Offsite and Modular Building Market Research

Industry Overview

On a macro level, construction output in the UK is anticipated to grow at an average of 1.7% annually between 2017 and 2021. Wales and the South West have the highest growth rates forecasted (6.2% and 3.1% respectively), due primarily to the start of new nuclear builds at Wylfa Newydd and Hinkley Point. Major infrastructure projects such as these (and HS2) will account for 45% of the forecasted construction output growth across the UK1.

Infrastructure’s share of total construction output is also predicted to grow from 13.7% in 2016 to 16.3% in 2021, with private housing being the next best performing sector over the period (average growth anticipated at 2.2%)2. However, importantly for all forecasts at the moment, these predictions are made against ongoing political and economic uncertainty. The impact of Britain’s decision to leave the European Union on construction remains a significant unknown, both in terms of labour and output. Positively, the government continues to provide committed support to large-scale infrastructure projects and improving the supply of housing.

Forecasts from the Construction Industry Training Board suggest that the ‘factory-construction’ sector may benefit from higher exports on the back of weak sterling however may see a slower domestic demand growth as a result of uncertainty. This however sits contrary to the Government demand to stimulate greater use of modern methods of construction (MMC) to boost productivity levels within construction, particularly housebuilding. Having fallen behind the rest of the G7 advanced economies3 the government is driving a number of initiatives to boost productivity. The recent “Fixing our broken housing market”4 report outlines government ambitions to stimulate greater use of homes constructed offsite; achieved through a number of routes including: the Accelerated Construction programme, the Home Builders’ Fund, considering MMC within the planning system and considering the opportunities for offsite firms to access innovation and growth funding and support.

The benefits of offsite construction (speed, quality, cost – labour/capital/economies of scale, waste and safety) are well established and businesses are better able to publicise these with ever increasing evidence to support their claims. Offsite and modular, as well as new techniques and materials, undoubtedly have the potential to generate greater output per hour, boosting productivity across the construction supply chain.

One review of the industry by AMA Research5 reports that following a fall in demand between 2008 and 2012, demand for offsite building systems has increased and estimated that in 2015 market growth was around 10% compared to the previous year. This growth is underpinned by the improved economic situation, increased levels of activity in the housebuilding, hotel, student accommodation and education sectors. From undertaking the provider analysis work (provided below) it was clear that the majority of companies reported directly experiencing this growth and in many cases were increasing activity further in 2016.

It was also clear from reviewing the list of providers that the range of services and offerings within MMC is vast, from simply built relocatable units offered by hire firms, to customisable shipping containers, to large scale residential projects (1,000+) modules.

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1 Construction Industry Training Board and Experian, Industry Insights: Forecasts 2017-2021
2 Construction Industry Training Board and Experian, Industry Insights: Forecasts 2017-2021
3 Office for National Statistics, International comparisons of UK productivity (ICP) 2015, April 2017
4 Department for Communities and Local Government, Fixing our broken housing market, February 2017
The size of the projects which adopt MMC is ever increasing. In November 2016 the world’s tallest modular apartment building opened in New York City, with 461 apartments across 32 floors (picture right). The construction process was not without difficulties however its developer, Forest City Ratner Companies, built 90% in its factory at the Brooklyn Navy Yard6,7. The Modular Building Institute estimates that modular construction in the US during 2014 held about 3% of the market share of new construction with ambitions to double this by 20208.

Much of the recent modular/offsite construction output appears to have been for mass market or ‘value’ products, including budget hotels, student accommodation and housing associations however the process can clearly have much wider application. Reports from a number of sources suggest that many of the larger housebuilding players have been monitoring closely and making strategic investments into modern methods of construction. For example, in 2016, L&G launched its new 550,000sq ft modular building housing factory9, and the China National Building and Materials Company signed a joint venture with a major UK housing association which would lead to the building of six factories10.

One 2016 newspaper article reported that in 2015 just 142,890 homes were built, well below the Government’s target of 200,000. Offsite/modular may be a key part of solution for achieving higher volumes however, Mark Farmer (government and Construction Leadership Council advisor) estimated that at present just 15,000 homes were constructed off-site a year (alongside schools, student accommodation and prisons), so it would be starting from a relatively low base. Looking forward however, 67% of 230 house-builders surveyed felt off-site construction would play a key role in new-home supply11.

In April 2017, it was announced Aecom had been contracted to deliver 3,000 modular homes as part of the £3.5bn regeneration of Silvertown Quays in east London. The developers are now in the process of drawing up plans that include a modular construction facility at the site with the capacity to create 500 homes per year from 201812.

