



Ireland Handbook 2019

**Spencer Place South,
Dublin 1**

Architect:
Henry J Lyons

Linesight services:
Cost Management
and Project Management



Welcome to the Linesight Ireland Handbook 2019.

Each year, we bring together all the important indices and trends in construction in Ireland to give you the most comprehensive industry overview possible.

The handbook represents just part of our global Linesight Knowledge Center, which you can find at:

linesight.com/knowledge-center

Contents

Ireland Market Review

Irish construction review and outlook* 9

1. Macro indicators

1.1. Value of construction output 2008-2019 17

1.2. Construction output 2013-2019* 17

1.3. Gross National Product (GNP) 2013-2019* 17

1.4. Public capital programme 2018-2022 18

1.5. Public capital investment allocation 2018-2022 18

1.6. Change in public capital allocations 2018 vs 2022 19

1.7. Employment in construction 2011-2019* 19

1.8. PPP programme and social housing land initiatives 20

2. Linesight average Irish construction costs 2019 22

3. Indices

3.1. Linesight tender and cost indices 25

3.2. Linesight tender price index 2008-2019 26

3.3. Linesight construction cost index 2008-2019 26

3.4. SCSl tender price index 2008-2019* 27

3.5. Wholesale price index building materials* 29

3.6. Consumer vs construction price inflation 2008-2019* 29

3.7. Construction Purchasing Managers' Index* 30

3.8. Office rents 2018 33

4. Main and sub-contractors' turnover

4.1. Irish main contractors' turnover 34

4.2. Irish services sub-contractors' turnover 35

5. Wage rates and charges

5.1. Basic hourly wage rates	37
5.2. Basic hourly wage rates - mechanical	38
5.3. Basic hourly wage rates - electrical*	38
5.4. Planning charges 2019	40
5.5. Fire certificate charges 2019	40

6. Housing

6.1. Annual housing completions 2011-2018*	45
6.2. New housing completions by type 2011-2018	46
6.3. Residential property price index*	46
6.4. SCSi house rebuilding costs 2018	48

***Updated September 2019**

Global Insights

Global Market Review	52
Off-site manufacturing	58
Build-to-rent: key considerations in efficient design and delivery	62
How is sustainability impacting the built environment?	66
How capital projects are responding to Life Sciences market trends	70
How to build a data centre and keep the lights on	74
Workplaces of the future	78

About us

What we do	83
Our values	84
Our culture	86
Our impact	88
2018 - a year in review	90
Working with you wherever you are	92



35 Shelbourne Road,
Dublin 4

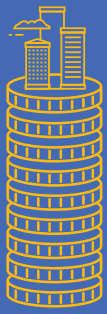
Architect:
RKD

Linesight services:
Cost Management

REVIEW & OUTLOOK:

Ireland Market Review

Industry snapshot



€20.8bn

Value of construction output in 2018



25%
increase

Annual dwelling completions



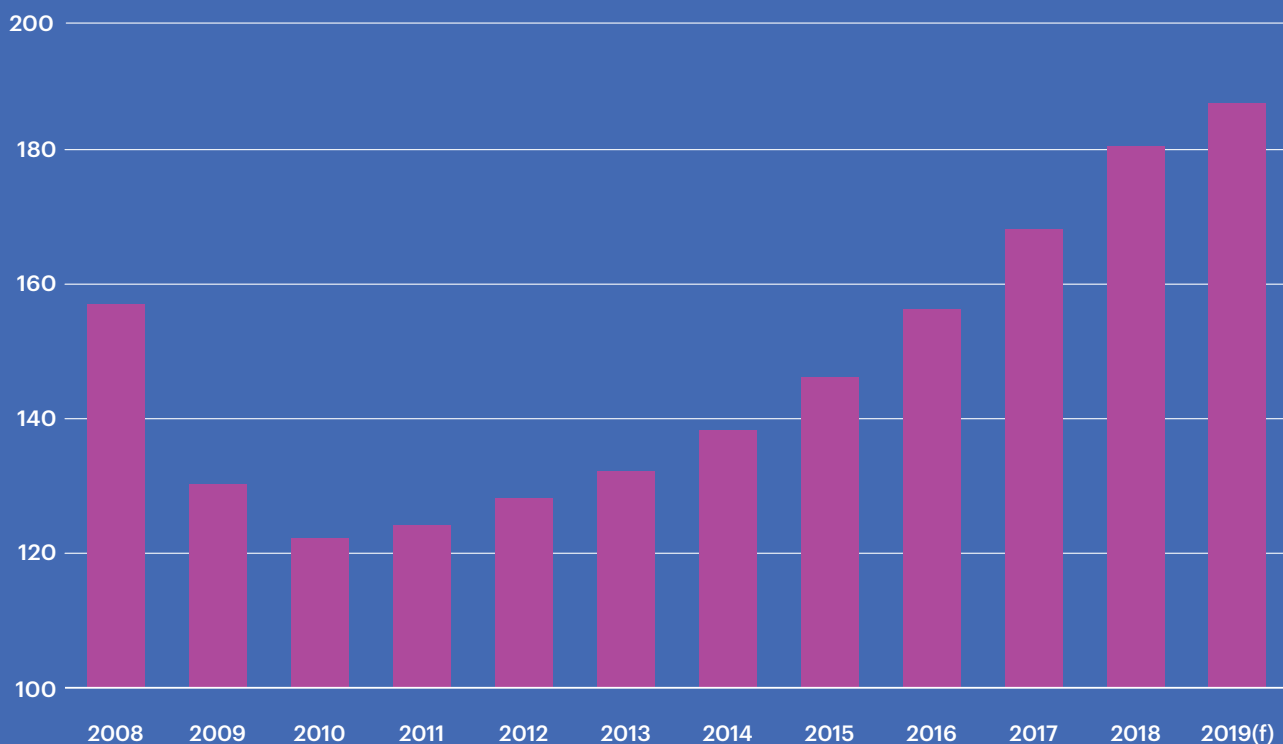
144,000

Number of people employed in construction in 2018



Linesight average tender price index

2008-2019



Irish construction review and outlook

Derry Scully, Group President at Linesight, reviews the Irish construction industry performance in 2019 to date, and looks forward to what we can expect in the coming months.

The Irish economy continues to perform well with output this year still forecast to grow by close to 4%. However, there are some signs that the rate of growth is slowing down. There was an annual increase in employment of 2% or 45,000 people in the year to Q2 2019 bringing total employment to 2.3 million, but on a seasonally adjusted basis, employment decreased slightly over the previous quarter and the 2% year on year employment growth contrasts with rates of 3% to 3.5% in recent years.

The Government tax take for the first 8 months of the year was just over €35 billion, which was 0.7% ahead of budget projections and an 8.1% increase on revenues from the previous year. However, there are concerns that too much of this revenue is generated from an ongoing windfall of corporation tax paid by a small number of multi-national firms. Corporation taxes have more than doubled since 2015 and amounted to €4.9 billion in the first 8 months of this year, accounting for 14% of the overall tax take.

The slowdown in the Irish economy is demonstrated by several indicators. In August 2019 the KBC Consumer Sentiment Index fell to a 70-month low and stood at 77.2, down from a level of 102.4 a year previously. The AIB Manufacturing PMI hit 6-year lows over the Summer and has been in contraction for 3 months. In contrast, the AIB Services PMI is still showing consistent growth, albeit at lower levels than in recent years.

Construction

Turning to construction, the Ulster Bank Construction PMI fell to 51.4, its lowest level for several years, in July 2019, before rebounding somewhat to 53.7 in August. Construction output statistics from the CSO show that output increased by 5.9% annually in the first quarter of 2019 compared to the previous year but worryingly, the volume of output decreased by 0.3% in the first quarter of 2019 compared to the preceding quarter.

The overall slowdown in construction in Q1 2019, as measured by the CSO, reflects

a decrease in civil engineering work of 9.9%, offset by an increase of 1.8% in residential building and a small increase of 0.1% in non-residential building. However, the Ulster Bank Construction PMI which is more recent would indicate that commercial activity is growing at a faster pace than this.

Employment in construction is also levelling off with numbers of employed standing at 146,300 in Q2 2019, compared to 144,600 in Q1 2019 and 144,000 in Q4 2018. Nevertheless, the latest numbers of people directly employed in construction still represent an increase of almost 20,000 since 2017.

The Irish economy continues to perform well with output this year still forecast to grow by close to 4%. However, there are some signs that the rate of growth is slowing down.

Taking account of all factors, we are still holding to Linesight's earlier prediction of an annual value of construction output between €22.5 and €23.5 billion, although the out-turn is now likely to be closer to the lower / mid-point of this range. This represents an annual increase in the value of output of approximately 11%. This level of output, while sizeable, will still represent just 60% of the €38 billion level at the peak of the boom in 2007.

Residential sector

The residential sector of the construction industry is finally showing a good growth pattern. This is the case for traditional housing schemes and, also, more recently, in the Build-to-Rent and purpose-built student accommodation sub-sectors. Residential properties comprised 43% of investment in real estate in Ireland during the first half of 2019. Recent transactions bring the number of residential units owned by institutions to approximately 11,700, an increase of 25% since the end of last year, and this trend is continuing.

There were 9,185 new dwelling completions in the first half of 2019. This represents an increase of almost 17% on the same period last year. The number of housing scheme dwellings increased only modestly by 2.6%, while the number of single dwellings increased by 15.5%, but by far the largest increase was in apartments, which increased by 55.6%.

Nonetheless housing schemes still represented the largest proportion of completions in Q2 2019 at 58% with single dwellings at 27% and apartments at 15%. Over half of all new dwelling completions in Q2 2019 were in Dublin or the Mid-East and over three-quarters of all new dwelling completions were in urban areas.

The pipeline for residential construction remains strong although the number of residential planning permissions decreased slightly to 7,493 units in Q1 2019 from 7,766 units in the same quarter last year. However, the number of residential units commenced in the first half of 2019 was 12,260 up from 11,966 in the second half of 2018 and 10,501 in the first half of last year.

Other sectors

Activity in the commercial offices sector continues with many new schemes under construction and in the first half of 2019 the Dublin office market recorded more than 150,000 square metres of leasing activity. However, the number and scale of new office developments under construction or due to start construction has declined in 2019 compared to previous years. In other commercial areas of construction, the retail market is slowing due to current uncertainties and the rise in online buying, while the hospitality market is doing well with a record of over 5 million visitors to Ireland in the first half of 2019. This is reflecting in new hotel and restaurant projects and

refurbishment of existing stock. In the industrial sector, the IDA continues to attract multinational companies to invest in Ireland, and there are many IDA backed projects currently under construction or in the pipeline, particularly in the data centre, micro-processing and pharmaceutical markets. Whilst the majority of these companies are US owned the IDA have had success in attracting companies from China and other countries also.

In the public sector, the Government is on track for a capital expenditure of €7.3 billion this year. This represents a significant increase of 23.6% over 2018. Last year, the Government published the new National Development Plan 2018–2027, which provides for expenditure of €116 billion to upgrade State infrastructure over the next ten years. Under this plan, public capital investment, as a percentage of national income, will move to amongst the highest in the EU.

In the public sector, the Government is on track for a capital expenditure of €7.3 billion this year. This represents a significant increase of 23.6% over 2018.

**The Prism, Clontarf Street,
Cork**

Architect:
Reddy Architecture + Urbanism

Linesight services:
Cost Management



Challenges

The largest and most serious threat to ongoing growth in the construction sector, and to the Irish economy as a whole, is the continuing uncertainty over Brexit and the growing threat of the UK leaving the EU without an agreed deal. From a construction perspective, apart from a slowdown in investment decisions due to the uncertainty, the biggest difficulty will be challenges to the materials supply chain with many products sourced from or through the UK. Without an agreed deal these materials could be subject to tariffs and their quality certification would also be in doubt as they would no longer carry the European CE mark. The uncertainty is also responsible for significant movement in the Euro / Sterling exchange rate.

Another challenge to continuing growth arises from uncertainties in the US. The well-publicised tit-for-tat tariffs pose an ongoing threat to global trade and many economists are predicting a slowdown or even a recession in the US economy with a recent inversion of the yield curve. While these fears may prove to be exaggerated the uncertainties that they cause may well cause US firms to postpone investment decisions, especially abroad.

Domestically, skills shortages, which arose as construction employment fell to a quarter of its peak level, is an ongoing issue. However, the industry is now addressing this with

greater numbers of apprentices and school leavers entering third-level construction related courses. The predicted slowdown in output will allow the supply of skills and demand for them to come into equilibrium sooner than initially predicted.

Increasing construction tender levels continue to pose another concern domestically, with construction inflation levels running well ahead of general inflation rates. However, a recent publication by the Society of Chartered Surveyors shows that while prices are still rising significantly, the pace of increase is slowing. This is to be welcomed, particularly in the residential sector, where recent research shows that costs of building apartments are making them unaffordable for first-time buyers.

Increasing construction tender levels continue to pose another concern domestically, with construction inflation levels running well ahead of general inflation rates.





University of Limerick
Library Building, Limerick

Architect:
RKD

Linesight services:
Cost Management



J.P. Morgan, 200 Capital Dock, Dublin 2

Fit-out Architect:

Gensler & Henry J Lyons

Linesight services:

Cost Management
and Project Management





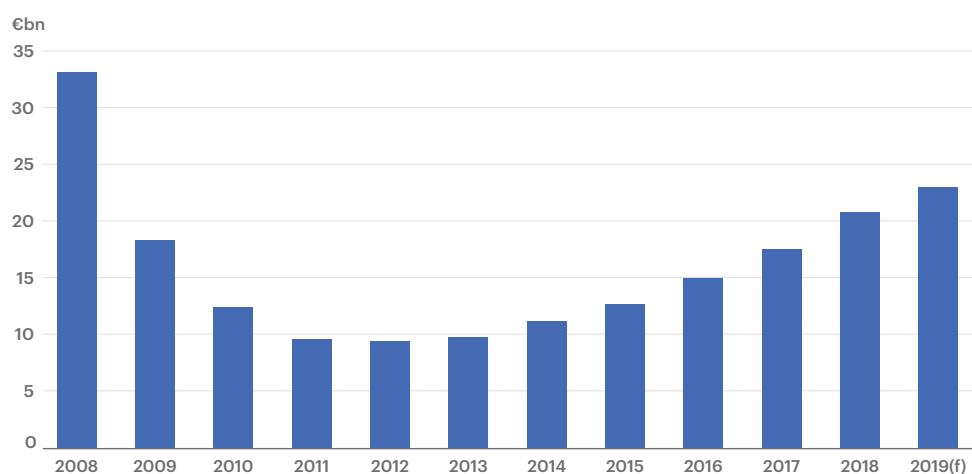
**The EXO Building,
Point Square, Dublin 1**

Architect:
Shay Cleary Architects

Linesight services:
Cost Management

1. Macro indicators

1.1. Value of construction output 2008-2019



Source: DKM/CSO/CIF/Linesight

1.2. Construction output 2013-2019*

	2013	2014	2015	2016	2017	2018	2019(f)
Value of output at current prices (€m)	9,723	11,147	12,650	14,935	17,500	20,800	23,000
Change in value of output (%)	3.0%	14.6%	13.5%	18.1%	17.2%	18.9%	10.6%
Construction output as % of GNP	6.1%	6.4%	6.4%	6.7%	7.5%	8.2%	8.7%

