Our offices

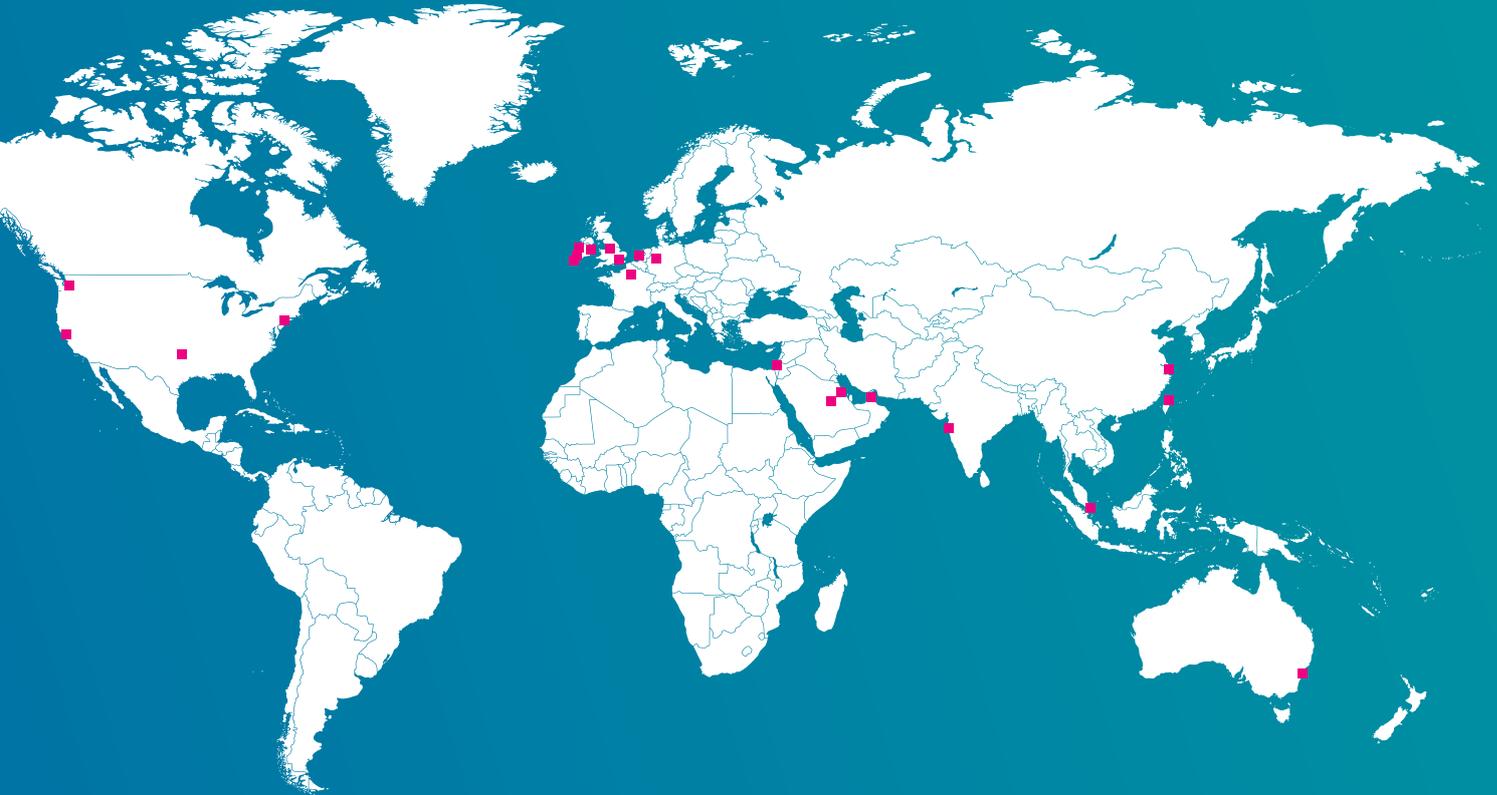
### UK

#### London

2nd Floor  
27-29 Cursitor Street  
London EC4A 1LT  
T: +44 20 7784 7330

#### Manchester

Peter House  
Oxford Street  
Manchester M1 5AN  
T: +44 161 618 1811



## Europe

### Dublin

Hoban House  
Haddington Road  
Dublin 4  
T: +353 1 661 4711

### Cork

VHI House  
70 South Mall  
Cork  
T: +353 21 4274 474

### Limerick

Linesight House  
6 Hartstonge Street  
Limerick  
T: +353 61 493 515

### Galway

TaraRock 7  
Galway Technology Park  
Parkmore, Galway  
T: +353 91 734 005

### Paris

Linesight SAS  
23 Rue d'Anjou  
75008 Paris  
T: +33 1 70 92 37 91

### Dusseldorf

4th Floor  
Königsallee 92A  
40212 Dusseldorf  
T: +49 211 5403 9615

### The Hague

11th Floor  
Koningin Julianaplein  
10  
2595 AA The Hague  
T: +317 08 918 467

### Tel Aviv

Ramat Gan Atrium  
18 Jabotinsky 2nd  
Floor  
5250501  
T: +972 3 754 1289

## MENA

### Bahrain

Building No 655  
Road 3614  
Al Seef Area  
T: +973 17 746 892

### Dubai

24th Floor - Office  
2403  
1 Lake Plaza Tower  
PO Box 11497 Dubai  
T: +971 4 432 3831

### Riyadh

Office 503 5th Floor  
Al Akariyah 1  
Olaya Street  
Riyadh 14023  
T: +971 55 615 6846

## Asia Pacific

### Singapore

150 Cecil Street  
#05-01  
Singapore 069543  
T: +65 6801 4540

### Shanghai

Unit 819 8F Building 2  
No 1196 Century Avenue  
Shanghai 200120 PRC  
T: +86 21 6043 3695

### Taipei

10F-2 No 162 Sec 4  