Looking locally, Cornwall and Devon have significant housing backlogs and with a rising population, decreasing average household size, large social housing waiting lists, and greater competition for housing (with second/holiday home owners), the area needs more homes. A number of large-scale developments are now coming to fruition that demonstrate this need e.g. Nansledan near Newquay (4,000 homes) and the recently approved West Carclaze (1,500 homes)13.

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7 www.wired.com/2016/11/cities-can-learn-worlds-tallest-modular-building/
8 www.modular.org/HtmlPage.aspx?HtmlPageId=1
9 www.building.co.uk/aecom-wins-3000-modular-homes-job-at-silvertown/5087171.article#
10 www.telegraph.co.uk/property/uk/how-a-home-made-in-seven-days-could-help-solve-the-housing-crisis/
11 www.telegraph.co.uk/business/2016/12/19/chinese-state-owned-construction-firm-signs-25bn-deal-build/
Skills shortages remain another challenge to the construction industry, yet another key benefit of offsite construction is the reduced site labour requirement and its associated cost. This to some extent may again be a driver for developers to look towards offsite construction. For context, Hinkley Point C will be one of the South West’s largest ever infrastructure projects, employing over 25,000 during its construction period alone. A coordinated effort has been established across the region to train additional workers in order to backfill this demand, however it is clear this will remain a significant additional strain on the construction labour supply.

Looking forward, AMA Research forecast that a number of elements weigh in the favour of offsite construction namely, the continuing drive towards sustainable development, growth in the need for social and affordable housing and larger-scale projects such student accommodation, the demographic shift to more but smaller households and the growth of budget hotels etc.

Recommended Sources

The list below provides a summary of some sources used during this research and which may be useful going forward. The list includes a number of relevant sector bodies who provide regular, free-to-access newsletters.

<table>
<thead>
<tr>
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<th>Comment</th>
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<tbody>
<tr>
<td>AMA Research (<a href="http://www.amaresearch.co.uk/index">www.amaresearch.co.uk/index</a>)</td>
<td>If further market research is required then AMA are a research agency focussed specifically on building and construction industries. They have published reports (available for a fee) as well as undertake bespoke research. It is possible to receive news and alerts from them by signing up to their newsletter (<a href="http://www.amaresearch.co.uk/newsletter-signup">www.amaresearch.co.uk/newsletter-signup</a>).</td>
</tr>
<tr>
<td>BIM+ (<a href="http://www.bimplus.co.uk/news/">www.bimplus.co.uk/news/</a>)</td>
<td>Active news source for BIM and related stories. Provide a free to access newsletter. Sign up via the website with email.</td>
</tr>
</tbody>
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14 Construction Skills Network, Blueprint for Construction, 2015-1029
15 Wavehill, Somerset Employer Skills Survey, January 2015
16 EU Skills Panorama, Construction, April 2015
17 UK Commission for Employment and Skills, Sector Skills Assessment: Construction, October 2012
18 UK Commission for Employment and Skills, Sector Skills Insight Construction, July 2012
19 The Steel Construction Institute, Value and Benefits Assessment of Modular Construction, 2000
20 www.edfenergy.com/energy/nuclear-new-build-projects/hinkley-point-c/opportunities
| **Build offsite** ([http://www.buildoffsite.com/](http://www.buildoffsite.com/)) | Buildoffsite is a UK based business organisation that promotes:  
- increased use of offsite methods  
- innovation in the development of offsite solutions  
- more effective promotion of business and project benefits by offsite  
- improved understanding by clients of the benefits of offsite  
- education and skills development in the use of offsite solutions  
- debate, discussion and knowledge transfer relating to offsite  