Source: DKM/CSO/CIF/Linesight

1.3. Gross National Product (GNP) 2013-2019*

	2013	2014	2015	2016	2017	2018(f)	2019(f)
GDP at current prices (€m)	150,376	163,411	200,790	220,602	234,879	253,050	263,200
% change in GNP	7.6%	8.7%	22.9%	9.9%	6.5%	7.7%	4.0%

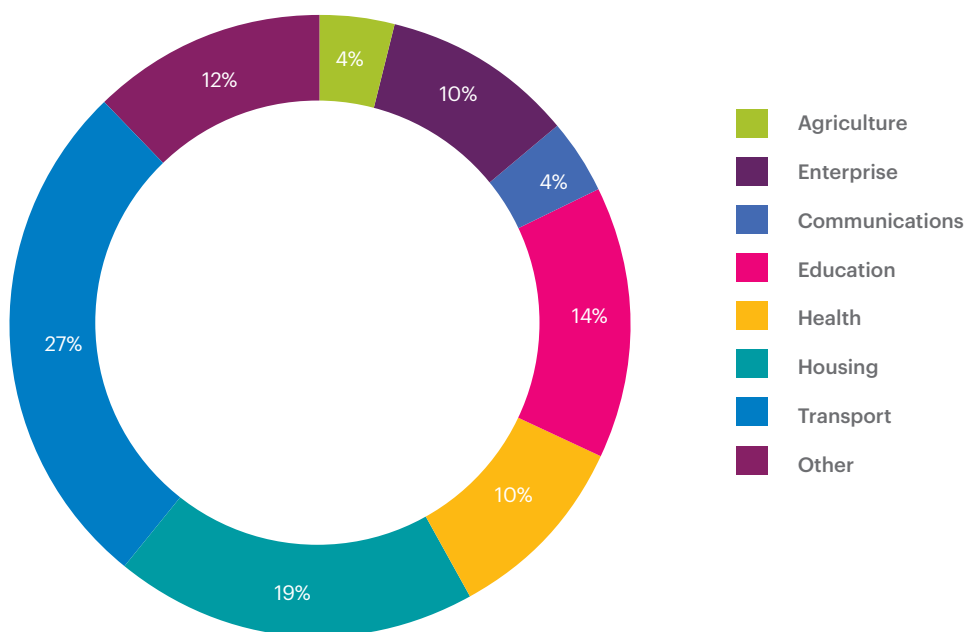
Source: CSO/ESRI

1.4. Public capital programme 2018-2022

	2018 €m	2019 €m	2020 €m	2021 €m	2022 €m
Agriculture, food and marine	248	255	258	265	275
Business, enterprise and innovation	555	620	630	640	715
Children and youth affairs	28	32	31	32	33
Communications, climate action and environment	209	256	297	317	400
Culture, heritage and the gaeltacht	54	75	76	80	110
Defence	77	106	113	120	125
Education and skills	745	941	942	1,006	1,100
Employment affairs and social protection	10	14	15	16	17
Finance	26	25	22	18	19
Foreign affairs and trade	13	17	13	13	14
Health	493	667	724	780	825
Housing, planning and local government	1,631	2,033	2,079	2,209	2,280
Justice	146	241	230	208	216
Public expenditure and reform	174	203	214	223	232
Rural and community development	88	141	152	152	175
Transport, tourism and sport	1,327	1,643	2,526	2,526	2,405
Gross capital expenditure	5,824	7,269	8,322	8,605	8,941

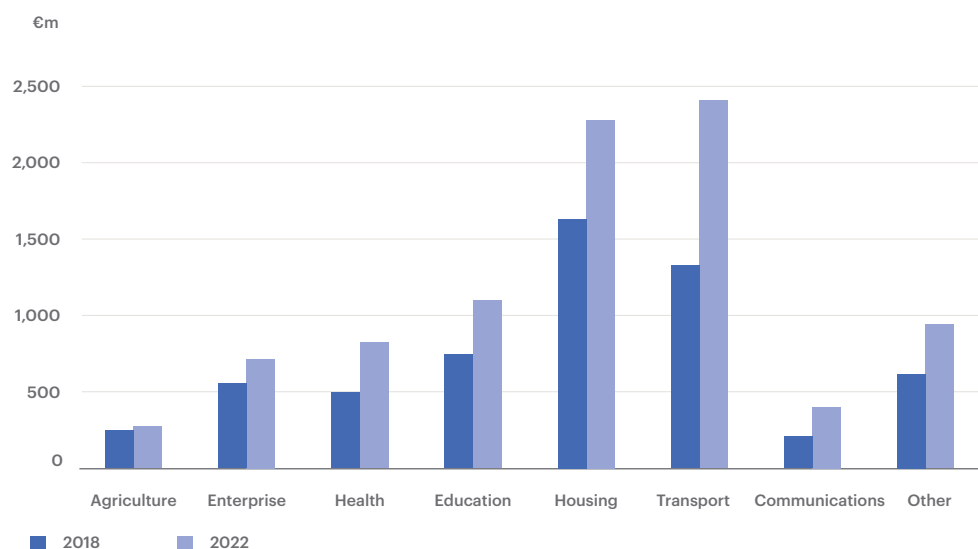
Source: Project Ireland 2040|National Development Plan 2018-2027

1.5. Public capital investment allocation 2018-2022



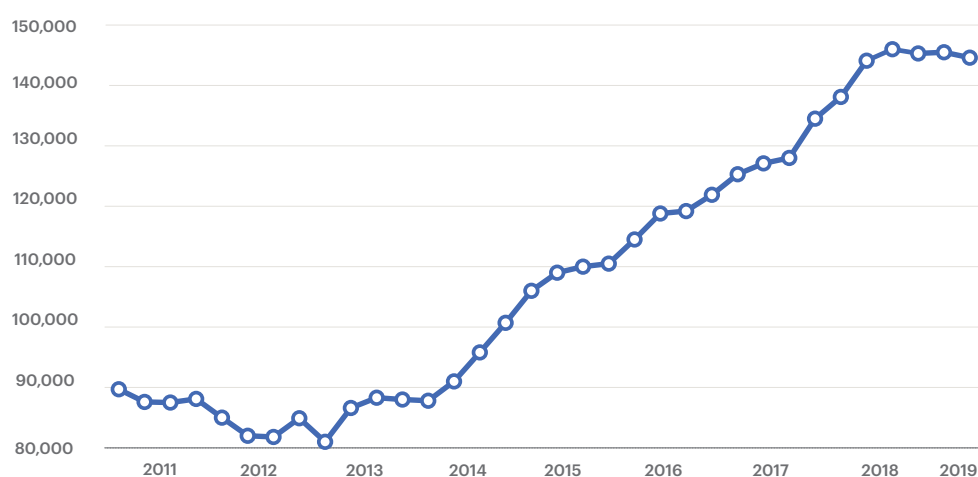
Source: Project Ireland 2040|National Development Plan 2018-2027

1.6. Change in public capital allocations 2018 vs 2022



Source: Project Ireland 2040 | National Development Plan 2018-2027

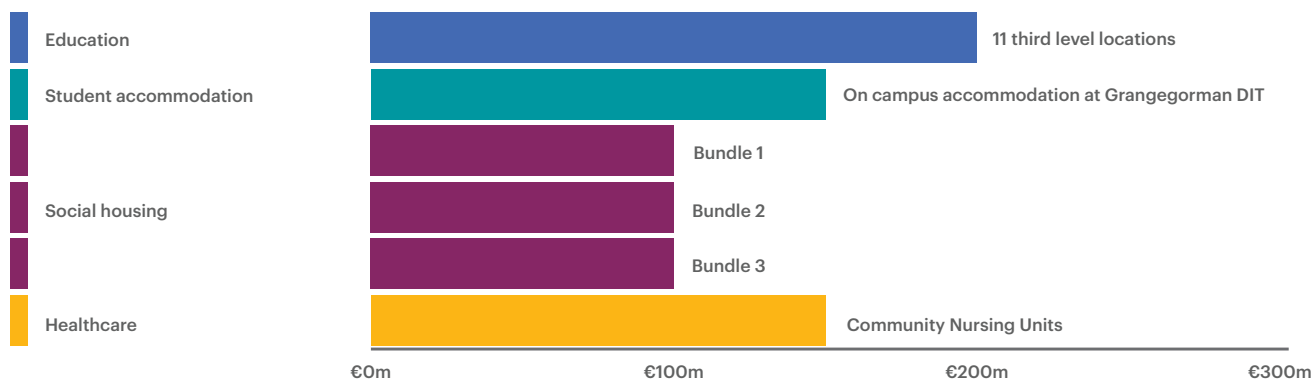
1.7. Employment in construction 2011-2019*



Source: CSO

1.8. PPP programme and social housing land initiatives

PPP programme



PPP programme	Capital value	Details	Status
Education	c.€200m	2 bundles across 11 locations (Athlone IT, Cork IT, Institute for Art, Design and Technology Dun Laoghaire, Galway Mayo IT, IT Blanchardstown, IT Carlow, IT Tallaght, IT Tralee, IT Letterkenny, IT Limerick, IT Waterford)	Pre-procurement
Student accommodation	c.€150m	Provision of on campus accommodation at Grangegorman DIT	Pre-procurement
Social housing	c.€100m	Bundle 1: Development of up to 534 social housing units on 6 sites	PT Appointed
	c.€100m	Bundle 2: Development of up to 465 social housing units on 8 sites	Tender evaluation
	c.€100m	Bundle 3: Currently being finalised	Pre-procurement
Healthcare	c.€150m	Community Nursing Units: Development of a single bundle of up to 11 sites	Pre-procurement

PPP & Concession Projects Closed

13 major inter-urban motorways/by passes

9 Education PPPs, including 35 schools, delivered under 1 pilot scheme and 5 subsequent schemes, DIT Campus at Grangegorman, Maritime College and Cork School of Music

International Convention Centre

Criminal courts complex

Regional courthouses: 7 locations (Cork, Drogheda, Letterkenny, Limerick, Mullingar, Wexford and Waterford)

Primary care centres: 14 sites nationwide

Service areas Tranche 1 and Service areas Tranche 2: Athlone, Kilcullen and Gorey

Dublin waste to energy

Property PPP (land swap): Charlemount Street

Social housing land initiatives (non PPP)	Capital value	Details	Status
Housing	c.€1.5bn	South Dublin County Council: Kilcarbery (Clondalkin). c.975 units	PT appointed
		Westmeath County Council: Brawny (Athlone). c. 562 units	PT appointed
		Dublin City Council : O'Devaney Gardens (Dublin), Oscar Traynor Road (Coolock), St Michael's Estate (Inchicore). c.1710 units	Various
		Fingal County Council: Ballymastone (Donabate), Church Fields (Mulhuddart), Dun Emer (Lusk). c.2250 units	Pre-procurement/ITPD
		Wicklow County Council: Burnaby Mills (Greystones), Lott Lane (Kilcoole). c.322 units	Pre-procurement
		Dun Laoghaire Rathdown County Council: Shanganagh (Shankill). c.540 units	Pre-procurement

Sources: National Development Finance Agency, Department of Public Expenditure and Reform



**Air Traffic Control Tower,
Dublin Airport**

Architect:
Scott Tallon Walker

Linesight services:
Cost Management

2. Linesight average Irish construction costs 2019

The average construction costs table is generated using Linesight's cost database and sets out typical building construction costs. Our database is the largest construction cost database in Ireland.

Building type	Cost range 2019			M&E (inc. @)
Commercial offices				
Suburban naturally ventilated				
Shell and core	€1,580	€2,110	per sq.m.	10-15%
Developer standard	€1,730	€2,260	per sq.m.	15-20%
Extra for air conditioning	€230	€450	per sq.m.	
City centre air conditioned				
Shell and core	€2,110	€3,010	per sq.m.	15-20%
Developer standard	€2,500	€3,480	per sq.m.	20-25%
Office fit-out				
95% open plan, no catering	€600	€900	per sq.m.	20-30%
75% open plan, limited catering	€830	€1,130	per sq.m.	20-30%
60% open plan, full catering	€1,130	€1,730	per sq.m.	25-35%
Corporate HQ	€1,810	€2,260	per sq.m.	25-35%
Open plan work station	€1,360	€3,840	each	-
High-Tech Industrial				
Shell and core	€1,130	€1,810	per sq.m.	20-25%
Developer standard	€980	€1,810	per sq.m.	25-45%
Residential				
Estate house (approx. 100m2)	€1,310	€1,675	per sq.m.	10-20%
Developer standard apartments	€1,690	€2,500	per sq.m.	10-20%
Individual house rebuilding costs	(see table 6.4 on page 48)			
Purpose built student accommodation**	€1,945	€2,825	per sq.m	10-20%
Shopping centres				
Anchor unit	€900	€1,130	per sq.m.	10-15%
Unit shops	€1,130	€1,730	per sq.m.	10-15%
Mall	€2,030	€3,610	per sq.m.	20-25%
Retail fit-out	€1,580	€2,260	per sq.m.	25-30%
Site development business parks				
Roads and primary services	€210,490	€668,970	per hectare	

Building type	Cost range 2019			M&E (inc. @)
Warehouses				
Without offices	€750	€980	per sq.m.	8-12%
With 10% offices	€900	€1,430	per sq.m.	10-15%
Healthcare				
Tertiary care	€4,600	€5,200	per sq.m.	35-40%
Acute teaching hospital	€3,900	€4,700	per sq.m.	35-40%
General hospital	€3,600	€4,300	per sq.m.	30-35%
Nursing home	€2,850	€3,200	per sq.m.	20-25%
Car Park				
Surface	€1,430	€1,810	per space	-
Multi-storey	€12,030	€24,050	per space	-
Undercroft	€15,050	€21,500	per space	-
Single level basement ***	€17,290	€38,340	per space	-
Double level basement ***	€22,550	€49,610	per space	-
Education				
Primary level (DOE)		€1,490*	per sq.m.	10-15%
Second level (DOE)		€1,490*	per sq.m.	15-20%
Third level	€1,880	€3,050	per sq.m.	20-25%
Leisure				
Hotel building	€2,030	€3,870	per sq.m.	25-35%
FF&E	€380	€900	per sq.m.	-
Restaurant	€2,180	€3,310	per sq.m.	25-35%
Cinema	€1,730	€2,860	per sq.m.	20-30%
Sports hall	€1,200	€1,880	per sq.m.	10-15%
Swimming pool	€2,780	€3,840	per sq.m.	20-35%
Municipal				
Fire station	€2,560	€3,090	per sq.m.	15-25%
Prison	€2,330	€3,390	per sq.m.	20-30%
Courthouse	€3,460	€4,360	per sq.m.	20-30%

Notes:

- Costs are based on January 2019 prices.

- Average costs as indicated should not be used for insurance valuation purposes. The costs are representative of typical specifications 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 costs and do not include VAT, professional fees or allow for future inflation.

*Basic building cost only (incl. VAT). External allowances of 12.5% and abnormal costs should be added.

**Costs excludes works associated with basement construction. Should a basement be required this could mean an uplift of between €215-€430 per sq.m.

***Costs are based on a grossing factor not exceeding 28 sq.m. per space.

Source: Linesight



“Being a part of the scholarship program has been really beneficial for my personal and professional development. I will have gained five years’ industry experience by the time I graduate. It’s really rewarding to be able to bring that hands-on experience to my assignments and projects in university.”

