



Can offsite construction provide faster and safer optimisation for the industry through standardisation and digitisation?

Chaired by: Dr David Hancock, Chair, CIRIA Executive Board, and Construction Director, **Infrastructure and Projects Authority, Cabinet Office**

This session answered the following questions:

- Does the industry deliver faster optimisation through standardisation and digitisation?
- Does the formation of a BSR and the golden thread provide solutions for complete compliance & digitisation for all project phases?
- Will this reduce accidents and onsite hazards?
- How can we be supporting offsite system manufacturers through the digitalisation process?

Dr David Hancock was joined by the following speakers:

- Alex Dewdney Head of Modern Methods of Construction, **Kier Construction**
- Trudi Sully, Impact Lead, **Mott McDonald**
- Jeff Maxted, Director of Technical Consultancy, **BLP Technical Services (UK) Ltd** and **BOPAS Partner**



Faster optimisation



Andrew Dewdney unequivocally answered the question with a strong “Yes.” Faster optimisation is being delivered for the construction industry through standardisation, platform design and digitisation. He gave excellent examples of how it works in practice as they partner with other T1 contractors in delivering a major new prison programme for the Ministry of Justice in the UK. As a recent site visit by Buildoffsite members showed the £450m project that is HMP Millsike does prove the answer to the seminar question is yes. It was delivered in just two years – this could have only been achieved using an Offsite approach. Nine sub-contractors supplied pre-cast components to mitigate risk.



Value of platforms in construction



Trudi Sully answered the question with a tentative yes and discussed several caveats. Given her background in helping to deliver the Value Toolkit for the Construction Innovation Hub she was able to point to good practice guidance. The Value of Platforms in Construction was demonstrated by a range of categories from resilience and lifecycle cost to improvements in skills and employment. Trudi also highlighted the positive influence of Prefabricated Construction on the Mental Health of Workers. She mentioned a less congested site, cleaner and harmless construction, ample space, reduced trade overlap, easier identification of dangers, less dangerous tasks, and fewer accidents.



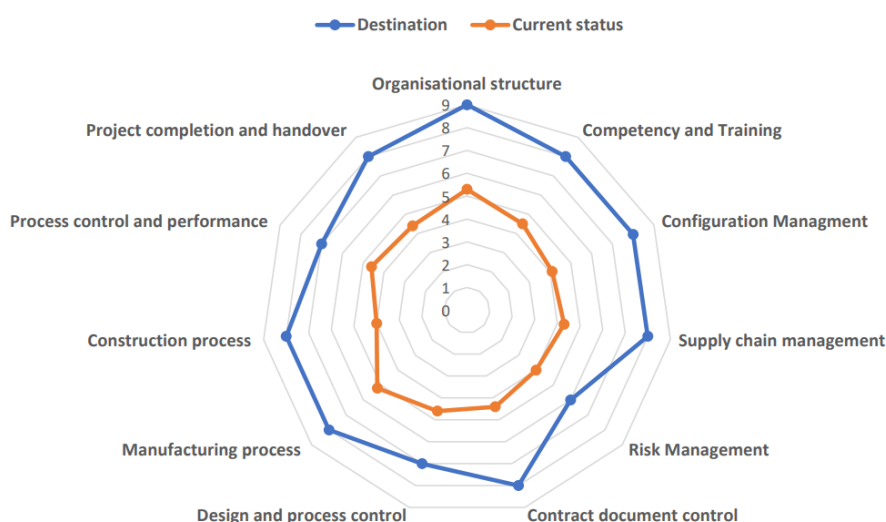
Supporting manufacturers through the digitalisation process by delivering BOPAS+



Jeff started off with helpfully explaining a glossary as we make our way through the jungle of sector terminology. He explained the difference. Digitisation is converting analogue and disconnected data into a connected digital form to work for business more efficiently. Digitalisation is digitised information working in your existing business benefitting from: product tracking, digital twin, golden thread etc. Digital transformation is a whole different ball game by creating new business applications /models from data, 3D printing, custom manufacturing, IoT and platform design for DfMA.



BOPAS + Performance



As Jeff was one of the founding partners behind the creation of the BuildOffsite Property Assurance Scheme (BOPAS) in 2013 he was well placed to provide the background to this accreditation scheme. BOPAS provides assurance to Lenders, Developers, Contractors, Housing Associations and Homeowners that construction systems designed, manufactured, and installed by accredited MMC Providers will conform to industry best practice in terms of durability and system integrity.



Over the last ten years BOPAS has accredited over 100 designers, manufacturers and constructors involved in offsite system development. They have been rigorously audited and approved to ensure good/best practice is adhered to throughout the delivery process and to ensure their construction systems are validated. Jeff gave a concise synopsis of how BOPAS+ has been designed and is now supporting manufacturers through the digitalisation

process. The first companies have been already accredited. If you are interested in more information, go to the [BOPAS website](#) or contact [Elaine Ramsey](#).



[Download their presentations.](#)

Should offsite construction be a philosophy, not just a methodology?

Chaired by: Dr David Hancock, Chair, CIRIA Executive Board, and Construction Director, **Infrastructure and Projects Authority, Cabinet Office**

Our speakers explored issues such as:

- How does Offsite construction meet the IPA's 8 principles for project success?
- How is the guidance provided in the Construction Playbook benefiting the offsite sector?
- How can offsite construction help us to build sustainably and efficiently?
- What are the benefits of having a Private Sector Playbook?