Buildoffsite is a membership organisation with members from a wide range of UK and International clients, supply, professional services and academic organisations. Membership is costly (£5,000 for small businesses) but there is a newsletter available ([http://www.buildoffsite.com/newsletter-sign-up/](http://www.buildoffsite.com/newsletter-sign-up/)). |
| **Construction News** ([www.constructionnews.co.uk/](http://www.constructionnews.co.uk/)) | Construction News is a UK's leading source of construction industry news, market intelligence and forecast and trend data. Annual subscription is £205. |
| **Offsite Hub** ([www.offsitehub.co.uk/home](http://www.offsitehub.co.uk/home)) | A body devoted to connecting the UK offsite industry. Host events, produce magazine and do have a membership programme. Also provide a free to access newsletters. Sign up via website using name and email. |
| **Offsite Construction show** ([offsiteconstructionshow.co.uk/](http://offsiteconstructionshow.co.uk/)) | Two day event scheduled to take place on 11th-12th October at ExCel London. Boasts exhibitions from over 100 companies and product groups. Registration is not yet open, but it is possible to sign up to receive alerts. |
| **PropertyWeek** ([www.propertyweek.com/](http://www.propertyweek.com/)) | Property Week is the leading news magazine in the commercial and residential property market. Contains numerous stories relating to modular, offsite etc.... Possible to subscribe for a fee (online package= £199). Can also be followed on Twitter, Facebook and LinkedIn. |
| **The Modular & Portable Building Association** ([www.mpba.biz/](http://www.mpba.biz/)) | MPBA is a membership organisation which seeks to act as the voice of the modular industry. Founded in 1938 the organisation has 140 full members (searchable directory) and is running 11 events in 2017. Membership fees are £840 per annum. It is also possible to follow the group via LinkedIn. ([www.linkedin.com/company/the-modular-&-portable-building-association](http://www.linkedin.com/company/the-modular-&-portable-building-association)) |
| **The Structural Timber Association** ([www.structuraltimber.co.uk/](http://www结构性timber.co.uk/)) | The STA is currently the country's leading timber organisation, which represents a wide membership of businesses and people involved in construction using engineered timber, from across the UK. The site contains a searchable directory of members. It is also possible to subscribe to the organisations mailing list. |
| **Google Alerts** ([www.google.co.uk/alerts?hl=en&tab=33](http://www.google.co.uk/alerts?hl=en&tab=33)) | With a google account it is possible to set up google alerts. This tool allows you to be fed news stories which contain specific search terms as defined by you e.g. ‘Modular building’. Alerts are quick to setup and it’s possible to select the frequency with which results are sent to your email. |
Provider Analysis
The table below provides a simple summary of some of the existing businesses operating in the Modular/Steel Frame/SIPs market. It is important to stress that this list is not exhaustive and given the industry growth, new providers are likely to be entering the market fairly regularly. Larger manufacturers were prioritised during the research. One recommended source for a list of additional businesses that may be of interest is The Modular & Portable Building Association. Businesses included below are listed in alphabetical order.