Joey Somerville
Trainee Cost Manager

3. Indices

3.1. Linesight tender and cost indices

The graph below illustrates how construction tender prices and the input costs of labour and materials diverged considerably following the collapse in construction from 2007 to 2010. Since then, as the industry started to recover, tender prices have been rising at a considerably faster rate than construction input costs, which increased at a much more moderate level. In 2019, we expect both indices to have converged. Linesight's research shows that, on average, tender prices rose by approximately 7.5% during 2018, while construction input costs rose on average by 3.5%.

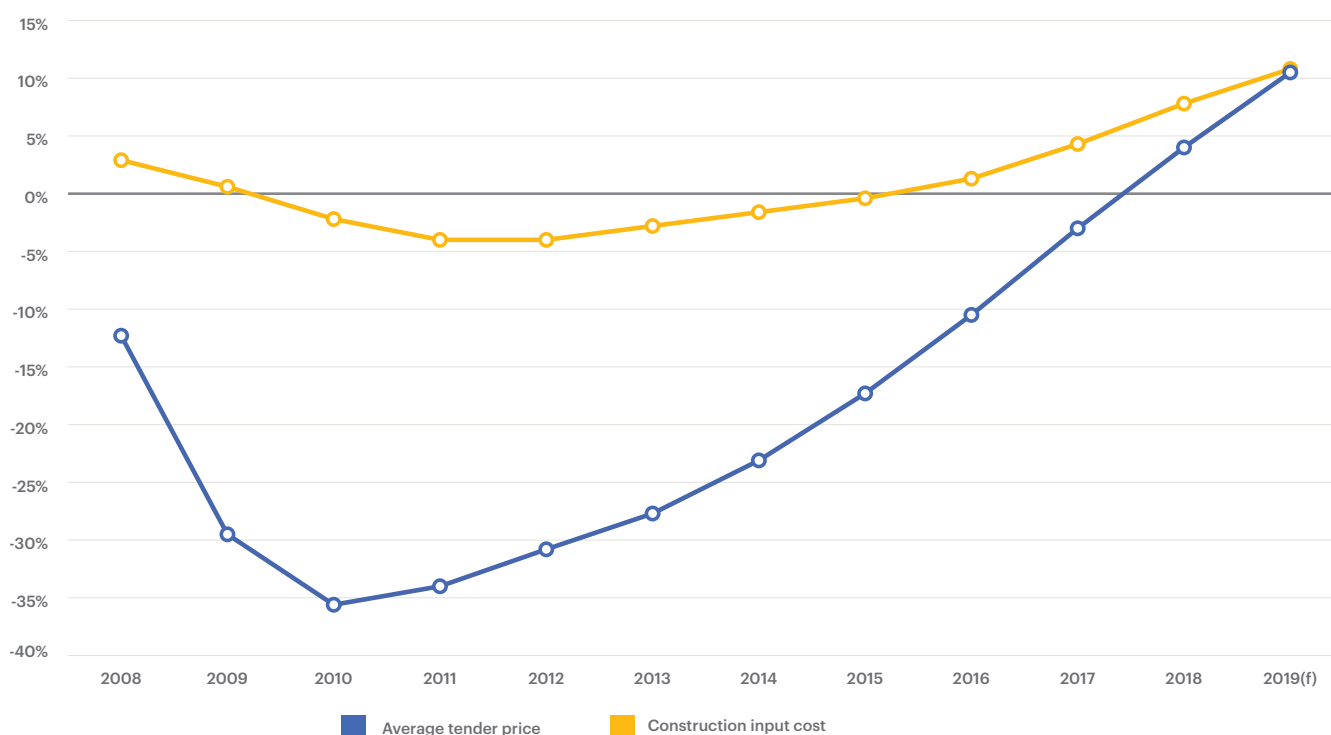
These increases were driven primarily by increasing demand and skills shortages. The new

Sectoral Employment Orders, increasing building standards, including the nZEB regulations, and the shortage of waste disposal sites also added to upward price pressures. Prices for the traditional trades of concrete, reinforcement and formwork are increasing, as are specialist subcontractor works for mechanical, electrical and glazing. During 2019, we predict that input costs will increase by approximately 3%, as increases in labour and material costs continue. Tender prices, however, will increase faster, by an average of 6.5%, driven by the shortage of resources throughout the industry as the recovery continues, and construction output across both private and public all sectors continues to rise. A number

of significant, large projects in the pipeline will also add to upward pressure on prices this year.

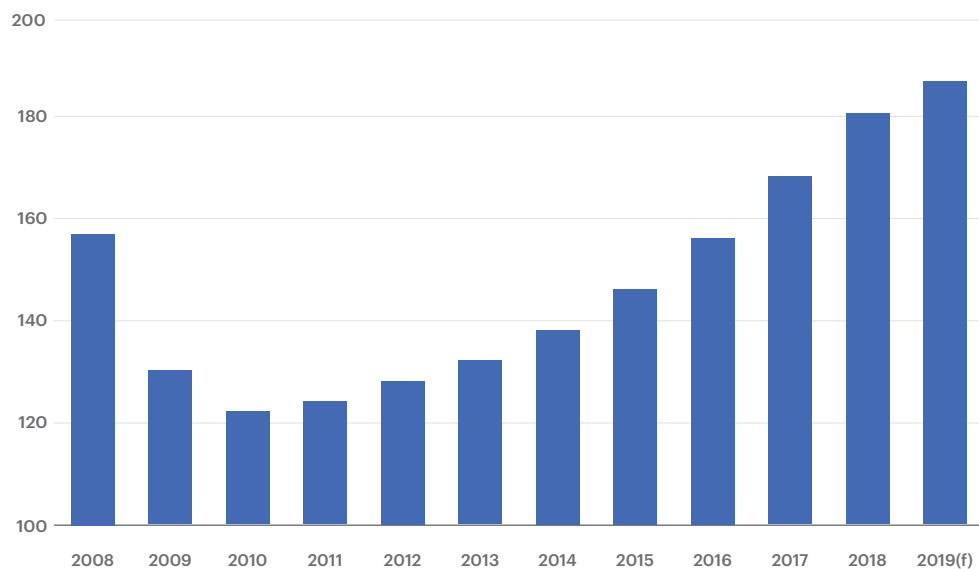
These percentage increases reflect a national average. Construction prices in the Greater Dublin Area and other major urban centres will increase at a faster rate, particularly for complex inner city projects, while increases in provincial locations will be more modest. The increase in tender prices, which we expect to continue for several more years, emphasises the importance of budgeting for future construction inflation when evaluating proposed construction projects.

Annual percentage change 2008 - 2019



Source: Linesight

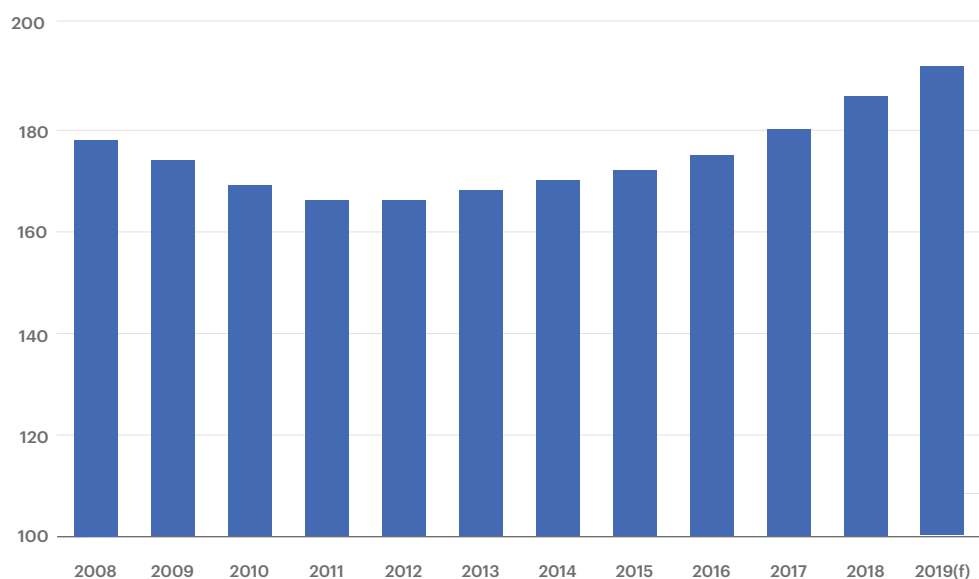
3.2. Linesight tender price index 2008-2019



Source: Linesight

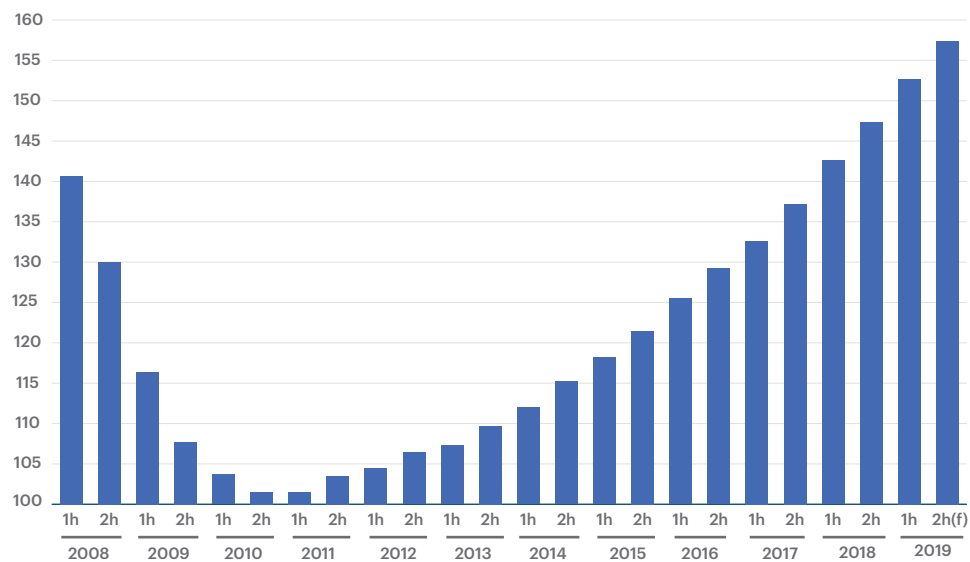
Note: The Linesight tender price index is an average view of changes in tender prices across different locations, project types and project sizes. It is intended to provide general guidance only and should not be used for any other purpose. Please contact us for specific advice about construction inflation related to specific projects.

3.3. Linesight construction cost index 2008-2019




Source: Linesight

3.4. SCSl tender price index 2008-2019*



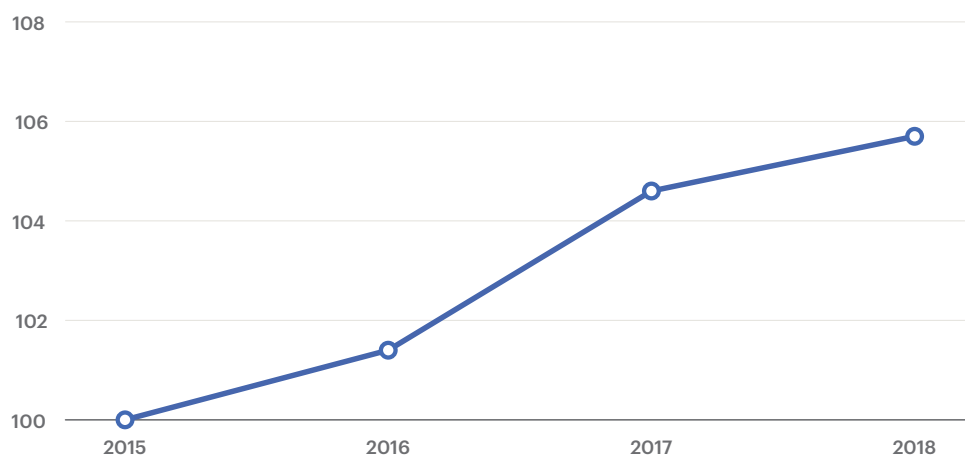
Source: Society of Chartered Surveyors Ireland

A portrait of Kim Hegarty, a woman with short, light-colored hair, smiling. She is wearing a dark top with a colorful, abstract pattern. The background is a soft, out-of-focus grey. A large, semi-transparent pink triangle is overlaid on the bottom left of the image.

“I enjoy being part of an inclusive, ambitious and expanding organisation that is willing to push the boundaries. Personal growth and professional development are supported and encouraged, so everyone can achieve their personal best, while working on a broad range of interesting projects.”