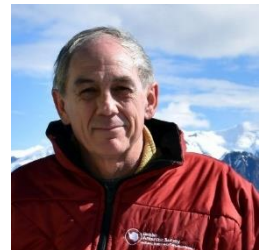
We had a sector leading line up of speakers:

- Dr David Hancock, Chair, CIRIA Executive Board, and Construction Director, **Infrastructure and Projects Authority, Cabinet Office**
- Fergus Harradence, Deputy Director, Infrastructure, Construction and Rail, **Department for Business and Trade**
- Neil Pennell, Head of Design Innovation and Property Solutions, **Landsec**



Session summary

Dr David Hancock set the scene expertly by outlining the IPA's principles of project success which could make offsite construction a philosophy, rather than a methodology. He mentioned eight principles and started by telling the audience to focus on outcomes. Key is to be clear how success will be measured and focus on delivery of benefits and outcomes throughout the project. If these no longer appear deliverable or affordable, the project should be stopped.



David also talked us through some useful planning advice. Use ranges for costs, benefits, and delivery dates, adjusted as certainty increases through the life of the project. Plan for contingencies and be aware of optimism bias.

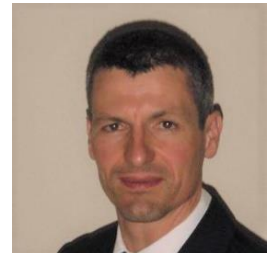
He also put special emphasis on people and their behaviours. Agree clear expectations on behaviours and make the project a great place to work. Linked to this principle is the adage of "tell it as it is." Encourage honest conversations within the project team; If something is not right, is not ready or is not working, say so, and act accordingly.

The next principle really resonated with the audience. David talked about controlling the scope of the project. Work in manageable project stages, with gated decision points pausing to assess delivery and ensure continuing viability at each stage of the project.



Another principle linked to this was complexity management. David suggested we should all reduce complexity and risk where possible; where not, plan for them and manage them. The IPA's advice to clients is also to build trust-based relationships with the supply chain and partner organisations: contract collaboratively to ensure a viable contract and incentivise successful delivery where everyone benefits. Finally, David's eighth principle recommended capturing lessons learnt. Maintain an 'outside view' of the project: bring in independent perspectives and integrated assurance and learn from them.

Fergus Harradence gave a comprehensive overview of how the Government is addressing numerous challenges facing the sector. He referred to the value toolkit, the Construction playbook, the Digital data and technology playbook, and the social value procurement guidance.



Productivity, Improved Operations and Culture Change were key outcomes. Regarding culture change, Fergus mentioned the way behaviours regarding safety could be improved by the Golden thread of building safety information as well as better site environments, occupational and mental health.



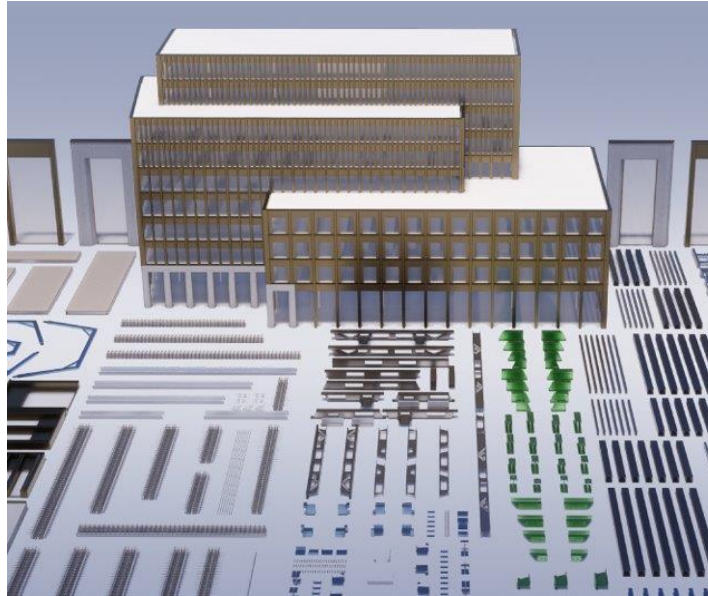
Fergus specifically highlighted the impact of platform and modular solutions which are transforming the speed of delivery, asset performance and sustainability of government construction projects.

One example he gave related to the seismic product platform which uses standardised, precision manufactured components being used to deliver the Laurence Calvert academy. Fergus mentioned some impressive results:

- 75% quicker to deliver than traditional onsite construction.
- 70% saving in whole life carbon emissions, through reduced waste, and improved heat and energy performance.
- 90% of the building can be reused or recycled

Neil's answer to the question of Offsite Construction being a philosophy, not just a Methodology, was both! He argued that it is a philosophy driven by a need to build sustainably and efficiently for the future. But it is also a construction solution which needs a methodology to work effectively. He gave outlined how sustainability is embed throughout the business at Landsec. Their targets aim to reduce operational emissions by 47% and average embodied carbon by 50% by 2030 compared to average building baseline data.





Neil gave evidence of how Landsec has developed good practices in achieving net zero targets.

The Forge building is their first net zero carbon development, in Southwark (London), designed to meet the UK Green Building Council's framework definition of a net zero carbon building: c35% reduction in embodied carbon vs design stage. It uses Modern methods of construction (PDfMA) kit of parts. The timber square, also in Southwark, is delivering 50% lower embodied carbon than a typical building by retention of the existing structure and cross-laminated timber for the structure. And it is an all-electric building and highly energy efficient (NABERS UK 5 stars).



Neil also talked about the benefits of having a [Private Sector Construction Playbook](#). It is setting out the key policies and guidance for how projects are procured and delivered in the private sector to drive productivity improvement. Building on the construction Playbook the

private sector working group had established some key principles including ones pertaining to MMC.

[Download their presentations.](#)