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<tr>
<td>AV Danzer</td>
<td>Housing</td>
<td>AV Group Ltd was established in 1986 as a hire company based in Cheadle, Stockport. In 1995 AV Group opened its first manufacturing plant in Manchester and expanded to include the sale of modular buildings as well as its growing hire fleet. Today the manufacturing has been separated to form Danzer Ltd manufacturing bespoke steel anti-vandal units and modular buildings from its extensive facility at Langley Mill, Nottingham. The hire fleet now has over 4,000 items across its 3 main depots. Specialising in larger projects where units are stacked up to 3 high. AV Group’s depots in Manchester, Nottingham, and Essex serve the whole of England and most of Wales.</td>
<td>AV Group T0= £6.8m (growth from £5.8m previous year) Staff= 76</td>
<td>Yes</td>
<td>Modular Manufacturing Nottingham NG16 4EX</td>
</tr>
<tr>
<td>Barratt Developments</td>
<td>Housing</td>
<td>Barratt Homes are quoted in a number of sources as being one of a number of large housebuilders giving greater consideration to new methods of construction. Barratt identify “Embracing the best new methods of on and offsite construction to increase build efficiency” as one of their key priorities. Barratt have a process for testing and analysing new technologies. Current testing includes use of light gauge steel frames (LGSF) made by Fusion Building Systems in Northampton. One trial utilising modular roofs was discontinued. In 2004-05 it appears Barratt were fairly heavily engaged in new offsite construction methods but in 2007 the company ended a joint venture with Terrapin called Advance Housing. Advance was hoped to deliver Barratt’s off-site manufacturing needs but was disbanded, instead deciding to buy offsite systems from a range of suppliers e.g. Kingspan.</td>
<td>Barratt Dev/npnts T0= £4.2bn Staff= 6,000</td>
<td>No, have done previously but now appear to rely on multiple suppliers</td>
<td>Head Office Coalville Leicestershire LE67 1UF</td>
</tr>
<tr>
<td>Berkeley Group</td>
<td>Housing</td>
<td>Property developer building across London and the South of England. Established 1976 and now made up of five autonomous companies: St George, St James, Berkeley, St Edward and St William. Publicly-owned and listed on the London Stock Exchange as a FTSE 250 company. In 2016 Berkeley launched their ‘Urban House’ which they were aiming to entirely manufacture off-site in future. In June the first two streets of 22 homes were built at Kidbrooke Village in Greenwich while others were on site at Green Park village in Reading. In September they publicly committed to 20% of their construction being modular which based on the number of new homes completed in 2016 would equate to 3,550pa.</td>
<td>Berkeley Group T0= £2bn Recorded a 34% pre-tax rise in profits 2016.</td>
<td>Yes (although unclear if own factory)</td>
<td>Homes reportedly manufactured in the Midlands. Head Office Cobham Surrey KT11 1JG</td>
</tr>
<tr>
<td>Bowsall Ltd</td>
<td>Housing (affordable)</td>
<td>Bowsall specialise in the procurement and delivery of new homes in collaboration with established Registered Providers (RP’s). Since inception the company has established an enviable track record in the acquisition of sites in the affordable housing sector. Projects can be developed through the sister company – Bowsall Construction Ltd. The countrywide demand for low cost housing coupled with Bowsall’s aspirations to embrace modern off site build techniques has seen the Company develop its own modular housing brand known as ‘Housing for Humans’ with a major British manufacturer (potentially Willerby Ltd). Projects are located across the country.</td>
<td>TO= Unknown Staff= &lt;50</td>
<td>Through partner (unknown but potentially Willerby)</td>
<td>Salford M3 7DG</td>
</tr>
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| Caledonian               |                                 | **Specialises in the design, manufacture and construction of permanent buildings using offsite volumetric techniques.** Deliver retail forecourts and kiosks to multi-million pound housing developments e.g.  
  Paragon (Brentford) 1,060 apartments over 5 accommodation blocks, £25m (awarded 'Major Housing Project of the Year 2007').  
  Ranmoor Student Village (Sheffield University) – 1,000 modules, £22m.  
  Work either as Principal Contractor/Lead Designer or as a specialist Subcontractor. Deliver projects from conception through to handover.  
  Boast “the single largest offsite manufacturing facility in the UK” – 40 acre manufacturing and head office site based in East Midlands. | TO= £52m       | Yes           | Newark Notts NG23 6NT |
| Carter Accommodation     |                                 | **Founded as Carter Cabin Hire in 1988.**  
  2006 - Brand new purpose-built 7 acre facility.  
  2015 - Management buyout secured £20m of funds to invest in state of the art fleet.  
  2016 – Complete new 300m² production facility.  
  Specialise in the hire and sale of all forms of modular accommodation, anti-vandal units, jackleg cabins, containers, toilets (chemical and mains) and showers.  
  In-house transport fleet enable delivery, as well as install and maintenance teams.  
  Clients include: Skanska, Willmott Dixon, Bouygues | TO = £8.8m     | Yes           | Kings Lynn, Norfolk, PE33 0BE |
| The Catfoss Group        |                                 | **The Catfoss Group is a consortium of companies that provide commercial buildings including hotels, housing and student accommodation to the private and public sectors across the UK. The Group comprises:**  
  - Eco Modular Living  
  - Modular & Portable Buildings  
  - A number of factories and 100 acres of industrial land in East Yorkshire.  
  However, it is unclear how active these current companies are, latest news articles on websites are dated 2012.  
  Andrew Foreman (Chairman of Catfoss Group), previously established a number of businesses before selling them:  
  - Relocatable Systems Ltd – sold to Shepherd Group (Portakabin)  
  - Interlink Ltd – sold to Waco UK Ltd | Unknown        | Unknown       | Beverley Hull HU17 9RX |
| China National Building  |                                 | **CNBM is mainly engaged in cement, lightweight building materials, glass fibre and composite materials and engineering services.**  
  In December 2016 a number of media sources reported CNBM had signed a joint venture with Your Housing Group the UK housing association (responsible for managing over 33,000 affordable homes) and WeLink a renewable energy company.  
  The venture will reportedly build six factories that can produce 25,000 homes a year by 2022 and create 1,000 jobs.  
  The latest available report (December 2016) suggested a scheme in Liverpool could be the first if planning permission was granted in early 2017. | Joint Venture estimated to be worth £2.5bn | Yes (potential new facilities) | Unknown |