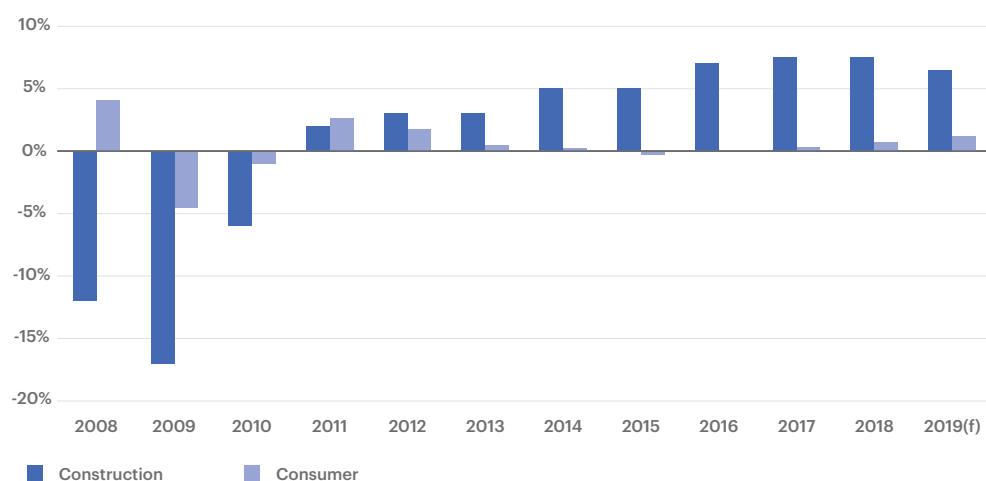
Kim Hegarty
Associate Director

3.5. Wholesale price index building materials 2015-2018*



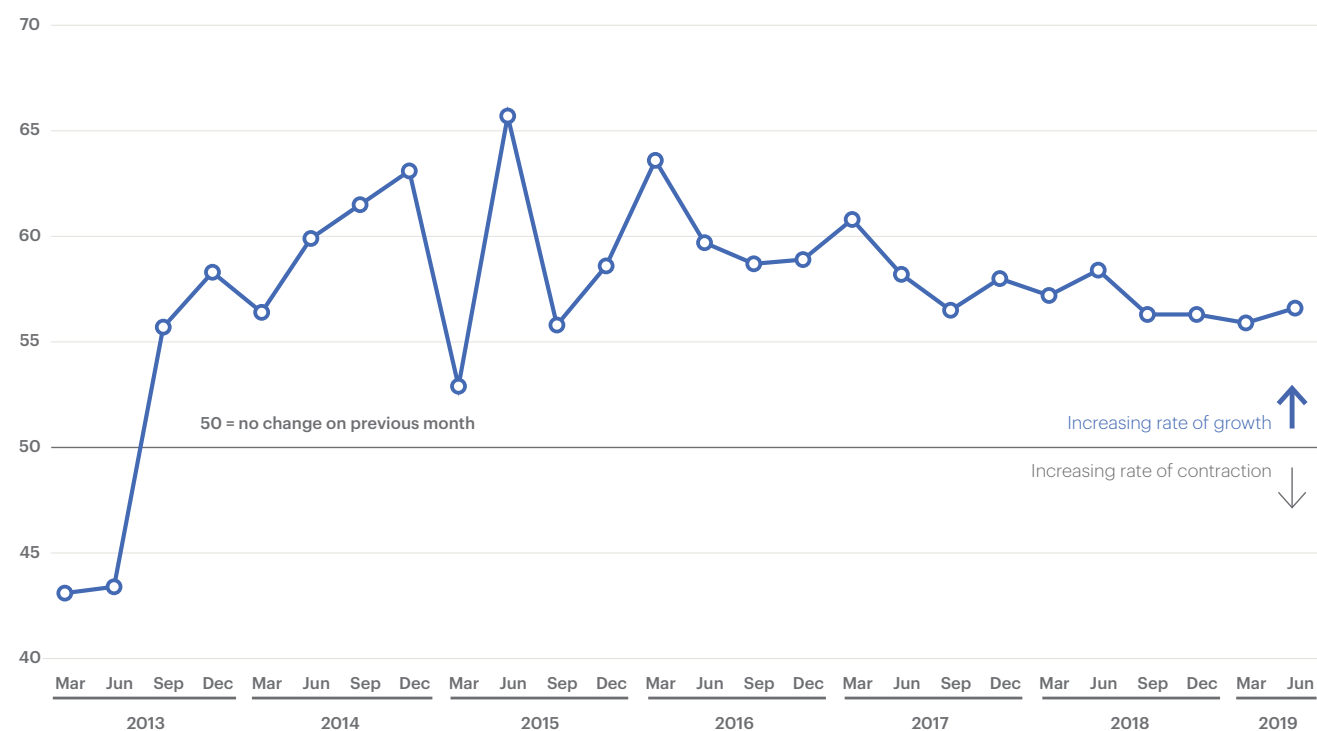
Source: CSO

3.6. Consumer vs construction price inflation 2008-2019*




Source: CSO/Linesight/IMF

3.7. Construction Purchasing Managers' Index*



Ulster Bank Construction PMI	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19	Jun-19
Total activity (graphed above)	58.7	58.9	60.8	58.2	56.5	58.0	57.5	58.4	56.3	56.3	55.9	53.1
Housing	59.5	60.6	61.3	69.2	56.1	59.4	60.3	60.4	58.0	56.0	60.8	58.4
Commercial	61.3	61.0	63.5	65.2	58.4	56.1	58.0	62.0	59.2	58.5	55.5	52.8
Civil engineering	52.4	44.3	48.7	51.8	48.5	52.3	53.5	49.3	46.5	45.5	43.7	42.3

Source: Ulster Bank

A portrait of Wesley Jesson, Associate Director, looking slightly to the left with a gentle smile. He is wearing a dark blue suit jacket over a light blue button-down shirt. The background is a blurred indoor setting with warm lighting. A large, semi-transparent blue geometric shape is overlaid on the bottom left of the image.

“We are a forward-thinking business that is focused on sustainable growth, and working here, you genuinely feel that you are part of and positively impacting this growth. There is also a keen emphasis on personal and professional development for staff, with a dedicated Learning and Development program for all levels of seniority. ”

Wesley Jesson,
Associate Director

**The Hampstead Building,
The Park, Carrickmines,
Dublin 18**

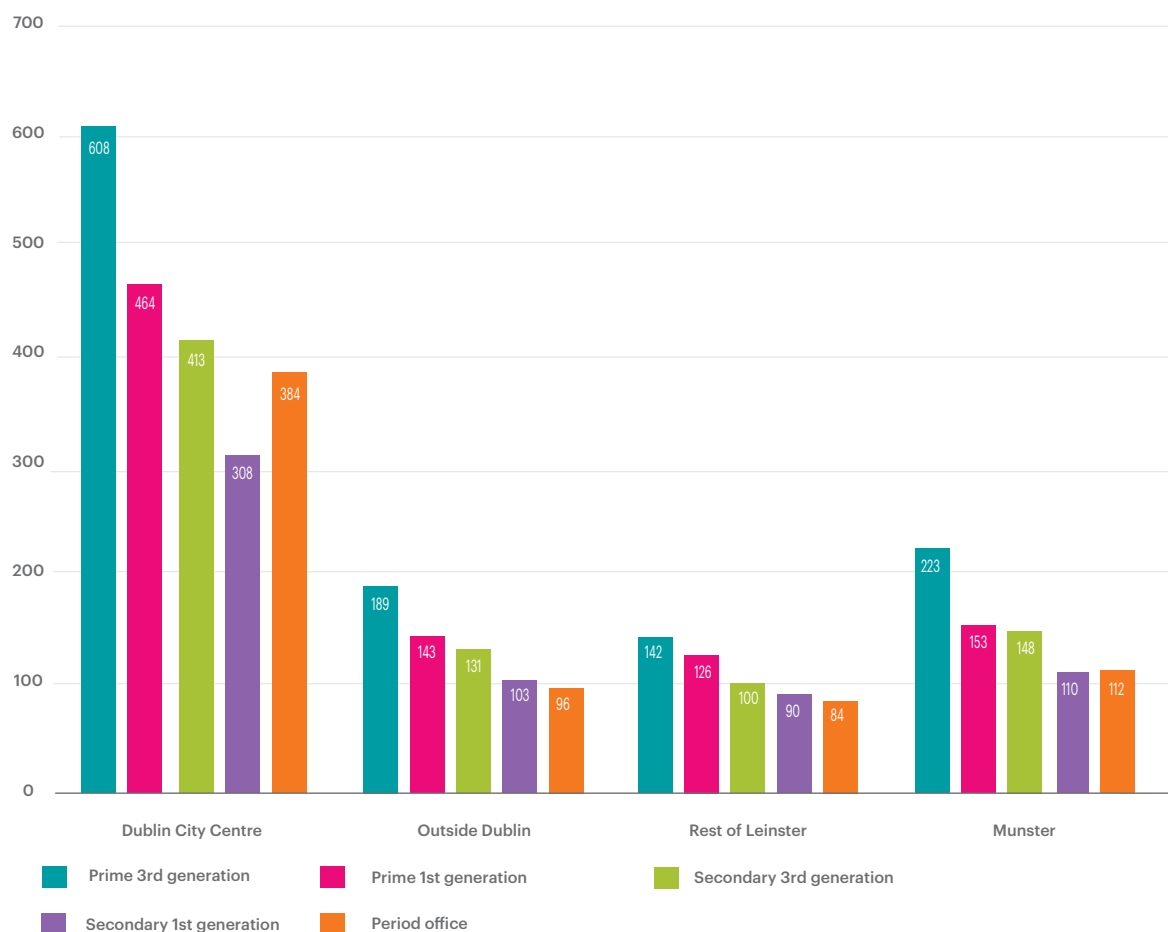
Architect:
The O'Toole Partnership

Linesight services:
Cost Management



3.8. Office rents 2018

€/sq.m.



Source: SCSl annual review and outlook surveys

4. Main and sub-contractors' turnover

4.1. Irish main contractors' turnover

2018 rank	2017 rank	Contractor	Est global 2018 €'m	Est Irish 2018 €'m	Actual global 2017 €'m
1	1	John Sisk & Son Limited	€1,185.00	€746.55	€943.40
2	2	BAM Contractors Limited	€550.00	€500.00	€462.50
3	4	Bennett Construction Limited	€405.00	€245.00	€325.00
4	3	John Paul Construction Limited	€390.00	€310.00	€360.00
5	5	JJ Rhatigan & Co Limited	€310.30	€231.96	€238.53
6	7	PJ Hegarty & Sons Limited	€290.00	€275.00	€204.00
7	8	Collen Construction Limited	€285.00	€247.95	€208.98
8	6	Roadbridge Limited	€226.00	€104.00	€232.00
9	9	Mac Group	€203.50	€140.42	€185.00
10	10	Walls Construction Limited	€190.30	€190.30	€160.00
11	12	Ardmac Limited	€150.00	€150.00	€109.86
12	11	Flynn Management & Contractors Limited	€142.00	€120.70	€110.00
13	14	StructureTone Limited	€123.00	€123.00	€87.27
14	18	Wills Bros Limited	€91.59	€74.00	€72.00
15	17	L&M Keating	€73.32	€71.85	€67.25
16	20	Townmore Construction	€70.00	€49.00	€51.00
17	21	Duggan Brothers (Contractors) Limited	€62.25	€62.25	€49.60
18	19	Ganson Building & Civil Engineering Contractors Ltd.	€62.00	€52.00	€60.37
19	22	Monami Construction Ltd	€58.20	€58.20	€45.10
20	24	Kilcawley Building and Civil Engineering (Sligo) Ltd.	€46.80	€46.80	€42.10
21	23	Purcell Construction Limited	€42.00	€42.00	42.095
22	27	Clancy Construction Limited	€40.24	€40.24	€38.03
23	28	Vision Contracting Limited	€36.10	€36.10	€27.73
24	30	MMD Construction Cork Limited	€35.50	€35.50	€26.00
25	31	Elliott Group	€35.16	€35.16	€27.59
26	26	Glenbeigh Construction Limited	€32.90	€32.90	€30.05
27	29	Mythen Construction Limited	€28.74	€28.74	€24.00
28	32	Townlink Construction Limited	€21.00	€21.00	€24.50
29	33	MJ Conroy & Sons Limited	€18.00	€5.40	€18.03

Note: Ranked on global turnover

Source: Individual companies auditors, Companies Registration Office

4.2. Irish services sub-contractors' turnover

2018 rank	2017 rank	Contractor	Est global	Est Irish	Actual global
			2018 €'m	2018 €'m	2017 €'m
1	1	Mercury Engineering Group	€770.00	€250.00	€600.00
2	2	Jones Engineering Group	€480.00	€264.00	€317.00
3	3	Dornan Engineering Limited	€375.00	€93.75	€218.40
4	4	Winthrop Engineering Limited	€231.56	€188.71	€198.80
5	6	Designer Group Engineering Contractors Limited	€205.00	€101.00	€150.00
6	5	Kirby Group Engineering Limited	€165.83	€131.01	€167.62
7	8	Specialist Technical Engineering Services	€144.66	€58.39	€94.87
8	7	Suir Engineering Limited	€126.00	€119.70	€122.00
9	9	L. Lynch & Co. Limited	€74.92	€71.17	€64.84
10	10	Lynskey Engineering Limited	€48.34	€24.17	€50.93
11	14	B.M.D & Company Limited	€48.30	€48.30	€34.59
12	13	Radley Engineering	€46.60	€46.60	€36.40
13	12	King & Moffat Building Services	€46.10	€22.20	€41.34
14	11	Gealtec Utilities Limited	€43.00	€32.00	€41.80
15	16	Buttimer Engineering	€30.00	€16.00	€32.00
16	17	LMC Energy Solutions Limited	€26.27	€26.27	€18.33
17	15	DMG Engineering Limited	€25.53	€25.53	€25.36
18	18	Tritech Engineering	€25.20	€25.20	€17.90
19	22	CJK Electrical Limited	€23.48	€23.48	€15.98
20	21	Haughton & Young Limited	€22.37	€22.37	€16.53
21	19	Rockwell Engineering	€16.40	€16.40	€16.82
22	24	T Bourke & Co. Limited	€15.00	€15.00	€10.92
23	20	The FKM Group	€12.00	€12.00	€10.00

Note: Ranked on global turnover

Source: Individual companies auditors, Companies Registration Office

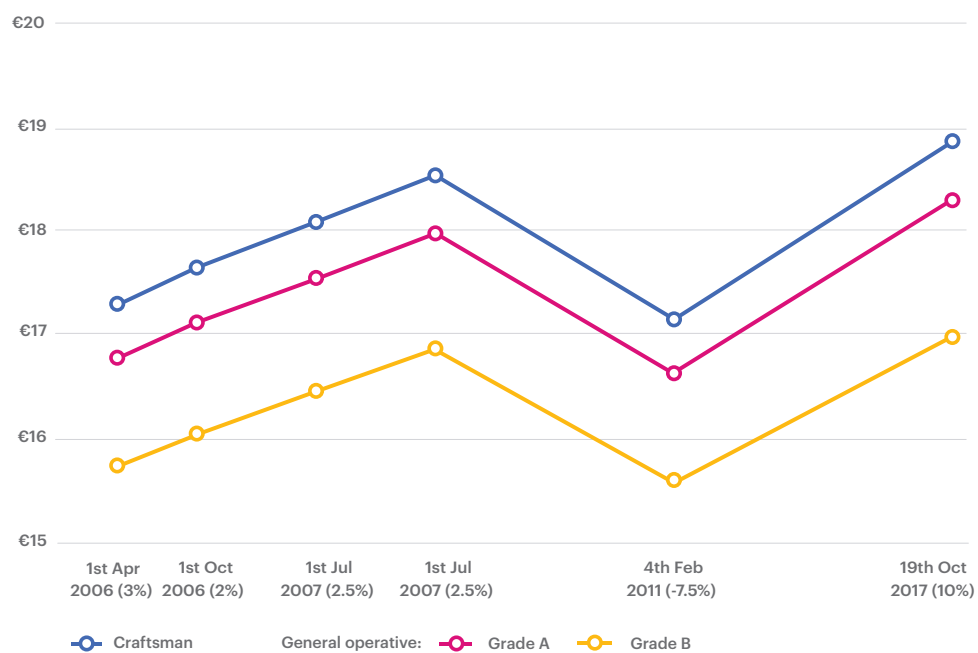
A portrait of Sharon Shore, a woman with long brown hair, smiling. She is wearing a dark blue turtleneck sweater and small hoop earrings. The background is a light blue wall with vertical lines. A large, stylized graphic of a mountain range in shades of purple and pink is overlaid on the right side of the image.

“I enjoy the opportunities and challenges that come with working for an industry leader during a time of rapid global expansion – I have gained valuable knowledge and experience in new markets and jurisdictions, and great exposure to global operations.”

