

HOUSE OF LORDS

Science and Technology Select Committee

2nd Report of Session 2017–19

Off-site manufacture for construction Building for change

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knowledge

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construction**
The alinea view

August 2018

Off-site manufacture for construction : Building for change The alinea view

This recent report, produced by the Science and Technology Select Committee on behalf of the House of Lords and published on 19th July 2018, considers whether manufacturing buildings and infrastructure (or components of them) off-site could improve productivity in the construction sector.

The enquiry examines the potential benefits and drawbacks of the wider uptake of off-site manufacturing (OSM), as well as how government policy, particularly around public procurement might need to change to facilitate it. It also considers, albeit to a lesser extent, what actions the construction sector might need to take to drive further use.

In summary, the findings are that the “regulatory, financial, and commercial environment in which the sector is placed” has driven the low take-up of OSM and that whilst OSM has the potential to mitigate some of the problems created by the current skills crisis, future skills will have to change, with a need to ensure that new technical qualifications will close the future skills gap.



The construction industry isn't great with change; it can be likened to a supertanker trying to change course - this takes time. There have been many reports encouraging a step change in the industry, but with few obvious practical responses. The key to this report gaining traction is to break the problem down into small, manageable chunks and to celebrate successes along the way.

The first “chunk” has to be the **culture of the industry**. Several of the witnesses' comments are incredibly damning statements of the industry; claiming it to be one where “disputes are part-and-parcel” and risk is pushed down the line, as mentioned in a recent article in *The Financial Times*. This isn't a view of an industry that is particularly open to collaboration both within and with other disciplines, hence the report's comments on low innovation and take-up of ideas. For OSM to have a foothold in the market, certain behaviours in the industry have to be addressed (which would be equally beneficial for project health).

Currently, much of the industry is based on **transactional relationships**, where lowest cost is the defining factor. However, we know that this is not the mainstay of every client and that it is the role of the professional team to encourage the consideration of value in the construction process. This value driver has to be understood and communicated from the outset of the project, to ensure that everyone in the team is working towards the same goal.

One of the challenges that we set out in our latest Market Report was to explore the possibility of a **new form of procurement** that is value driven, rather than purely cost driven, and promotes collaboration across the project team. This is a key focus for us over the coming months.



Mark Lacey

A key issue, which is touched upon lightly in the report is one of single-sourcing and risks associated with a lack of competition. A form of **standardisation** should be paramount, in a similar way to the use of a single chassis for very different end products in the car industry. This would help to reduce some of the risk and ensure that products can be easily assembled on site.

In a similar vein, a **kit of parts approach** is not new, it has seen success across a number of elements such as toilet pods and MEP risers. As an industry, we should share the success stories, to learn and encourage greater use of this approach.

Rather than mandating a minimum percentage deliverable, the use of modular construction should be **incentivised through grants or tax relief** as we feel that anything else would hinder delivery. With demand for housing seemingly increasing with every report, we should be making steps to facilitate delivery of housing rather than constricting it.

As a professional team, we should **fully appraise the real benefits to clients** - is speed an issue for all clients? What is their real driver? Can we help clients towards an integrated business model of design, manufacture, building and funding to help deliver their pipeline? This is a model that Legal & General is successfully working on.

Like-minded consultants should look to **partner** in order to deliver a joined up proposition for clients.

With an apparent “bottleneck” in the delivery of OSM being the quantity of available specialist sub-contractors, could we be moving towards **labour-only contracts**? This divorces the manufacture and installation processes and could remove barriers for new providers in the market.



Alex Hyams

Our view

The House of Lords report is a damning summary of behaviours in the construction industry, particularly the lack of OSM take-up and limited application of digitalisation to the design and construction process. Recommendations on how to increase uptake of OSM is welcomed, to gain support for the method, which given the UK's construction need and lack of labour couldn't be more timely. The report suggests that OSM could increase productivity, improve the quality of buildings and reduce demand for labour. However, we don't fully subscribe to the view that modular construction is the answer to all the woes of the industry. Without standardisation and collaboration throughout the modular industry, it will remain a fragmented model that attracts caution from some clients and project teams.

Critically, we believe that behaviours are fundamental to successful construction delivery. Whatever the delivery model, the transactional, lowest price model of the industry has to be addressed.

There has to be a better way to deliver projects. We have started to explore the themes around this within our recently published Market Report, setting out a mandate to responding to the challenges facing our industry.

Our suggestions

- Whilst this report ultimately makes recommendations for government, firms should use it as a performance review for themselves and their own practices, rather than waiting for a government mandate.
- Work towards developing a strong team culture on projects, promoting teamwork and celebrating successes. This should include communication throughout the team to narrow the knowledge gap and increase the flow of information.
- Develop forms of construction standardisation to alleviate some of the risk of a single supplier and to ensure products can be assembled easily on site.
- Explore the possibility of a new procurement model that recognises value, encourages innovation, and improves performance.
- Investigate the benefits and practicalities of OSM first-hand
- Consider the ‘future skills’ issue and how we can attract and retrain for the roles that OSM will generate.
- There needs to be a proper understanding of what constitutes OSM, especially in respect to the government's ‘presumption in favour’.
- Whilst the industry has been slow in the uptake of BIM, proper engagement with it can help instil the disciplines and behaviours needed to facilitate the uptake of OSM.

We would encourage clients (and project teams) to investigate first hand and embrace the benefits.

We are working with Laing O'Rourke on a number of projects, and visited Explore Industrial Park in 2018 to see DfMA first hand. The process responds positively to many of the contemporary challenges facing the industry, bringing a far greater degree of certainty to the process of construction with improved quality.



Key to this report is the assumption that digital design and construction will be normalised, to facilitate the adoption of OSM.

From our experience of projects using digital design and construction, where a genuinely digital approach has been embraced, it has cultivated a **culture of early decision making**, with design intent conversations ultimately facilitating collaboration between the project team. Digital ways of working such as BIM can help to create an environment for OSM to take hold, and create the “**golden thread**” mentioned in the report.

Designers need to design with OSM in mind, meaning an early project decision and engagement with supply chain to consider OSM methods and requirements.



Richard Bates

Poor public **perception** of modular construction is somewhat of a red herring; we believe that greater exposure to high quality, modern-day buildings constructed off-site will change any out-dated perceptions.

As the report acknowledges, OSM is not a ‘silver bullet’ for the **skills** crisis. This new way of operating on site, with new products could, in the short term, compound the skills crisis. A key part of any solution has to be to encourage more people into the industry with a variety of skills

However, a move away from on-site trades to a more ‘skilled logistics operative’ could help **modernise** the outdated stereotype of construction and act to attract increased numbers to the sector.

The industry needs to look at how it presents itself to **future workers**, developing a coordinated way to attract future generations into the industry, or people from other sectors, working with government to develop early training solutions.



Rachel Coleman

The logo for Alinea, featuring the word "alinea" in a lowercase, sans-serif font. The letter "i" is replaced by a small blue square.

alinea consulting LLP
90 Cannon Street
London, EC4N 6HA

www.alineacostconsulting.com