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<td>Citu</td>
<td>Housing, Local Developments</td>
<td>Citu developed “Citu House” a timber framed housing system designed to the highest environmental standards, which is manufactured in-house in Leeds. Citu was founded 12 years ago but now it is scaling up. The company has invested £3m in a 60,000 sq ft factory located on a 3.5-acre brownfield site in Leeds city centre. With help from a £400,000 grant from Leeds City Council, Citu’s new factory will eventually be able to produce up to 750 low-carbon homes each year. In the shorter term, Citu is basing its business model on a more modest output of 250. The company has planning permission for about 900 homes so far in Sheffield and Leeds.</td>
<td>Looking for TO to reach £50m within 3 years</td>
<td>Yes</td>
<td>Leeds LS11 6AD</td>
</tr>
<tr>
<td>Elements Europe</td>
<td>Hotels, Healthcare, Education, Housing, Defence, Events, Student Accommodation</td>
<td>Elements Europe is part of The Pickstock Group, an international group of companies specialising in construction, manufacturing and property development. Predominantly make room pods and bathroom pods. Modules typically take 7 days to make and is then delivered using in-house haulage team and installed. Elements Europe also has steel rolling machines capable of manufacturing C Sections of cold formed light steel frame studs as well as LSF façade systems. The company’s production space totals 200,000sq ft with the principal facility in Telford, Shropshire. Manufacture up to 700 homes a year but also delivered some large scale projects across a number of sectors. Working with Pickstock Construction the company delivered a 1,049 room student scheme in Colchester.</td>
<td>Pickstock Group total TO= £200m</td>
<td>Yes (including steel rolling)</td>
<td>Telford Shropshire TF1 6DA</td>
</tr>
<tr>
<td>Elliott</td>
<td>Construction, Education, Health, Events, Petrochemical, Retail, Utilities</td>
<td>Operating for 50 years. Grown with a series of acquisitions. In 2005 Elliott was acquired by Algeco, the European leader in modular space. In 2007 became part of Algeco Scotsman Group following acquisition of Williams Scotsman – market leader in North America. Appearing to predominantly offer hire although services include design, delivery and installation, maintenance, toilet servicing and project management. Focus on ‘relocatable’ accommodation. Nationwide supply with approximately 40 operating sites. Fleet of over 300 vehicles for delivery and installation.</td>
<td>Elliott Staff= 1,000 in UK Algeco Scotsman Turnover= £1.5bn (worldwide)</td>
<td>Yes (although not beyond offsite construction)</td>
<td>Head Office Peterborough PE4 7AP</td>
</tr>
<tr>
<td>Fusion Building Systems</td>
<td>Student, Schools, Residential, Care homes, Healthcare, Hotels</td>
<td>Fusion is a building Superstructure solution based on primarily (but not exclusively) Light Gauge Steel (LGS). Fusion’s unique and patented, factory produced pre-insulated external wall system (StIF Panel™), releases the unmatched efficiency of Light Gauge Steel (LGS) as a structural building system. Fusion operates from an 80,000 sq ft factory in Northampton, in the East Midlands of the UK. Fusion rolls all its wall stud and floor joist components from LGS coils using CAD/CAM technology. External walls are pre-insulated in Fusion’s patented EPS moulding machine. Large scale projects include: 1,000 bed accommodation for Aberystwyth University, light gauge steel superstructures for Barratt Homes. In 2010 Fusion was acquired by Salvesen Insulated Frames and relocated to the midlands from Ireland.</td>
<td>TO= £12.4m</td>
<td>Yes</td>
<td>Manufacturing Northampton NN3 6HE</td>
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<td>Isospaces</td>
<td>• Retail • Events • Catering • Accommodation • Education</td>
<td>Bespoke shipping container conversions – from design to delivery. Projects include: catering outlets, event space, visitor centre, classrooms, recruitment office, and accommodation. Clients include: Tesco, Jeep, BBC, Eden Project, Channel 4, Wetherspoon, and EE. ISO Spaces recently achieved £450,000 worth of investment through Crowd Cube and, aside from hiring new staff, is using the money to increase capacity and extend its 10,000 sq ft St Austell production facility by 5,000 sq ft.</td>
<td>Cash= £574k</td>
<td>Yes</td>
<td>Head Office Truro Cornwall College TR1 2AH Production facility Par PL24 2JH</td>
</tr>
<tr>
<td>Kingspan Group</td>
<td>• Building Materials</td>
<td>A world leader in sustainable, innovative building solutions. Kingspan Group was formed in the late 1960’s with its headquarters in Kingscourt, County Cavan, Ireland. Delivering large-scale international construction projects as well as manufacturing materials. Kingspan Group has manufacturing, distribution and commercial operations throughout Europe, North America, Australasia and other locations across the globe. Kingspan Insulation Ltd is a part of Kingspan Group and manufactures a range of building materials – SIPS, insulation materials, timber and steel framing.</td>
<td>TO= £2.7bn (12% increase on 2015)</td>
<td>Yes</td>
<td>Leominster Herefordshire HR6 9LA</td>
</tr>
<tr>
<td>Legal &amp; General</td>
<td>• Housing</td>
<td>In February 2016 launched its new modular building housing factory. 550,000sq ft factory near Leeds, intended to be “the largest modular homes construction factory in the world”. Homes are being made from cross-laminated timber structures. The factory hopes to produce around 3,000 homes a year. The first units will go to the planned development in Crowthorne, Berkshire – 250 acre site with a planned development of more than 1,000 new homes. First houses due to be built from late 2017. Announced Build to Rent Partnership with PGGM, investing £600m into building purpose build private rental housing across the UK.</td>
<td>L&amp;G total TO= £12bn Staff at modular factory= 500</td>
<td>Yes</td>
<td>Factory Sherburn Leeds LS25 6PT</td>
</tr>
<tr>
<td>Laing O’Rourke</td>
<td>• Education • Hotels • Commercial Offices • Healthcare • Residential • Industrial • Retail • Defence • Sport &amp; Leisure</td>
<td>Construction giant Laing O’Rourke operates through two major geographic hubs, Europe and Australia. Offsite manufacturing capabilities include precast concrete components, modular mechanical installations, completed internal room and services ‘pods’. In May 2016, Laing O’Rourke announced plans to build a new factory next to its current manufacturing unit at the Explore Industrial Park (Worksop). The new Design for Manufacture and Assembly factory has been hailed by the firm as a plant that will “use intelligent design, precision engineering and fully automated processes to deliver modular solutions that will revolutionise housebuilding in the UK”. In June 2016 however Laing O’Rourke has admitted that it has still not signed off its plans to build a second factory specialising in off-site construction.</td>
<td>Laing O’Rourke total TO= £2.3bn</td>
<td>Yes</td>
<td>Explore Manufacturing Steeley Worksop S80 3FD</td>
</tr>
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| McAvoy Group  
[www.mcavoygroup.com/](http://www.mcavoygroup.com/) | Education  
Health  
Commercial  
Retail  
Hospitality  
Leisure | Primarily based in Ireland however delivered projects across England. Offer:  
• Permanent Off-site construction - fabricated from wood or steel with up to 70% of the finished product completed in-house before being transported and assembled on site.  
• Modular Build - designed in a factory setting prioritising re-use and re-purposing. Off-site modular buildings can be relocated and transported multiple times.  
• Modular Hire - no need to incur capital expenditure and dispatch is immediate. Site works are carried out, if required, and a design service is available so that all client requests can be met.  