Sharon Shore
International Tax Accountant

5. Wage rates and charges

5.1. Basic hourly wage rates

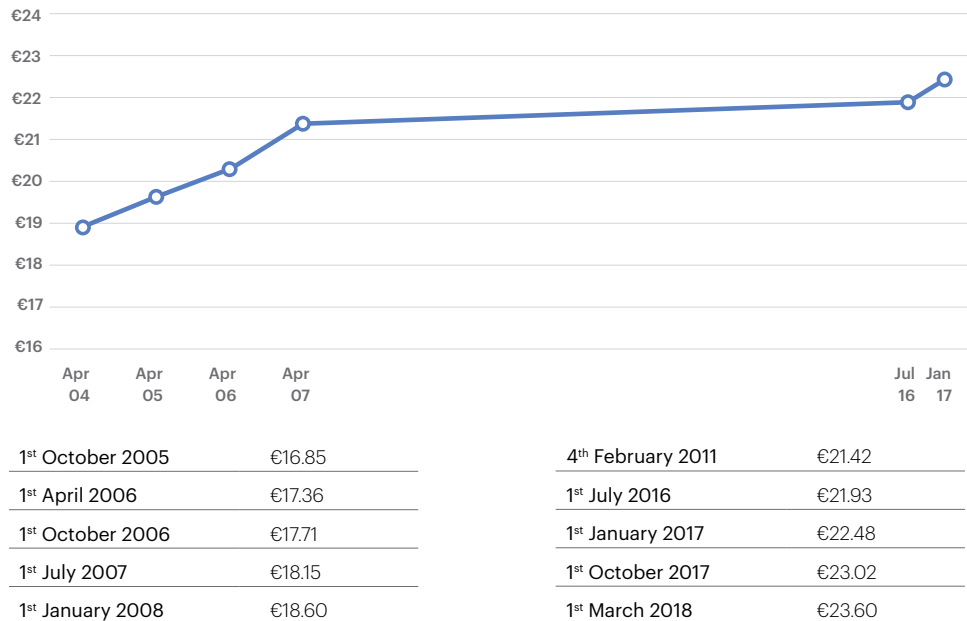


	Craftsman	General operative		Apprentice rates		
		Grade A	Grade B	Year	% craft rate	
1 st April 2006 (3%)	€17.36	€16.84	€15.80			
1 st October 2006 (2%)	€17.71	€17.18	€16.12			
1 st July 2007 (2.5%)	€18.15	€17.61	€16.52	1	33.30%	€15.33
1 st January 2008 (2.5%)	€18.60	€18.04	€16.93	2	50%	€15.80
4 th February 2011 (-7.5%)	€17.21	€16.69	€15.66	3	75%	€16.12
19 th October 2017 (10%)	€18.93	€18.36	€17.04	4	90%	€16.52

Note: Wage rate for new entrant 2017: €13.77

Source: Registered Agreement for the Construction Industry/Sectoral Employment Order 2017

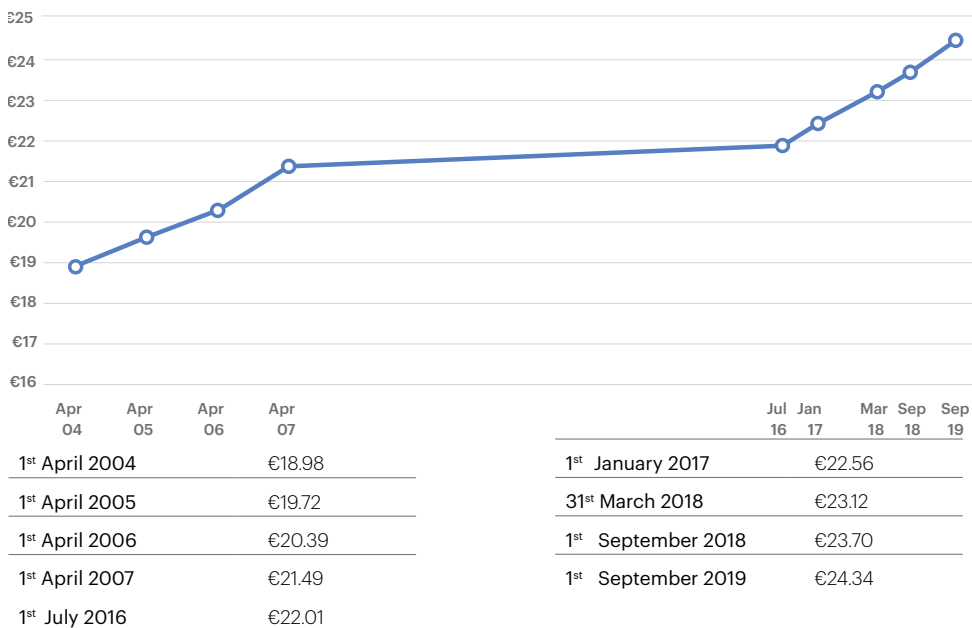
5.2. Basic hourly wage rates - mechanical



Note: Current electrical agreement expired 30th April 2017. Hourly wage rate based on category three worker. There are no agreed rate increases going forward, however the mechanical unions have lodged a substantial increase with no resolution at time of publication. To allow resolution there has been a Sectorial Employment Order in place on the mechanical side since March 2018, which means that by March 2019 the unions can call for a review of the rates under the legislation.

Source: MEBSA/ECA

5.3. Basic hourly wage rates - electrical*



Note: There are no agreed rate increases going forward, unlike the mechanical sector the electrical sector has no Sectorial Employment Order in place. Connect Union (previous TEEU) is seeking an increase in the electrical sector this year and has tabled this to the Labour Court.

Source: CIF/ECA



**13-18 City Quay, South Quay,
Dublin 2**

Architect:
Henry J Lyons

Linesight services:
Cost Management
and Project Management

5.4. Planning charges 2019

Class of development	Charge
Most building types	€80 or €3.60 per sq.m. whichever is greater
New houses	€65 for each dwelling
House alterations	€34
Golf courses	€50 per hectare
Outline planning permission	75% of full planning permission charge

Maximum scale of charges for planning applications	
Full application most building types	€38,000
Outline application most building types	€28,500
Retention application	€125,000

Source: Local planning authorities

5.5. Fire certificate charges 2019



Type of application

Making application as per status quo

Charge

€2.90 per sq.m.
up to a maximum of €12,500

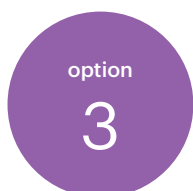


Type of application

A seven day notice

Charge

€5.80 per sq.m.
up to a maximum of €25,000

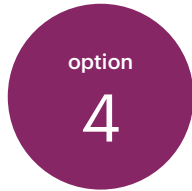


Type of application

A revised fire safety certificate application

Charge

€2.90 per sq.m.
up to a maximum of €12,500




Type of application

A regularisation fire safety certificate application

Charge

€11.60 per sq.m.
up to a maximum of €50,000

Source: Local planning authorities

A portrait of Kevin Kinsella, a middle-aged man with short dark hair, smiling. He is wearing a light blue button-down shirt under a dark blue blazer. The background is a blurred indoor setting with vertical lines. A large, semi-transparent blue geometric graphic, consisting of several overlapping triangles, is positioned in the lower-left and bottom-center of the page, partially covering the man's torso and the quote.

“Linesight is a truly dynamic and vibrant organisation, and I’m proud to have been a part of it for 20 years. It’s a positive and supportive atmosphere, where ambition, participation and drive are actively encouraged. Every day, I’m working with a fantastic team of committed people across all aspects of the business.”

Kevin Kinsella
Director




Chatham & King,
South King Street, Dublin 2

Architect:
Henry J Lyons

Linesight services:
Cost Management



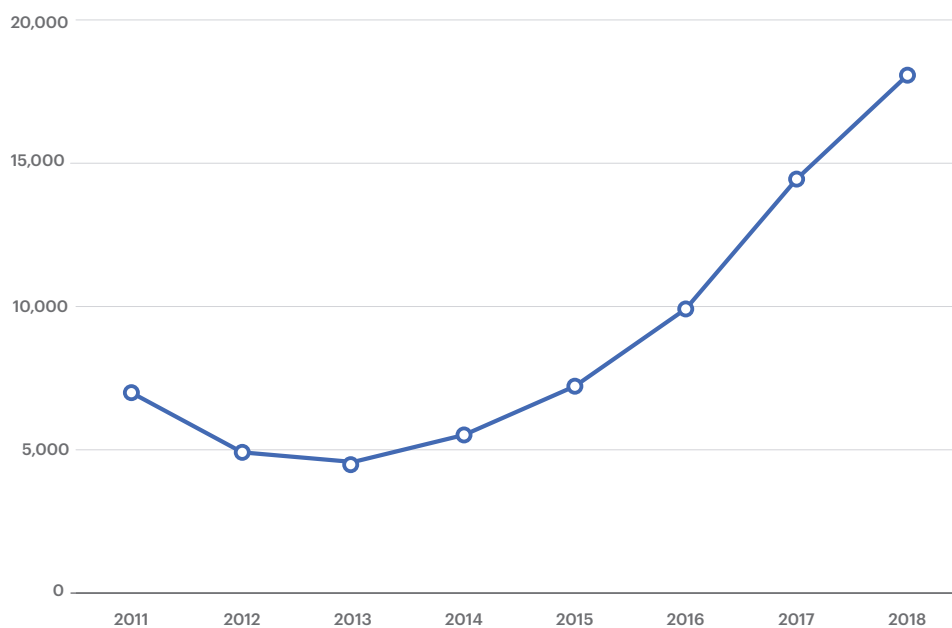
A portrait of Emma Quinn, a woman with blonde hair, smiling. She is wearing a pink blazer. The background is a soft, out-of-focus grey. A large, semi-transparent pink triangle is overlaid on the bottom left corner of the image.

“From day one, everyone has been very welcoming. The hands-on experience has been invaluable. I’m working closely with clients on complex projects, which I never would have thought I would have had the opportunity to do so early in my career.”

Emma Quinn,
Cost Manager

6. Housing

6.1. Annual housing completions 2011-2019*

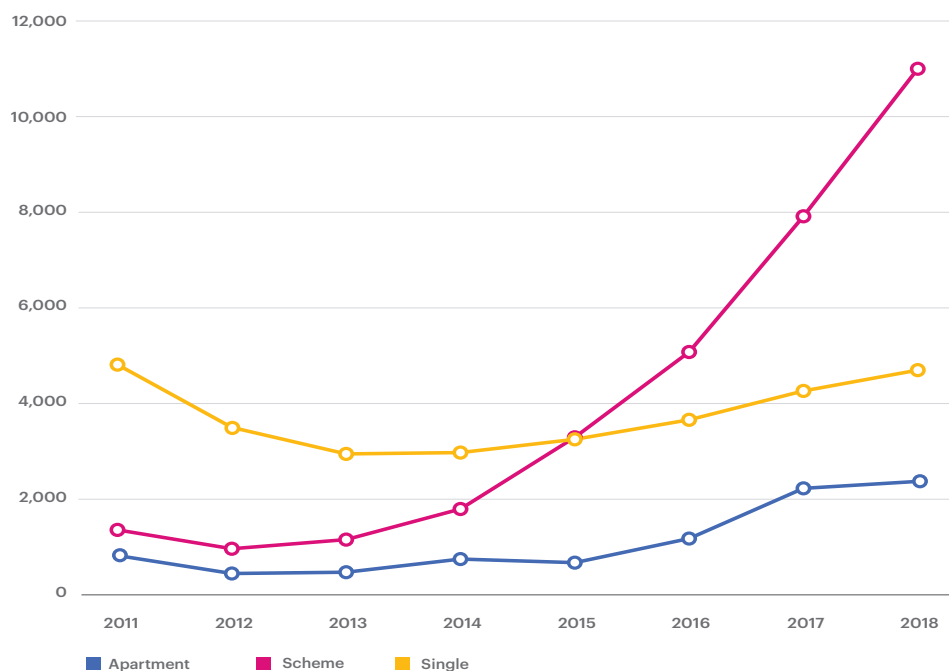


Year	Single	%	Scheme	%	Apartment	%	Total
2011	4,814	68.83%	1,358	19.42%	822	11.75%	6,994
2012	3,501	71.29%	964	19.63%	446	9.08%	4,911
2013	2,947	64.42%	1,155	25.25%	473	10.34%	4,575
2014	2,975	53.91%	1,795	32.53%	748	13.56%	5,518
2015	3,252	45.05%	3,294	45.63%	673	9.32%	7,219
2016	3,660	36.91%	5,078	51.22%	1,177	11.87%	9,915
2017	4,269	29.55%	7,913	54.78%	2,264	15.67%	14,446
2018	4,699	26.00%	11,001	60.87%	2,372	13.13%	18,072
2019*	2,419	26.34%	5,401	58.80%	1,365	14.86%	9,185

Note: *Only includes first half of 2019

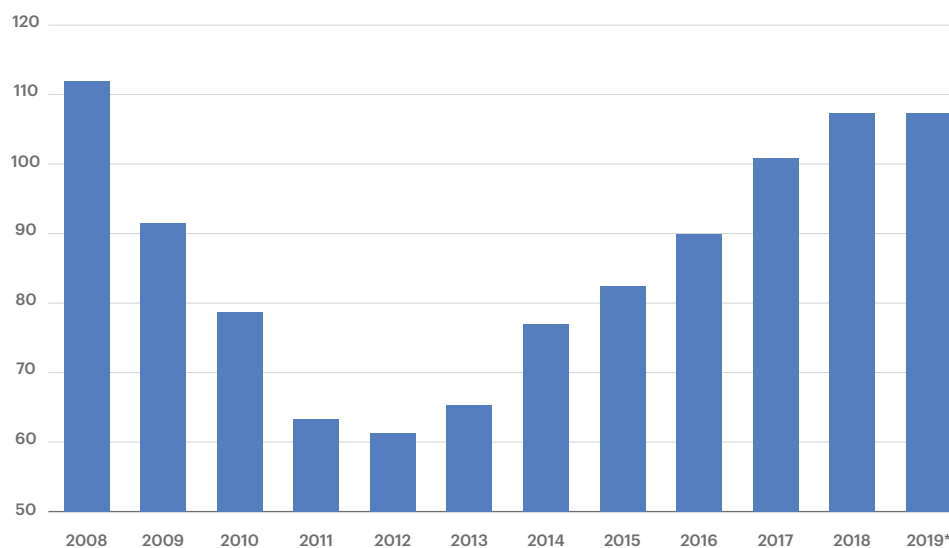
Source: CSO

6.2. New housing completions by type 2011-2018



Source: CSO

6.3. Residential property price index*



Note: *to June 2019

Source: CSO



**Somerton Residential Development,
Lucan**

Architect:
O'Mahoney Pike Architects

Linesight services:
Project Monitoring

6.4. SCSi house rebuilding costs 2018

House type	No. of bedrooms	Typical size	Rebuilding cost						
			Dublin area	Cork area	Galway area	Waterford area	Limerick area	North West area	North East area
Terraced town house	2	70 sq.m. (753 sq.ft.)	€2,093 sq.m. €194 sq.ft.	€1,680 sq.m. €156 sq.ft.	€1,613 sq.m. €149 sq.ft.	€1,583 sq.m. €146 sq.ft.	€1,627 sq.m. €150 sq.ft.	€1,376 sq.m. €127 sq.ft.	€1,656 sq.m. €154 sq.ft.
	3	95 sq.m. (1023 sq.ft.)	€2,001 sq.m. €185 sq.ft.	€1,593 sq.m. €147 sq.ft.	€1,545 sq.m. €143 sq.ft.	€1,497 sq.m. €139 sq.ft.	€1,540 sq.m. €143 sq.ft.	€1,298 sq.m. €120 sq.ft.	€1,564 sq.m. €145 sq.ft.
Semi-detached	3	95 sq.m. (1023 sq.ft.)	€2,076 sq.m. €193 sq.ft.	€1,616 sq.m. €149 sq.ft.	€1,587 sq.m. €147 sq.ft.	€1,518 sq.m. €141 sq.ft.	€1,557 sq.m. €144 sq.ft.	€1,310 sq.m. €121 sq.ft.	€1,652 sq.m. €152 sq.ft.
	4	118 sq.m. (1270 sq.ft.)	€2,035 sq.m. €188 sq.ft.	€1,593 sq.m. €147 sq.ft.	€1,508 sq.m. €140 sq.ft.	€1,492 sq.m. €138 sq.ft.	€1,500 sq.m. €139 sq.ft.	€1,294 sq.m. €120 sq.ft.	€1,521 sq.m. €141 sq.ft.
Detached	4	118 sq.m. (1270 sq.ft.)	€2,035 sq.m. €188 sq.ft.	€1,644 sq.m. €152 sq.ft.	€1,556 sq.m. €144 sq.ft.	€1,538 sq.m. €142 sq.ft.	€1,577 sq.m. €146 sq.ft.	€1,306 sq.m. €121 sq.ft.	€1,595 sq.m. €147 sq.ft.
Detached bungalow	4	146 sq.m. (1572 sq.ft.)	€1,959 sq.m. €182 sq.ft.	€1,599 sq.m. €148 sq.ft.	€1,490 sq.m. €138 sq.ft.	€1,439 sq.m. €133 sq.ft.	€1,573 sq.m. €146 sq.ft.	€1,260 sq.m. €117 sq.ft.	€1,548 sq.m. €143 sq.ft.