Zhongxiao E Rd Da'an Dist  
Taipei City  
106 Taiwan (ROC)  
T: +886 906 179382

### Sydney

Level 5  
131 Macquarie Street  
Sydney NSW 2000  
T: +61 2 8278 9500

### Mumbai

Unit No 902  
Maithili Signet  
Sector 30A Vashi  
Navi Mumbai 400705  
T: +91 22 49766744

## The Americas

### New York

286 Madison Avenue  
Suite 602  
NY 10017  
T: +1 646 802 9900

### San Francisco

582 Market Street  
Hobart Building  
San Francisco CA 94104  
T: +1 415 343 2434

### Seattle

2018, 156th Ave NE  
Suite 310, Bellevue  
WA 98007  
T: +1 425 748 5147

### Dallas

350 North Ervay  
Street  
Suite 3105  
Dallas  
TX 75201  
T: +1 469 513 4113

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offices



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**Editorial team:** Derry Scully, Michael Riordan, Alan Dunphy, Andrew Callaghan, Andy McLaughlin, Claire O'Broin, Dan Polgar, Giles Heather, Hazel O'Donnell, Niamh Moore, Stuart Taggart and Vinod Jain.

## **Contributors:**

- Adrian Farren
- Callum Faulds
- Conor Irvine
- Des O'Broin
- Diarmaid Connolly
- Eoin Byrne
- Gavin Flynn
- Jack Stewart
- Jeff Peragallo
- Hugh McElvaney
- Kim Hegarty
- Michael Waters
- Neil L Doyle
- Nigel Barnes
- Patrick Hyde
- Ronak Shah

Should you have any queries, please don't hesitate to get in touch:

**Michael Riordan,**  
*Managing Director of Linesight UK*  
T: +44 7824 492 331  
E: [michael.riordan@linesight.com](mailto:michael.riordan@linesight.com)