Case studies suggest predominantly education and healthcare. Lynch Hill Academy in Slough=£20m project. Also boast largest modular building in Ireland.  

No obvious residential accommodation projects. | No obvious residential accommodation projects. | Yes | Head Office  
Dungannon  
County Tyrone  
BT71 6HD  
GB Hire  
Garsington  
Oxford  
OX44 9BD | |
| Modular Building Systems  
(trading name of Modular Airspace Systems)  
[www.modularairspacesystems.co.uk/](http://www.modularairspacesystems.co.uk/) | Education:  
Temporary buildings  
School extensions  
Housing:  
Self-build  
Residential Dev  
Social Conceptual  

The principal component of structures used are Kingspan TEK Structural Insulated Panels (SIPs) - lightweight units with excellent thermal performance, reducing the need for other expensive renewables such as solar power.  

MB8 are a Kingspan TEK supply and In house CAD team who produce drawings and fabrication list for Kingspan to manufacture. | Unknown | No | Fareham, Hampshire  
PO16 8TT  
(also office in London) |
| Persimmon  
[http://corporate.persimmonhomes.com/](http://corporate.persimmonhomes.com/) | Housing | Persimmon was founded in 1972 and is today one of the UK’s leading housebuilders. With headquarters in York, the Group operates from 29 regional offices throughout the UK. The Group trades under the brand names of Persimmon Homes, Charles Church and Westbury Partnerships.  

Persimmon operates the company ‘Space4’, an off-site manufacturing plant producing timber frames, highly insulated wall panels and roof cassettes for new homes. Persimmon report that over 30% of the homes built use Space4 products.  

In 2015 Persimmon increased its housing completions using its Space4 timber frame kits manufactured off-site by 18%. This equated to 6,011 homes and 41% of Persimmon’s total output. Persimmon’s off-site factory near Birmingham has capacity to deliver 8,000 timber frame kits each year. | Persimmon  
PLC TO= £3.1bn  
(8% growth on previous year)  
Staff= 4,500 | Yes (through Space4)  
Birmingham  
B35 7AG | |
| Portakabin  
[www.portakabin.co.uk/](http://www.portakabin.co.uk/) | Construction  
Education  
Emergency  
Healthcare  
Offices  
Storage  
Sanitary  
Events  
Retail  
Specialist (canteens, hospitality suites, Labs) | Modular Building innovators for more than 50 years, operating in 7 countries, employing 1,750 people. Portakabin registered as a trademark in 1961. Portakabin forms part of the Shepherd Group (one of the largest private companies in the UK - £600m TO) but has been the best performing of the groups companies.  

Hire and sale of units as well as sale of second-hand portakabin buildings and cabins (through Foremans Refurbished Buildings).  

Products designed and manufactured at the 250,000m² production facility in York.  