Garage: Total rebuilding costs range from €14,443 for a single attached garage to €25,983 for a double attached garage. This table is a guideline based on a typical speculatively built, estate-type house in the Dublin, Cork, Galway, Waterford, Limerick, North West and North East regions. These figures are September 2018 figures. See important notes below.

1. The figures shown in the table are a MINIMUM base cost guide for your house insurance.

2. The figures assume a basic quality specification with normal foundations, timber frames or brick/block walls, concrete tiled roof, concrete ground floor and timber first floor, softwood flush doors and hardwood double glazed windows, painted plaster to walls, plastered ceilings, standard electrics and central heating. The sum insured should be increased to allow for better than average kitchen fittings, built-in wardrobes, finishes and any other items not normally included in an estate-type house.

3. House contents such as carpets, curtains, furniture, etc., are not covered by the figures.

4. No allowance has been made for the cost of outbuildings or patios. The figures do, however, allow for a concrete path around the house, for driveway repairs and regrassing and fencing.

5. The figures allow for demolition costs, professional fees incurred in reinstatement and VAT at 13.5% on building costs and 23% on professional fees.

6. The amounts included for professional fees have been calculated to cover the following services: Building Surveyor/Architect: prepare working drawings and specification, and administer the building contract. Chartered Quantity Surveyor: invite and examine tenders, process payments and agree final account. Engineer: advice on structural issues. Fees associated with the certification of the house under the Building Control (Amendment) Regulations 2014.

7. The costs are based on building rates in September 2018.

Source: Society of Chartered Surveyors Ireland.



The Galway Hospice, Renmore

Architect:
Coady Architects

Linesight services:
Cost Management

Deloitte, 1-2 Hatch Street, Dublin 2

Architect:

Reddy Architecture + Urbanism

Linesight services:

Cost Management
and Project Management



REVIEW & OUTLOOK:

Global Insights

Global Market Review

Trade dispute between the world's two largest economies has the global economy holding its breath in anticipation of the outcome.

Although the deadline has recently been extended, the potential outcome in the current US-China trade dispute continues to cast a shadow over global economic prospects. The IMF has reduced its global growth projection for 2019 by 0.2 percentage points since its projection in October 2018. When asked what had changed since October at the World Economic Forum Annual meeting in Davos, Christine Lagarde (Managing Director of the IMF) responded that it is the level of risk and the acceleration of the pace at which risks are materialising.

The reduction to 3.5% growth in 2019, is largely due to weaker performances in Europe and Asia, specifically relating to trade tariffs between the US and China, and Brexit. However, as Lagarde points out, it is still growth, albeit a little more modest than previously predicted.

US set to break record despite slowdown

The strong performance of the US economy is expected to continue in 2019. The financial results for 2018 were delayed due to the partial government shut

down in January, however figures show that significant growth in the first three quarters were balanced by a significant slowdown in the fourth quarter.

Commentators are expressing the view that the beneficial impact of tax reforms introduced by the Trump administrations are fading. Nevertheless, the economy is in a strong position and the Federal Reserve has indicated that it intends to implement moderate rate hikes in 2019 and 2020, in order to keep the economy from overheating amid rising inflation and a rapid decline in unemployment. If the current expansion in the US economy continues past July 2019, it will have broken the previous record of a decade of expansion, which was set by the tech boom in the 1990s.

The US appears to be on track for this by avoiding overheating and financial imbalances - the classic causes of recessions. President Trump is determined to follow through on his campaign promise to end unfair practices with trading partners - late in 2018 he reached agreement

on the replacement of the NAFTA, now known as the USMCA (United States-Mexico-Canada Agreement). Earlier in 2018, he turned his attention to China, citing unfair trade practices and theft of intellectual property. China then made a counterattack, and hence we have a trade war on our hands.

China to increase public spending

The Chinese economy, the second largest in the world, is expected to slow down further in 2019. The Government had been implementing a plan to reduce debt and risky lending. However, in response to the trade war, they are switching policy and tending towards a stimulus package of more fiscal spending, reducing the amount of money the bank needs to hold in reserve at the central bank and thus freeing up money for additional lending; building a resilient domestic market and stabilising economic growth and monetary easing in order to enhance growth.

Europe still in flux

In Europe, uncertainty around Brexit still dominates. Business investment and domestic consumption in the UK is likely to remain subdued while the issue of Brexit is unresolved. A no-deal Brexit will likely cause a serious economic shock, while leaving the EU with a deal could result in a boost in investment and consumer sentiment, which has been subdued for the last number of years. Germany, the largest economy in the eurozone, is dealing with a softening of private consumption, and introduction of new automobile fuel emission standards have resulted in a weak industrial production.

Meanwhile, France is dealing with 'Gilet Jaunes' or the 'Yellow Vest' movement, and after 10 weeks the protests are finally showing signs of receding. However, what was previously viewed as an unorganised movement is morphing and changing, and the final shape it takes could be of political concern. In Italy, weak domestic demand and higher borrowing costs together with concerns about sovereign and financial risks have dampened domestic demand.

Ireland is set to see continued strong growth, which will shield it somewhat from the slowdown in the global economy. However, labour shortages, pressure on public services and rising prices caused by this strong growth present major challenges for Government and businesses alike. The outlook is overshadowed by the prospect

of a hard Brexit, which would negatively impact on Ireland's growth, with rural Ireland being particularly impacted.

The GCC continues to diversify

Oil prices have been volatile thanks to swings in supply, and OPEC has agreed to cut production with a view to returning prices to US\$70 a barrel later in 2019. However, the GCC economy continues to improve, with a period of increasing interest rates and the prospect of stable oil prices. In particular, Saudi Arabia continues with its diversification plans as part of its 'Vision 2030' plan. And while the geopolitical situation remains a concern, improved economic dynamics are offsetting these concerns.

The governments continue their drive to reduce the economies' dependency on oil prices, and thus we have seen a trend of mergers and acquisitions, particularly in the banking sector. These M&As are seen as an opportunity to improve economies of scale and scope, and to improve market share in the global markets.

The governments are also focusing on continuing to attract foreign direct investment, which is stimulating economic growth and boosting investor confidence in the region. The UAE has made some significant investments in technology, and in particular renewable energy, with the ambition to have 44% of its energy requirements provided

through renewable resources by 2050.

Its investment in infrastructure continues, as it prepares for Expo 2020, which is providing a stimulus for the regional construction industry. While FDI investment in the UAE is expected to significantly increase with recent investment law provisions, relaxation of visa rules and other business-friendly reforms also appear poised to both attract qualified foreign workers. However, Egypt is expected to be the region's top performer in 2019, followed by Iraq. Iran will contract again in 2019 as US sanctions continue.

In Israel domestic demand should continue to support economic growth this year. Private consumption will likely benefit from a lower tax burden and still-favourable financial conditions. New gas and oil-related projects are expected to boost fixed investment growth. On the other hand, regional tensions remain a key downside risk and cloud the outlook.

The Chinese economy, the second largest in the world, is expected to slow down further in 2019.

Asia Pacific remains robust

A recent press release by the Singapore's Ministry of Trade and Investment noted that its economy is, like many other global economies, expected to slow in 2019. The manufacturing sector, in particular electronics and precision engineering, is experiencing difficulties due to weakening global demand for semiconductors and associated equipment. While other sectors, such as wholesale trade, transportation and storage finance and insurance are expecting to moderate in growth, in line with the global economy. The information and communications, health and social services sectors are expected to remain resilient due to demand for IT and digital solutions. The construction industry is expected to see a pick-up after three consecutive years of contraction. Politically, there is speculation that general elections will be held this year to take advantage of the still-strong domestic growth and heightened public morale following bicentennial commemorations.

Remarkably, the Australian economy has gone 27 years without a recession. While

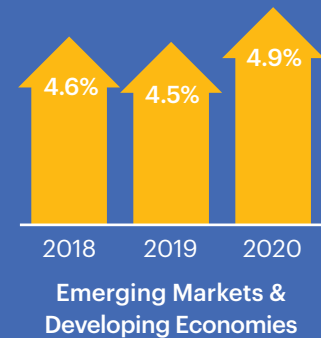
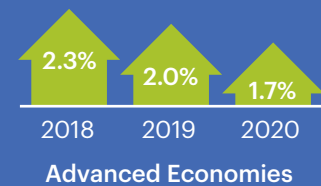
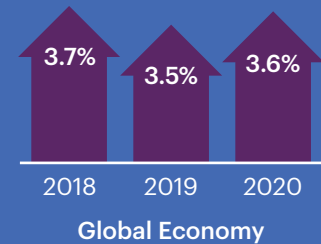
there are risks to the economy, it is expected that business investment, rising exports of commodities and Government spending will likely offset the contracting housing sector, subdued consumer spending and devastating drought.

Employment growth is strong, as the Australians consistently add more jobs than needed to accommodate the growth of the working-age population, resulting in reduced unemployment rates and participation rates increasing to the highest level on record. In addition to increased production capacity from LNG plants, the Australian resource sector is also seeing increased activity from the Chinese in response to the US tariffs, in iron ore and coal particularly, though this cannot be relied upon in the longer term. Thus, growth in 2019 should be moderate.



Kim Hegarty
Associate Director

Growth projections



Source: International Monetary Fund







**A6 Randalstown to Castledawson
dualling scheme**

Client designer:
AECOM

Linesight services:
Cost Management



GLOBAL INSIGHT

Off-site manufacturing

Construction lags behind other industries in terms of investment in research and development, and consequently the rate of innovation is slow.

However, the emergence and acceptance of Off-Site Manufacturing (OSM) at scale in the UK and USA in recent years signifies a shift that has the potential to significantly change the way buildings are designed and constructed. This shift comes at a time when the design process is undergoing significant change, with increased digitisation in the industry and manufacturing processes, and the increasing use of BIM modelling.

Speed of delivery is a key element in addressing the housing shortage, and off-site manufacturing (OSM) plays a fundamental role in achieving this.

While OSM expertise existed in Ireland in advance of the economic downturn, it contracted significantly during the economic crash. But it is re-emerging in recent years, with manufacturers established in Galway, the Midlands and Northern Ireland.

The opportunities for OSM in BTR are proven by its successful adoption in markets such as the UK, and this success is attributable to three key characteristics – repeatability, standardisation of design and speed to market.

Funding and cash flow

The funding and cash flow model for OSM differs from traditional on-site construction. Traditionally, payments are made for works completed to an acceptable standard on-site, with occasional payments for materials vested securely off-site.

The cost of entry associated with the OSM model is high, with significant up-front investment in manufacturing facilities, materials and labour required by the supplier. Current funding and cash flow models will have to change to address the risk that goes with this level of up-front financing. There needs to be better alignment between developers and suppliers, with early investment in research to develop and certify systems before they can go into manufacture. Inevitably, this will result in risk transfer towards the funder, with early financial commitment required well in advance of modules being delivered to and installed on-site.

Pre-planning design costs are also likely to be higher. In the UK, construction information needs to be approximately 60% complete at planning stage for OSM, as against 35% in traditional building.

Risk

A critical issue with OSM is that very significant responsibility lies in the hands of a single entity – the module supplier. The timely delivery of modules is fundamental to schedule and project success - therefore, the traditional risk profile of a construction project needs to be examined to ensure there is fair apportionment of risk. Ultimately, this will mean the client taking a greater level of risk than in the past, when this was passed to the Tier 1 contractor and down the supply chain.

Successful adoption of OSM requires a high degree of collaboration, and early engagement between all parties, down to the supply chain, from the beginning of the design stage.

- Early supply chain involvement ensures that the building is designed for ease of manufacture and installation on-site
- The apportionment of risk is fundamental in establishing and maintaining this collaborative working environment.

Standards and insurance

OSM can produce a higher quality finished product than traditional construction. A high standard of workmanship is only part of the story; the insurance industry needs to have comfort that the risks with OSM are known,

defined and addressed. This issue has been tackled in the UK by the establishment of BOPAS (Buildoffsite Property Assurance Scheme).

Through a durability and maintenance assessment undertaken by BLP Insurance, formal process accreditation and a web-enabled database of details on assessed building systems and registered/warranted properties, BOPAS provides assurance to the lending community that innovatively constructed properties will be durable enough for resale for a minimum of 60 years. It would be very beneficial to the Irish OSM market if BOPAS accreditation is embraced.

Early design process

Traditionally, a very proactive and iterative approach has been taken to Cost Management, including the tendering of selected subcontract packages while the main construction works are on-site, engaging in value engineering exercises to optimise cost/value, and addressing overruns at various stages throughout the design and construction life cycles.

The cost of entry associated with the OSM model is high, with significant up-front investment in manufacturing facilities, materials and labour required by the supplier.

With OSM, a significant number of these opportunities occur early in the design process and cannot be re-evaluated once the modular system goes into production. This requires a change in approach to design management, and recognition that a significant aspect of the traditional change management process will not exist once design is released to manufacture.

Engaging experienced planners, design and manufacturing partners who understand the early-stage value management process, and have the expertise to evaluate options and value in a structured and timely way, is key to the success of the process.

On-site advantages

There is no doubt that OSM is a more efficient form of construction than traditional build, benefitting from the digitisation of construction, and leveraging available technologies to streamline the design and construction process.

An emphasis on the decision-making process during the early design stages pays dividends once the development is approved and goes to manufacture.

The most significant benefits of OSM on-site include:

- Construction works undertaken in a controlled factory environment - improved

quality, working conditions and efficiency, and health and safety

- Speed to site - modules are complete internally when delivered to site. Build time on-site is fast, with Buildoffsite estimating that it is up to 60% quicker than traditional construction
- Rapid build time is particularly effective in city centre sites, reducing on-site time and construction disruption
- Labour force on-site is significantly reduced, requiring a small, experienced crew to locate modules and connect services
- Waste reductions of up to 80% are reported by the Financial Times, with a 95% recycling rate
- Fewer mistakes are made, the work is more repetitive and snagging is greatly reduced
- The requirement for early decision-making reduces the risk of delays on-site and additional costs, as there is more certainty and less scope for change.

In a recent editorial published by the Financial Times, John Fleming, founder and chairman of Tide Construction is quoted that he is "convinced that Britain is on the brink of a modular revolution, predicting that 30 to 40% of construction will be built

off-site within the decade." Tide is currently building two of the tallest modular buildings in the world in London, at 38 and 44 storeys each.

It is only a matter of time before the OSM revolution is embraced by the Irish development industry.



Kevin Kinsella,
Director

There is no doubt that OSM is a more efficient form of construction than traditional build, benefitting from the digitisation of construction, and leveraging available technologies to streamline the design and construction process.



GLOBAL INSIGHT

Build-to-rent: key considerations in efficient design and delivery

Successful BTR schemes are designed and built with the tenant in mind, and look to maximise the tenant experience at every opportunity, as well as focusing on scale development and institutional owners.

In Linesight's in-depth research, published in November 2018, some of the key considerations required in the efficient design and delivery of BTR were discussed in detail, as summarised in the below extract.

Key design and cost considerations

In March 2018, the DHPLG issued the 'Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities', which included a number of guidelines that positively impact the viability of BTR, some of which are outlined below.

Careful consideration should be given to unit mix when planning for the exit strategy. Furthermore, if the building is designed using the new BTR Design Guidelines, the development must remain under the ownership and operation of an institutional entity for a minimum of 15 years, with no individual units being sold or rented separately by legal agreement.

Design, layouts, efficiency and unit mix

The recent Design Guidelines for BTR provide no restrictions on unit mix, enabling the developer to tailor it as required, in order to maximise return. The scheme must be designed with an efficient net to gross area, with a density and mix at an optimum level for the target market to maximise long-term returns.

The maximum of 12 apartments per stair/lift core per floor does not apply, subject to overall design quality and compliance with building regulations. The approximate cost per core servicing 12 units over six storeys is circa €200,000-€250,000, and if reduced can result in significant savings to the project budget. The requirement that the majority of all apartments in a proposed scheme exceed the minimum floor area standards by a minimum of 10% does not apply to BTR schemes. This will have a significant impact on the gross floor area of the building and will result in more efficient design and cost per unit. At least 33% of units should be dual aspect in central and urban locations. In suburban

or intermediate locations, there should be a minimum of 50% dual aspect apartments in a scheme.

Amenity space and resident support services

BTR is a product tailored around lifestyle, with a strong emphasis on brand and the amenities that the building provides. Resident services and facilities are a key component within a BTR scheme, and should be given due consideration.

In accordance with the Design Guidelines, residents must have access to laundry, concierge and management facilities, as well as maintenance services and waste management. Flexibility applies in terms of the private amenities required per unit, on the basis that alternative compensatory amenities (such as gym facilities, shared TV/lounge areas, work/study spaces and multi-purpose function rooms) are available within the development.

Facilities must be appropriate to the intended rental market, and evidence must be given at planning stage to support the level of amenities being provided. This is influenced by the physical characteristics of the site, location, price points and rent levels, proximity to local services and other BTR schemes, as well as the demographics of the prospective tenants.

The use of cutting-edge resident portals and mobile apps is also becoming more commonplace. Linesight's experience indicates that between 5% and 10% of net

unit areas are being designated to amenity space, at a cost of approximately €8,000 - €10,000 per unit on a large scheme.

Parking and basements

Considerable savings can be achieved by default to minimal or significantly reduced parking. The potential to omit a basement from a scheme is a game changer. Carrying out a cost-benefit analysis of parking options is a key requirement of successful residential and BTR design.

Planning regulations have relaxed the requirements for parking numbers on the basis of the BTR development being centrally located and/or close to public transport services.

Surface parking is very economical to provide, but it takes up valuable land space that could be developed for an alternative use or provide open public space to meet planning requirements. Undercroft parking is more economical than basement parking.

Linesight's experience indicates that between 5% and 10% of net unit areas are being designated to amenity space, at a cost of approximately €8,000 - €10,000 per unit on a large scheme.

Ground conditions

Failure to fully understand the ground conditions at the outset is one of the single biggest errors that a developer can make on any project. Overseas disposal of contaminated materials can cost in the region of €100-€150 per tonne. Diligent ground investigation reports will provide valuable knowledge and identify risks, if carried out early in the project planning.

In addition to this, the ground conditions influence key costs, such as the requirement for piling, the requirement for perimeter support and substructure design.

In summary, the BTR sector in Ireland is an area of significant opportunity for the relevant stakeholders, as a well-established asset class internationally and just at the embryonic stages in Ireland. While there are a number

of key considerations to be made, Linesight is confident that the BTR sector will continue to grow and evolve over the coming years. Fundamentally, we are seeing more and more units delivered into the market. Linesight is currently working on over 7,000 BTR units in the Greater Dublin Area alone.



Stephen Ashe,
Director



Paul Brady,
Associate Director

Other key considerations:

There are a multitude of other considerations to be made relating to BTR, listed below:

- Frame design and modular construction
- Façade design
- Balcony design
- Bathroom pods
- Central heating plant versus localised
- Underfloor heating versus radiators
- Sprinkler installation
- Internal fit-out and FF&Es
- Abnormal siteworks costs and large-scale infrastructure projects
- Site development works
- Ease of maintenance over the lifetime of the building
- Shared accommodation specific costs - cluster format
- nZEB
- Part V
- Life cycle costing and value management
- Procurement options
- Market Inflation





GLOBAL INSIGHT

How is sustainability impacting the built environment?

Sustainability is the process of maintaining change in a balanced environment, in which the use of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony, and enhance both current and future potential to meet human needs and aspirations.

For many in the field, sustainability is defined in terms of three interconnected domains or pillars: environment, economy and society. Economy and society are constrained by environmental limits.

Sustainable building (aka green construction or green building) refers to both a structure and the application of processes that are environmentally responsible and resource-efficient through a building's life cycle. This extends from planning to design, construction, operation, maintenance, renovation and demolition.

There are several associated built environment goals; to design future projects to minimise energy and water consumption, as well as wastewater production; incorporate sustainable design principles into capital investment decisions; base capital investment decisions on life cycle cost, including the cost of known future expenditures.

Positive impacts

Sustainability in buildings refers to their ability to be environmentally responsible throughout their life cycle, from planning and design through to operation and maintenance.

It is based on energy use, water use, indoor environmental quality, material selection and the building's effect on the site, while also addressing the impact on human health and the environment. It does this by:

1. Reducing waste, pollution and degradation of the environment
2. Efficiently using energy and water, along with other resources
3. Protecting occupant health and productivity

Ultimately, and intuitively, a greener and more efficient design and operation has less impact on the environment, as well as minimising harmful effects on human health and the environment.

Beyond new developments, existing buildings need to be upgraded to be more energy efficient and use renewable energy sources to lower

greenhouse gas emission.

The economic and social benefits associated with green building, as listed below, are also significant.

Economic benefits:

- Reducing operating costs
- Improving occupants' productivity
- Creating market for green products

Social benefits:

- Improving quality of life
- Minimising strain on local environment
- Improving occupants' health and comfort
- Promote a better planet
- Sustain environment without disrupting natural habitat

LEED and WELL certification:

LEED is the most widely used green building rating system in the world, with a LEED-certified building offering considerable cost savings to owners, in terms of maintenance costs over the building's life cycle. LEED sustainability standards for design have now become a part of architectural design on a standard level, leading to the next level of occupant wellbeing, with the new WELL Building Standards.

WELL is a performance-based system for measuring, certifying and monitoring features of the built environment that impact human health and well-being through seven concepts: air, water, nourishment, light, fitness, comfort and mind. The below seven concepts are pillars upon which sustainability relates to the human side of a building:

- Air
- Water
- Nourishment
- Light
- Fitness
- Comfort
- Mind

In addition, innovation is a key consideration, in terms of promoting the continuous advancement of WELL and allowing project teams to achieve higher certification levels. There are five innovation features that each count as an optimisation for any of the project types.

nZEB

The Irish construction industry is facing into somewhat unknown territory in the coming years as a result of the EU Energy Performance of Buildings Directive. Under this Directive, all new buildings constructed in member states will be near zero energy buildings (nZEB) by December 31, 2020, and new buildings owned and occupied by public authorities must be nZEB after December 31, 2018.

WELL is a performance-based system for measuring, certifying and monitoring features of the built environment that impact human health and well-being through seven concepts: air, water, nourishment, light, fitness, comfort and mind.



This Directive has since been incorporated into the current Irish Building regulations. As the industry is still at the very early stages of nZEB, we maintain that until such time as the current projects are further progressed, analysed and completed, the true cost of construction for achieving nZEB on a variety of projects will not be fully known. It is envisaged that it will be 18-24 months before the true cost data is realised.

One of the key design parameters that will significantly impact cost is the requirement to achieve 20% of a building's energy requirements through renewables. The most commonly adopted renewables to achieve the nZEB requirements on projects to date are photovoltaics (PVs), air-source heat pumps (ASHPs), and combined heat and power (CHP). These renewables, combined with the utilisation of LED lighting, low specific fan power (SPF) on ventilation equipment such as air handling units (AHUS), and an efficient building envelope, seem to be the key elements that are being scrutinised and attested when endeavouring to

achieve nZEB requirements. The industry has made significant progress prior to the roll out of nZEB. International clients now all demand their properties to be LEED Gold certified as a minimum, with many now targeting Platinum. This will significantly close the gap in achieving nZEB.

In summary, the age-old adage that the smallest changes can make a big impact rings true in the case of sustainability – the seemingly small measures implemented in green building processes are making all the difference. However, the importance of education, training, and the encouragement of occupant to implement best management practices for optimal sustainability cannot be underestimated.



Frances Graham,
Project Director

International clients now all demand their properties to be LEED Gold certified as a minimum, with many now targeting Platinum. This will significantly close the gap in achieving nZEB.



GLOBAL INSIGHT

How capital projects are responding to Life Sciences market trends

Global healthcare spending continues to increase dramatically and is projected to reach in excess of US\$10 trillion by 2022.

This investment is 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.

Contrary to popular perception, the Life Sciences sector covers a lot more than just pharmaceuticals. Beyond the top-tier pharmaceutical firms we all hear about, the core Life Sciences subsectors include medicine manufacturing, electromedical apparatus manufacturing, medical equipment and supplies manufacturing, and biological and chemical research and development.

In this diverse and highly-specialised group, one thing these businesses have in common is major capital requirements. Here are five trends that are shaping today's Life Sciences sector — and how they're affecting associated capital projects.

Cost is key

The life sciences industry as a whole continues to experience mounting pricing pressures, increasing access to drugs globally, growth in new innovations and therapies, and uncertain trade policies.

These forces are causing the industry to become more cost-focused. This increased focus is particularly evident in the industry's capital investments, which tend to be much more targeted than they were just a few years ago. For instance, the rush to build more factories has been replaced by a more patient approach, wherein companies are waiting until they have a new product that has gone through all phases of clinical trials and all levels of regulation before they commit to building a new facility.

Outsourcing non-core responsibilities

The outsourcing of key responsibilities is also becoming more common. For example, many life sciences companies have capital projects planned all over the world, meaning they will be spending a tremendous amount of capital over the next few years. However, these companies are simultaneously re-thinking their role in project delivery, choosing to focus more on the core operations of researching, manufacturing and selling their products. So, while their construction is increasing in number and size of projects their staffing is actually going down. This trend is most obviously manifested in the smaller in-house engineering and construction staffs we see today.

That doesn't mean that life sciences companies are eliminating their in-house capital management personnel entirely. Rather, many companies are moving to a hybrid execution model, leveraging a combination of internal and external resources. Overall though, the trend is clearly towards outsourcing project management responsibilities.

Expanding regulations

Regulations in the manufacturing of pharmaceutical products will continue to rise, as global regulators share information across borders and the entire industry relentlessly pursues product safety.

People are ingesting what is being manufactured, and the facility, its equipment, products and even the air quality in the rooms

have got to be safe. Meeting these requirements means going through extensive testing and documentation. The process of commissioning and qualifying a facility to demonstrate safety and compliance to governmental regulatory agencies is already time- and resource-intensive, and as regulations continue to increase, so will this phase of a project.

New drugs and biologics

Another trend is heavy investment on behalf of many pharmaceutical companies in the research, development and manufacturing of biologics and other new cancer drugs.

Spending on new cancer drugs alone is expected to grow by more than 50% over the next few years, and the production of biologics, in particular — drugs that are derived in some way from living organisms, and have revolutionized the treatment of many cancers and chronic conditions such as multiple sclerosis, arthritis and rheumatoid arthritis, Crohn's disease and other auto-immune diseases — is expected to skyrocket over the coming several years.

Companies are waiting until they have a new product that has gone through all phases of clinical trials and all levels of regulation before they commit to building a new facility.

However, biologics and cancer treatments are expensive and time-consuming to research, test and produce, often taking many years and billions of dollars of investment before they hit the market.

Industry consolidation

Mergers and acquisitions continue to dominate headlines in the Life Sciences sector, with big pharma hunting for the next generation of medicines against declining returns on R&D. There has already been a large amount of consolidation in the industry, and experts are projecting that the larger mergers are likely to settle down. Consolidation among mid-sized manufacturers, however, especially among companies looking to take the lead in next-generation therapies or acquire producers that complement the company's core, will be the trend.

The life sciences industry continues to adapt and evolve to market conditions, a growing

global population, increased regulations, stiff competition and various cost pressures. In this complex and dynamic industry, capital projects are a microcosm of healthcare's broader challenges.



Nigel Barnes,
Director



Jeff Peragallo,
Director

Mergers and acquisitions continue to dominate headlines in the Life Sciences sector, with big pharma hunting for the next generation of medicines against declining returns on R&D.



GLOBAL INSIGHT

How to build a data centre and keep the lights on

Data centres have gone from being almost hardly noticed to one of the most important pieces of infrastructure in the global digital economy. They host everything from financial records to Netflix movies.

As a result, data centres have become a multibillion-dollar industry, precisely because their role is so important. Designing, building and supporting data centres requires strategic planning and careful construction in order to keep clients' mission-critical data secure and available 24/7 - regardless of what it is.

There are many factors which must be addressed when designing and building a data centre. For starters, it's all about power - finding it and managing it.

Finding the power

Data centres require an incredible amount of electricity to operate and this electricity often requires the direct intervention of regional utilities in order to work. Energy infrastructure needs to be shifted, power lines need to be run and redundancies need to be established. The most secure data centres have two separate feeds from utilities, so that if something happens to one of the lines — like an unexpected squirrel attack — the centre doesn't immediately lose all of its functionality.

Coordinating that takes a lot of effort and often the clout of a large corporation in order to get anywhere. But even the big players need to check the policies of utilities and local governments in any area in which they are planning on building a data centre; they do this to ensure they will be able to establish those inputs. Because without that redundancy, data centres can be vulnerable to power outages that could result in not only the loss of critical customer data but also any negative impact on the brand of the data centre owner.

The price and availability of that power are also incredibly important considerations because a data centre is going to be a large draw at all times. With a significant amount of power going into computing, and even more

going into cooling computers down, it's no surprise that data centres are using more than 1.8% of the power of the entire United States. Again, companies planning data centres need to work with local governments and utilities for subsidies and deals that can make that energy easier to afford.

Keeping the lights on

Much of the support infrastructure in data centres is focused on making sure that their power cannot be interrupted. Uninterruptible Power Supplies (UPS) -powerful batteries that can provide power almost instantaneously- are critical for this effort.

They ensure that during an emergency any power loss is returned in milliseconds, instead of seconds or minutes that could result in the loss of data or functionality for thousands of computer systems. But most UPS systems don't serve as back-up power for long. In other words, they simply don't have the kind of power storage capacity that it takes to power a data centre for more than a matter of minutes. In order to keep data centres fully running without utility power, data centre operators usually turn to large diesel-powered generators, stocked with 24-48 hour of fuel at all times.

All of this redundancy is required because of the incredible amount of energy that data centres use. But the other key factor in a data centre's success is the efficiency with which that energy is used.

That starts with the organisational strategy used for cooling.

Staying cool

Data centres are carefully planned structures. Every square foot needs to contribute to the wider goals of powerful and efficient computing.

You can't just slam server racks together because their placement needs to fit in with the cooling system used to prevent overheating.