In March 2017 it was announced that 8 businesses (Yorkon, Konstructa, Foremans Portalo, Ocon, Allspace, Portakabin Group) will be rebranded into the single Portakabin brand throughout 2017. | Portakabin  
TO=£224m+  
Staff = 1,750  
(across 7 countries:  
UK, Ireland, France, Belgium, Luxembourg, Holland) | Yes | Huntingdon,  
York,  
YO32 9PT  
(nearest hire centre based in Plymouth) |

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<tr>
<td><strong>Premier Modular</strong>&lt;br&gt;<a href="http://www.premiermodular.co.uk">www.premiermodular.co.uk</a></td>
<td>• Commercial &amp; Offices&lt;br&gt;• Construction&lt;br&gt;• Defence &amp; Custodial&lt;br&gt;• Education&lt;br&gt;• Healthcare&lt;br&gt;• Hotel &amp; leisure&lt;br&gt;• Housing&lt;br&gt;• Marketing Suites&lt;br&gt;• Student Accommodation&lt;br&gt;• Retail</td>
<td>UK market leader in modular building hire and construction. Established 1956. Part of the global brand Waco International.&lt;br&gt;Main facilities based in East Yorkshire with five interchangeable factories, allows large capacity and flexibility. Maintain one of the UK’s largest hire fleets.&lt;br&gt;Number of high profile projects – Team GB Medical Centre London 2012, Jaguar Land Rover, Battersea Power Station, UCL, Leeds University, London City Airport, MOD, British Museum.&lt;br&gt;Recently awarded 410,000sq ft office space contract at Hinkley Point C – billed as ‘UK’s largest modular building project’.</td>
<td>TO=£43.6m Assets=£11m Bank=£5m</td>
<td>Yes</td>
<td>Brandesburton, East Yorkshire, YO25 8EJ</td>
</tr>
<tr>
<td><strong>Rogers Stirk Harbour &amp; Partners</strong>&lt;br&gt;<a href="http://www.rsh-p.com">www.rsh-p.com</a></td>
<td>• Housing (affordable)</td>
<td>Architect firm involved in a project with YMCA to provide low-cost housing to homeless young people. Modular housing units named Y-Cube each cost between £30,000 and £35,000, and takes about a week to construct in the Derbyshire factory – and the same to assemble on-site. The design does not appear to be have been replicated elsewhere since the London based project.</td>
<td>TO= £33.7m Staff= 200</td>
<td>No</td>
<td>London EC3V 4AB</td>
</tr>
<tr>
<td><strong>Taylor Wimpey</strong>&lt;br&gt;<a href="http://www.taylorwimpey.co.uk">www.taylorwimpey.co.uk</a></td>
<td>• Housing</td>
<td>A number of media sources highlight that Taylor Wimpey have expressed interest in increasing off-site construction to future-proof its business. Whilst little has been announced publicly by the company themselves their sustainability report identifies off-site construction as a priority for the future. Introducing pre-fab panels to replace masonry walls&lt;br&gt;The company’s ‘Project 2020’ is looking at the future of housing. In 2016 they launched a design competition which placed importance on new designs improving construction efficiency. The winning design from Openstudio Architects can be built from SIPS, timber-framed or traditional construction.</td>
<td>TO= £3.7bn Staff= 4,697</td>
<td>Unknown</td>
<td>24 regional offices across England, Scotland and Wales (inc Exeter and Bristol)&lt;br&gt;Head Office&lt;br&gt;High Wycombe Bucks&lt;br&gt;HP12 3NR</td>
</tr>
<tr>
<td><strong>Trimo</strong>&lt;br&gt;<a href="https://trimo-group.com/en/trimo">https://trimo-group.com/en/trimo</a></td>
<td>• Modular:&lt;br&gt;• Commercial&lt;br&gt;• Hospitality&lt;br&gt;• Education&lt;br&gt;• Industrial&lt;br&gt;• Government&lt;br&gt;• Own product range in Facades &amp; Walls, Roofs&lt;br&gt;• Steel construction</td>
<td>One of Europe’s leading companies developing original and complete building envelope solutions (facades and roofs), steel constructions and modular space solutions.&lt;br&gt;Boast 100,000 modular units manufactured and supplied worldwide. Case studies suggest Modular projects predominantly in Europe.&lt;br&gt;In 2016 Trimo secured a number of high profile projects: Lego (Mexico), Mercedes (Switzerland), Nike (Belgium), and a purpose designed hanger at Bristol Aerospace Centre to house the last Concorde.&lt;br&gt;500 Staff&lt;br&gt;Sales network in 30 countries&lt;br&gt;£38m sales in first half of 2016. 26% increase on 2015.</td>
<td>500 Staff (forecasting growth)</td>
<td>Yes</td>
<td>Trebnje Slovenia</td>
</tr>
<tr>
<td><strong>Urban Splash</strong>&lt;br&gt;<a href="http://www.urbansplash.co.uk">www.urbansplash.co.uk</a></td>
<td>• Residential&lt;br&gt;• Commercial</td>
<td>Urban Splash is a regeneration developer which boasts the creation of over 5,000 new homes and 2 million sq ft. of workspace.&lt;br&gt;One report identified that the company intended to manufacture between 70% and 80% of its homes off-site.</td>