Data centres run hot, and today's advances in High-Performance Computing (HPC) mean that they are using as much as five times more energy than they used to. This makes a cooling solution one of the most important decisions that a data centre operator has to make.

By far the most common data centre cooling method involves airflow, using HVAC systems to control and lower the temperature as efficiently as possible.

In order to keep data centres fully running without utility power, data centre operators usually turn to large diesel-powered generators, stocked with 24-48 hour of fuel at all times.

Rise of liquid cooling

While liquid cooling has historically been the domain of enterprise mainframes and academic supercomputers, it is being deployed more and more in data centres. More demanding workloads driven by mobile, social media, AI and the IoT are leading to increased power demands. As such, data centre managers are scrambling to find more efficient alternatives to air-based cooling systems.

The liquid cooling approach can be hundreds of times more efficient and use significantly less power than typical HVAC cooling systems. But the data centre market is still waiting for some missing pieces of the puzzle, including industry standards for liquid-cooling solutions and an easy way for air-cooling data centres to make the transition without having to manage two cooling systems at once. Still, as the growing need for more efficient cooling shows no signs of slowing, liquid cooling will likely become the norm in years to come.

Building a data centre is about executing an extremely complex plan, with input from experts in wide-ranging fields. Firms thinking about building their own data centre should consult with experts who have dealt with their specific difficulties before to ensure that all of these core areas can be built without incident.

Modern data centres are planned down to the last wire on Building Information Management (BIM) applications and similar software, so that the outcome is as guaranteed as possible before the first wall is erected. Data centres are key arteries of the digital economy, funneling the data of the modern economy between consumers, companies, governments and citizens. That takes a lot of energy!



Eoin Byrne,
Associate

The data centre market is still waiting for some missing pieces of the puzzle, including industry standards for liquid-cooling solutions and an easy way for air-cooling data centres to make the transition without having to manage two cooling systems at once.





GLOBAL INSIGHT

Workplaces of the future

The commercial environment has been transformed from the office-based workplace of the past to the more open and collaborative space we see today. And now, we are beginning to see another transformation.

According to Gensler, the workplace of the future requires a profound change in how design supports its varied forms, meaning the design industry will have to set aside its old ways to look at the working environment holistically.

There are significant changes happening in the workplace, with a younger workforce, surge in innovation-driven businesses, global transition towards working across geographic and demographic markets, and economic and cultural shifts are becoming the new norm.

The new generation of workers is looking for work spaces suited to conversation among a few people, and for a balance between focus and the need to interact. There is a need now for the office workspace to be reshaped to interact with the community, and for smarter spaces that attract young, creative people.

Redefining standards in space utilisation

Soaring real estate costs are driving higher density and greater utilisation of space. Many large companies are now forming global standards of office spaces, that are 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.

According to the Ted Moudis & Associates 2018 workplace report, the square footage per person is staying the same; however, the number of offices has decreased, and the number of alternative seating continues to rise.

A strong focus on amenities and well-being

Companies are placing more value on creating alternative space for focus, meetings and amenities for employees. There is an increasing amount of space being dedicated to mental and physical well-being for their staff. This amenities focus is driving activity in the workplace and encouraging movement throughout the space. The Internet of Things is allowing integration and accessibility of technologies

across multiple platforms, to facilitate agility.

Design that supports mental and physical restorative opportunities throughout the day to improve morale and increase productivity is a must. Companies are now more focused on creating spaces that reflect the brand and philosophy of the company.

Working from home

Working from home is a perennial debate - some companies embrace it and some abhor it. In 2013, Yahoo banned employees from working from home, stating "some of the best decisions and insights come from the hallway and cafeteria discussions, meeting new people, and impromptu team meetings". Speed and quality are often sacrificed when we work from home. Richard Branson from Virgin responded, "it was a backward step in an age when remote working is easier and more effective than ever". Google noted that as few as possible people work remotely, noting that "there is something magical about sharing meals, spending time together and noodling ideas".

Working from home is more common among full-time workers over 55, and those with dependent children. It encourages employees' work/life balance cutting down on commuting time. Although there is the fear that not being seen in the office may cut down on promotion opportunities, pay increases and lower performance evaluations. And so, the debate goes on, with no clear winner. Although, with the pressure on higher density, the

greater utilisation of space and AI innovation, perhaps the pro-working-from-home lobby may win out in the end.

Private space versus open-space interactivity

The pursuit of efficiency is leading firms which were office-heavy to opt for a more shared, open, team-based workspace, and with paper disappearing, libraries, records and administrative functions are being consolidated to reduce the footprint. Support spaces are being consolidated to allow more space for amenities. Activity-based work environments provide new amenities and a wider range of workspace types, while reducing the total area of occupancy. The forecast is that there will be an increase in semi-enclosed and small focus rooms, less executive suites, an increase in USF (usable square footage) per work seat in activity-based work environments, and an increase in both employer and building-provided amenity and wellness spaces.

According to the Ted Moudis & Associates 2018 workplace report, the square footage per person is staying the same; however, the number of offices has decreased, and the number of alternative seating continues to rise.

More visibility and transparency with open perimeters, transparent walls and low partitions are the new norm, providing a more inviting and connected environment. Informal collaboration spaces and alternative settings are helping to provide privacy zones in place of private offices.

Employees are sitting in open spaces with greater choices of where and how to work, including benching and sit-to-stand desks. On the other hand, there is a growing number of people and companies who are now thinking that the old days of the private office was not so wrong after all, allowing the closing of the door to avoid interruptions. Open office space has taken that decision away from people, and even with headphones, it is tough to avoid distractions.

Ultimately, people are different. They come in at different times, have diverse requirements, socialise at different times and have their most productive hours at different times. So, what is the solution?

There are several ways of making the environment fit all tastes, with

WorkDesign Magazine proposing the following key considerations for the workplace of the future:

- Flexibility is paramount
- Technology is the ultimate enabler
- Everything is connected, with fast, smart and integrated networks
- Personalization is prioritised
- Environmental threats necessitate change – Buildings & transportation need to reduce impact on environment and change to adapt to global landscape.

In summary, the workplaces of the future are a work in progress, with no shortage of ideas. It will be a rollercoaster ride to see what the future holds, but it is an exciting time to be involved in the commercial fit-out world.



Damien Coffey,
Director

More visibility and transparency with open perimeters, transparent walls and low partitions are the new norm, providing a more inviting and connected environment.



A portrait of Su Zen Kong, a woman with dark hair and glasses, smiling. The image is partially covered by a large, diagonal pink graphic element in the bottom right corner.

“The opportunity to work overseas in multiple locations is very appealing for me. There’s also a really good social side to Linesight, and I’m interacting with highly experienced people within our team on a day-to-day basis, as we work together on some of the biggest projects in the cities around us.”

Su Zen Kong
Cost Manager

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.



Cost Management

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



Program Management

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



Project Controls

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



Procurement

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



Supply Chain Management

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



Health and Safety

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



Consultancy

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



Planning and Scheduling

Controlling every aspect of a project to ensure maximum performance leads to long-term success.

Our values

Over the years we have developed a way of working that ensures 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 close-up portrait of a young woman with long brown hair, wearing round glasses and smiling. She has freckles on her nose and cheeks. The image is overlaid with a large, semi-transparent pink geometric shape that divides the frame diagonally. The text "Our culture" is centered in white over the lower part of the image.

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.

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.



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.



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.



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.



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.

Our impact

Corporate Social Responsibility is an integral part of Linesight. We are committed to having a positive impact on the people, communities, businesses and environments around us, and this shapes how we do business.

In the workplace, we treat all team members with dignity and respect, to prioritise their well-being and to ensure that their voices are heard in key business discussions.

In the marketplace, we maintain our ethical approach to doing business. We focus on fair operating practices, sustainable supply chains and forging strong, enduring business relationships. In terms of the environment, we adopt and promote sustainable practices, and influence those of our clients, suppliers and contractors. In recent years, we have achieved substantial improvements in energy consumption (6% reduction in gas and electricity), paper usage (65% reduction) and recycling (20% reduction in overall waste volumes and a 15% increase in the recycling rate).

We encourage community growth and development wherever we operate, while always working to eliminate any practices that may negatively affect the public interest. We are committed to the

communities in which we work, and to sharing our expertise for the benefit of the local, national and international communities. Early education is a cause that we are particularly dedicated to, as we fervently believe in the importance of 'broadening horizons' for all children. Our teams are currently working with and supporting a number of charitable organisations that are doing extraordinary work throughout Ireland.

The Irish Youth Foundation (IYF)

The IYF is a not-for-profit, privately-funded organisation that develops projects and programmes for children living in vulnerable and at risk circumstances. It strives to provide these young people with a safer, happier start to their lives, by providing financial support to local, grassroots projects run by passionate people who understand these young people and the challenges they are faced with.

Once again, the IYF is the lead charity partner for Linesight

in Ireland for 2019. Together, we launched the Maths Whizz programme in late 2018, which is an innovative numeracy initiative for children living in neglected areas. Using a virtual maths tuition programme tailored to meet the unique needs of every child, the programme is being implemented by Camara Education to over 250 children in Dublin, with volunteers from Linesight supporting its delivery. The goal is to increase every child's maths age and this is for both students who are struggling with maths, and those who are excelling.

We are endeavouring to have a measurable impact on these children's numeracy education, and the results to date have been very encouraging. Across the three locations in which we have rolled the project out, an average maths age improvement of seven months has been seen, in only five months. We are very excited to develop this further throughout 2019 and will keep you updated on the progress of the young people.



Some of the other organisations that we are supporting include:

- The Aisling Project
- Ringsend College
- The Early Learning Initiative
- Business to Arts
- Simon Community
- Ronald McDonald House
- The Butterfly Club
- Shanagolden Community Council
- Foynes and District Community Council
- Rathkeale Community Council
- St. Senans GAA
- Kildimo Community Council
- Cancer Care West



2018 A year in review



JANUARY

We launched our Purpose Built Student Accommodation (PBSA) Report at a private symposium in Dublin.



FEBRUARY

Patrick Ryan, Managing Director USA East Region, joined the panel at the Enterprise Ireland Leadership 4 Growth Programme, at the Consulate General of Ireland in New York.



MARCH

Celebrating International Women's Day across the globe. Our colleagues in Dubai showing their creative side!



JULY

Paul Brady took part in the Etape Du Tour, an annual amateur race on one stage of the Tour de France.



AUGUST

Richard Joyce, Managing Director, Linesight Ireland, celebrated 30 years in Linesight!



SEPTEMBER

14 members of the Linesight team from around the globe took on the formidable 700km Paris2Nice cycle, in aid of the Irish Youth Foundation.



APRIL

Shay Dahan, Director of our Israel operations, ran 500km across Israel in eight days to raise funds for Krembo Wings, a youth movement for children with special needs.



MAY

Des O'Broin became the fifth member of the Linesight team to be appointed President of the Society of Chartered Surveyors Ireland (SCSI).



JUNE

The appointment of our new Country Director for India coincides with the opening of our new office in Mumbai.



OCTOBER

Linesight teams from Dublin, New York and Singapore took on the Run in the Dark challenge in aid of the Mark Pollock Trust.



NOVEMBER

We marked the launch of our Build-to-rent (BTR) research report, with a breakfast briefing in Dublin that drew in over 70 high-profile industry stakeholders.



DECEMBER

A number of our colleagues celebrated passing the APC to become Chartered Quantity Surveyors.

Working with you wherever you are

With staff located across Europe, MENA, Asia Pacific and the USA, our reach is truly global. We have delivered 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

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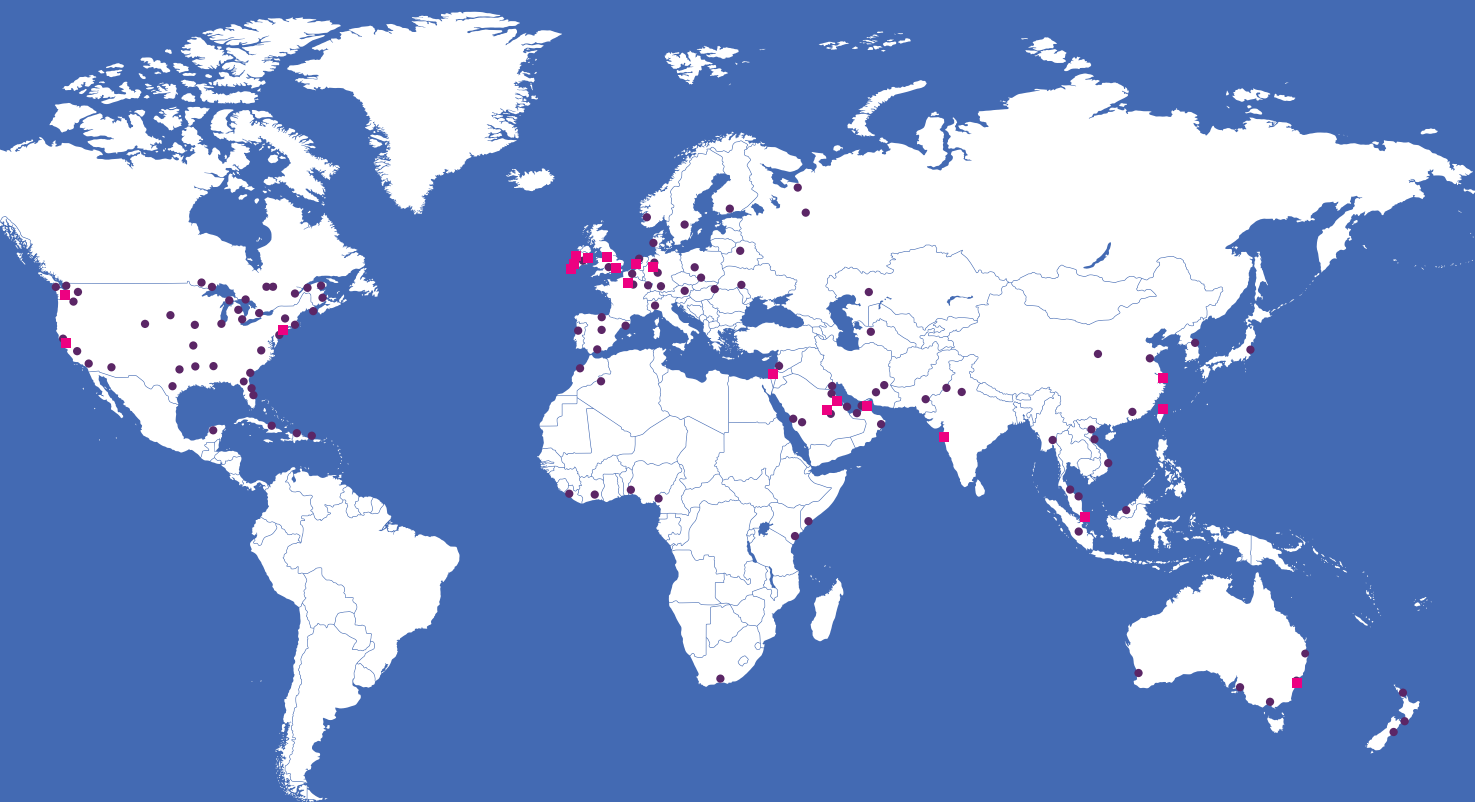
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RKD

Linesight services:
Cost Management
and Project Management



Acknowledgements

A special thank you to all those involved in this year's publication.

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