<td>TO= £44.4m</td>
<td>No</td>
<td>Castlefield&lt;br&gt;Manchester&lt;br&gt;M15 4LD</td>
</tr>
<tr>
<td><strong>Vision Modular Systems UK</strong>&lt;br&gt;<a href="http://www.visionmodular.com">www.visionmodular.com</a></td>
<td>• Residential&lt;br&gt;• Student Accommodation&lt;br&gt;• Hotel</td>
<td>Vision Modular manufactures volumetric 3D structural modules. Modules are based on integrated structural steel framing with solid concrete floors. Automated production line adds all internal finishes, M&amp;E installations, windows, external insulation and external finishes.&lt;br&gt;Appear to have focussed their specialism to the three markets (left) and case studies suggest primarily large scale projects in London. Projects include tallest modular student modular housing building in Europe (Apex House Wembley). Typically 500+ modules, 20+ floors.&lt;br&gt;Appear to work on behalf of property development firms and with separate architects. Worked with Pocket Living on a number of projects.</td>
<td>TO= £32m Net assets= £6.7m</td>
<td>Yes</td>
<td>Bedford&lt;br&gt;MK42 7EF</td>
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| Wernick Group          | • Education • Healthcare • Leisure and Sports • Retail • Custodial • Specialist | Group of businesses now incorporates:  
  ▪ Wernick Buildings Ltd – design and manufacture of steel-framed modular builds.  
  ▪ Wernick Hire Ltd – portable and modular accommodation for hire.  
  ▪ Wernick Events – portable and temporary events infrastructure  
  ▪ Wernick Refurbished Buildings Ltd – refurbished portable accommodation for purchase or hire.  
  Build company offers full project management – design, planning applications, building regs. Dedicated Wernick Construction Division for the construction, site management.                                                                 | Wernick Group  
T0= £96.7m  
Profit= £12.9m  
Net assets= £71.5m  
(2015) | Yes | Head office and Factory  
Port Talbot  
SA13 2PE |
| Western Build Systems  | • Health • Education • Commercial • Residential/ Housing | Company comprises a number of divisions but operates from a purpose built manufacturing base in County Tyrone.  
Company has invested in being able to manufacture the following elements in-house:  
  ▪ Panelised & SIPS timber wall systems  
  ▪ Aluminium / PVC doors & windows  
  ▪ Internal walling systems  
  ▪ Fitted Furniture  
  ▪ Internal door sets and screens  
  Projects are predominantly based in Ireland but have delivered in mainland UK. Include large schools, supermarkets, hospitals, university facilities. | TO=£40m  
Staff= 44 (permanent) | Yes | Coalisland  
County Tyrone  
BT71 5DQ |
| Willerby Innovations   | • Housing                         | Willerby Innovations is a division of Willerby Holiday Homes Ltd.  
Willerby Innovations consists of three brands including Willerby Homes who manufacture a range of standard houses from bungalow to 4 bed houses. They have undertaken a number of projects with social housing groups.  
Willerby Innovations also build lodges, beach huts, reception units and marketing suites for many known names in the leisure industry including Warner Leisure, Bourne Leisure and Merlin Entertainments, operators of Alton Towers, Thorpe Park, and Legoland.  
total TO= £125m  
Staff= 1,000 | Yes | Hull  
HU9 5NA |
| ZEDFactory             | • Housing • Mixed use • Public Buildings • Office | ZEDfactory began as Bill Dunster Architects in 1999. From day one, the company has been exclusively committed to low carbon building and development.  
Today, ZED Factory is a leader in the field of zero-carbon design and development, with a unique track record of delivering Zero (fossil) Energy Development (ZED) buildings in the UK. The company offers the full range of architectural services, from master-planning and design of large-scale ’Eco villages’ to one-off individual building commissions.  
Typically volumetric building providers have one centralised factory with huge investment and huge overheads and are limited by capacity. ZED Pods have a completely different business model, manufacturing a prefabricated kit of parts that is delivered to a local pop-up factory.  
Delivered a number of projects in the South west including: Jubilee Wharf (Perryn), Newquay Island Crescent, Newquay Zero Bills Community, Tamar Valley Centre. | Unknown | Yes | Wallington  
London  
SM6 7DF |

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